FLEXDRUM

User Manual

Polígono Industrial Agustinos, calle G, nave D-34
Tel: +34.948.321.580 Fax: +34.948.326.584
31160 ORCOYEN (Navarra) ESPAÑA
e-mail:melton@melton.es
http://www.valcomelton.com

Declaration of conformity

The product: _____

Model no: _____

Serial no: _____

Year of manufacture: _____

Described in the enclosed documentation is in conformity with:

- Directive 2006/42/CE of 29 December replacing the Directive 98/37/EC of 22 June 1998 relating to the approximation of the laws of the Member States relating to machinery, combining in a single text Directives 89/392/EEC of 14 June 1989, 91/368/EEC of 20 June 1991, 93/44/EEC of June 14, 1993 and 93/68/EEC of 22 July 1993. Directive used law EN ISO 12100-1 and EN ISO 12100-2, relative to safety of the machines, law EN ISO 14121-1, relative Safety of the machines. Evaluate of risk, law UNE-EN 60204-1, relative to Safety of machines. Electric equipment of the machines, law UNE-EN 61310-1, UNE-EN 61310-2 y UNE –EN 61310-3, relative to Safety in machines. Indication, marking and actuation.
- Directive 2014/35/UE of April, relating to electric equipment.
- Directive 2014/30/UE of April, relating to electromagnetic compatibility.
- Directive 93/68/EEC of 22 July 1993, amending Directive 73/23/EEC, and Directive 89/336/EEC.

within the scope of the specifications indicated in the chapter describing the equipment with a B1 risk level. Since it is intended to form part of a set of machines which, to obtain a result, are arranged and connected to perform together, it cannot be operated until the set of machines has been declared in conformity with the applicable Directives by the person responsible for the final assembly.

Orcoyen, on : / /

*Signed:*_____

Gonzalo Marco, Managing Director.

VALCO MELTON

VALCO MELTON S.L.U. Pol. Ind. Agustinos C/G 34

31660 ORCOYEN, NAVARRA (SPAIN)

TEL: +34 948 321580 Fax: +34 948 326584

IMPORTANT!

THIS INSTRUCTION MANUAL SHOULD BE KEPT IN AN ACCESSIBLE PLACE KNOWN TO ALL OPERATORS AND MAINTENANCE PERSONNEL.

READ THE INSTRUCTIONS CAREFULLY BEFORE OPERATING THE MACHINE AND FOLLOW THEM WHILE THE MACHINE IS IN OPERATION.

FOLLOW THE SAFETY INSTRUCTIONS PROVIDED IN THIS MANUAL WHEN USING AND HANDLING THE MACHINE.

IF YOU FAIL TO FOLLOW THE SAFETY INSTRUCTIONS, THIS MAY GIVE RISE TO BURNS, INJURIES AND EVEN IRREVERSIBLE DAMAGE. YOU MAY ALSO DAMAGE THE EQUIPMENT OR OTHER MATERIALS.

WARNING:

If you alter the function, performance or safety aspects of the machine, replacing original parts with other similar but not identical components (substantial alterations), without the authorisation of MELTON and as specified in Directive 89/392/EEC, you will be classified as a manufacturer and therefore become liable for the alterations made.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

INDEX:

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

CHAPTER 1
SAFETY INSTRUCTIONS

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

1.1. SYMBOLS AND TERMS:

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Burns:

Burns can be caused by the uncovered parts of the applicator, such as the guns or by splashes of hot melt.

The hot adhesive under pressure in the nozzles can cause serious injuries to the skin.

Qualified personnel:

This is personnel (technical staff) who has acquired sufficient know-how in a specific field, either through training or from experience.

These personnel must be familiar with safety and accident prevention standards, and have general knowledge of the technical aspects of the machine.

Protective clothing:

This clothing will be compliant with EN510 and EN340 standards, protecting against fast-moving particles and high temperatures.

It will be as tight as possible to prevent it from catching on mobile machine parts, and the sleeves, waist, legs, etc. will be adjustable to the size of the wearer.

Goggles and face shields:

They will be compliant with the EN 166 standard, protecting against fast-moving particles and high temperatures.

Goggles only protect the eyes. Face shields are therefore preferable, since they protect the entire face.

Protective gloves:

They will be compliant with EN 407 and EN 420 standards, protecting the hands against the burns caused by external thermal masses at temperatures of above 100 °C.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

1.2. PURPOSE:

This unit has been manufactured according to current safety standards.

This unit has been designed for the purpose described in chapter 2 of this manual, Description.

To use the machine correctly, follow the instructions provided in the Operating Manual, particularly:

- The machine should only be installed and used by qualified personnel, previously familiarised with the operating instructions (contacting the manufacturer whenever necessary) and the risks involved, the safety measures required, including adjustment and maintenance, and expressly forbidden operations.
- This unit has not been manufactured to operate in hazardous, explosive and/or flammable atmospheres
- When working with this machine, wear protective clothing, gloves and face shields and remove rings, bracelets and watches.
- Since the machine is designed to form part of a series of machines, arranged to work together, the hot melt applicator cannot be operated until the entire series has been declared in compliance with applicable directives.
- This machine should never work without the guards provided (which should not be removed). These guards should be checked and maintained with the specified frequency.
- Make sure that the equipment is properly grounded.
- Never operate the machine if you are aware that there is a leak in the glue circuit.
- Maintenance operations and/or repairs should be performed by personnel with basic knowledge of the machine and the mechanical, pneumatic and electric circuits involved.
- Maintenance operations and/or repairs should always be performed with the machine switched off at the mains, and with the main switch blocked.
- Maintenance operations and/or repairs should always be performed with the machine de-pressurised and disconnected from the pressure circuit.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

1.3. FIRST AID:

In case of burns:

Immerse affected part in cold clean water as quickly as possible until the adhesive has cooled.

Do not attempt to remove the adhesive from the skin even when it has cooled as this may cause more serious injury.

Seek qualified medical attention immediately.

In case of an accident with the solvent:

CONTACT WITH THE SKIN: Wash with soap and water and discard all contaminated cloths.

CONTACT WITH EYES: Wash in an eye bath for at least 15 minutes.

INHALATION: In case of overexposure take patient to fresh air and let them rest.

INGESTION: Do not attempt to induce vomiting. Seek medical attention at once.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

CHAPTER 2
DESCRIPTION

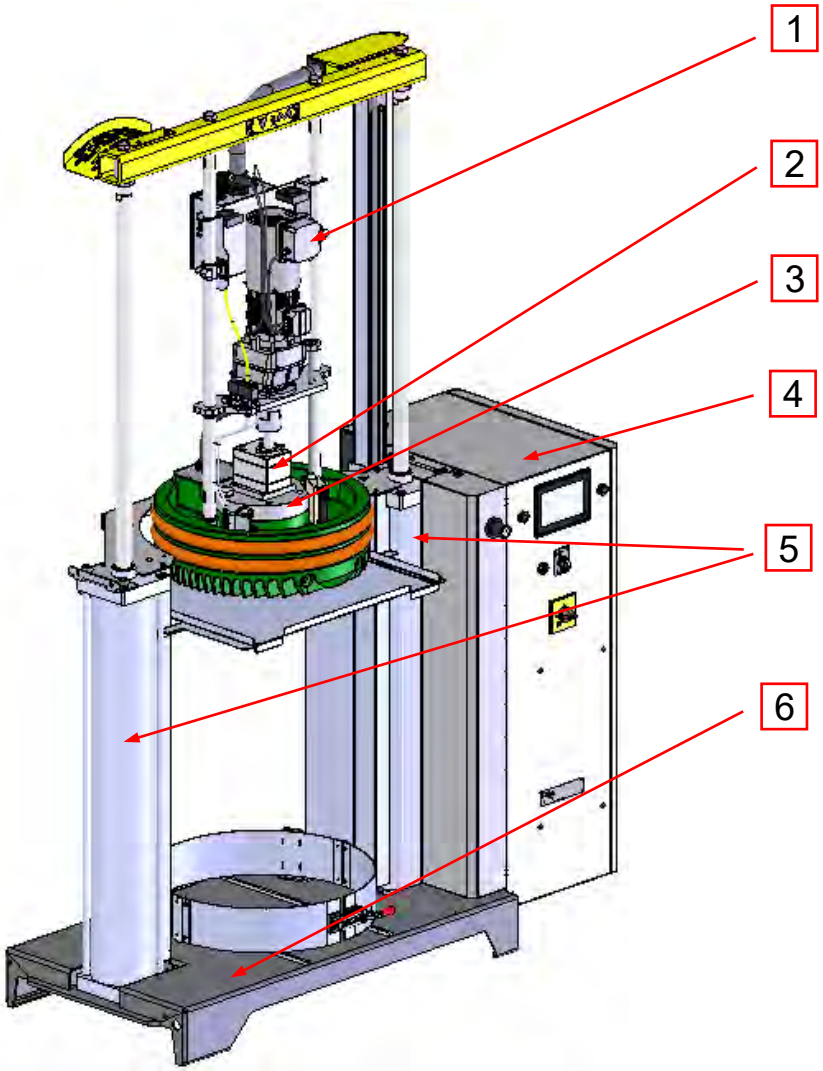
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

2.1. INTRODUCTION:

This machine heats hot-melt adhesive (or similar materials in a drum) until it goes from solid to liquid state in a heated container. A pump absorbs the glue at a certain pressure through heated hoses and transfers it to where it is applied.

2.2. MAIN PARTS:

The main parts of the machine are shown on the following figure:



N.	DESCRIPCIÓN
1	Motor
2	Pump
3	Manifold
4	Electric cabinet
5	Cylinders
6	Base frame

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

2.2.1. Base frame:

The structure consists of a base plate on which pneumatic cylinders are installed. These cylinders raise and lower the melt plate by means of bars.

The drum is secured to this base plate.

2.2.2. Melt plate:

This is the part that melts the hot-melt product. It consists of a cast aluminium plate heated by electric heating elements. This process is controlled by the control board. The melt plate is lowered as the adhesive melts, and keeps the drum sealed, preventing air from entering or hot melt material from leaking.

2.2.3. Pump-distribution system:

It transfers the adhesive from the drum to the distributor.

Pump:

The pump pushes the hot-melt or other heated product at a certain pressure from the melt system to the hoses and guns.

The pump is located on one side of the melt system and driven by an alternate current geared motor.

Pump speed is shown on the display on the front of the control cabinet.

Manifold:

The distributor carries the hot-melt to the hoses and guns.

It is made out of aluminium, and installed on the bottom of the melt system. It is heated by internal heating elements.

Each distributor has 2 hose connection outlets.

The distributor also contains a filter, a bleed valve, a safety valve regulator, a distributor crank assembly and a pressure transducer (optional)

Geared motor:

The geared motor controls the pump. It is an alternate current motor controlled by a vector frequency shifter which transmits power through a pump connection.

Motor speed can be adjusted manually or automatically, depending on the power required for the main machine, which should never exceed 80 rpm.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

2.2.4. Electric system:

It consists of one electric cabinet:

Electric cabinet:

At the top it contains all the control and power electronics required for the machine to operate.

2.2.5. Pneumatic system:

It consists of two independent circuits. The first is used to control the vertical movement of the melt plate and the pressure of the melted adhesive to the pump.

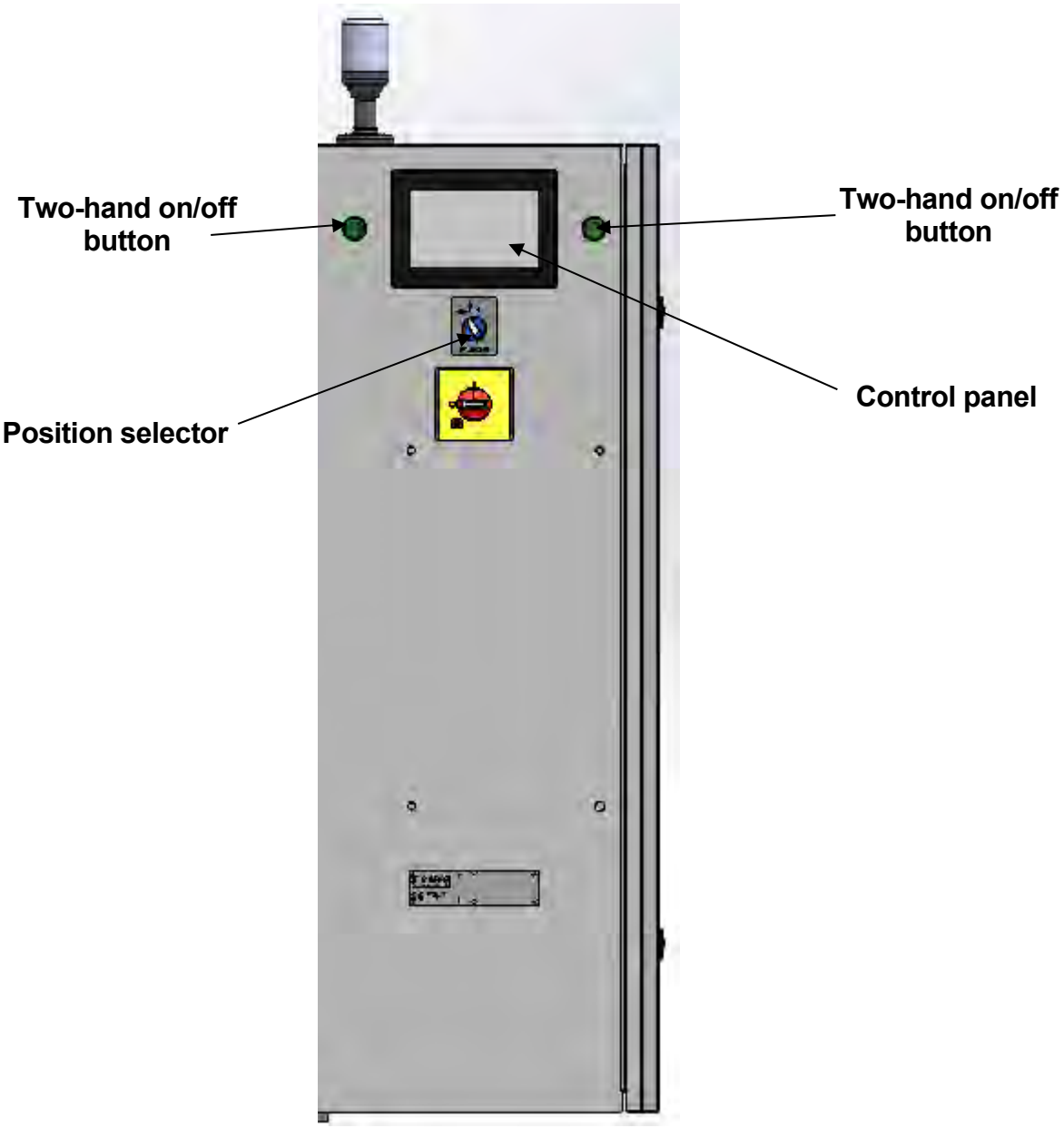
The second circuit controls the fill valve that injects air into the drum before the melt plate is removed.

It is situated at the outside electric cabinet.

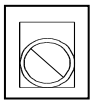
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

2.2.6. Control panel:

The control panel containing the machine's operating and adjustment switches is on the front of the electric cabinet.



Two-hand on/off button:
This sets the plate in movement. The two buttons have to be pressed at the same time.



Position selector:
It is for moving the melt plate (downward or upward).

Control Panel:
It lets the user of the unit to control the unit.

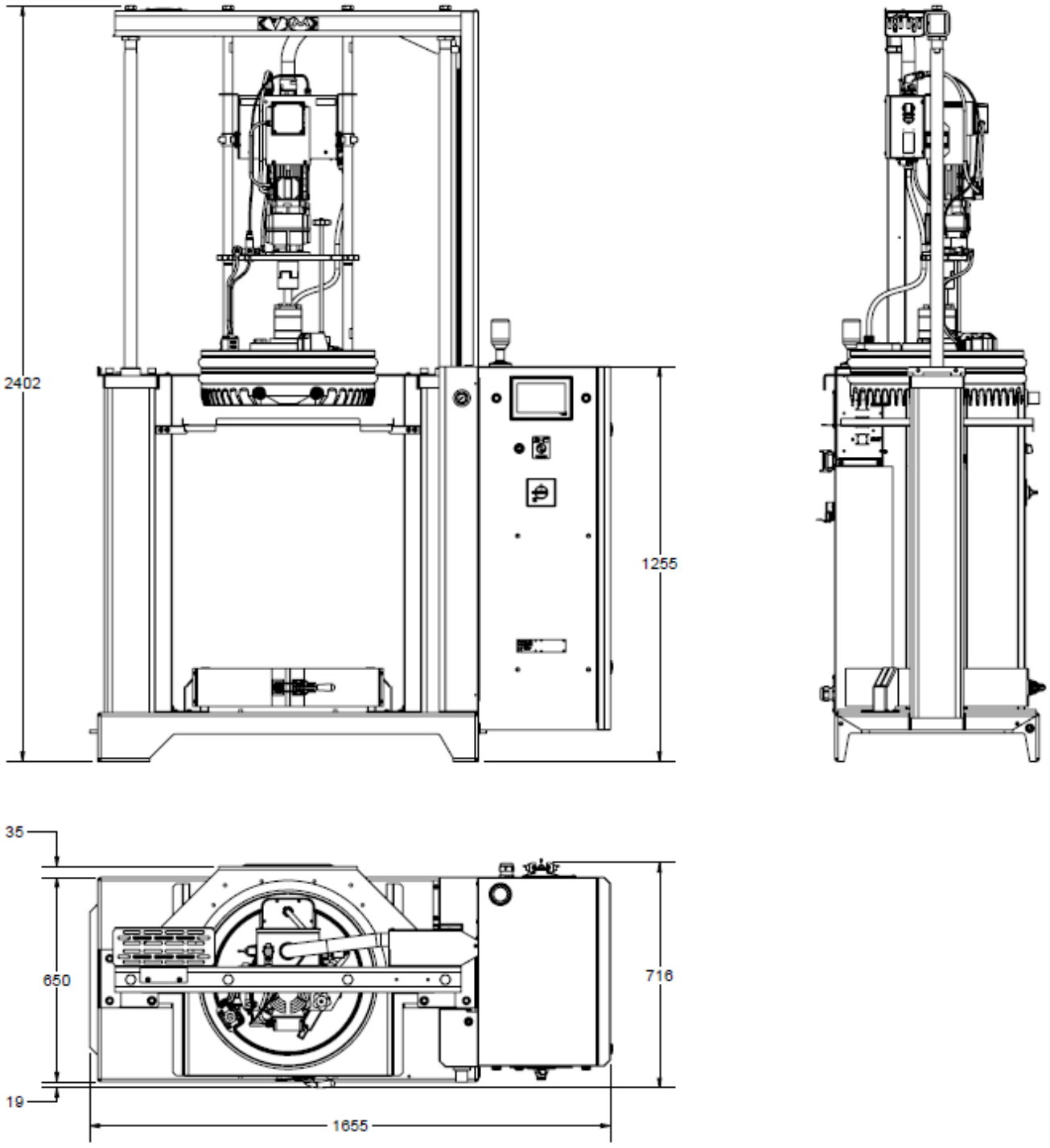
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

2.3. TECHNICAL SPECIFICATIONS:

COMPONENT	*DATA*
GENERAL	
Maximum Power supply	17000 W
Power supply voltage	III 400V+N+T (50-60Hz)
Hoses (max.)	2
Hydraulic pressure	2.8 – 80 bar (40 – 1138 psi)
Noise level	63 dB
Operating temperature	-10ºC – 50 ºC (32ºF – 122ºF) HR 20% to 80% not condensed
Max. operating viscosity	90000 cps
CONTROL	
Operational programming range	80º - 230º C (176º - 446º F)
Temperature control accuracy	+/- 0.5º C (+/- 1º F)
Control type	PID
PUMP	
Pumping capacity	4 - 30 cc/rev
TANK	
Volume	200 L

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

2.4. OVERALL DIMENSIONS OF THE FLEXDRUM UNIT:



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

CHAPTER 3
INSTALLATION OF THE MACHINE

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

3.1. INTRODUCTION:

This chapter explains how to install the machine correctly.

WARNING: The operations described in this chapter should be performed by qualified personnel, following safety instructions.

3.2. TRANSPORT:

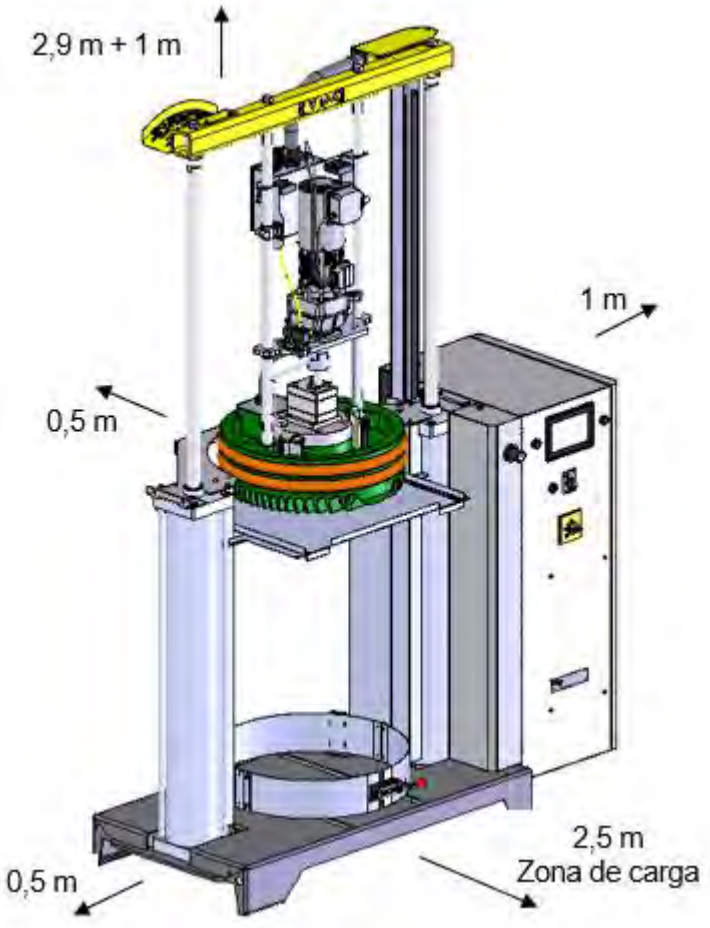
The equipment is supplied palletised with a wooden frame.

Remove the top and front covers to unpack.

Unpack carefully to prevent damage to the machine. Inspect the equipment for damages caused during transport.

3.3 INSTALLATION REQUIREMENTS:

Install the unit leaving enough space for the equipment to be accessed during operations.



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

The distances are indicated for the equipment to be handled manually or by lift-truck.

Avoid extreme temperatures (below -10 C and above +50 C).

Try to avoid installing the equipment where there are draughts. If this is not possible, the guns will need protecting because if the temperature falls rapidly, they may not work properly.

3.4. MECHANICAL INSTALLATION:

The mechanical installation includes the following:

- Positioning the equipment.
- Connecting the hoses.

Positioning the equipment:

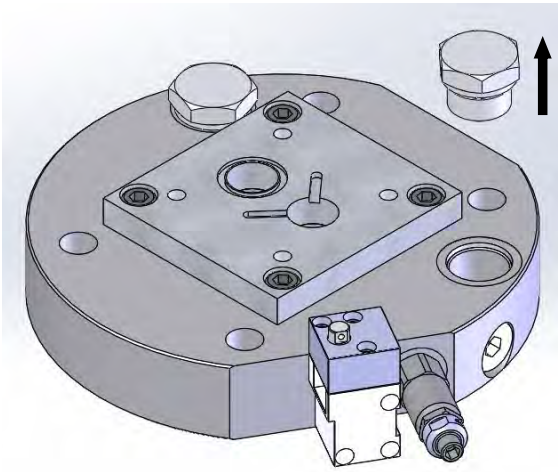
Remove from the pallet using a forklift or travelling crane, and position according to installation requirements (chapter 3.3)

Connecting the hoses:

Proceed as follows:

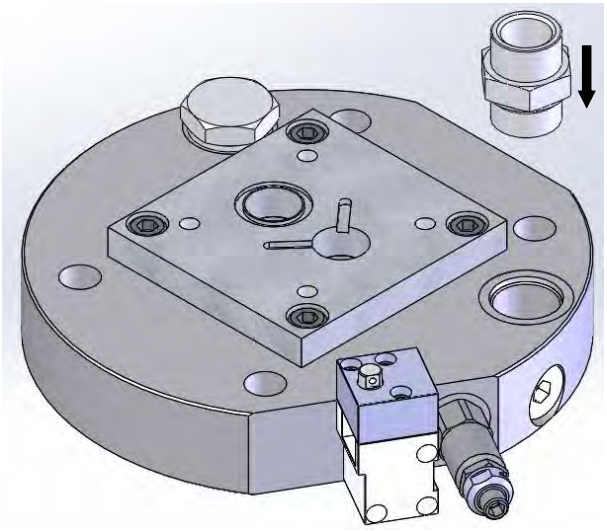
Make sure that the equipment is depressurised before connecting the hose. Set the motor control selector to zero and bleed with bleed valves. Heat the machine to melt any adhesive that may be present.

1º Remove the distributor cap.

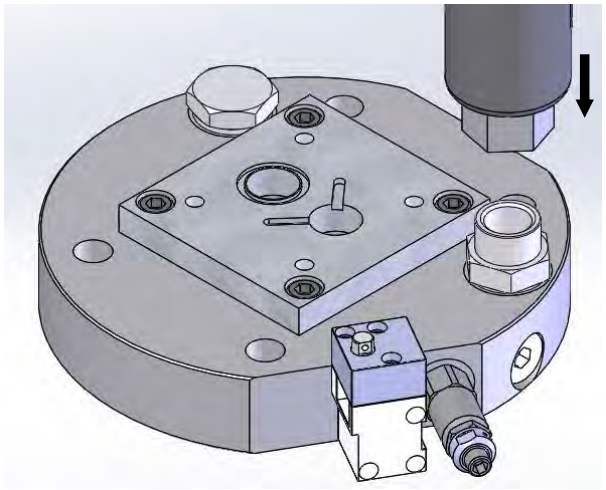


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

2º Screw on the male-male plug, as per hose diameter.



3º Screw the hose to the plug.



4º Connect the machine electrically to the electric panel.

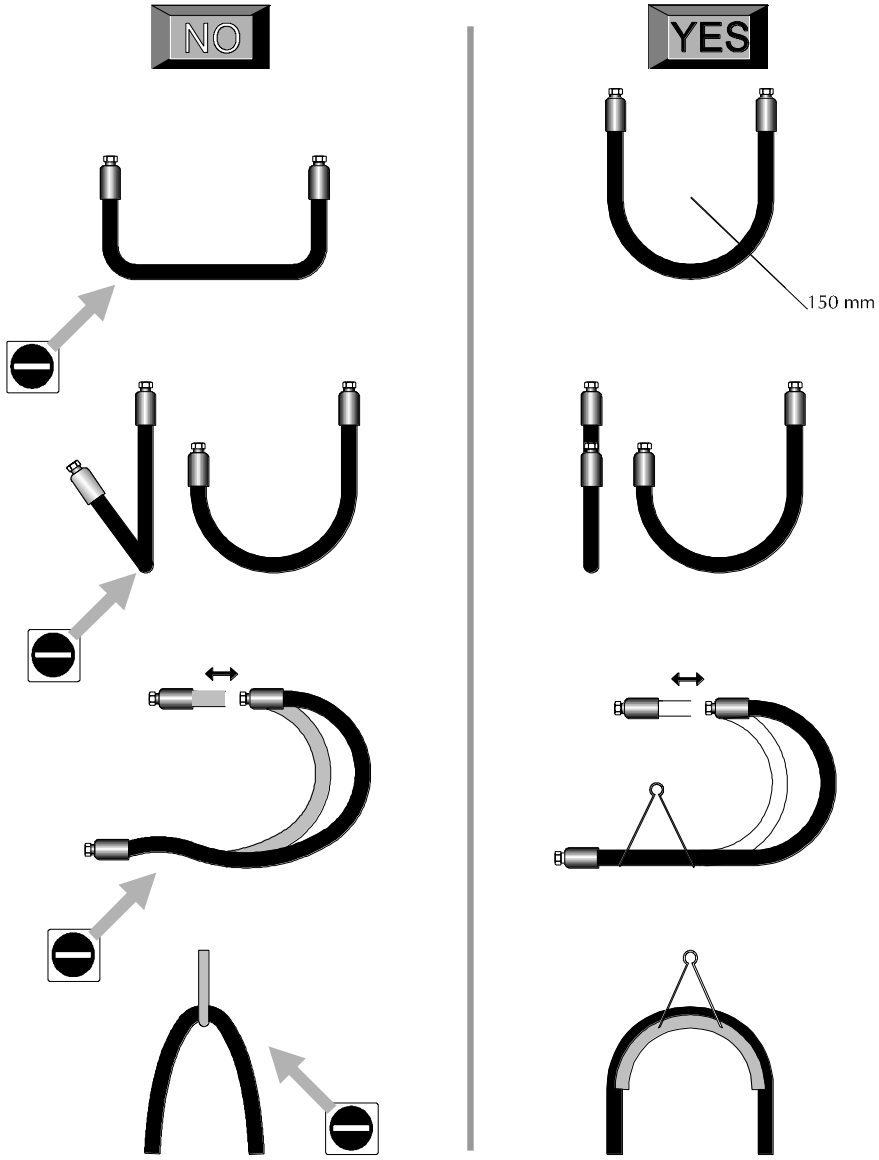
5º Insert the hose through the upper spring and install as indicated.

6º When the hose is at the relevant temperature, re-tighten the male-male plugs and the hose.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Hose placement:

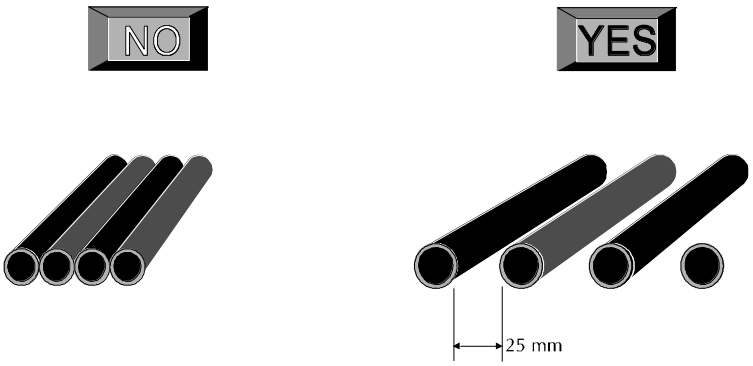
Never bend the hoses to angles with a radius of less than 150 mm.



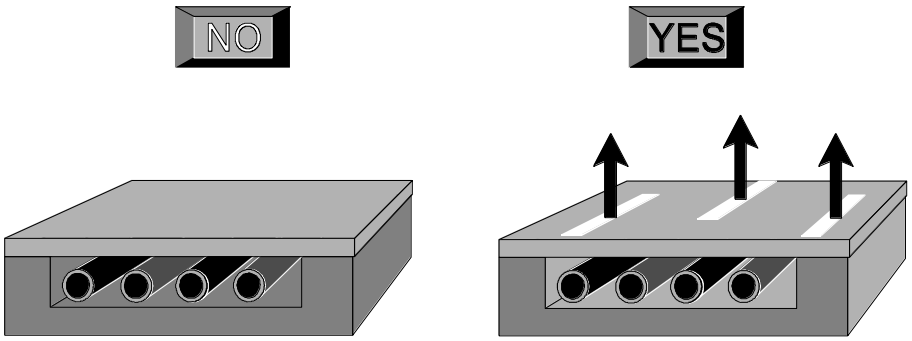
Hoses should not be allowed to lie on cold surfaces such as factory floors.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

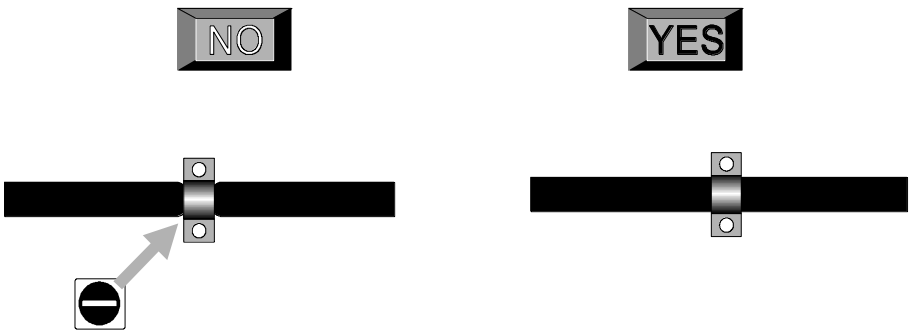
Do not bunch hoses together. Leave at least a 25 mm gap between them.



Do not cover hoses. If it is necessary to cover your hoses ensure that there are vents to allow heat to be dissipated.



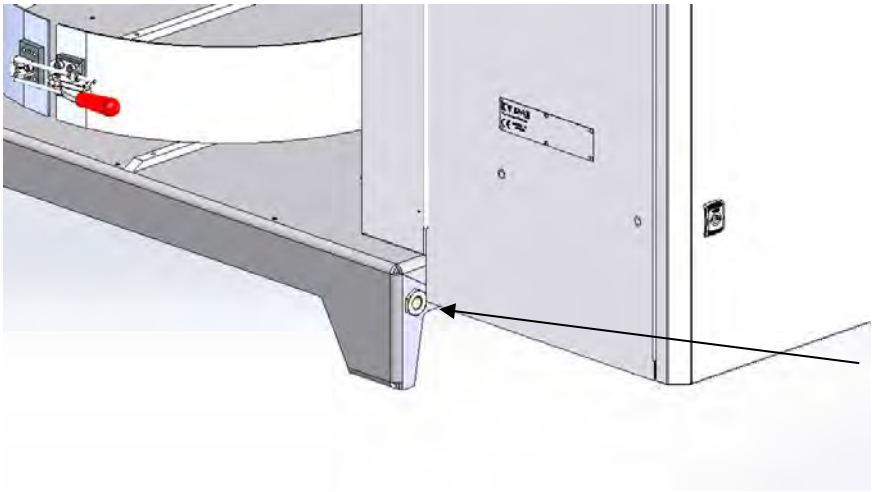
Do not install hoses with clamps smaller that the hoses.

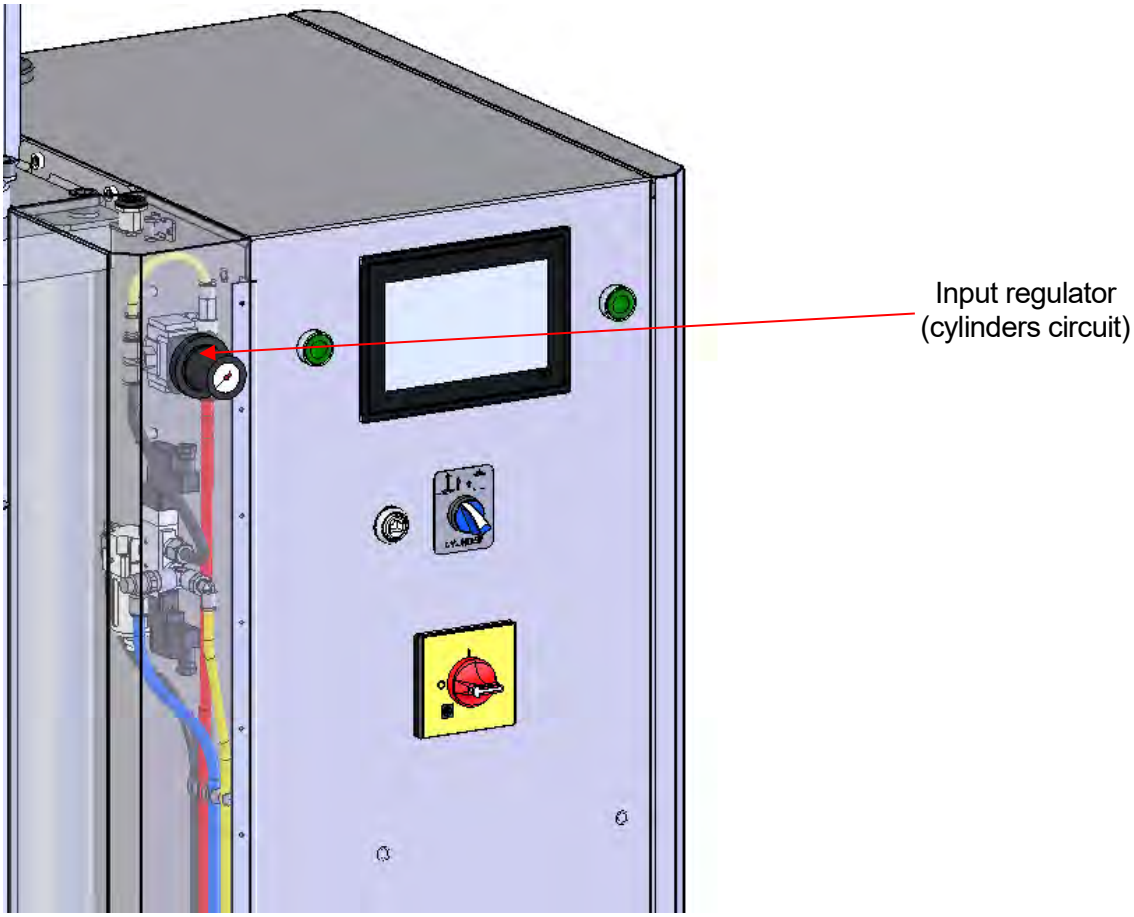


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

3.5. PNEUMATIC INSTALLATION:

Connect the air supply to the pressure adjustment inlet. The minimum pressure required by the equipment is 4 kg.





MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

3.6. ELECTRICAL WIRING:

The electrical wiring depends on the model. See electrical diagrams.

Make sure the power source is duly protected and you are using the right cable for the machine's electrical power needs.

Secure the power cord to the machine bench in order to prevent an accident.

Connect the pump permissions to the main machine's safety line.

When the machine is connected to a main machine, it won't run until the external permission is given. These terminals are factory short-circuited

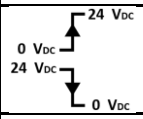
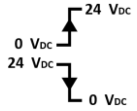
3.7. MAIN MACHINE INTERFACE

For the communication between the melter equipment and the main machine, we will use the next connector.

To make the wiring correctly, see electrical diagrams. Only shielded cable may be connected. Also, this shield must be connected to ground conforming to the European standard regarding electromagnetic compatibility (EMC).

The pinout of this connector is the next.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Pin	Input/Output		Function
1	Output	24 VDC	Internal voltage for the activation of the inputs 3,4,5,6,7,8,9,11,12,13 and 14. Only connect if we want to use voltage connection (we will see it later).
3	Input		Rising edge: Heat ON Falling edge: Heat OFF
4(*)	Input	0 VDC	24 V: Pump Enable (Safety Enable) → ALWAYS SHOULD BE CONNECTED 0V: All Pumps Disabled
9	Input		Rising edge: Switch on Standby Falling edge: Switch off Standby
11	Input		24V : Enable Temperature External Input 1 0V: Temperature External Input 1 ***NOTE:*** *In the touch screen you can choose the function of this temperature input*
12	Input		24V : Enable Temperature External Input 2 0V: Temperature External Input 2 ***NOTE:*** *In the touch screen you can choose the function of this temperature input*
13	Input		24V : Enable Temperature External Input 3 0V: Temperature External Input 3 ***NOTE:*** *In the touch screen you can choose the function of this temperature input*
14	Input		24V : Enable Temperature External Input 4 0V: Temperature External Input 4 ***NOTE:*** *In the touch screen you can choose the function of this temperature input*
2	Input	0 Vdc	Customer Reference. ALWAYS SHOULD BE CONNECTED. In this way, FLEXDRUM unit and customer's machine always will have the same reference.

(*) IMPORTANT NOTE

If we work by COMMUNICATIONS, the "Pump enable" signal always should be connected, because it works as SAFE TORQUE OFF input.

Then, you also will enable the pump using the communication register

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Pin	Input/Output		Function
25	Input	24 VDC	External voltage (from main machine) for the activation of the outputs 18,19,20,21,26 and 28. Only connect if we want to use voltage connection (we will see it later).
26	Output	Make contact	24V : System Ready 0V: System Not Ready
28	Output	Brake contact	24V : System Not Fault 0V: System Fault
20	Output		24V : Drum Low Level 0V: Not Drum Low Level
21	Output		24V : Drum Empty 0V: Not Drum Empty
18	Output		24V : Gun Solenoid ON for Application 1 0V: Gun Solenoid OFF for Application 1
19	Output		24V : Gun Solenoid ON for Application 2 0V: Gun Solenoid OFF for Application 2
29	Input	Analog 1 0 to 10 VDC	Line Speed Signal PUMP 1 (0-10 V)
30	Input	Analog 2 0 to 10 VDC	Line Speed Signal PUMP 1 (0-10 V)

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

The connection between the main machine and FLEXDRUM can be done in two ways: with dry contacts or with voltage. If we select by voltage, the customer must connect his reference potential ($0V_{DC}$) to pin number 2.

Theses connections should be like this:

<u>INPUTS</u> (from main machine to FLEXDRUM)

- ***Pump enable:***
  - *With dry contact:* link pin 1 and 4.
  - *With voltage:* 24 V_{DC} to pin 4.

- ***Switch On/Off Equipment:*** positive edge (ON) ; negative edge (OFF)
  - *With dry contact:* link pin 1 and 3.
  - *With voltage:* 24 V_{DC} to pin 3.

- ***External Standby:*** positive edge (ON) ; negative edge (OFF)
  - *With dry contact:* link pin 1 and 9.
  - *With voltage:* 24 V_{DC} to pin 9.

- ***Line Speed Reference Pump 1:*** 0-10V analogical signal
  - *With voltage:* *Pin 2 = 0V ; Pin 29 = 10V.*

- ***Line Speed Reference Pump 2:*** 0-10V analogical signal
  - *With voltage:* *Pin 2 = 0V ; Pin 30= 10V.*

- ***Enable External Temperature input 1:***
  - *With dry contact:* link pin 1 and 11.
  - *With voltage:* 24 V_{DC} to pin 11.

- ***Enable External Temperature input 2:***
  - *With dry contact:* link pin 1 and 12.
  - *With voltage:* 24 V_{DC} to pin 12.

- ***Enable External Temperature input 3:***
  - *With dry contact:* link pin 1 and 13.
  - *With voltage:* 24 V_{DC} to pin 13.

- ***Enable External Temperature input 4:***
  - *With dry contact:* link pin 1 and 14.
  - *With voltage:* 24 V_{DC} to pin 14.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

<u>OUTPUTS</u> (from FLEXDRUM to main machine)

- ***Equipment Ready:*** normally open output
  - *Dry contact:* between pin 25 and 26.
    Contact Closed: equipment ready
    Contact Open: equipment not ready
  - *Voltage:* customer must give 24 V_{DC} to pin 25. In the pin 26 we will read:
    24 V_{DC}: equipment ready
    0 V_{DC}: equipment ready

- ***Equipment Fault:*** normally close output
  - *Dry contact:* between pin 25 and 28.
    Contact Closed: no fault in the system
    Contact Open: fault in the system
  - *Voltage:* customer must give 24 V_{DC} to pin 25. In the pin 28 we will read:
    24 V_{DC}: no fault in the system
    0 V_{DC}: fault in the system

- ***Drum Low Level:***
  - *Dry contact:* between pin 25 and 20.
    Contact Closed: Drum Low Level
    Contact Open: Not Drum Low Level
  - *Voltage:* customer must give 24 V_{DC} to pin 25. In the pin 20 we will read:
    24 V_{DC}: Drum Low Level
    0 V_{DC}: Not Drum Low Level

- ***Drum Empty:***
  - *Dry contact:* between pin 25 and 21.
    Contact Closed: Drum Empty
    Contact Open: Not Drum Empty
  - *Voltage:* customer must give 24 V_{DC} to pin 25. In the pin 21 we will read:
    24 V_{DC}: Drum Empty
    0 V_{DC}: Not Drum Empty

- ***Gun Solenoid for Application 1:***
  - *Voltage:* In the pin 2 we have 0V *;* In the pin 18 we will read:
    24 V_{DC}: Solenoid ON
    0 V_{DC}: Solenoid OFF

- ***Gun Solenoid for Application 2:***
  - *Voltage:* In the pin 2 we have 0V *;* In the pin 19 we will read:
    24 V_{DC}: Solenoid ON
    0 V_{DC}: Solenoid OFF

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

CHAPTER 4
MACHINE ADJUSTMENTS

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.1. INTRODUCTION:

The following adjustments should be made before the machine is switched on or while it is working. They will ensure that the machine works properly and safely.

This machine has a tactile screen where all the function parameters of each element of the machine are controlled.

FLEXDRUM is equipped with proportional temperature control for the resistances connected to double hose-gun channels and a special channel for heating the tank, with menus on screen to access parameter programming and control of the alternate current motor controlled by a vector frequency drive, operating clearance for the main machine, alarms and different operating functions (SEQUENTIAL START UP, ENERGY SAVING, etc.), which will be described later.

The speed of the pump can be adapted to the speed of the main machine, for this purpose this machine has an automatic programming function.

ENERGY SAVING function (Stand By) allows pre-selecting a % of the operating temperature in 3 groups. For these 3 groups different percentages of the operating temperature can be selected when the equipment is in ENERGY SAVING mode. Values between 40 and 100% can be selected.

SIMULTANEOUS START UP function: because the heat inertia of the equipment is much greater than for all the peripheral devices, these devices reach the programmed temperature much earlier than the equipment. This rapid heating process has an ageing effect on resistances and insulation. This phenomenon also creates excessive fluid pressure in the hoses.

To offset this problem, the equipment has been fitted with a preheat system that heats all the peripheral devices (hoses and guns) in a sequential manner, while the tank is heated at normal speed. When the tank reaches 75% of the programmed temperature, heat is supplied to the hoses. When the hoses reach 75% of the programmed temperature, heat is supplied to the guns.

The temperature programming allows pre-selecting the operating temperature for each device in a range between 0 and 240ºC (32-464ºF). Below 0ºC (32ºF) the device is permanently switched OFF.

The general parameters programming allows to enter operating parameters such as temperature measurement unit (ºC or ºF), clearance delay time, safety alarm temperature, temperature deviations that cause alarms, enabled options and functions such as time adjustment or sequential start up, etc.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Time adjustment allows entering the current day of the week and the time on the timer. ON/OFF timer programming allows to enter automatic switch-on and switch-off times. Up to 2 on/off time groups can be programmed for each day of the week, and the switch-over to ON, OFF or ENERGY SAVING.

Whenever a device reached the programmed safety temperature, an alarm signal will be shown on the screen.

The equipment also includes a safety system with a bimetallic thermostat, adjusted to 240ºC. When the thermostat is triggered, it will de-activate the main switch coil, disconnecting the power to the resistances but continuing to supply the control electronics, so that it can identify the device that is the source of the problem on the screen. After repairing the fault, the equipment has to be switched off and on again.

In the FLEXDRUM there are some optional elements, which are better to order when the equipment is built, like a proportional valve or solenoid, to control the adhesive recirculation to the tank; level sensors, etc. However, these element can be ordered later, but usually will be necessary to modify some mechanical parts of the equipment. These options have to be activated from the tactile screen.

Also, there are more optional element, but in this case you can order them when you want, because their installation it is very easy and fast. For it will not be necessary to modify any mechanical parts of the equipment, only “plug and play”. These elements also have to be activated from the tactile screen. These are the next:

- SmartFlow: a compact box with four pressure transducer inputs, to control and monitoring the real pressure in the gun; and four flowmeter inputs, to control the real grammage applied.

- SmartHeat: a compact box with four hose – gun temperature channels, to add an extra heating channels to the equipment. The temperature sensor of these boxes can be Ni120 or Pt100, independently of the equipment sensor.

- SmartDrive: a compact box with one or two frequency drives to add an extra pump control to the equipment. The maximum number of pumps between the equipment and the SmartDrive will be four.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2. CONTROL PANEL:

4.2.1. Buttons

The buttons most common are the next:

HOME BUTTON: this button is in the right below corner of the screen. Clicking on it, we will go to the main screen.

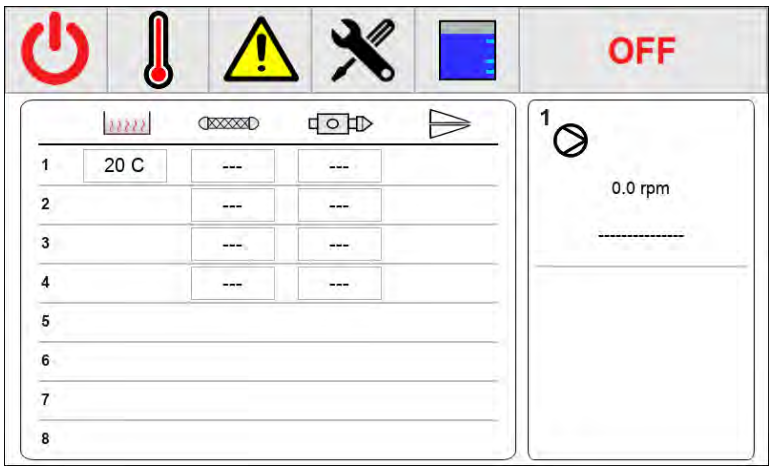
NAVIGATION BUTTONS: clicking on these buttons, we will move arround the pages which appear a list of elements, for example, temperature and alarm page.

BACK BUTTON: clicking on this button, we will go to the previous page.

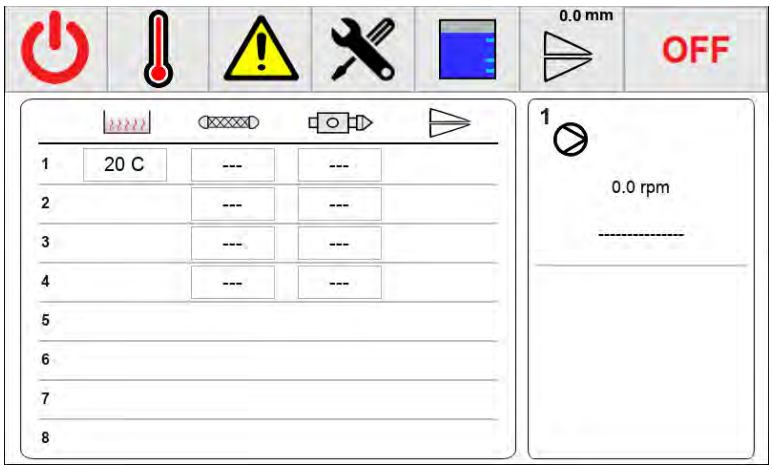
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.2. Main Page

When the equipment is switched on the main screen is opened automatically. Press the different areas on the screen to configure the equipment.

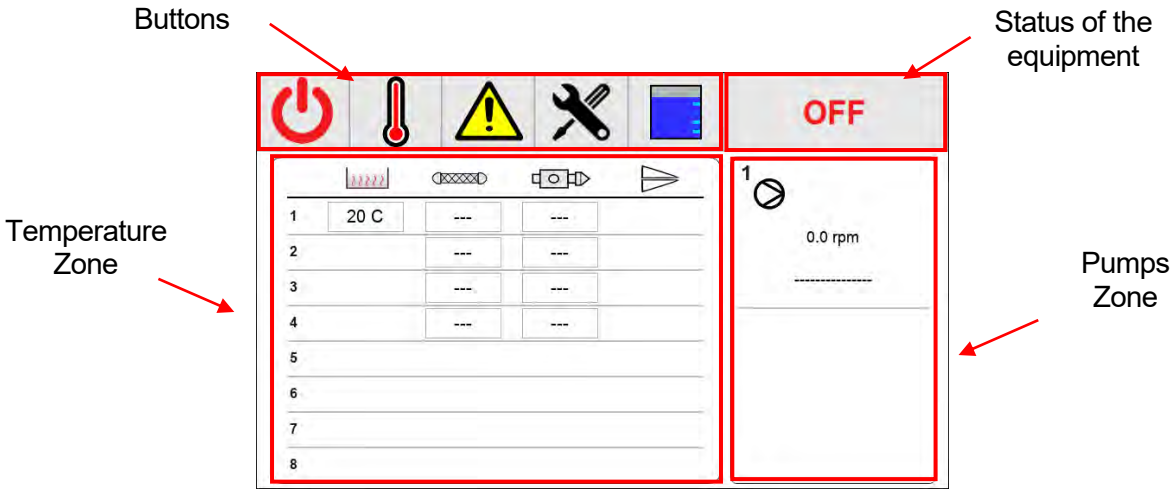


The appearance of the top part will be different if we have installed some sensor level or pro coat box



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

The different areas and buttons of the screen are the next:



Temperature Zone:

In this area, we can see the real temperature of each channel. The background colour will change depending on the status of the channel:

23 ºC Disabled

26 ºC Heating

31 ºC OK: difference between real and actual temperature greater than 2 degrees

32 ºC OK: difference between real and actual temperature less than 2 degrees

43 ºC Warning

31 ºC Fault

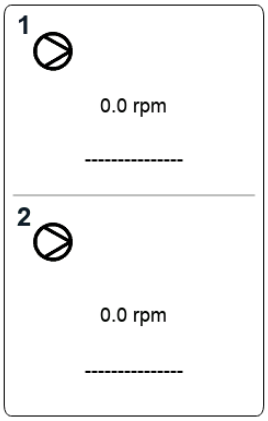
51 ºC Standby

Also, clicking on this area, we will go to the temperature settings page, when we can enable/disable the heating of the channels and change the temperature set point. We will see these settings in the point *4.2.3. Temperature Settings*.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Pumps Zone:

In this area, we can see the status of the pumps. There are three lines and an icon for each pump. The meaning is the next:



Pump icon: it symbolizes the status of the pump.

- If its colour is black, the pump will be disabled.
- If its colour is green, the pump will be enabled.
- If its colour is green and the icon is turning, the pump will be moving.

Speed (top line): it indicates the real speed of the pump.

Pressure (top line): it indicates the real pressure measured.

- If pressure transducer is not installed, a line will be appeared.

Also, clicking on this area, we will go to the pump settings page, when we can enable/disable the pump moving, change the set point speed, etc. We will see these settings in the point *4.2.4. Pump Settings*.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Buttons:

 **ON / OFF Button**

 System OFF

 System ON

 **STANDBY / NORMAL button**

 Normal Heating Mode

 Standby Heating Mode

 **ALARM button**

Clicking on this button, we will go to the alarms page. We can see it in the point *4.2.6. Alarms.* The colour of the button can change depending on the status of the system. The button will blink in the next colours:

 System Warning

 System Fault

 **CONFIGURATION button**

Clicking on this button, we will go to the configuration page. We can see it in the point *4.2.5. Configuration.*

 **DRUM LEVEL button**

Clicking on this button, we will go to the tank level page. We can see it in the point *4.2.7. Tank Level.* The appearance of this button will change depending on the level of the equipment and the sensors installed.

PROCOAT BOX button

Clicking on this button, we will go to the Procoat box page. We can see it in the point *4.2.8. Procoat Gun.* In the top part of this button, we will see a numeric value which corresponds with the actual width of the Procoat gun.

Status of the equipment:

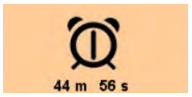
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

System OFF

In this situation, the main contactor of the equipment will be off, so the equipment will be without power. The temperature channels will not be heated, and the pumps will be stopped.

System Heating

In this situation, the main contactor of the equipment will be on and the temperature channels enabled will be heated. If the heating mode is sequential, next to the icon will be appear a number with the zone which is being heated (1 – tank ; 2 – Hoses ; 3 – Guns and Aux). If the heating mode is simultaneous, no number will appear.



System Waiting

When all temperature set points have been reached, the system will wait a time indicated in the temperature operating parameters. After this time, the equipment will be ready to work. In the bottom part will appear the time left. You can change this time in configuration settings page.

System OK

When all temperature set points have been reached and the system has waited the waiting time, the system is ready to work. If the working parameters are correct, the pumps enabled will be moved.

System WARNING

If some situation has caused a warning in the system, the appearance will be like this. In this situation, the pumps will be moved if the working parameters are correct.

System FAULT

If some situation has caused a fault in the system, the appearance will be like this. In this situation, the pumps will not be moved.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.3. Temperature Settings

Path: Home Screen/Temperature Zone

Clicking on temperature zone in the main page, we will go to the next page. In this page, we can adjust the temperature set point of each channel and enable/disable the heating of the channels.

Only will be appear the temperature channels installed in the equipment, it will depend on the number of pumps and hose – gun outputs of the equipment.

The icons are the next:

Tank: Plate of the drum.

Hose Channels:
From 1 to 8, depending on the outputs.

Gun Channels:
From 1 to 8, depending on the outputs.

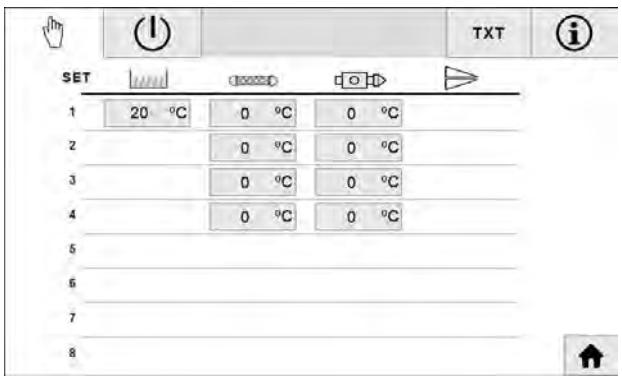
In the top part, we have some buttons:

Temperature Set Point Page

Clicking on this button, we will go to the next page, when we can adjust the temperature set point of each channel.

Doing double click on the icon, the set point temperature of the line 1, will be pasted in all channels of the same column.

Doing double click on the “SET” text, the set point temperature of the top element in line 1 will be pasted in all channels.



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Temperature Channel Enable/Disable Page

Clicking on this button, we will go to the next page, when we can enable or disable the heating of the temperature channels.

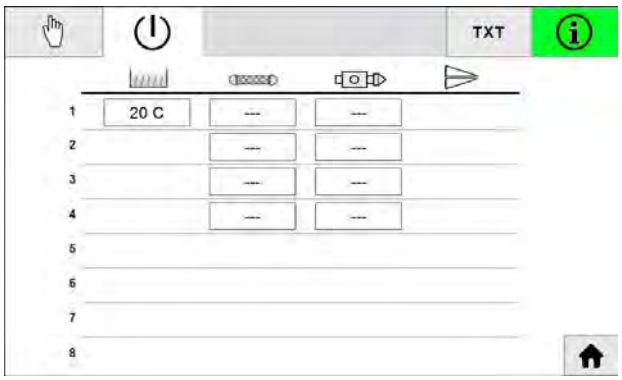
If the channel is enabled the background colour will be green, if not, it will be grey.

Real Temperature Page

Keeping pressed this button, we will see the next page, where we can see the real temperature of all channels. If we release this button, we will return to the previous page.

