VALCO MELTON

Adhesive Dispensing & Quality Assurance Systems

KUBE 4, 8 AND 16

INSTRUCTION MANUAL

MUS0380201

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 2009 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 UNE-EN ISO12100:2012, relative to safety of the machines. Evaluate of risk, law UNE-EN 60204-1, relative to safety of the machines, laws UNE-EN 61310-1, UNE-EN 61310-2 and 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.

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: 16 January 2026

Signed: _____

Gonzalo Marco, Managing Director.

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.

CHAPTER 1: SAFETY INSTRUCTIONS

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1.1 SYMBOLS AND TERMS

Miscellaneous prohibitions

European Community markings

Danger hot surface

Note of special interest

Miscellaneous precautions

Use of goggles required

Precaution: Electric current

Use of safety gloves required

Precaution: Flammable liquid

Elements susceptible to electrostatic discharge

Precaution: risk of fluid leakage under high pressure

Precaution: risk of entrapment between mobile parts


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.

Hazardous voltage:

Not following the security indications could result in personal injury, death, or damage to equipment.

Qualified personnel:

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

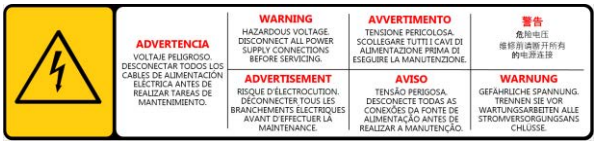
Goggles and face shields:

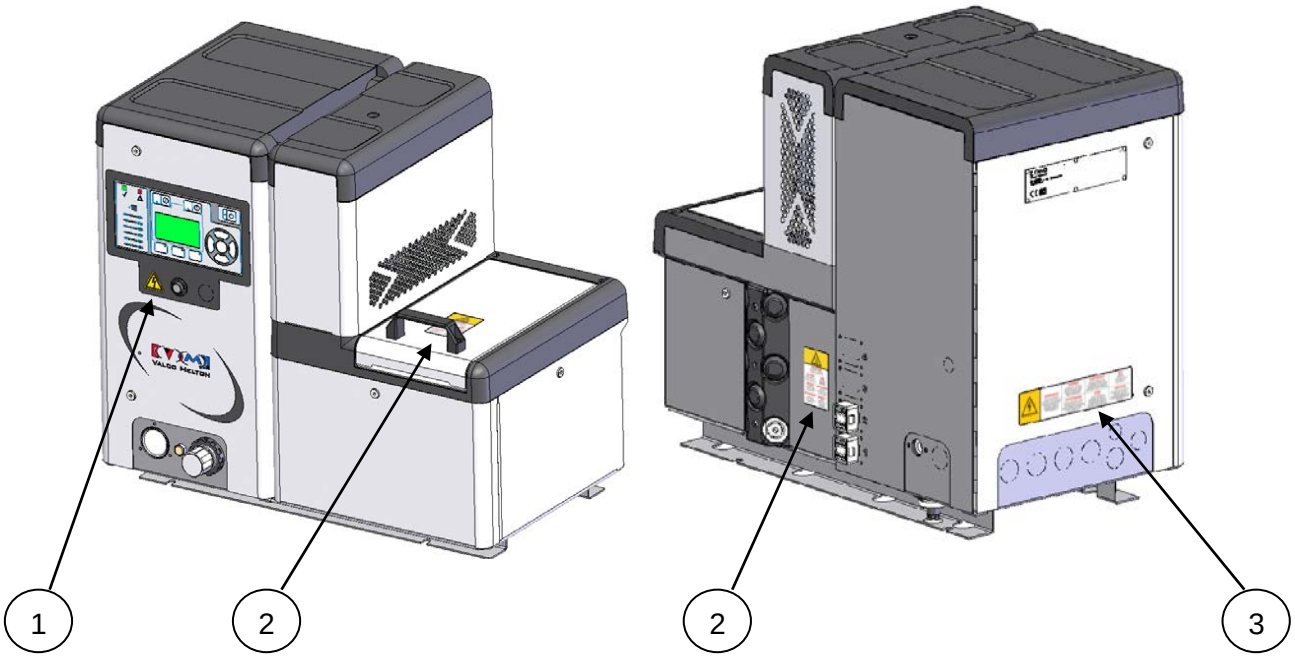
They will be compliant with the EN 166 standard, protecting against fast-moving particles and high temperatures. Goggles only protect the eyes. Face shields are therefore preferable, since they protect the entire face.

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.

1.2 EQUIPMENT MARKING

Nº	LABEL	DESCRIPTION
1		Hazardous voltage
2		CAUTION. Hot surface. Avoid contact.
3		WARNING. Hazardous voltage. Disconnect all power supply connections before servicing.



1.3 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:

1. 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.

2. This unit has not been designed to operate in hazardous, explosive and/or flammable atmospheres
3. When working with this machine, wear protective clothing, gloves and face shields and remove rings, bracelets and watches.
4. 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.
5. 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.
6. Make sure that the equipment is properly grounded.
7. Never operate the machine if you are aware that there is a leak in the glue circuit.
8. Maintenance operations and/or repairs should be performed by personnel with basic knowledge of the machine and the mechanical, pneumatic and electric circuits involved.
9. Maintenance operations and/or repairs should always be performed with the machine switched off at the mains, and with the main switch blocked.
10. Maintenance operations and/or repairs should always be performed with the machine de-pressurised and disconnected from the pressure circuit.

1.4 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.

In case of entrapment:

Press directly the wound with a clean cloth to control hemorrhage.
Protect and immobilize the injured area.
Seek qualified medical attention immediately.

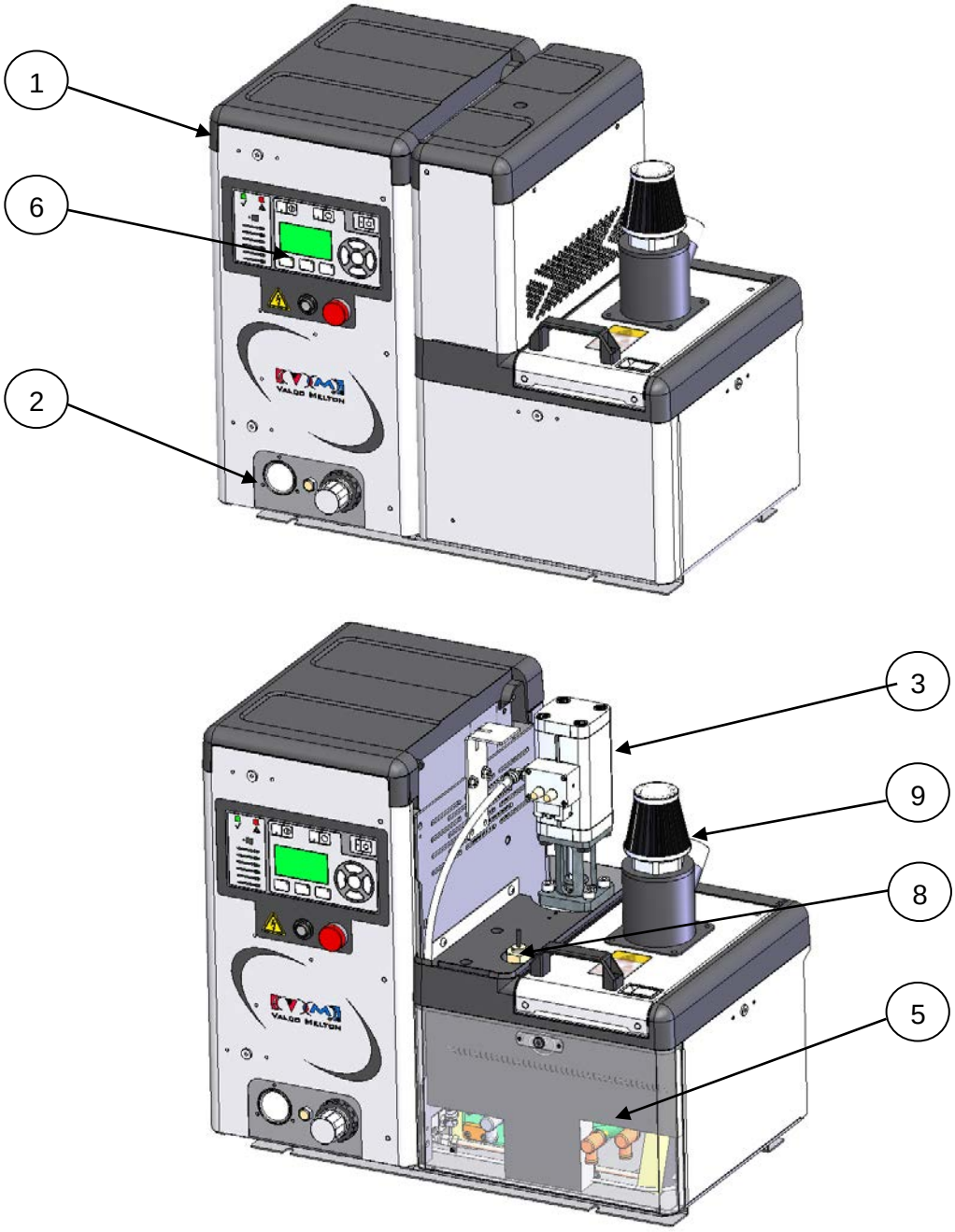
CHAPTER 2: DESCRIPTION

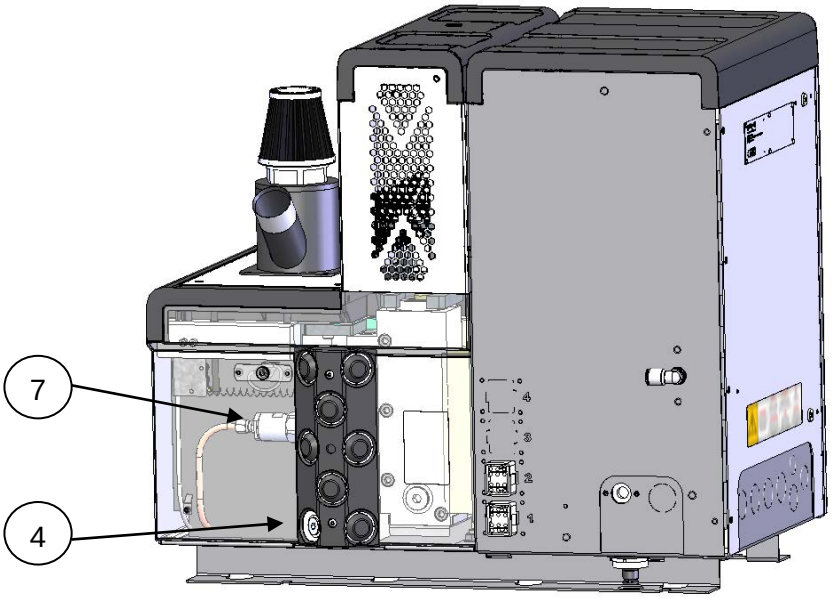
2.1 INTRODUCTION

This machine heats hot-melt adhesive (or similar materials) until it goes from solid to liquid state in a heated container. A pump then pressurizes the adhesive and transfers it to a manifold, where it flows through heated hoses to the application point.

2.2 MAIN PARTS

The main parts of the KUBE 4 equipment are shown on the following figures:





Basic equipment description (optión A):

Nº	DESCRIPTION
1	Electrical and pneumatical cabinet
2	Frame
3	Pump
4	Manifold
5	Tank
6	Control panel
7	Discharge valve

Optional equipment description:

Nº	DESCRIPTION	Intermediate (option B)	Full (option C)
8	Level sensor	X	X
9	Vacuum feeder		X

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2.2.1. ELECTRICAL AND PNEUMATICAL CABINET

The cabinet contains the temperature and pneumatic control interface and related electrical and pneumatical components.

2.2.2. FRAME

The frame consists on a base plate on which the equipment is installed.

2.2.3. AND 2.2.4. PUMP-DISTRIBUTION SYSTEM

This system transfers adhesive from the tank to the manifold.

Manifold:
The manifold distributes the Hot-Melt, once filtered, to the hoses and guns.
Made of aluminium, it is located on the rear part of the tank so the tank heaters can heat it indirectly.
The manifold filter consists of a core and a fine, in-line filter screen to filter crystal particles or dirt that could be present in the adhesive.
The manifold has eight outlet holes to connect the Hot-Melt hoses: three on the left column, two on the central column and three on the right column.

Pump:
The pump delivers the Hot-Melt, or other molten product, at a set pressure, from the tank to the substrate (or material to be glued), after passing through a manifold, filter, hoses and guns.
The pump system consists of an electrovalve, a pneumatic cylinder and a double-acting hydraulic pump with a pressure compensator, to avoid a drop in the flow produced when changing pump direction, and enabling uniform Hot-Melt discharge.

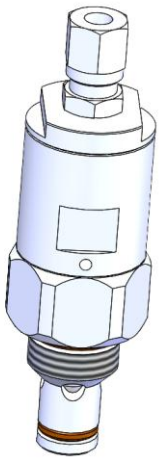
Do not disassemble the manifold. This operation should only be done if there is a Hot-Melt leak between the tank and the distributor.

2.2.5. TANK

The Tank is where the Hot-Melt or other similar material is melted (the other material can be in the form of pellets or blocks). The cast aluminium tank is lined with Teflon to avoid carbon deposits and crystal formation, and incorporates a resistance heating system.
A sensor with a micro-controller controls resistance heating, and can be programmed up to 240ºC.

2.2.6. CONTROL PANEL

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



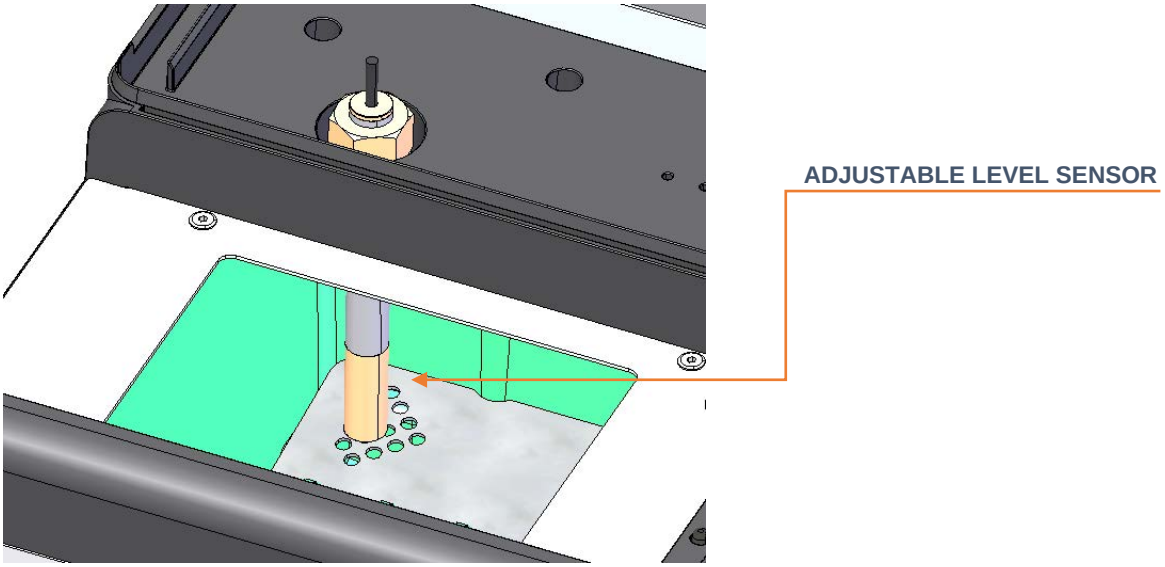
2.2.7. DISCHARGE VALVE

When the system is operating normally, the valve stays closed, but if there is an electric failure, it will open immediately (the air to maintain it closed has been stopped due to the electric failure), so that pressure in the hoses and guns will go to the tank.