If the text is “----", it means that the channel is not enabled and zero degrees are being measured.

If the text is “Error”, it means there is not connected any element to the corresponding output or there is a short-circuit in this channel.

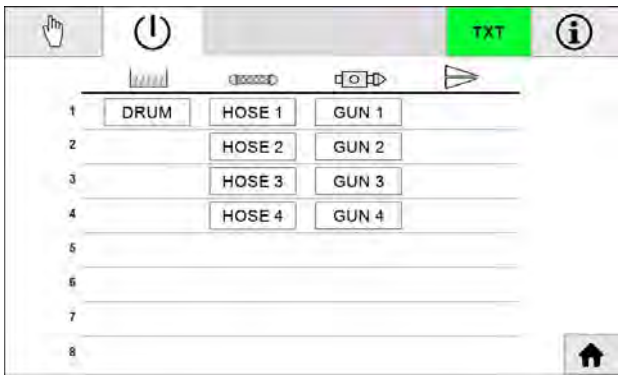


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

TXT **Temperature Text Page**

Keeping pressed this button, we will see the next page, where we can see the texts of the temperature channels. If we release this button, we will return to the previous page.

We can change this text in the temperature configuration page. This text will also appear in the alarms.

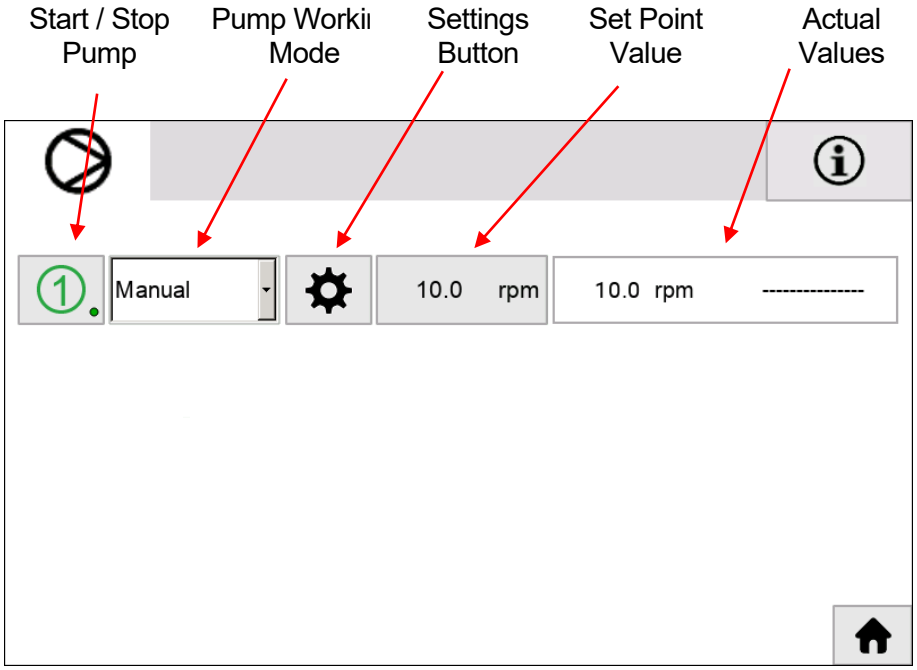


4.2.4. Pump Settings

Path: Home Screen/Pump Zone

Clicking on pump zone in the main page, we will go to the next page. In this page, we can adjust the working mode of the pump, start/stop movement of the pump, modify the set points of the different working modes, etc.

Only will be appear the pumps installed in the equipment.



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Start / Stop Pump:

With this button we can start/stop the movement of the pump.

 **Pump OFF:** the pump will not be moved.

 **Pump ON:** the pump will be moved if the working conditions are OK.

The small dot which appears in the right bottom corner, indicates if the pump has pump permission signal (received by digital input or by communications).

 **Pump without permission:** RED DOT

 **Pump with permission:** GREEN DOT

Pump Working Mode:

We can choose between the next working modes:

- **Manual:** enter in the set point box the desired speed value in rpm.

- **Automatic:** The unit receives an external analog signal (0-10V) signal, in proportion to line speed, which determines the likewise proportional pump speed. For example: 0 V = 0 rpm, 10 V = 100 rpm

- **Grammage:** in this mode, the system applies the desired weigh. It will be indicated in gr/m2. Previously it's necessary to set the working parameters.
  - ➔ *If we have installed a flowmeter, we can do a close loop control to make sure that we are applying the desired weight.*

- **"GPP": Grams Per Product.** In this mode, the system applies the desired weigh. It will be indicated in grams per product. Previously it's necessary to set the working parameters.
  - ➔ *If we have installed a flowmeter, we can do a close loop control to make sure that we are applying the desired weight.*

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- **Presure Control mode:** in this mode, the system will maintain the desired pressure indicated in the set point column, in bars.
  - ➔ *It's necessary to have installed a pressure transducer. If not, we will not be able to use this control.*

Settings Button: 

Pressing this button, we will go to the pump settings page, where we can adjust the advanced parameters of the pump working mode. Depending on the working mode select, the appearance of this page will change. We will explain this page later this page.

Set Point Value:

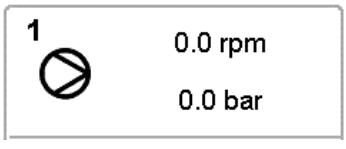
Set point value of the pump. The units of these parameters will change depending on the working mode selected.

Actual Values:

Actual values of the influencing variables in the pump working, like speed (rpm), and pressure (bars).

- ***Speed (left value):*** it indicates the real speed of the pump.
- ***Pressure (right value)***: it indicates the real pressure measured. If pressure transducer is not installed, a line will be appear.

We can configure two transducer per pump, so the appearance changes in this page and in the main page too.

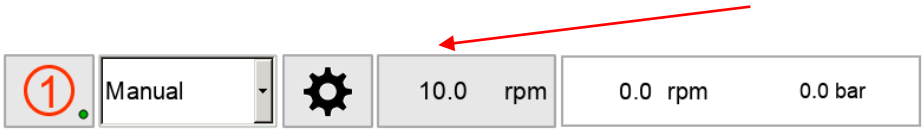
MAIN PAGE	***PUMPS PAGE***
	

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

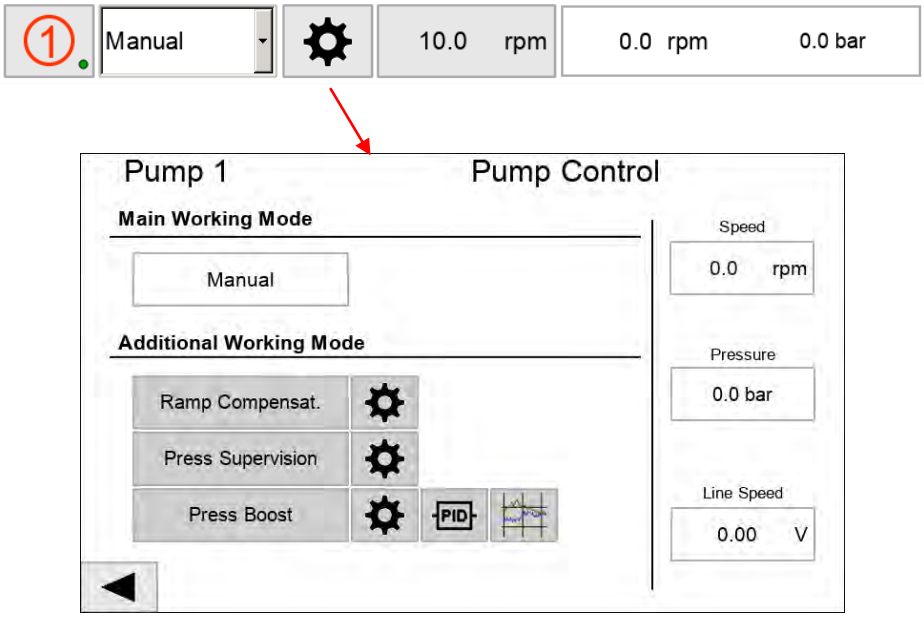
4.2.4.1 Main Working Mode

Manual:

The pump will be moved at the speed indicated in the set point box.



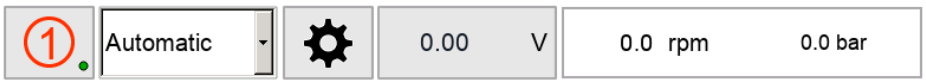
Pressing the settings button, we will go to the next screen:



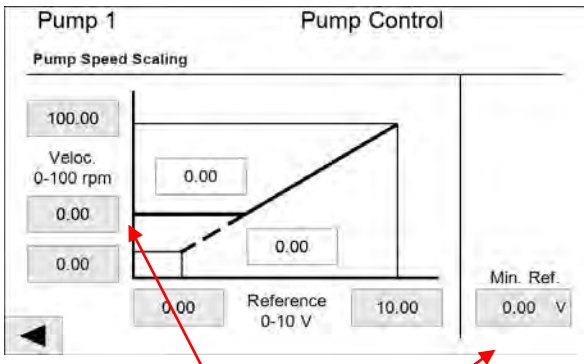
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Automatic:

The unit receives an external signal, in proportion to line speed, which determines the likewise proportional pump speed.



To convert this voltage signal in speed, we have to scale it. So, pressing the set point button we will go to the next screen.

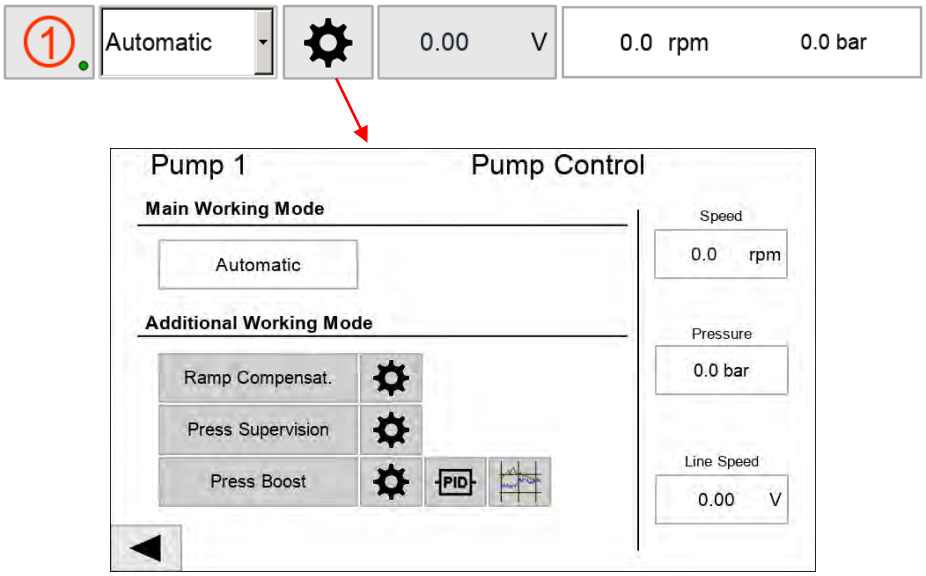


- **Min.Ref**: minimum reference.
  It is the minimum value of the line speed voltage to considerer that the main machine is running. If the line speed is lower than this value, the system will consider that the main machine is stopped.
  For example, in the previous picture, in the line speed value is lower than 0.1v Volts, the pump will not start.

- **Min.Speed**: minimum speed.
  If the pump is in condition to be moved, this value will be its minimum speed, even the pump speed scaled is less than this value.
  For example, in the previous picture:
  - While the line speed signal is from 0.1 to 0.5 Volts, the pump will be moved at 5 rpm
  - If the line speed is higher than 0.5 Volts, the pump will follow the pump speed scaling curve.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Pressing the settings button, we will go to the next screen:

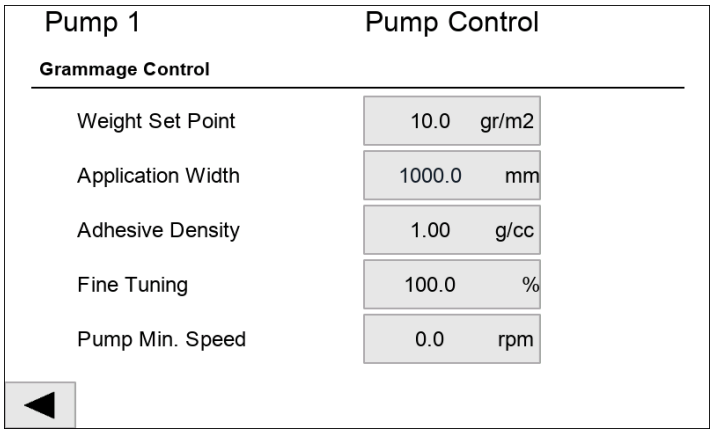


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Grammage:

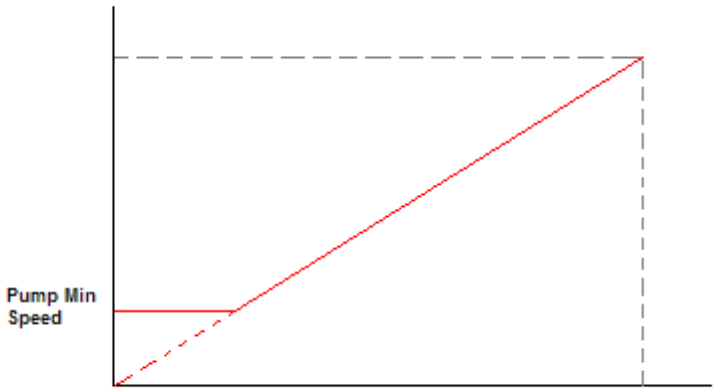
In this case, the system applies the desired weight, in gr/m2.

To set the working parameters, pressing the set point button we will go to the next screen.



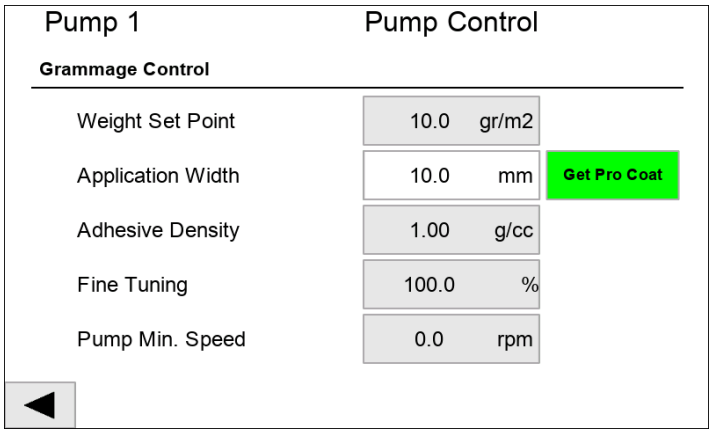
In the previous page we have to configurate the next parameters:

- ***Weigh set point***: desired grammage for application, in gr/m^2.
- ***Application widht***: in milimeters.
- ***Adhesive density***: in grams/cc..
- ***Fine Tunning***: aditional parameter to adjust the pump speed. If it is bigger than 100 %, the pump will turn faster than its theoretical speed. Otherwise, if this parameter is smaller than 100 %, the pump will turn slower than its theoretical speed.
- ***Pump Min. Speed***: if the pump is in condition to be moved, this value will be its minimum speed.

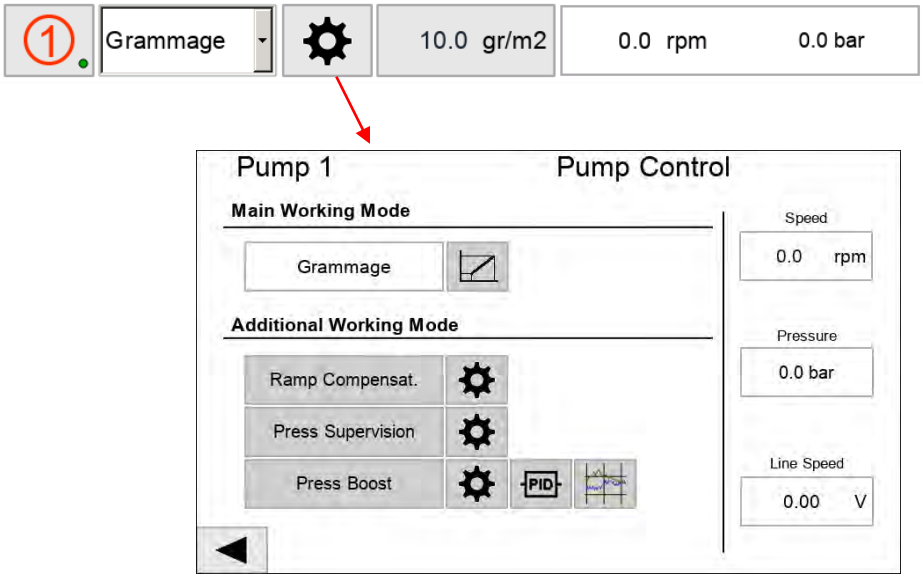


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

If there is installed procoat gun, we can enable the button “Get Pro Coat”. With this button, the application will be taken directly from procoat gun width.



Pressing the settings button, we will go to the next screen:

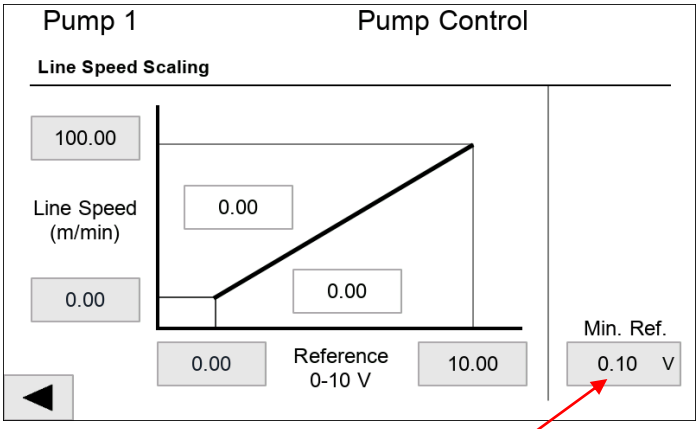


In this case, we have some buttons, which these are the next:

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Scaled Button:

Pressing this button, we will go to the next page, where we will convert the line speed in meters per minute.



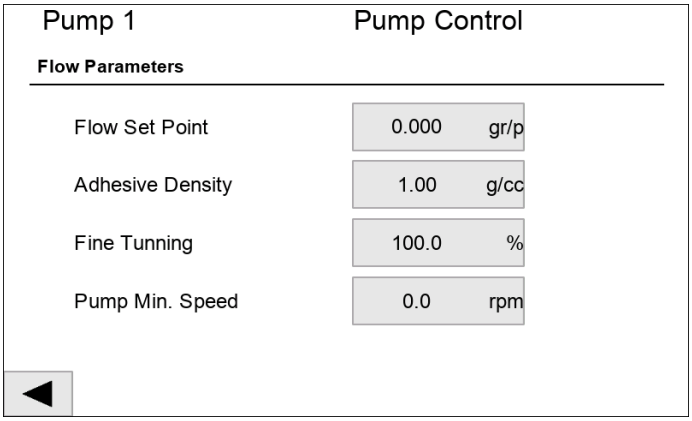
- **Min.Ref**: minimum reference.
  It is the minimum value of the line speed voltage to considerer that the main machine is running. If the line speed is lower than this value, the system will consider that the main machine is stopped.
  For example, in the previous picture, in the line speed value is lower than 0.1v Volts, the pump will not start.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

GPP: Grams per Product

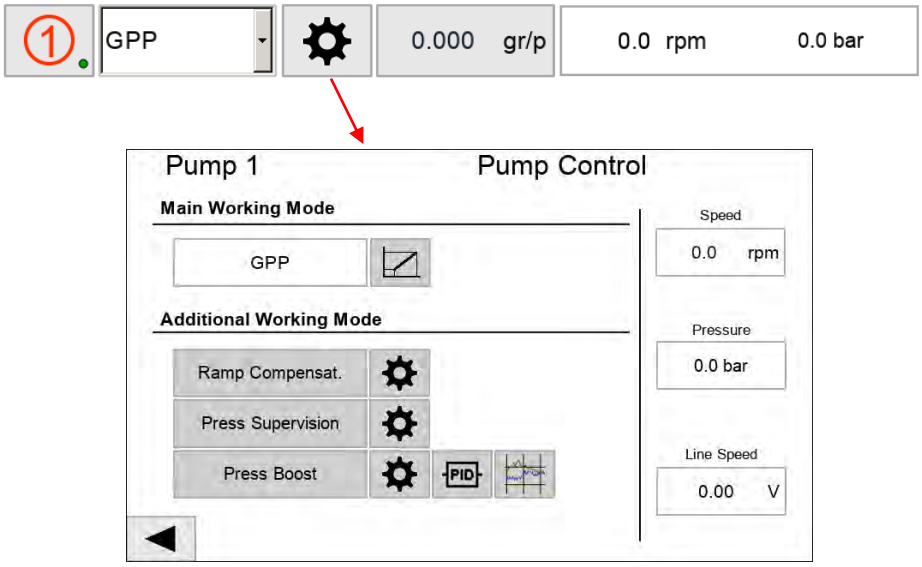
In this mode, the system applies the desired weight, in grams per product.

To set the working parameters, pressing the set point button we will go to the next screen.



- ***Flow set point***: desired grammage for application, in grams per product.
- ***Adhesive density***: in grams/cc..
- ***Pump Min. Speed***: if the pump is in condition to be moved, this value will be its minimum speed.

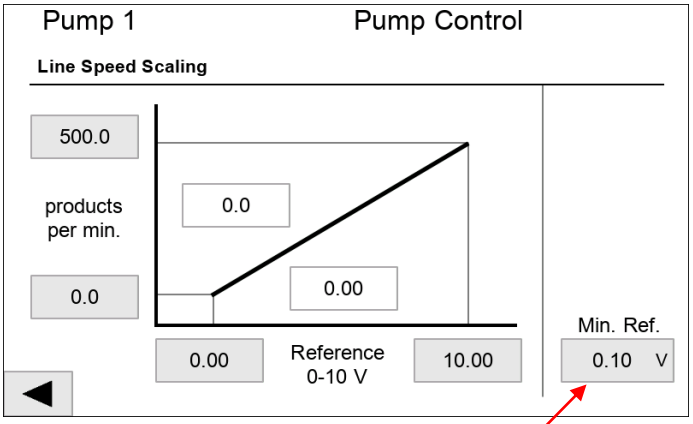
Pressing the settings button, we will go to the next screen:



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Scaled Button:

Pressing this button, we will go to the next page, where we will convert the line speed in meters per minute.

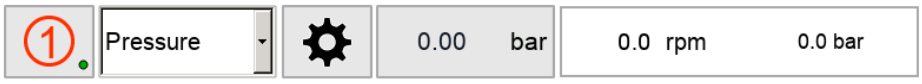


- **Min.Ref**: minimum reference.
  It is the minimum value of the line speed voltage to considerer that the main machine is running. If the line speed is lower than this value, the system will consider that the main machine is stopped.
  For example, in the previous picture, in the line speed value is lower than 0.1v Volts, the pump will not start.

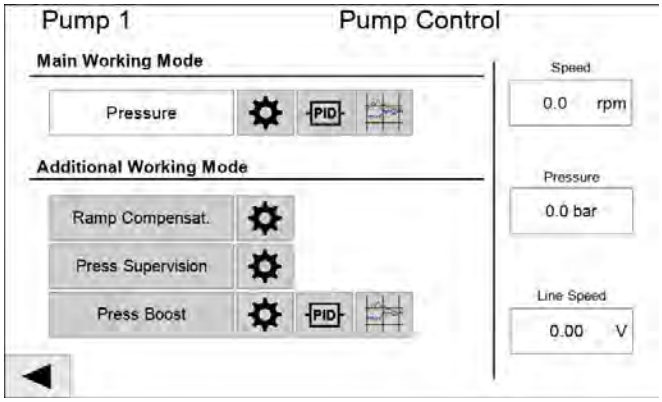
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Pressure Control:

In this mode, the system will maintain the desired pressure indicated in the set point column, in bars.



Pressing the settings button, we will go to the next screen:

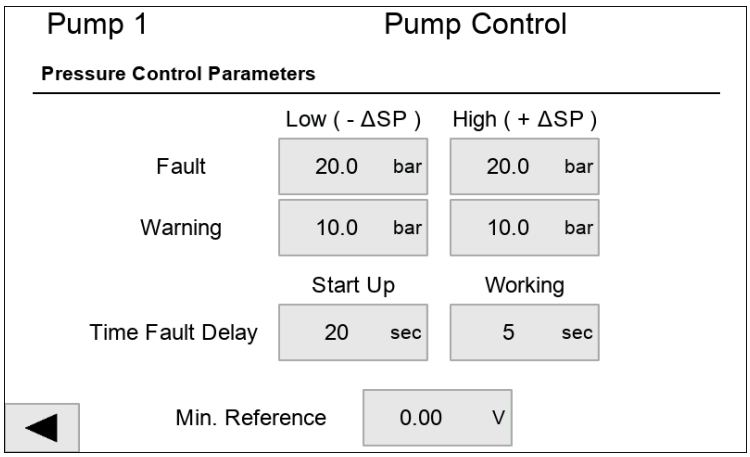


With this working mode, we only can enable "*Ramp Compensation*".

In this page we have some buttons, which are the next:

Alarms Settings Button:

Pressing this button, we will go to the next page, where we can adjust the warning and faults parameters of the control.



- ***Low Pressure Fault Limit****:* set point decrement. If the real pressure is lower than this value, the system will go to fault mode.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***High Pressure Fault Limit:*** set point increment. If the real pressure is bigger than this value, the system will go to fault mode.

- ***Low Pressure Warning Limit:*** set point decrement. If the real pressure is lower than this value, the system will go to warning mode.

- ***High Pressure Warning Limit:*** set point increment. If the real pressure is bigger than this value, the system will go to warning mode.

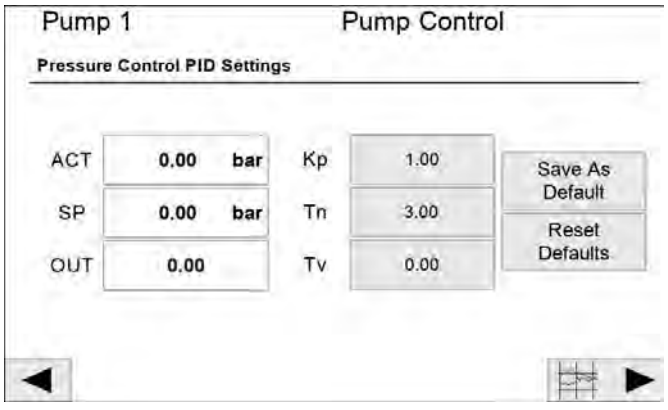
- ***Fault Time at Start Up:*** during the line starting up, the system will wait the time specified here before to start to compare pressures to detect faults and warnings.

- ***Fault Time at Working:*** during the operating of the equipment, the pressure can suffer sudden changes but this duration is very short. So before reporting high or low pressure faults it is necessary that the pressure value is out of range for a longer time that the specified here.

- ***Min.Reference:*** it is the minimum value of the line speed voltage to considerer that the main machine is running. If the line speed is lower than this value, the system will consider that the main machine is stopped

PID Controller Button:

Pressing this button we will go to the next page, where we can adjust the parameters of the PID controller.



In this page we will configure the PID controller parameters. These parameters are ***Kp*** (proportional gain), ***Tn*** (integral action time) and ***Tv*** (derivative action time).

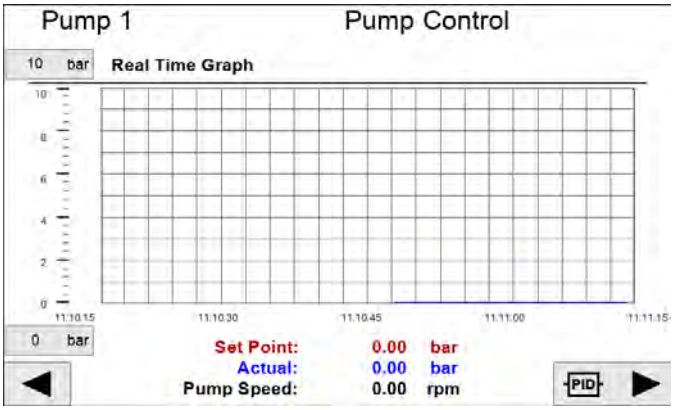
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

If we push the "***Reset***" button, *Kp, Tn, Tv* and *DB* parameters will take the default values, which are the same that we can see in the picture above.

If we push the "***Save as Defaults***" button, the values which are in these parameters will be saved as default values.

Real Time Graph Button:

Pressing this button we will go to the next page, where we can view the actual and set point pressure values in real time. The graphic maximum and minimum value is adjustable. In this picture the low value is 0 bars, and the high value is 10 bar.



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.4.2 Additional Pump Working Mode

In the bottom left part in the pump settings page, we have additional settings about pump working mode. These are "***Ramp Compensation***", "***Pressure Supervision***" and "***Pressure Boost***". But these additional modes are not compatible with all working modes of the pump.

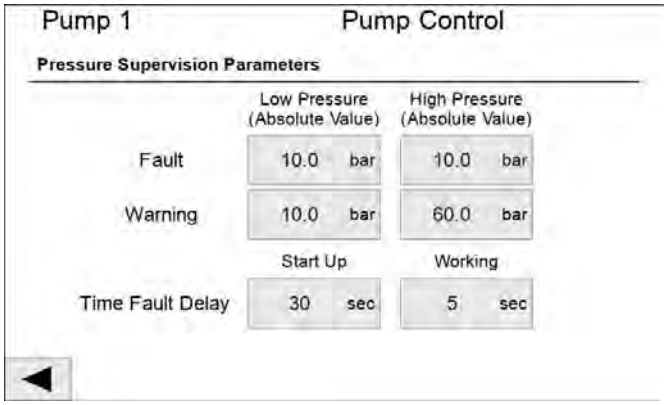
Pressure Supervision:

In this mode only we can monitor the real pressure, so it works like a security system. If the pressure is not between the limit values previously configured, the equipment will detect faults or warnings

If we want to enable this mode, we have to press the "***Press Supervision***" button. If the background colour of this button is green, it means that this mode is activated. If it is grey, this mode will be disabled. Obviously, for this mode the system needs a pressure transducer.

 ***Alarms Settings Button***

To adjust the warning and faults parameters, we press this button, which will take us to the next page:



In this page we will configure the next parameters:

- ***Low Pressure Fault Limit****:* if the real pressure is lower than this value, the system will go to fault mode.
- ***High Pressure Fault Limit****:* if the real pressure is bigger than this value, the system will go to fault mode.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Low Pressure Warning Limit:*** if the real pressure is lower than this value, the system will go to warning mode.

- ***High Pressure Warning Limit:*** if the real pressure is bigger than this value, the system will go to warning mode.

- ***Fault Time at Start Up:*** during the line starting up, the system will wait the time specified here before to start to compare pressures to detect faults and warnings.

- ***Fault Time at Working:*** during the operating of the equipment, the pressure can suffer sudden changes but this duration is very short. So before reporting high or low pressure faults it is necessary that the pressure value is out of range for a longer time that the specified here.

In “Pressure Boost Option”, “Pressure Supervision” always is active, and it cannot be disactivated.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Ramp Compensation:

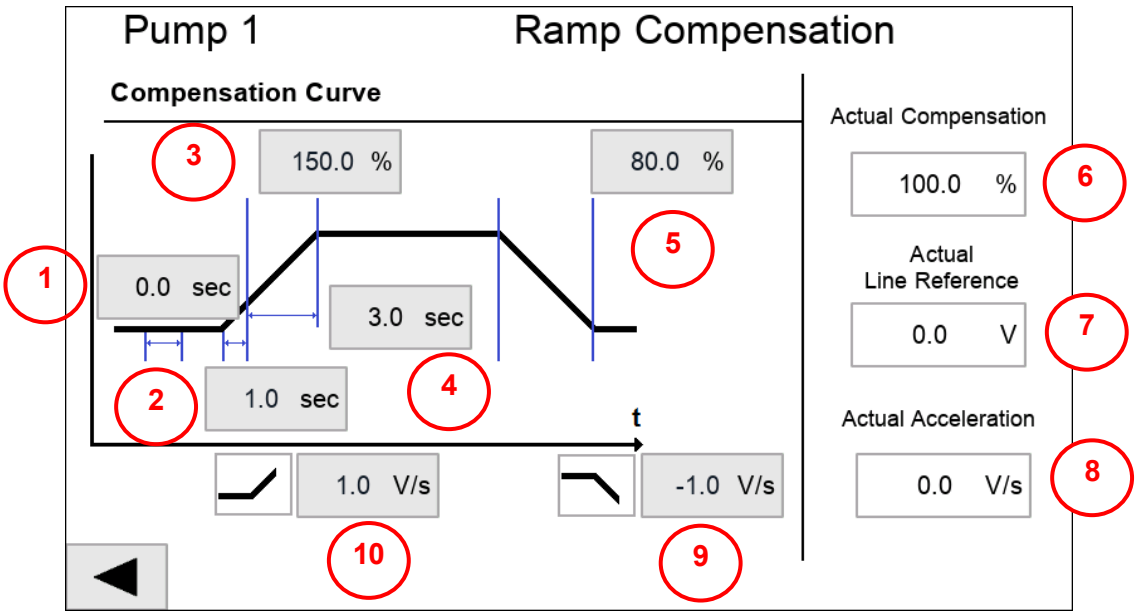
We use this mode to adjust the pump speed to get a better application in zones of ramp up and ramp down of the main machine.

If we want to enable this mode, we have to press the "***Ramp Compensation***" button. If the background colour of this button is green, it means that this mode is activated. If it is grey, this mode will be disabled.

It is not necessary pressure transducer or flowmeter, this control only affects to pump speed.

Ramp Compensation Settings Button

To adjust the parameters of the ramp, we press this button, which will take us to the next page:



The parameters are the next:

1. **Precompression time:** at the moment which the equipment receives the pump permission, the pump will be moved at 75 rpm for the time indicated in this parameter. We use this function to pressurize the system before the start up, very useful when the pump capacity is small.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

2. **Precompression time**: at the moment which the equipment detects that main machine is accelerating, the pump will be moved at 75 rpm for the time indicated in this parameter. We use this function to pressurize the system during the first zone of start up.

3. **Compensation for acceleration**: the theoretical pump speed will be increased this percentage during the acceleration zone. At the begining of acceleration, the compensation will be the parameter indicated here, but this value will be decreasing, and when the “Time for compensation for acceleration” is elapsed, there is no compensation and the pump speed will be theoretical speed.

4. **Time for compensation for acceleration**: the compensation for acceleration will be done during this time. After this time, the pump speed will not be compensed.

5. **Compensation for deceleration**: the theoretical pump speed will be decreased this percentage during the deceleration zone.

6. **Actual Compensation**: in this box we can see the real compensation applied.

7. **Actual line speed reference:** in this box we can see the line speed signal.

8. **Actual acceleration:** in this box we can see the variation of the line speed in the time. This is very useful to adjust the acceleration and deceleration limits.

9. **Deceleration limit:** limit for distinguish if the machine is decelerating or not. This value will be negative always.

   If *Actual acceleration* <= *Deceleration Limit* → Deceleration

   If *Actual acceleration* > Deceleration *Limit* → Constant velocity

10. **Acceleration limit:** limit for distinguish if the machine is accelerating or not.

    If *Actual acceleration* >= *Acceleration Limit* → Acceleration

    If *Actual acceleration* < Acceleration *Limit* → Constant velocity

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Pressure Boost:

This feature is used to ensure a correct application at the beginning of the cycle.

If we want to enable this mode, we have to press the "***Press Boost***" button. If the background colour of this button is green, it means that this mode is activated. If it is grey, this mode will be disabled. It's necessary to have installed a pressure transducer at the application point.

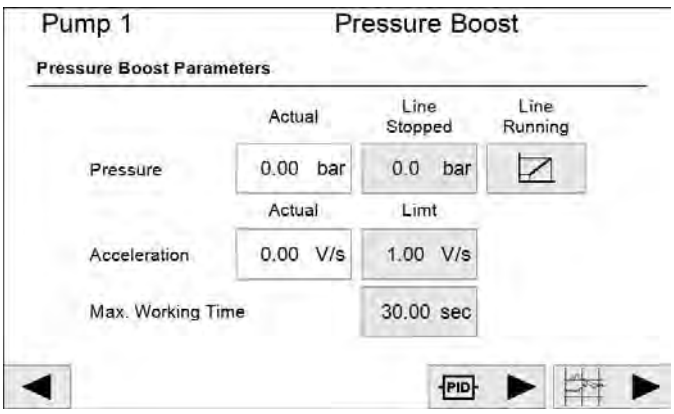
For this mode the system needs a pressure transducer.

In normal mode (without Pressure Boost) the pump needs some time to pressurize the system, and the result is a delay in the hotmelt application. With this "Pressure Boost" the system stabilizes the adhesive flow as soon as possible. It only will work when the main machine is accelerating or decelerating.

"Pressure Boost Option" in only available for "Grammage", "GPP" and "Automatic" modes.

Press Boost Settings Button

To adjust the parameters of the mode, we press this button, which will take us to the next page:



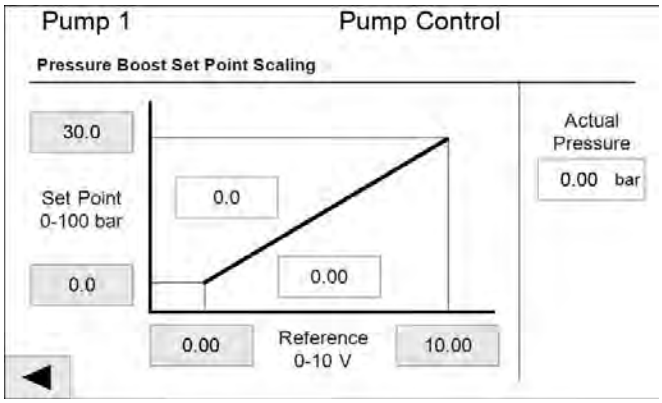
Here we can configure the next parameters:

- ***Pressure***
  - o ***Actual:*** here we can see the actual pressure

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- o ***Line Stopped**:* if the main machine is stopped but the pump has permission signal, the pump will run to get the pressure indicated in this parameter.

- o ***Line Running**:* if the main machine is running, the system will get the pressure indicated in this part. If we press the "***Scaled***" button, we will go to the next screen. The pressure set point will be variable, depending on the line speed reference.



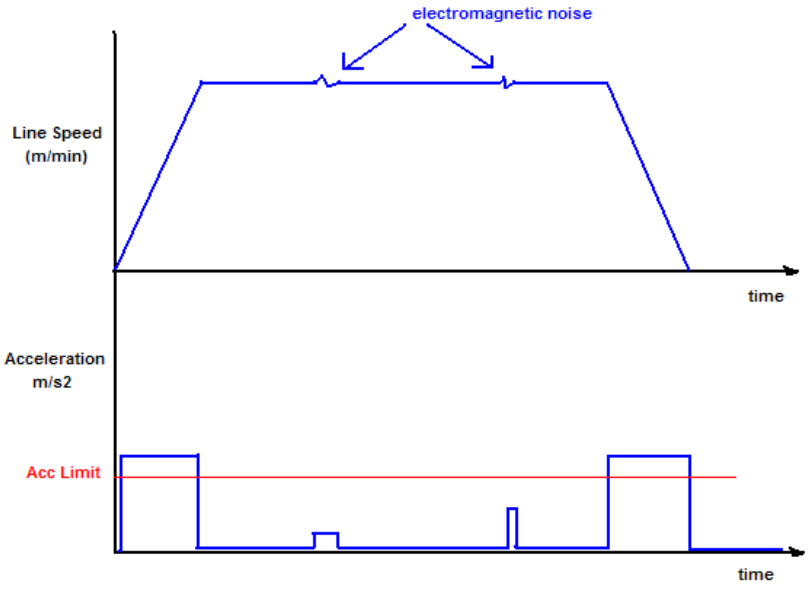
- ***Acceleration***

  - o ***Actual:*** here we can see the actual acceleration of the main machine.

  - o ***Limit:*** acceleration value from which we can consider that the machine is accelerating.

    If *Acc Act* >= *Acc Limit* → Acceleration

    If *Acc Act* < Acc *Limit* → Constant velocity



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

To set this value it is required two steps:

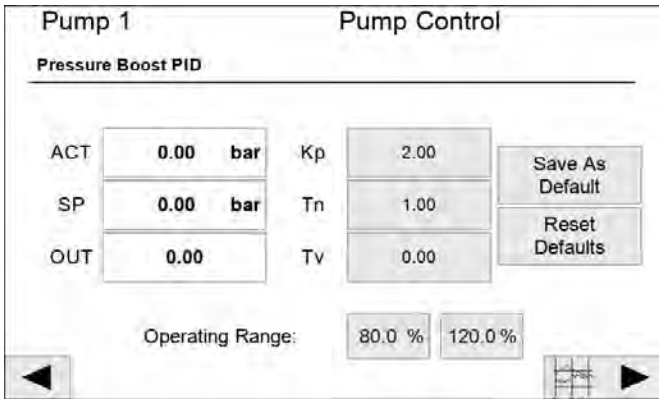
1.- High limit: you must start the production and check the value of Acc ACT during acceleration phase. In case the value oscillates between 0 and other value (35 for example). The value of Acc Limit must be lower than this value.

2.- Low limit: during normal production, small variation in speed could appear, in this case the value of Acc ACT could change. You must check these little changes and fix the value of Acc Limit upper these values.

- ***Max. Working Time****:* if the pressure boost control cannot adjust the real pressure to the set point pressure in a time lower than indicated in this parameter, the system will notify fault.

PID Controller Button:

Pressing this button we will go to the next page, where we can adjust the parameters of the PID controller.



In this page we will configure the PID controller parameters. These parameters are ***Kp*** (proportional gain), ***Tn*** (integral action time) and ***Tv*** (derivative action time).
If we push the "***Reset***" button, *Kp, Tn* and *Tv* parameters will take the default values, which are the same that we can see in the picture above.

If we push the "***Save as Defaults***" button, the values which are in these parameters will be saved as default values.

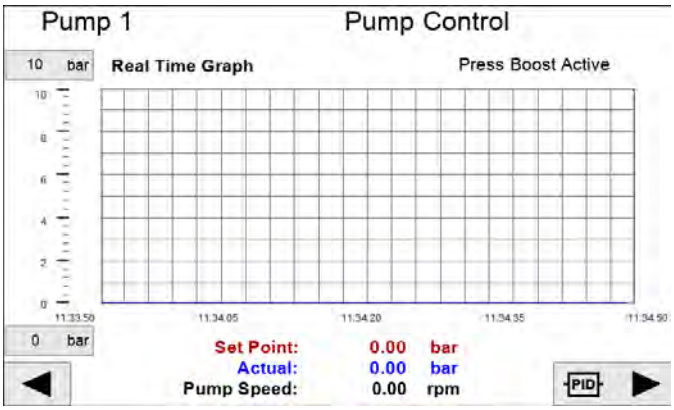
We have an additional parameter, which is the *Operating Range*. If the current pressure is out of this set point range, the pressure boost will

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

work until the pressure is inside the range. In this moment the pressure boost will not work.

Real Time Graph Button:

Pressing this button we will go to the next page, where we can view the actual and set point pressure values in real time. The graphic maximum and minimum value is adjustable. In this picture the low value is 0 bars, and the high value is 10 bar.



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

PRESSURE BOOST WORKING MODE:

The working mode is the next:

- **CASE 0:**
  - **Main machine stopped** (Line Speed signal = 0)
  - **Pump permission signal disabled**
  - Pump stopped

- **CASE 1:**
  - **Main machine stopped** (Line Speed signal = 0)
  - **Pump permission signal enabled**
  - Pump will run to get the pressure indicated in “Line Stopped Pressure”.

- **CASE 2:**
  - **Main machine running and accelerating**
    - Line Speed signal > 0
    - Acceleration Actual > Acceleration limit
  - **Pump permission signal enabled**
  - Pump will run to get the pressure indicated in “Line Running Pressure”.

- **CASE 3:**
  - **Main machine running and at constant speed**
    - Line Speed signal > 0
    - Acceleration Actual < Acceleration limit
  - **Pump permission signal enabled**
  - Pump will run to get the pressure indicated in “Line Running Pressure”. When the pressure in inside the “operating range” indicated in PID page, the pump will stop to control pressure, and the RPM will get the theoretical value, depending on the working mode selected (Grammage Control, GPP or Automatic).

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

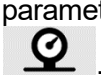
- **CASE 4:**

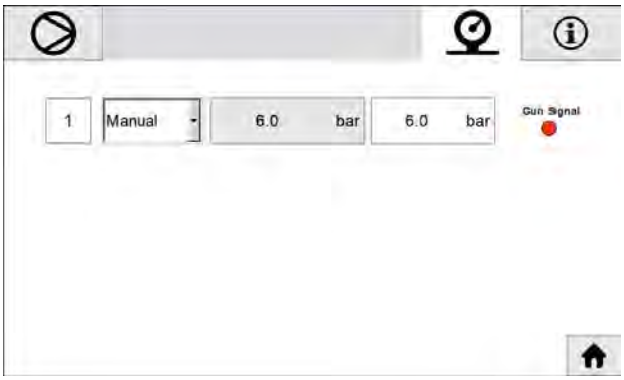
  - **Main machine running and decelerating**
    - Line Speed signal > 0
    - Acceleration Actual > Acceleration limit
  - **Pump permission signal enabled**

  - Pump will run to get the pressure indicated in “Line Running Pressure”.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.4.3 Pneumatic Regulation Settings

To set the working parameters of the pressure regulator wil will press the next button  .



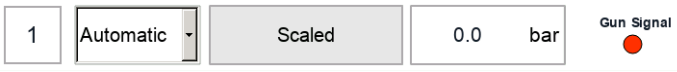
Depending on the pressure regulator selected in "***Equipment Accessories***" page, the appearance of this page will change. In this picture, in the pump one we are using a proportional valve, and in the pump two the pressure regulator is controller by and solenoid.

PROPORTIONAL VALVE

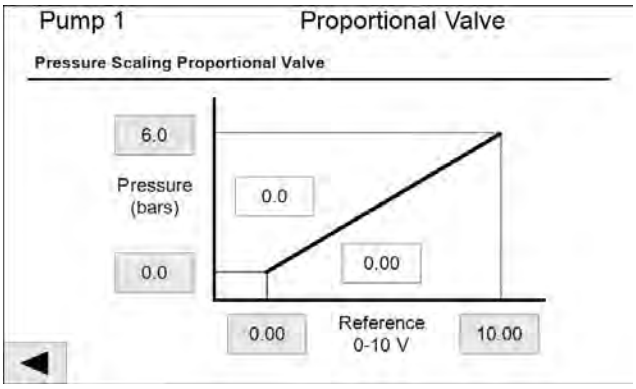
We can distinguish three working types:

- ***Manual****:* the working pressure will be fixed and equal to the value indicated in the grey box. This pressure must be between 0 and 6 bar. The white box indicates the actual pressure of the proportional valve.

- ***Automatic****:* the working value will be variable in function of the line speed. If we push the "***Scale***" button we will go to the scaled page. The pressure must be between 0 and 6 bar.

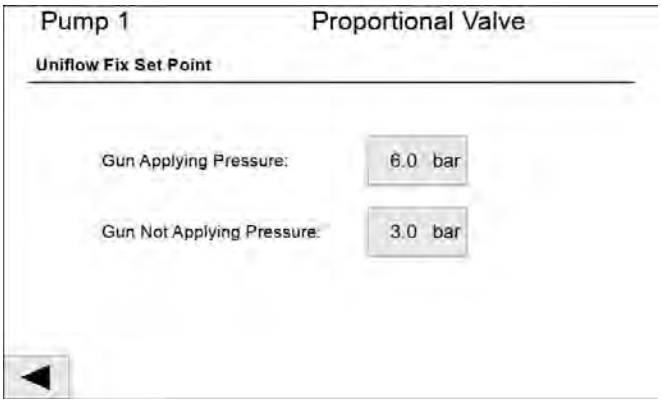


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com



- ***Uniflow**:* in this working mode we will have two working pressures, one with gun open and other with gun closed. The pressure can be fixed or variable (depending on the rpm or depending on the application width). The different working modes are explained below:

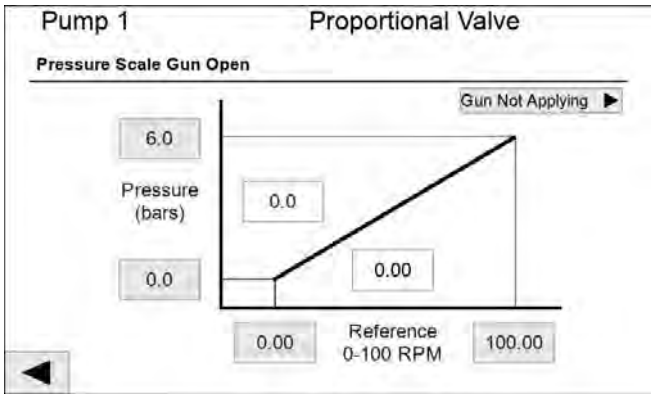
  - ***Fixed:*** in settings the working pressure will be fixed and equal to the value indicated in the grey boxes. These pressures must be between 0 and 6 bar. The white box indicates the actual pressure of the proportional valve and the gun signal colour indicates if it is open (green) or closed (red).

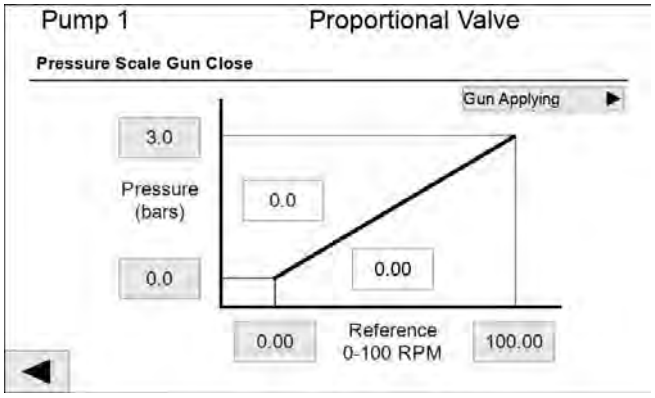


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

○ ***Variable:*** the working values will be variable in function of the rpm or application width. If we push the Settings button we will go to the scaled pages. The pressures must be between 0 and 6 bar.

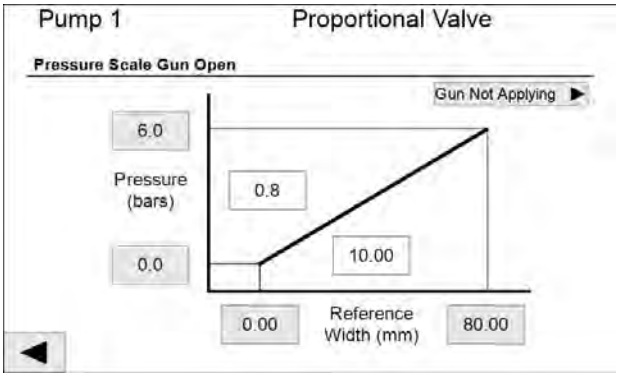
▪ Depending on rpm:

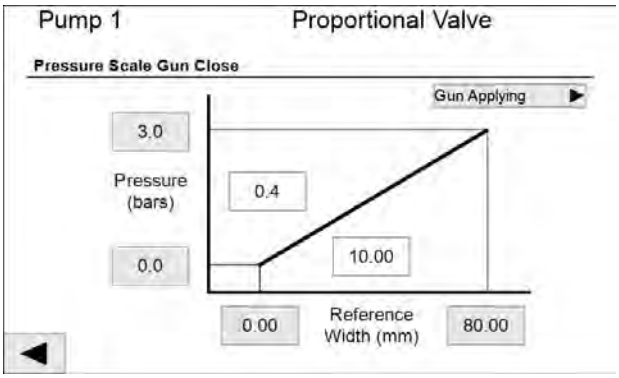




MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

▪ Depending on application width:



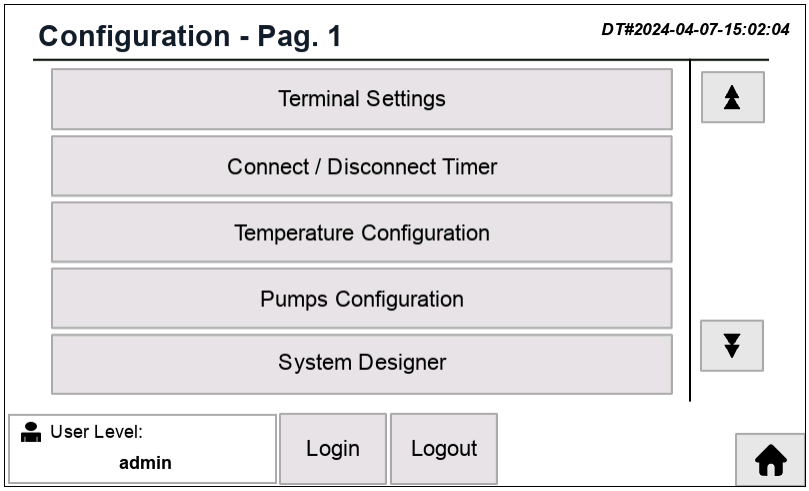


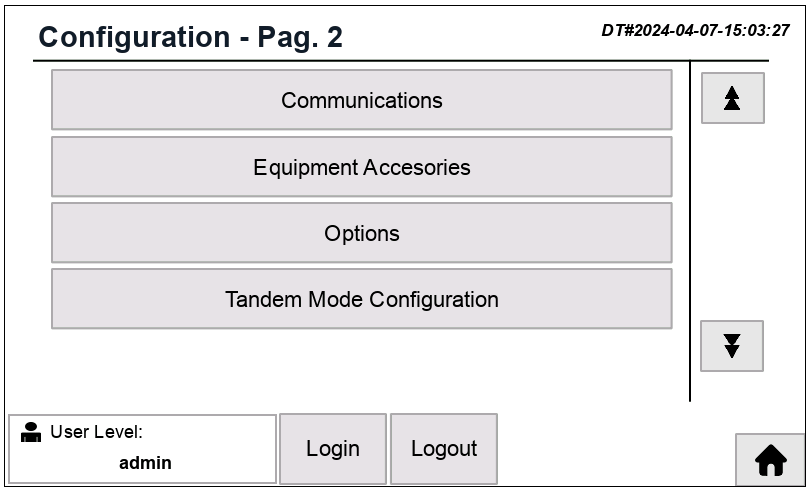
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.5. Configuration

Path: Home Screen/Configuration Button

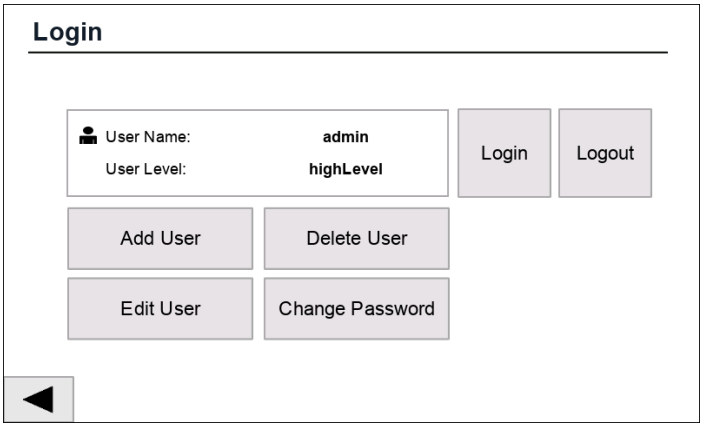
It is possible to access to these pages clicking on the settings button in the main page.





MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

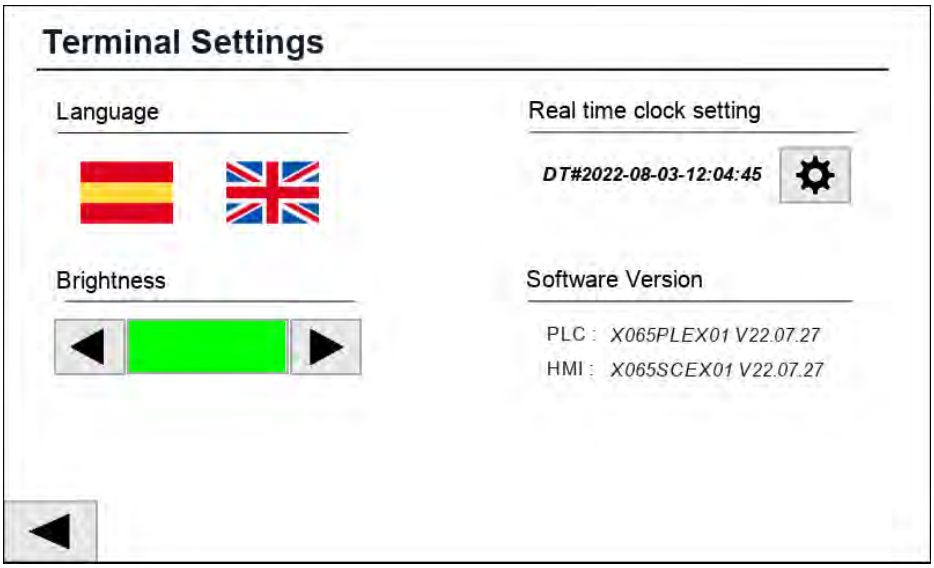
4.5.2.1. User level



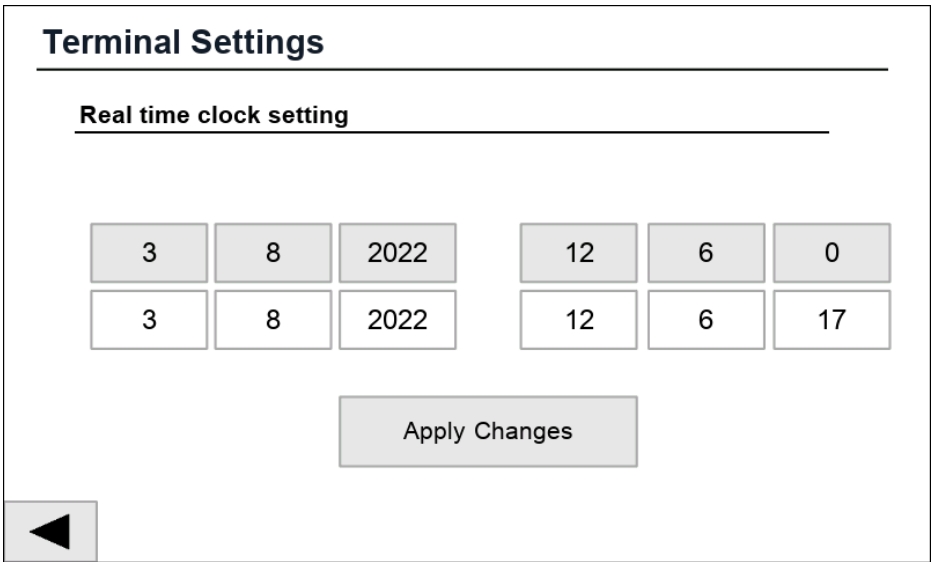
Level	Functions
Operator	Switch on/off equipment Enter/exit standby Adjust terminal settings Start/stop pumps Adjust pump working settings (optional) [*] Enable Temperature Channels (optional) [*] Change Temperature Set Point (optional) [*]
Supervisor	All “Operator” functions [*] Allow operator change optional settings
Programmer	All “Supervisor” functions Access most system setup parameters Configure the “System Designer”
highLevel	Be able to create users Only for Melton Technical Service

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.5.2. Terminal settings



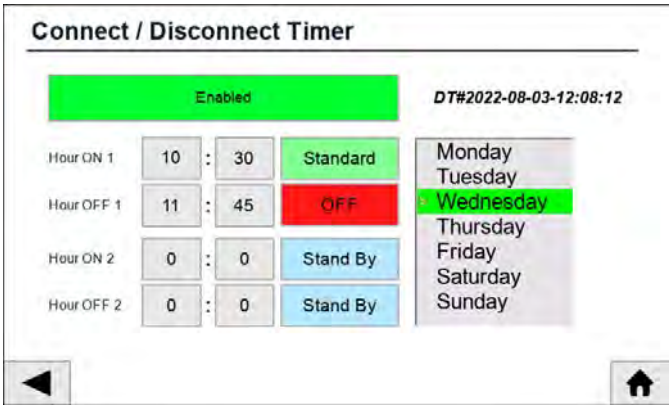
Real time clock settings



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.5.3. Connect / Disconnect Timing

On this screen the user can program a number of hours for each day of the week, so when the real time is the same that programmed in this page, the machine is turned on, turned off or change to standby mode automatically.



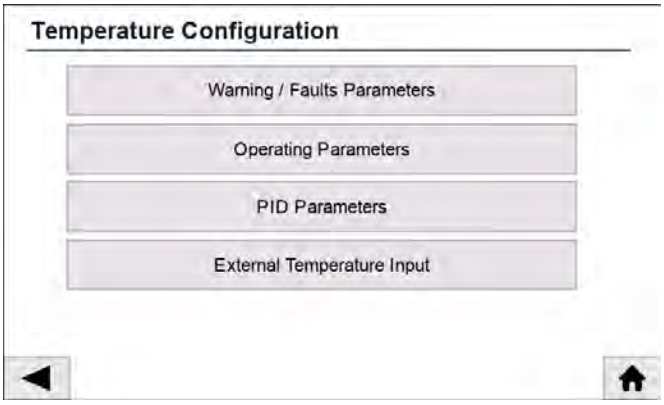
The possible options are the next:

- ***Turn on the equipment***: set the desired time, and in the right button put "*Standard".*
- ***Turn off the equipment***: set the desired time, and in the right button put "*OFF".*
- ***Change to Standby Heating Mode:*** set the desired time, and in the right button put "*Standby".*
- ***Change to Normal Heating Mode:*** set the desired time, and in the right button put "*Standard".*

To activate this mode, we have to push the "***Disabled" / "Enabled***" button. If this mode is activated, text "*Enabled*" must be in the previous button and near to the clock will appear a clock like this ⏰.

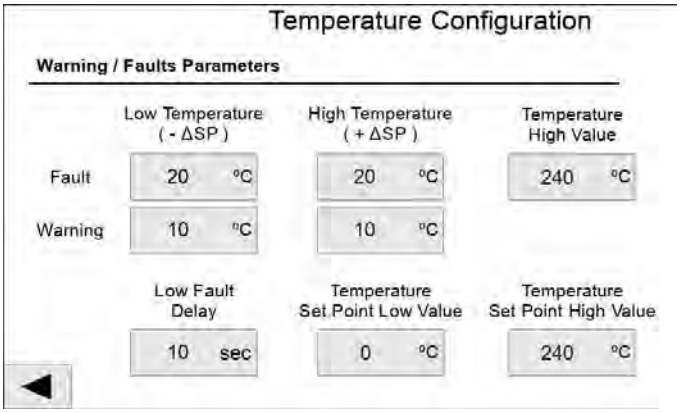
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.5.4. Temperature Configuration



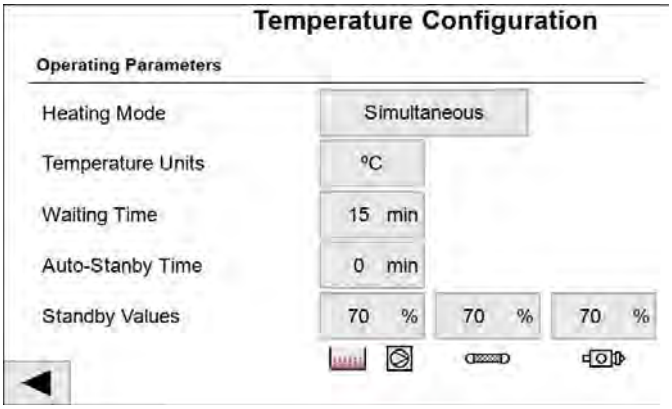
Warning / Faults Parameters

In this page we adjust the set point increments to generate alarms: warnings and faults. Also we define the lower and higher limits for temperature. If the actual temperature is higher than temperature high value, automatically the equipment will turn off.



Operating Parameters

In this page we adjust the parameters about the operating of the equipment.



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Heating mode***: sequential (progressive heating of the three zones) or simultaneous (heating of the three zones at the same time.

- ***Temperature Units***: selection between ºC / ºF for programming and visualization.
- ***Waiting Time***: the user can choose the time it takes the machine to give permission to the pump when everything is OK.

- ***Auto-Standy Time*:** if the equipment is ready to work, but for the time indicated in this box any pump does not have permission, the equipment will go to standby mode automatically. When we receive the pump permission, the equipment will return to normal heating mode, and when it is ready again, the pump will be moved if the working parameters are OK.

  ➔ *If we do not want to use it, we only have to put **ZERO** in this box, and this function will be disabled.*

- ***Stand by Values***: values in %, to reduce the set point temperature in each zone: zone 1 (tank and manifolds); zone 2 (hoses); zone 3 (guns and auxiliary).

PID Parameters

These parameters are set in the factory. If there is any problem please contact to the Valco Melton Technical Service.

We use the arrows up and down to select the desired temperature element.

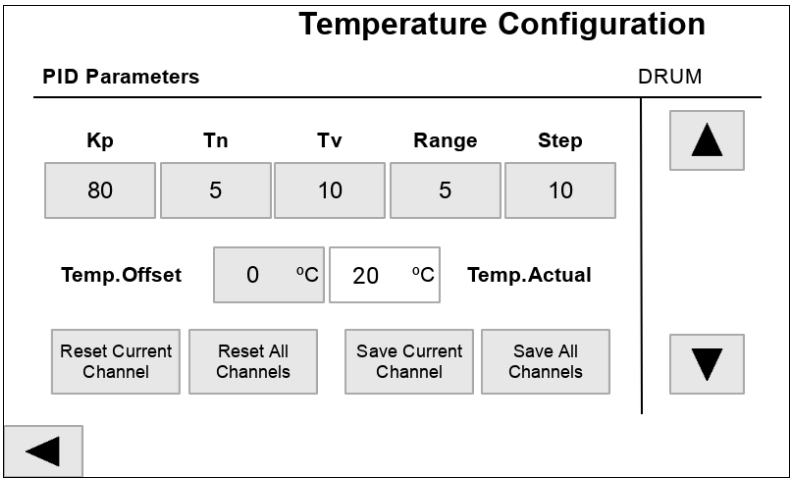
- ***Reset All Channels***: we have to make double click on this button, and all temperature channels will take the default values.

- ***Reset Current Channel***: we have to make single click on this button, and the temperature channel selected in this moment will take the default values.

- ***Save Current Channel***: we have to make single click on this button, and the temperature parameters in the channel will save as default values.

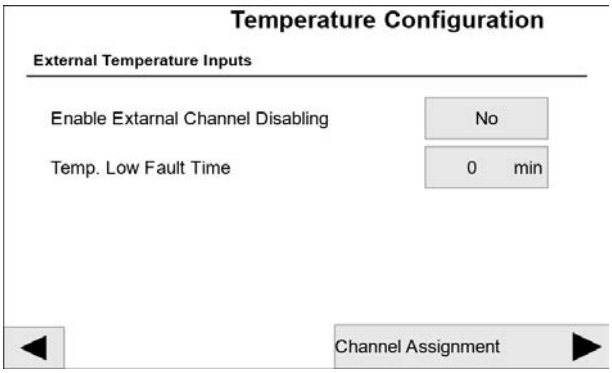
- ***Save All Channels***: we have to make single click on this button, and the temperature parameters in all channels will save as default values.

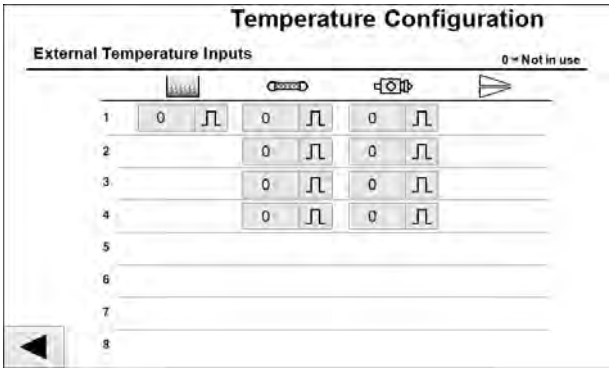
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com



External Temperature Inputs

With this type of control, you can enable or disable the heating of temperature channels using external digital inputs. We have available four digital input, and we can use these like we want. See the electrical diagrams to know which are these inputs.





So, if we want to work with the external temperature control, first we have to enable it in the touch screen, putting YES in the button "***Enable External Channel Disabling***".

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Temperature Low Fault Time: if the system is ready and we start to heat one channel using these external inputs, the system will wait this time before showing low temperature faults and alarms. In this way, the system will continue working without any fault.

After that, we will go to the "***Channel Assignment***" page (right picture), where we will establish the relationship between temperature channels and digital inputs.

- ***Numbers from 0 to 4***:
  - ***0*** → Not in use. The channel with the number 0 will not be enabled or disabled by any digital input.
  - ***1,2,3,4*** → digital input for enabling or disabling temperature channel.

- ***Button Normally Open / Normally Close***
  - **Normally Open** → if input active, the channel will NOT BE HEATED.
  - **Normally Close** → if input active, the channel will BE HEATED.

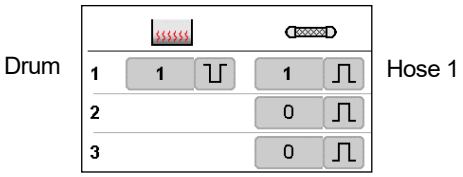
After the assignment, we have to enable in the touch screen all channels which will be heated. If one channel is not enabled in the touch screen, it never will be enabled or disabled with these inputs.

For example, we suppose that we use the digital input number 1 for heating the Drum and the Hose 1. With the Drum we use the normally open option, and with Hose 1 we use the normally close.

So, in the moment when the digital input 1 is active, the Drum will be heated and the Hose 1 will not be heated.

We can see it in the next picture.

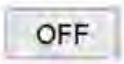
Channel Assignament Page



Temperature Enable

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

So, the colour code in these cases is the next:

- ***Channel disabled*** 

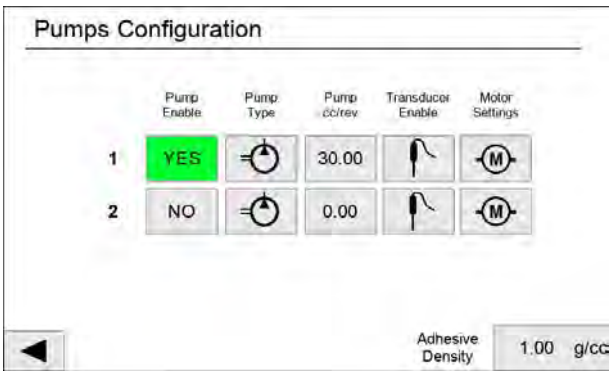
- ***Channel enabled and heating*** 

- ***Channel enabled and not heating*** 

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.5.5. Pump Configuration

In this page we configure all about the pump phsycal settings.

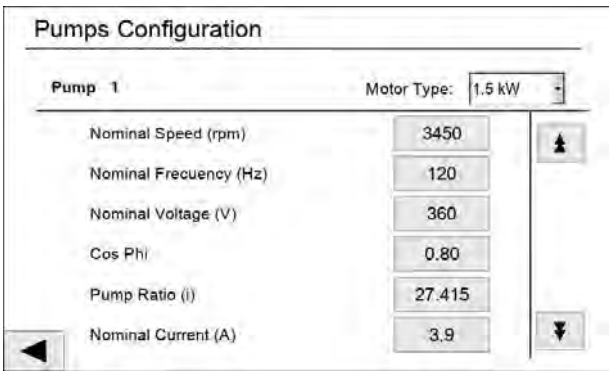


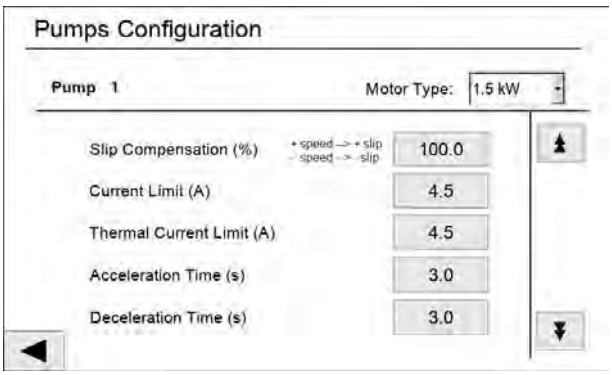
Pump Enable: we select if this pump is installed or not.

Pump cc/rev: capacity of the pump. If it is dual, we will introduce the capacity of one string.

Transducer Enable: we will assign transducers to the pumps. We can add two transducers per pump. To enable the transducer, press "***Yes/No***" button.

Motor Settings: In this page we will assign all the parameters of the motor





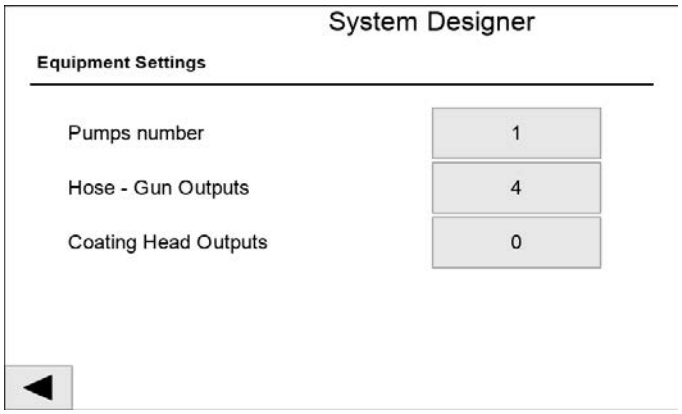
Adhesive Density gr/cc: adhesive density.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.5.6. System Designer

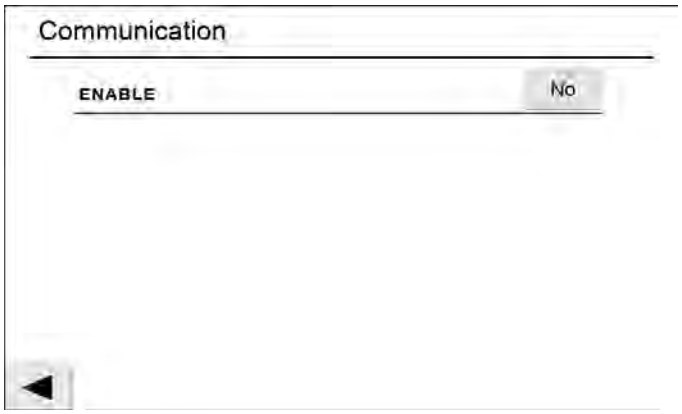
Path: Home Screen/Configuration/Configuration Page 2/System Designer Button.

This page helps us to configure the machine depending on the numbers of pumps and outputs.

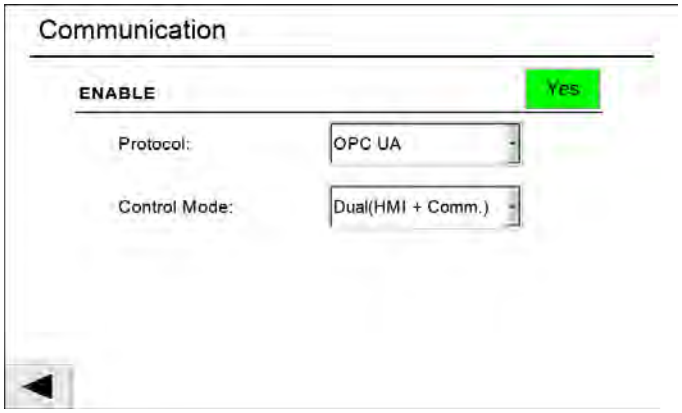


4.2.5.7. Communications

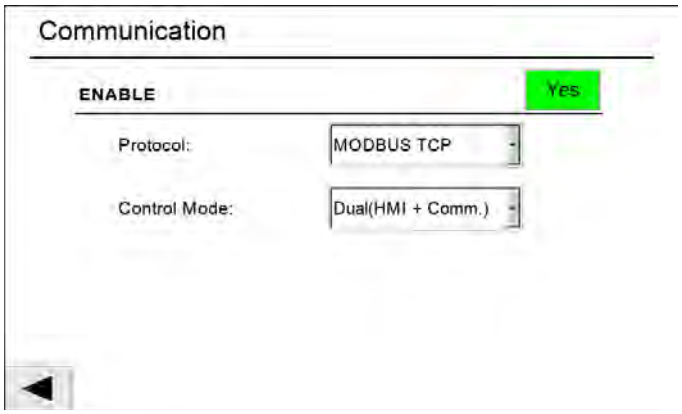
In this page we adjust all parameters about the communications.



With the button “No/Yes” we can disable/enable the comunications. We can select between: OPCUA or MODBUS TCP.



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com



IMPORTANT NOTE:

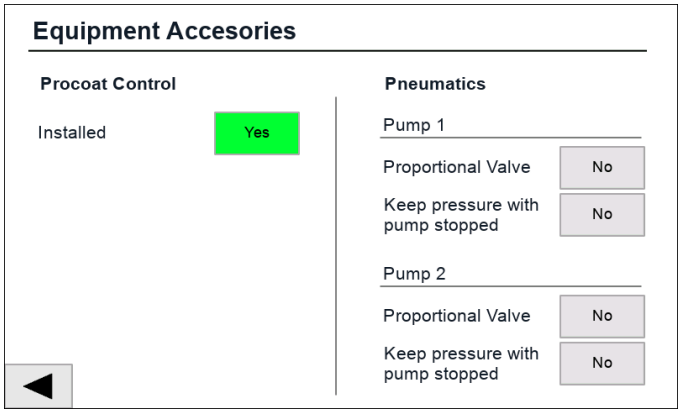
For all about items about communication process, please see Annex D.

- ***Control Mode:***
  - **Standard (HMI + I/O):** in this case, the control of the machine will be done with the HMI and main machine interface connector, so the communication will not affect to the machine working mode. Only could be used for reading the variables of the equipment, but the working parameters of the equipment will not be modified by the communications.
  - **Communications:** in this case, the control of the machine will be done only by communications. The working parameters in the touch screen will be locked, and you can not modify any parameter.
  - **Dual (HMI + Comm.):** in this case, the control of the machine will be done in two ways, by communications and by the touch screen.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.5.8. Equipment Accessories

In this page we add all accessories which has the equipment. We can distinguish two types:



- ***Procoat Control:*** if we have installed Procoat gun, in the main page appear a button with a gun. Pressing this button, we will go to a page where we can configure the settings about Procoat gun.

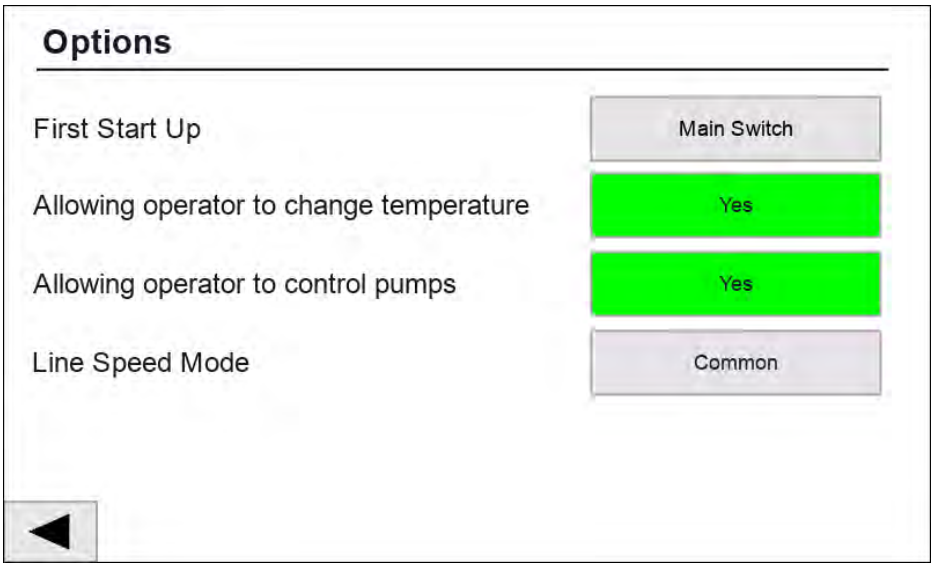
- ***Pneumatic Regulator:*** with this element we can control the return of adhesive to the tank. We can choose between:

  - ***PROPORT.VALVE:***
    '***NO'*** if mechanical regulator is installed.
    '***YES'*** if the pneumatic regulator is controlled by a proportional valve.
  - ***KEEP PRESSURE:***
    '***NO'*** if the pump is stopped the pressure will be released (the proportional valve pressure goes to zero).
    '***YES'*** with the pump stopped, the pressure is kept (depending on the working value).

  The control parameters of these elements will be adjusted in the pumps page, where will appear a button in the top part of the page.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.5.9. Options



- **First Start Up:** we can select between "*Main Switch*" (the equipment will be switched on al the same time that the main switch) or "*Display*" (the equipment will be switched on when the button *ON/OFF* in the main page is pressed.

- **Alowing operator to change temperature:** we can choose if the operator can modify the temperature parameters or not. If we set "*NO*", the operator will not be able to change the temperature set point or enable/disable any channel.

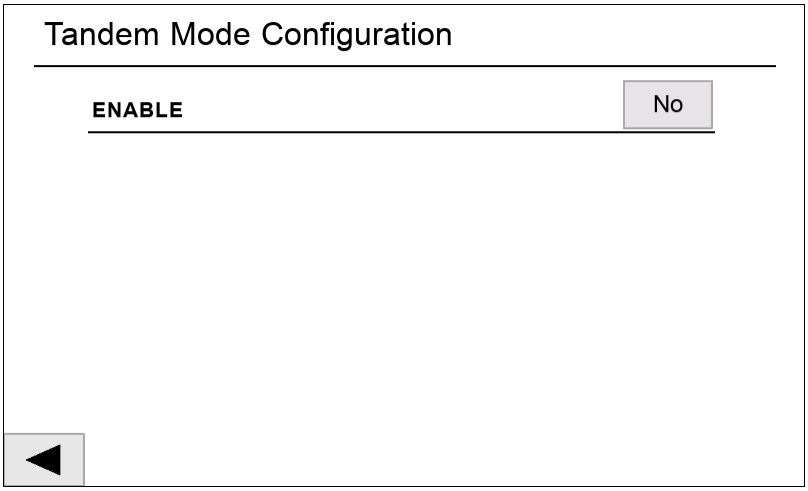
- **Alowing operator to control pumps:** we can choose if the operator can modify the pumps parameters or not. If we set "*NO*", the operator will not be able to change the pump working mode or adjust its working parameters.

- **Line Speed Mode:** if we have 2 pumps we can choose if the line speed is independent for each pump or the line speed is common for both pumps.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

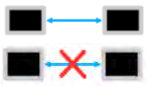
4.2.5.10. Tandem Mode Configuration

In this page we adjust all parameters about the Tandem Mode Configuration.



With the button 'No/Yes' we can disable/enable the Tandem mode.

In this part you can see the status of the Tandem communication process.



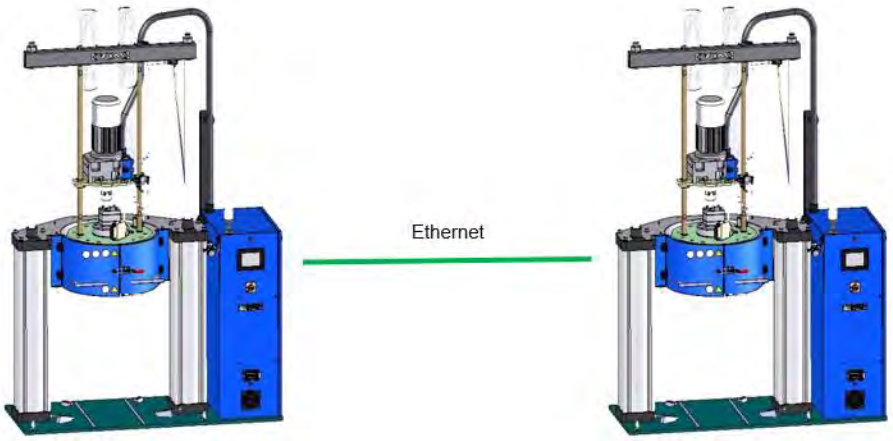
Tandem communication OK

Tandem communication Fault

Pressing the button  you restart the Tandem communication proccess, if it is in fault mode.

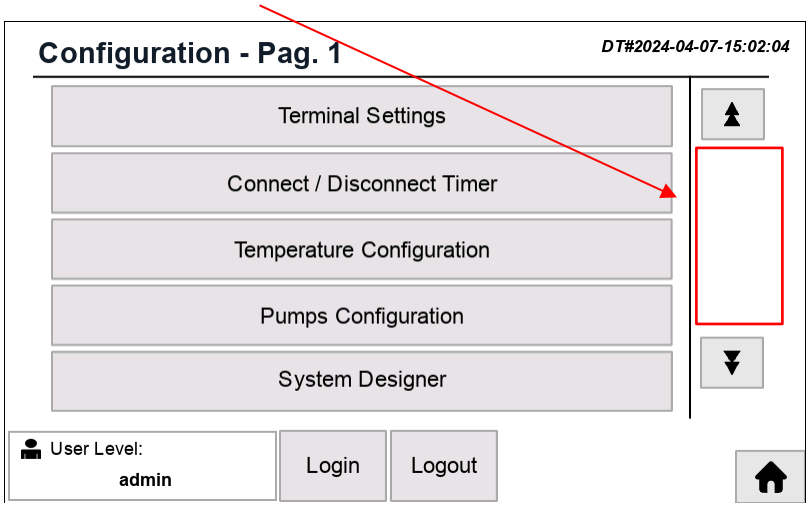
Next, a step-by-step example of a configuration of two flexdrums working in Tandem mode is shown.

When we work in Tandem mode we will have two *Flexdrums*, one we will configure as a slave and the other as a master.

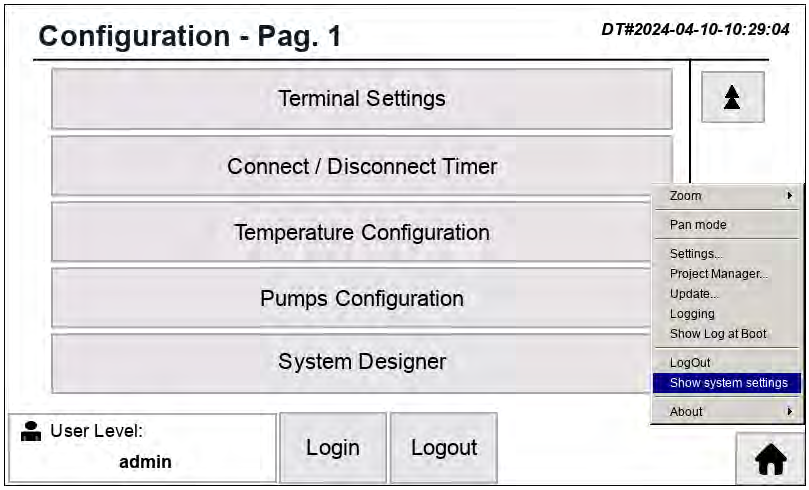


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

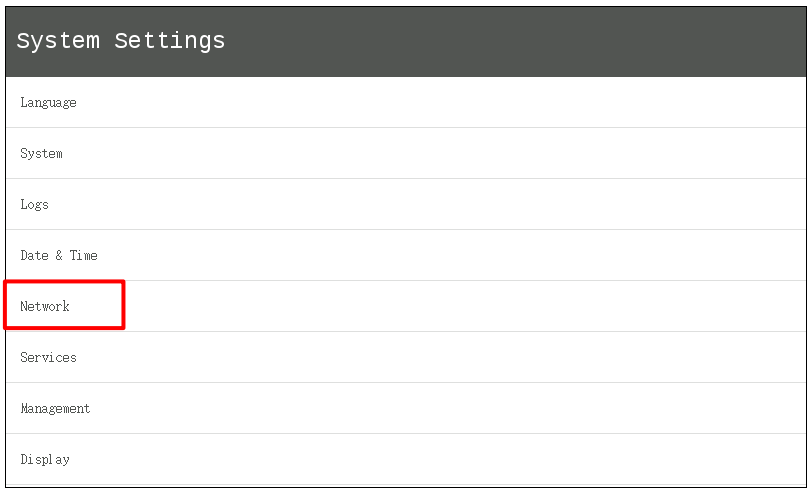
First of all, we must check that the IP of the two plates is in range, and they are not the same.
First, press and hold the screen over an area where there is no button e.g.



When the following tab appears, click on Show system settings

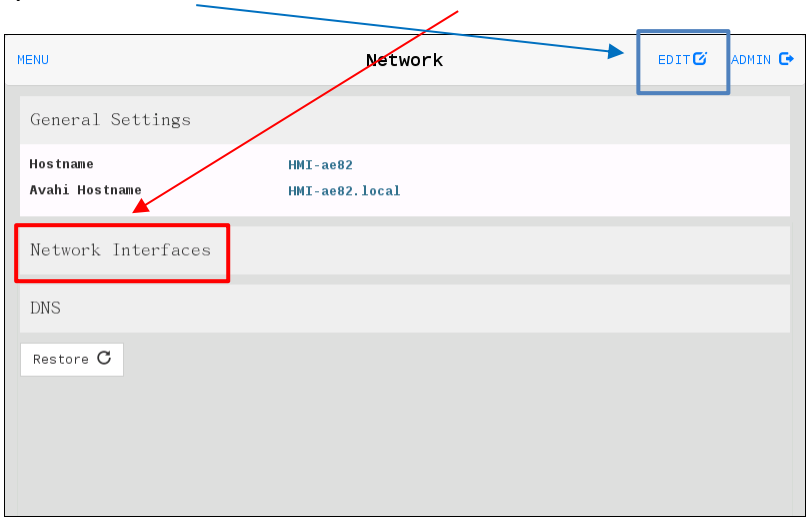


We will open the system settings. Here press on Network

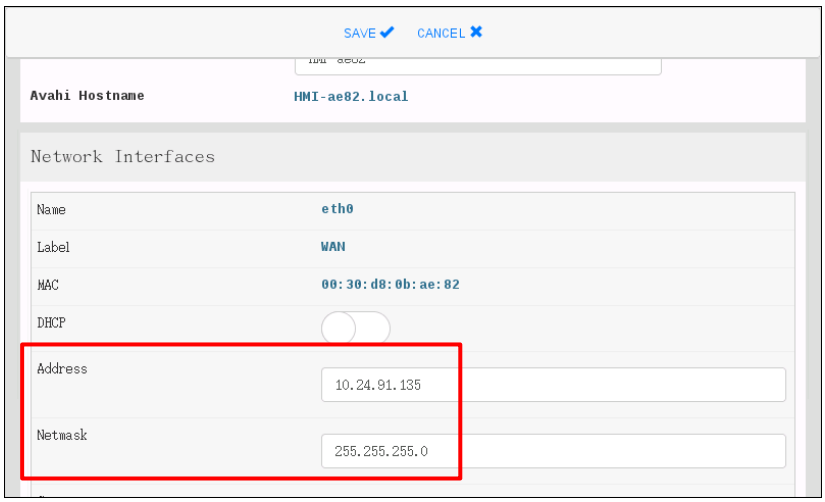


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Next, press on EDIT and then on Network Interfaces

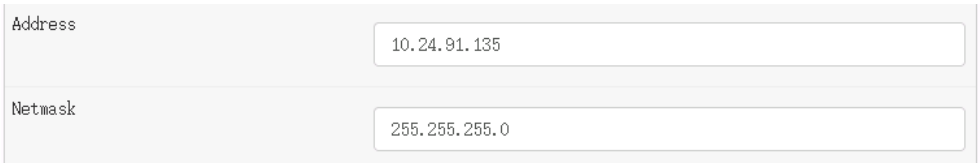


Here you can edit the IP address and subnet mask of the screen.

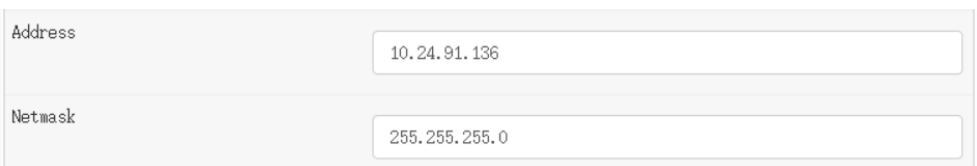


For example, we can set the next address:

- Master

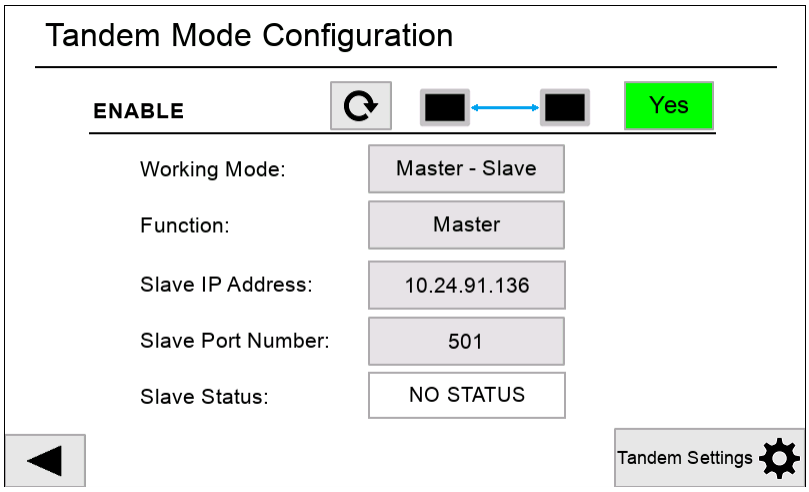


- Slave

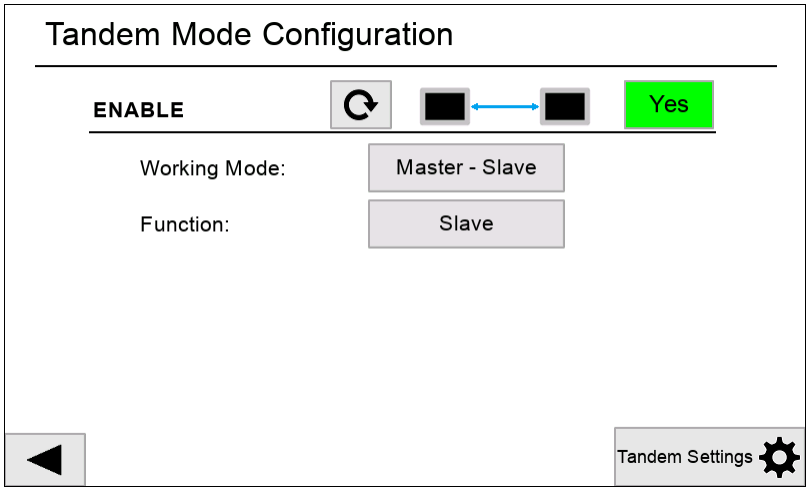


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Going back to the Tandem Mode configuration page, we must indicate in the configuration of each Flexdrum what its fuction, if it is the master or the slave.



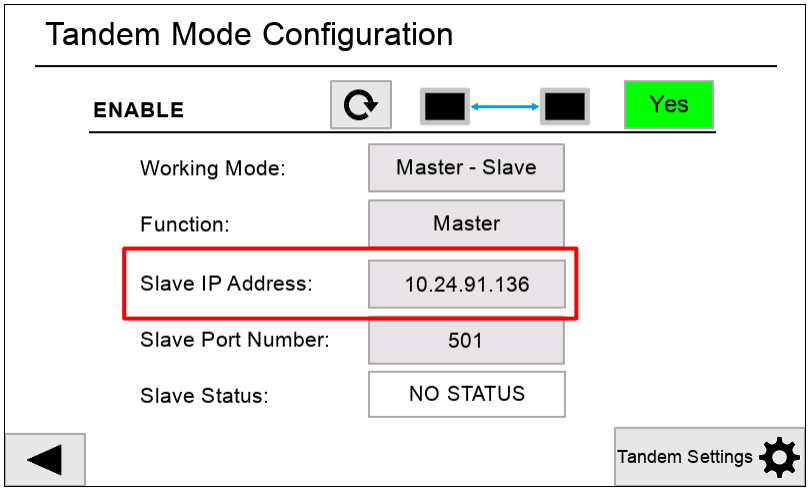
Flexdrum 1: Master



Flexdrum 2: Slave

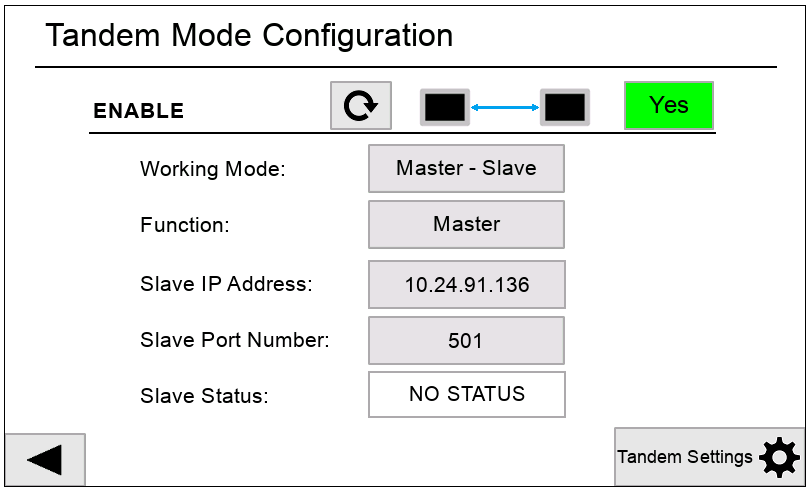
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Next, we will indicate the address of the slave on the Flexdrum master.



Depending on the working mode selected, the appearance of this page will change.

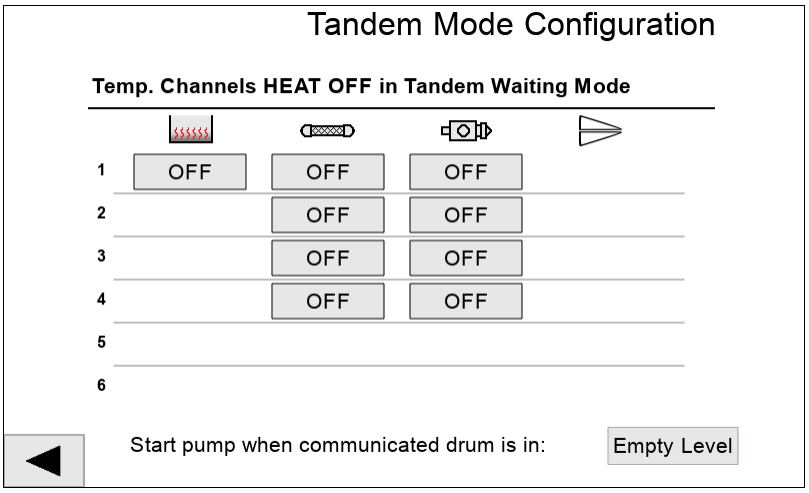
Master-Slave Working Mode:



Pressing the button '***Tandem Settings***', we will go to the next page, where we can disable the heating of the temperature channels when the flexdrum is in waiting mode.

If the channel is disabled, the background colour will be green, if not, it will be grey.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com



We can select between two conditions to determine when the slave flexdrum should start working:

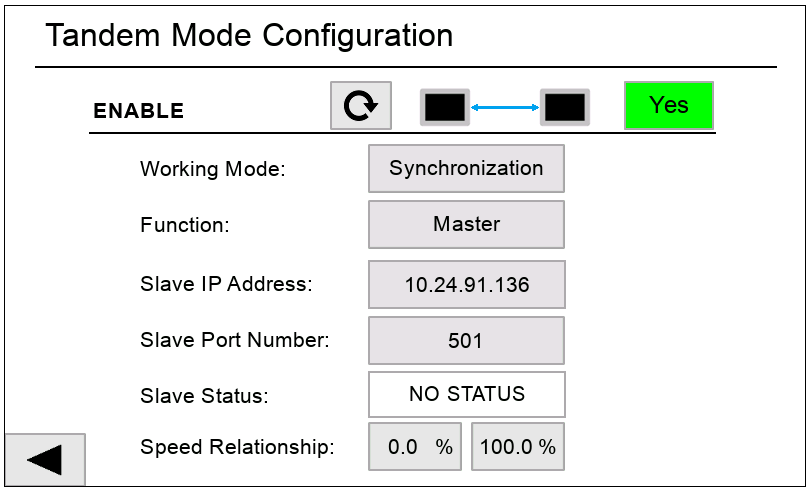
Slave start pump condition Low Level

When the Flexdrum that is working reaches a low level, the Flexdrum that was switched off begins to work (the pump will start).

Slave start pump condition Empty Level

When the Flexdrum that is working reaches an empty level, the Flexdrum that was switched of begins to work (the pump will start).

Synchronization Working Mode:



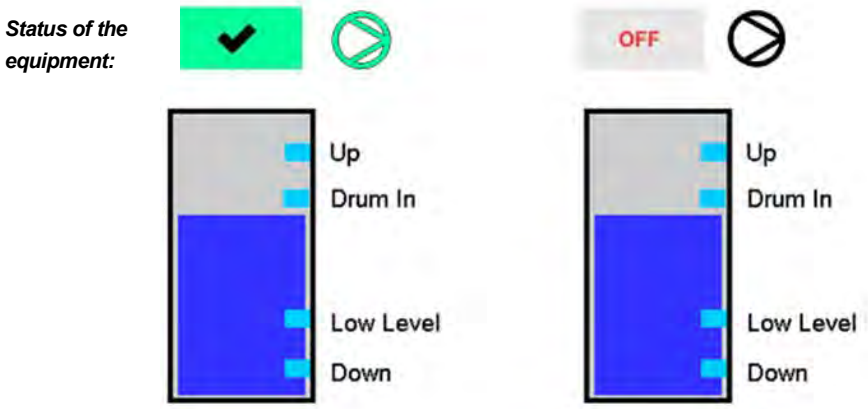
The two flexdrums work simultaneously and we must indicate their Speed Relationship.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Master – Slave***

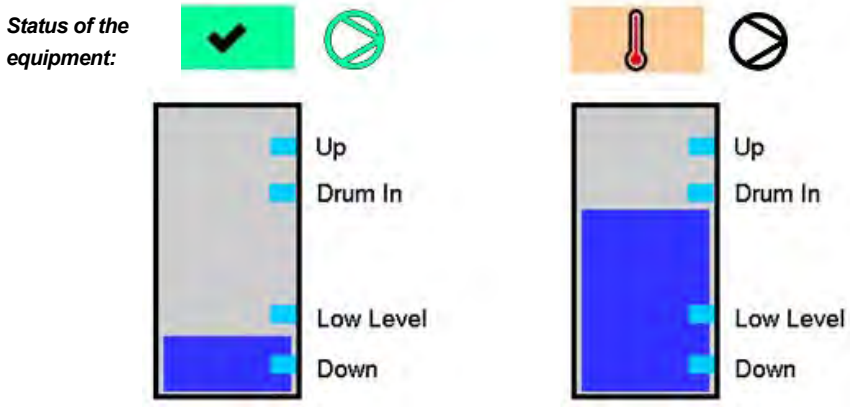
In this working mode, only one flexdrum pumps adhesive. One flexdrum will be working and the other waiting.

1. If both flexdrums are full, one works, and the other turns off the heating.



Flexdrum 1: Master **Flexdrum 2: Slave**

2. When the flexdrum that is working reaches a low level, the flexdrum that was switched off begins to heat up.

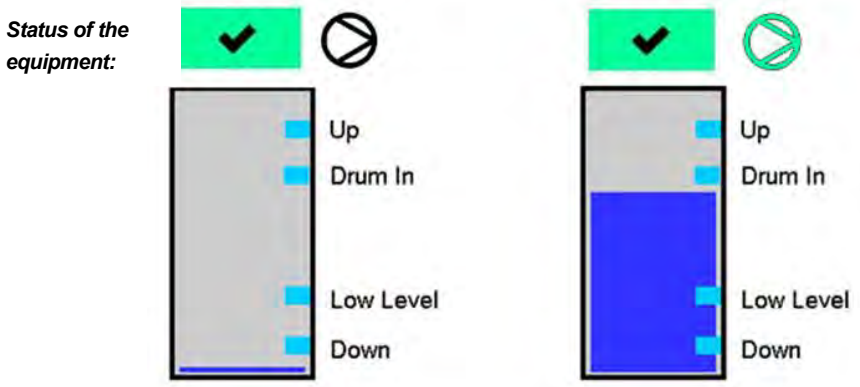


Flexdrum 1: Master **Flexdrum 2: Slave**

3. When the flexdrum that is working reaches empty level, it stops the pump, and begins to work the flexdrum that was waiting.

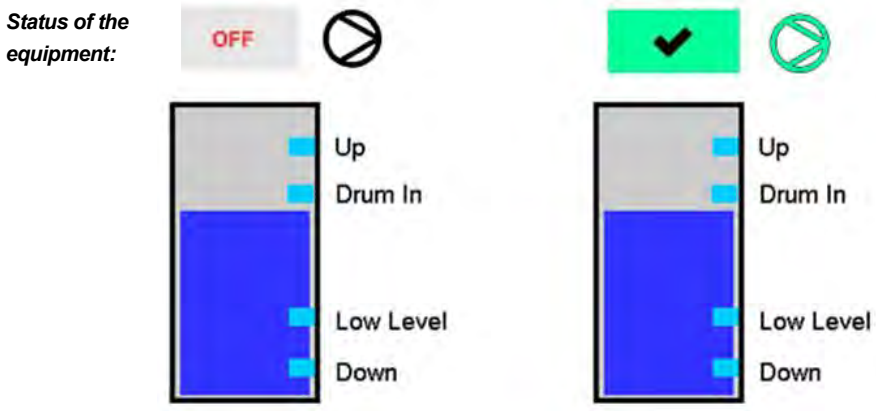
   NOTE: the empty plate continues to heat until so that when we want to raise it and change the barrel, the flexdrum remains hot.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com



Flexdrum 1: Master **Flexdrum 2: Slave**

4. When we replace the barrel of the empty flexdrum, and we lower the flexdrum again to put it inside the barrel, this flexdrum turns off the heating.



Flexdrum 1: Master **Flexdrum 2: Slave**

5. We return to point 1.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Synchronization***

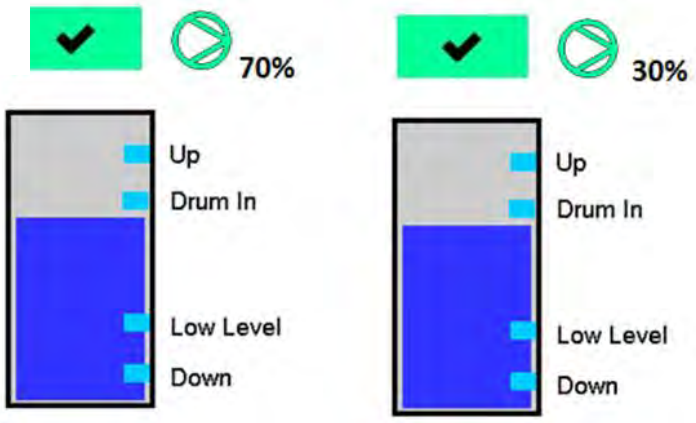
  In this working mode the two Flexdrums work simultaneously, to achieve greater pumping rate.

  For example, the master flexdrum will work 70%, and the slave 30%.

  NOTE: these percentages are configurable on screen.

1. If both plates are full, one will function as a master (70%) and the other as a slave (30%).

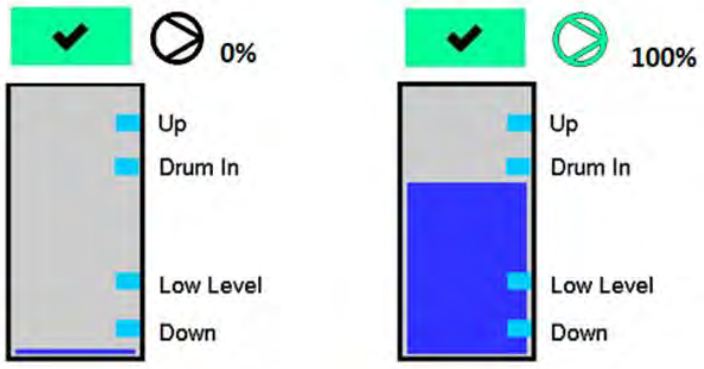
Status of the equipment:



Flexdrum 1: Master **Flexdrum 2: Slave**

2. When the flexdrum that is working as the master is empty, the pump will stop, and the flexdrum that was previously the slave will become the master and will work 100%.

Status of the equipment:

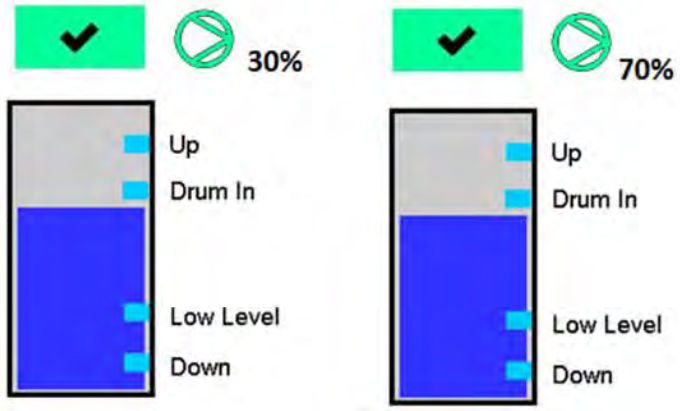


Flexdrum 1: Master **Flexdrum 2: Slave**

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

3. When we replace the barrel of the empty Flexdrum, and we lower the flexdrum again to put it inside the barrel, this flexdrum begins to act as a slave, working at 30%.

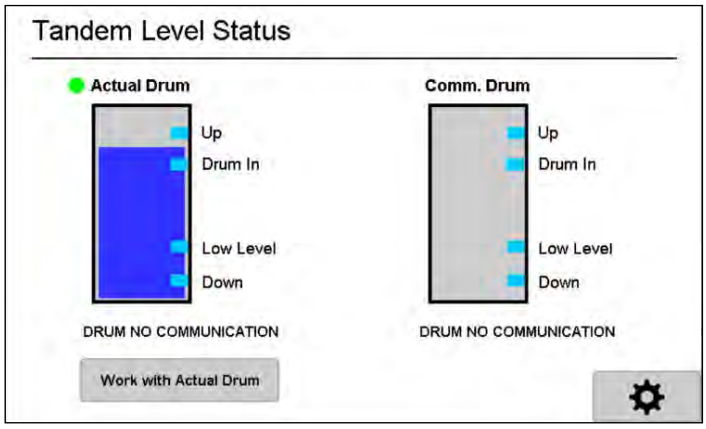
Status of the equipment:



Flexdrum 1: Master **Flexdrum 2: Slave**

4. We return to point 1.

Clicking on the tank level button  in the main page, we will go to the next screen.



In this page we can see the status of each flexdrum:

- DRUM NO COMMUNICATION
- HEAT OFF
- DRUM HEATING
- DRUM WAITING
- DRUM WORKING

In addition, we can make a request to change the plate by presing the following button:

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

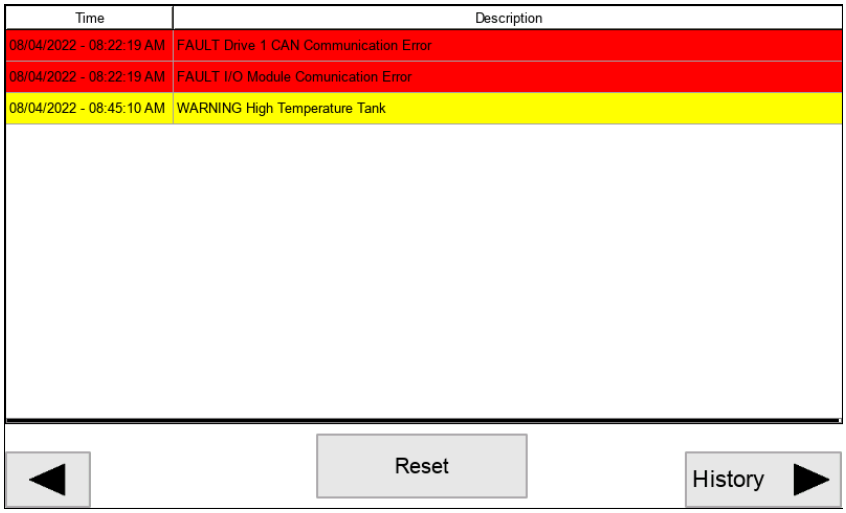
4.2.6. Alarms

ACTUAL ALARMS AND FAULTS

Whenever an alarm occurs, a banner will appear at the top or in the bottom of the screen, it depends on the page in which we are in that moment.

All current warning or fault events will be recorded in the alarm page. It is possible to access to this page following two different ways:

- Click on the alarm button in the main page
- Click on the alarm banner which appears in all pages.



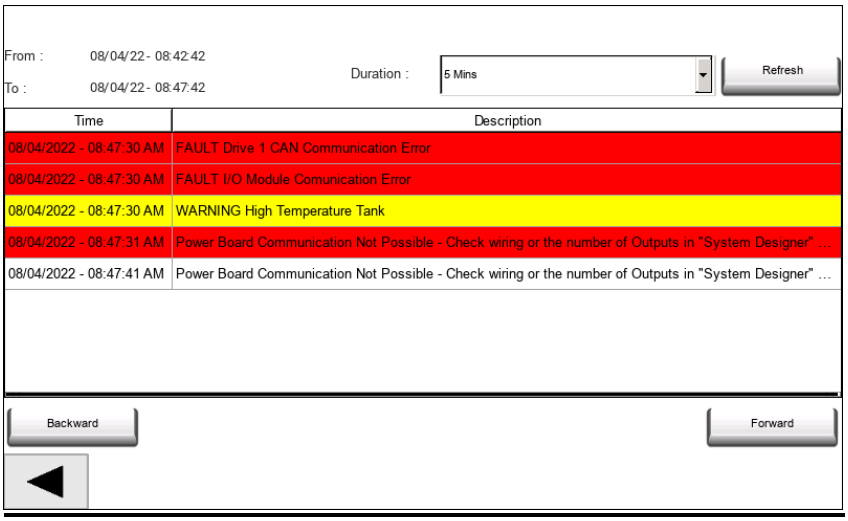
If the "***Reset***" button is pressed, the event will be acknowledged. However, the event will remain until the situation that caused it is not present. When this situation has disappeared, the event will not be shown.

If we push the "**History**" button, we will see the alarm history.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

HISTORICAL ALARMS AND FAULTS

In this screen will be recorded every one of the events that have occurred during the system operation.



We can distinguish different events:

- *Fault events*: these will appear with a red background, for example, shortcircuit in temperature sensor.
- *Warning events*: these will appear with a yellow background, for example, high temperature warning.

All events that have been reset will appear with a white background, independently if it is a fault or a warning.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

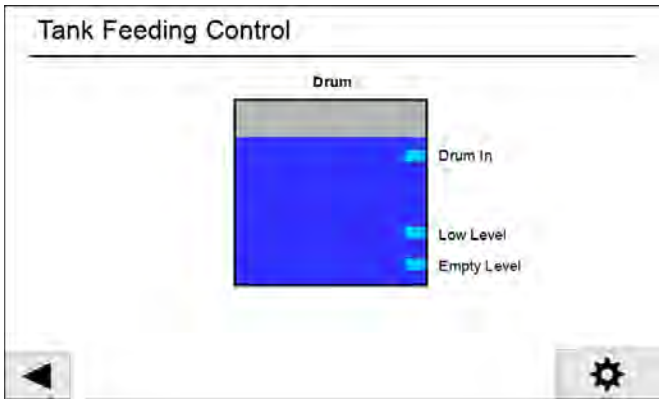
4.2.7. Tank Level

Clicking on the tank level button  in the main page, we will go to the next screen.

In this page we can see the status of the level of the tank.

LOW LEVEL SENSOR

If we have installed a low level sensor, we will see the page like this.

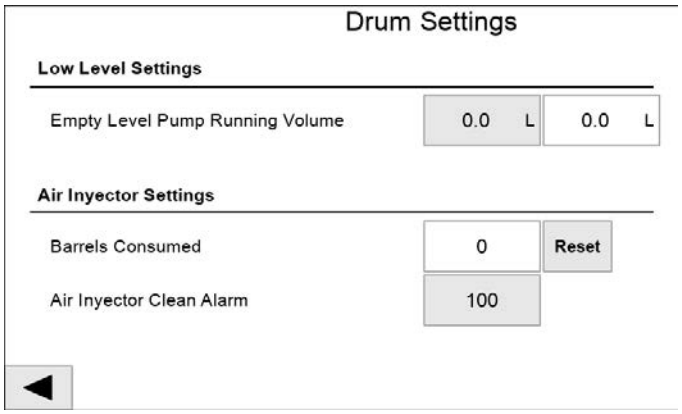


This low sensor is simulated with the bottom left box inside the tank, which in this case is painted in green colour. It means that this sensor is detecting. However, if the colour of the sensor is blue, it means that this sensor is not detecting. If low level sensor does not detect, a warning will appear in the alarms screen.