The purpose of this valve is to avoid dangerous situations, due to residual adhesive pressure, when electrical failures occur.

2.2.8. LEVEL SENSOR

The level sensor measures the adhesive level in the tank. With this, it is possible to determinate acceptable high and low adhesive levels in the tank. After adhesive reaches the top level, the sensor sends the signal to stop filling. When it reaches the lowest level, it sends the low signal and the vacuum feeder is automatically activated.



2.2.9. VACUUM FEEDER

The purpose of the vacuum feeder is to automatically fill the tank with adhesive from an external container. This system is controlled by sensors that automatically detect a need for adhesive. It must be set as STATED in the settings section.

If the sensor detects a low level of adhesive, the electrovalve opens and the vacuum feeder will supply adhesive until it detects high adhesive level. If the adhesive does not load before 200 seconds, an amber-colored light will blink and an alarm will sound.

When the vacuum feeder lid is opened, it will deactivate. To reactivate it, close the lid and lock it properly.

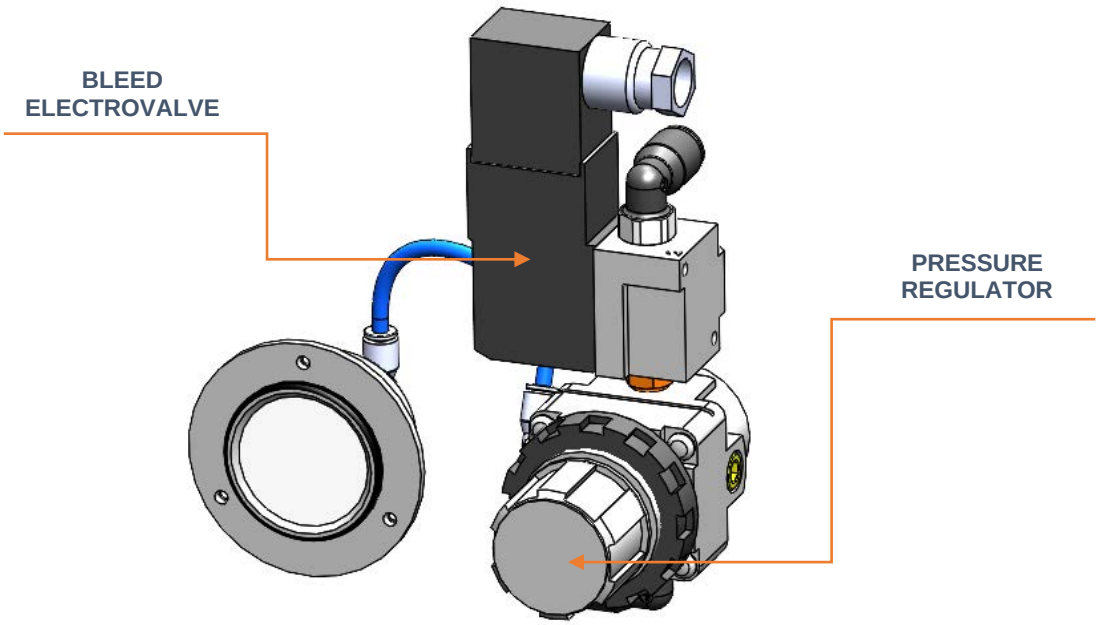
2.2.8. OTHER KEY ELEMENTS

Pressure regulator

This is the element used to raise or lower the pressure to the piston pump. It is regulated dependening on the application.

Bleed electrovalve

This is the element that controls air passage to the pump. It is electrically connected to the electrical control system. This allows the applicator to adapt to the main machine speed.

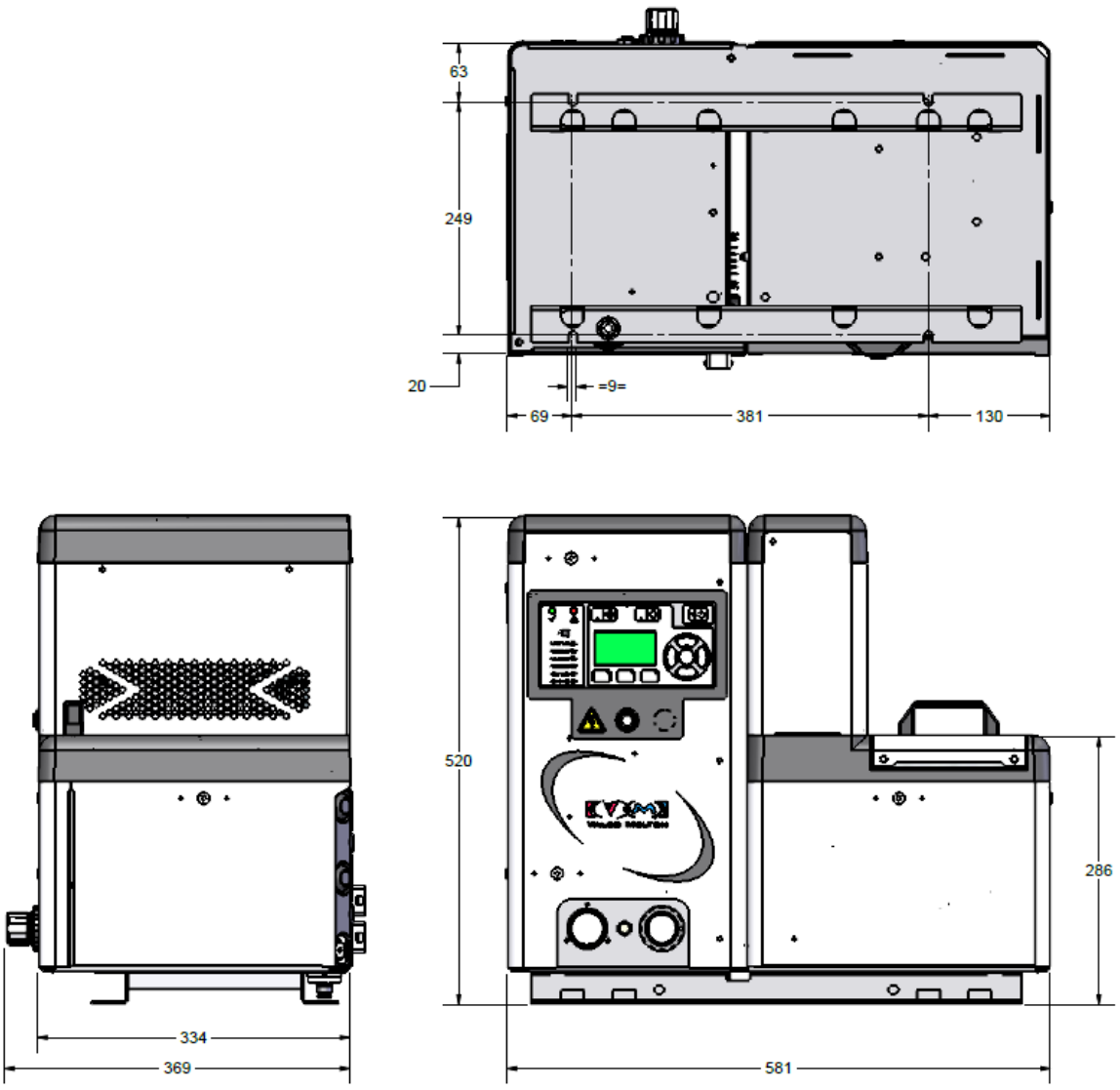


2.3. TECHNICAL CHARACTERISTICS

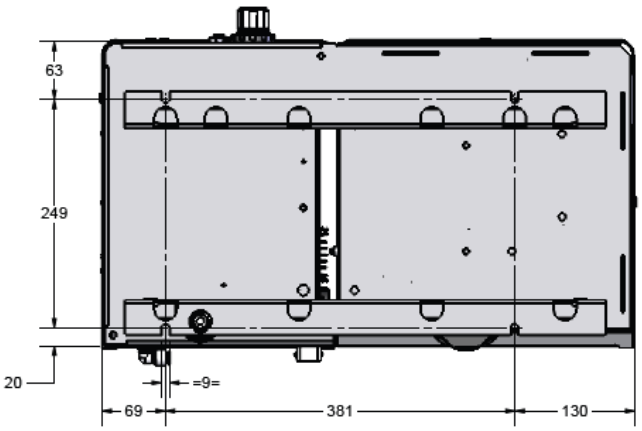
ELEMENT	*DATA*		
GENERAL			
Power supply	I 200-240V+N+T (50/60Hz) III 200-240V+T (50/60 Hz) III 380V+N+T (50-60Hz)		
Hoses (max.)	8		
Hydraulic pressure (maximum working)	2.8 – 80 bar (40 – 1138 psi)		
Noise level	63 dB		
Working temperature	-10 – 50 ºC (32 – 122ºF) HR 20% to 80% non-condensed		
CONTROL			
Working temperature	15º - 230º C (59º - 446º F)		
Temperature control precision	+/- 0.5º C (+/- 1º F)		
Type control	PID Control		
PUMP	**BAJO CAUDAL**		**ALTO CAUDAL**
Pumping capacity (Kg./h)	35		100
Pump compression ratio	1:14		1:13
Pneumatic working pressure	0.5 to 6 bar		
Compressed air consumption	50 l/min (13 gallon/min)		100 l/min (26 gallon/min)
TANK	**KUBE 4**	**KUBE 8**	**KUBE 16**
Volume (litres)	4	8	15,5
Melting capacity (Kg./h)	6	9	16
Tank electrical consumption (W)	1300	1900	3100
VACUUM FEEDER			
Compressed air consumption	2 - 6 bar (29 to 87PSI)- 480 l/min (126 gallon/min)		
Hose length	3m (43,5PSI)		