If we have installed a security sensor, it will appear in the top left box inside the tank, which in this case is painted in blue colour. It means that this sensor is not detecting. If security level sensor detects, a warning will appear in the alarms screen.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

For additional settings, please the next button 



Level Settings

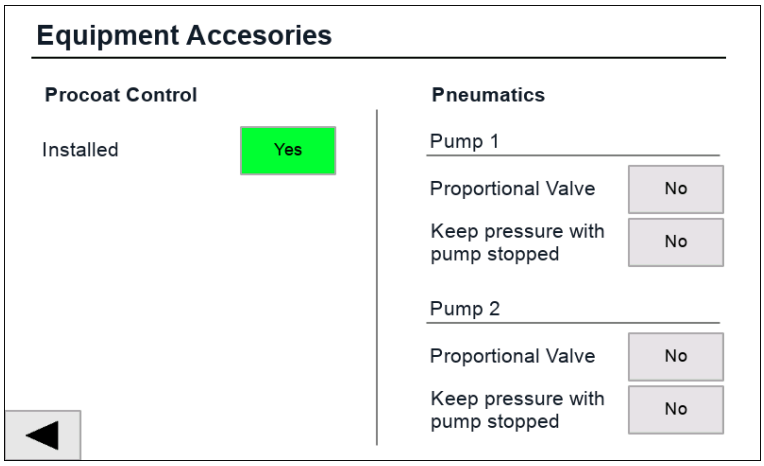
If we press the settings button, we will go to the next screen. In it we can adjust the parameters about the empty level control and air inyector settings.

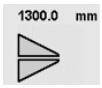
- **Empty Level Pump Running Volume:** In the set point we will indicate the volume (Liters) that the drum can work in vacuum (empty level sensor detecting).
  - ➔ *If we do not want to use it, we only have to put **ZERO** in this box, and this function will be disabled.*
- **Air inyector Settings:** when the drum is moving up, an air inyector is activated. This air inyector is necessary to clean after a number of cycles, because if it is not clean at all, when the pail is moving up, the barrel can be compressed.
  - ➔ *If the barrels consumed is higher than air inyector clean alarm value, the next alarm will be shown in HMI: "**WARNING Clean Drum Air Inyector!**"*
    - o *So, if this alarm is shown, the first at all is to clean air inyector*
    - o *After that, it is necessary to go to this page and press "Reset" button*

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.2.8. ProCoat gun

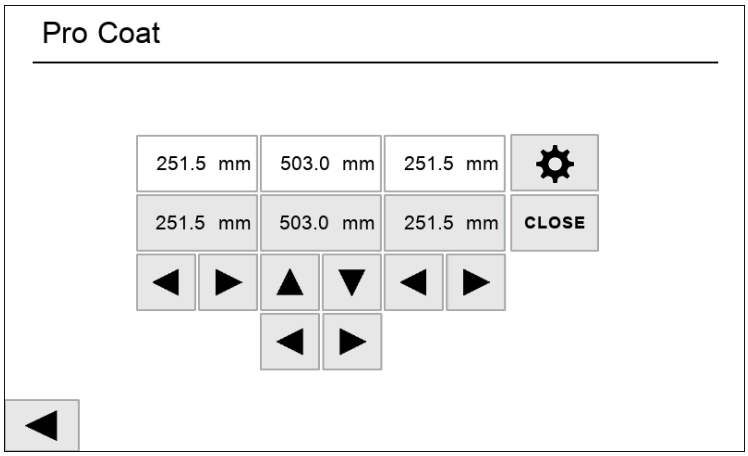
We will add the ProCoat fom the "***Equipment Accessories***" page.



Clicking on the gun button 

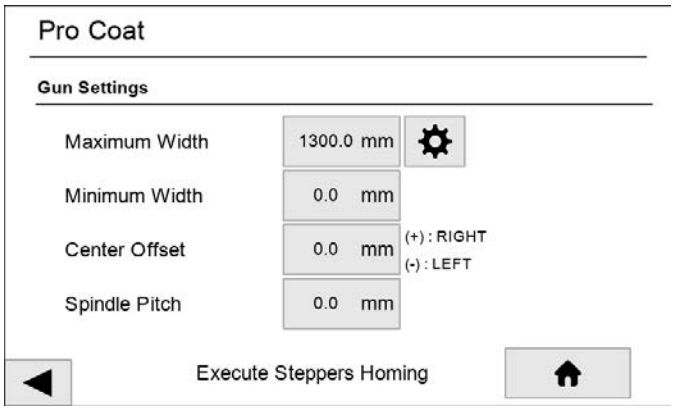
in the main page, we will go to the next screen.

In this page we can see the status of the ProCoat.



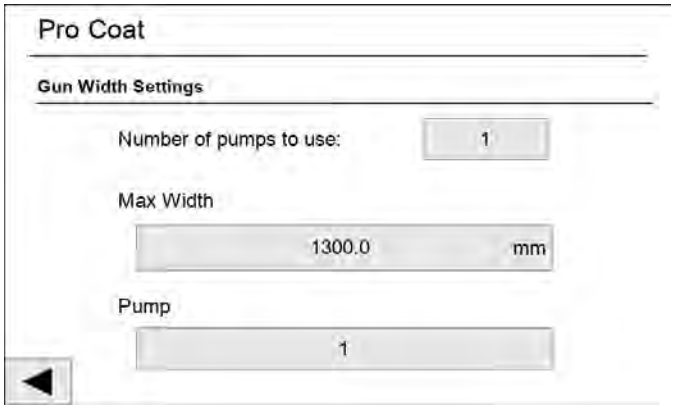
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Menu to adjust Procoat Max/Min width and Offsets **(Adjustments made at Valco Melton. Modify only if it is necessary).**



Homing of motors **(Adjustments made at Valco Melton. Modify only if the motors do not close the gun completely).**

In the previous page, if we press the next button ( ) we can assign the application width which corresponds with each pump.



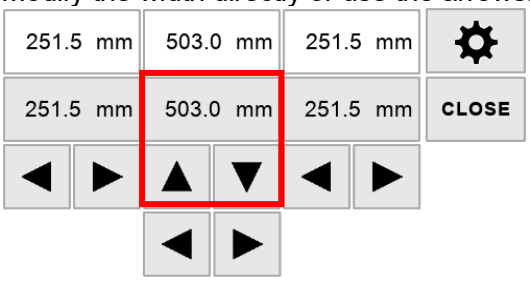
GUN MOVEMENTS

IMPORTANT NOTE:
The steppers motors only will be moved if at least one gun channel is enabled and at temperature ready. If not, the motors will not be moved.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

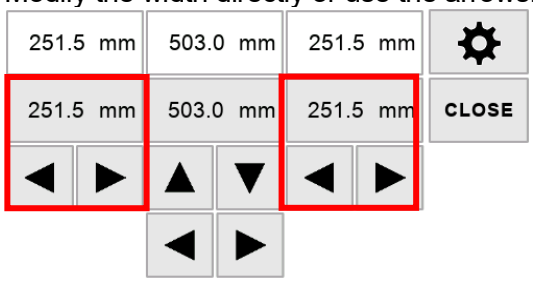
- SYMETRICAL MOVEMENT (both motors move at the same time)

Modify the width directly or use the arrows.

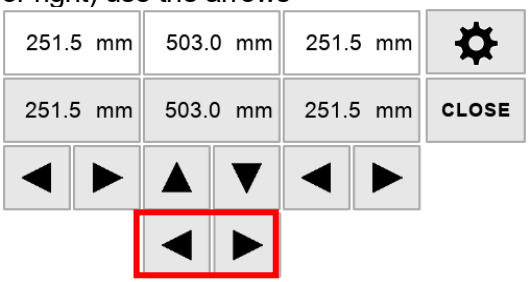


- ASYMETRIC MOVEMENT (each motor moves independently)

Modify the width directly or use the arrows.

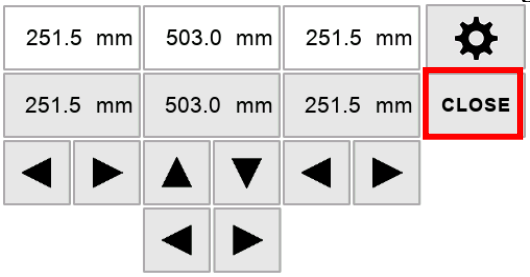


- LEFT/RIGHT MOVEMENT (moves the application width to the left or right) use the arrows



- CLOSE TOTALLY THE GUN

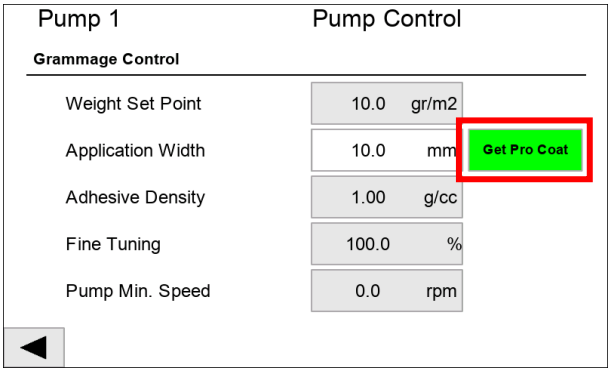
Press the button CLOSE to the move the gun to “zero” position.



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

IMPORTANT NOTE:

If we are working with the pump in "GRAMMAGE MODE" and we want to get the application width directly from the real width of the Procoat, we have to enable the next button in "Grammage" settings page:



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.3. PNEUMATIC ADJUSTMENT:

The circuit controlling the vertical movement of the melt plate, and the pressure with which it pushes the melted adhesive, can be adjusted. The injection pressure of air into the drum is factory set and should not be changed.

Cylinders pressure of work adjustment

The minimum pressure of operation is 3 bar. The control is achieved with a regulator.

If the hose issues air and/or the pump cavitates, this is because the pressure of the melt plate is too low. Increase operating pressure until the problem is solved.

Piston movement adjustment:

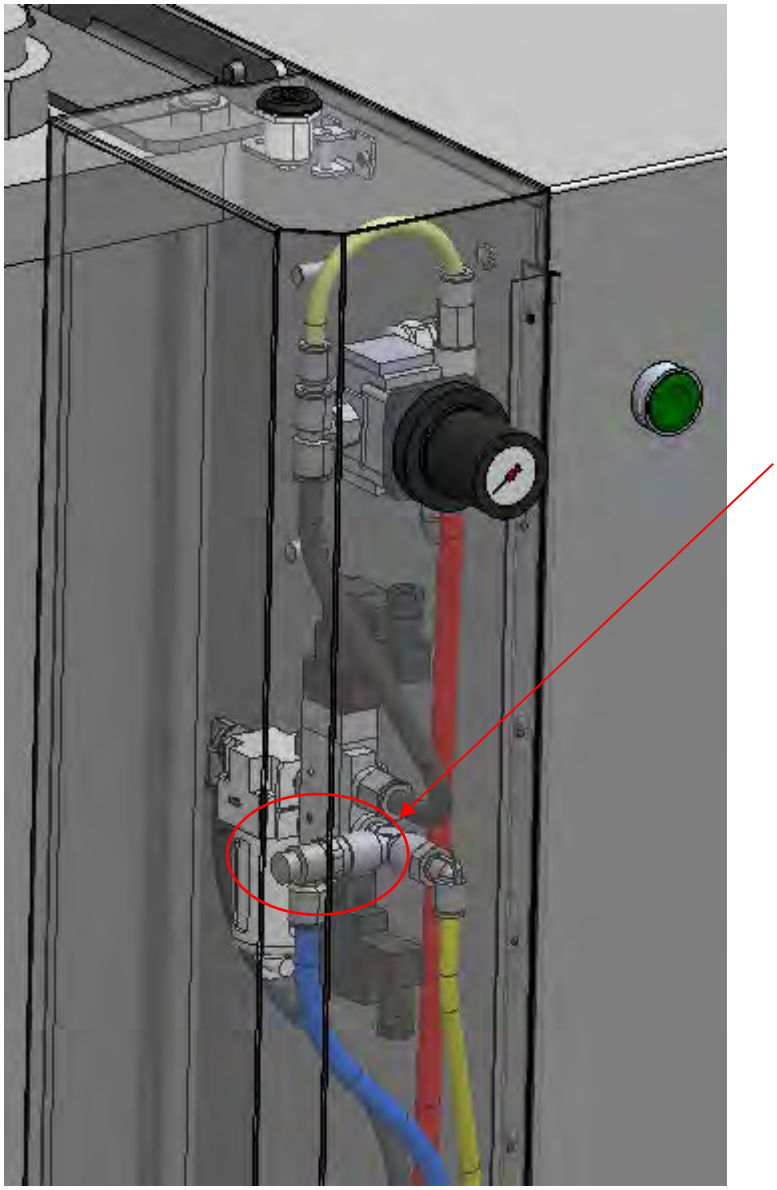
If one of the pistons moves faster than the other when the plate is switched on, immediately set the plate movement selector to 0 and adjust the cylinders. Before, balance the structure by pushing the higher piston inwards.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

This adjustment will be made during an upward movement:

Upward movement adjustment:

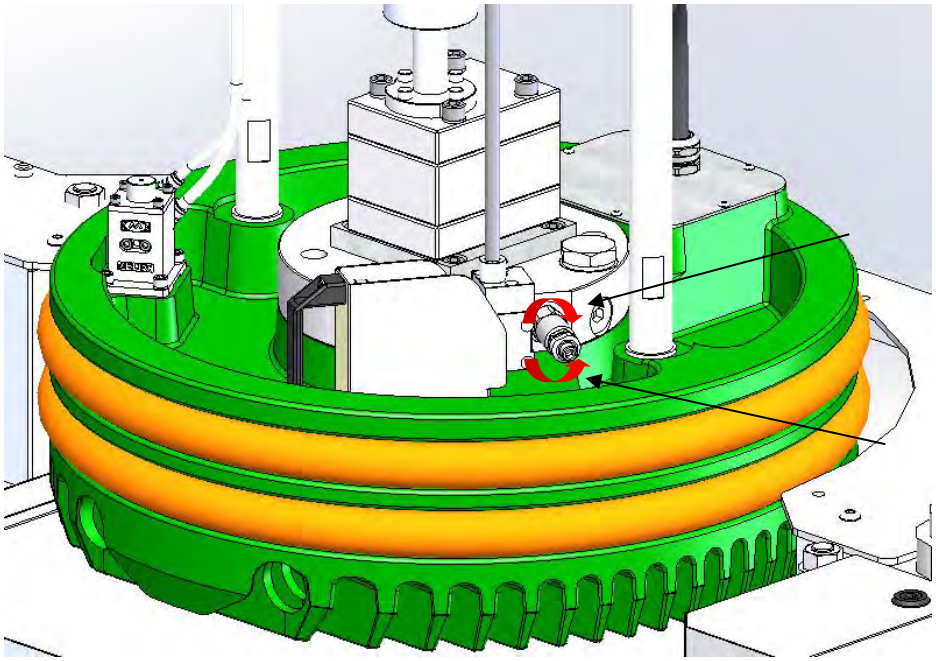
1. Adjust the air pressure to 0 bar.
2. Turn the position selector as indicated by the ↑ arrow.
3. Press the two ON buttons at the same time.
4. Slowly increase the pressure until the melt plate starts to move upwards.
5. If the left-hand piston rises at a faster speed, slowly close pneumatic cabinet clip until both pistons are rising at the same speed.



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.4. PUMP PRESSURE ADJUSTMENT:

The pump pressure will vary depending on the application's requirements. It is adjusted by a nut on the top of the distributor.

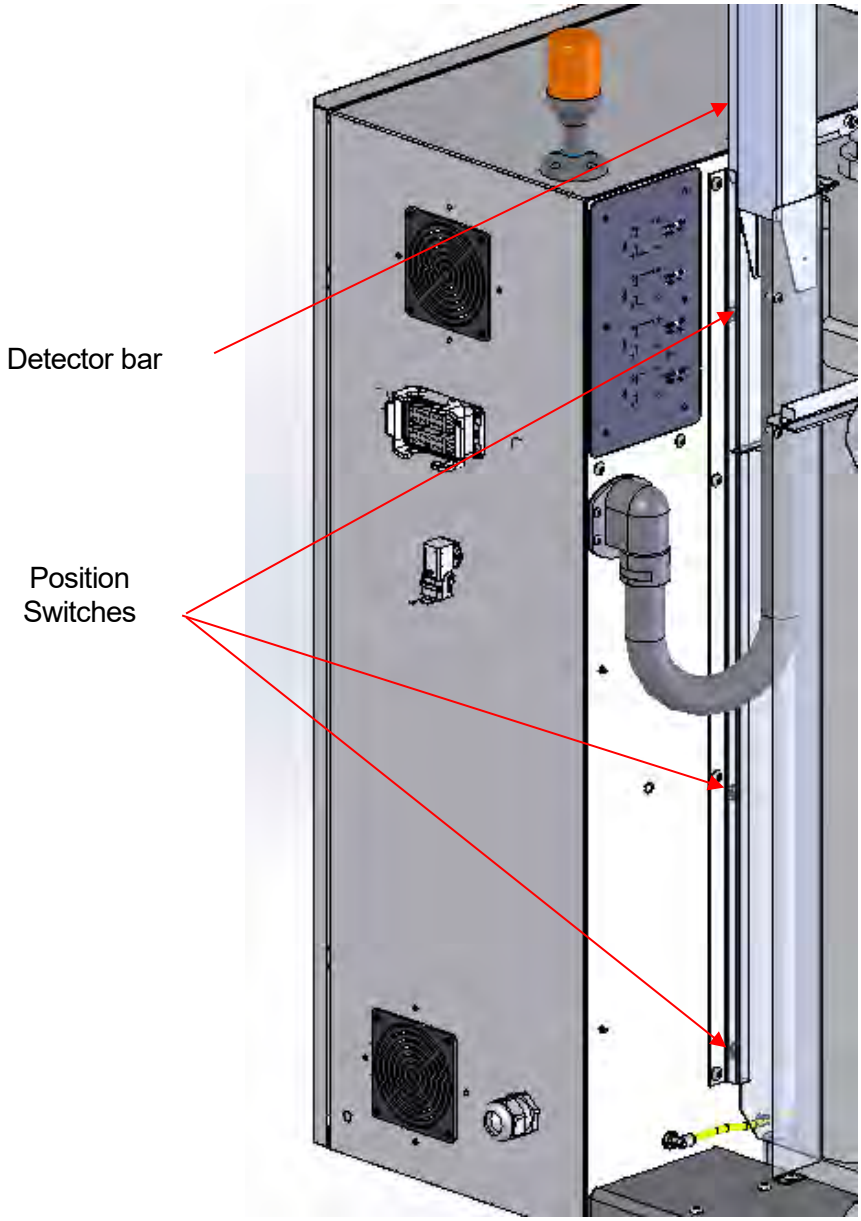


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

4.5. MELT PLATE POSITION ADJUSTMENT:

The position of the melt plate is controlled by three position micro-switches placed in the electric cabinet that are activated by a square bar fixed to the crossbar. The bar goes down with the crossbar and activated the micro-switches.

- Drum entry. It is activated when the melt plate has entered the drum.
- Minimum level. When this level is reached, the drum needs to be changed.
- Lower stop. It is activated when the plate reaches the bottom of the drum.



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

CHAPTER 5
OPERATION

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

WARNING: This equipment should only be used by qualified personnel who understand all the procedures and are familiar with the necessary safety measures.

5.1. INTRODUCTION:

This chapter explains how to use the equipment.

First of all, make sure that the person operating the machine is duly protected and that all safety instructions are followed. All safety equipment should be in perfect condition.

5.2. UNIT INSTALLATION AND START-UP:

Preparation:

1 Turn the direction selector as indicated by the ↑ arrow and press the two ON buttons at the same time.

2 Set the drum in position and secure to the base plate anchoring points.

3 Turn the direction selector as indicated by the ↓ arrow**.**

4 Press the two ON buttons at the same time. Keep them pressed until the melt plate enters the drum.

5 Perform the bleed process (see next page)

6 Set the motor to one operating mode (manual, auto, grammage, etc.)

7 Check that the equipment is correctly adjusted. Readjust if necessary (see Chapter 4)

8 The system is ready to run when the ON signal is received.

9 The system has two terminals in the main electric cabinet for external on/off signals.

These terminals are factory short-circuited.

The ON order is given by a potential-free contact connecting the two terminals. When the contact is on, the pump will start to run if:

- The equipment is at the correct temperature, the selector is set to manual position and a speed other than zero has been selected.
- The equipment is at the correct temperature, motor control is set to automatic, a speed other than zero has been selected and there is a value in the external line speed 0-5 V input.

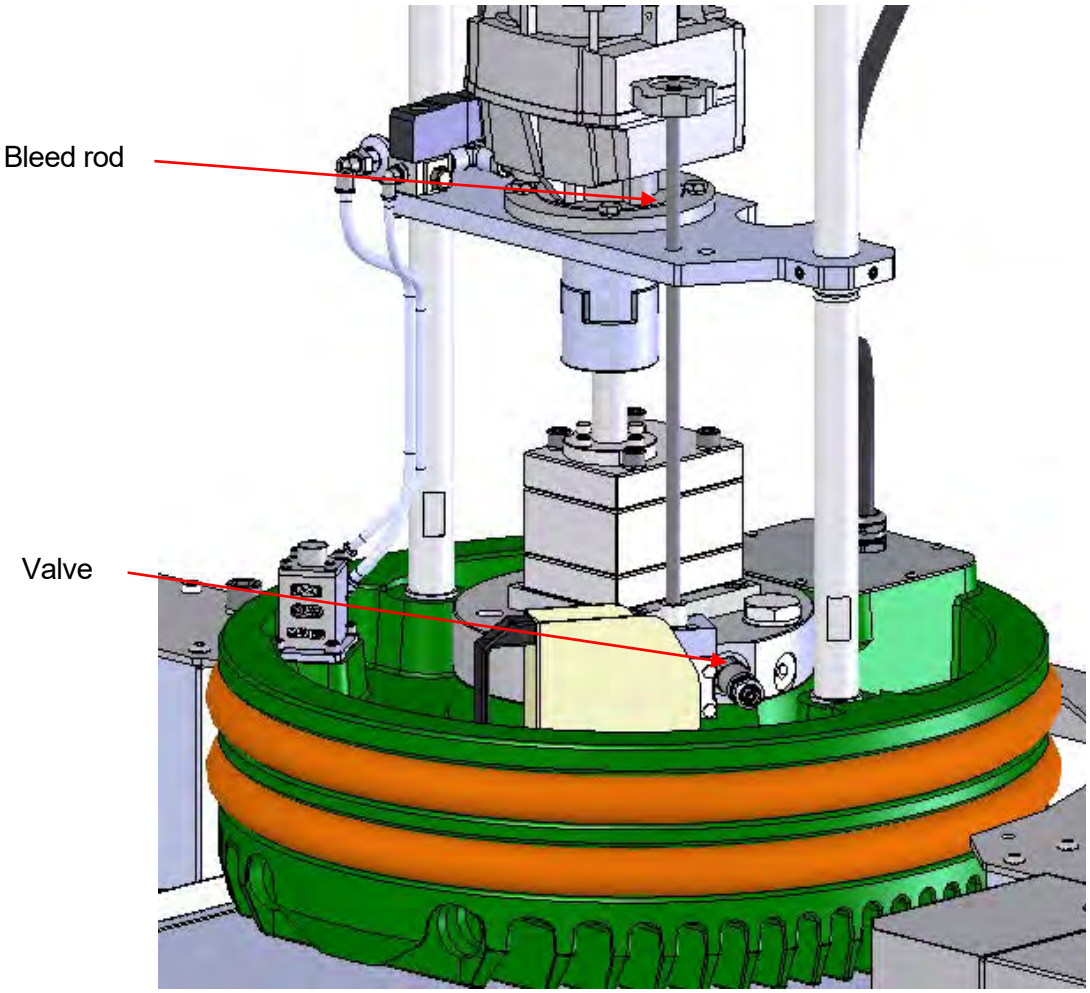
There is also a normally open contact and a normally closed contact, both potential-free, to inform the external systems that the equipment is at the correct temperature (see electric diagrams)

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

The unit will operate automatically until it is either switched off or the drum is emptied.

If the drum is emptied, the unit signals that the drum needs to be changed.

Bleed process:



Make sure the equipment is at operating temperature before opening the bleed valves.

1 Place a container to collect the glue.

2 Set the motor selector to Manual operation.

3 Open bleed valve and wait for the hot melt to come out.

4 As soon as it does, close bleed valve 1.

5 Turn the motor selector to 0.

Now there is no air in the adhesive circuit.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

The pump only works when the position selector is set to ↓ and the equipment has reached the minimum operating temperature.

If the adhesive used reacts to air (PUR, for instance), cover bleed valves 1 and 2 with high-temperature lubricant to prevent air from entering, degrading and blocking them.

5.3 DRUM CHANGE:




Change the drum as follows:

1. Turn the position selector as indicated by the ↑ arrow.
2. Press the two ON buttons at the same time.
3. The plate moves upwards. Air is introduced in the drum to prevent a vacuum from forming.
4. When the plate reaches the top, the system shuts down and the drum can be changed.
5. Position the tray to collect drops of glue and protect against burns.
6. Change the drum and repeat procedure 5.2 “Unit installation and start-up”

Make sure that the bleed valve is closed when the plate moves upward.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

5.4. SHUT-DOWNS:

There are two possible types of shut-down:

Pump shut-down:

If you wish the pump to shut down, set the motor selector to 0.

The temperature control will maintain the machine's temperature.

If the pump is to be shut down for some time, we recommend switching on the Low Maintenance function.

Total shut-down:

To shut down the entire machine, switch off at the main switch.

If the machine is to be shut down for some time, we recommend removing the drum and cleaning the equipment. Leave the melt plate in its lowest position.

Daily procedure:

At the end of the day, before the machine is switched off, bleed the equipment following the instructions provided in the "Bleed process" section.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

CHAPTER 6
MAINTENANCE

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

WARNING: The maintenance operations described in this chapter should only be performed by qualified personnel understanding the processes and familiar with the safety measures involved.

6.1. INTRODUCTION:

This chapter contains the procedures involved in the maintenance of the follower plate. These maintenance procedures guarantee safe operations and increase the life of the follower plate. Before starting a maintenance operation, carefully read chapter 1 Safety.

First of all, make sure that you are duly protected and follow all pertinent safety measures:

1º Switch off the air at the mains.

2º Switch off the main switch.

3º Lock the main switch in place.

4º Make sure that the power is off.

5º Follow all applicable safety standards.

6.2. MAINTENANCE RECOMMENDATIONS:

The following table shows the frequency with which maintenance operations should be performed:

Frequency	Maintenance
Daily	Clean the outer surface of the unit
	Inspect all the electric, pneumatic and hydraulic connections. Replace or repair when necessary
	Check the condition of the melt plate gasket. Make sure it is free from glue
	Check the condition of the position micro-switches. They should be clean and free from glue.
	Bleed the air filter
	Check the condition of the pneumatic cylinders and the drum melter structure
Weekly	Clean the motor ventilation cover
When necessary	Change the air regulator filter

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

6.3. MAINTENANCE PROCESSES:

Cleaning the equipment

Vacuum the dust or glue remains or remove with a soft cloth, especially from the distributor, bleed valves and melt plate.

After bleeding, clean the distributor to prevent glue from entering the electric connection box.

Clean the control panel periodically with a soft cloth. Do not use solvents which could rust the controls.

Use a soft cloth to remove dust and glue remains from the position micro-switches

If you use a cleaning agent, make sure that it is compatible with the adhesive being employed.
In case of doubt, contact the glue manufacturer.

Motor:

Remove dust from the motor ventilation cover with a cloth.

Bleeding the air filter:

Press the button at the bottom of the air filter.

The change of the regulator filter will be done when necessary, depending on the dirt entrained in the pneumatic network.

Melt plate:

Check that the melt plate gasket is in good condition; if not, change it.

If the melt plate is soiled with glue, clean with a cloth or a cleaning agent to prevent adhesive from entering the electric connection box.

The fins of the melt plate radiator must be cleaned with a cloth once the drum is removed.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

CHAPTER 7
EQUIPMENT REPAIR GUIDE

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

WARNING: The maintenance operations described in this chapter should only be performed by qualified personnel understanding the processes and familiar with the safety measures involved.

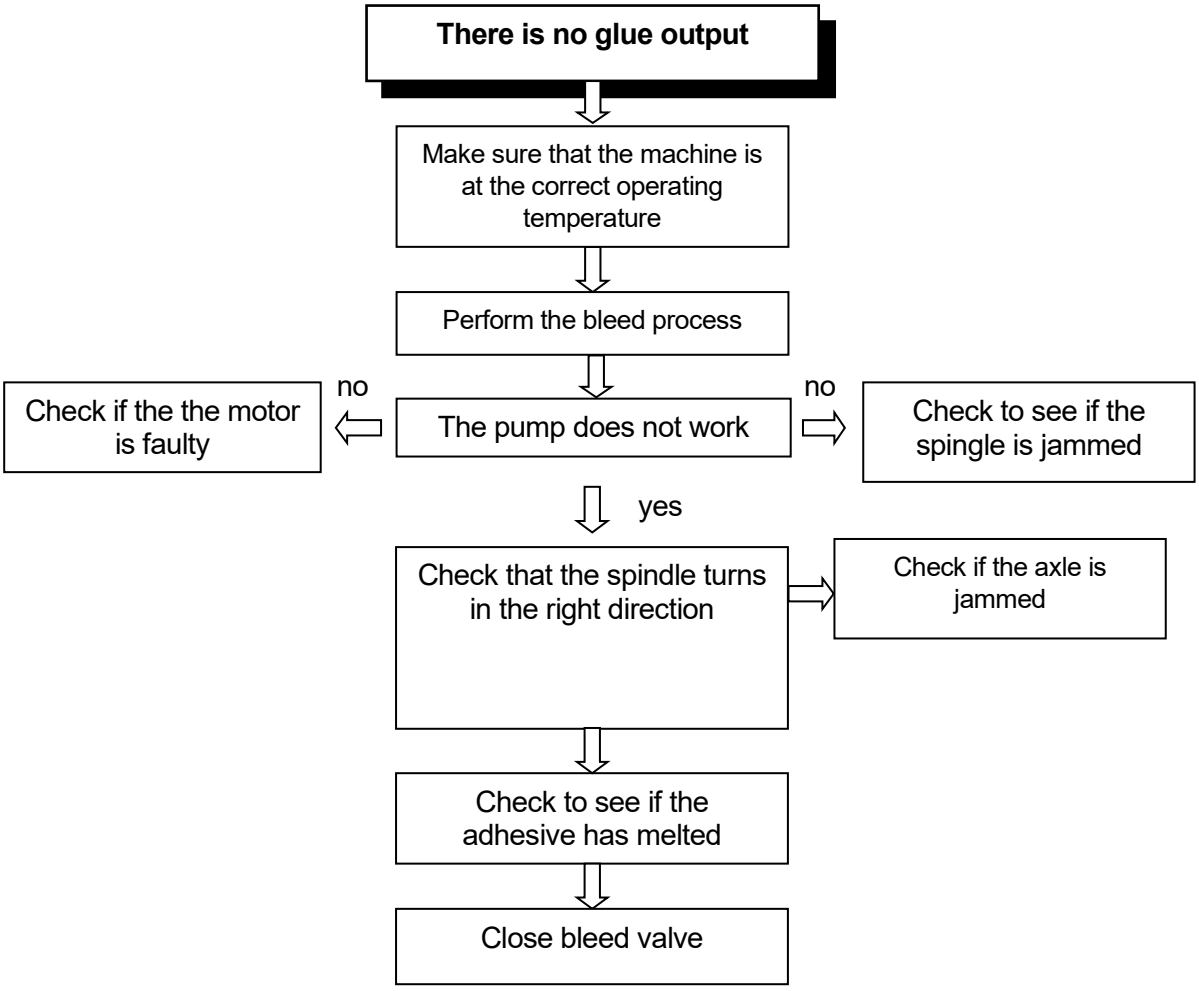
7.1. INTRODUCTION:

This chapter refers to the most common faults in your equipment.

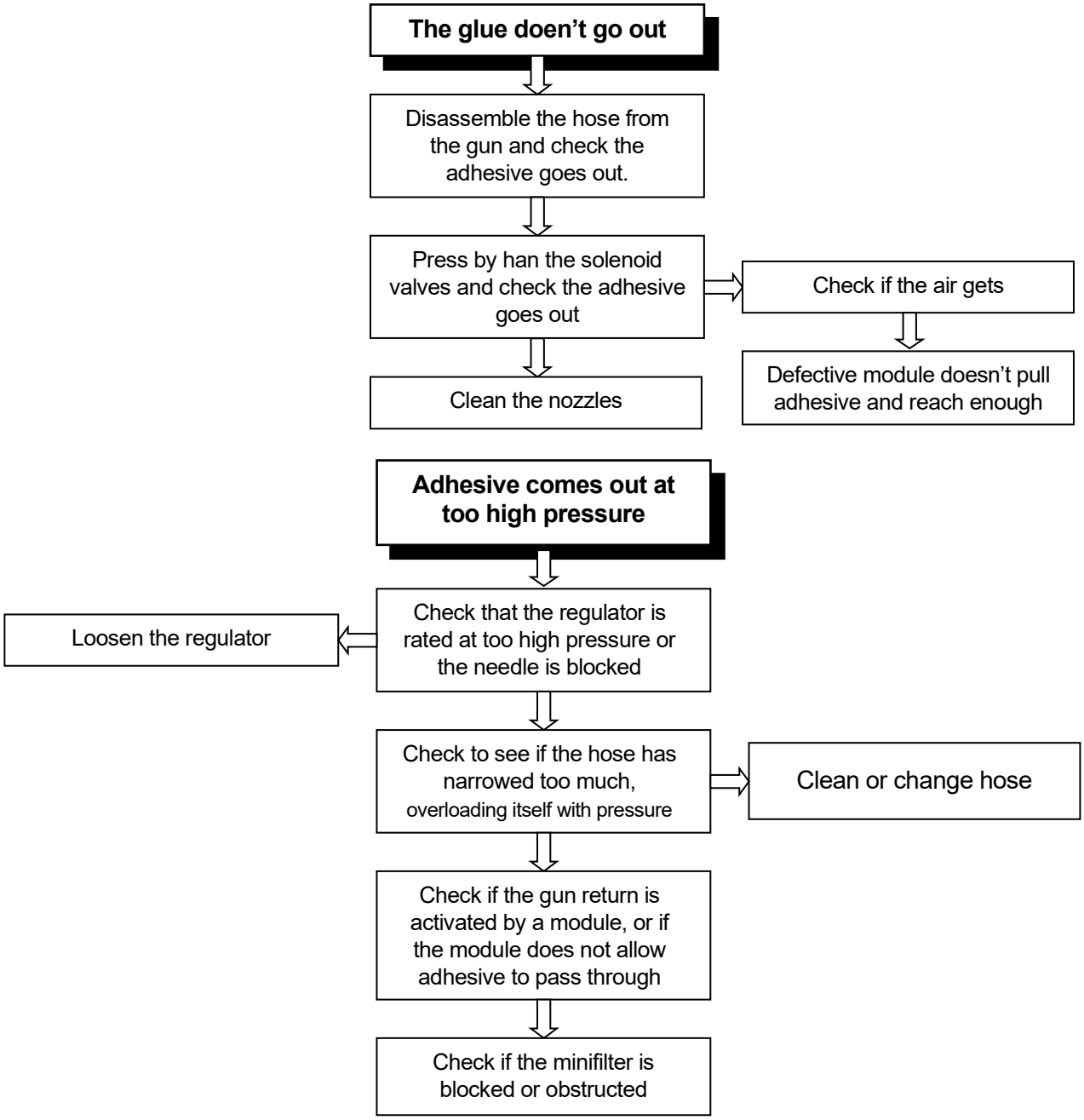
Breakdowns occur when the flow of glue is reduced or stops, or the alert system informs of a fault. Try to solve the problem with the help of this manual.

If the problem cannot be solved with the information provided here, contact your Melton representative.

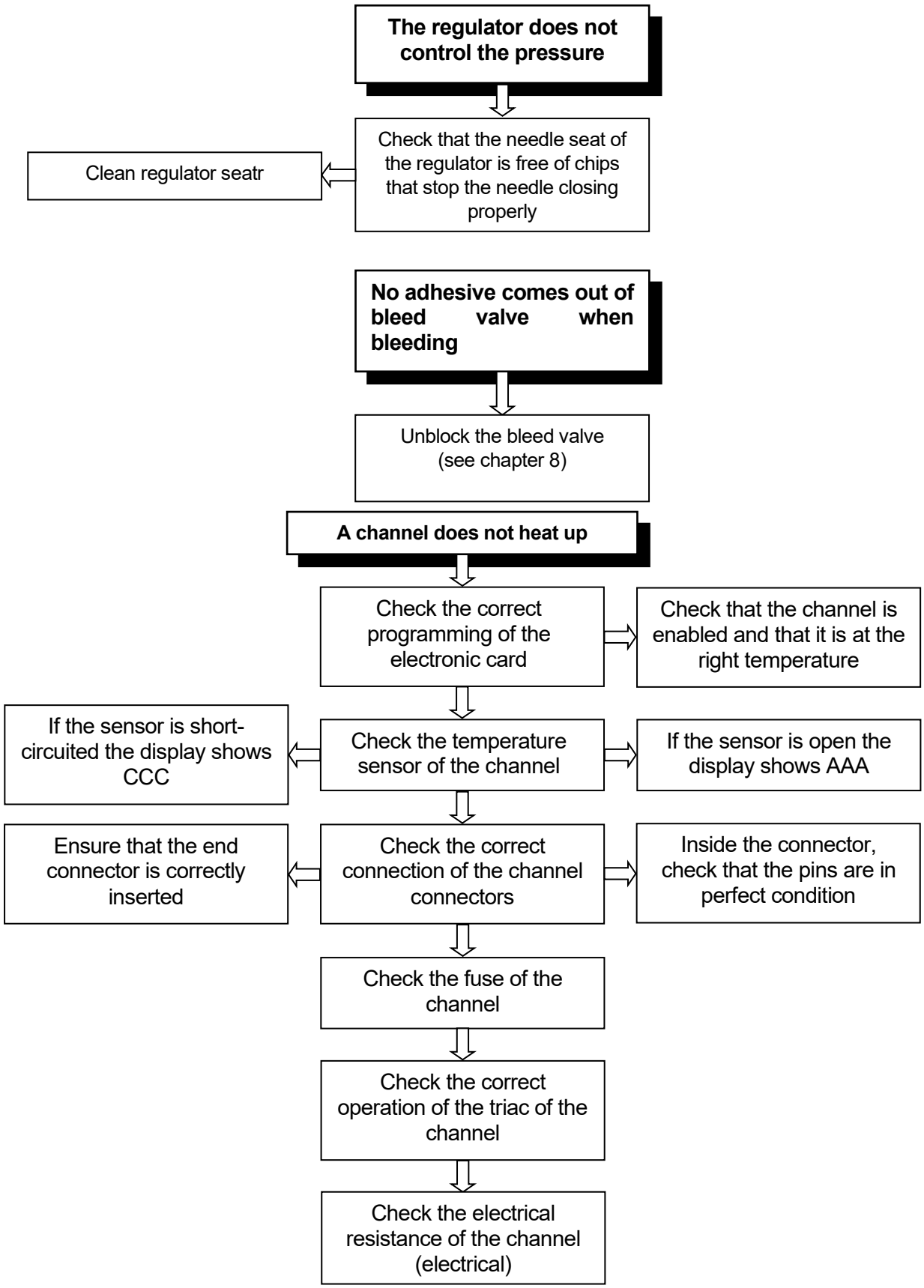
7.2. MECHANICAL FAULTS:



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

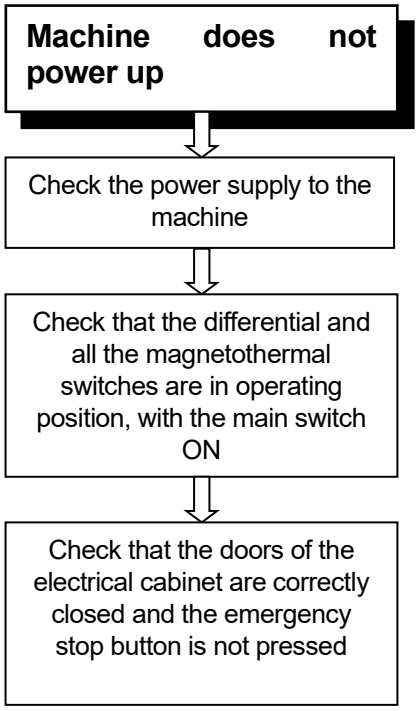


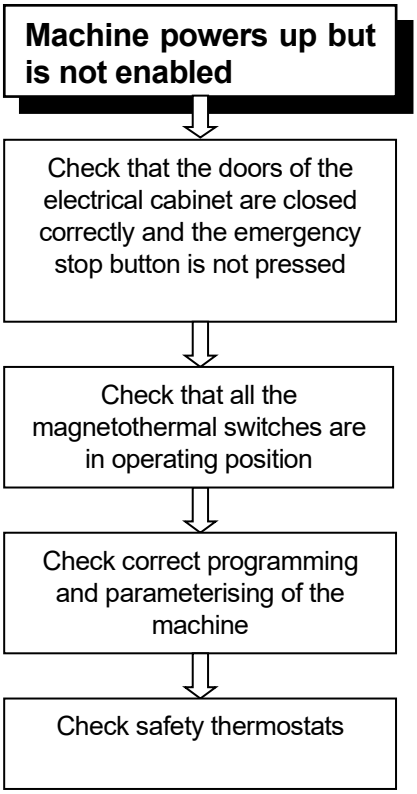
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com



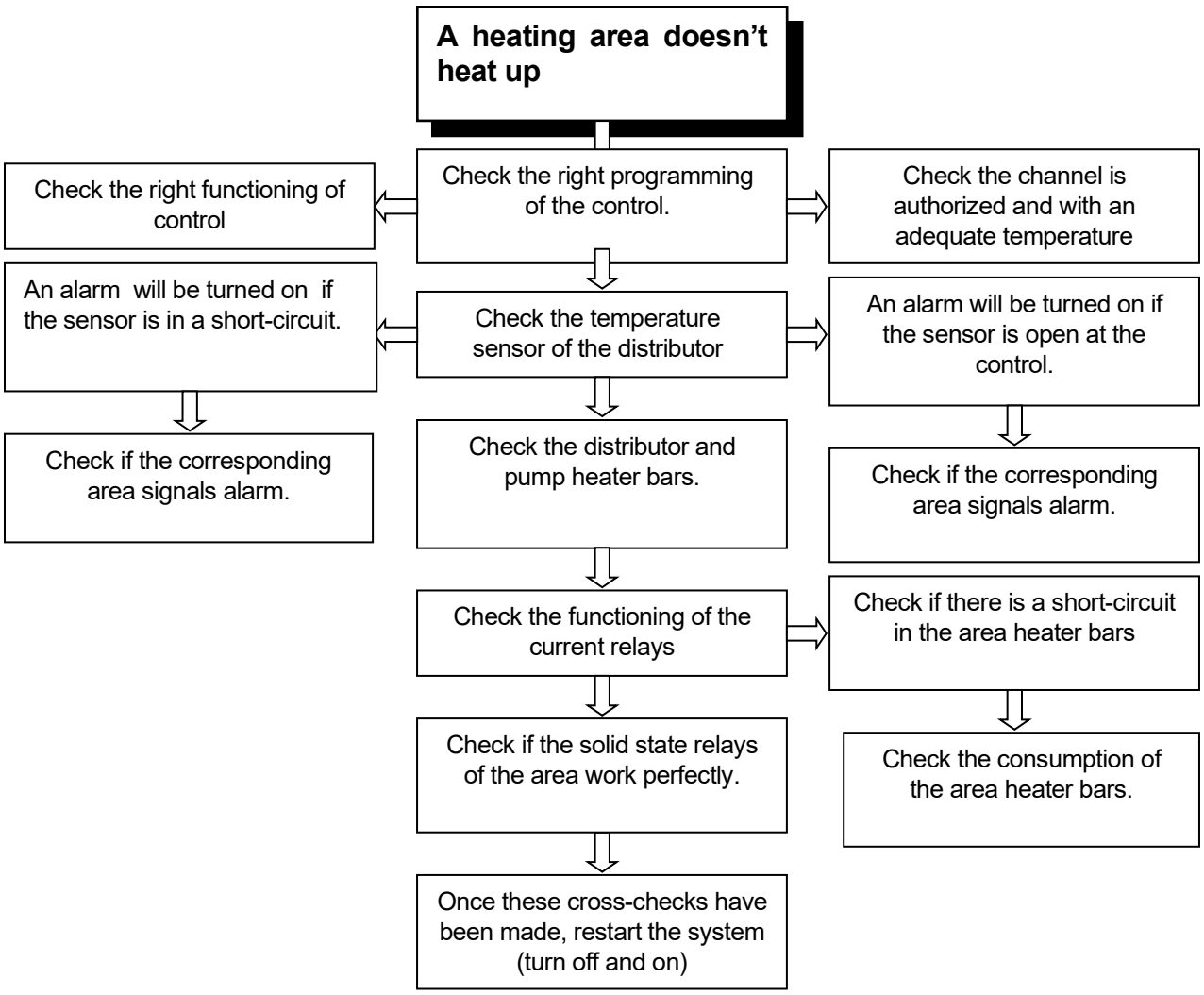
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

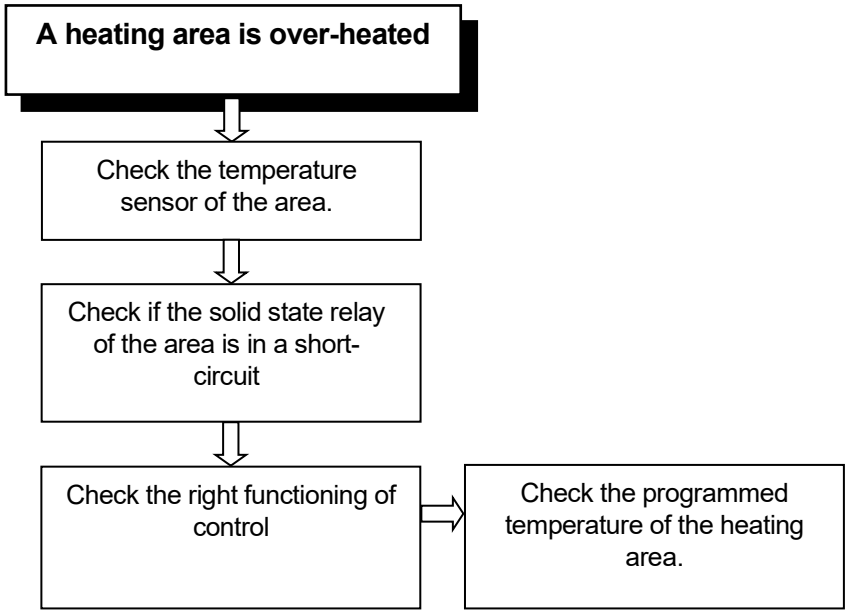
7.3. ELECTRICAL FAULTS:



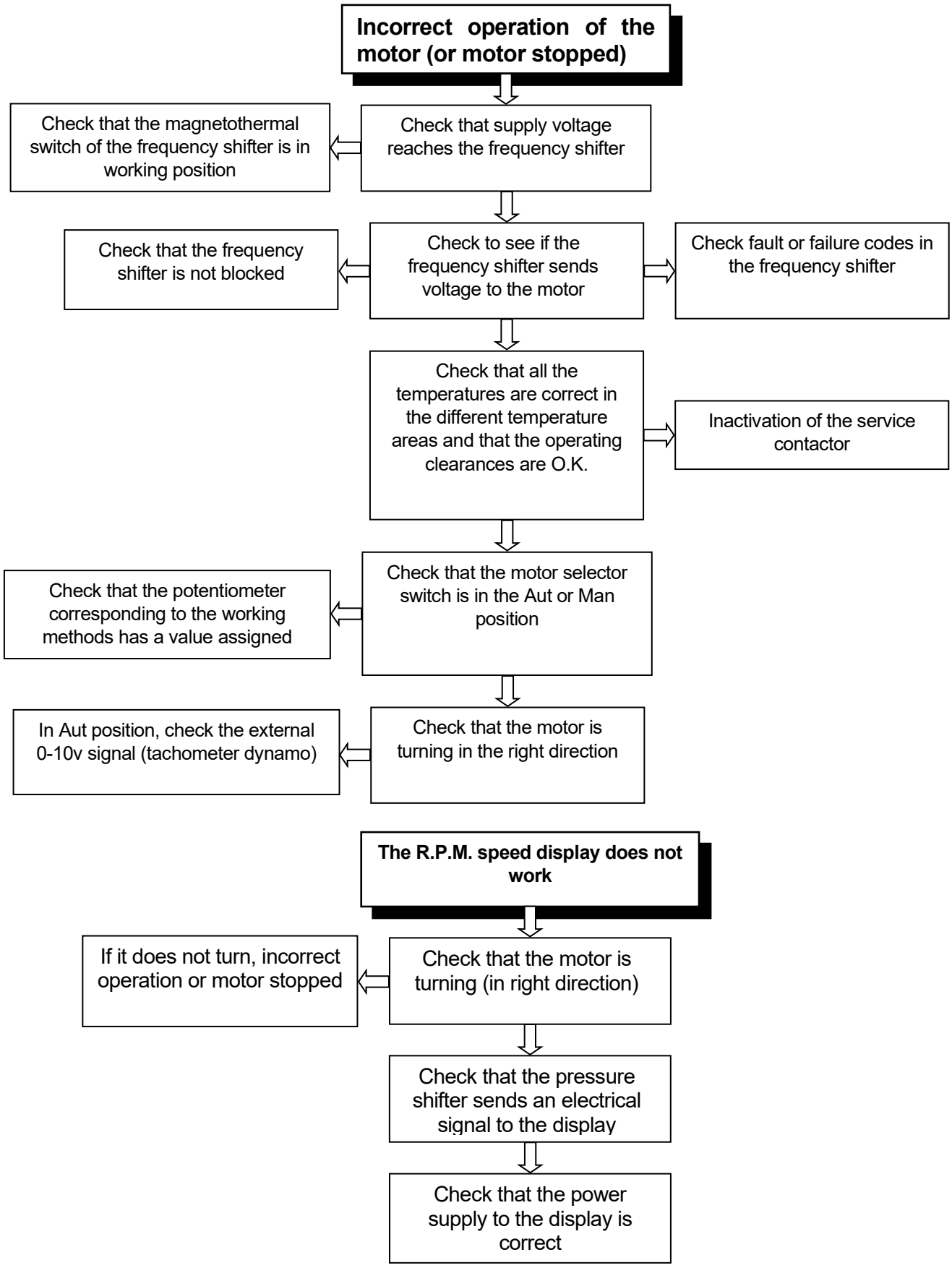


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com



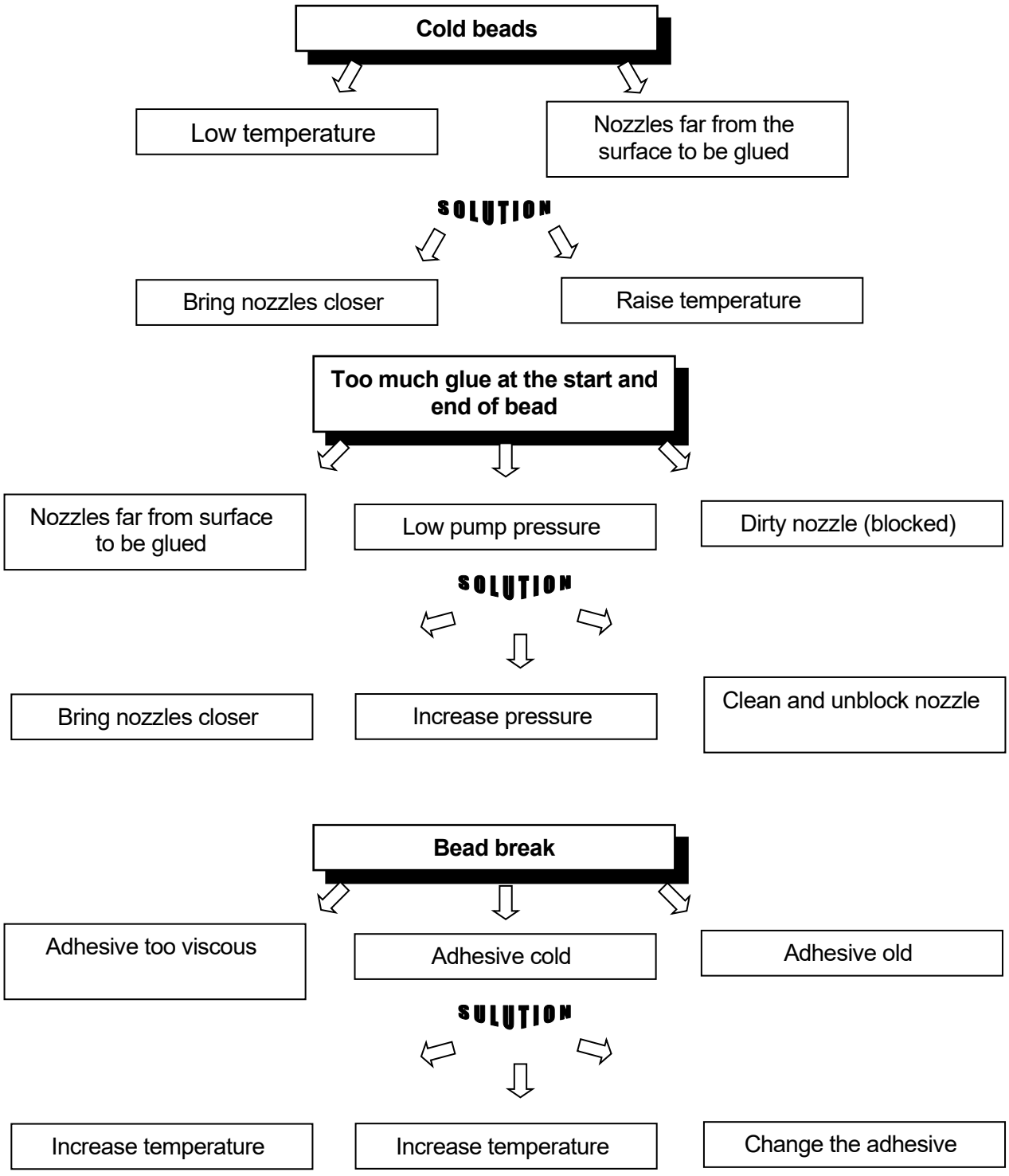


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

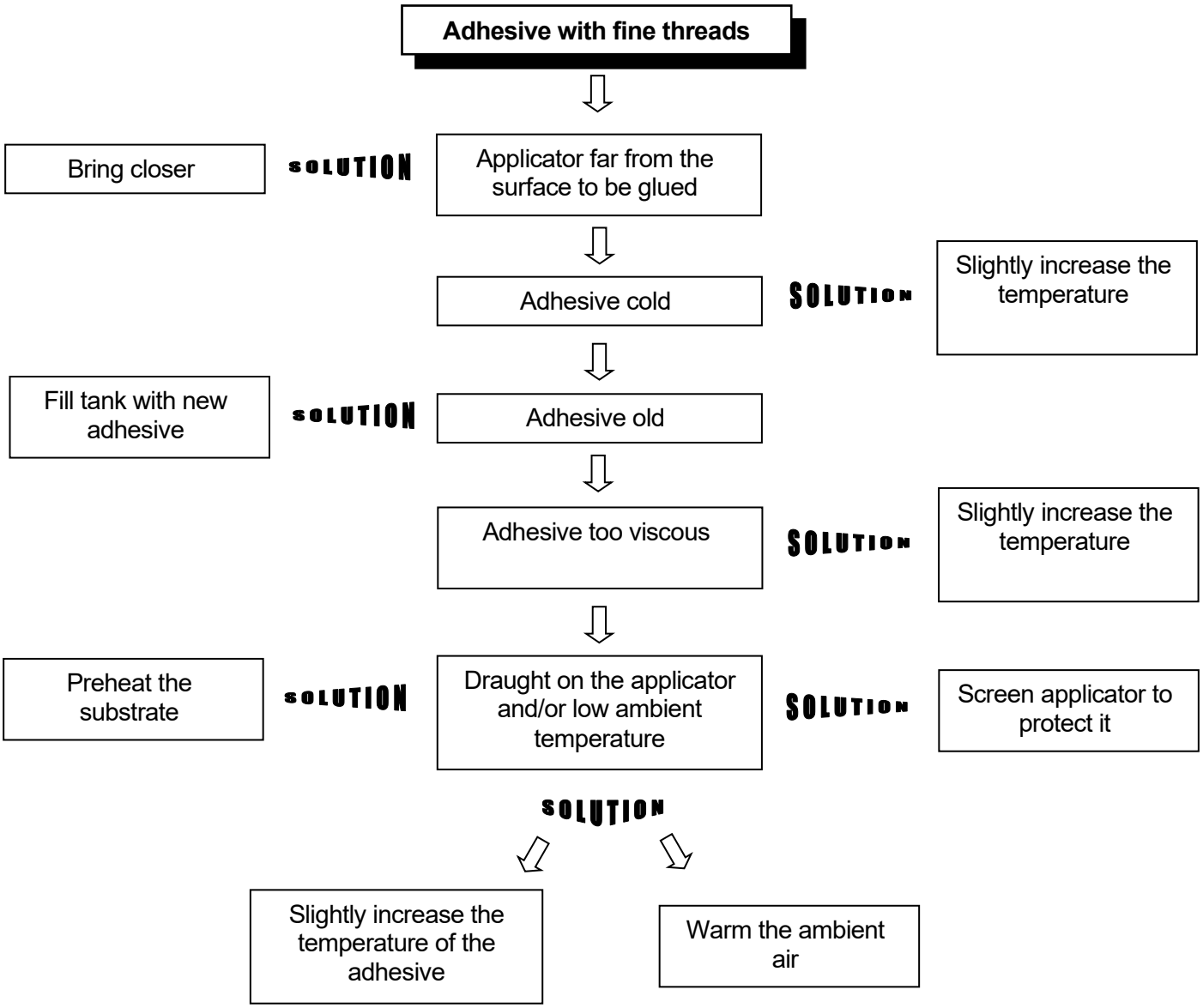


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

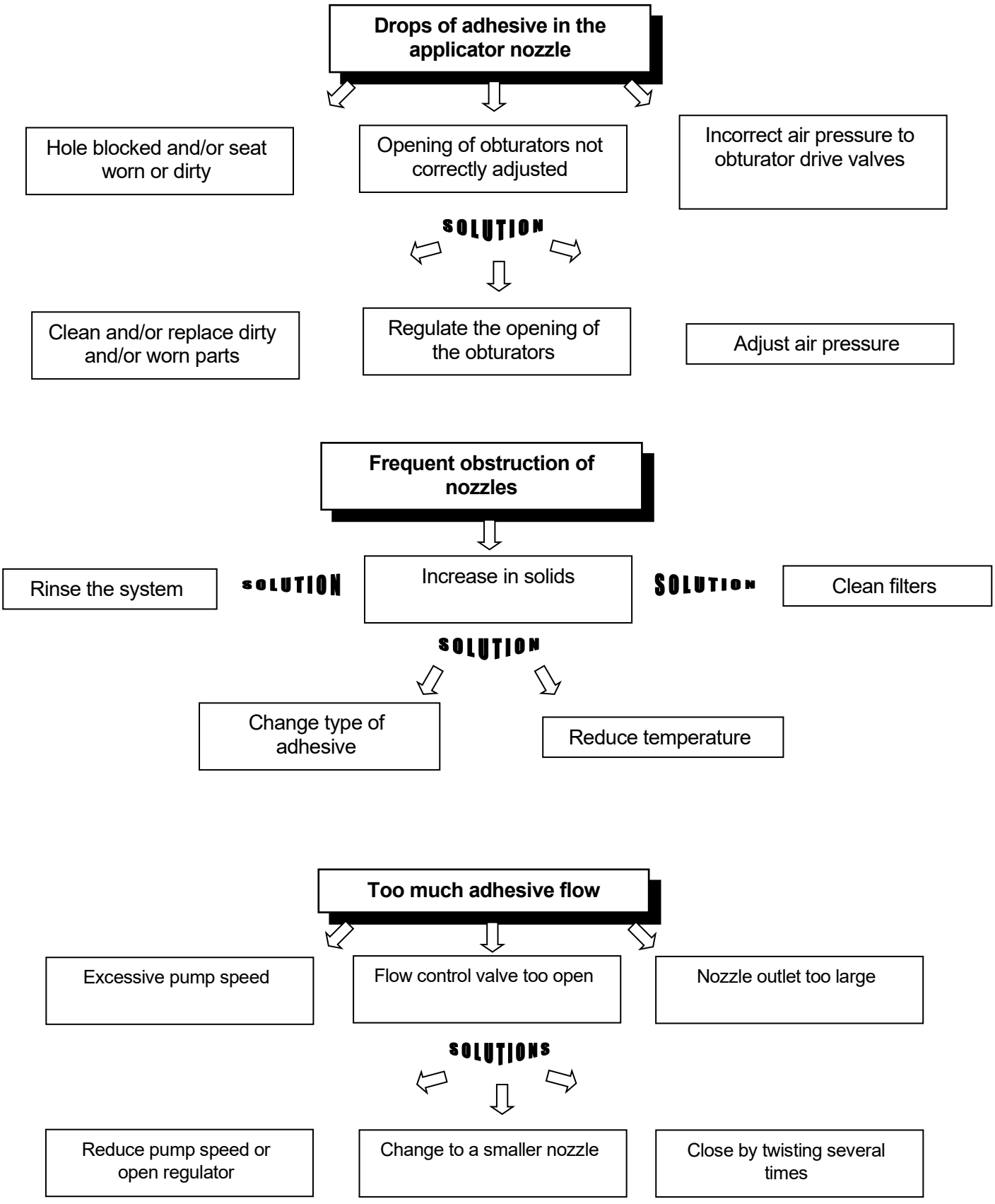
7.4. ADHESIVE APPLICATION PROBLEMS:



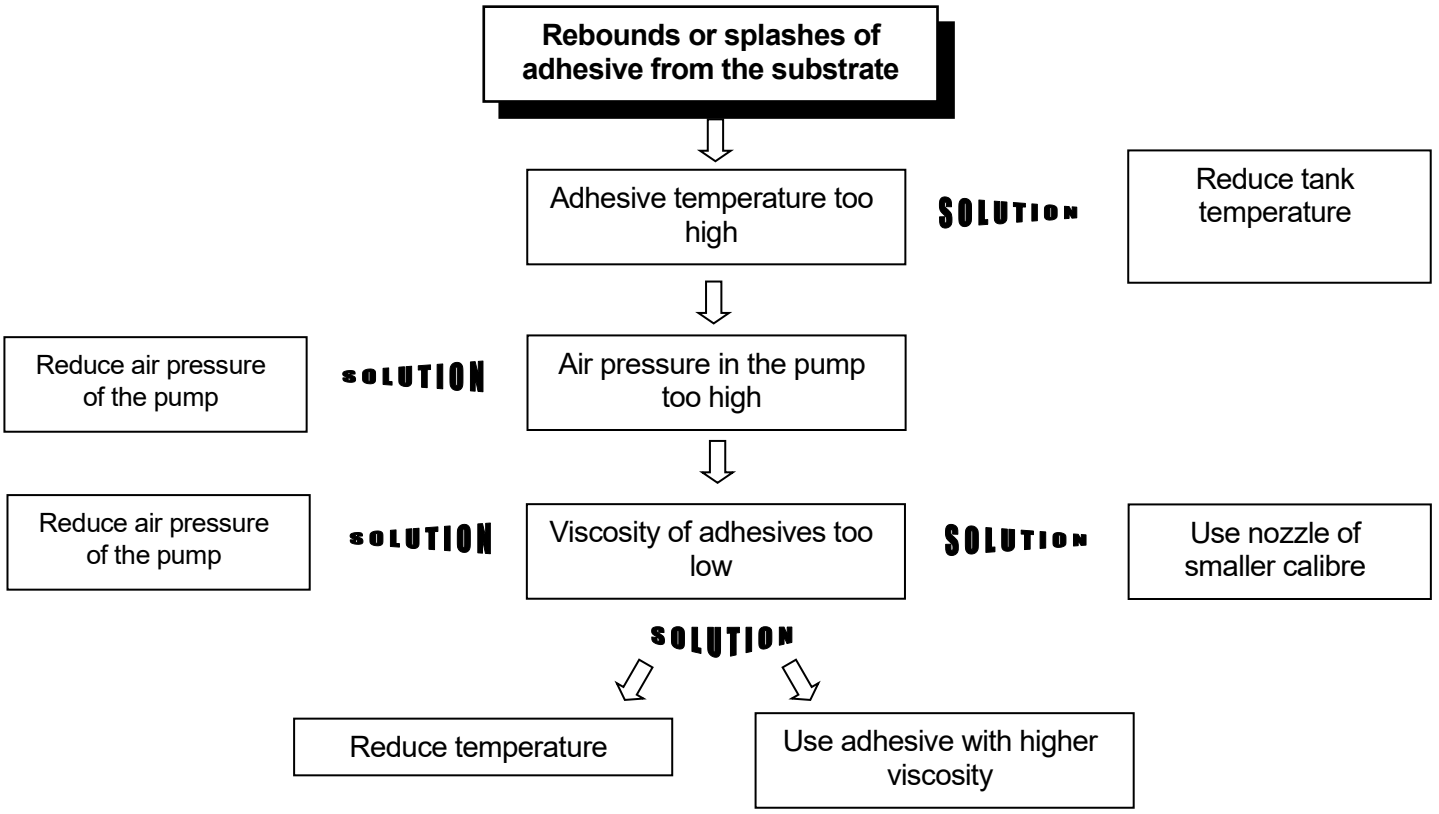
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

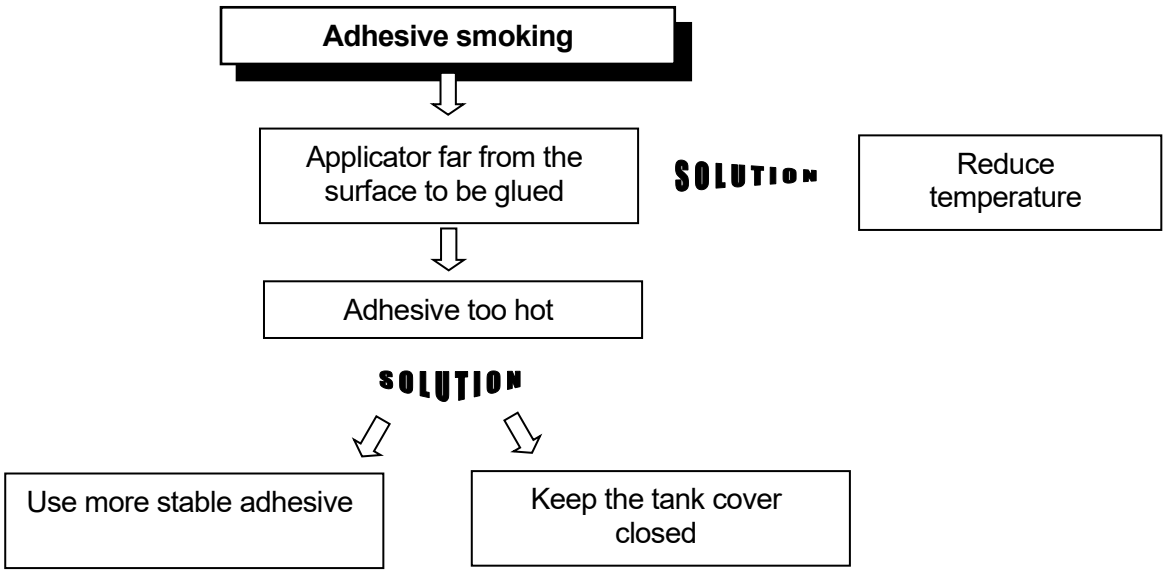


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

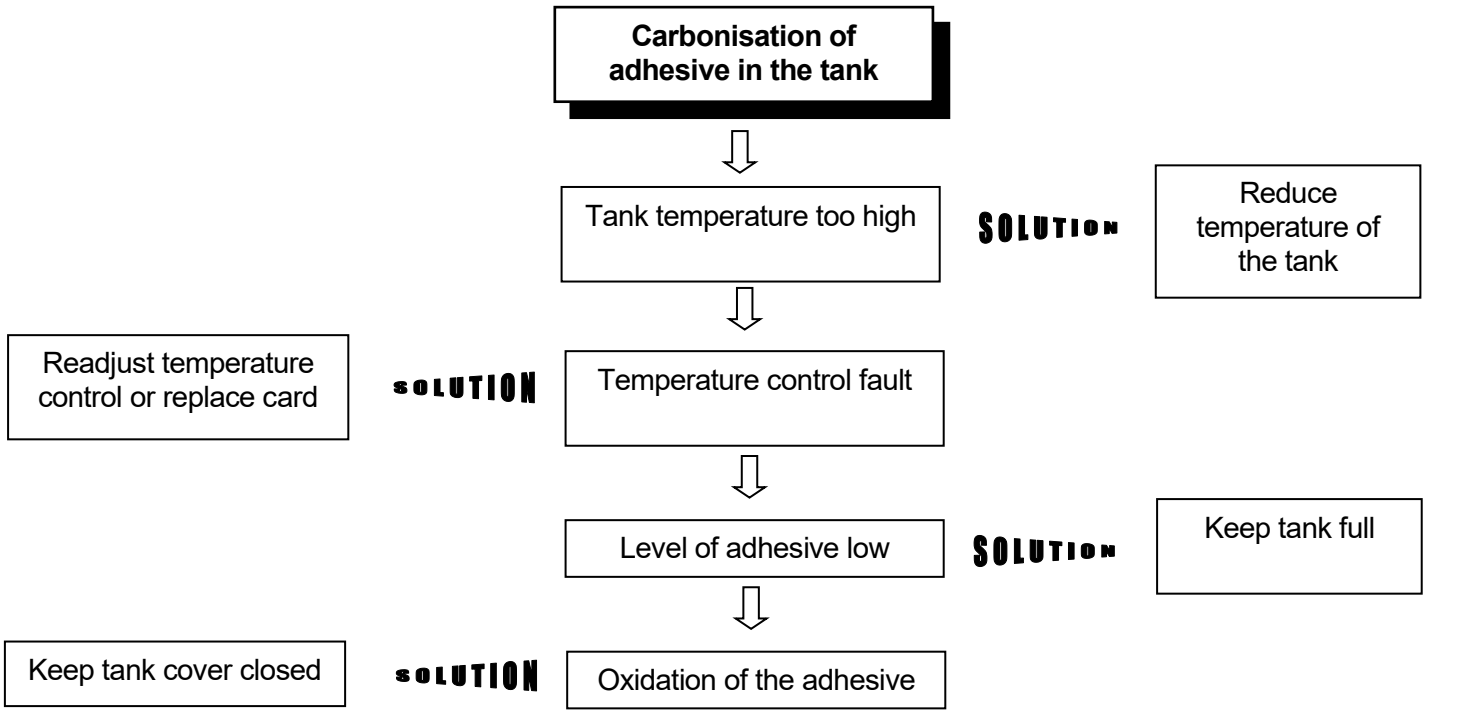


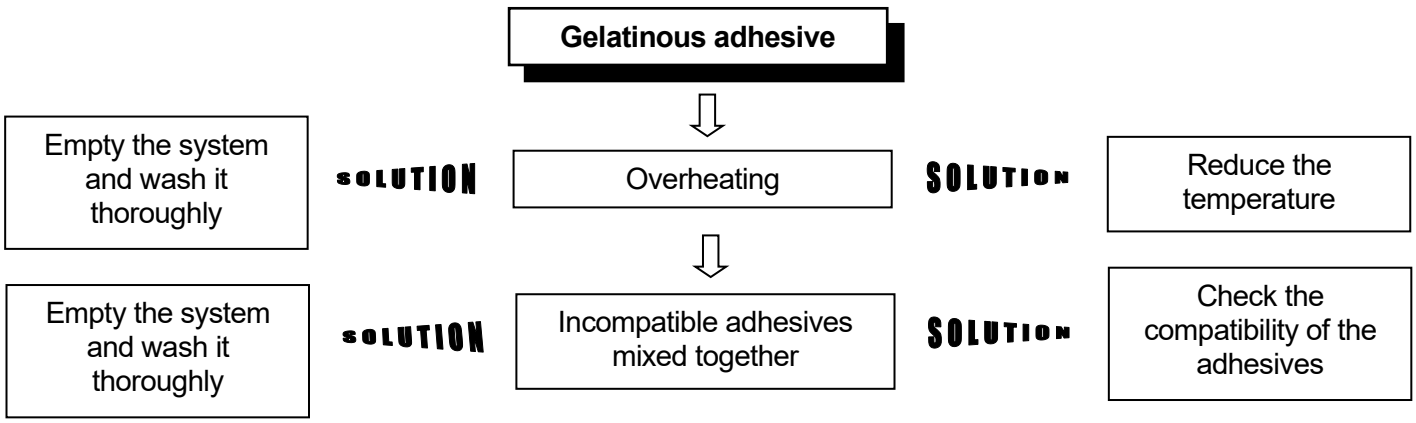
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com



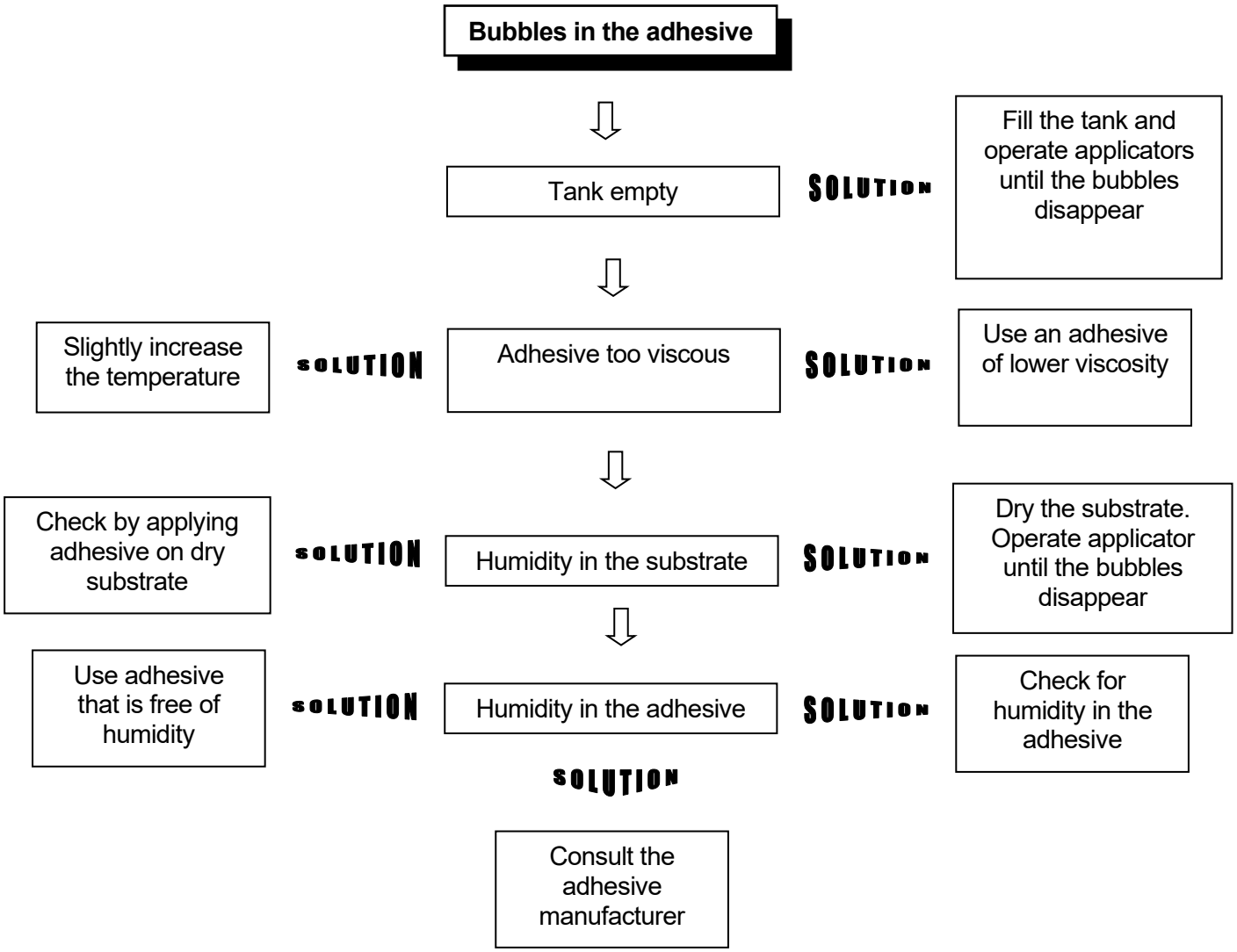


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com





MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

CHAPTER 8
EQUIPMENT REPAIR GUIDE

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

WARNING: The maintenance operations described in this chapter should only be performed by qualified personnel understanding the processes and familiar with the safety measures involved.

8.1. INTRODUCTION:

This chapter describes the procedures to remove and change some components. These procedures should be followed during maintenance or repair operations.

First of all, make sure that you are duly protected and follow all safety instructions:

1º Close the air supply to the unit.

2º Switch off and isolate the unit.

3º Protect the main switch with a key to avoid reconnections

4º Check that the unit is not energized.

5º Follow applicable safety and health standards.

Chapter 9 includes lists of the parts to which the procedures refer.

8.2. CHANGING THE PUMP:

Pump removal:

Wear long sleeves and protective gloves and use a face shield, to prevent burns from the hot glue.

1 Heat the equipment, with the motor control set to zero, until the glue has melted. Then switch off the machine.

2 Use the bleed valves to bleed the system, removing all residual pressure.

3 Loosen the screw attaching the pump to the coupling and remove it.

4 Remove the screws attaching the pump to the distributor.

5 Take the pump to a clean table for dismantling.

6 Clean all parts carefully.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

If you use a cleaning agent, make sure that it is compatible with the adhesive being used.
In case of doubt, contact the glue manufacturer.

Gear pump assembly instructions:

Follow the assembly instructions carefully.
The position and alignment of some of the parts are critical for the pump operation.

1 Inspect all the pump parts for wear or damage. Change the pump if necessary.

2 Attach the pump assembly to the distributor with the screws.

3 Place the coupling and tighten screw.

8.3. REPAIRING THE DISTRIBUTOR:

Proceed as follows to change the heating element and/or temperature sensor.

First of all, clean the outside of the distributor to prevent adhesive from entering the electric system (see 6.3)

1º Unscrew the electric cap and remove, taking care not to damage the electric wiring.

2º Remove the heating element and/or temperature sensor. If it is stuck, push from the other side of the housing.

3º Disconnect the heating element and/or temperature sensor from the terminal.

4º Connect the new heating element and/or probe according to the electric diagram. Assemble in reverse order.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

8.4. REPAIRING THE PRESSURE REGULATOR:

Proceed as follows to remove / install the regulator.

1º Open the bleed valves to remove all residual pressure.

2º Loosen the regulator screws with a number 5 Allen key and remove the cover.

3º Remove the regulator with pliers.

4º Dismantle the regulator by pushing the spring needle system from the hole in the tip.

5º Clean all the components and replace faulty ones.

If you use a cleaning agent, make sure that it is compatible with the adhesive employed.
In case of doubt, contact the adhesive manufacturer.

6º Assemble in reverse order. Change the O-rings and install new ones covered in high temperature lubricant.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

8.5. REPAIRING THE MELT PLATE:

Melt plate repairs include electric parts such as the heating element, temperature sensor and/or safety thermostat, and replacement of the plate gasket.

Electric repair:

Before starting to repair the melt plate, clean it to prevent adhesive from entering the electric connection box (see 6.3)

1º Switch off the machine at the mains.

2º Unscrew the electric cover and remove it.

3º Remove the heating element and/or temperature sensor. If it is stuck, push from the other side. You will need to remove the radiator from the melt plate. It is attached by screws located inside the electric connection box. The radiator will fall if it is not secured.

4º Disconnect the heating element and/or temperature sensor from the terminal.

5º Connect the new heating element and/or sensor according to the electric diagram.

6º Assemble in reverse order. If you have removed the radiator, re-install ensuring that the air injector is correctly positioned.

Replacing the melt plate gaskets:

1º Switch off the machine at the mains.

2º The plate has to be supported by a wooden wedge

3º Disconnect the air circuit from the air injector plugs.

4º Loosen the gaskets.

5º Loosen the screws and lift the crossbar enough to insert the gaskets.

6º Grease the gaskets with high-temperature lubricant and install.

7º Put the gaskets in position and screw down.

8º Slowly and carefully lower the crossbar over the cylinders until the bars are positioned and screw down.

9º Connect the air circuit to the air injector plugs.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

8.6. REPAIRING THE PNEUMATIC REGULATION SYSTEM:

The equipment has two independent circuits. One controls the movement of the melt plate and the other controls the valve injecting air into the drum when the melt plate is going to be removed from the drum.

If one of these parts becomes worn and needs replacing, see the part listings in chapter 9 and the pneumatic circuit diagrams in chapter 10.

All these operations should be performed with the machine disconnected from the main air system, and only after bleeding and depressurising the equipment.

Remember that when there is no pressure in the pneumatic cylinders, the melt plate will fall, and it may fall faster on one side, stopping before reaching the bottom, if the movement is not correctly adjusted (see chapter 4 on machine adjustments).

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

8.7. REPAIRING THE AIR INJECTION SYSTEM:

Below are the instructions for the assembly / disassembly of the air injector.

Disassembly:

1º Disconnect the machine from the air circuit.

2º Release the air intake pipes from the plugs.

Be careful with air release. The system is under 1 bar of pressure (this pressure is adjusted by a regulator located inside the pneumatic cabinet; it is adjusted when supplied and should not be modified, since it would inject air with too much pressure and could destroy the drum)

3º Loosen the screws and remove the air injector.

4º The injector consists of a cut-off module which closes on a seating located at the end of a telescopic tube. To disassemble for cleaning, remove the tip from its position and unscrew both the telescopic tube and the cut-off module air plugs.

5º Clean all the components and replace if faulty.

Assembly: Follow the above procedure in reverse order. Use new O-rings lubricated with high-temperature grease.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

8.8. REPAIRING THE BLEED VALVE:

If the bleed valve is blocked, proceed as follows:

1º Heat the machine, with the motor control set to zero, until the glue has melted. Then switch off the machine.

2º To prevent glue from splashing when you clean the valve, make sure that there is no pressure in the circuit. Work with the pressure adjusted to the lowest value, with no pressure in the drum.

3º Open the blocked valve. Check that the operating mechanism is in working order and that it opens when the key is turned.

4º Insert a rod, with a maximum diameter of 6 mm, and remove the obstruction. (Usually, it will be degraded glue. Break it with the rod)

5º Continue until all the glue has been removed.

If the valve is faulty, it will need to be removed.

1º Heat the machine, with motor control set to zero, until the glue has melted. Then switch off the machine

2º Loosen and remove the key screw.

3º Loosen the lower socket of the key rod and then unscrew the rod with a 7 mm spanner.

4º Release the cock with a 17 mm spanner.

5º Clean all the components and replace if faulty.

6º Assemble in reverse order

8.9. REPAIRING ELECTRIC COMPONENTS:

If one of the electric components needs to be repaired, proceed according to the part listings and the electric diagrams.

All these operations should be performed with the machine switched off at the mains and disconnected from the main air circuit, making sure that the system has been duly bled and depressurised.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

ANNEX A LOG SHEETS

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

DATE	INCIDENCE

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

ANNEX B
COMMUNICATIONS

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

B.1. INTRODUCTION

As we can see in the point *4.2.5.7 Communications* we can use the communications to control the equipment from another machine or for monitoring alarms signals and process values of the variables.

For it, we can use diferent communications protocols, which will be explained in the next points.

The melter always will be the slave, and the main machine will be the master.

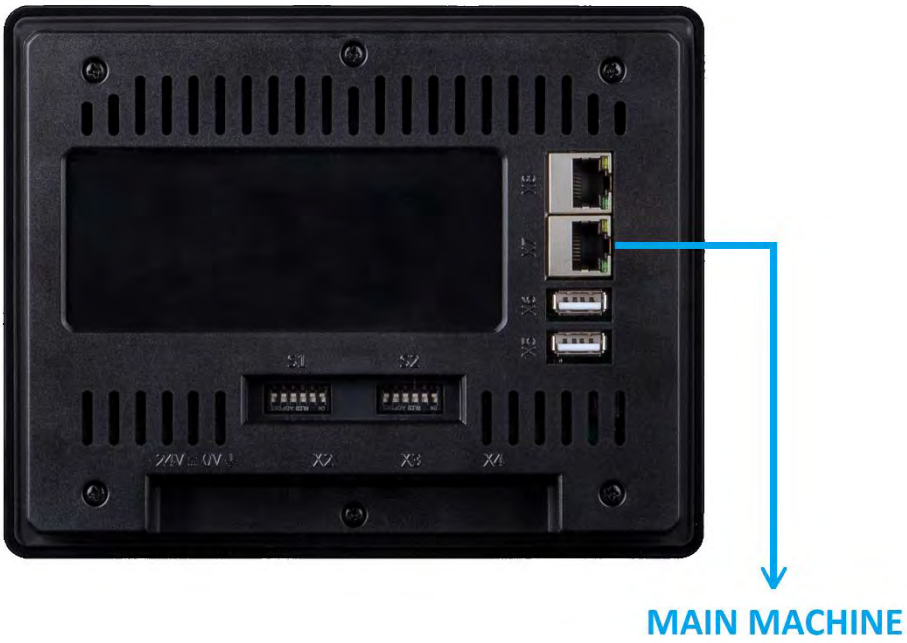
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

B.2. PROTOCOLS

B.2.1. MODBUS TCP

B.2.1.1. HARDWARE

There is not any specific module to communicate using Modbus TCP communication. To do it, we will use the RJ45 connector in the touch screen.



D.2.1.2. *INTERFACE* CONFIGURATION

This Modbus communication protocol is configured for exchanging data using ***Write Holding Registers*** and ***Read Input Registers.***

Write Holding Registers

The client PLC (main machine PLC) will use this function to write values in the server (melter PLC).

Variable	Mapping	Channel	Address	Type	Default Value	Unit	Description
		Holding Registers	%IW105	ARRAY [0..7] OF WORD			
		Holding Registers[0]	%IW105	WORD			MelterControl & Command
		Holding Registers[1]	%IW106	WORD			DataIndex
		Holding Registers[2]	%IW107	WORD			ChannelNumber
		Holding Registers[3]	%IW108	WORD			WiteDataValue
		Holding Registers[4]	%IW109	WORD			LineSpeed1
		Holding Registers[5]	%IW110	WORD			LineSpeed2
		Holding Registers[6]	%IW111	WORD			LineSpeed3
		Holding Registers[7]	%IW112	WORD			LineSpeed4

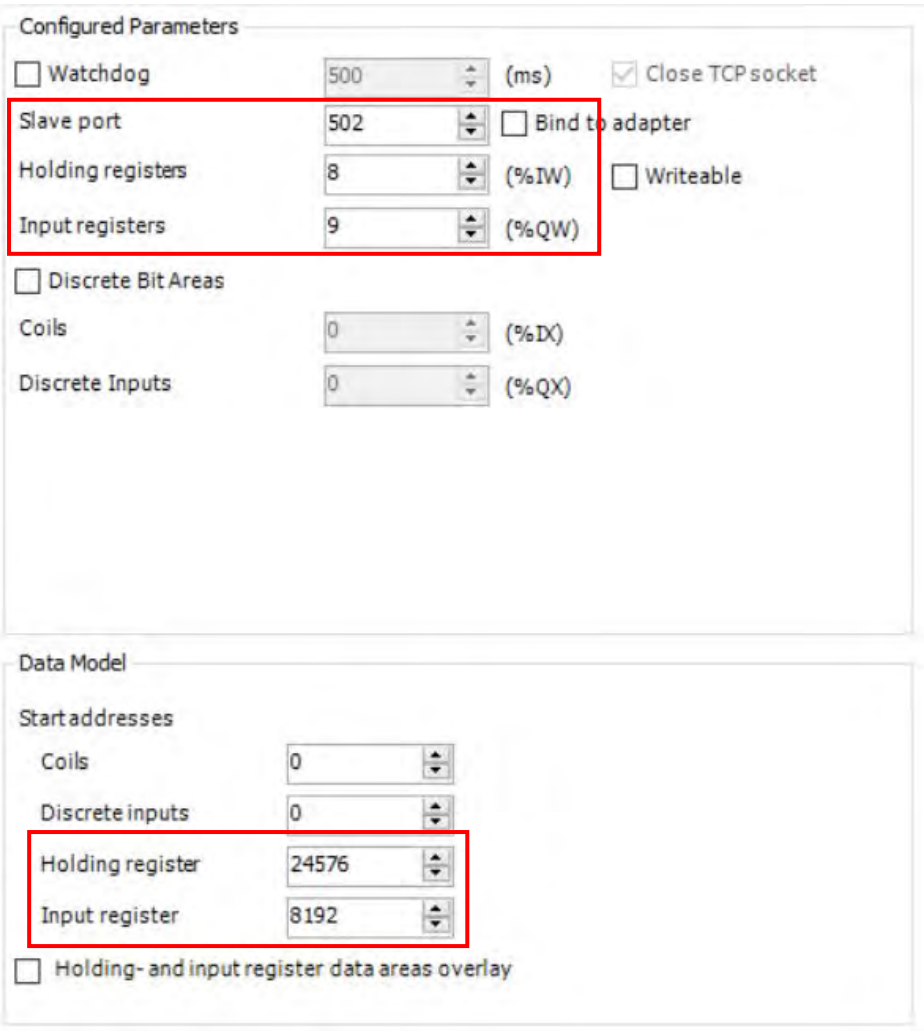
MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

Read Input Registers

The client PLC (main machine PLC) will use this function to read values from the server (melter PLC).

Variable	Mapping	Channel	Address	Type	Default Value	Unit	Description
		Holding Registers	%IW105	ARRAY [0..7] OF WORD			
		Input Registers	%QW380	ARRAY [0..8] OF WORD			
		Input Registers[0]	%QW380	WORD			Status
		Input Registers[1]	%QW381	WORD			AckDataIndex
		Input Registers[2]	%QW382	WORD			AckChannelNumber
		Input Registers[3]	%QW383	WORD			ReadDataValue1
		Input Registers[4]	%QW384	WORD			ReadDataValue2
		Input Registers[5]	%QW385	WORD			ReadDataValue3
		Input Registers[6]	%QW386	WORD			ReadDataValue4
		Input Registers[7]	%QW387	WORD			ReadDataValue5
		Input Registers[8]	%QW388	WORD			ReadDataValue6

This configuration has to be made in client PLC to be able to communicate:



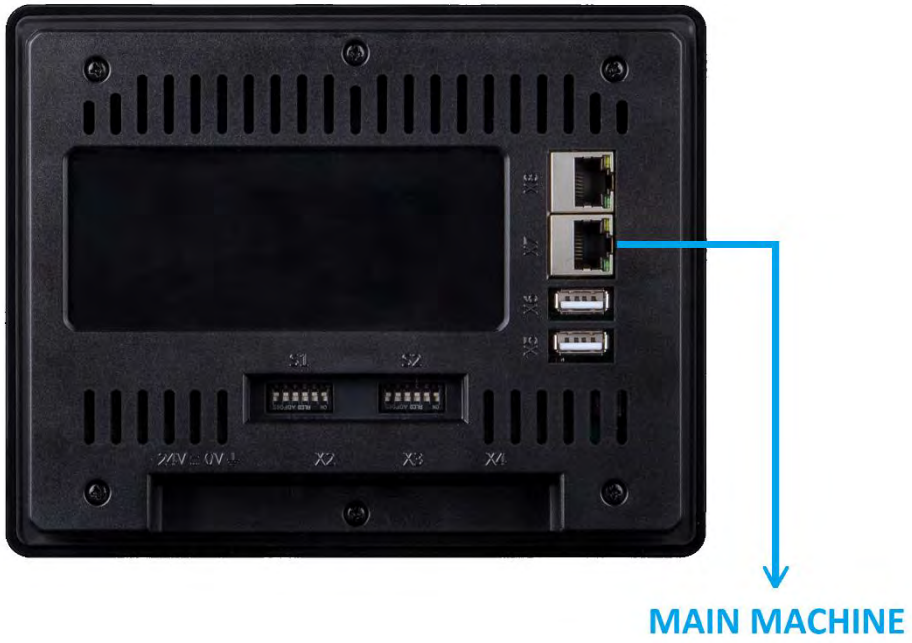
If needed, Valco Melton has examples for communicating with Siemens and B&R.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

B.2.2. OPCUA

B.2.2.1. HARDWARE

There is not any specific module to communicate using OPC UA communication. To do it, we will use the RJ45 connector in the touch screen.

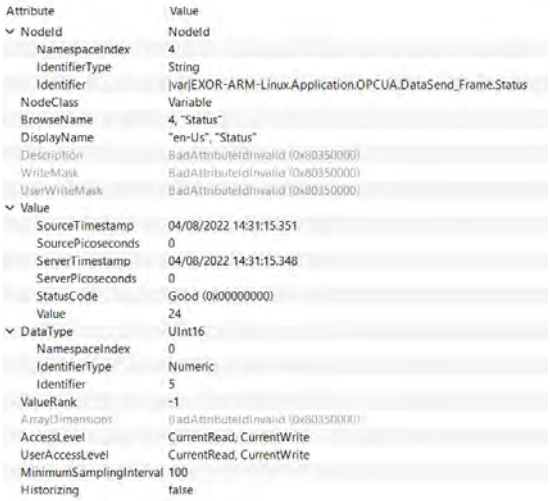


B.2.2.2. INTERFACE CONFIGURATION

We can use UAExpert program to watch the Identifier of the Variables and the Namespace Index.

#	Server	Node Id	Display Name	Value	Datatype
1	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.ChannelNumber	ChannelNumber	0	UInt16
2	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.Command	Command	0	UInt16
3	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.DataIndex	DataIndex	0	UInt16
4	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.LineSpeed1	LineSpeed1	0	UInt16
5	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.LineSpeed2	LineSpeed2	0	UInt16
6	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.LineSpeed3	LineSpeed3	0	UInt16
7	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.LineSpeed4	LineSpeed4	0	UInt16
8	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.MelterControl	MelterControl	0	UInt16
9	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.WriteDataValue	WriteDataValue	0	UInt16
10	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.AckChannelNumber	AckChannelNumber	0	UInt16
11	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.AckDataIndex	AckDataIndex	0	UInt16
12	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.ReadDataValue1	ReadDataValue1	0	UInt16
13	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.ReadDataValue2	ReadDataValue2	0	UInt16
14	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.ReadDataValue3	ReadDataValue3	0	UInt16
15	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.ReadDataValue4	ReadDataValue4	0	UInt16
16	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.ReadDataValue5	ReadDataValue5	0	UInt16
17	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.ReadDataValue6	ReadDataValue6	0	UInt16
18	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.Status	Status	0	UInt16

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com



Attribute	Value
NodeId	NodeId
NamespaceIndex	4
IdentifierType	String
Identifier	|var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.Status
NodeClass	Variable
BrowseName	4, "Status"
DisplayName	"en-Us", "Status"
Description	BadAttributeIdInvalid (0x80350000)
WriteMask	BadAttributeIdInvalid (0x80350000)
UserWriteMask	BadAttributeIdInvalid (0x80350000)
Value	
SourceTimestamp	04/08/2022 14:31:15.351
SourcePicoseconds	0
ServerTimestamp	04/08/2022 14:31:15.348
ServerPicoseconds	0
StatusCode	Good (0x00000000)
Value	24
DataType	UInt16
NamespaceIndex	0
IdentifierType	Numeric
Identifier	5
ValueRank	-1
ArrayDimensions	BadAttributeIdInvalid (0x80350000)
AccessLevel	CurrentRead, CurrentWrite
UserAccessLevel	CurrentRead, CurrentWrite
MinimumSamplingInterval	100
Historizing	false

The opc ua port is ***4840***.
There is not security.
NamespaceIndex: ***4***.
The URL is: ***opc.tcp://10.24.91.135***

10.24.91.135 is the IP Address of the melter PLC.

Variable's name:

#	Server	Node Id	Display Name	Value	Datatype
1	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.ChannelNumber	ChannelNumber	0	UInt16
2	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.Command	Command	0	UInt16
3	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.DataIndex	DataIndex	0	UInt16
4	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.LineSpeed1	LineSpeed1	0	UInt16
5	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.LineSpeed2	LineSpeed2	0	UInt16
6	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.LineSpeed3	LineSpeed3	0	UInt16
7	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.LineSpeed4	LineSpeed4	0	UInt16
8	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.MelterControl	MelterControl	0	UInt16
9	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataReceive_Frame.WriteDataValue	WriteDataValue	0	UInt16
10	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.AckChannelNumber	AckChannelNumber	0	UInt16
11	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.AckDataIndex	AckDataIndex	0	UInt16
12	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.ReadDataValue1	ReadDataValue1	0	UInt16
13	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.ReadDataValue2	ReadDataValue2	0	UInt16
14	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.ReadDataValue3	ReadDataValue3	0	UInt16
15	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.ReadDataValue4	ReadDataValue4	0	UInt16
16	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.ReadDataValue5	ReadDataValue5	0	UInt16
17	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.ReadDataValue6	ReadDataValue6	0	UInt16
18	Exor	NS4|String||var|EXOR-ARM-Linux.Application.OPCUA.DataSend_Frame.Status	Status	0	UInt16

IMPORTANT NOTE

The master needs to send a 1 Hz clock in Melter Control bit 7:

|var|EXOR-ARM-LINUX.Application.OPCUA.DataRecieve_Frame.MelterControl.7

If not an error of communication will appear.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

B.3. COMMUNICATION DATA LIST

B.3.1. INTRODUCTION

Data exchange between master and slave will be done using indexes (*Data Index*). In this way, we only send a small data block with the information ordered, so we avoid overload the bus with unnecessary data.

For example, if the master wants to read the pump speed of the pump, it has to send a data block to the FLEXDRUM. After that, FLEXDRUM will send back a data block which contains the information ordered by the master.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

B.3.2. COMMUNICATION DATA BLOCKS

B.3.2.1. Send Data Block

This data block will be sent from master the slave.

If we are using **OpcUa** communication, the length of the data block will be 18 bytes:

Send Data Block (master → slave)		
Byte Direction	Format	Description
Byte 0 + 1	Word	Melter Control
Byte 2 + 3	Word	Command
Byte 4 + 5	Word	Data index
Byte 6 + 7	Word	Channel number
Byte 8 + 9	Word	Write data value
Byte 10 + 11	Word	Line speed value for motor 1
Byte 12 + 13	Word	Line speed value for motor 2
Byte 14 + 15	Word	Not Used
Byte 16 + 17	Word	Not Used

Else, 16 bytes:

Send Data Block (master → slave)		
Byte Direction	Format	Description
Byte 0	Byte	Melter Control
Byte 1	Byte	Command
Byte 2 + 3	Word	Data index
Byte 4 + 5	Word	Channel number
Byte 6 + 7	Word	Write data value
Byte 8 + 9	Word	Line speed value for motor 1
Byte 10 + 11	Word	Line speed value for motor 2
Byte 12 + 13	Word	Not Used
Byte 14 + 15	Word	Not Used

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

B.3.2.2. Receive Data Block

This data block will be sent from slave the master. The length of the data block will be 18 bytes.

Receive Data Block (slave → master)		
Byte Direction	Format	Description
Byte 0 + 1	Word	Status
Byte 2 + 3	Word	Acknowledge: Data index
Byte 4 + 5	Word	Acknowledge: Channel number
Byte 6 + 7	Word	Read data value 1
Byte 8 + 9	Word	Read data value 2
Byte 10 + 11	Word	Read data value 3
Byte 12 + 13	Word	Read data value 4
Byte 14 + 15	Word	Read data value 5
Byte 16 + 17	Word	Read data value 6

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

B.3.3. SEND DATA BLOCK

- ***Melter Control***

  With this register we can control the melter given signals by communications.

Bit	Value	Action
0	0→1	Rising edge: Heat ON
	1→0	Falling edge: Heat OFF
1	1	Reset Alarms
	0	No Reset Alarms
2	1	Enable Pump 1
	0	Disable Pump 1
3	1	Enable Pump 2
	0	Disable Pump 2
4	0→1	Rising edge: Stop ProCoat motors
5	0→1	Rising edge: Close ProCoat motors
6	0→1	Rising edge: Switch on Standby
	1→0	Falling edge: Switch off Standby
7	Send a 1HZ clock as watchdog.	

IMPORTANT NOTE

If we works by COMMUNICATIONS, the "Pump enable" (see point 3.7) signal always should be connected, because it works as SAFE TORQUE OFF input.

Then, you also will enable the pump using the communication register (Melter Control bit 2 (pump 1) and Melter Control bit 3 (pump 3)

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Command***

  - The master will send a command to melter. It has to be one of these:
    Command = 1 (dec) = No data exchange
    Command = 3 (dec) = Read data from the slave
    Command = 6 (dec) = Write data in the slave

  - Command = 0 is inadmissible and the rest of the values will be interpreted as a protocol fault in *Status* variable in the reception data block.

- ***Data index***

  - It is used for addressing a data communication to send or receive. The value to be taken in each case depends on the value we want to read or write.

  - If the *Acknowledge Data Index* of the reception data block is the same that the *Data Index*, the order will be completed.

  - *Data Index* equal to zero is interpreted as no data exchange.

- ***Channel number***

  - It is used for indicate the channel which we want to read or write, for example, a temperature channel, pressure channel, motor data, etc.

  - Starting with the channel number specified in this parameter, the order will be made for writing or reading the data for the 6 channels next.

  - If *Acknowledge channel number* of Reception Data Block is equal to *Channel Number* of Send Data Block, the order will be finished.

  - *Channel number* equal to zero is interpreted as *No Channel Number,* and it will be used for melter data.

- ***Write Data Value***

  - In writing orders, the master will write this value in the slave parameter indicated by data index and channel number.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Line Speed Value for motor 1-n***

  - This variable will be sent with all data block, independently if there is a *Command* 1,3 o 6.

  - It corresponds with the “Line Speed Signal (0-10V)”.

  - The values will be defined from 0.0 to 100.0%, and it is necessary to multiply by 10. For example:

    - If you want to send 10.00V → you have to write 1000
    - If you want to send 5.23V → you have to write 523

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

B.3.4. RECEIVE DATA BLOCK

- ***Status***

  - This variable indicates us the status of the equipment.

Bit	Value	Action
0	1	System Ready
	0	System Not Ready
1	Not Used	
2	1	System Warning
	0	System Not Warning
3	1	System Fault
	0	System Not Fault
4	1	System On
	0	System Off
5	1	System Heating
	0	System Not Heating
6	1	System Standby Heating Mode
	0	System Normal Heating Mode
7	1	Pump 1 Running
	0	Pump 1 Stopped
8	1	Pump 2 Running
	0	Pump 2 Stopped
9	1	Procoat – Gun Steppers in Movement
	0	Procoat – Gun Steppers Stopped
10	1	Drum Low Level
	0	Drum Not Low Level
11	1	Drum Empty Level
	0	Drum Not Empty Level
12	Not Used	
13	Not Used	
14	1	Communication Protocol Fault
		Command wrong
		Data Index wrong
		Channel Number wrong
	0	Communication Protocol No Fault
15	1	Communication Data Fault
		Writing order in "Standard" melter control mode
		Order for channels not installed
		Writing value out of range
		Writing order for variables which only can be read
	0	Communication Data No Fault

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Acknowledge: Data index***

  - If the *Acknowledge Data Index* of the reception data block is the same that the *Data Index*, the order will be completed.

- ***Acknowledge: Channel number***

  - If *Acknowledge Channel Number* of Reception Data Block is equal to *Channel Number* of Send Data Block, the order will be finished.

- ***Read Data Value n***

  - In this register, the master read the values sent by the slave.

    We read up to 6 values at the same time, that is the reason why we have the parameters *Read Data Value 1* to *Read Data Value 6*.

    For example, if we send the command to read "Temperature Actual" of hose 1, we will receive the values of 1 to 6.

    However, if we send the command to read the parameter "*Waiting Time*", we only will receive one value in *Read Data Value 1*. That is why we don't have 6 values of "waiting time" parameters, so only we can read one.

B.3.5. EXAMPLES

➢ ***Example 1:*** master writes 45 minutes in the parameter "*Waiting Time*" (Data Index = 9) in the melter.

Data index	Channel number	Write data value
9	0	45 (dec)

➢ ***Example 2:*** master writes 50.5 rpm in the parameter "*MANUAL MODE - Pump Speed Set Point*" (Data Index = 32) in the pump 1.

Data index	Channel number	Write data value
32	1	505 (dec)

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Example 3:*** master reads the parameter "*Temperature Actual Value*" (Data Index = 120) in the channel 3.

Data index	Channel number	Read data value
120	3	150 (dec) [150ºC]
	4	152 (dec) [152ºC]
	5	161 (dec) [161ºC]
	6	162 (dec) [162ºC]
	7	170 (dec) [170ºC]
	8	185 (dec) [185ºC]

- ***Example 4:*** master sets a wrong value in the parameter *Data Index,* so all read data values are fixed to zero.

Data index	Channel number	Read data value
999	…	0
	…	0
	…	0
	…	0
	…	0
	…	0

- ***Example 5:*** *Read Data Values* invalid will be fixed to zero.

  For example, if we want to read the parameter "*Pump Speed Actual Value*" (Data Index = 36) of one equipment with 2 pumps, the *Read Data Values* of the pumps not installed will be fixed to zero.

Data index	Channel number	Read data value
36	1	152 (dec) [15,2 rpm]
	2	152 (dec) [15,2 rpm]
	No motor	0
	No motor	0
	No motor	0
	No motor	0

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

B.3.6. COMMUNICATION DATA LIST

In the next tables we will see all variables which act in the control of the B50 G3. We can distinguish two data types:

- Read (R): the data only can be read.
- Write (W): the data only can be written.
- Read and Write (R/W): the data can be read and written.

The data which decimal separator has to be multiplied or divided by a factor:

- The data with one number after decimal separator, has to be multiplied or divided by 10.
- The data with two numbers after decimal separator, has to be multiplied or divided by 100.
- The data with three numbers after decimal separator, has to be multiplied or divided by 1000.

For the variables which aren't related to any temperature or pump channel, we will use the *Channel Number* 0.

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

D.3.6.1. Melter Data

Data Index	Read & Write	Data Values		Channel Number	Limits
4	R	**Melter Control Mode**		0	0 - 2
		0	Standard		
		1	Communications		
		2	Dual		
10	R	**Melter Status**		0	0 - 20
		1	System Heating		
		3	System Ready		
		5	System Warning		
		6	System Fault		
		7	System OFF		
		8	Standby		
		14	Drum Out		
		19	Selector NOT in UP position		
		20	Drum Low Level Warning		
		23	Drum Empty Warning		
23	R	**Alarms Summary**		0	-
		Bit 0	Melter Alarm		
		Bit 1	Temperature Alarm		
		Bit 2	Motor Alarm		
		Bit 3	Pressure Alarm		
		Bit 4	Tank Level Alarm		
200	R/W	**Connect / Disconnect Timing**		0	0 - 1
		0	Disabled		
		1	Enabled		
90	R/W	**Adhesive Density**		0	0.00 - 10.00 gr/cm3

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

B.3.6.2. Pumps Data

Depending on the number of pumps the channel number will be different. So, in the next table we can see the relationship between the "*Channel Number*" parameter and pump.

Channel Number	Pump Channel
1	Pump 1
2	Pump 2

- ***Common Data***

Data Index	Read & Write	Data Values		Channel Number	Limits
30	R/W	**Pump Working Mode**		1-2	0 - 4
		0	Automatic		
		2	Grammage		
		3	Grams Per Product		
		4	Manual		
33	R/W	**Analogical Input High Value**		1-2	0.0 – 10.00 V
39	R/W	**Analogical Input Low Value**		1-2	0.0 – 10.00 V
40	R/W	**Analogical Input Offset Value**		1-2	0.0 – 10.00 V
36	R	**Pump Speed Actual Value**		1-2	0.0 - 100.0 rpm

- ***Manual Mode***

Data Index	Read & Write	Data Values	Channel Number	Limits
32	R/W	**MANUAL MODE - Pump Speed Set Point**	1-2	0.0 - 100.0 rpm

- ***Automatic Mode***

Data Index	Read & Write	Data Values	Channel Number	Limits
34	R/W	**AUTOMATIC MODE - Pump Speed Scaled Max. Value**	1-2	0.0 - 100.00 rpm
35	R/W	**AUTOMATIC MODE - Pump Speed Scaled Min. Value**	1-2	0.0 - 100.00 rpm
37	R/W	**AUTOMATIC MODE - Pump Speed Min. Value**	1-2	0.0 - 100.00 rpm

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Grammage Mode***

Data Index	Read & Write	Data Values	Channel Number	Limits
94	R/W	**GRAMMAGE MODE - Set Point (gr/m2)**	1-2	0.00 - 1000.0 gr/m2
327	R/W	**GRAMMAGE MODE - Application Width**	1-2	0 - 6000.0 mm
91	R/W	**Fine Tuning**	1-2	0.0 - 200.0 %
46	R/W	**GRAMMAGE MODE - Line Speed Min. Value (m/min)**	1-2	0 - 5000.0 m/min
326	R/W	**GRAMMAGE MODE - Line Speed Max. Value (m/min)**	1-2	0 – 5000.0 m/min
390	R	**GRAMMAGE MODE - Actual Line Speed (m/min)**	1-2	0 - 5000.0 m/min
50	R/W	**GRAMMAGE MODE – Pump Speed Minimum Value**	1-2	0.0 - 100.0 rpm

- ***Grams Per Product Mode***

Data Index	Read & Write	Data Values	Channel Number	Limits
325	R/W	**GPP MODE - Set Point (grams/product)**	1-2	0.001 – 60.000 gr/p
48	R/W	**GPP MODE - Line Speed Min. Value (prod/min)**	1-2	0 - 60000 prod/min
328	R/W	**GPP MODE - Line Speed Max. Value (prod/min)**	1-2	0 - 60000 prod/min
391	R	**GPP MODE - Actual Line Speed (prod/min)**	1-2	0 - 60000 prod/min
49	R/W	**GPP MODE - Pump Speed Minimum Value**	1-2	0.0 - 100.0 rpm
91	R/W	**Fine Tuning**	1-2	0.0 - 200.0 %

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Pressure Control Mode***

Data Index	Read & Write	Data Values	Channel Number	Limits
61	R	**Actual Pressure Transducer 1**	1-2	0 - 100.0 Bar
64	R/W	**PRESSURE CONTROL - Set Point**	1-2	0 - 100.0 Bar
65	R/W	**PRESSURE CONTROL - PID Kp**	1-2	0.00 - 650.00
66	R/W	**PRESSURE CONTROL - PID Tn**	1-2	0.00 - 650.00
67	R/W	**PRESSURE CONTROL - PID Tv**	1-2	0.00 - 650.00
70	R/W	**PRESSURE CONTROL - Low Warning Value (ΔSP)**	1-2	0 - 100.0 Bar
72	R/W	**PRESSURE CONTROL - Low Fault Value (ΔSP)**	1-2	0 - 100.0 Bar
73	R/W	**PRESSURE CONTROL - High Warning Value (ΔSP)**	1-2	0 - 100.0 Bar
76	R/W	**PRESSURE CONTROL - High Fault Value (ΔSP)**	1-2	0 - 100.0 Bar
147	R/W	**PRESSURE CONTROL - Start Up Time Fault Delay**	1-2	0 - 65000 seg
148	R/W	**PRESSURE CONTROL - Working Time Fault Delay**	1-2	0 - 65000 seg

- ***Pressure Supervision Mode***

Data Index	Read & Write	Data Values		Channel Number	Limits
69	R/W	**PRESSURE SUPERVISION - Enable**		1-2	0 - 1
		0	Disable		
		1	Enable		
71	R/W	**PRESSURE SUPERVISION - Low Warning Value**		1-2	0 - 100.0 Bar
74	R/W	**PRESSURE SUPERVISION - High Warning Value**		1-2	0 - 100.0 Bar
75	R/W	**PRESSURE SUPERVISION - Low Fault Value**		1-2	0 - 100.0 Bar
77	R/W	**PRESSURE SUPERVISION - High Fault Value**		1-2	0 - 100.0 Bar
199	R/W	**PRESSURE SUPERVISION - Start Up Time Fault Delay**		1-2	0 - 65000 sec
149	R/W	**PRESSURE SUPERVISION - Working Time Fault Delay**		1-2	0 - 65000 sec

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Pressure Alarms Summary***

Data Index	Read & Write	Data Values		Channel Number	Limits
79	R	**Pressure Alarms Summary**		1-2	-
		Bit 0	PRESSURE CONTROL - Low Warning		
		Bit 1	PRESSURE CONTROL - High Warning		
		Bit 2	PRESSURE CONTROL - High Fault		
		Bit 3	PRESSURE CONTROL - Low Fault		
		Bit 4	PRESSURE SUPERVISION - Low Warning		
		Bit 5	PRESSURE SUPERVISION - High Warning		
		Bit 6	PRESSURE SUPERVISION - High Fault		
		Bit 7	PRESSURE SUPERVISION - Low Fault		

B3.6.3. ProCoat Data

- ***Common Data***

Data Index	Read & Write	Data Values	Channel Number	Limits
926	R/W	**Application Width**	0	0.0 - 6000.0 mm
927	R/W	**Setpoint Application Width - Motor 1**	0	0.0 - 6000.0 mm
928	R/W	**Setpoint Application Width - Motor 2**	0	0.0 - 6000.0 mm
929	R/W	**Actual Application Width - Motor 1**	0	0.0 - 6000.0 mm
930	R/W	**Actual Application Width - Motor 2**	0	0.0 - 6000.0 mm

- ***Steppers Alarms Summary***

Data Index	Read & Write	Data Values		Channel Number	Limits
931	R	**Steppers Alarms Summary**		0	-
		Bit 0	STEPPER FAULT – SDO Comm. Motor Left fault		
		Bit 1	STEPPER FAULT – Gun Motor Left fault		
		Bit 2	STEPPER FAULT – SDO Comm. Motor Right fault		
		Bit 3	STEPPER FAULT – Gun Motor Right fault		

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

B.3.6.4. Temperature Data

Depending on the number of pumps or the hose-gun outputs of the equipment, the temperature channels will be different. So, in the next table we can see the relationship between the "*Channel Number"* parameter and the temperature channel.

Channel Number	Temperature Channel
1	Drum
11	Hose 1
12	Hose 2
…	…
20	Hose 10
21	Gun 1
22	Gun 2
…	
30	Gun 10
31	Coating Head Zone 1
…	
36	Coating Head Zone 6

- ***Example:*** *Temperature Channels Assignment*

  For example, if we want to write 100ºC in the parameter "*Temperature Set Point*" (Data Index = 115) in the ***Drum***, the *Channel Number* parameter has to be equal to 3.

Data index	Channel number	Read data value
115	1	100 (dec) [100ºC]

For example, if we want to write 100ºC in the parameter "*Temperature Set Point*" (Data Index = 115) in the ***Hose 3***, the *Channel Number* parameter has to be equal to 13.