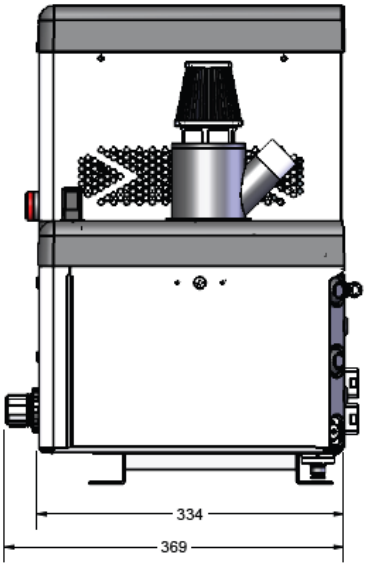
2.4. GENERAL DIMENSIONS

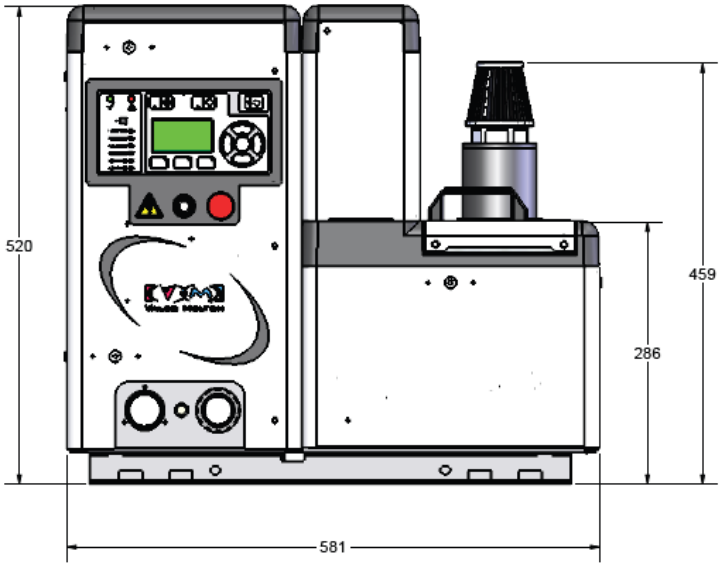
2.4.1. KUBE 4 AND 8 MODELS A AND B



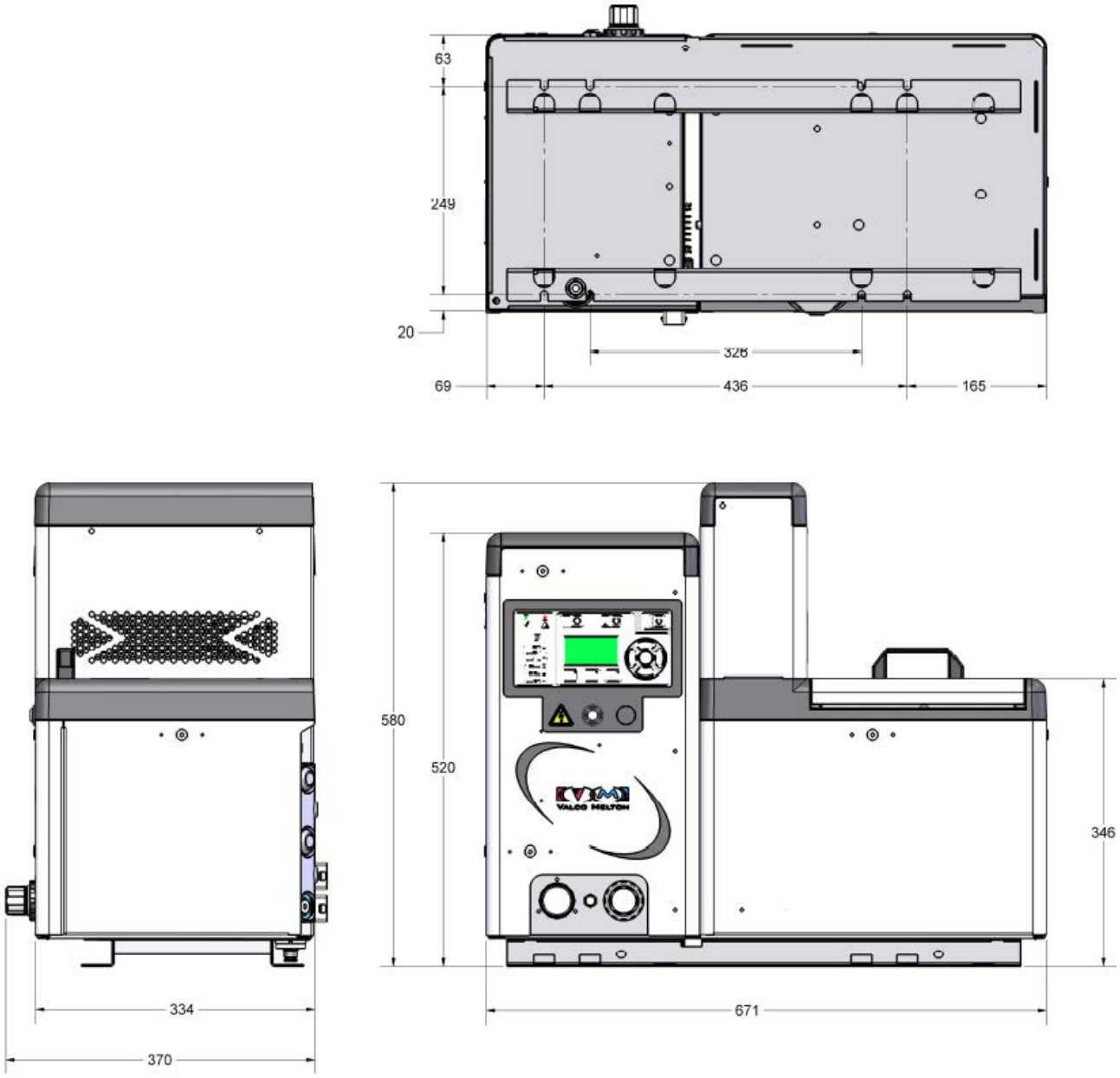
2.4.1. KUBE 4 AND 8 MODEL C



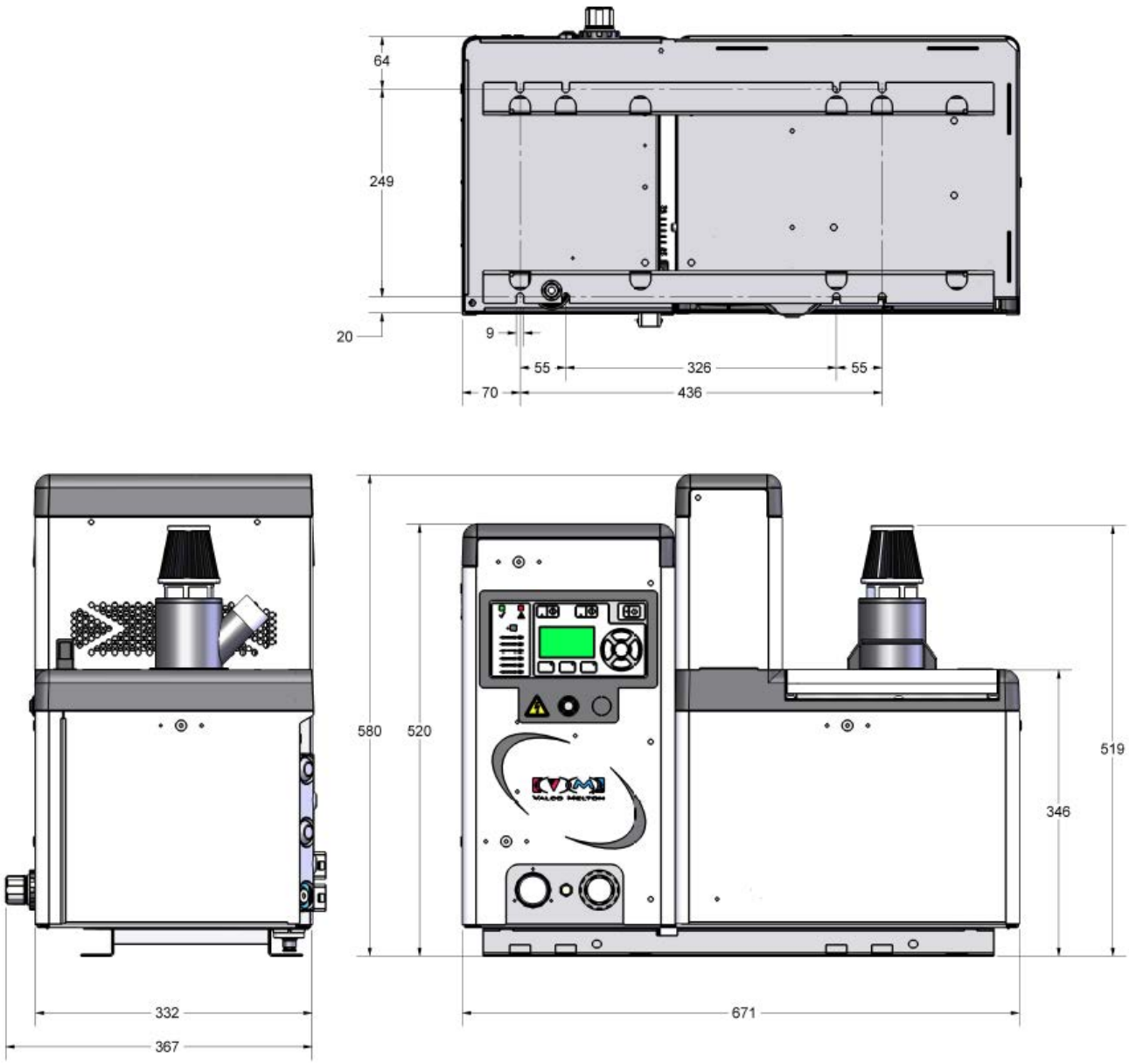




2.4.3. KUBE 16 MODELS A AND B



2.4.4. KUBE 16 MODEL C



CHAPTER 3: MACHINE INSTALLATION

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

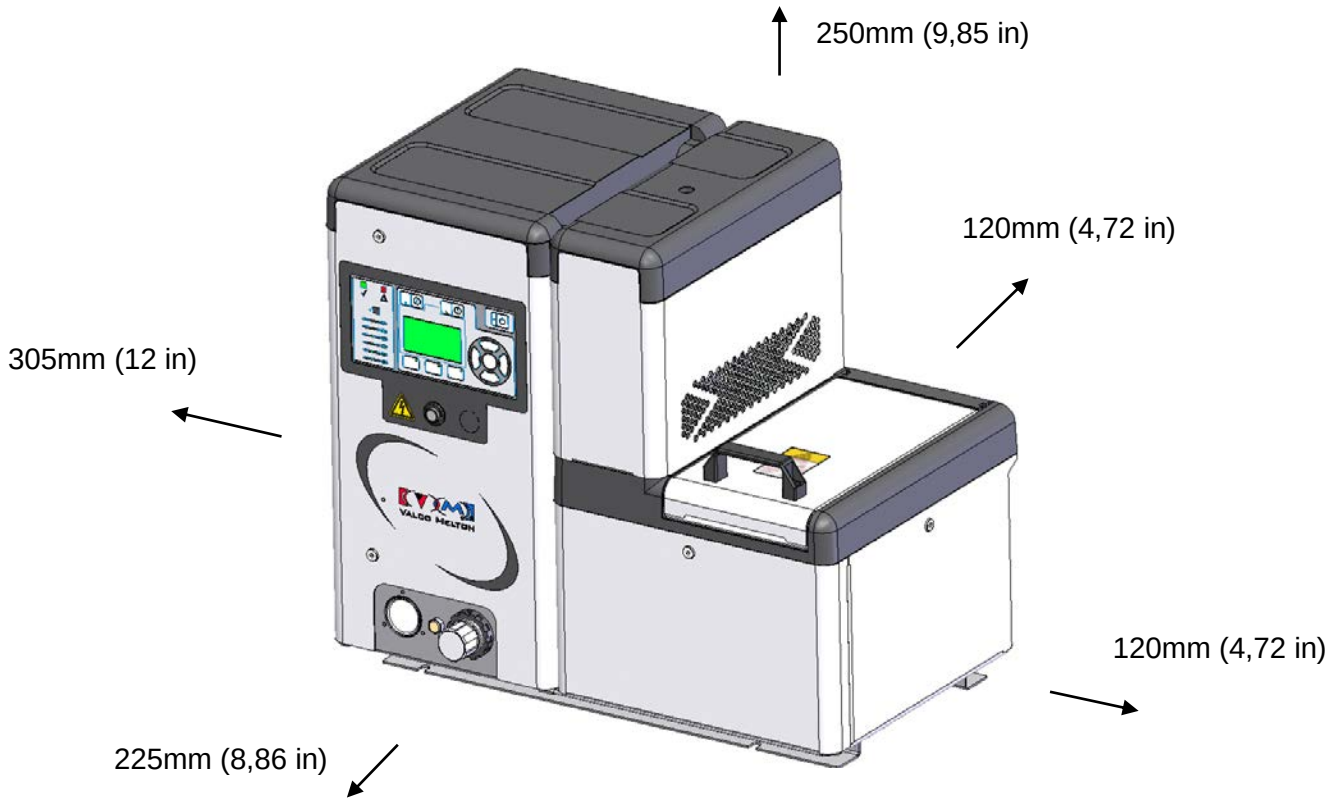
The unit is supplied packed in a cardboard box.

Remove the top and sides to unpack it.

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

3.3 INSTALLATION REQUIREMENTS

- Install the equipment leaving enough space to be accessed during operations:
  The machine cannot be covered by any kind of material.



- Avoid extreme temperatures (below -10ºC 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.
- When selecting the parent machine or support structure, follow these guidelines:

    - It must be level with respect to the floor.
    - It must provide an even mounting surface.
    - It must be capable of supporting the weight of the melter including hot melt.
    - It must not be exposed to excessive vibration.

- The operator must be able to safely access and accuratelymonitor the user interface.

3.4 MECHANICAL INSTALLATION

The mechanical installation includes the following:

- Positioning the equipment.
- Connecting the hoses.
- Connecting the Vacuum feeder (For model C equipment)

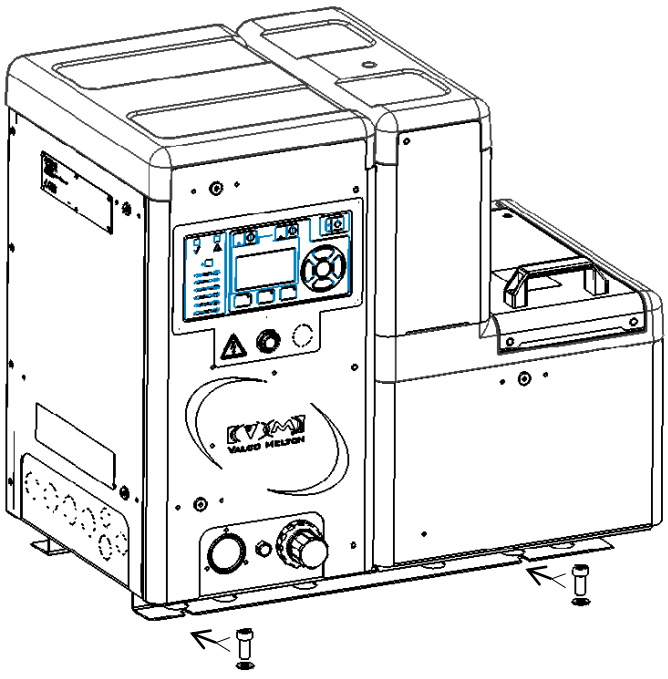
Positioning the equipment:

Prepare the parent machine or support structure according to installation requirements (chapter 3.3).

- Remove the equimpent from the box and position it following the instructions:

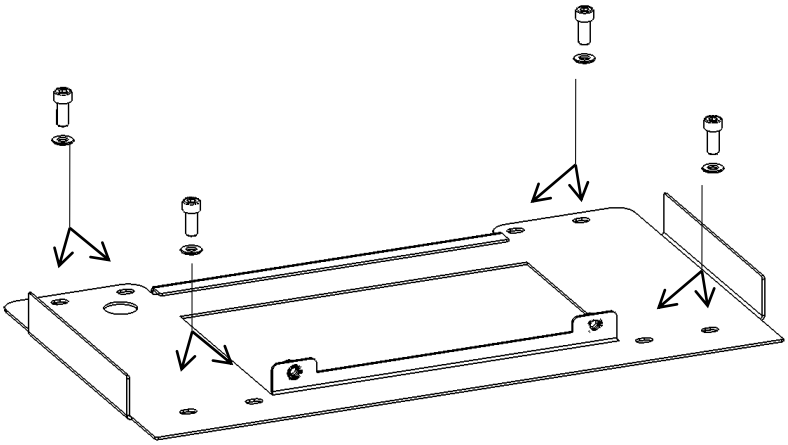
1. Mark the base bolt pattern on the parent machine or support structure and then drill holes for four 8mm mounting bolts (customer-supplied).

2. Bolt the frame to the parent machine using four 8mm mounting bolts as shown in the illustration.

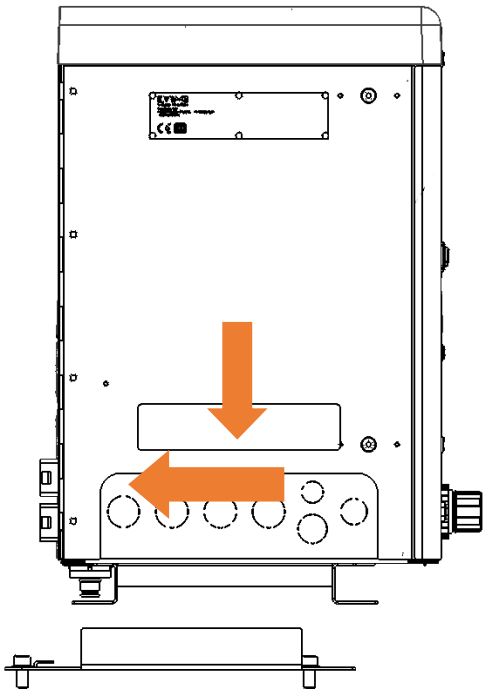


- In case the unit has the mounting plate kit accessory, the position must be done following the instructions:

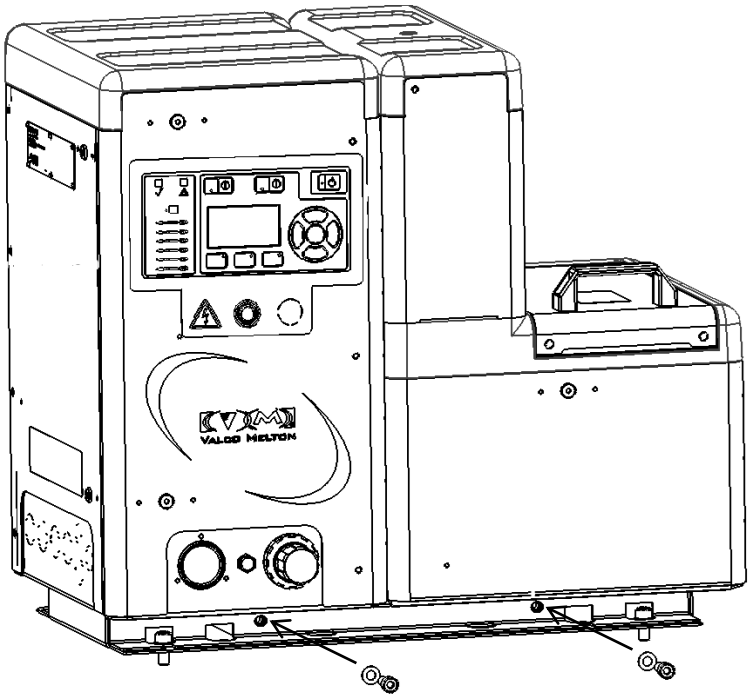
1. Mark the base bolt pattern on the parent machine or support structure and then drill holes for four 8mm mounting bolts (customer-supplied).
2. Bolt the mounting plate to the parent machine using four 8mm mounting bolts as shown in the illustration.