Data index	Channel number	Read data value
115	13	100 (dec) [100ºC]

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Temperature Channels Data***

Data Index	Read & Write	Data Values	Channel Number	Limits
111	R/W	**Enable / Disable Temperature Channels** 0 Disable 1 Enable	1-36	0 - 1
115	R/W	**Temperature Set Point**	1-36	0 - 240 ºC / 32 - 464 ºF
120	R	**Temperature Actual Value**	1-36	0 - 240 ºC / 32 - 464 ºF
159	R/W	**TEMPERATURE CONTROL PID - Kp**	1-36	0 - 130
160	R/W	**TEMPERATURE CONTROL PID - Tn**	1-36	0 - 130
161	R/W	**TEMPERATURE CONTROL PID - Tv**	1-36	0 - 80
162	R/W	**Temperature Offset**	1-36	0 - 200 ºC / 32 - 464 ºF
114	R	**Temperature Channel Status** 0 Channel Ready 1 Channel Early Ready 2 Heat Disabled 3 Heating 5 High Warning 6 Low Warning 7 Standby 8 High Fault 9 Low Fault 10 Open Circuit (AAA) or (CCC) 12 Shutdown Temperature	1-36	0-13
360	R/W	**TEMPERATURE CONTROL PID - S**	1-36	0-16
361	R/W	**TEMPERATURE CONTROL PID - R**	1-36	0-30

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

- ***Common Data***

Data Index	Read & Write	Data Values		Channel Number	Limits
110	R/W	**Temperature Units**		0	0 - 1
		0	Celsius (ºC)		
		1	Fahrenheit (ºF)		
122	R/W	**Standby Value Zone 1**		0	30 - 100%
123	R/W	**Standby Value Zone 2**		0	30 - 100%
124	R/W	**Standby Value Zone 3 and Zone 4**		0	30 - 100%
128	R/W	**Heating Mode**		0	0 - 1
		0	Sequential		
		1	Simultaneous		
135	R/W	**Auto-Standby time (0 = DISABLED)**		0	0 - 1440 min
136	R/W	**Temperature Low Warning Value**		0	0 - 240 ºC / 32 - 464 ºF
141	R/W	**Temperature Low Fault Value**		0	0 - 240 ºC / 32 - 464 ºF
146	R/W	**Temperature High Warning Value**		0	0 - 240 ºC / 32 - 464 ºF
151	R/W	**Temperature High Fault Value**		0	0 - 240 ºC / 32 - 464 ºF
155	R/W	**Temperature Set Point Minimum Value**		0	0 - 240 ºC / 32 - 464 ºF
198	R/W	**Temperature Set Point Maximum Value**		0	0 - 240 ºC / 32 - 464 ºF
156	R/W	**Temperature Shutdown Value**		0	0 - 240 ºC / 32 - 464 ºF
9	R/W	**Waiting Time**		0	0 - 300 min
362	R/W	**Temperature Low Fault Delay**		0	0 – 6000 Seg

- ***Temperature Alarms Summary***

Data Index	Read & Write	Data Values		Channel Number	Limits
157	R	**Temperature Alarms Summary**		1-36	-
		Bit 0	Not Used		
		Bit 1	Temperature Low Warning Value		
		Bit 2	Temperature Low Fault Value		
		Bit 3	Temperature High Warning Value		
		Bit 4	Temperature High Fault Value		
		Bit 5	Shutdown Fault		
		Bit 6	Short or Open Circuit Fault		
		Bit 7	Not Used		

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

ANNEX C
TROUBLESHOOTING

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

C.1. ALARMS SCREEN

FAULT MESSAGE	CAUSES/DESCRIPTION	SOLUTION
FAULT Drive CAN Communication Error	Lost of communication between drive and PLC	check wiring and connectors
		reboot the equipment
FAULT I/O Module Comunication Error	Lost communication between I/O module and PLC	check wiring and connectors
		reboot the equipment
FAULT Drive - Motor parameters writing Error	the PLC can not write any parameter in the drive of the pump	cehck the configuration of the motor, some parameter is not correct.
FAULT CAN SIKO Communication Error	Lost of communication between motor of the gun and PLC	check wiring and connectors
		reboot the equipment
FAULT Drive working with Current Limit active	the drive of the motor of the pump is working over the limit of current	check limit current parameter in configuration
		Realese pressure. Disacoupling the motor and the pump. Try to move the pump manually. If you can not, change the pump.
		check the temperature programmed of platten. Must be higher than softpoint of datasheet.
		Check the pressure of the adhesive. Must be less than 80 bars. Increase temperature of adhesive.
		check the fan of the motor.
		check electrical connection of the motor.
FAULT drive	The drive of the pump is in fault	check the fault in the display of driver. Consult the manual of the driver.
FAULT Security Permission Pump	The safety connector is open	check the connector side of the flexdrum. If you dont install safety stopped, then must be a jumper between pins 1 and 3
FAULT Pump Stopped	The PLC send move order to drive, but it doesn give a feddback to PLC	check wiring and connectors
		rebbot the system
		change driver

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

FAULT MESSAGE	CAUSES/DESCRIPTION	SOLUTION
FAULT High Pressure in Channel	The pressure of the adhesive is very high. ONLY when pressure control is active	check the High limit programmed in configuration.
		In manual mode move the pump and make sure than you have flow through the gun. Else, check solenoid or module
		the adhesive is cold. Increase temperature
		some element is cold. Check temperature programmed.
		The PID control is too fast. Decrease the Kp parameter
		remove the pressure transducer and check it out
FAULT Low Pressure in Channel	The pressure of teh adehsive is too low. ONLY when pressure control is active	check the Low limit programmed in configuration
		check if the pump is rotating
		remove the pressure transducer and check it out
		The PID control is too slow. Increse the Kp parameter
		check leaked of adhesive in any part of the system.
		remove the pressure transducer and check it out
High Pressure Fault in Pressure Supervision Pump	The pressure of the adhesive is very high. ONLY when pressure supervision is active	check the High limit programmed in configuration.
		In manual mode move the pump and make sure than you have flow through the gun. Else, check solenoid or module
		the adhesive is cold. Increase temperature
		some element is cold. Check temperature programmed.
		remove the pressure transducer and check it out
Low Pressure Fault in Pressure Supervision Pump 1	The pressure of the adhesive is too low. ONLY when pressure supervision is active	check the Low limit programmed in configuration
		check if the pump is rotating
		remove the pressure transducer and check it out
		check leaked of adhesive in any part of the system.
		remove the pressure transducer and check it out

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

FAULT MESSAGE	CAUSES/DESCRIPTION	SOLUTION
FAULT Motor Procoat	The Siko motor doesnt reach the position desired.	clean the nozzle of the gun.
		check the position theoretical vs real.
		make a homming of the motors.
FAULT CAN SDO COMMUNICATION ERROR (Motor1 ProCoat)	The PLC can't write a parameter in SIKO motor (motor of the gun)	check in configuration the parameter of Spindle Pitch, must be 4mm
		Check the wiring of the motor.
FAULT Drum Heating Not Enabled	The heating zone of the platten is disabled	Go to configuration and enable the chnanel.
FAULT Temperature RTD Sensor Tank	the sensor doesnt show reading	check wiring and connectors
		change RTD
FAULT Temperature RTD Sensor Hose	the sensor doesnt show reading	check wiring and connectors
		change RTD
FAULT Temperature RTD Sensor Gun	the sensor doesnt show reading	check wiring and connectors
		change RTD
FAULT Temperature RTD Sensor Coating Head Zone	the sensor doesnt show reading	check wiring and connectors
		change RTD
FAULT High Temperature Tank	the reading of the sensor is too high	check the configuration of high temperature limit
		check wiring and connectors
		change RTD
FAULT High temperature Hose	the reading of the sensor is too high	check the configuration of high temperature limit
		check wiring and connectors
		change hose
FAULT High temperature Coating Head Zone	the reading of the sensor is too high	check the configuration of high temperature limit
		check wiring and connectors
		change RTD
FAULT Low Temperature Tank	the reading of the sensor is too low	check the configuration of low temperature limit
		check wiring and connectors
		check the fuses of power board
		check the voltage of the channel
		check the omhs of the heaters

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

FAULT MESSAGE	CAUSES/DESCRIPTION	SOLUTION
FAULT Low Temperature Hose	the reading of the sensor is too low	check the configuration of low temperature limit
		check wiring and connectors
		check the fuses of power board
		check the voltage of the channel
		check the omhs of the heaters
FAULT Low Temperature Gun	the reading of the sensor is too low	check the configuration of low temperature limit
		check wiring and connectors
		check the fuses of power board
		check the voltage of the channel
		check the omhs of the heaters
FAULT Low Temperature Coating Head Zone	the reading of the sensor is too low	check the configuration of low temperature limit
		check wiring and connectors
		check the fuses of power board
		check the voltage of the channel
		check the omhs of the heaters
FAULT Temperature Out of Range Tank	The reading of the sensor is bigger than the rangue configured	check the configuration of the rangue in "temperature configuration"
		check wiring and connectors
		change RTD
FAULT Temperature Out of Range Hose	The reading of the sensor is bigger than the rangue configured	check the configuration of the rangue in "temperature configuration"
		check wiring and connectors
		change hose
FAULT Temperature Out of Range Gun	The reading of the sensor is bigger than the rangue configured	check the configuration of the rangue in "temperature configuration"
		check wiring and connectors
		change RTD
FAULT Temperature Out of Range Coating Head Zone	The reading of the sensor is bigger than the rangue configured	check the configuration of the rangue in "temperature configuration"
		check wiring and connectors
		change RTD
FAULT OpcUa Communication	Communication lost with Siemens PLC	check ethernet cable
		check connectors
		reboot the system

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

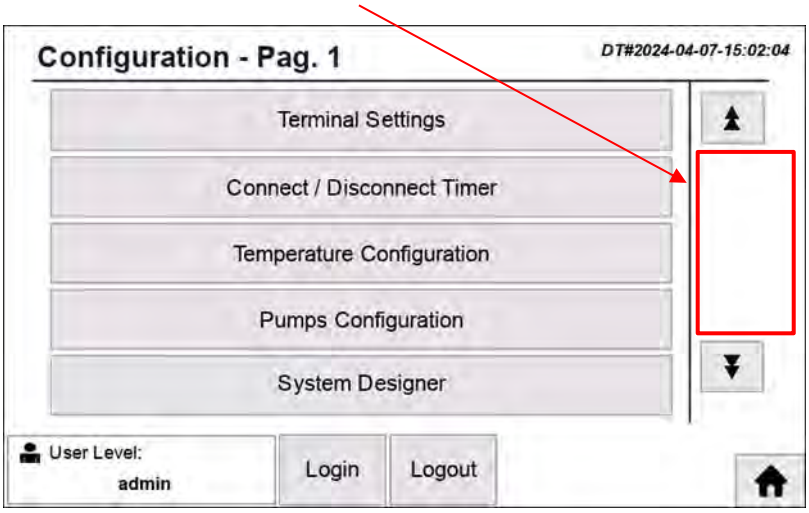
FAULT MESSAGE	CAUSES/DESCRIPTION	SOLUTION
FAULT Temperature over Shutdown Limit	some channel show a temperatire more than 240	check wiring and connectors
		check voltage of channel
		change RTD
Power Board Global Error	the power board send fault to PLC	check wiring and connectors
		reboot system
		change power board
Power Board Communication Not Possible - Check wiring or the number of Outputs in "System Designer" Page	the communication between powerboard and PLC is lost	check wiring and connectors
		check configuration of temperature outputs number

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

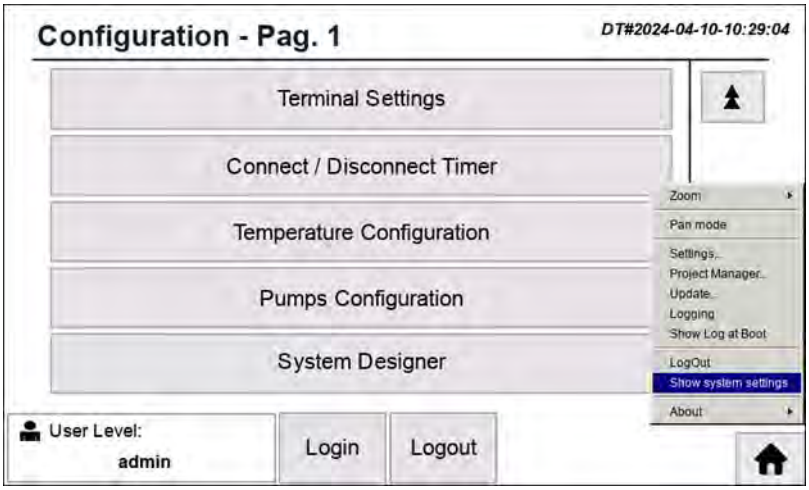
ANNEX D
SCREEN CALIBRATION

MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

1. With the equipment turned on, press and hold the screen over an area where there is no button, e.g.

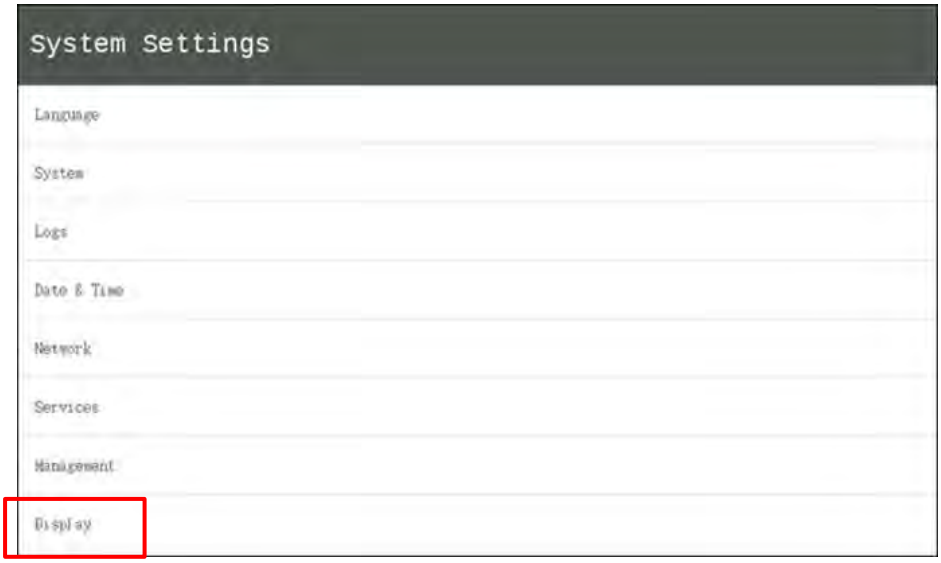


2. When the following tab appears, click on Show system settings

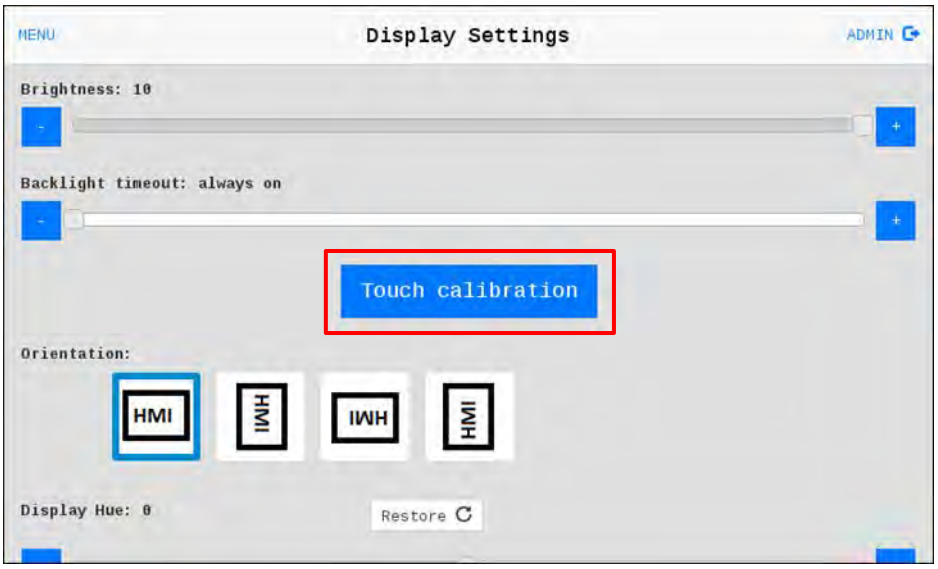


MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

3. We will open the system settings. Here, press on Display.



4. To start the calibration process, click on 'Touch screen'.



MELTON, S.L. U. - POLIGNO INDUSTRIAL AGUSTINOS CALLE G-34,31160 ORCOYEN, NAVARRA
TEL: 00 34 948 321580 Fax: 00 34 948 326584 e-mail: melton@melton.es http://www.meltonhotmelt.com

VALCO MELTON

Adhesive Dispensing & Quality Assurance Systems

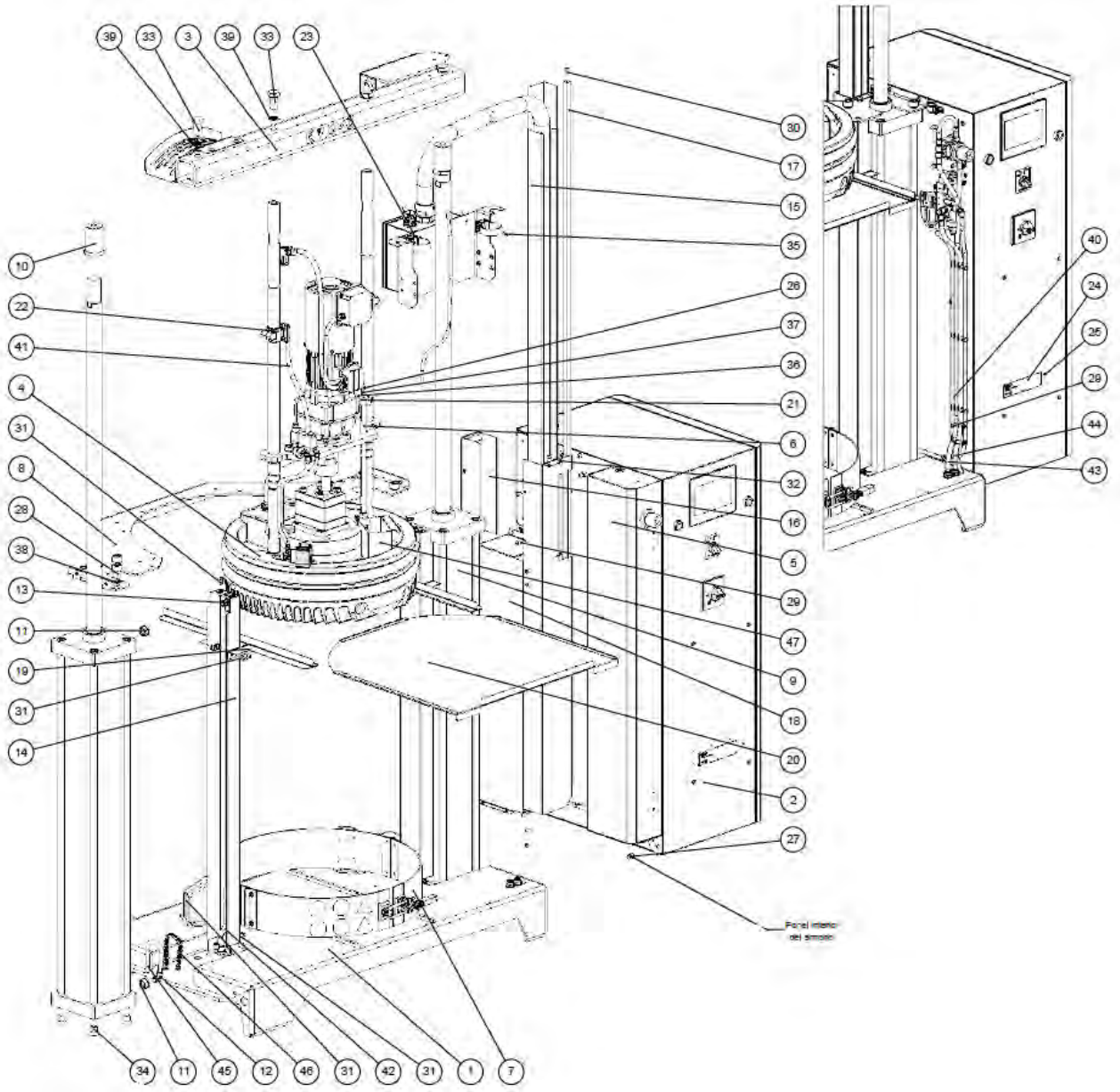
DESPIECE / PART LIST

FLEXDRUM HF PUMP

R065010208

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

1. EQUIPO FLEXDRUM PLATO ALETAS / FLEXDRUM FINNED PLATE EQUIPMENT:



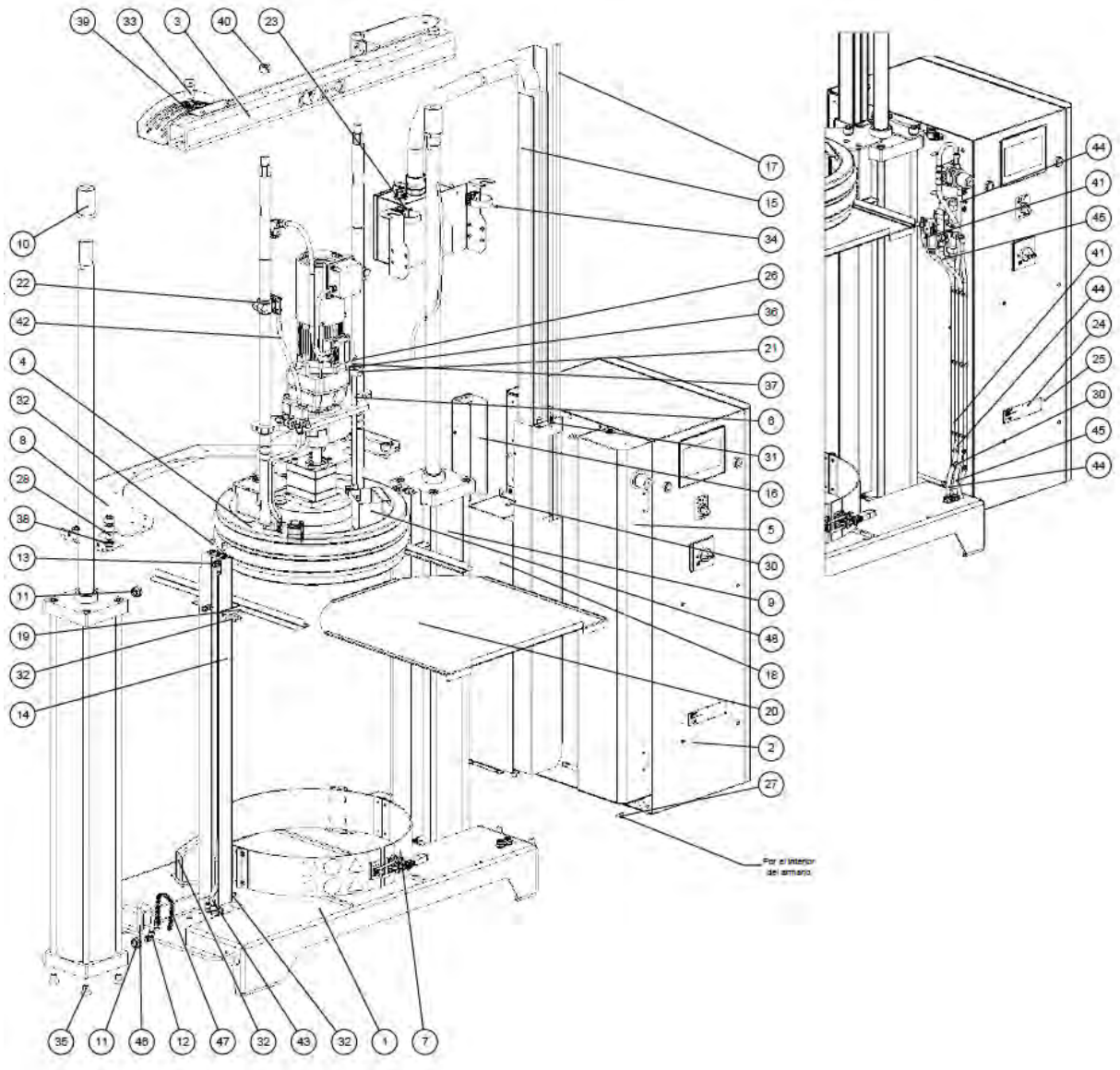
N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	SUBCONJUNTO BANCADA	BENCH ASSEMBLY	PAGE 8	1
2	SUBCONJUNTO ARMARIO	ELECTRIC CABINET ASSEMBLY	PAGE 29	1
3	SUBCONJUNTO TRAVESAÑO FLEXDRUM	FLEXDRUM BUNK ASSEMBLY	PAGE 9	1
4	SUBCONJUNTO EMBOLO PLATO ALETAS	FINNED PLATE PLUNGER ASSEMBLY	PAGE 10	1
5	CONJUNTO CARCASA NEUMATICA	NEUMATIC CASE ASSEMBLY	PAGE 21	1
6	SUBCONJUNTO VARILLA LLAVE	DRAIN VALVE ROD ASSEMBLY	PAGE 23	1
7	SUBCONJUNTO SUJECION BIDON	DRUM FIXING ASSEMBLY	PAGE 24	1
8	PUENTE FLEXDRUM	FLEXDRUM BRIDGE	-	1
9	CILINDRO NEUMATICO AIRTAC Ø160X1000	AIRTAC Ø160X1000 PNEUMATIC CYLINDER	904XX374	2
10	CASQUILLO VASTAGO CILINDRO AIRTAC	AIRTAC CYLINDER ROD CAP	-	2
11	REDUCCION G3/4 / G3/8 H-BN	G3/4 / G3/8 H-BN REDUCTION	-	4
12	RACOR 90º R3/8 / ER8-P	90º R3/8 / ER8-P FITTING	-	2
13	RACOR 90º R3/8 / ER10-P	90º R3/8 / ER10-P FITTING	-	2
14	CUBIERTA TUBOS CILINDRO	CYLINDER TUBES COVER	-	2
15	GUIA TUBO CORRUGADO	CORRUGATED PIPE GUIDE	-	1
16	CUBIERTA GUIA	GUIDE COVER	-	1
17	BARRA DETECCION	DETECTION ROD	-	1
18	CARCASA CANALETA	CHUTE CASING	-	1
19	GUIA BANDEJA	TRAY GUIDE	-	2
20	BANDEJA E-DRUM SIN PROTECCIONES	E-DRUM WITHOUT PROTECTION TARY	-	1
21	MANDO LOBULADO ELESA VCR.372 / 60-7X7	LOBED CONTROL ELESA	-	1
22	ABRAZADERA DE CONECTORES CON BRIDA ELESA GN 146-B30-40-2	GN146 FLANGED CONNECTOR CLAMPS	-	2
23	BRIDA UNITARIA MANGUERA CON VELCRO	UNITARY FLANGE HOSE WITH VELCRO	-	2
24	CHAPA MATRICULA	ID PLATE	-	1
25	REMACHE POP 2.4X8	RIVETING POP 2,4X8	-	6
26	TORNILLO ALLEN M5X12 INOX.	STAINLESS M5X12 ALLEN SCREW	-	1
27	TORNILLO ALLEN M8X12 INOX.	STAINLESS M8X12 ALLEN SCREW	-	4
28	TORNILLO ALLEN M16X25 INOX.	STAINLESS M16X25 ALLEN SCREW	-	6
29	TORNILLO GOTA SEBO M6X15 INOX. ISO 7380	ISO 7380 STAINLESS M6X15 SOCKET BUTTON HEAD SCREW	-	14
30	TORNILLO GOTA SEBO M6X12 INOX. ISO 7380	ISO 7380 STAINLESS M6X12 SOCKET BUTTON HEAD SCREW		1
31	TORNILLO GOTA SEBO M8X16 INOX. ISO 7380	ISO 7380 STAINLESS M8X16 SOCKET BUTTON HEAD SCREW	-	28
32	TORNILLO GOTA SEBO M8X12 INOX. ISO 7380	ISO 7380 STAINLESS M8X12 SOCKET BUTTON HEAD SCREW	-	2
33	TORNILLO HEXAGONAL M20X40 INOX.	STAINLESS M20X40 HEXAGONAL SCREW	-	4

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

34	TORNILLO AVELLANADO ALLEN M16X25 INOX	STAINLESS M16X25 COUNTERSUNK SCREW	-	8
35	TORNILLO AVELLANADO ALLEN M6X12 INOX	STAINLESS M6X12 COUNTERSUNK SCREW	-	2
36	ARANDELA PLANA M5	STAINLESS M5 FLAT WASHER	-	1
37	ARANDELA GROWER M5 INOX.	STAINLESS Ø5 GROWER WASHER	-	1
38	ARANDELA GROVER 16 INOX.	STAINLESS Ø16 GROWER WASHER	-	6
39	ARANDELA GROVER M20 INOX	STAINLESS Ø20 GROWER WASHER	-	4
40	TUBO POLIURETANO NEGRO 10X7 LONG 935MM	POLYURETHANE BLACK 10X7 PIPE LENGTH 935MM	-	1
41	TUBO POLIUR 8X5.5 AMARILLO LONG 310MM	POLYURETHANE YELLOW 18X5.5 PIPE LENGTH 310MM	-	1
42	TUBO POLIURETANO 10X7 ROJO LONGITUD 1080 MM	POLYURETHANE RED 10X7 PIPE LENGTH 1080MM	-	2
43	TUBO POLIURETANO 10X7 ROJO LONG 1015MM	POLYURETHANE RED 10X7 PIPE LENGTH 1015MM	-	1
44	TUBO POLIURETANO 10X7 AZUL LONGITUD 845 MM	POLYURETHANE BLUE 10X7 PIPE LENGTH 845MM	-	1
45	TUBO POLIURETANO 10X7 AZUL LONGITUD 235 MM	POLYURETHANE BLUE 10X7 PIPE LENGTH 235MM	-	2
46	MUELLE PROTECCION TUBOS	PIPE PROTECTION SPRING	-	2
47	RECOGEDOR	DUSTPAN	904XX375	1

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

2. EQUIPO FLEXDRUM PLATO LISO / FLEXDRUM FLAT PLATE EQUIPMENT:



Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

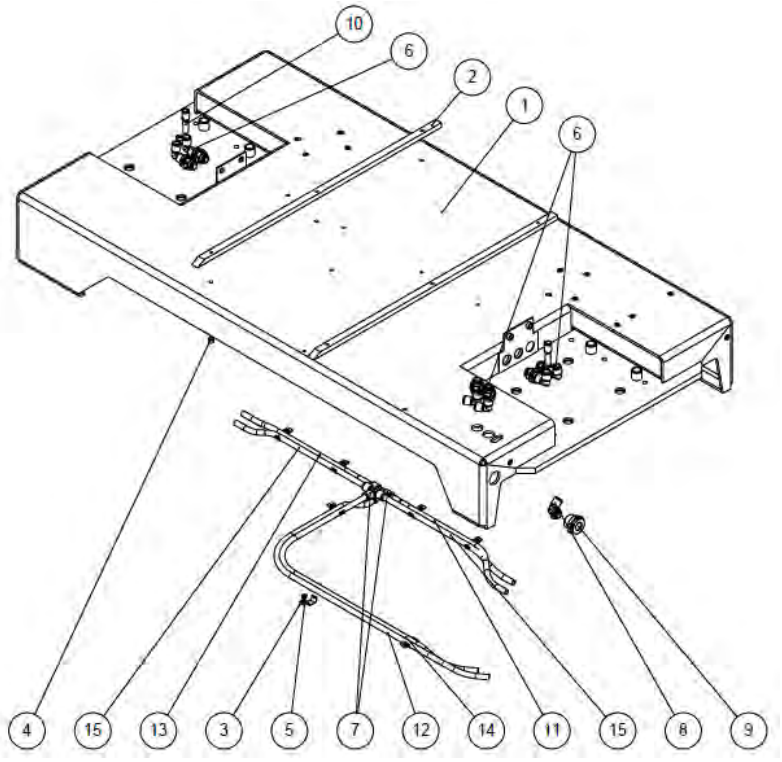
N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	SUBCONJUNTO BANCADA	BENCH ASSEMBLY	PAGE 8	1
2	SUBCONJUNTO ARMARIO	ELECTRIC CABINET ASSEMBLY	PAGE 29	1
3	SUBCONJUNTO TRAVESAÑO FLEXDRUM	FLEXDRUM BUNK ASSEMBLY	PAGE 9	1
4	SUBCONJUNTO EMBOLO PLATO LISO	FLAT PLATE PLUNGER ASSEMBLY	PAGE 13	1
5	CONJUNTO CARCASA NEUMATICA	NEUMATIC CASE ASSEMBLY	PAGE 21	1
6	SUBCONJUNTO VARILLA LLAVE	DRAIN VALVE ROD ASSEMBLY	PAGE 23	1
7	SUBCONJUNTO SUJECION BIDON	DRUM FIXING ASSEMBLY	PAGE 24	1
8	PUENTE FLEXDRUM	FLEXDRUM BRIDGE	-	1
9	CILINDRO NEUMATICO AIRTAC Ø160X1000	AIRTAC Ø160X1000 PNEUMATIC CYLINDER	-	2
10	CASQUILLO VASTAGO CILINDRO AIRTAC	AIRTAC CYLINDER ROD CAP	-	2
11	REDUCCION G3/4 / G3/8 H-BN	G3/4 / G3/8 H-BN REDUCTION	-	4
12	RACOR 90º R3/8 / ER8-P	90º R3/8 / ER8-P FITTING	-	2
13	RACOR 90º R3/8 / ER10-P	90º R3/8 / ER10-P FITTING	-	2
14	CUBIERTA TUBOS CILINDRO	CYLINDER TUBES COVER	-	2
15	GUIA TUBO CORRUGADO	CORRUGATED PIPE GUIDE	-	1
16	CUBIERTA GUIA	GUIDE COVER	-	1
17	BARRA DETECCION	DETECTION ROD	-	1
18	CARCASA CANALETA	CHUTE CASING	-	1
19	GUIA BANDEJA	TRAY GUIDE	-	2
20	BANDEJA E-DRUM SIN PROTECCIONES	E-DRUM WITHOUT PROTECTION TARY	-	1
21	MANDO LOBULADO ELESA VCR.372 / 60-7X7	LOBED CONTROL ELESA	-	1
22	ABRAZADERA DE CONECTORES CON BRIDA ELESA GN 146-B30-40-2	GN146 FLANGED CONNECTOR CLAMPS	-	2
23	BRIDA UNITARIA MANGUERA CON VELCRO	UNITARY FLANGE HOSE WITH VELCRO	-	2
24	CHAPA MATRICULA	ID PLATE	-	1
25	REMACHE POP 2.4X8	RIVETING POP 2,4X8	-	6
26	TORNILLO ALLEN M5X12 INOX.	STAINLESS M5X12 ALLEN SCREW	-	1
27	TORNILLO ALLEN M8X12 INOX.	STAINLESS M8X12 ALLEN SCREW	-	4
28	TORNILLO ALLEN M16X25 INOX.	STAINLESS M16X25 ALLEN SCREW	-	6
29	TORNILLO GOTA SEBO M6X12 INOX. ISO 7380	ISO 7380 STAINLESS M6X12 SOCKET BUTTON HEAD SCREW		1
30	TORNILLO GOTA SEBO M6X15 INOX. ISO 7380	ISO 7380 STAINLESS M6X15 SOCKET BUTTON HEAD SCREW	-	14
31	TORNILLO GOTA SEBO M8X12 INOX. ISO 7380	ISO 7380 STAINLESS M8X12 SOCKET BUTTON HEAD SCREW	-	2
32	TORNILLO GOTA SEBO M8X16 INOX. ISO 7380	ISO 7380 STAINLESS M8X16 SOCKET BUTTON HEAD SCREW	-	29
33	TORNILLO HEXAGONAL M20X40 INOX.	STAINLESS M20X40 HEXAGONAL SCREW	-	2

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

34	TORNILLO AVELLANADO ALLEN M6X12 INOX	STAINLESS M6X12 COUNTERSUNK SCREW	-	2
35	TORNILLO AVELLANADO ALLEN M16X25 INOX	STAINLESS M16X25 COUNTERSUNK SCREW	-	8
36	ARANDELA PLANA M5	STAINLESS M5 FLAT WASHER	-	1
37	ARANDELA GROWER M5 INOX.	STAINLESS Ø5 GROWER WASHER	-	1
38	ARANDELA GROVER 16 INOX.	STAINLESS Ø16 GROWER WASHER	-	6
39	ARANDELA GROVER M20 INOX	STAINLESS Ø20 GROWER WASHER	-	2
40	TUERCA HEXAGONAL M20 INOX.	STAINLESS M20 HEXAGONAL NUT	-	2
41	TUBO POLIURETANO NEGRO 10X7 LONG 935MM	POLYURETHANE BLACK 10X7 PIPE LENGTH 935MM	-	1
42	TUBO POLIUR 8X5.5 AMARILLO LONG 310MM	POLYURETHANE YELLOW 18X5.5 PIPE LENGTH 310MM	-	1
43	TUBO POLIURETANO 10X7 ROJO LONGITUD 1080 MM	POLYURETHANE RED 10X7 PIPE LENGTH 1080MM	-	2
44	TUBO POLIURETANO 10X7 ROJO LONG 1015MM	POLYURETHANE RED 10X7 PIPE LENGTH 1015MM	-	1
45	TUBO POLIURETANO 10X7 AZUL LONGITUD 845 MM	POLYURETHANE BLUE 10X7 PIPE LENGTH 845MM	-	1
46	TUBO POLIURETANO 10X7 AZUL LONGITUD 235 MM	POLYURETHANE BLUE 10X7 PIPE LENGTH 235MM	-	2
47	MUELE PROTECCION TUBOS	PIPE PROTECTION SPRING	-	2
48	RECOGEDOR	DUSTPAN	-	1

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

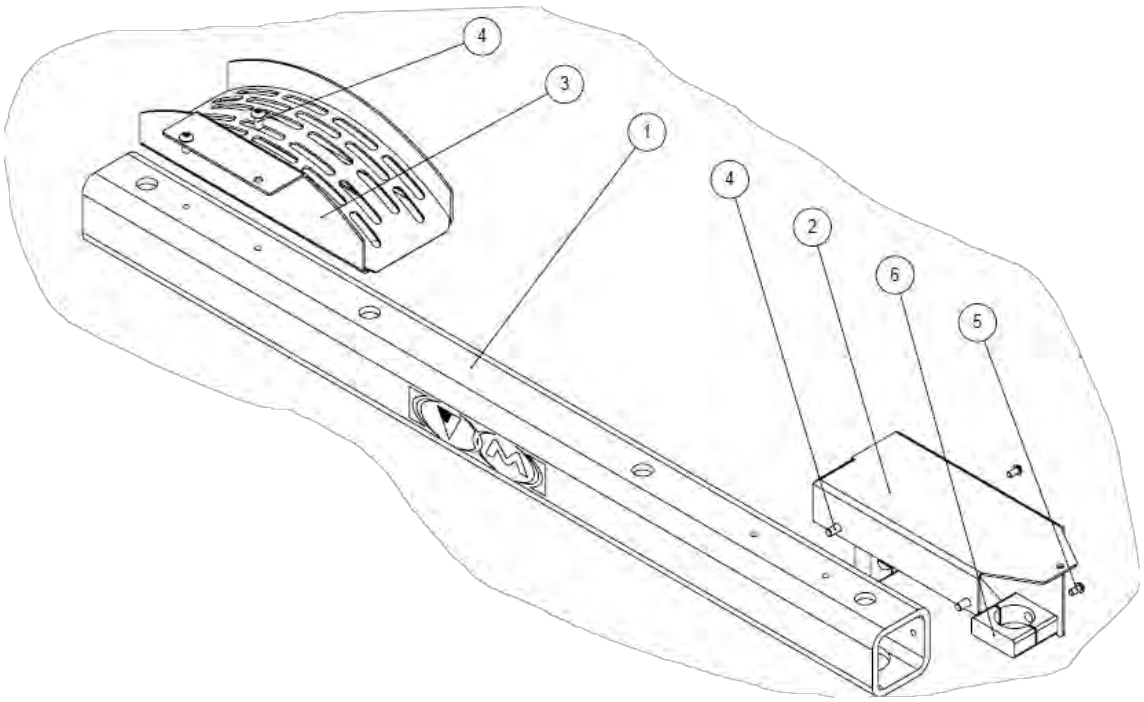
3. SUBCONJUNTO BANCADA/ BENCH ASSEMBLY:



N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	BANCADA	BENCH	-	1
2	GUIA SOPORTE BIDON	TANK SUPPORT GUIDE	-	2
3	ABRAZADERA 2 TUBOS Ø10 DIN 72571	DIN 72571 Ø10 2 PIPE CLAMP	-	7
4	TORNILLO ALLEN M6X12 INOX.	STAINLESS M6X12 ALLEN SCREW	-	6
5	TUERCA DENTADA M4	M4 TOOTH NUT	-	7
6	PASATABIQUES 90 ER T10	EQUAL BULKHEAD ELBOW ER10	-	6
7	RACOR T ER10 / ER10 / ER10-P	T FITTING - TUBE 10 E/R	-	2
8	RACOR 90º M 3/8" BSP - TUBO Ø10 ER	MALE STUD ELBOW M3/8" BSP Ø10 PIPE	-	1
9	RACOR PASATABIQUES ROSCA HEMBRA 3/8" BSP	BULKHEAD FITTING 3/8" BSP	-	1
10	REDUCCION ER8 / ER10 M-P	TUBE 10 / TUBE 8 REDUCER	-	2
11	TUBO POLIURETANO 10X7 AZUL LONGITUD 385 MM	POLYURETHANE BLUE 10X7 PIPE LENGTH 385MM	-	1
12	TUBO POLIURETANO 10X7 AZUL LONGITUD 850 MM	POLYURETHANE BLUE 10X7 PIPE LENGTH 850MM	-	1
13	TUBO POLIURETANO 10X7 AZUL LONGITUD 375 MM	POLYURETHANE BLUE 10X7 PIPE LENGTH 375MM	-	1
14	TUBO POLIURETANO 10X7 ROJO LONGITUD 785 MM	POLYURETHANE RED 10X7 PIPE LENGTH 785MM	-	1
15	TUBO POLIURETANO 10X7 ROJO LONGITUD 375 MM	POLYURETHANE RED 10X7 PIPE LENGTH 375MM	-	2

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

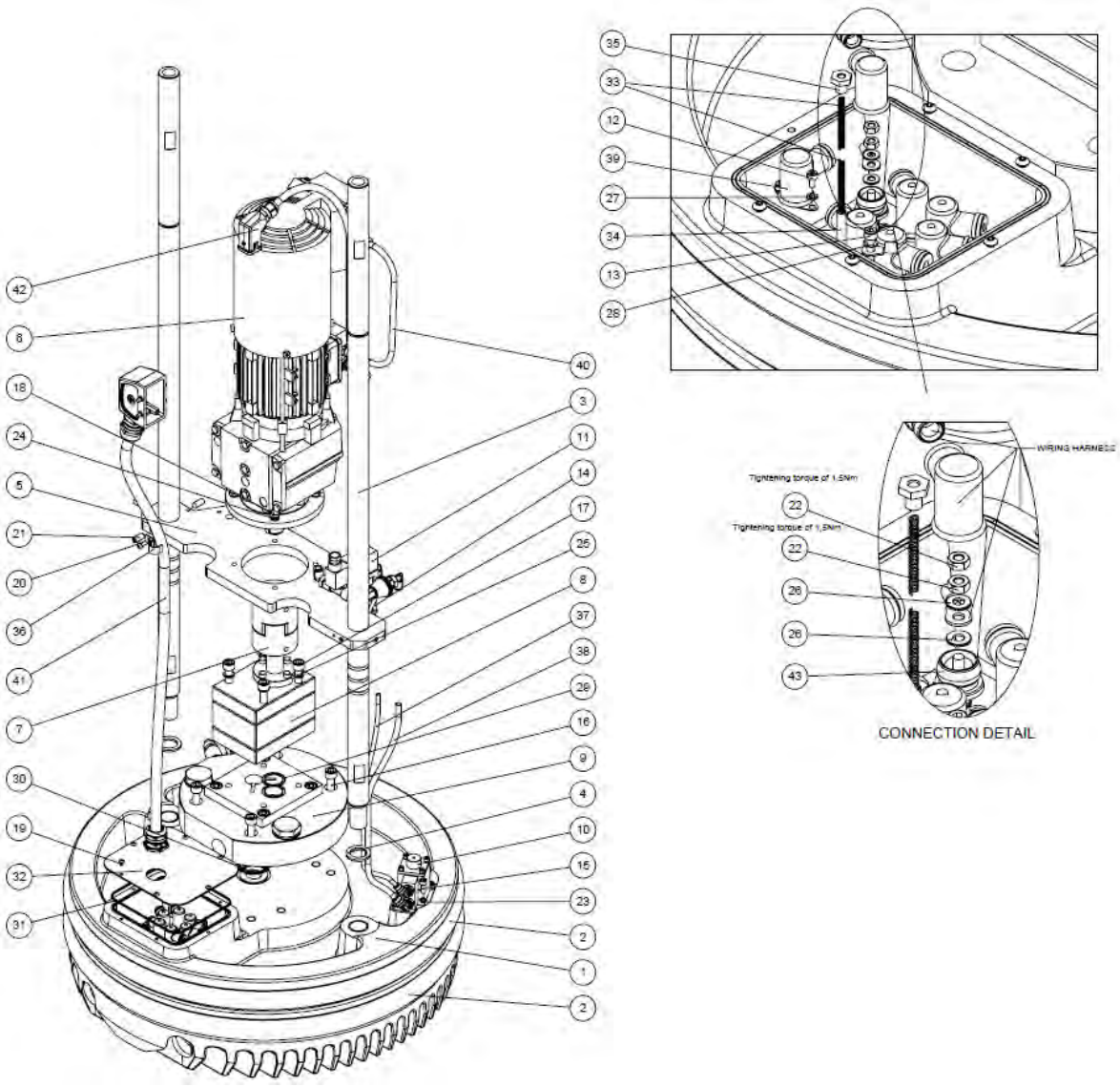
4. SUBCONJUNTO TRAVESAÑO / BUNK ASSEMBLY



N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	TRAVESAÑO	BUNK	-	1
2	SOPORTE TUBOS TRAVESAÑO	BULKHEAD TUBE SUPPORT	-	1
3	GUIA MANGUERA	HOSE GUIDE	-	1
4	TORNILLO GOTA SEBO M8X16 INOX. ISO 7380	ISO 7380 STAINLESS M8X16 SOCKET BUTTON HEAD SCREW	-	4
5	TORNILLO GOTA SEBO M6X10 INOX. ISO 7380	ISO 7380 STAINLESS M6X10 SOCKET BUTTON HEAD SCREW	-	2
6	ABRAZADERA JIR M40	JIR M40 CLAMP	-	2

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

5. CONJUNTO EMBOLO PLATO ALETAS / FINNED PLATE PLUNGER ASSEMBLY:



Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	PLATO ALETAS	FINNED PLATE	-	1
2	JUNTA ENCAPSULADA TEFLON 507X30 USA	507X30 ENCAPSULED TEFLON JOINT	917XX562	2
3	BARRA PLATO ALETAS	FINNED PLATE BAR	-	2
4	ARANDELA BARRA	BAR WASHER	-	2
5	SOPORTE MOTOR	MOTOR SUPPORT	-	1
6	MOTORREDUCTOR PLATO	PLATE GEAR MOTOR	-	1
7	ACOPLAMIENTO Ø25.4 - Ø24	Ø25.4-Ø24 COUPLING	-	1
8	BOMBA ENGRANAJES	GEAR PUMP	DEPENDING MODEL	1
9	SUBCONJUNTO DISTRIBUIDOR	MANIFOLD ASSEMBLY	PAGE 16	1
10	SUBCONJUNTO MODULO SOPLADO FLEXDRUM V1	FLEXDRUM BLOWING MODULE ASSEMBLY V1	PAGE 18	1
11	SUBC. ELECTROVALVULA MODULO SOPLADO	BLOWING MODULE ELECTRO VALVE ASSEMBLY	PAGE 20	1
12	TORNILLO ALLEN M3X6 INOX.	STAINLESS M3X6 ALLEN SCREW	-	2
13	TORNILLO ALLEN M4X10 INOX.	STAINLESS M4X10 ALLEN SCREW	-	1
14	TORNILLO ALLEN M4X20 INOX	STAINLESS M4X20 ALLEN SCREW	-	2
15	TORNILLO ALLEN M6X16 INOX	STAINLESS M6X16 ALLEN SCREW	-	4
16	TORNILLO ALLEN M10X35 INOX	STAINLESS M10X35 ALLEN SCREW	-	4
17	TORNILLO ALLEN M10X110 INOX	STAINLESS M10X110 ALLEN SCREW	-	4
18	TORNILLO HEXAGONAL M8X20 INOX	STAINLESS M8X20 HEXAGONAL SCREW	-	4
19	TORNILLO GOTA SEBO M4X6 INOX. ISO 7380	ISO 7380 STAINLESS M4X6 SOCKET BUTTON HEAD SCREW	-	6
20	TORNILLO GOTA SEBO M5X12 INOX. ISO 7380	ISO 7380 STAINLESS M5X12 SOCKET BUTTON HEAD SCREW	-	1
21	ESPARRAGO ROSCADO M8X20 INOX. C/PUNTA	THREADED ROD M8X20 SS W/ TIP	-	6
22	TUERCA HEXAGONAL M4 INOX.	STAINLESS M4 HEXAGONAL NUT	-	12
23	ARANDELA GROWER M6 INOX.	STAINLESS M6 GROWER WASHER	-	4
24	ARANDELA GROWER M8 INOX.	STAINLESS M8 GROWER WASHER	-	4
25	ARANDELA GROVER M10 INOX.	STAINLESS M10 GROWER WASHER	-	4
26	ARANDELA PLANA M4 INOX.	STAINLESS M4 FLAT WASHER	-	12
27	ARANDELA DENTADA M3	TOOTHED M3 WASHER	-	2
28	ARANDELA DENTADA M4	TOOTHED M4 WASHER	-	1
29	JUNTA TORICA VITON 26X2.5	VITON O´RING 26X2.5	917XX742	1
30	JUNTA TORICA VITON 40X3	VITON O´RING 40X3	-	1
31	JUNTA TORICA VITON 150X2	VITON O´RING 150X2	-	1
32	CHAPA ELECTRICA	ELECTRIC SHEET	-	1
33	MUELLE ANTIRETORNO	ANTI-RETURN SPRING	-	2
34	MAZO SONDA	TEMPERATURE PROBE	DEPENDING MODEL	1
35	TOPE SONDA	PROBE LIMITER	-	1
36	ABRAZADERA 1 TUBO Ø15 DIN 72571	DIN 72571 Ø15 1 TUBE CLAMP	-	1

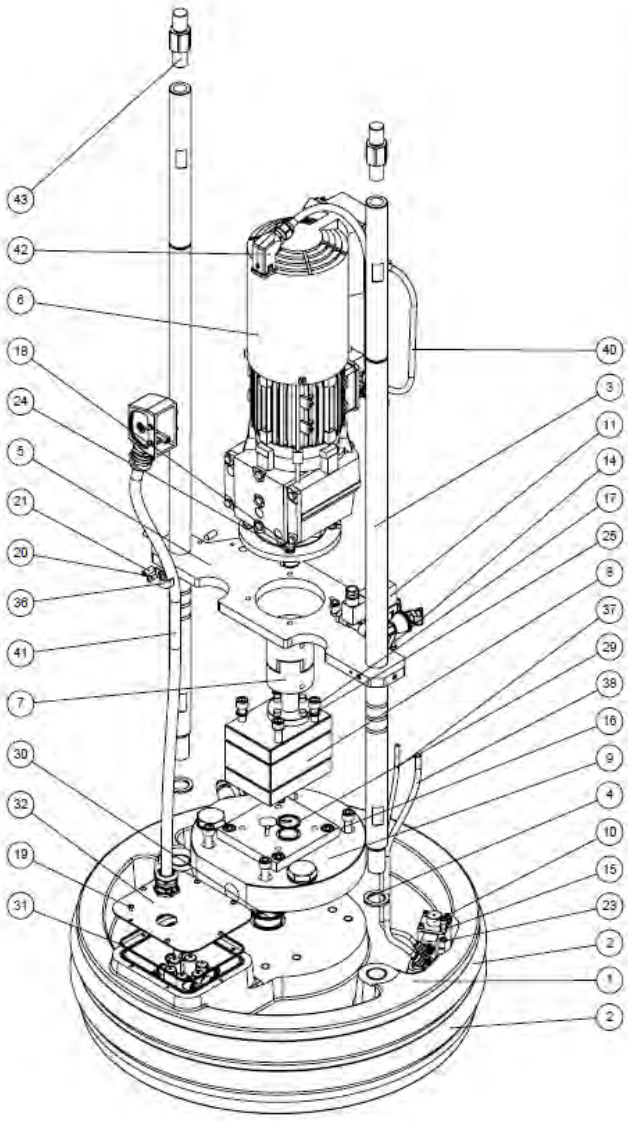
37	TUBO TEFLON 6X4 LONG 305MM	6X4 TELON TUBE 305MM LENGTH	-	1
38	TUBO TEFLON 8X6 LONG 318MM	8X6 TELON TUBE 318MM LENGTH	-	1
39	MAZO TERMOSTATO C/PIPETA	THERMOSTAT HARNESS WITH PIPETTE	915XX585	1
40	MAZO VENTILADOR MOTOR BPAIL AUTO BLOW	MOTOR FAN HARNESS	912XX891	1
41	MAZO PLATO FLEXDRUM PLATO-CAJA	FLEXDRUM PLATE HARNESS	-	1
42	MAZO MOTOR	MOTOR HARNESS	912XX890	1
43	TAPON PIPETA LADO RESISTENCIAS	RESISTANCE SIDE PIPETTE PLUG	-	6

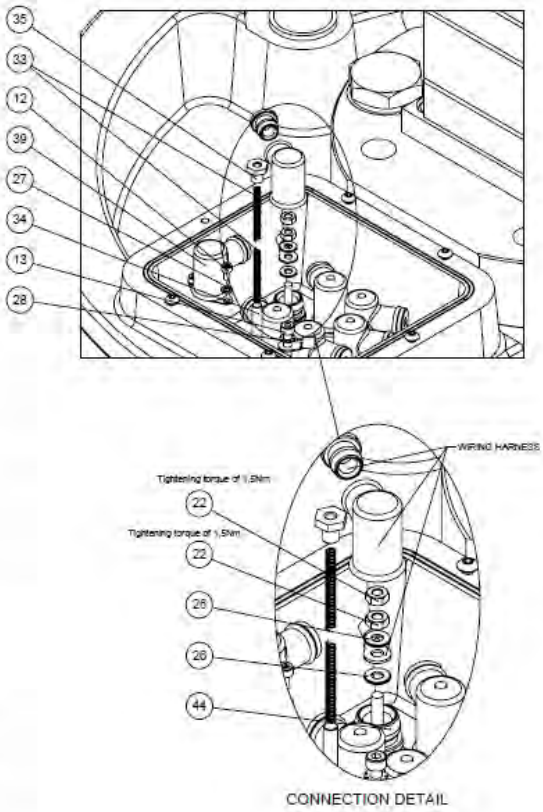
N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
8	BOMBA ENGRANAJES MODELO MELTON 30CC/REV.	GEAR PUMP 30CC/REV	916XX266	1
8	BOMBA ENGRANAJES MODELO MELTON 15CC/REV.	GEAR PUMP 15CC/REV	918XX174	1

N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
34	SONDA NI120	NI120 PROBE	915XX134	1
	SONTA PT100	PT100 PROBE	917XX147	1

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

6. CONJUNTO EMBOLO PLATO LISO / FLAT PLATE PLUNGER ASSEMBLY:





CONNECTION DETAIL

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	PLATO LISO	FLAT PLATE	-	1
2	JUNTA ENCAPSULADA TEFLON 507X30 USA	507X30 ENCAPSULED TEFLON JOINT	917XX562	2
3	BARRA PLATO ALETAS	FINNED PLATE BAR	-	2
4	ARANDELA BARRA	BAR WASHER	-	2
5	SOPORTE MOTOR	MOTOR SUPPORT	-	1
6	MOTORREDUCTOR PLATO	PLATE GEAR MOTOR	-	1
7	ACOPLAMIENTO Ø25.4 - Ø24	Ø25.4-Ø24 COUPLING	-	1
8	BOMBA ENGRANAJES	GEAR PUMP	DEPENDING MODEL	1
9	SUBCONJUNTO DISTRIBUIDOR	MANIFOLD ASSEMBLY	PAGE 16	1
10	SUBCONJUNTO MODULO SOPLADO FLEXDRUM V1	FLEXDRUM BLOWING MODULE ASSEMBLY V1	PAGE 18	1
11	SUBC. ELECTROVALVULA MODULO SOPLADO	BLOWING MODULE ELECTRO VALVE ASSEMBLY	PAGE 20	1
12	TORNILLO ALLEN M3X6 INOX.	STAINLESS M3X6 ALLEN SCREW	-	2
13	TORNILLO ALLEN M4X10 INOX.	STAINLESS M4X10 ALLEN SCREW	-	1
14	TORNILLO ALLEN M4X20 INOX	STAINLESS M4X20 ALLEN SCREW	-	2
15	TORNILLO ALLEN M6X16 INOX	STAINLESS M6X16 ALLEN SCREW	-	4
16	TORNILLO ALLEN M10X35 INOX	STAINLESS M10X35 ALLEN SCREW	-	4
17	TORNILLO ALLEN M10X90 INOX	STAINLESS M10X90 ALLEN SCREW	-	4
18	TORNILLO HEXAGONAL M8X20 INOX	STAINLESS M8X20 HEXAGONAL SCREW	-	4
19	TORNILLO GOTA SEBO M4X6 INOX. ISO 7380	ISO 7380 STAINLESS M4X6 SOCKET BUTTON HEAD SCREW	-	6
20	TORNILLO GOTA SEBO M5X12 INOX. ISO 7380	ISO 7380 STAINLESS M5X12 SOCKET BUTTON HEAD SCREW	-	1
21	ESPARRAGO ROSCADO M8X20 INOX. C/PUNTA	THREADED ROD M8X20 SS W/ TIP	-	6
22	TUERCA HEXAGONAL M4 INOX.	STAINLESS M4 HEXAGONAL NUT	-	12
23	ARANDELA GROWER M6 INOX.	STAINLESS M6 GROWER WASHER	-	4
24	ARANDELA GROWER M8 INOX.	STAINLESS M8 GROWER WASHER	-	4
25	ARANDELA GROVER M10 INOX.	STAINLESS M10 GROWER WASHER	-	4
26	ARANDELA PLANA M4 INOX.	STAINLESS M4 FLAT WASHER	-	12
27	ARANDELA DENTADA M3	TOOTHED M3 WASHER	-	2
28	ARANDELA DENTADA M4	TOOTHED M4 WASHER	-	1
29	JUNTA TORICA VITON 26X2.5	VITON O´RING 26X2.5	-	1
30	JUNTA TORICA VITON 40X3	VITON O´RING 40X3	-	1
31	JUNTA TORICA VITON 150X2	VITON O´RING 150X2	-	1
32	CHAPA ELECTRICA	ELECTRIC SHEET	-	1
33	MUELLE ANTIRETORNO	ANTI-RETURN SPRING	-	2
34	MAZO SONDA TEMPERATURA	TEMPERATURE PROBE	-	1
35	TOPE SONDA	PROBE LIMITER	-	1
36	ABRAZADERA 1 TUBO Ø15 DIN 72571	DIN 72571 Ø15 1 TUBE CLAMP	-	1