3. Lower the equipment onto the mounting plate carefully and slide it backward until it contacts the locking tab.

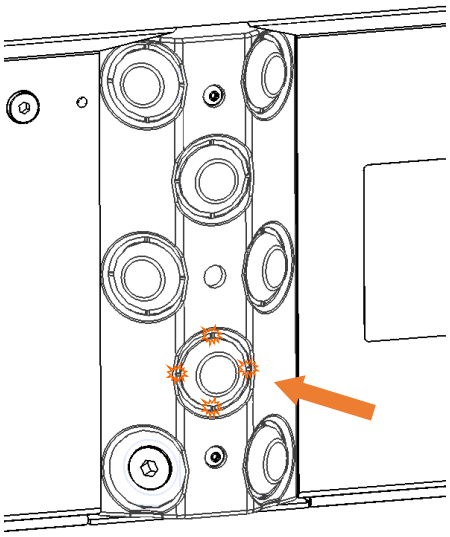


4. Lock the equipment to the mounting plate with the two M8 screws located on the mounting plate kit accessory using a 6mm hexagonal tool as shown in the illustration.



Connecting the hoses:

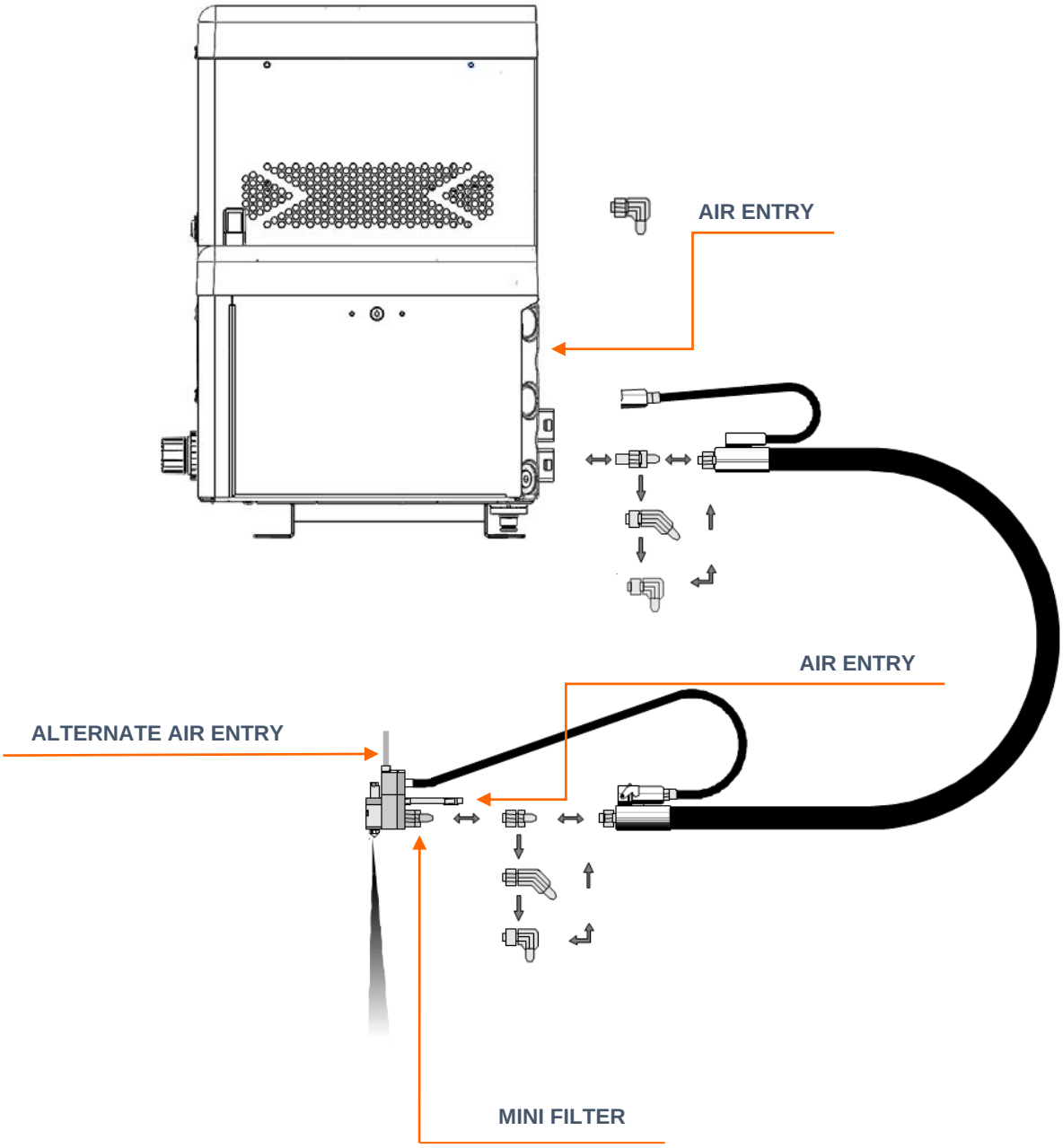
The manifold protection comes prepared to connect 1 hose. In case more connections are required, the protection holes can be removed by curring the joint points indicated in the illustration.



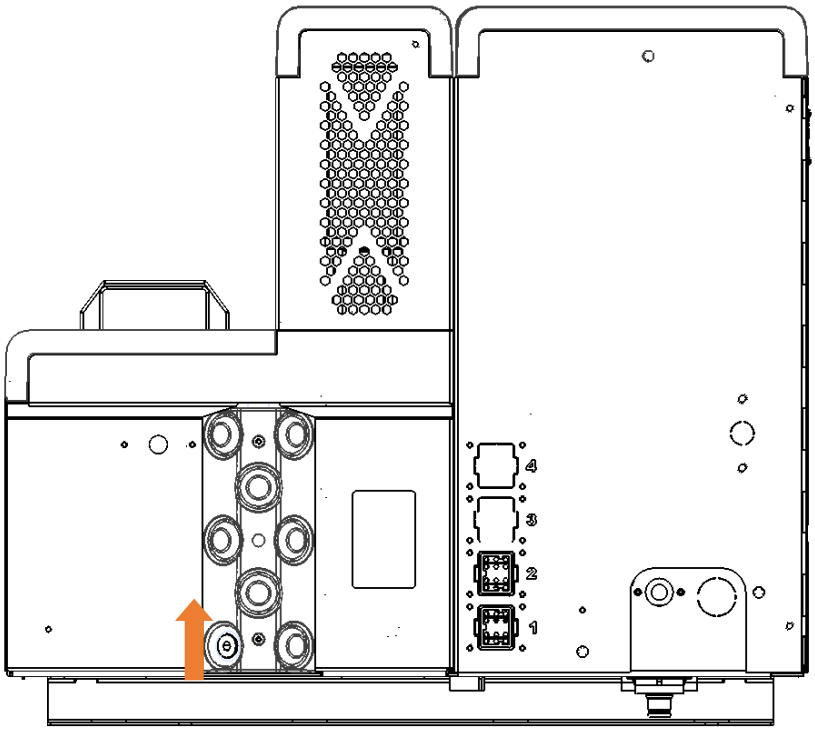
Once the manifold is prepared, proceed as follows:

Make sure that the equipment is depressurised before connecting the hose. Set the pump pressure to zero. Heat the machine to melt any adhesive that may be present.

Remove the appropriate hose outlet plug from the manifold (see below the order) and make the connection as appears in the illustration:



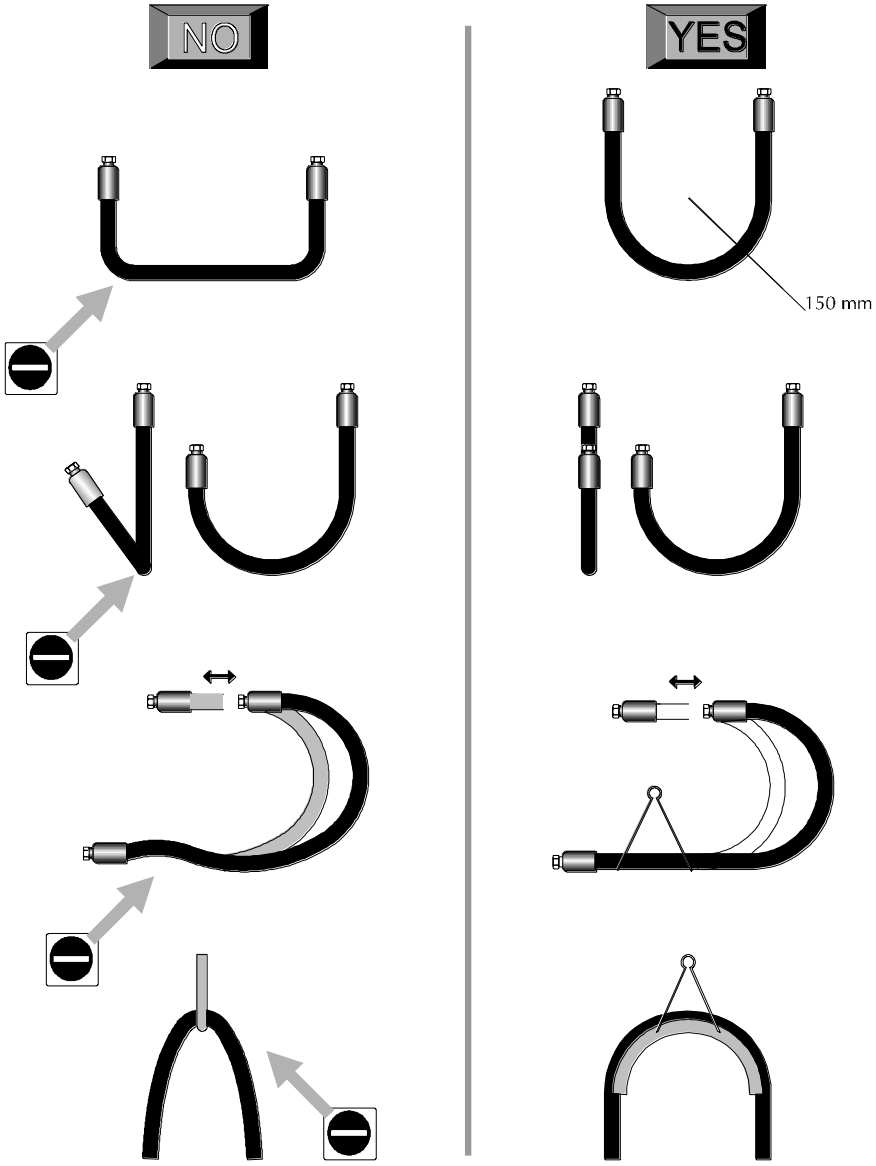
Connect the hoses from botom to top. Failing to do that will create a dead spot where carbon deposits accumulate, increasing nozzle blockage problems.



For the hydraulic connection: If the unit is full of adhesive, heat the tank before removing the manifold cap.

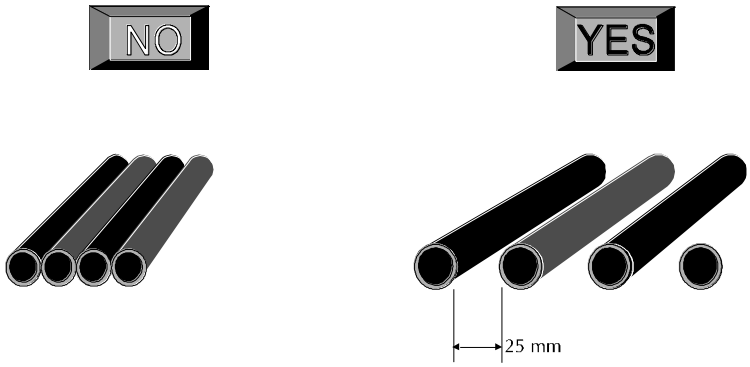
Hose Installation:

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

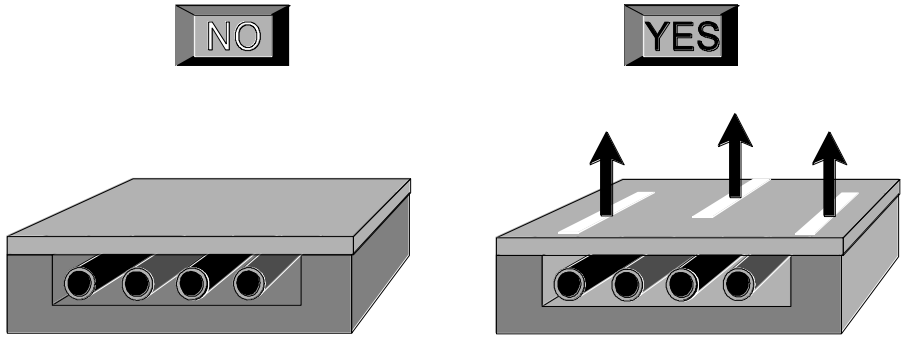


Hoses should not lie on wide and cold surfaces such as factory floors.

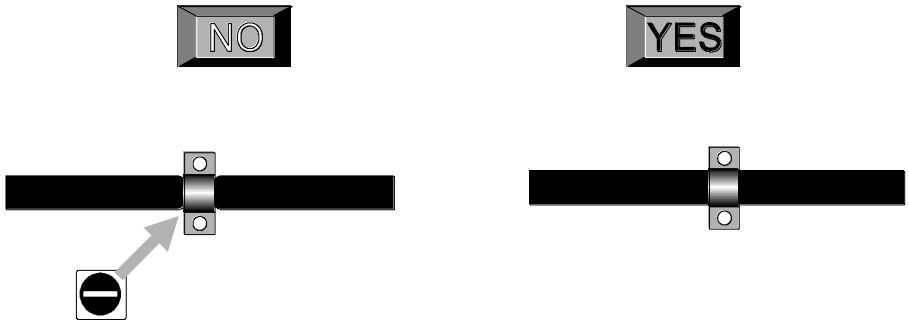
Do not bunch hoses together. Leave at least a 25 mm gap between them.



The hoses should not be in contact with very wide, cold surface.



Do not install hoses with clamps smaller that the hoses.