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

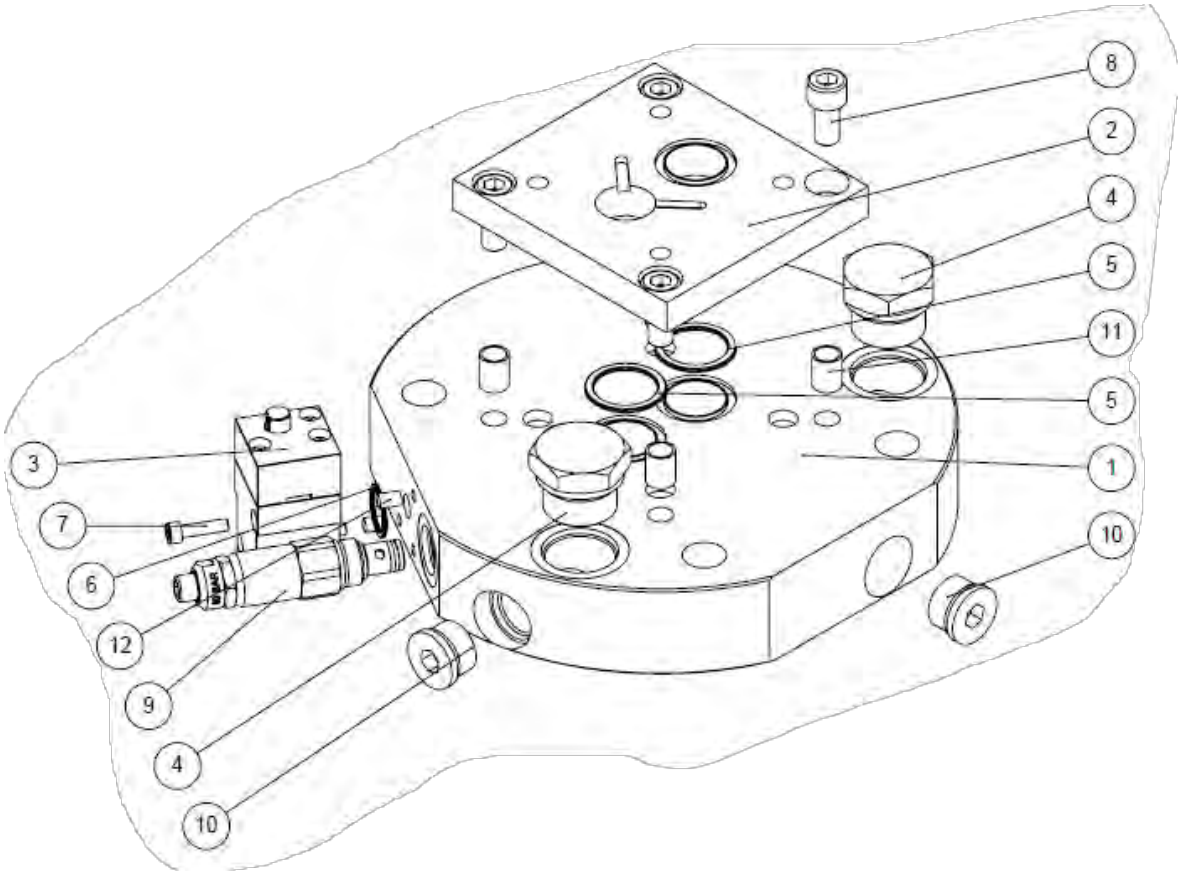
37	TUBO TEFLON 6X4 LONG 315MM	6X4 TELON TUBE 315MM LENGTH	-	1
38	TUBO TEFLON 8X6 LONG 375MM	8X6 TELON TUBE 375MM LENGTH	-	1
39	MAZO TERMOSTATO C/PIPETA	THERMOSTAT HARNESS WITH PIPETTE	915XX585	1
40	MAZO VENTILADOR MOTOR BPAIL AUTO BLOW	MOTOR FAN HARNESS	912XX891	1
41	MAZO PLATO FLEXDRUM PLATO-CAJA	FLEXDRUM PLATE HARNESS	-	1
42	MAZO MOTOR	MOTOR HARNESS	912XX890	1
43	DISTANCIAL PLATO LISO	FLAT PLATE DISTANCIAL	-	2
44	TAPON PIPETA LADO RESISTENCIAS	RESISTANCE SIDE PIPETTE PLUG	-	6

N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
8	BOMBA ENGRANAJES MODELO MELTON 30CC/REV.	GEAR PUMP 30CC/REV	916XX266	1
8	BOMBA ENGRANAJES MODELO MELTON 15CC/REV.	GEAR PUMP 15CC/REV	918XX174	1

N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
34	SONDA NI120	NI120 PROBE	915XX134	1
	SONTA PT100	PT100 PROBE	917XX147	1

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

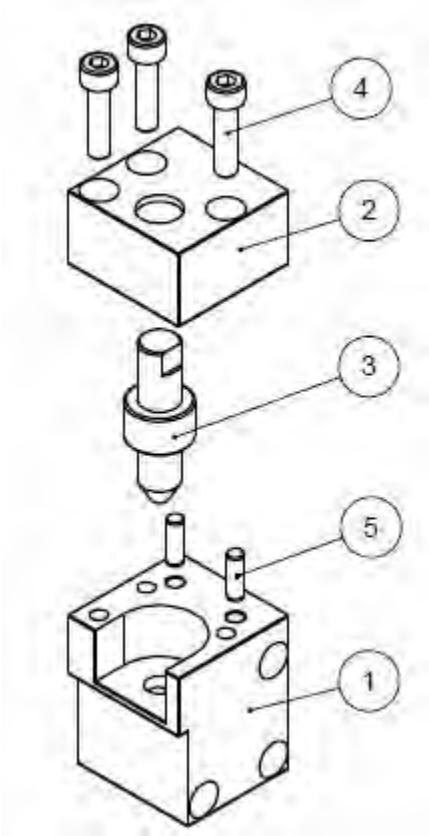
7. SUBCONJUNTO DISTRIBUIDOR / MANIFOLD ASSEMBLY (900XX722):



N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	CUERPO DISTRIBUIDOR	MANIFOLD BODY	-	1
2	PLACA INTERMEDIA BOMBA-DISTRIBUIDOR	MANIFOLD – PUMP INTERMEDIATE PLATE	-	1
3	SUBCONJUNTO VALVULA DE PURGA	BLEEDING VALVE ASSEMBLY	PAGE 17	1
4	TAPON M30X1.5 CON JUNTA	M30x1.5 PLUG WITH SEAL	911XX428	2
5	JUNTA TORICA VITON 26X2.5	26X2.5 VITON O-RING	917XX742	2
6	JUNTA TORICA VITON 17X2	17X2 VITON O-RING	910XX500	1
7	TORNILLO ALLEN M5X20 INOX.	STAINLESS M5X20 ALLEN SCREW	-	3
8	TORNILLO ALLEN M10X20 INOX.	STAINLESS M10X20 ALLEN SCREW	-	4
9	KIT REGULADOR DE PRESION TARADO A 80BAR V1	PRESSURE REGULATOR 80 BAR V1	912XX169	1
10	TAPON CAB HEXAGONAL 7/8 14H UNF	7/8 14H UNF HEXAGONAL PLUG	799XX146	2
11	HELICOIL M10X15	M10X15 HELICOIL	-	4
12	HELICOIL M5X7.5	M5X7,5 HELICOIL	-	3

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

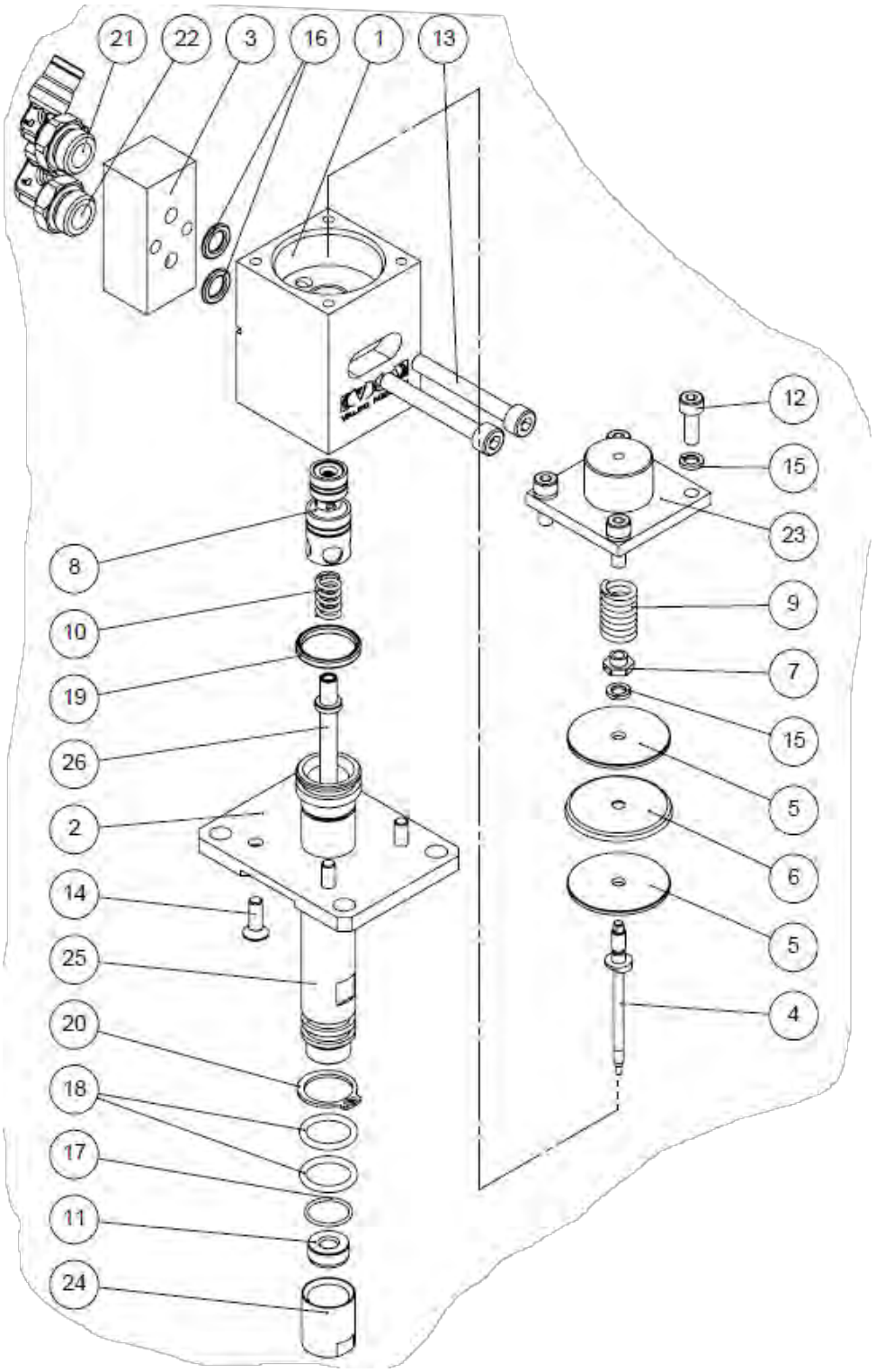
8. CONJUNTO VALVULA PURGA / BLEEDING VALVE ASSEMBLY (916XX998):



N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	CUERPO VALVULA PURGA	BLEED VALVE BODY	-	1
2	TAPA VALVULA PURGA	BLEED VALVE LID	-	1
3	AGUJA VALVULA PURGA	BLEED VALVE NOZZLE	918XX540	1
4	TORNILLO ALLEN M5X20 INOX	STAINLESS M5X20 ALLEM SCREW	-	3
5	PASADOR CILINDRICO 4X12	4X12 CYLINDER PIN	-	2

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

9. SUBCONJUNTO MODULO DE SOPLADO FLEXDRUM V1 / FLEXDRUM BLOWING MODULE ASSEMBLY V1 (900XX718):

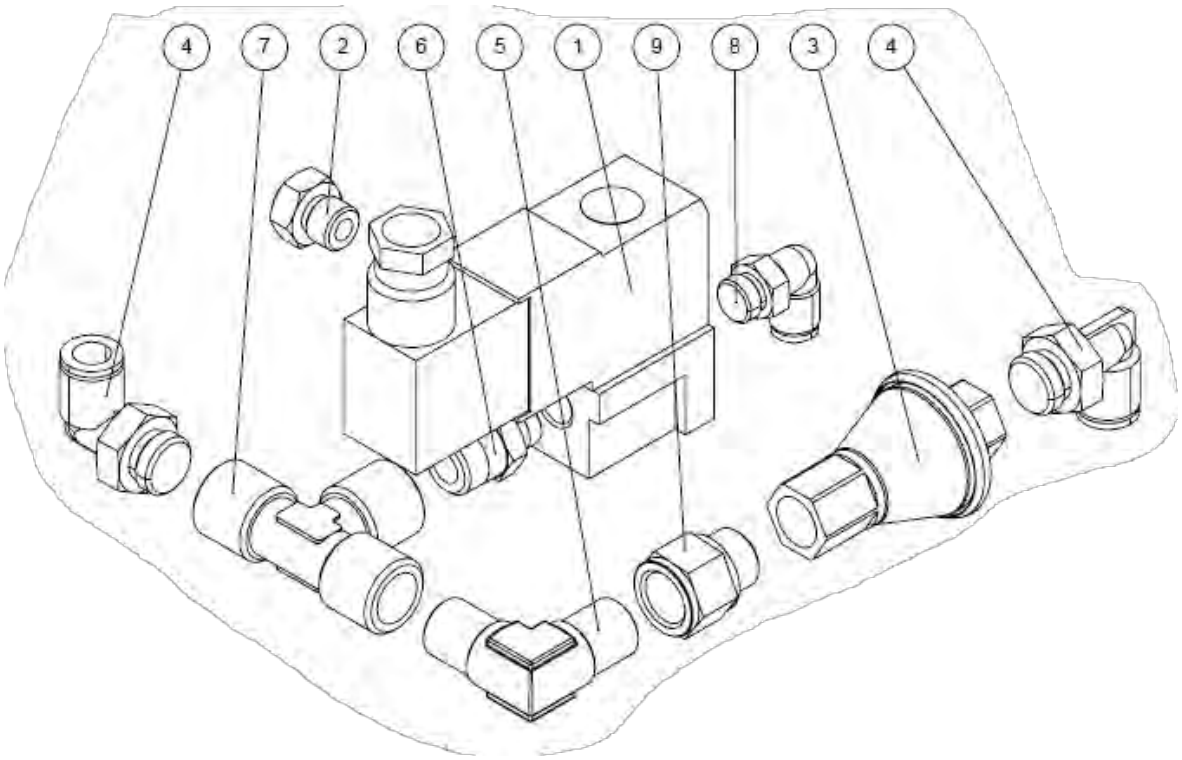


Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	CUERPO MODULO ALTO CAUDAL	HIGH FLOW BODY MODULE	-	1
2	BASE MODULO SOPLADO	BLOW MODULE BASE	-	1
3	ADAPTADOR MODULO SOPLADO	BLOW MODULE ADAPTER	-	1
4	AGUJA MODULO CP.	NEEDLE MODULE CP	-	1
5	PLATILLO EMBOLO ALTO CAUDAL	HIGH FLOW PISTON PLATE	-	2
6	JUNTA EMBOLO ALTO CAUDAL	HIGH FLOW PISTON JOINT	915XX764	1
7	TUERCA EMBOLO	NEEDLE NUT	-	1
8	CONJUNTO CASQUILLO JUNTAS	CAP SEALS ASSEMBLY	-	1
9	MUELLE SPEC C0420-063-1000-S	C0420-063-1000-S SPEC SPRING	-	1
10	MUELLE MODULO INFERIOR	INFERIOR MODULE CO SPRING	-	1
11	LENTEJUELA BOLA 7	BUSHING BALL 7	-	1
12	TORNILLO ALLEN M4X12 INOX	STAINLESS M4X12 ALLEN SCREW	-	4
13	TORNILLO ALLEN M5X40 INOX.	STAINLESS M5X40 ALLEN SCREW	-	2
14	TORNILLO AVELLANADO ALLEN M4X12 INOX.	STAINLESS M4X12 ALLEN COUNTERSUNK SCREW	-	4
15	ARANDELA GROWER M4 INOX.	STAINLESS M4 GROWER WASHER	-	5
16	JUNTA TORICA VITON 7,65X1,78	VITON O´RING 7,65X1,78	910XX324	2
17	JUNTA TORICA VITON 12X1	VITON O´RING 12X1	919XX465	1
18	JUNTA TORICA VITON 13X2	VITON O´RING 13X2	-	2
19	JUNTA TORICA VITON 16X2	VITON O´RING 16X2	914XX082	1
20	ANILLO ELASTICO EJE 15	15 AXIS ELASTIC RING	915XX632	1
21	RACOR 90º NIQUELADO M 1/4" BSP – TUBO Ø6ER	M 1/4" BSP – Ø6ER 90º FITTING	-	1
22	RACOR 90º NIQUELADO M 1/4" BSP – TUBO Ø8ER	M 1/4" BSP – Ø8ER 90º FITTING	-	1
23	CULATA MODULO SOPLADO V1	BLOWING MODULE HEAD V1	-	1
24	PUNTA TUBO MODULO SOPLADO V1	BLOWING MODULE PIPE TIP V1	-	1
25	TUBO MODULO SOPLADO FLEXDRUM V1	FLEXDRUM BLOWING MODULE PIPE V1	-	1
26	KIT PUNTA AGUJA MODULO SOPLADO FLEXDRUM V1	FLEXDRUM BLOWING MODULE NEEDLE TIP KIT V1	-	1

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

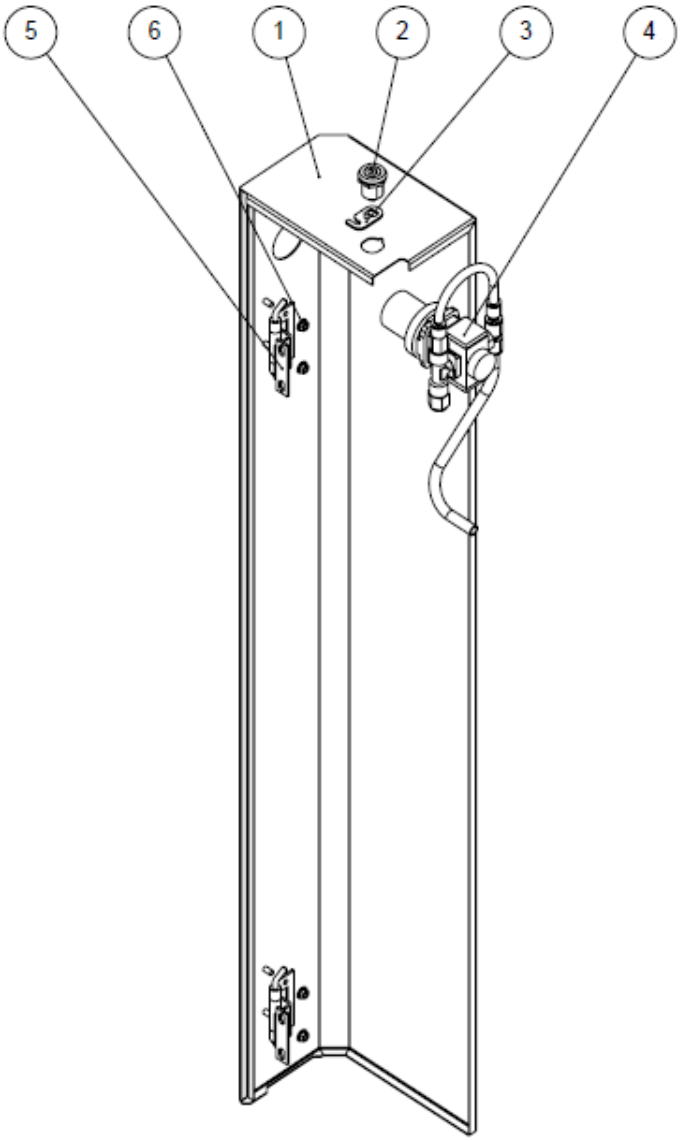
10. SUBCONJUNTO ELECTROVALVULA MODULO SOPLADO / BLOWING MODULE ELECTROVALVE ASSEMBLY:



N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	ELECTROVALVULA 3/2 - 1/8 - 24V DC	3/2-1/8-24V DC SOLENOID ELECTROVALVE	917XX285	1
2	SILENCIADOR CORTO 1/8"GAS	1/8" GAS SHORT SILENCER	-	1
3	REGULADOR DE PRESION EN LINEA	PRESSURE REGULATOR IN LINE	-	1
4	RACOR 90º G1/4 TUBO Ø8 ER	90º FITTING G1/4 / ER8-P	-	2
5	RACOR 90º R1/4 / R1/4 - B	90º FITTING R1/4 / R1/4-B	-	1
6	RACOR RECTO R1/8 / R1/4-B	STRAIGHT FITTING R1/8 / R1/4-B	-	1
7	T IGUAL HEMBRA 1/4" BSP	T FITTING 1/4" BSP BRASS	-	1
8	RACOR 90º G1/8 / ER6-P	FITTING 90º G1/8M / ER6-P	-	1
9	RACOR ALARGADOR M-H 1/4G-1/4G SMC	M-F 1/4G-1/4G SMC EXTENSION FITTING	-	1

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

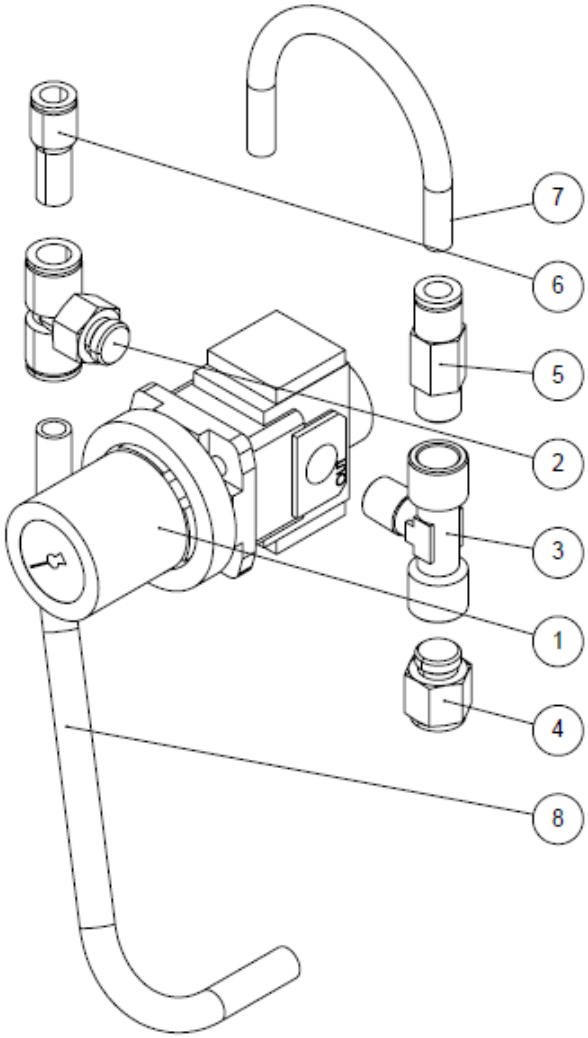
11. SUBCONJUNTO CARCASA NEUMATICA / NEUMATIC CASE ASSEMBLY:



N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	CARCASA NEUMATICA	NEUMATIC CASE	-	1
2	CIERRE DE 1/4 VUELTA CON HEXAGONO 8	CASE CLOSURE SYSTEM	900XX189	1
3	LENGÜETA DE CIERRE	CLOSING CATCH		1
4	SUBCONJUNTO REGULADOR	REGULATOR ASSEMBLY	PAGE 22	1
5	BISAGRA ESSENTRA 395634E	395634E ESSENTRA HINGE	-	2
6	TUERCA DENTADA M5	M5 NUT FLANGE	-	4

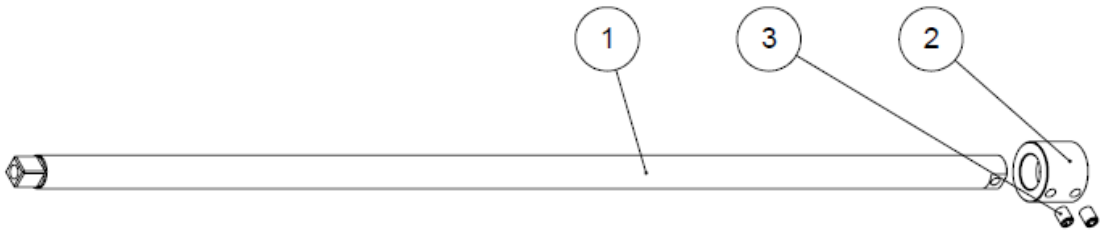
Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

12. SUBCONJUNTO REGULADOR / REGULATOR ASSEMBLY:



N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	REGULADOR SMC - ARG20-F02G1H	SMC ARG20-F02G3H PRESSURE REGULATOR	913XX103	1
2	RACOR T ER10 / G1/4 / ER10 P	T FITTING ER10 7 G1/4 ER10 P	-	1
3	T DOBLE HEMBRA LATERAL H1/4 CENTRAL M1/4	H1/4G LATERAL FEMALE DOUBLE T FITTING	-	1
4	RACOR RECTO G1/4 / ER10-P	G1/4 Ø10TUBE STRAIGHT FITTING	-	1
5	VALVULA ANTIRRETORNO SMC AKH08A-02S	BACKSTOPS VALVE SMC	911XX756	1
6	REDUCCION ER8 / ER10 M-P	TUBE 10 / TUBE 8 REDUCER	-	1
7	TUBO POLIURETANO 8X5,5 AMARILLO LONG 160MM	POLYURETHANE YELLOW 8X5.5 PIPE LENGTH 160MM	-	1
8	TUBO POLIURETANO NEGRO 10X7 LONG 270MM	POLYURETHANE BLACK 10X7 PIPE LENGTH 270MM	-	1

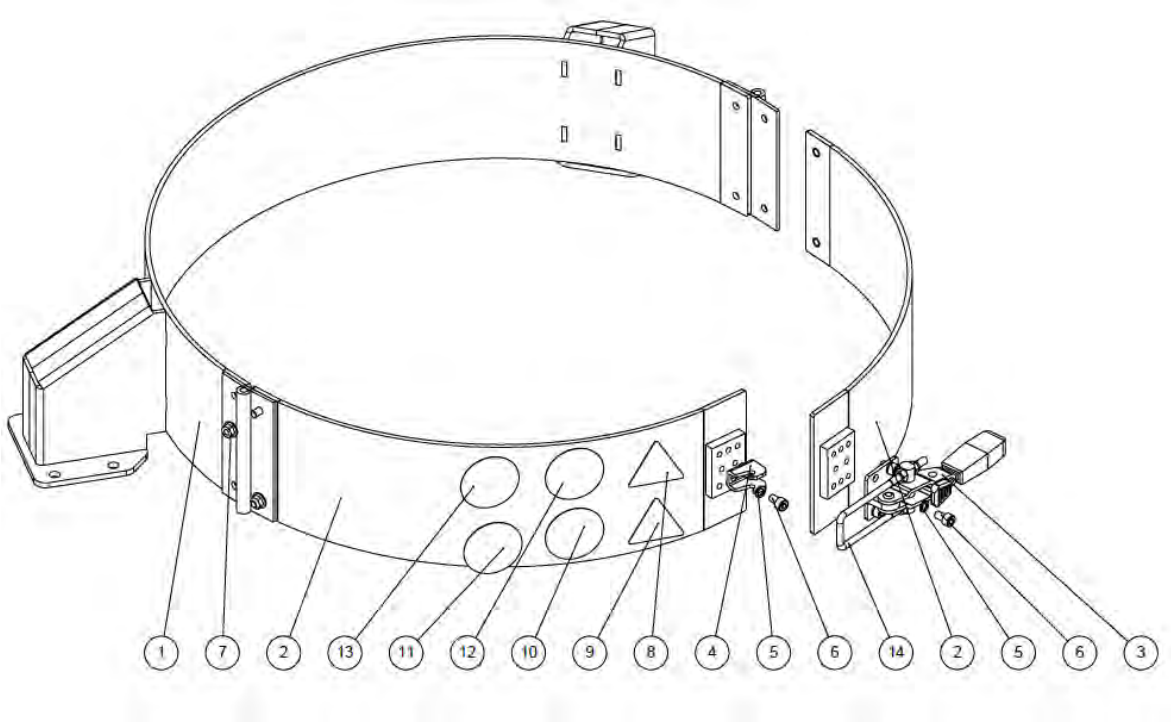
13. CONJUNTO VARILLA LLAVE / DRAINVALVE ROD ASSEMBLY:



N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	VARILLA LLAVE	KEY ROD	-	1
2	CASQUILLO VARILLA	ROD BUSHING	-	1
3	ESPARRAGO ROSCADO M4X6 C/PUNTA INOX	PLUG M4X6 BO	-	2

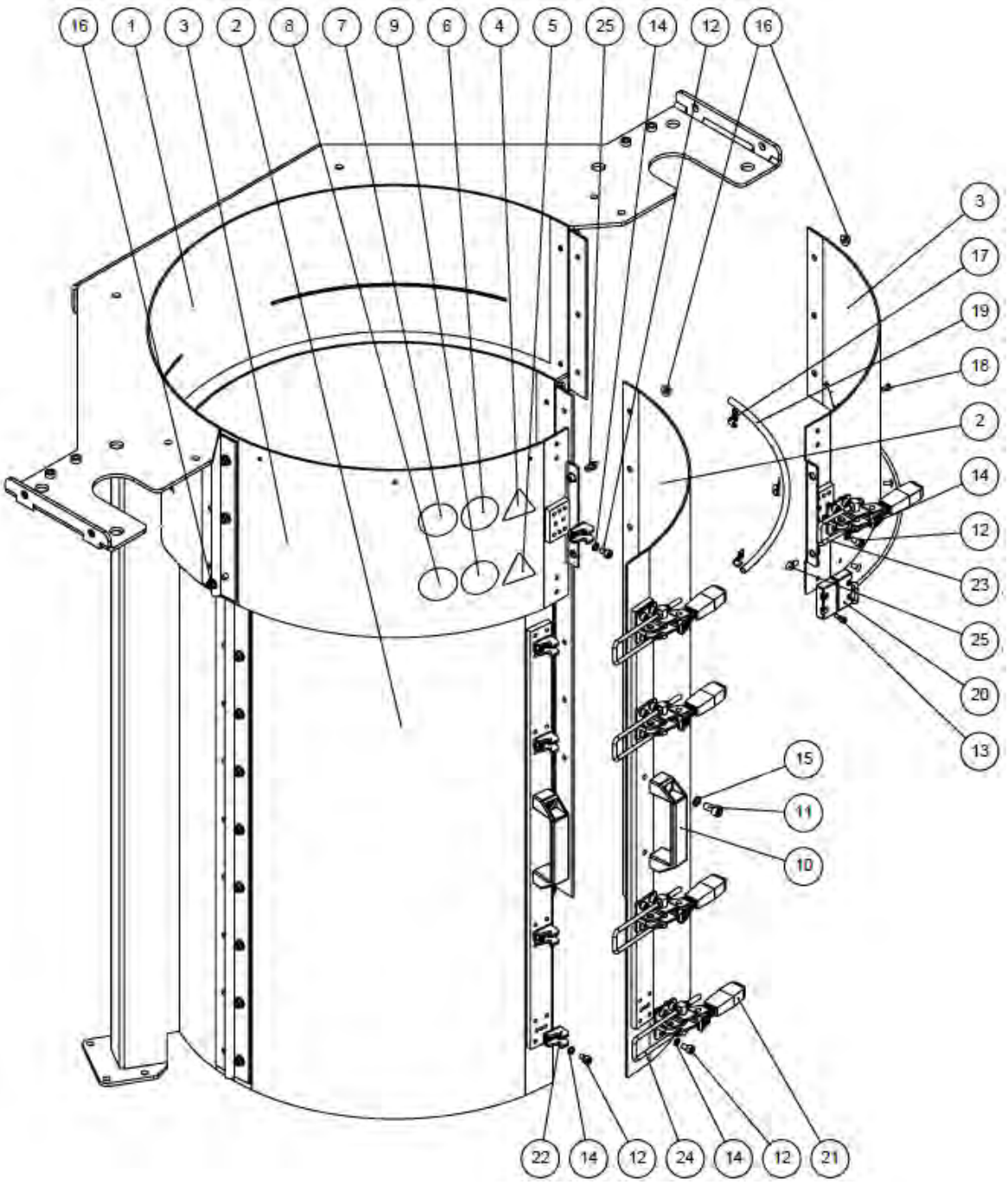
Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

14. SUBCONJUNTO SUJECION BIDON / DRUM FIXING ASSEMBLY (904XX214):



N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	SUJECION BIDON	DRUM FIXING	-	1
2	PUERTA SUJECION BIDON	DRUM FIXING DOOR	-	2
3	BRIDA CIERRE GN851.3-320-T	GN851.3-320-T CLOSURE BRIDLE	-	1
4	UÑA DE LA BRIDA CIERRE	CLOSURE BRIDLE NAIL		1
5	ARANDELA GROWER M6 INOX.	STAINLESS M6 GROWER WASHER	-	6
6	TORNILLO ALLEN M6X10 INOX.	STAINLESS M6X10 ALLEN SCREW	-	6
7	NUT FLANGE M6 ZINC	NUT FLANGE M6 ZINC	-	4
8	PEGATINA TEMPERATURA	TEMPERATURE STICKER	-	1
9	PEGATINA ATRAPAMIENTO	ENTRAPMENT STICKER	-	1
10	PEGATINA GUANTES	GLOVES STICKER	-	1
11	PEGATINA BOTAS	BOTES STICKER	-	1
12	PEGATINA CARETA	MASK STICKER	-	1
13	PEGATINA TRAJE	SUIT STICKER	-	1
14	HORQUILLA GN 951.1-M6-32-110	GN 951.1-M6-32-110 FORK	-	1

15. SUBCONJUNTO FAJA BIDON / FIBER JACKET ASSEMBLY (900XX689):

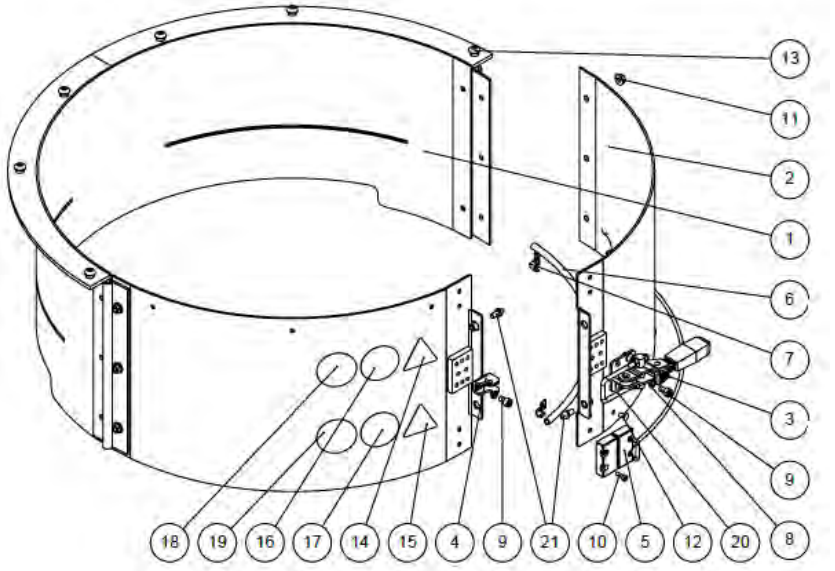


Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	FAJA BIDON	BELT DRUM	-	1
2	PUERTA INFERIOR FAJA	BELT BOTTOM DOOR	-	2
3	PUERTA SUPERIOR FAJA	UPPER BOTTOM DOOR	-	2
4	PEGATINA TEMPERATURA	TEMPERATURE RISK STICKER	-	1
5	PEGATINA ATRAPAMIENTO	ENTRAPMENT RISK STICKER	-	1
6	PEGATINA CARETA	MASK STICKER	-	1
7	PEGATINA TRAJE	SUIT STICKER	-	1
8	PEGATINA GUANTES	GLOVE STICKER	-	1
9	PEGATINA BOTAS	BOOT STICKER	-	1
10	ASA GRANDE NEGRA	BLACK BIG HANDLE	-	2
11	TORNILLO ALLEN M8X16 INOX.	STAINLESS M8X16 ALLEN SCREW	-	4
12	TORNILLO ALLEN M6X10 INOX.	STAINLESS M6X10 ALLEN SCREW	-	30
13	TORNILLO ALLEN M4X12 INOX	STAINLESS M4X12 ALLEN SCREW	-	4
14	ARANDELA GROWER M6 INOX	STAINLESS M6 GROVER WASHER	-	30
15	ARANDELA GROWER M8 INOX.	STAINLESS M8 GROWER WASHER	-	4
16	NUT FLANGE M6 ZINC	ZINC M6 NUT FLANGE	-	24
17	ABRAZADERA 1 TUBO Ø8 DIN 72571	DIN 72571 Ø8 1 TUBE CLAMP	-	3
18	REMACHE 4.8X9.5 CABEZA NEGRA	RIVETING POP 4.8X9.5 BLACK HEAD	-	3
19	TUBO POLIURETANO 8X5.5 NEGRO LONGITUD 420MM	POLYURETHANE BLACK 8X5.5 PIPE LENGTH 420MM	-	1
20	MAZO INTERRUPTOR MAGNETICO FAJA	MAGNETIC SWITCH HARNESS	-	1
21	BRIDA CIERRE GN851.3-320-T	GN851.3-320-T CLOSURE BRIDLE	-	5
22	UÑA DE LA BRIDA CIERRE	CLOSURE BRIDLE NAIL		5
23	HORQUILLA GN 951.1-M6-32-78	GN 951.1-M6-32-78 FORK	-	1
24	HORQUILLA GN 951.1-M6-32-130	GN 951.1-M6-32-130 FORK	-	4
25	CONO POSICION CHAPAS LATERALES	M65 LATERAL SHEETS POSITIONER CONE	-	2

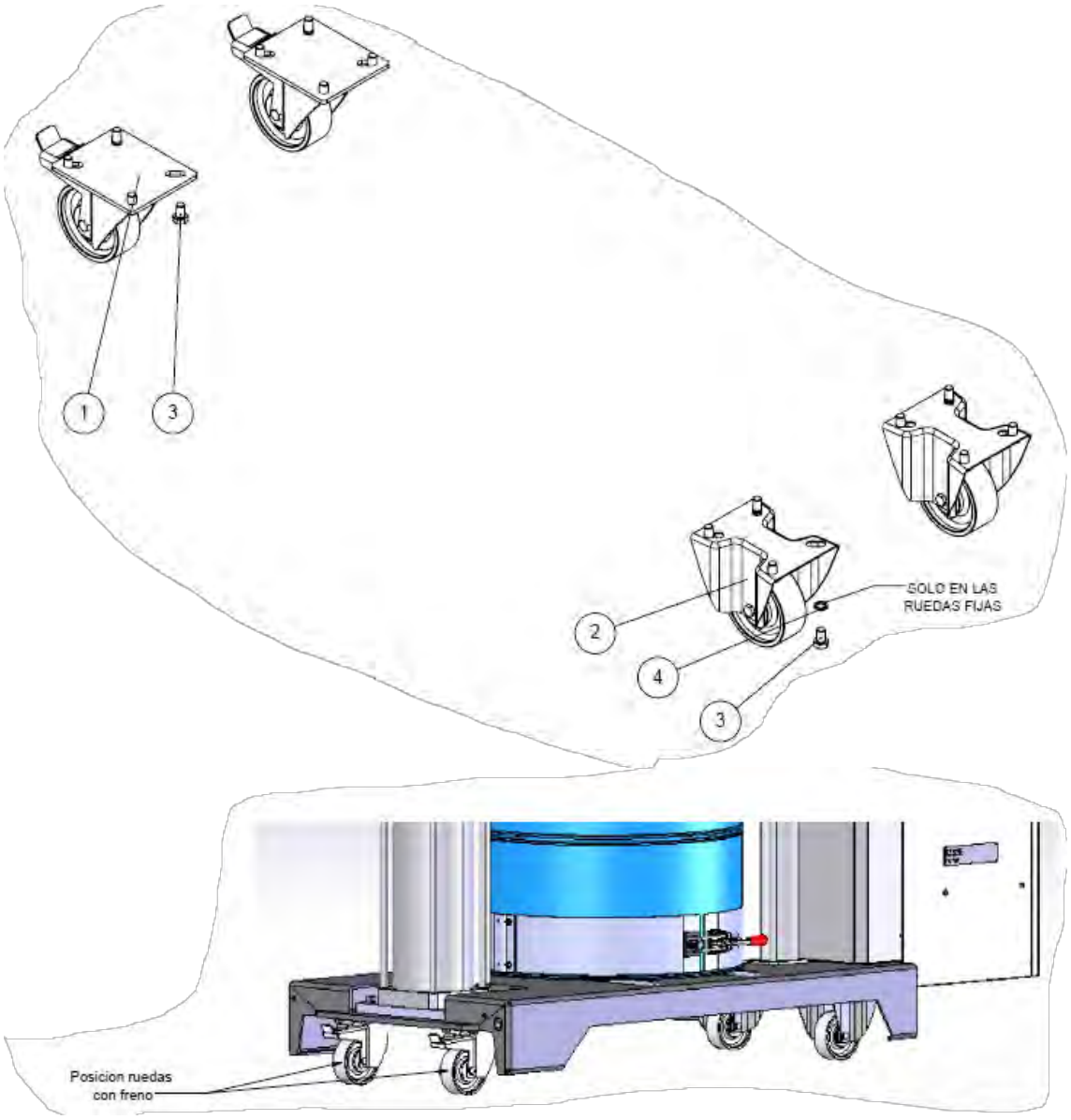
Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

16. SUBCONJUNTO PROTECCION TRASERA / BACK PROTECTION ASSEMBLY (900XX688):



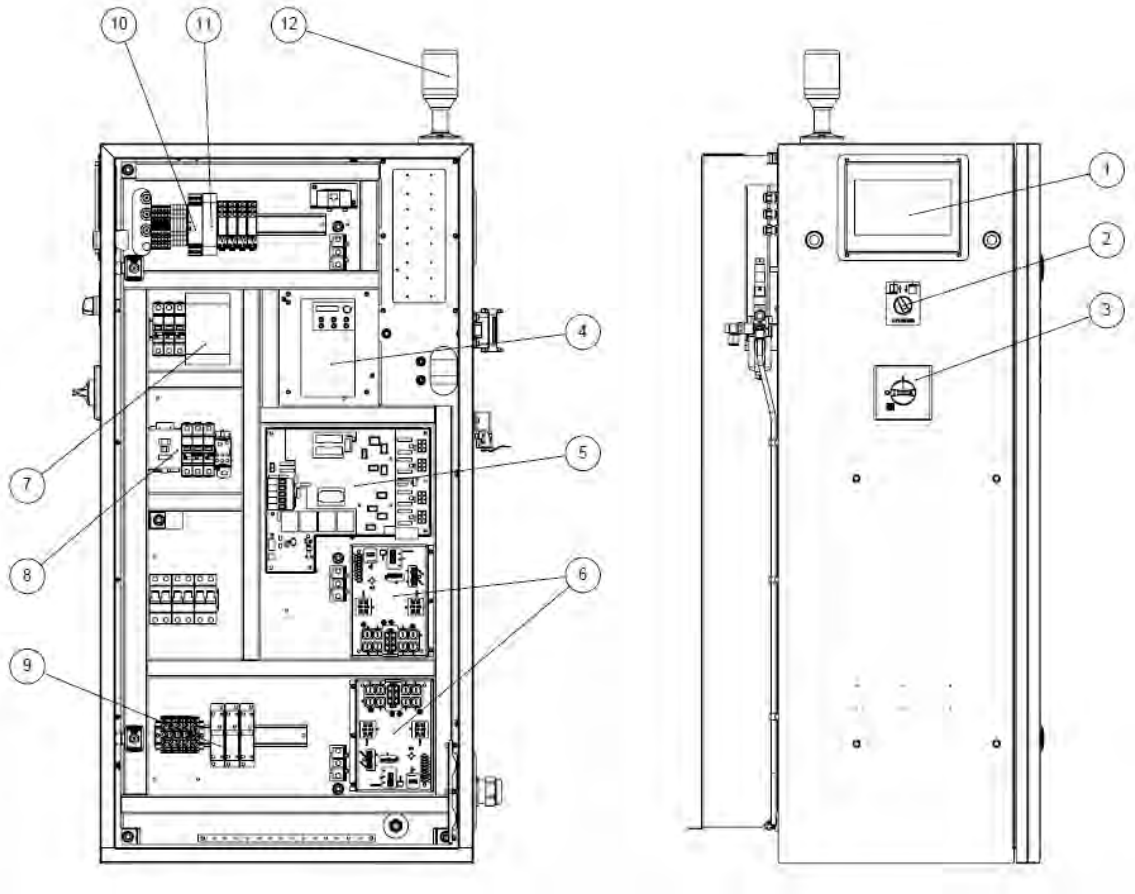
N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	PROTECCION TRASERA	BACK PROTECTION	-	1
2	PUERTA SUPERIOR FAJA	UPPER BELT DOOR	-	2
3	BRIDA CIERRE GN851.3-320-T	GN851.3-320-T CLOSURE BRIDLE	-	1
4	UÑA DE LA BRIDA CIERRE	CLOSURE BRIDLE NAIL		1
5	MAZO INTERRUPTOR MAGNETICO FAJA	BELT MAGNETIC SWITCH HARNESS	-	1
6	TUBO POLIURETANO 8X5,5 NEGRO LONGITUD 420MM	BLACK 8X5,5 POLIURETANE TUBE LENGTH 420MM	-	1
7	ABRAZADERA 1 TUBO Ø8 DIN 72571	DIN 72571 Ø8 1 TUBE CLAMP	-	3
8	ARANDELA GROWER M6 INOX.	STAINLESS M6 GROWER WASHER	-	6
9	TORNILLO ALLEN M6X10	STAINLESS M6X10 ALLEN SCREW	-	6
10	TORNILLO ALLEN M4X12	STAINLESS M4X12 ALLEN SCREW	-	4
11	NUT FLANGE M6 ZINC	NUT FLANGE M6 ZINC	-	6
12	REMACHE 4.8X9,5 CABEZA NEGRA	RIVETING POP 4.8X9.5 BLACK HEAD	-	3
13	TORNILLO GOTA SEBO M8X16 INOX ISO 7380	ISO 7380 STAINLESS M8X16 SOCKET BUTTON HEAD SCREW	-	6
14	PEGATINA TEMPERATURA	TEMPERATURE RISK STICKER	-	1
15	PEGATINA ATRAPAMIENTO	ENTRAPMENT RISK STICKER	-	1
16	PEGATINA CARETA	MASK STICKER	-	1
17	PEGATINA BOTAS	BOOT STICKER	-	1
18	PEGATINA TRAJE	SUIT STICKER	-	1
19	PEGATINA GUANTES	GLOVE STICKER	-	1
20	HORQUILLA GN 951.1-M6-32-78	GN 951.1-M6-32-78 FORK	-	1
21	CONO POSICION CHAPAS LATERALES	M65 LATERAL SHEETS POSITIONER CONE	-	2

17. KIT RUEDAS FLEXDRUM / SMARTDRUM / FLEXDRUM / SMARTDRUM WHEEL KIT (900XX690):



N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	RUEDA MOVIL SERIE PESADA	SWIVEL WHEEL HEAVY SERIES WITH BRAKE	914XX620	2
2	RUEDA FIJA SERIE PESADA	FIXED WHEEL HEAVY SERIES WITH BRAKE	914XX619	2
3	TORNILLO HEXAGONAL M10X16	M10X16 STAINLESS HEXAGONAL SCREW	-	16
4	ARANDELA GROVER M10 INOX.	STAINLESS M10 GROVER WASHER		8

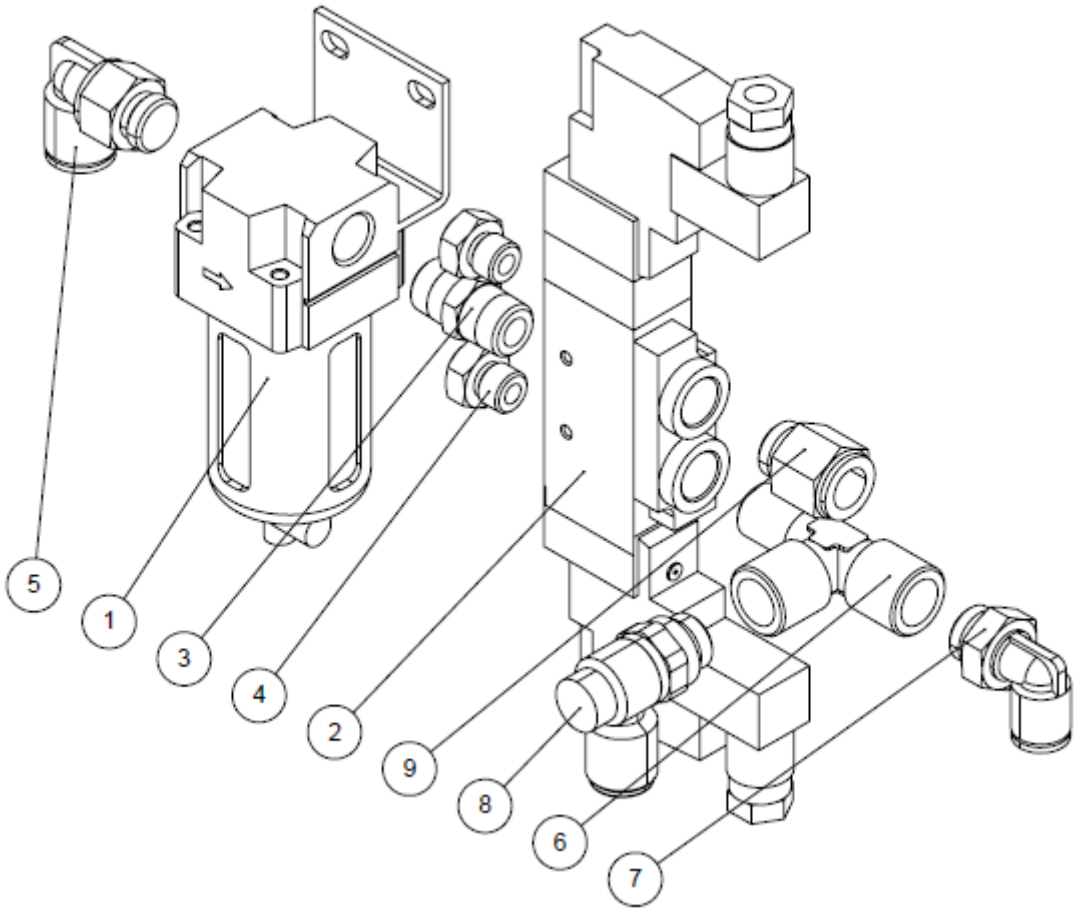
18. CONJUNTO ARMARIO FLEXDRUM / FLEXDRUM ELECTRIC CABINET ASSEMBLY:



N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	PANTALLA ESMART 107 7”	ESMART 107 7” POWERPANEL	918XX710	1
2	INTERRUPTOR SOPLADO	BLOWING SWITCH	913XX482	1
3	INTERRUPTOR MANUAL GENERAL III 63A S/ACC	MAIN SWITCH III 63A S/ACC	-	1
4	VARIADOR MS300	MS300 INVERTER	918XX709	1
5	PCB ASSY 12Z GEAR-PUMP NI-120	PCB ASSY 12Z GEAR-PUMP NI-120	151XX680	1
6	PCB ASSY UPDATED SATC 4 ZONE	PCB ASSY UPDATED SATC 4 ZONE	911XX875	2
7	FUENTE ALIMENTACION 230VAC-24VDC 240W-34	POWER SUPPLY 230VAC-24VDC 240W-34	900XX716	1
8	CONTACTOR III 43A-BOBINA 24VDC	III CONTACTOR 43A- 24VDC COIL	914XX637	1
9	RELE ESTADO SOLIDO GRD 22.5 20A	SOLID STATE RELAY GRD 22.5 20A	910XX791	3
10	RELE SEGURIDAD BIMANUAL 24VDC	24VDC BIMANUAL SECURITY RELAY	-	1
11	MODULO CAN OPEN 8DI/DO 24VDC	24VDC 8DI/DO CAN OPEN MODULE	904XX450	1
12	BALIZA LED AMBAR FIJA 24VDC	24VDC AMBER LED BEACON	913XX484	1

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

19. CONJUNTO NEUMATICO / PNEUMATIC ASSEMBLY:



N.º	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	FILTRO AF20-F02B	AF20-F02B G1/4" FILTER	914XX876	1
2	ELECTROVALVULA 5/3 CC SY7320-5DZ	SOLENOID 5/3 DE CC 0,4W 24VDC 1/4	913XX440	1
3	RACOR RECTO R1/4 / R1/4-B	STRAIGHT FITTING R1/4 / R1/4-B	-	1
4	SILENCIADOR CORTO G1/8-BN	SILENCER G1/8-BN	-	2
5	RACOR 90º G1/4 / ER10-P	90º FITTING G1/4 / ER10-P	-	1
6	T HEMBRA MACHO LATERAL 1/4 METALICO	FEMALE T 1/4	-	1
7	RACOR 90º G1/4 / ER8-P	90º FITTING G1/4 / ER8-P	-	1
8	REGUL. CAUDAL 1/4 / ER10-P TORN. OC.	1/4 / ER10-P FLOW REGULATOR	-	1
9	RACOR RECTO G1/4 / ER10-P	STRAIGHT FITTING G1/4 / ER10-P	-	1

Valco Melton S.L.U. Pol. Ind. Agustinos C/G 34 31160, Orkoien, Spain
Tel: +34 948 321 580 | Fax: +34 948 326 584 | email: info@valcomelton.es | www.valcomelton.com

Adhesive Dispensing & Quality Assurance Systems

Valco Melton European Headquarters: Orkoien, Navarra, Spain | Tel: +34 948 321 580 | Fax: +34 948 326 584
Email: info@valcomelton.es | www.valcomelton.com

S065160203
FLEXDRUM 1 PUMP 2-6 NI120

ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

COVER PAGE

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION
K

SCHEME
01

1-Document book

Drawing	Function	Location	Revision	Date	Created by	Description	Folder designation
01	F1	P1	K	15/04/2024	oelizalde	Cover page	
02	F1	P1	K	15/04/2024	oelizalde	Drawing list	
03	F1	P1	K	15/04/2024	oelizalde	Drawing list	
04	F1	P1	K	15/04/2024	oelizalde	Wiring line diagram	
05	F1	P1	K	15/04/2024	oelizalde	SERVICE WIRES	
06	F1	P1	K	15/04/2024	oelizalde	POWER SUPPLY	
07	F1	P1	K	15/04/2024	oelizalde	CHANNELS 1 AND 2	
08	F1	P1	K	15/04/2024	oelizalde	CHANNELS 3 AND 4 HP	
09	F1	P1	K	15/04/2024	oelizalde	CHANNELS 5 AND 6 HP	
10	F1	P1	K	15/04/2024	oelizalde	DRUM HEATERS	
11	F1	P1	K	15/04/2024	oelizalde	TOUCH SCREEN	
12	F1	P1	K	15/04/2024	oelizalde	MOTOR 1	
13	F1	P1	K	15/04/2024	oelizalde	OUTPUTS/INPUTS	
14	F1	P1	K	15/04/2024	oelizalde	MODULE DI/DO	
15	F1	P1	K	15/04/2024	oelizalde	BIMANUAL RELAY	
16	F1	P1	K	15/04/2024	oelizalde	COMMUNICATION	
17	F1	P1	K	15/04/2024	oelizalde	GUN MOTORS	
18	F1	P1	K	15/04/2024	oelizalde	PNEUMATIC	
19	F1	P1	K	15/04/2024	oelizalde	Electrical cabinet	
20	F1	P2	K	15/04/2024	oelizalde	Electrical box	
21	F1	P1	K	15/04/2024	oelizalde	XA-(1/1)	
22	F1	P1	K	15/04/2024	oelizalde	XPE-(1/1)	
23	F1	P1	K	15/04/2024	oelizalde	XCS-XN	
24	F1	P1	K	15/04/2024	oelizalde	XCC-(1/2)	
25	F1	P1	K	15/04/2024	oelizalde	XCC-(2/2)	
26	F1	P1	K	15/04/2024	oelizalde	XV-(1/1)	
27	F1	P1	K	15/04/2024	oelizalde	Bill of materials	
28	F1	P1	K	15/04/2024	oelizalde	Bill of materials	
29	F1	P1	K	15/04/2024	oelizalde	Bill of materials	
30	F1	P1	K	15/04/2024	oelizalde	Bill of materials	
31	F1	P1	K	15/04/2024	oelizalde	Bill of materials	
32	F1	P1	K	15/04/2024	oelizalde	Bill of materials	
33	F1	P1	K	15/04/2024	oelizalde	Bill of materials	

ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

Drawing list

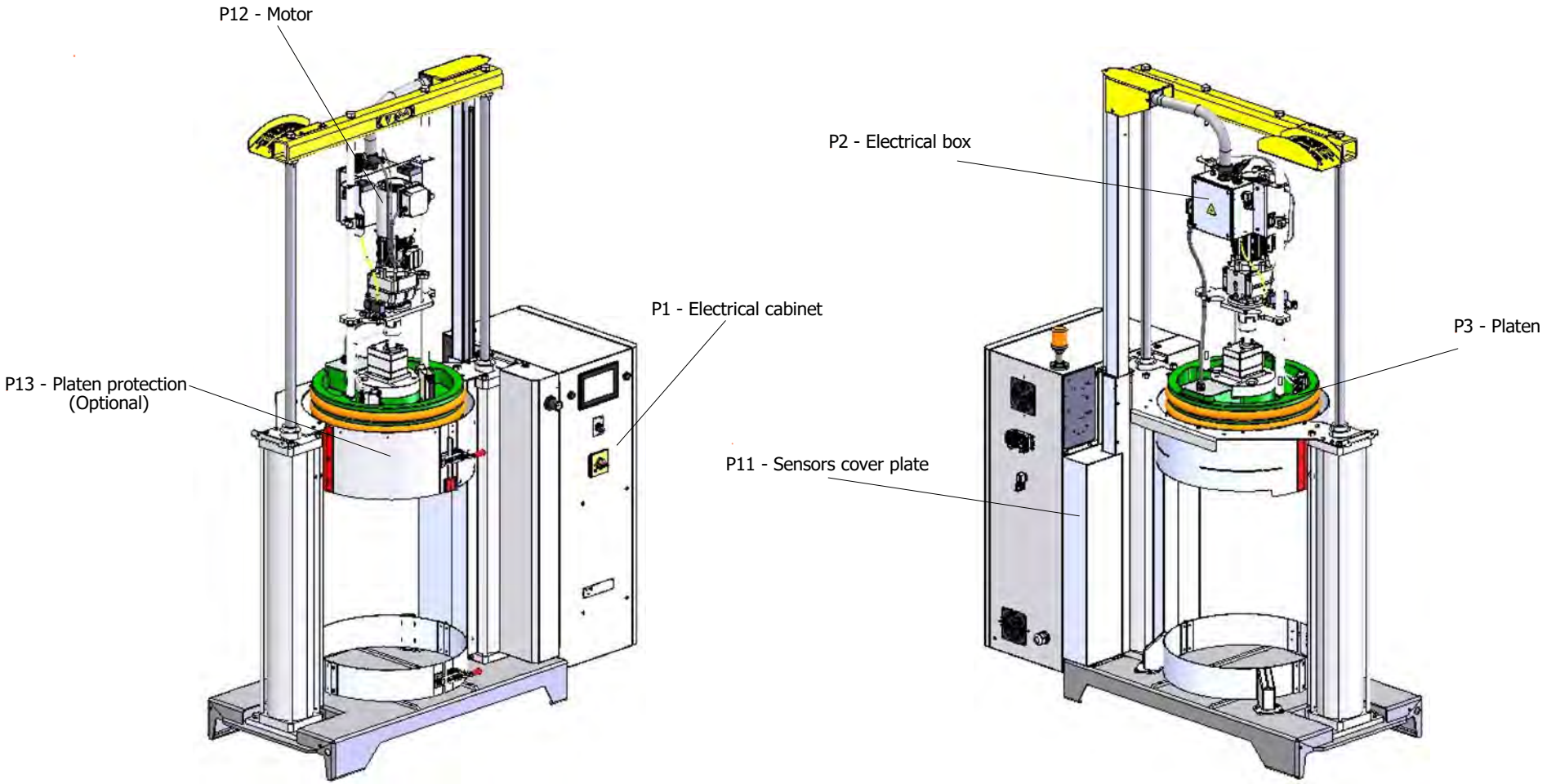
PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 02