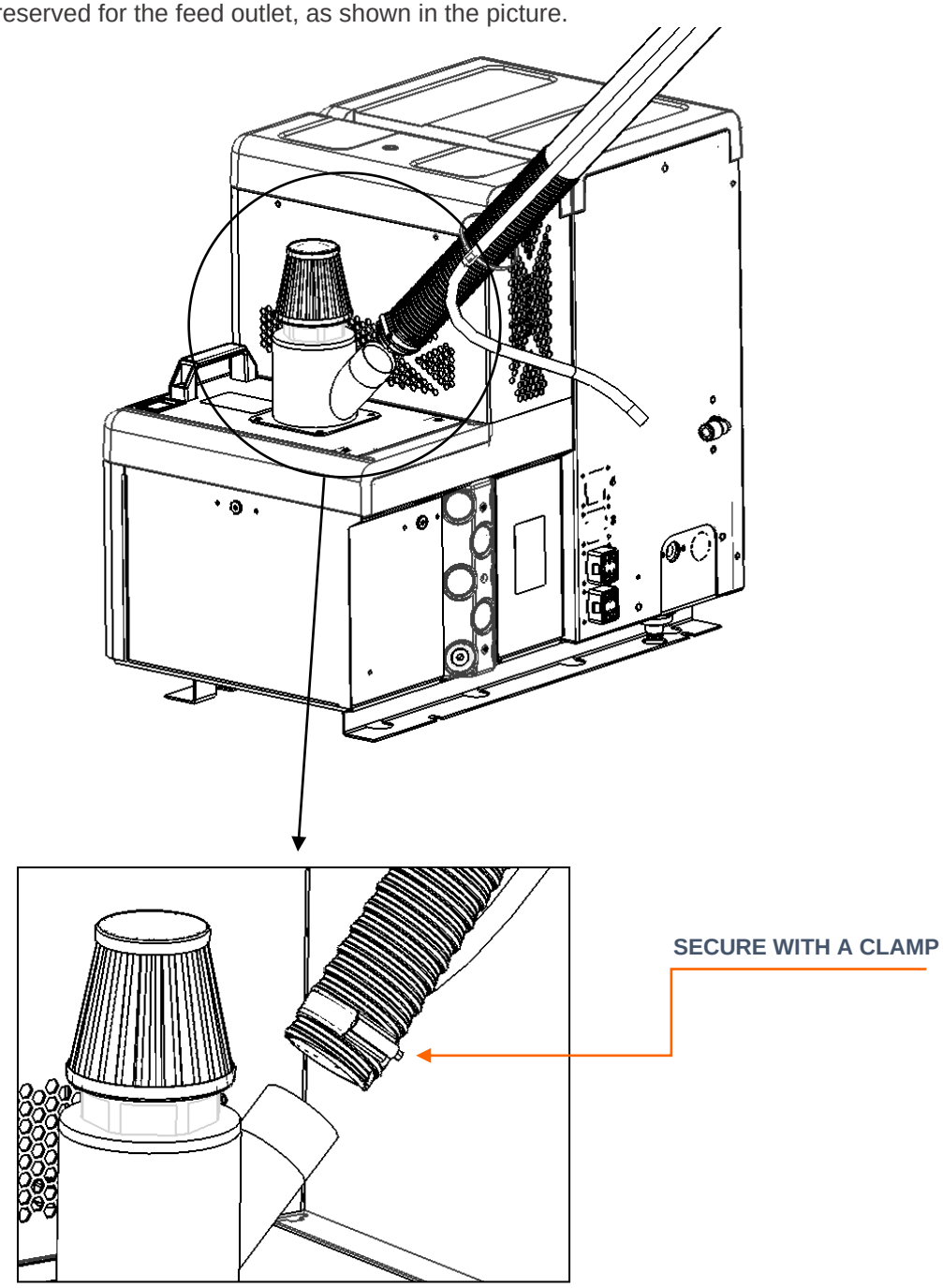
The instalation of any of the accessories to the machine, must be done by a qualified VM technicican.

Installing the Vacuum Feeder (For model C equipment):

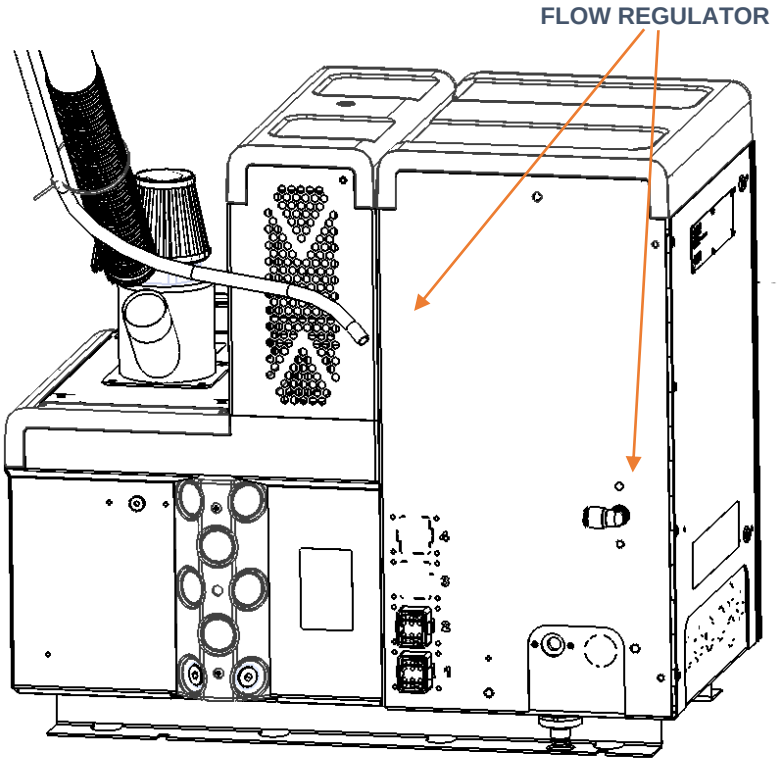
Proceed as follows to connect the vacuum feeder:

1. Remove the vacuum feeding kit from the packaging. This kit includes all of the tubes needed to install the feeder, as well as other components to be explained later.

2. Use a clamp to connect the lower tube to the part of the chimney (located above the tank cover) reserved for the feed outlet, as shown in the picture.

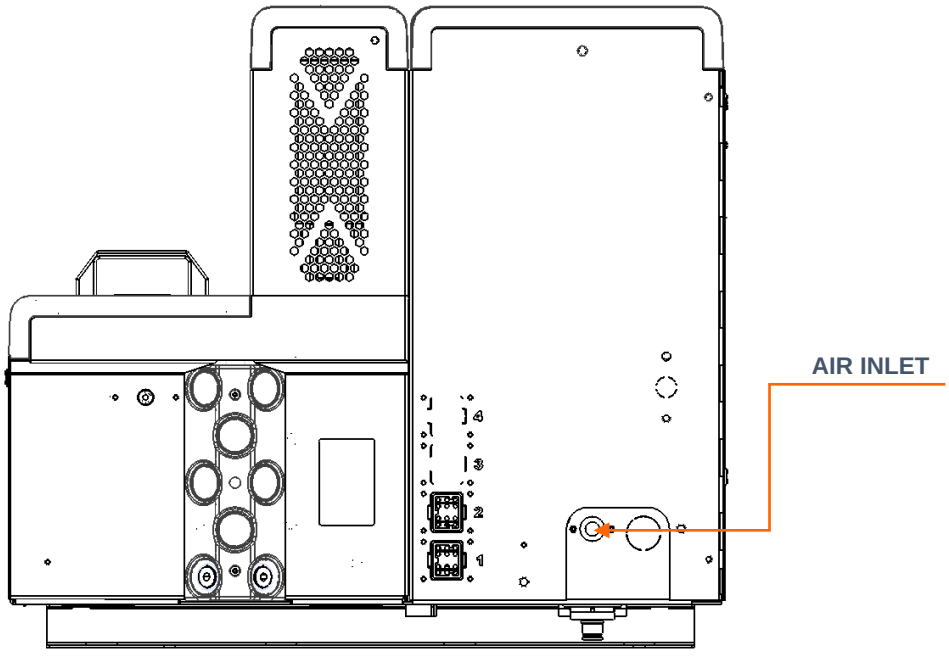


3. Connect the air line (provided in the vacuum feeder kit) to the flow regulator, visible on the back of the unit, as shown in the picture.



3.5 PNEUMATIC INSTALLATION

Connect the air line to the regulator. Make sure the air-connection line has the capacity necessary for proper pump operation.



3.6 ELECTRIC INSTALLATION

3.6.1. ROUTING LOW-VOLTAGE LEADS

Warning: Failure to observe could result in personal injury, death, or damage to equipment.

When routing low-voltage leads, follow these guidelines:

- Do not route low-voltage leads in the same conduit as wires carrying a high-current load.
- Do not route low-voltage leads adjacent to, or across wires carrying a high-current load. If low-voltage leads must cross or run parallel to wires carrying high current, keep the leads at least 6" (152 mm) from high-current wires.
- Do not splice or solder leads.
- Trim leads to the required length. Leads should be only as long as necessary for installation.
- All wiring should be in conduits or wireways.

.

3.6.2. CONNECTING THE ELECTRICAL POWER

Warning: Electrical connections should be made only by experienced service personnel! Failure to observe could result in personal injury, death, or damage to equipment.

When connecting the supply of electrical power, follow these guidelines:

Connect the unit to a “clean” supply of electrical power. Use a dedicated circuit if possible

Caution: If a dedicated circuit is not available, do not connect the unit to a circuit that supplies high-amperage equipment—use another circuit such as a lighting circuit. Otherwise, equipment may not function properly.

Warning: The external power source must be turned off before connecting power to the unit! Failure to observe could result in personal injury, death, or damage to equipment.
Only experienced service personnel should connect power to the unit! Failure to observe could result in personal injury, death, or damage to equipment.

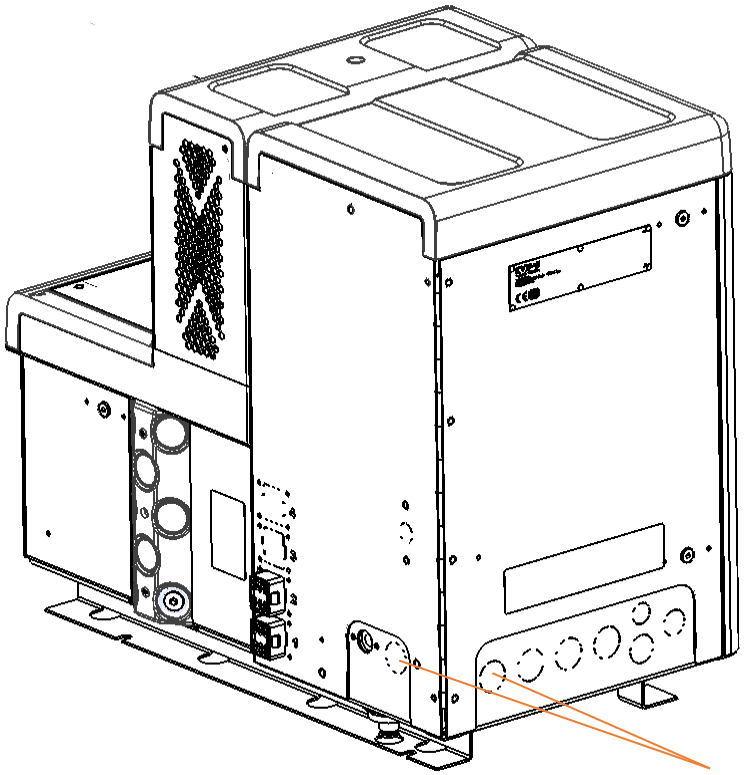
The use of an earth-leakage or ground-fault power breaker is recommended with this unit. This unit must be earthed or grounded. Failure to observe could result in personal injury, death, or damage to equipment.

The KUBE 4 hot melt unit can be set up to use one of the following power sources:

INCOMING ELECTRICAL SERVICE			Ground screw	POWER IN CONNECTOR TERMINALS					USE SELECTOR PLUG
				A	B	C	D	PE	
400VAC 3∅ with Neutal (5 wire service)	3∅/N/PE AC 400/240V	Min Field Wire: 12 AWG Min Ground Wire: 10 AWG	PE	L1	L2	L3	N	X	029XX437 400V 3∅
200 to 240VAC 3∅ w/o Neutral (4 wire service)	3∅/PE AC 200-240V	Min Field Wire: 10 AWG Min Ground Wire: 8 AWG	PE	L1	L2	X	L3	X	029XX435 240V 3∅
200 to 240VAC 1∅ w/o Neutral (3 wire service)	1∅/PE AC 200-240V	Min Field Wire: 10 AWG Min Ground Wire: 8 AWG	PE	L1	X	X	L2/N	X	029XX436 240V 1∅

The system should be connected via a suitable type of flexible or rigid conduit from a supply isolator and ground-fault power breaker. The conduit diameter is ¾ inch and the field installed conductors must have insulation rated 90ºC (167ºF) minimum. The supply should be clean and free from excess interference from other machines.

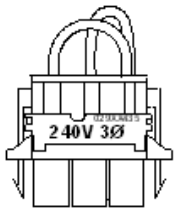
The incoming electrical service must be connected through on of the two available knockouts for service wires indicated in the illustration below:



The maximum amacity present in the unit power supply is indicated in the tables below:

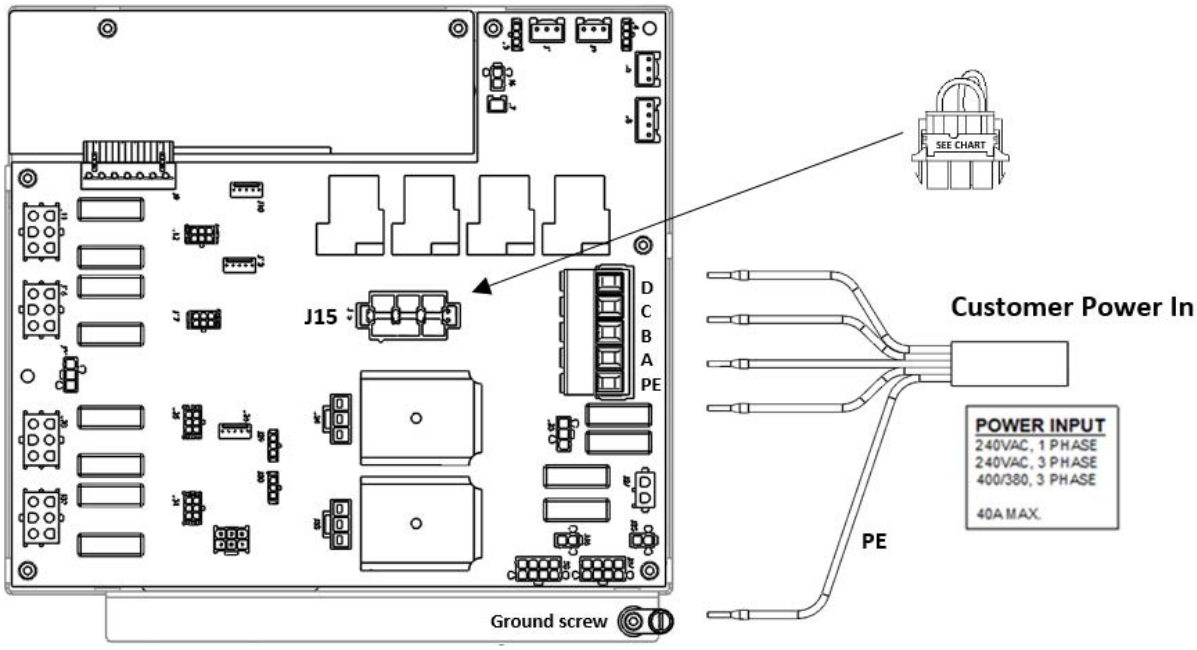
VOLTAGE RATING: 400V THREE PHASE Y CONNECTION (50/60HZ)				
Model	**Hose/Applicators**	**Current rating L1 (A)**	**Current rating L2 (A)**	**Current rating L3 (A)**
KUBE 4	2	0,3	16	6
	4	13	16	6
	6	13	29	5
	8	26	29	5
KUBE 8	2	0,3	16	8
	4	13	16	8
	6	13	29	8
	8	26	29	8
KUBE 16	2	0,3	16	8
	4	13	16	8
	6	13	29	8
	8	26	29	8
VOLTAGE RATING: 240V THREE PHASE Δ CONNECTION (50/60HZ)				
Model	**Hose/Applicators**	**Current rating L1 (A)**	**Current rating L2 (A)**	**Current rating L3 (A)**
KUBE 4	2	6	16	22
	4	18	29	22
	6	18	40	34
	8	31	40	34
KUBE 8	2	8	16	24
	4	21	29	24
	6	21	40	37
	8	33	40	37
KUBE 16	2	8	16	24
	4	21	29	24
	6	21	40	37
	8	33	40	37
VOLTAGE RATING: 240V SINGLE PHASE (50/60HZ)				
Model	**Hose/Applicators**	**Current rating L1 (A)**	**Current rating L2 (A)**	**Current rating L3 (A)**
KUBE 4	2	24	0	0
	4	36	0	0
	6	40	0	0
	8	40	0	0
KUBE 8	2	29	0	0
	4	40	0	0
	6	40	0	0
	8	40	0	0
KUBE 16	2	29	0	0
	4	40	0	0
	6	40	0	0
	8	40	0	0

Warning: You MUST follow these steps to connect power to the unit, or personal injury and/or damage to the unit may result.



029XX435 Selector Plug

1. Open the electrical enclosure door.
2. Route the power cables through the cable clamp in the chassis of the unit. The power wires must meet the minimum requirements given in the chart above.
3. Referring to the chart above, locate the appropriate voltage selector plug corresponding to the incoming electrical service.
4. Remove the power connector from the 12 zone board and connect the power wire leads to the power connector terminals as shown int the chart above.
5. Connect the Ground wire to the ground screw connector as shown in the illustration.
6. Install the appropriate voltage selector plug into the connector marked J15 in the 12 zone board (see chart above).
7. Plug the power connector into the 12 zone board (see illustration).
8. Verify that all connectors are fully seated and the power connector terminal screws are secure.
9. Close the electrical enclosure door



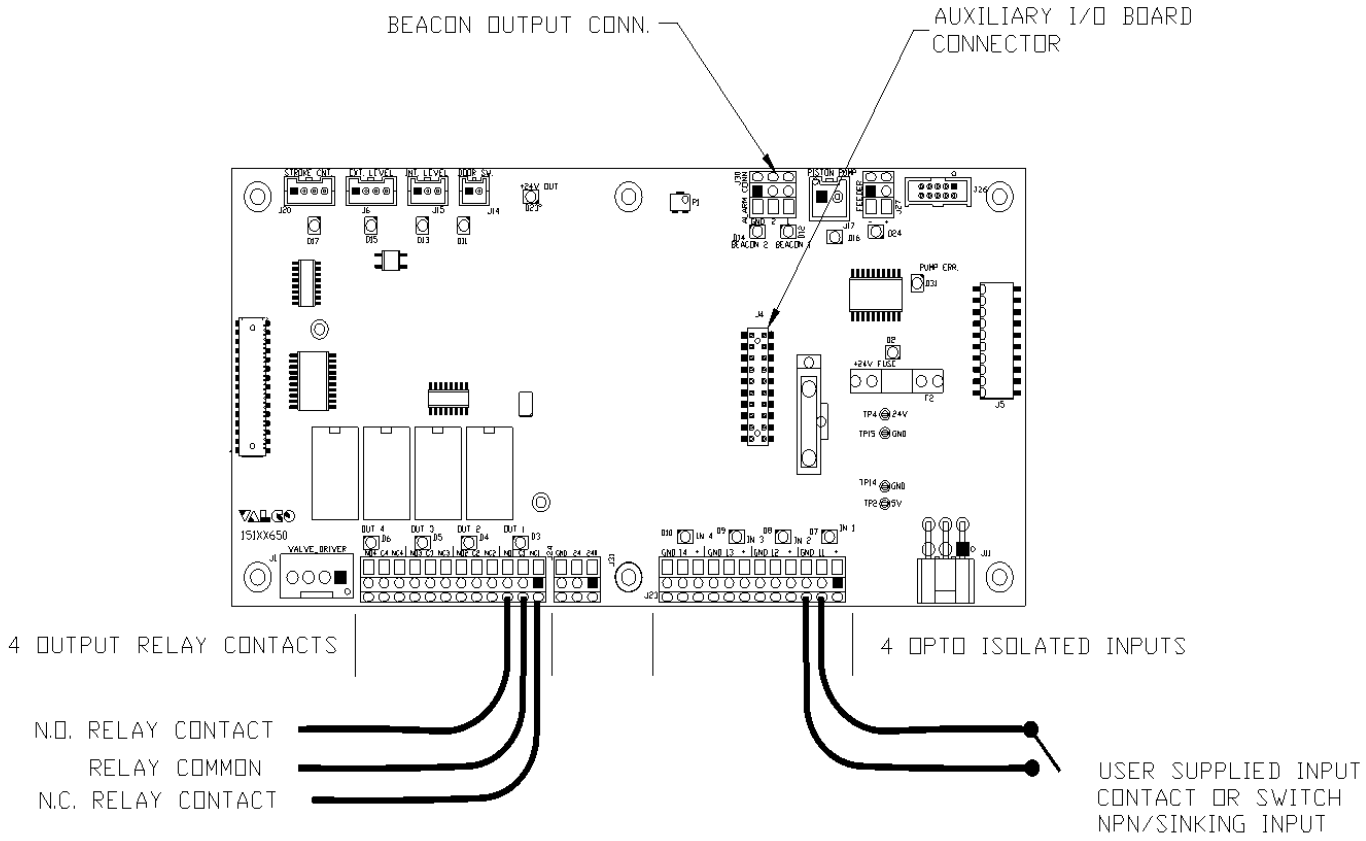
12 Zone Power Board

3.6.3 INPUT/OUTPUT AND ACCESSORIES CONNECTIONS

The Input/Output connection interface is on the J-23 & J-24 terminals, on the bottom of the CPU Board. The CPU Board is located directly behind the Keypad.

There are four opto isolated inputs rated for +24VDC @ 15mA each, that can be programmed by the user for a variety of options. See the chart below.

There are also, four dry contact user selectable outputs rated for 250V 5A each.



CPU Board Showing Input & Output Connectors

Inputs and Outputs can be programmed for the following functions:

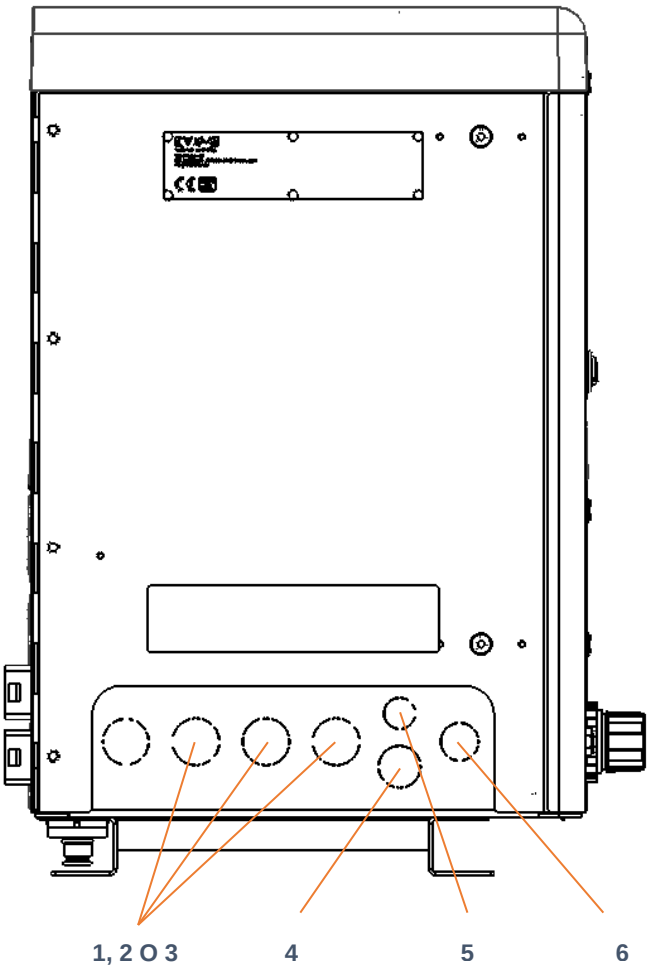
INPUT AND OUTPUT FUNCTIONS	
Inputs 1-4 (523)	**Outputs 1-4 (524)**
Disabled	Disabled
Hose and Gun #1 thru #6 On/Off	Setback On
All Heaters On/Off	Alarm
Pump On/Off	Ready & Pump On
Auto Setback	System Ready
Setback	Power On
	External Level
	Internal Level

The diagrams show the functions of the CPU Board Connectors and Wiring Connections.

Note: If communication is enabled, access to input/output programming will be lost. "Shd" will appear on the screen if input is enabled.

Apart fron the input/output functions explained above, the unit is prepared for the Ethernet communication and the PCM-6 Control Unit accesories. The cable glands and their location needed for each connection are explained below:

	CONNECTION		CABLE GLAND (REFERENCE)
1	Input and Output Functions		PG21 (914XX292)
2	PCM-6 Control Unit	Eelectrovalves group 1	PG21 (914XX292)
3		Eelectrovalves group 2	PG21 (914XX292)
4		Fotocells	PG16 (918XX805)
5		Encoder	PG11 (914XX293)
6	Ethernet communication		M25 (900XX897)



CHAPTER 4: SETTINGS

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.

4.2. TEMPERATURE CONTROL

4.2.1. INTRODUCTION

The temperature of the melting chamber, hoses and guns in the Hot – Melt application equipment is regulated by a digital electronic device controlled by microprocessor. It's equipped with calendar-clock to connection control.

Regulation is proportional, with factory-set parameters for the separate heating inertias of the melting chamber, hoses and guns.

The temperature is measured by the RTD sensor on each of the heating devices. These can be programmed individually and on each output channel between 14º - 240º C (57, 2ºF – 464ºF).

The range ability (measurement range) of the controller is between -20ºC (-4ºF) and 240ºC (464ºF).

Bellow -20ºC (-4ºF), the equipment will display a probe short circuit fault. Above 220ºC (454º), the display report an open probe fault.

4.2.2. BRIEF DESCRIPTION OF HOW THE UNIT OPERATES

With menus to access the parameter programming as well as the main machine operating permissions, alarms and diverse work functions that will be described later on, the equipment regulates the temperature of the resistors connected to the various dual hose-gun channels (2, 4 6 or 8 depending on the model) and those connected to a special channel that heats the melting chamber.

The control panel displays the equipment operating data as well as the alarms generated in the probe signals. The LEDS also display the status of the heat resistor regulator outputs, pressure pump, excess temperature alarms, safety and maintenance required status.

Preheat function:

Given that the warmed adhesive melting chamber has greater inertia than the warmed peripherals (hoses and guns), the latter will get to the programmed temperature faster. This quick warming process has an enormous effect on the resistors and insulator. At the same time, this process creates excessive pressure which flows through the hoses.

To correct this situation, the equipment features a pre-warming system which on the one hand, will heat the peripherals sequentially while the tank warms at normal speed. In other words, when the melting chamber reaches a temperature of 41ºC below the programmed temperature, the pre-heating system will move on to the hoses; and when the melting chamber reaches a temperature of 14º below the programmed temperature, the systems moves on to the guns.

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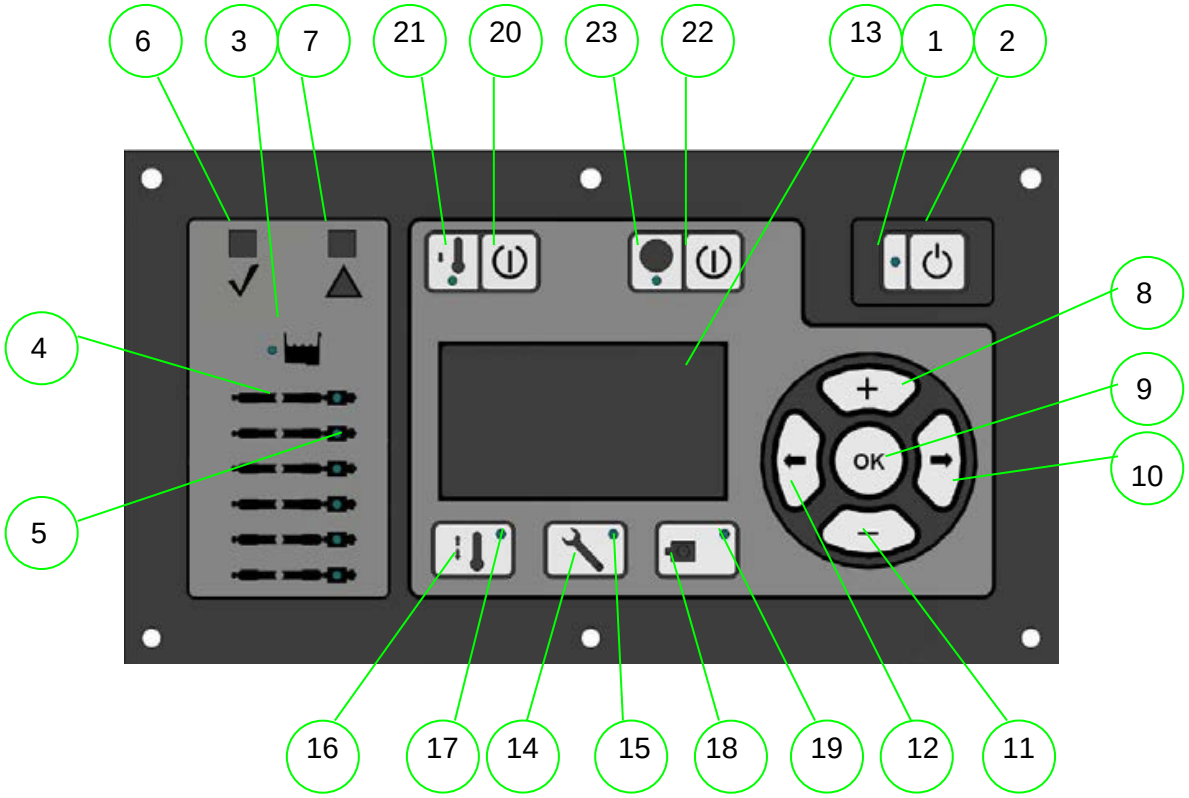
4.2.3. DESCRIPTION OF THE CONTROL PANEL

4.2.3.1 KEYBOARD

The unit control panel has 11 control keys that provide access to the programme menus and general operating processes.