1	2	3	4	5	6	7	8	9	10



VALCO MELTON

ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

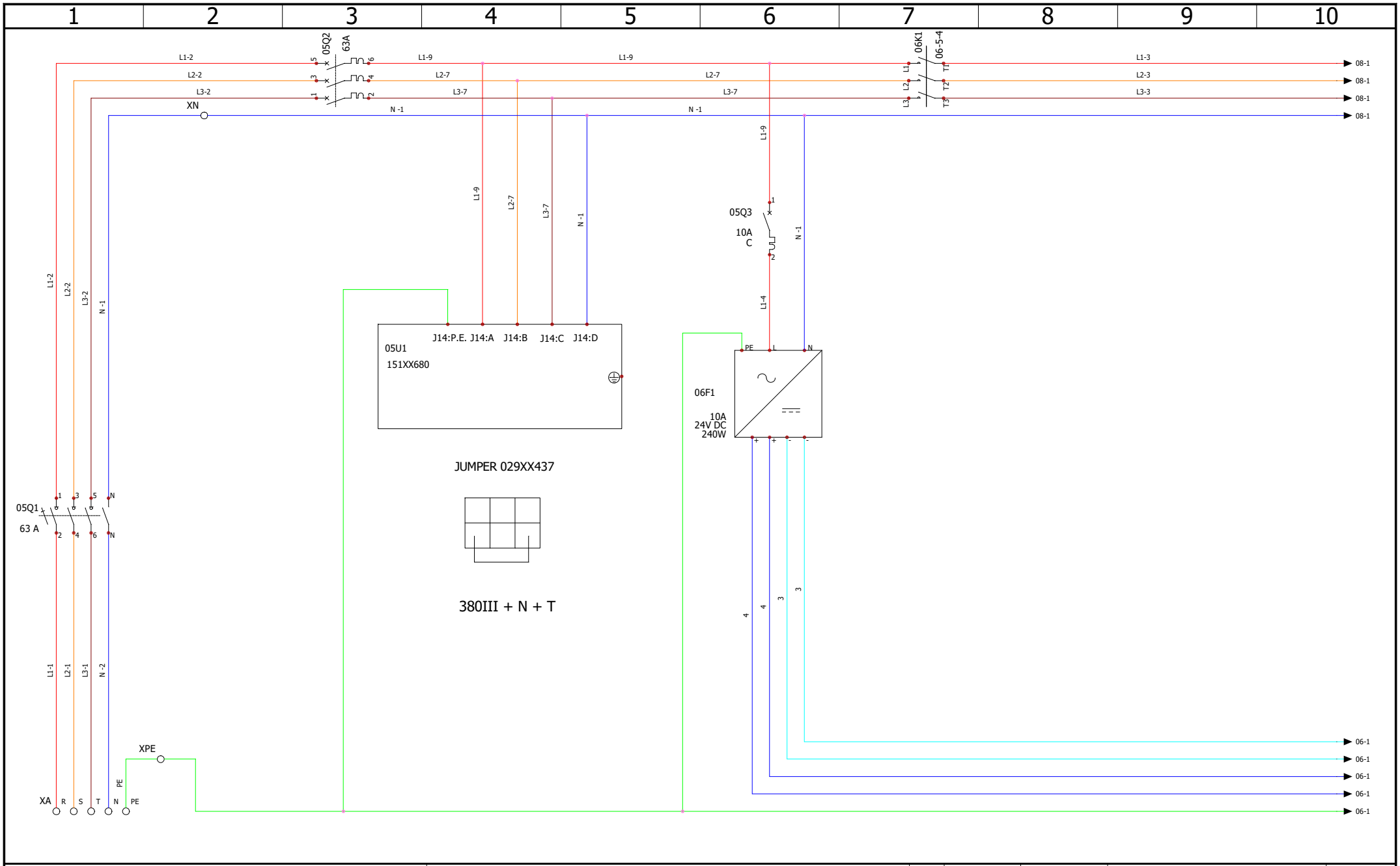
WIRING LINE DIAGRAM

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 04



ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

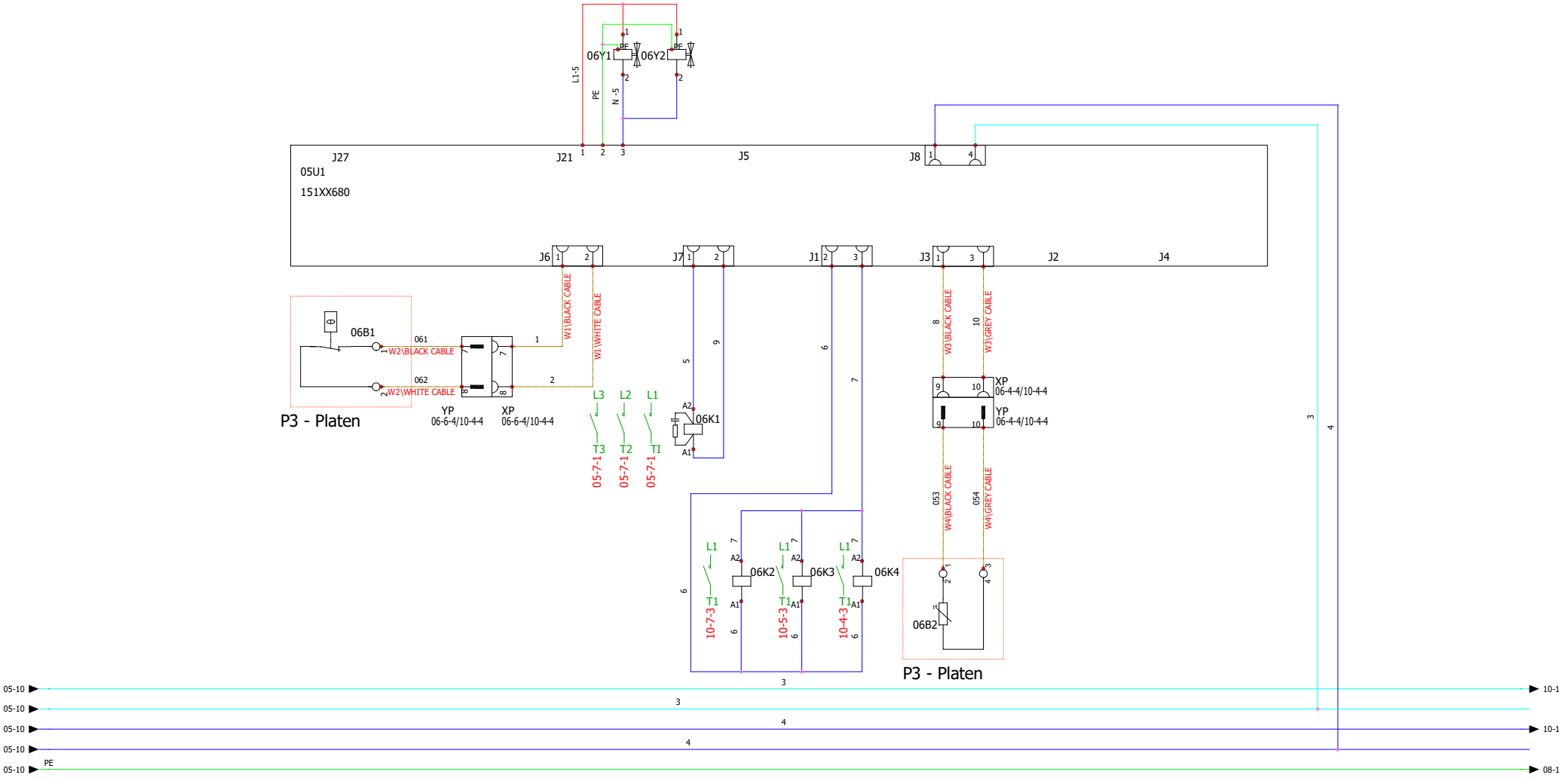
SERVICE WIRES CONNECTION

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 05



ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

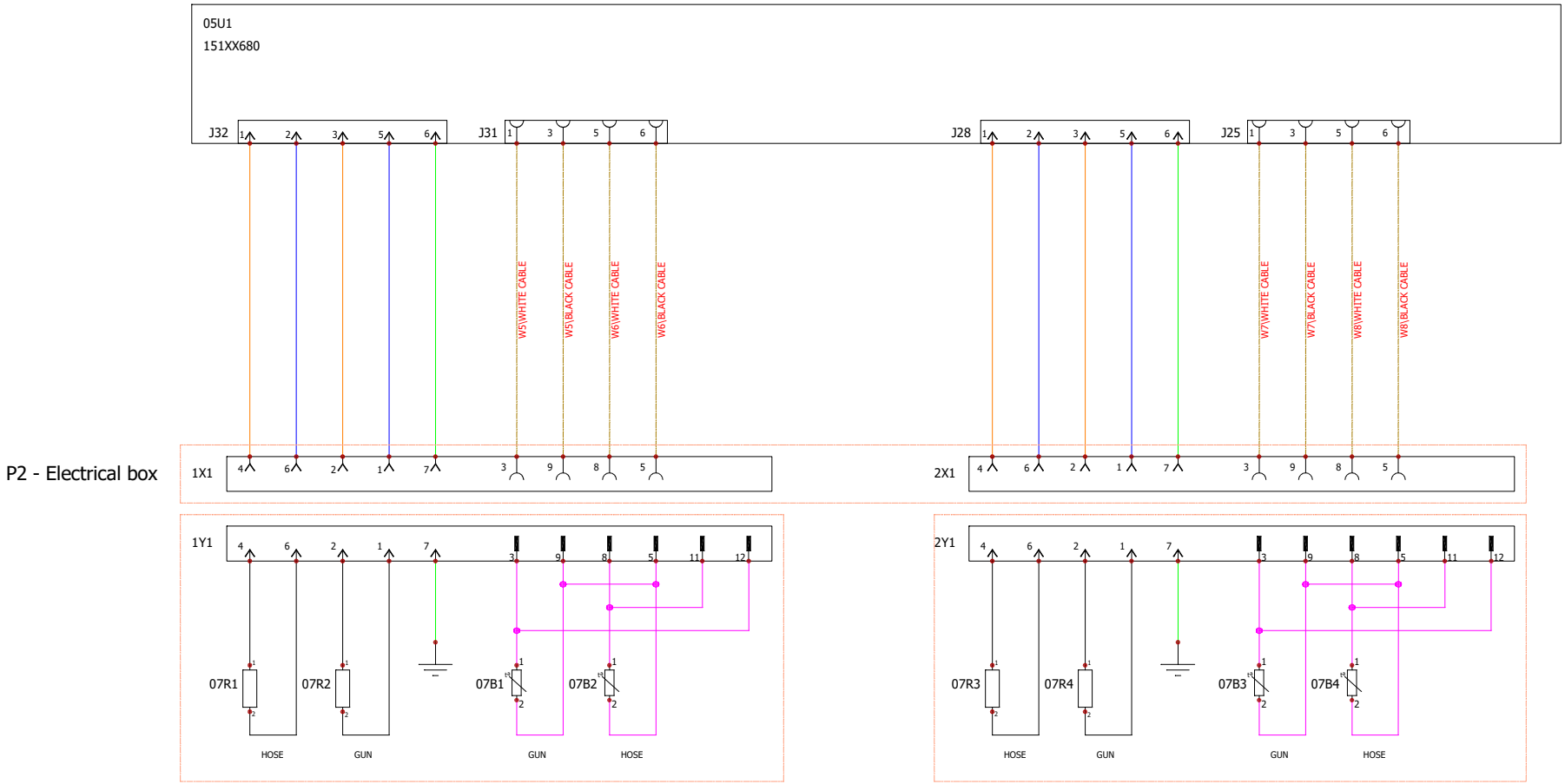
POWER SUPPLY, THERMOSTAT AND CONTACTOR ACTIVATION

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 06



P4 - Output 1

P.MAX CHANNEL 1 1.840W

P5 - Output 2

P.MAX CHANNEL 2 1.840W

ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

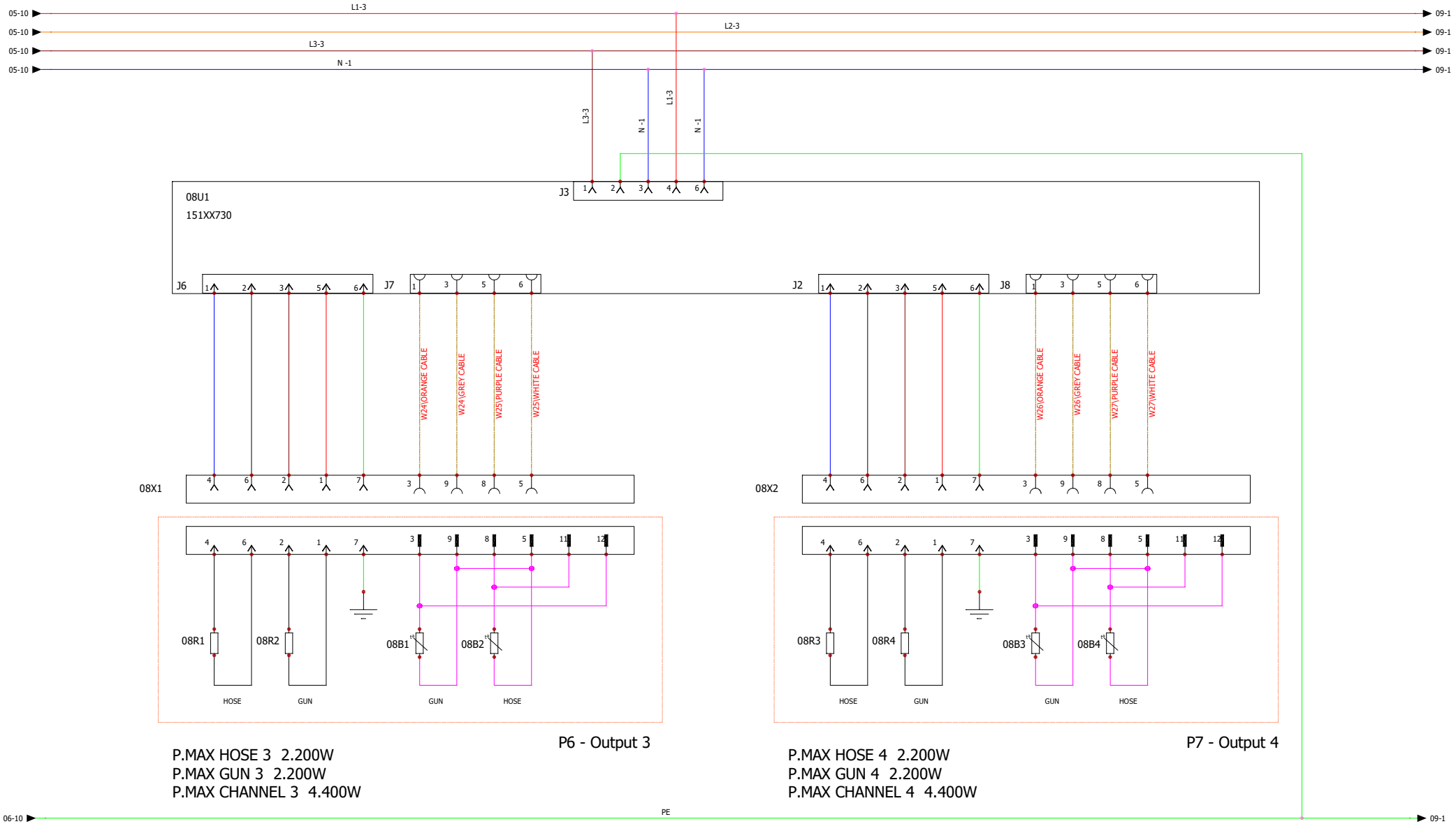
CHANNELS 1 AND 2
NI120 OUTPUTS CONNECTION

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 07



ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

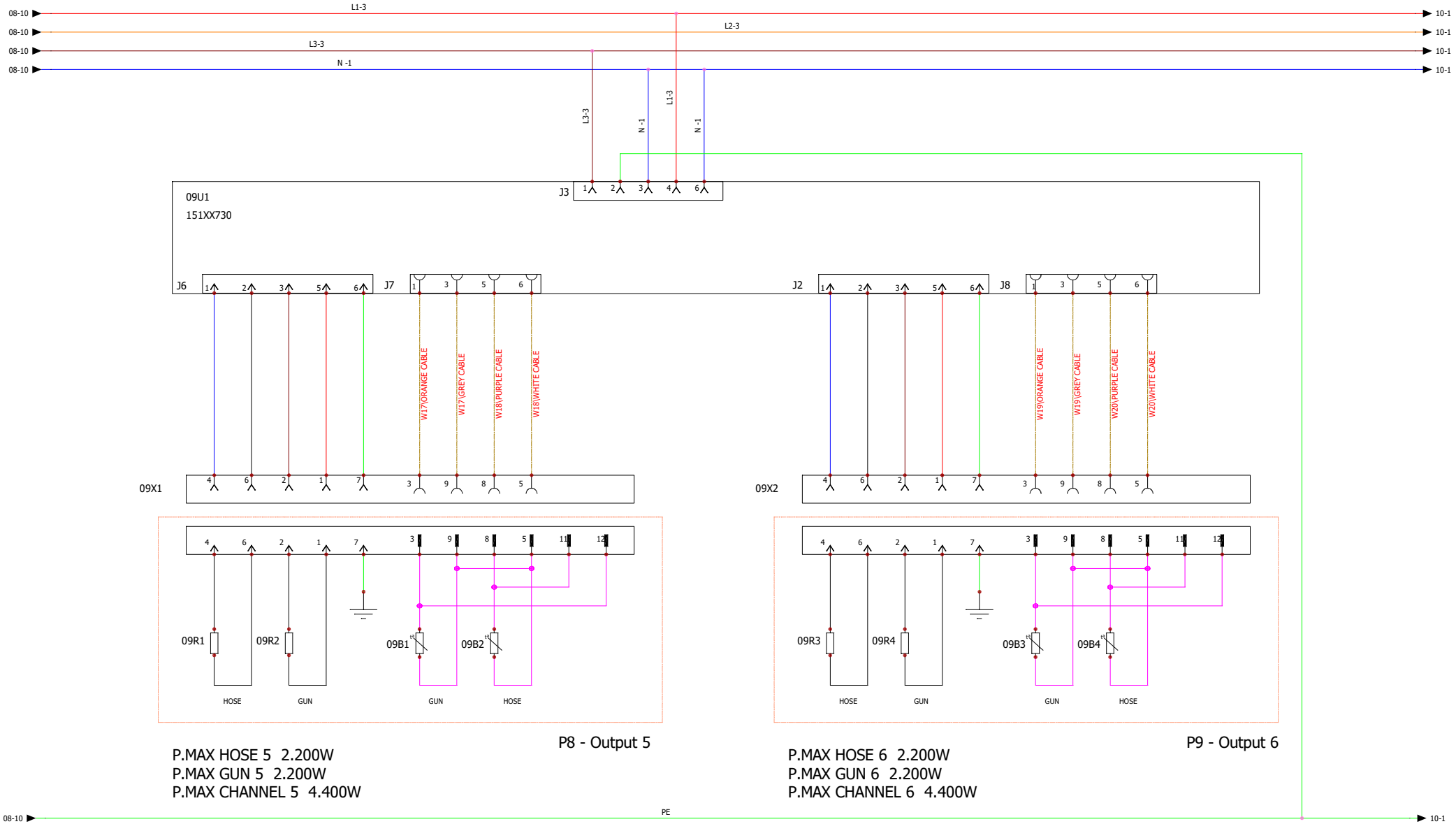
CHANNELS 3 AND 4 HP
NI120 OUTPUTS CONNECTION

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 08



P8 - Output 5

P.MAX HOSE 5 2.200W
P.MAX GUN 5 2.200W
P.MAX CHANNEL 5 4.400W

P9 - Output 6

P.MAX HOSE 6 2.200W
P.MAX GUN 6 2.200W
P.MAX CHANNEL 6 4.400W

ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

CHANNELS 5 AND 6 HP
NI120 OUTPUTS CONNECTION

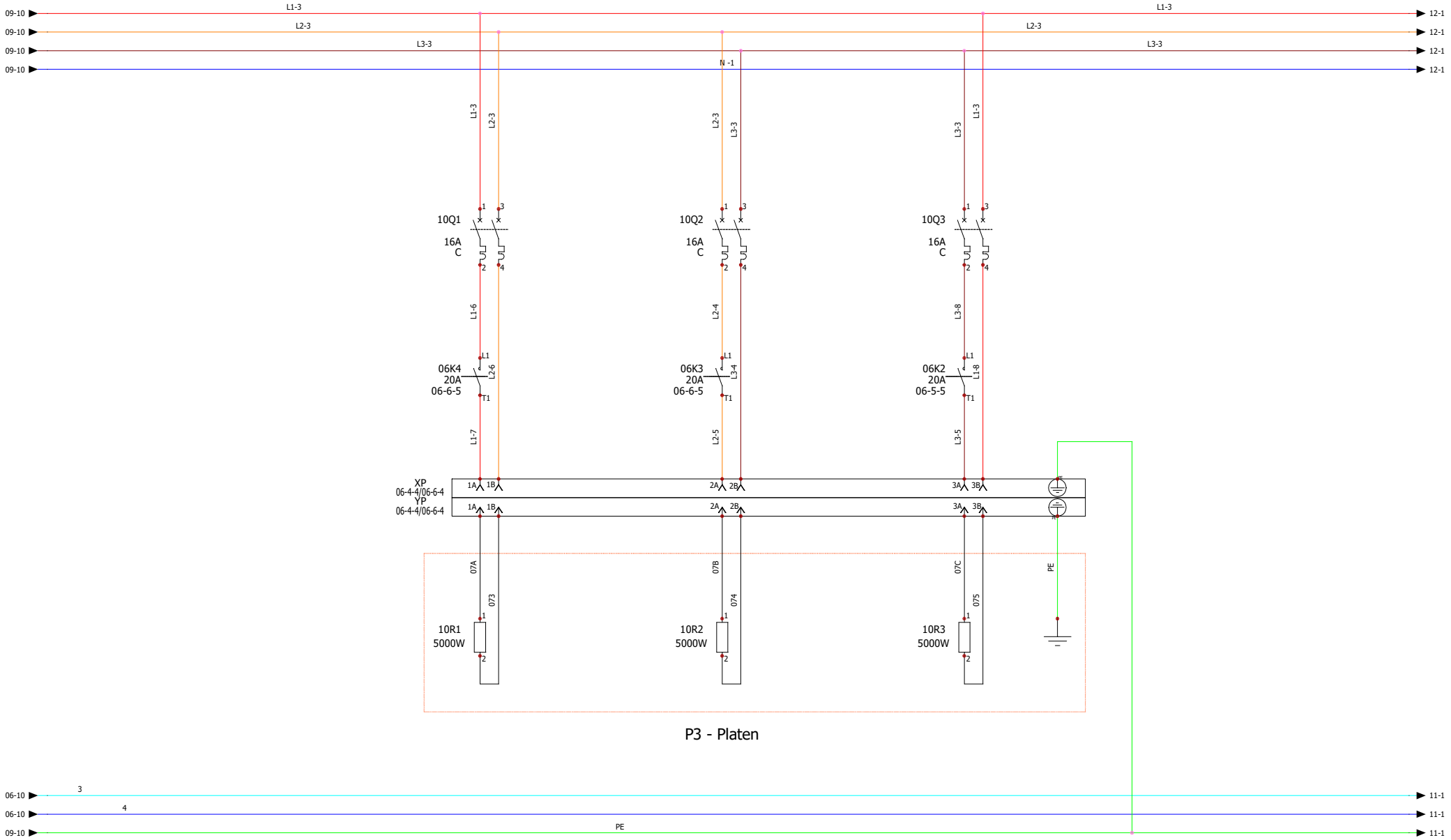
PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 09

1	2	3	4	5	6	7	8	9	10



P3 - Platen

ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

CONTACTOR AND DRUM HEATERS

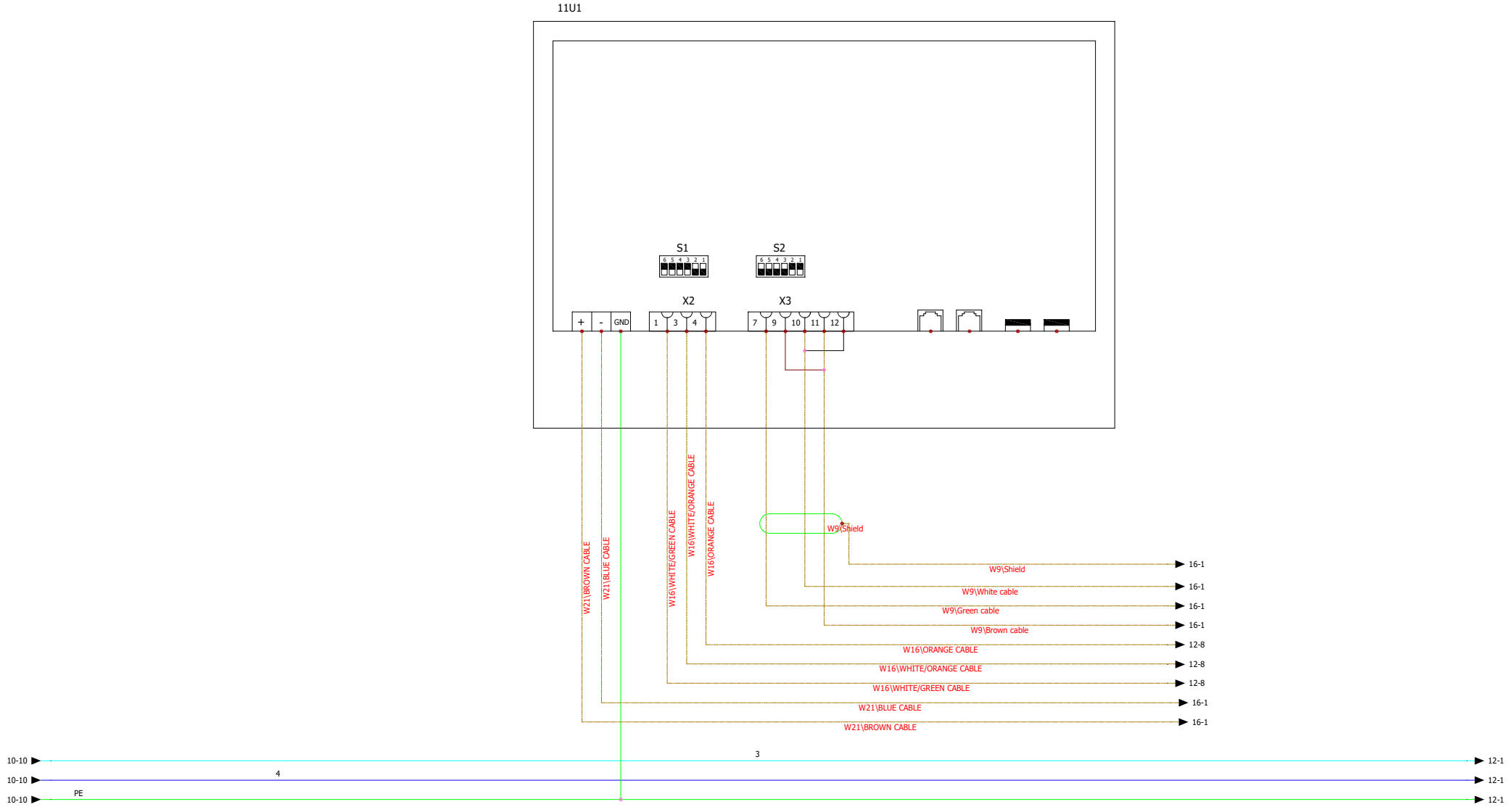
PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 10

1	2	3	4	5	6	7	8	9	10



ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

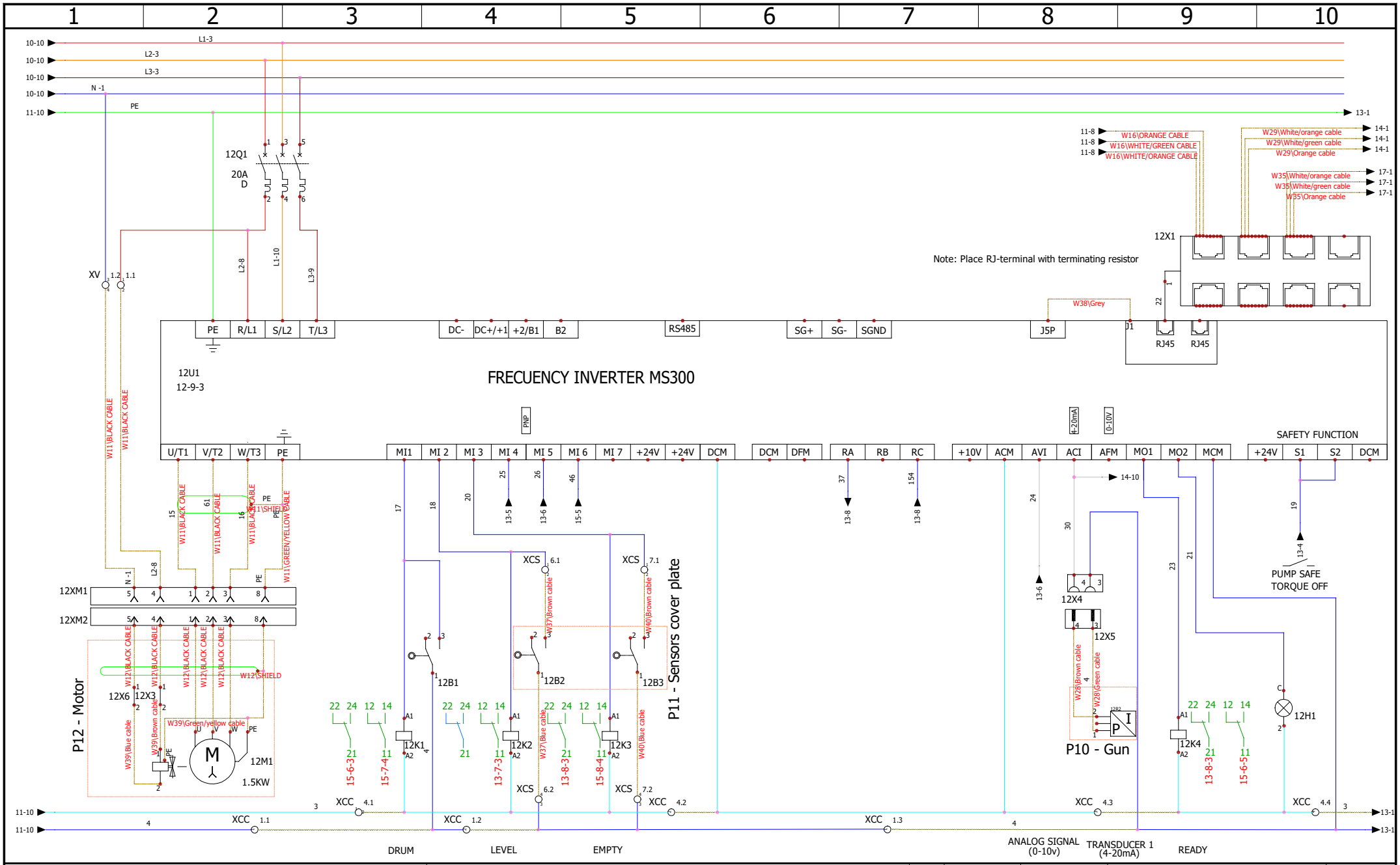
TOUCH SCREEN CONNECTION

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 11



ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

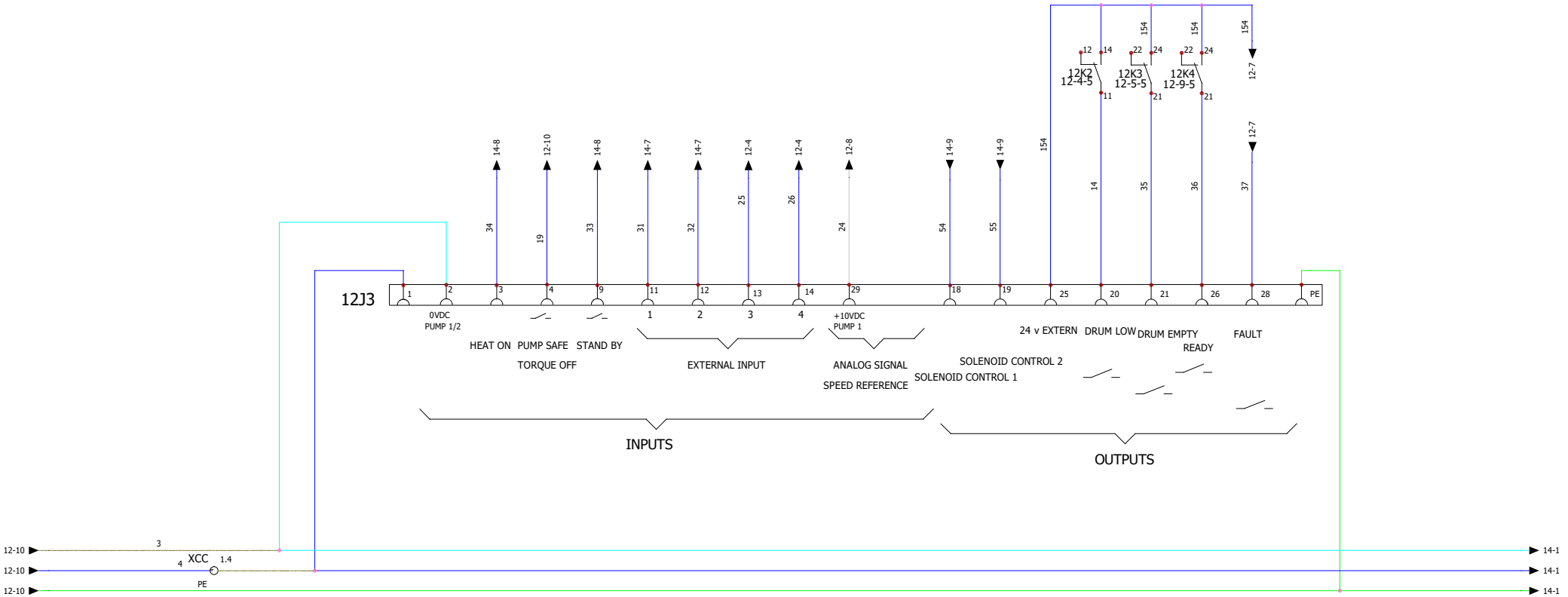
MOTOR 1 CONNECTION

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 12



ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

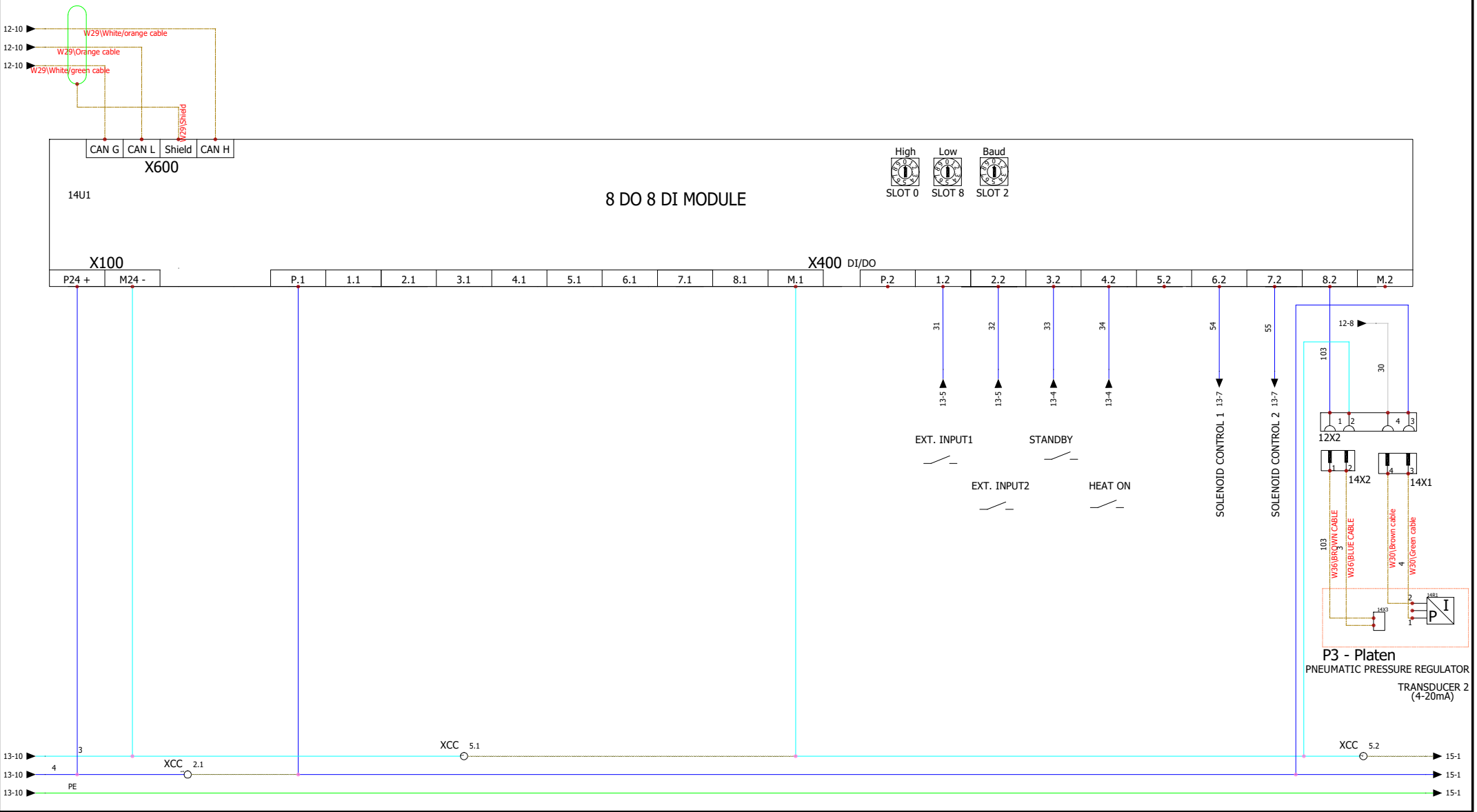
OUTPUTS/INPUTS

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 13



ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

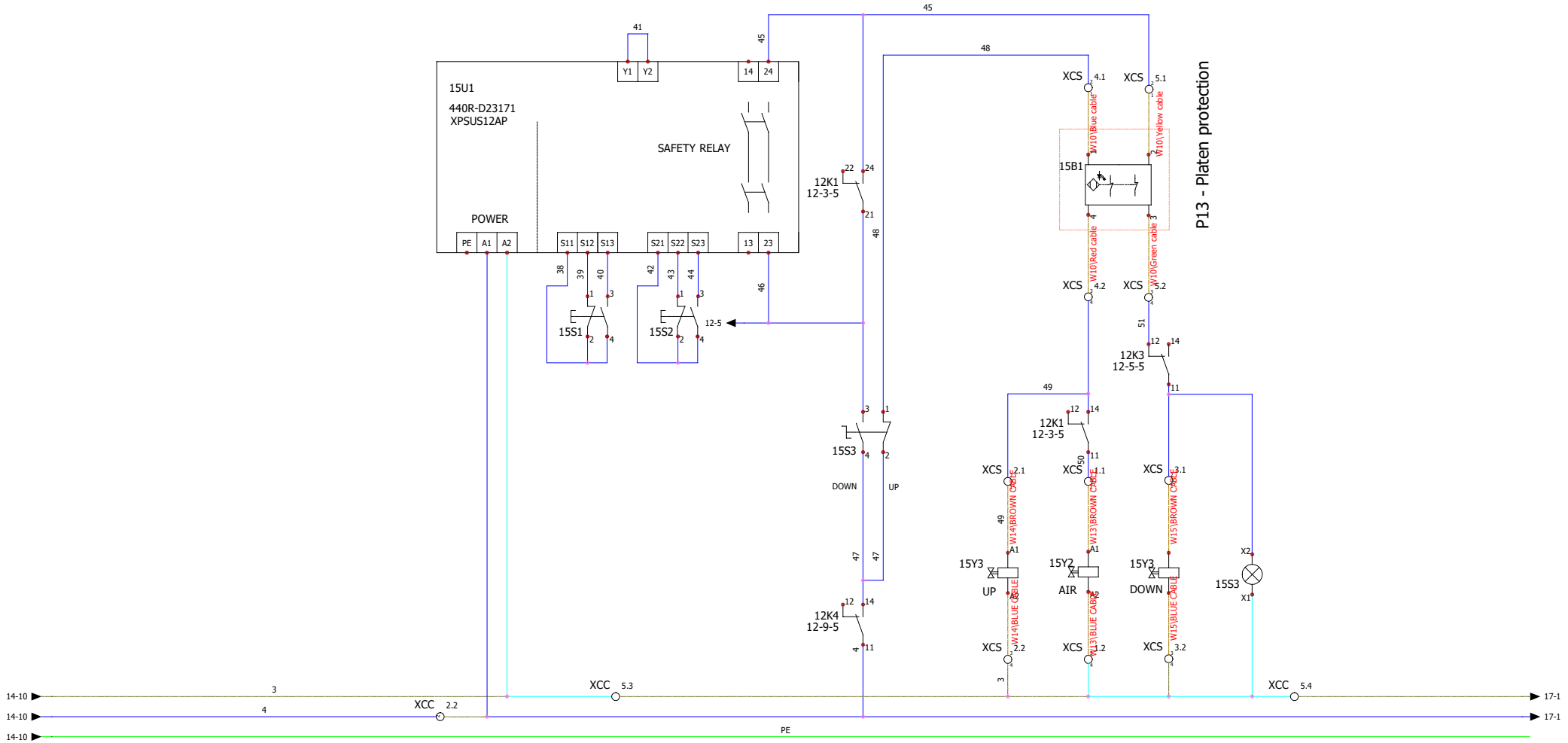
MODULE DI/DO

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 14



ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

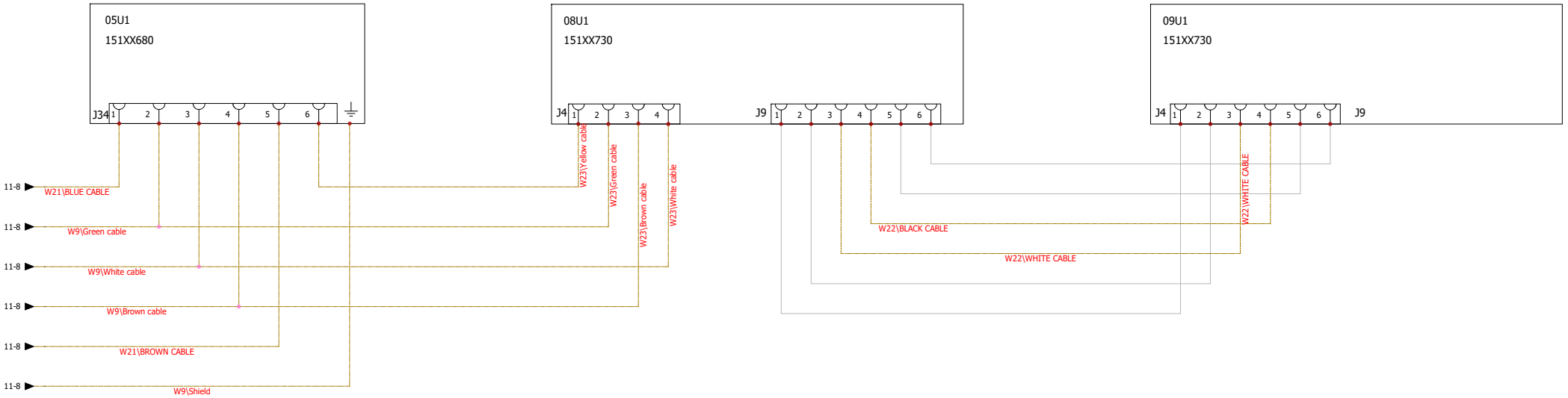
BIMANUAL RELAY AND DRUM MOVEMENT

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 15



ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

COMMUNICATION

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

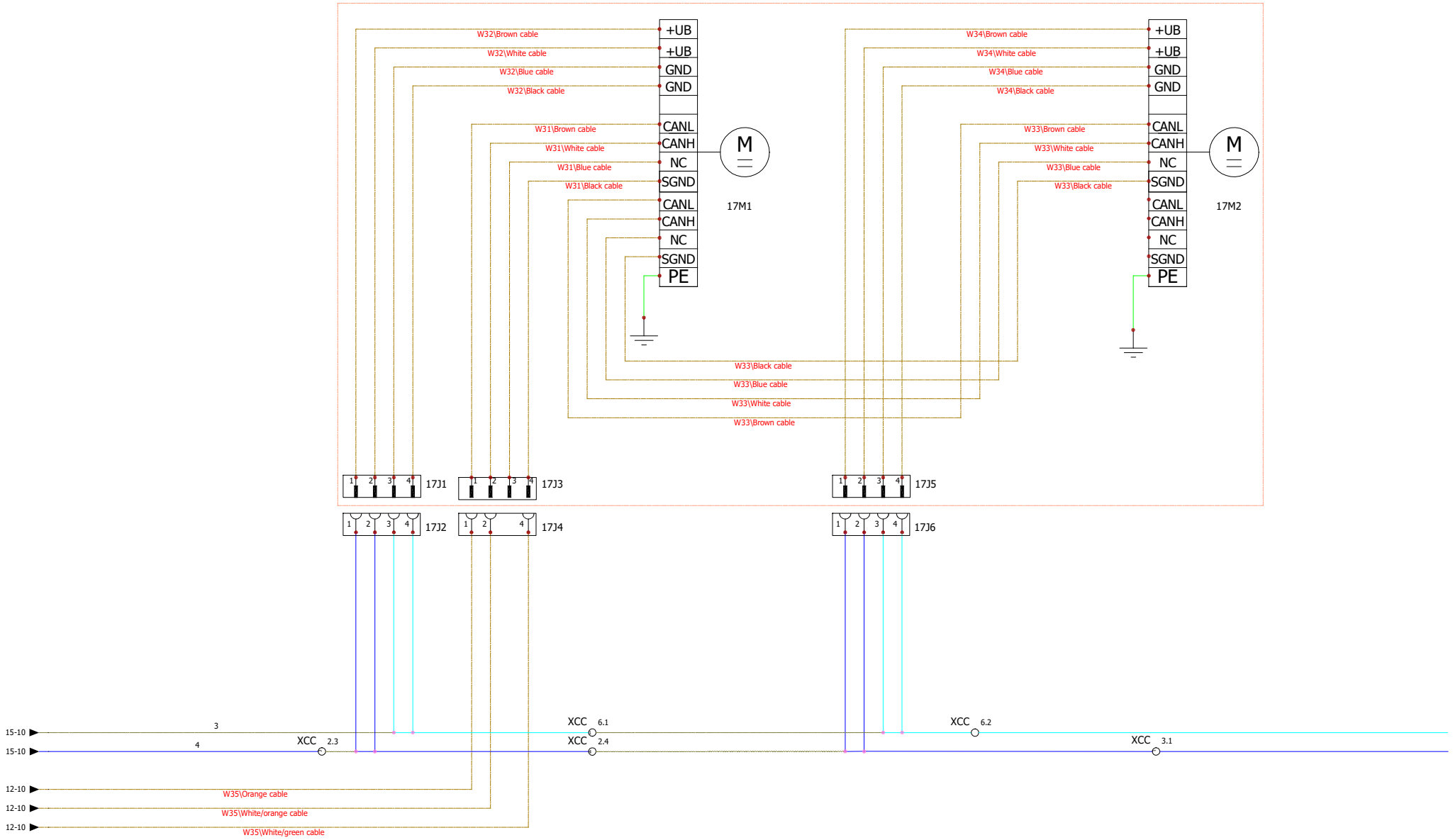
REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 16

1	2	3	4	5	6	7	8	9	10

P10 - Gun



ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

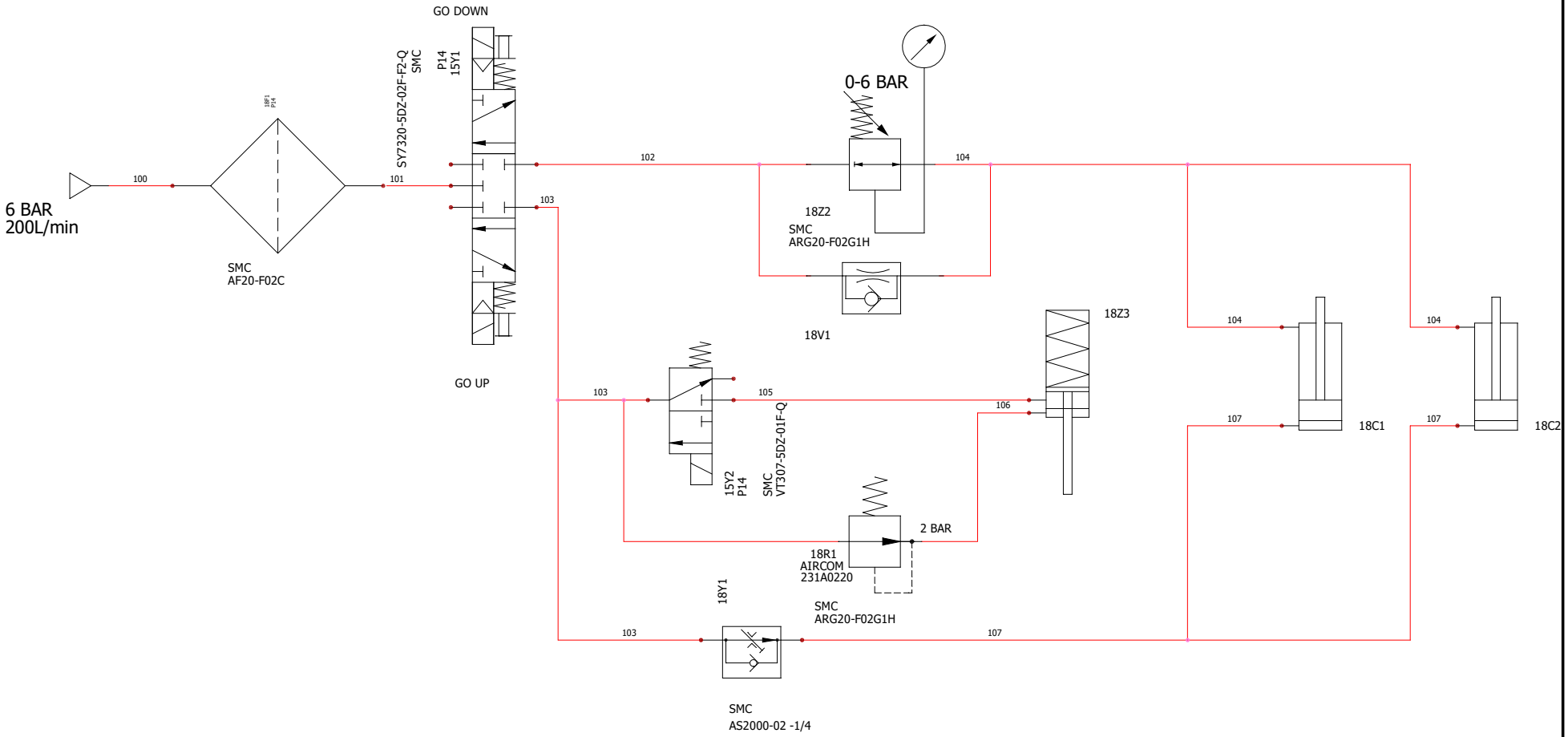
GUN MOTORS

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 17



ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

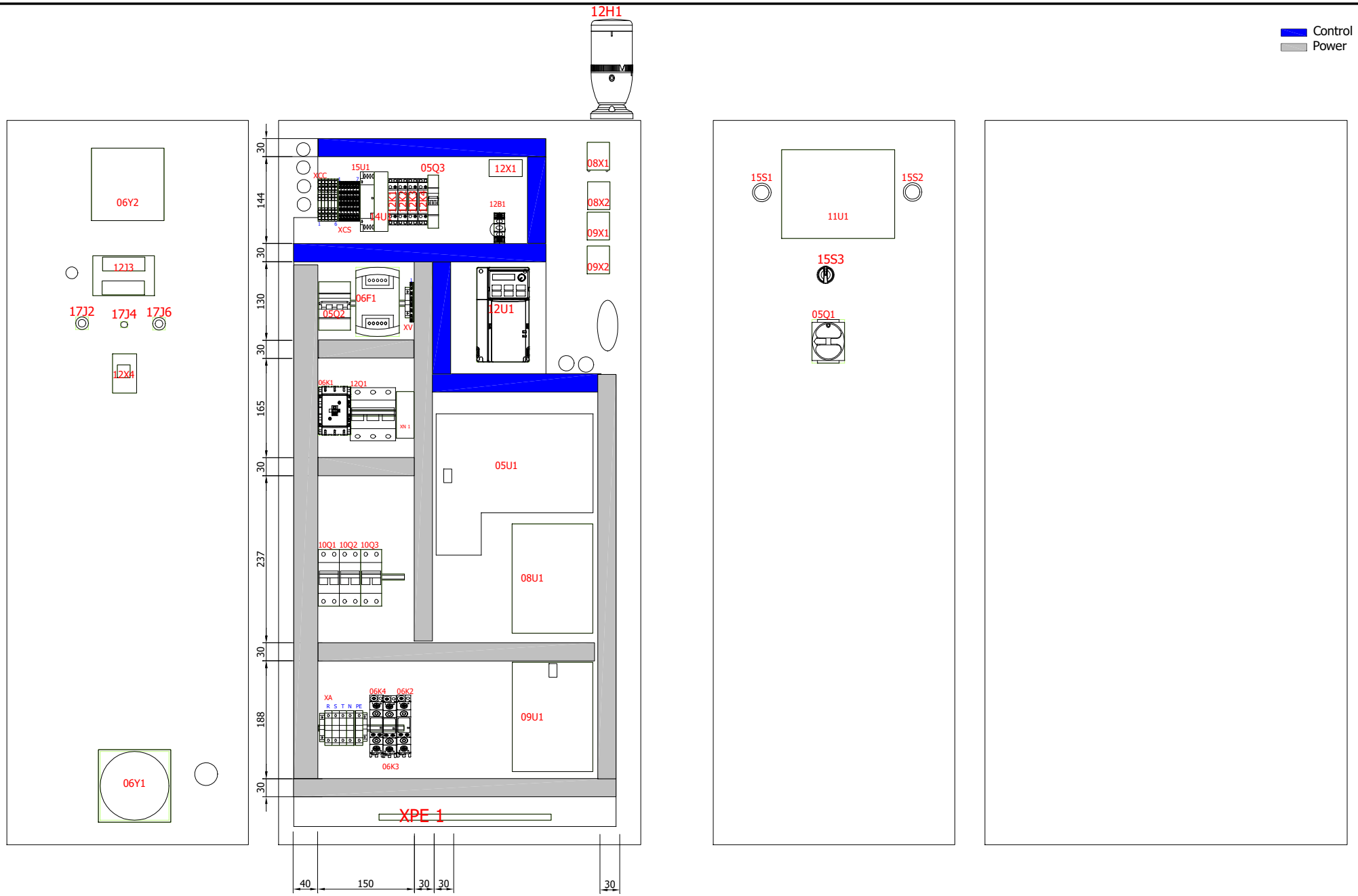
PNEUMATIC DIAGRAM

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

REVISION K

SCHEME 18



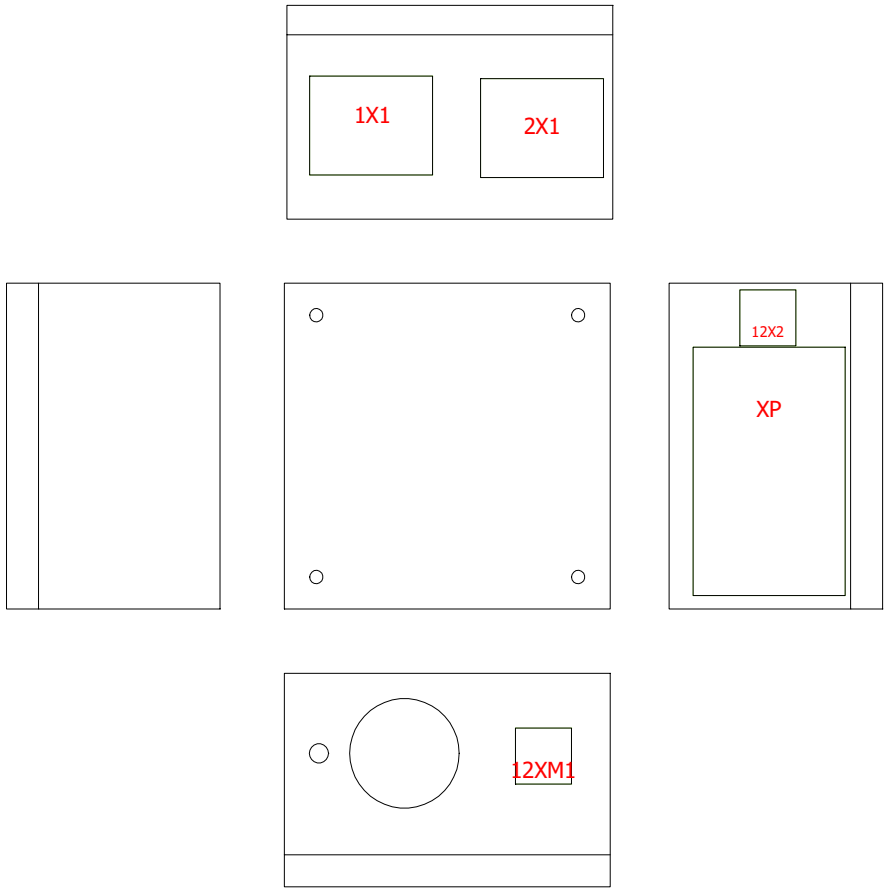
ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

ELECTRICAL CABINET CONSTRUCTION

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

SCALE 1 / 6
REVISION K
DRAWING 19



ValcoMelton, S.L.U.
European Headquarters
Pol.Ind. Agustinos C/G D34
31160 Orcoyen, Navarra, Spain
Tel: +34 948 321 585
Fax: +34 948 326 584

ELECTRICAL BOX CONNECTION

PROJECT: S065160203 FLEXDRUM 1 PUMP 2-6 NI120

REV.	DATE	NAME	CHANGES
K	15/04/2024	oelizalde	PM21644 Change level sensors
J	04/04/2024	oelizalde	PM21644 Change level sensors
I	11/03/2024	imateo	PM21717 Change touch sreen connection
H	21/12/2023	oelizalde	PM21656 Change connector pinout
G	23/11/2023	oelizalde	PM21656 Change connector pinout

SCALE 1 / 2

REVISION K

DRAWING 20