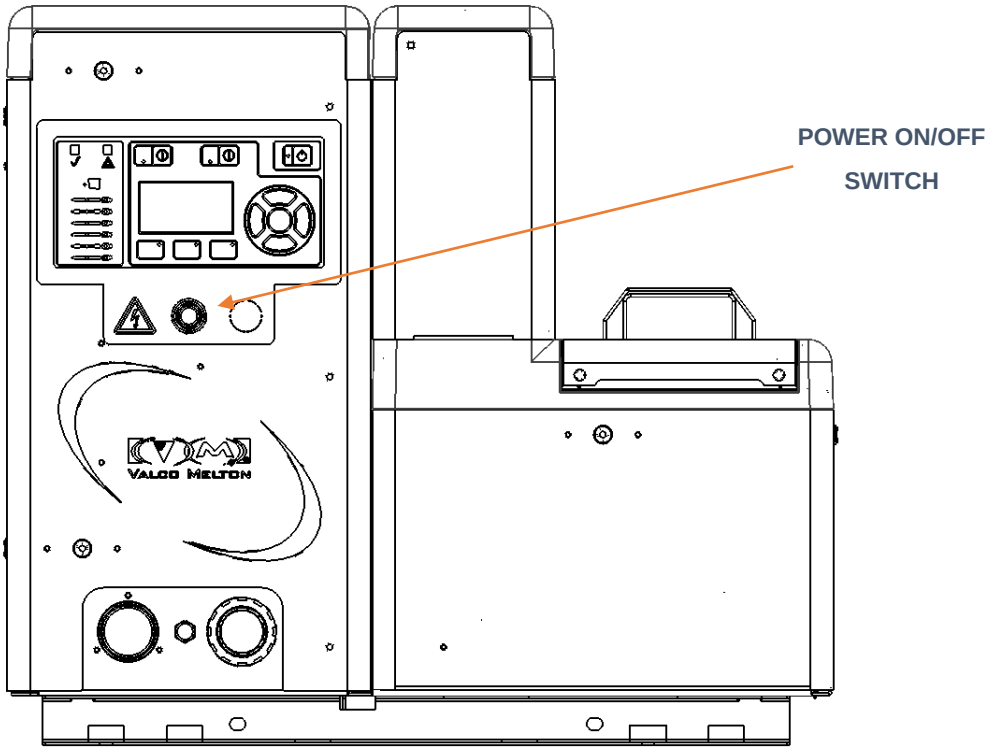


COMP.	NAME	DESCRIPTION
1	Heat On / Off LED	Green when the unit is on and orange when in Standby mode.
2	Heat On / Off	Puts the unit in or out of Standby mode.
3	Tank Zone LED	Green when the tank is warming and red when there is an alarm.
4	Hose Zone LED	Green when the hose zone is on and red when the zone is on alarm.
5	Gun Zone LED	Green when the gun zone is on and red when there is an alarm.
6	System Ready LED	Green when the system reaches the programmed temperature.
7	Alarm LED	Red when an alarm goes off.
8	More Button	Increases the value of the selected parameter
9	OK Button	Enter or exit a screen where the selected field can be edited
10	Right Arrow Button	Moves to the right through editable fields on the selected menu

COMP.	NAME	DESCRIPTION
11	Less Button	Decreases the value of the selected parameter
12	Left Arrow Button	Moves to the left through editable fields on the selected menu
13	Settings Screen	Displays the menu screens
14	Configuration Button	Displays the configuration screens
15	Configuration LED	Green when the equipment enters the configuration screen
16	Temperature Button	Displays the temperature screens
17	Temperature LED	Green when the equipment enters the temperature screen
18	Release Control Button	Disabled
19	Release Control LED	Disabled
20	On/Off Cooling/Regression Button	Puts the equipment in or out of Cooling/Regression mode. (This mode reduces the temperature so that the adhesive stays soft, but not melted when not in operation so it doesn't overheat)
21	On/Off Cooling/Regression LED	Yellow when the unit is in Cooling/Regression mode.
22	Clock On/Off Button	Turns the timer function on or off
23	Clock On/Off LED	Green when the timer function is activated.

4.2.3.2 ON/OFF SWITCH AND STANDBY MODE

The On/Off switch is at the bottom of the front Control Box (see photo).



The Standby button controls the electricity to the Hot Melt unit. Press the Standby button. The screen will turn on and the LED will be green indicating that the unit is on. When the Standby button is pressed again, the screen will go blank and the Standby LED will be orange indicating that the unit is in Standby mode.

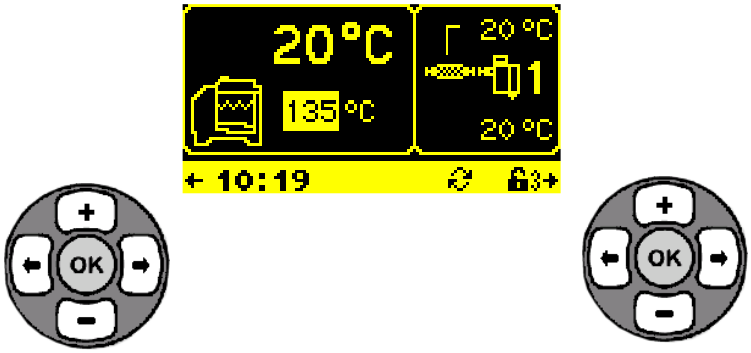
When the unit is in Standby mode, the internal timer begins working. The timer will turn the unit off and on according to the programmed shifts. However, if the switch is turned off, the internal timer will not work nor will the shifts.

4.2.3.3 VACUUM FEEDER

Amber light: when it blinks, this means a low level has been detected in the tank for a programmed time of 200 seconds. A buzzer will go off for warning. It can be reset by pressing the *Enter* key, but the amber light will continue to blink there is an adequate adhesive level in the tank.

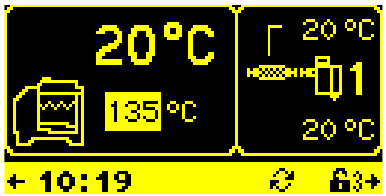
4.2.3.4 NAVIGATION

The navigation symbols at the top of the screen indicate that additional menus are available. Use the following buttons to navigate:



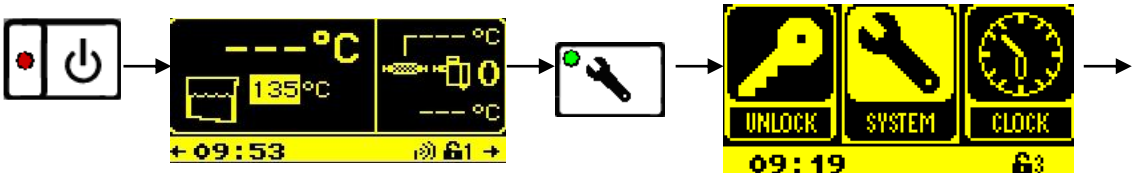
4.2.3.5 SETTINGS

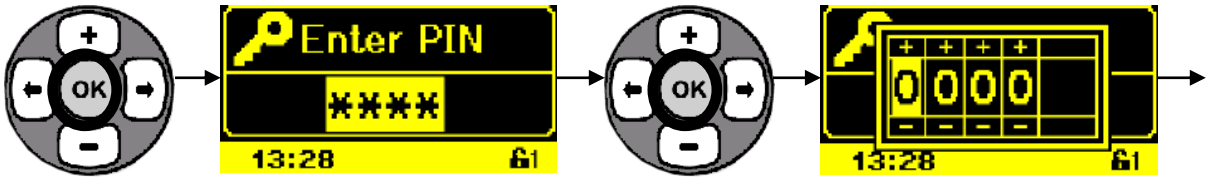
The information displayed can be edited. Use the appropriate buttons (depending on the symbols displayed) to navigate through the menus.



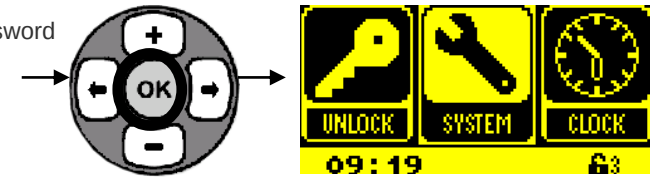
4.2.3.6 ENTERING PASSWORDS

The password is required to prevent unauthorised access to the programming unit. To enter a password:





Introduce the password



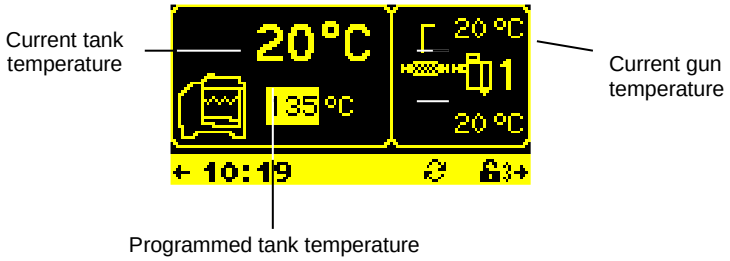
4.2.3.7 PROGRAMMING TEMPERATURES

Press the temperature button (if the temperature LED is not green) to display the first temperature screen.

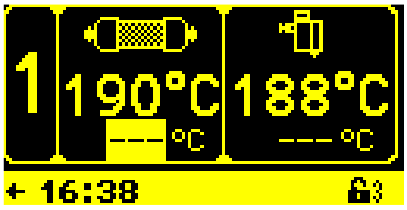
TEMPERATURE BUTTON

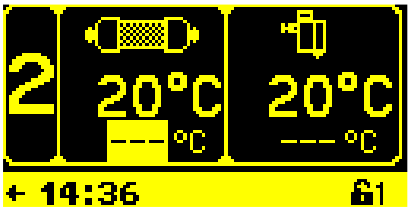
4.2.3.8 TEMPERATURE SCREENS

The tank temperature screen displays the current and programmed temperature. Output 1 and output 2 temperatures alternate on the screen to the right.

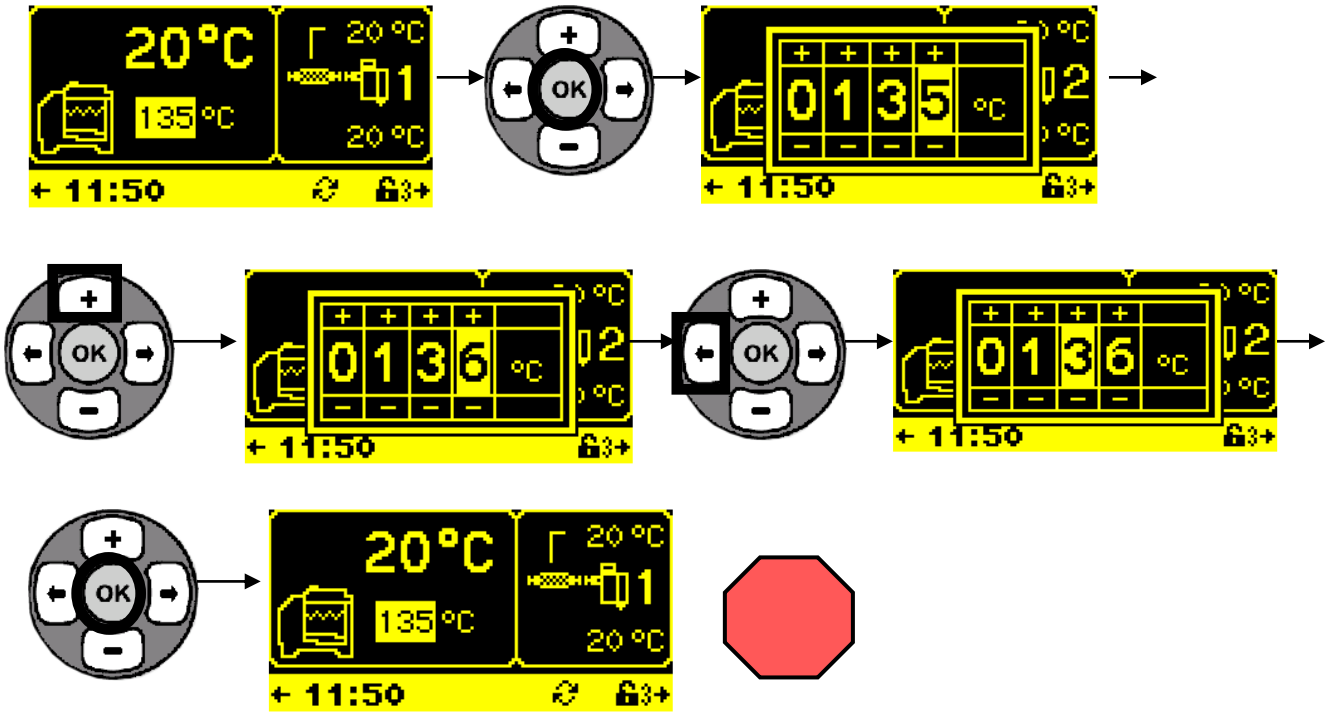


Press the temperature button repeatedly (or use the navigation keys) to select the desired temperature shown on the screen.

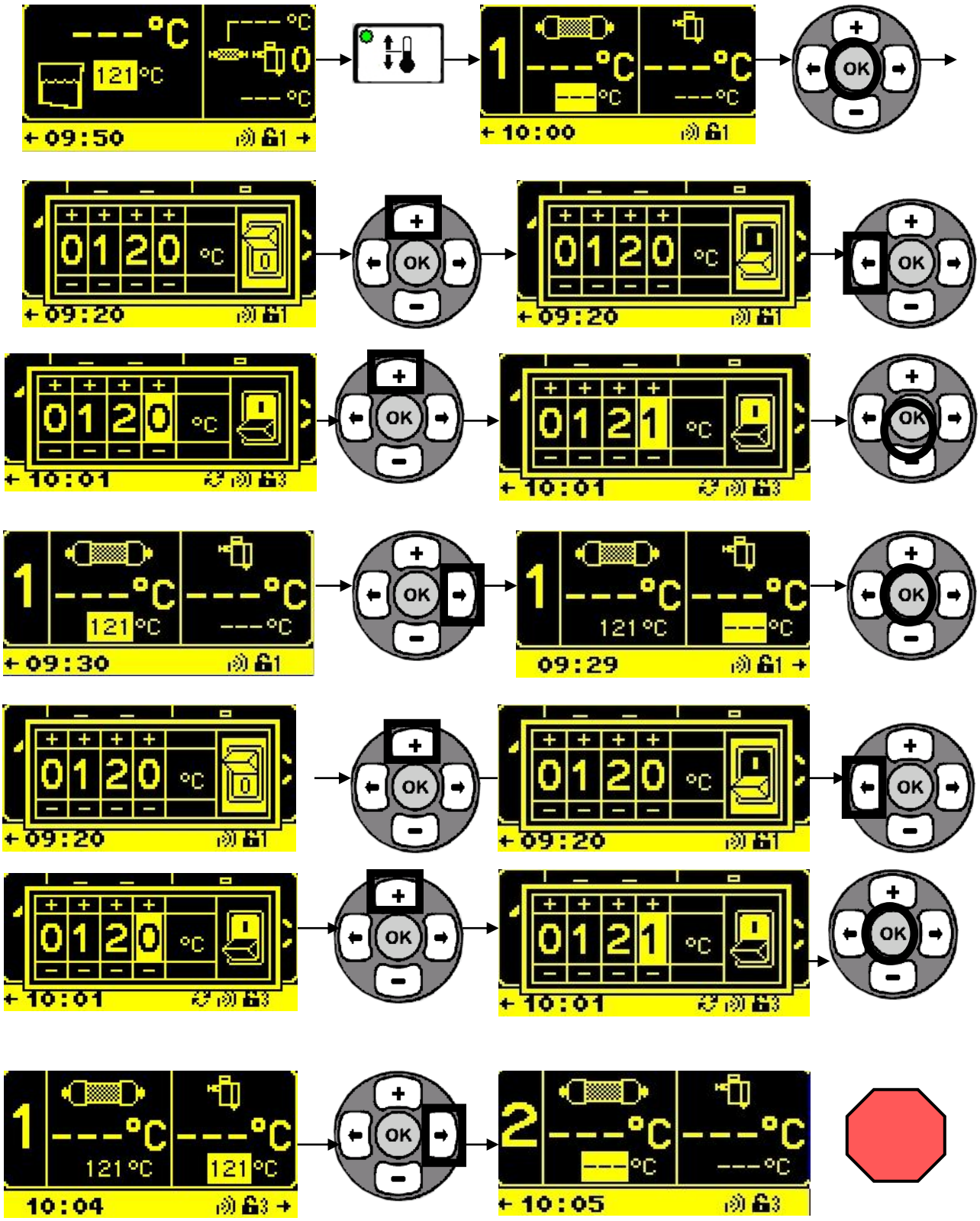




4.2.3.9 TANK TEMPERATURE



4.2.3.10 HOSE / GUN TEMPERATURE



To programme hose/gun 2, repeat the same process as described.

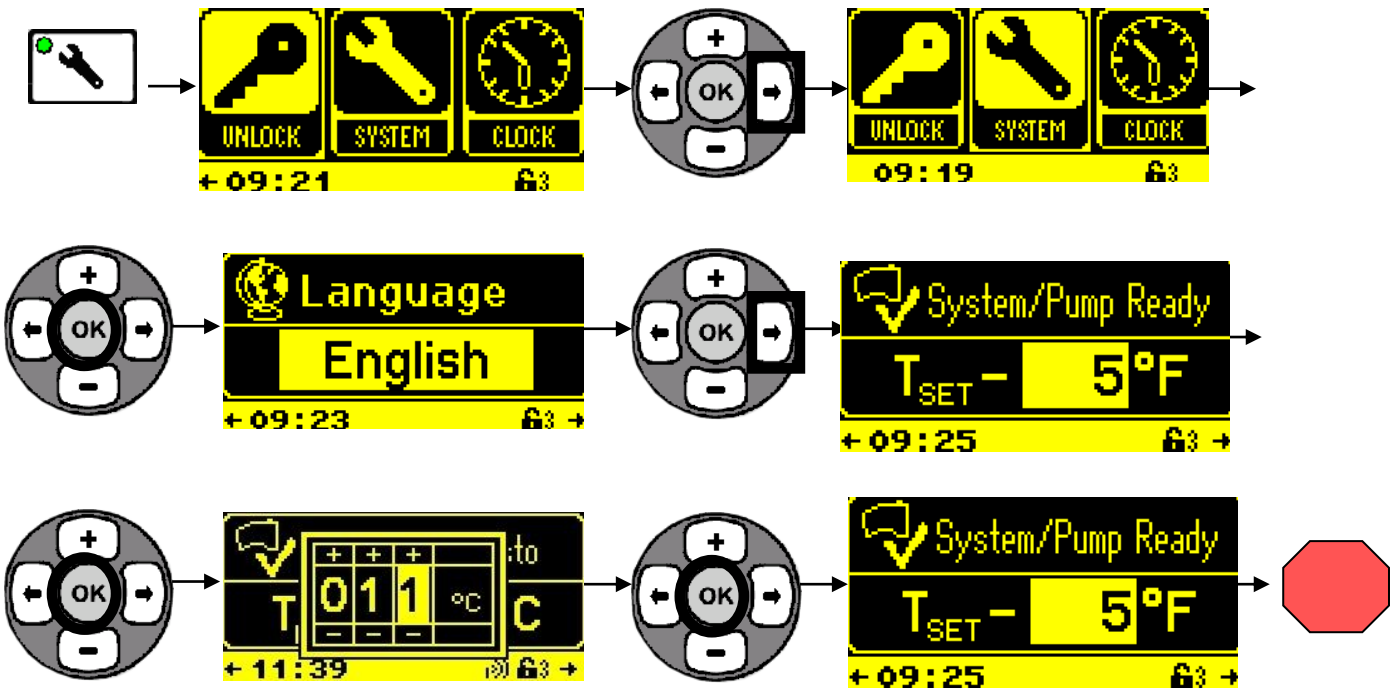
4.2.3.11 TEMPERATURE PROGRAMMING

It's relative to the temperature established for each zone. The system indicates that it is ready (and the System Ready LED turns green) when each zone reaches the programmed temperature. The system gives permission. The permission activates the pump. This prevents the pump from activating before the adhesive melts.

See the adhesive technical data sheet to find the melting point.

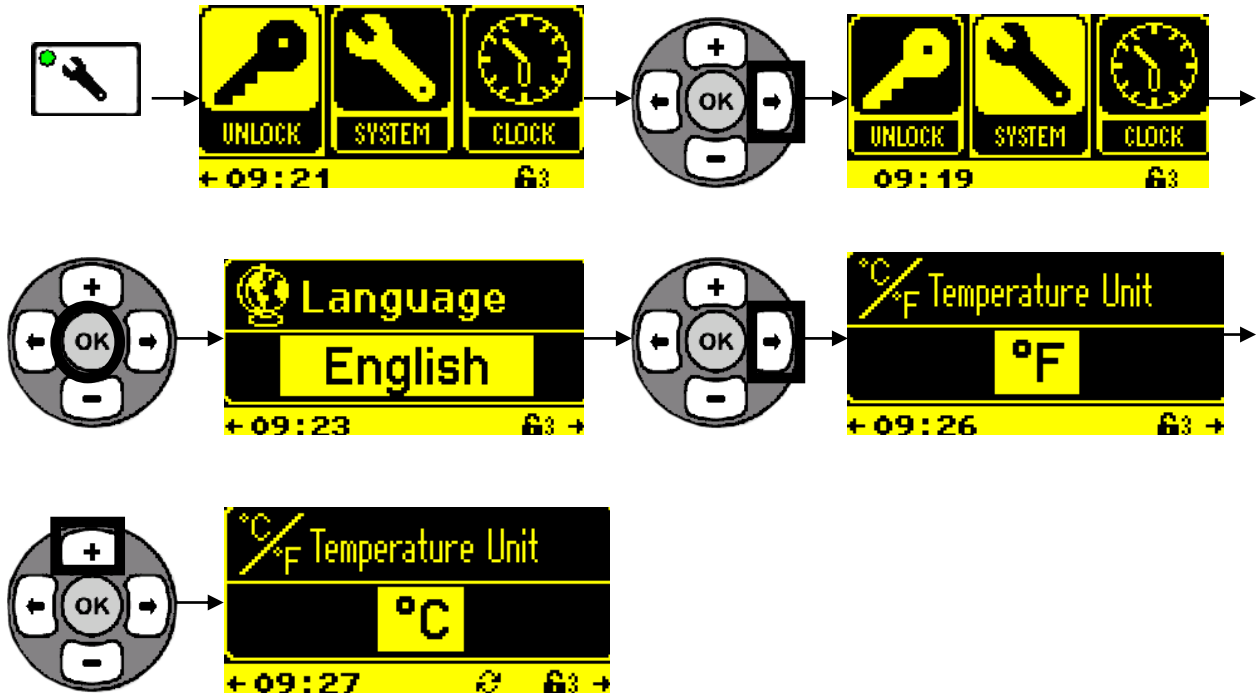
The pre-programmed temperature must be set to at least -5ºF (-3ºC). If set too close to the point (for example, -1ºF), the pump will stop momentarily until the temperature is reached again.

The parameter range goes from 0ºF to 36ºF (0ºC to 20ºC) and the manufacturer preset value is 5ºF (3ºC).



4.2.3.12 TEMPERATURE UNIT

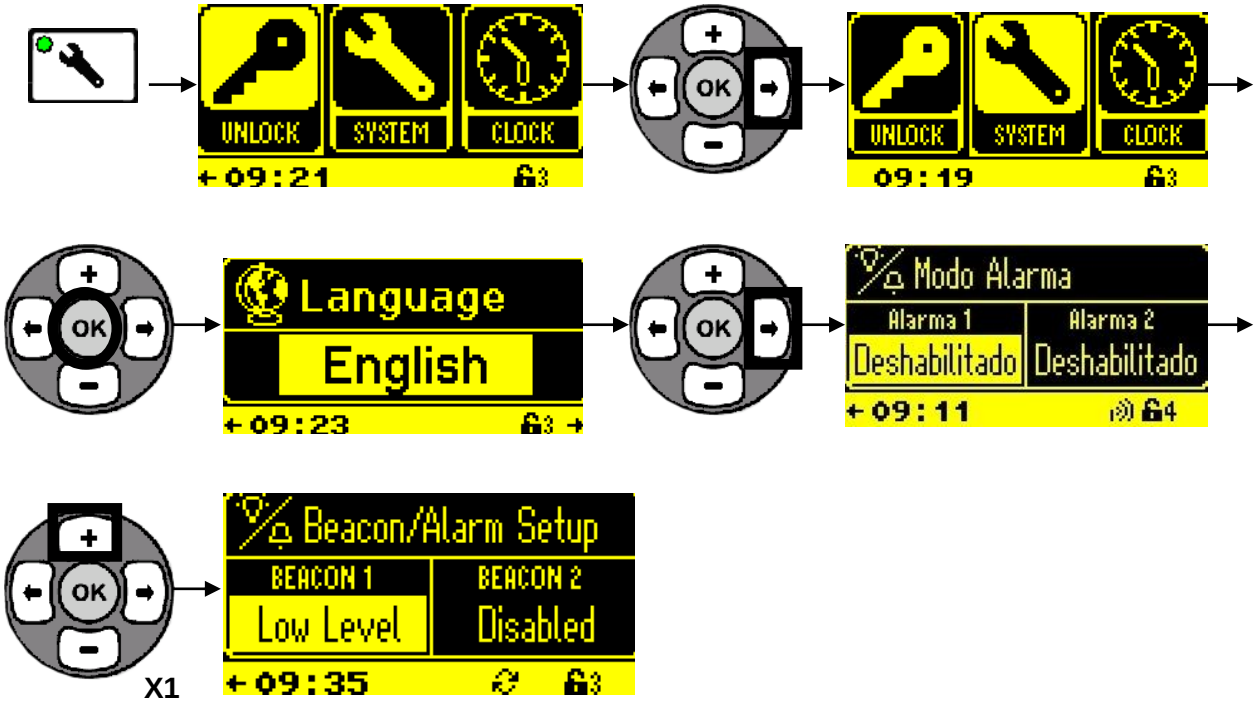
The equipment has the option to choice between two temperature units.



4.2.3.13 BEACON OUTPUT

The control board has two alarm outputs for beacon of 24VDC. The alarm options to have each one of them are:

- Low level
- Zone fault
- Ready
- Pump on
- Setback on



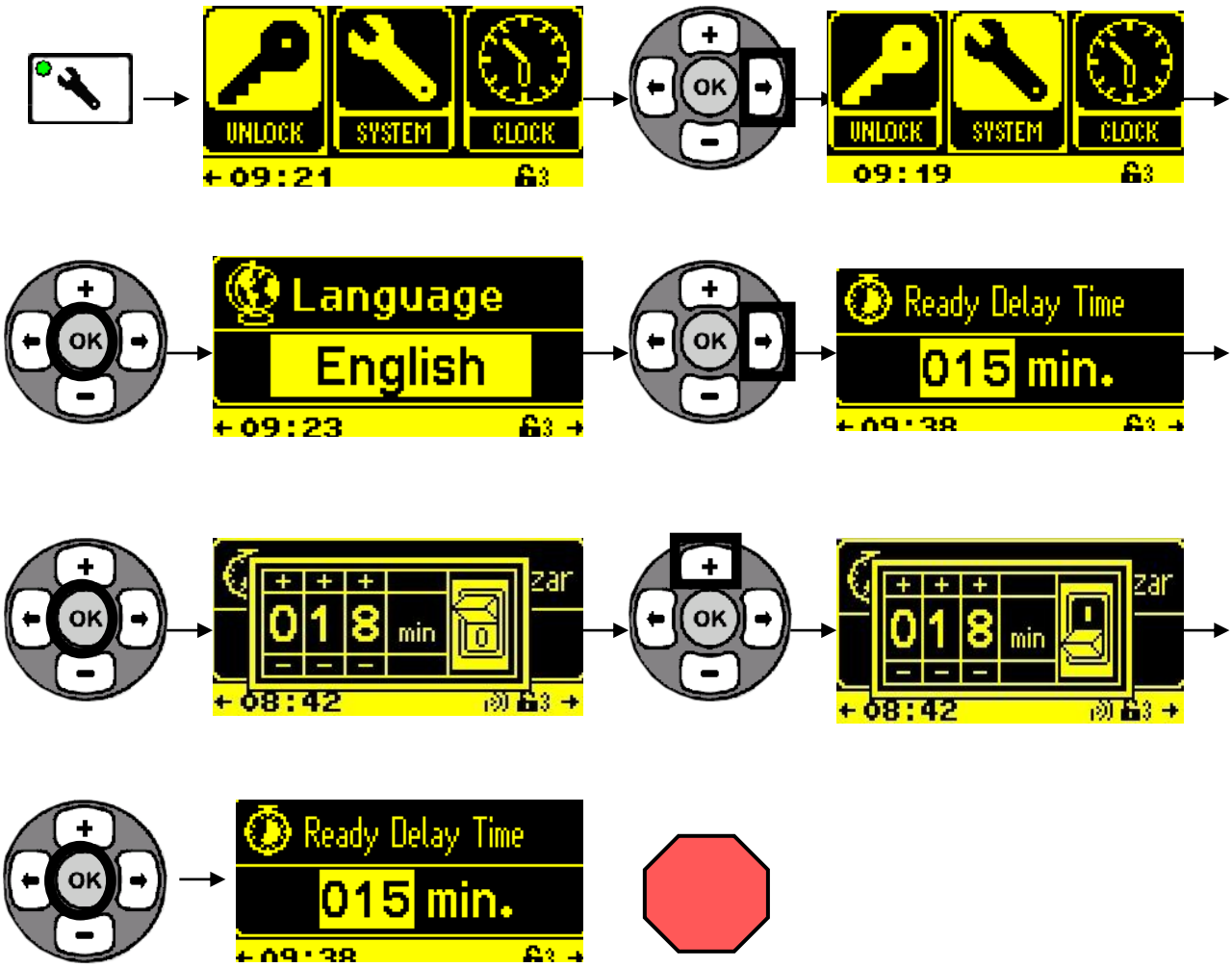
4.3. OTHER ADJUSTMENT

4.3.1. READY DELAY TIME

When the Ready Delay Time is used, the System Ready LED will illuminate a preset time after all of the zones reach their respective temperature setpoints minus the System Ready Temperature Offset. This feature allows the adhesive in the system to heat for an additional period of time before the piston pump is enabled.

Once the zones have reached the System Ready Temperature, the time remaining before the system is ready is displayed on the status bar at the bottom of the screen.

The ready delay range is 1 minute to 120 minutes. The default factory setting is ON at 15 minutes. This parameter can be accessed in Password Level 2 or higher.



4.3.1. OVER TEMPERATURE ALARM

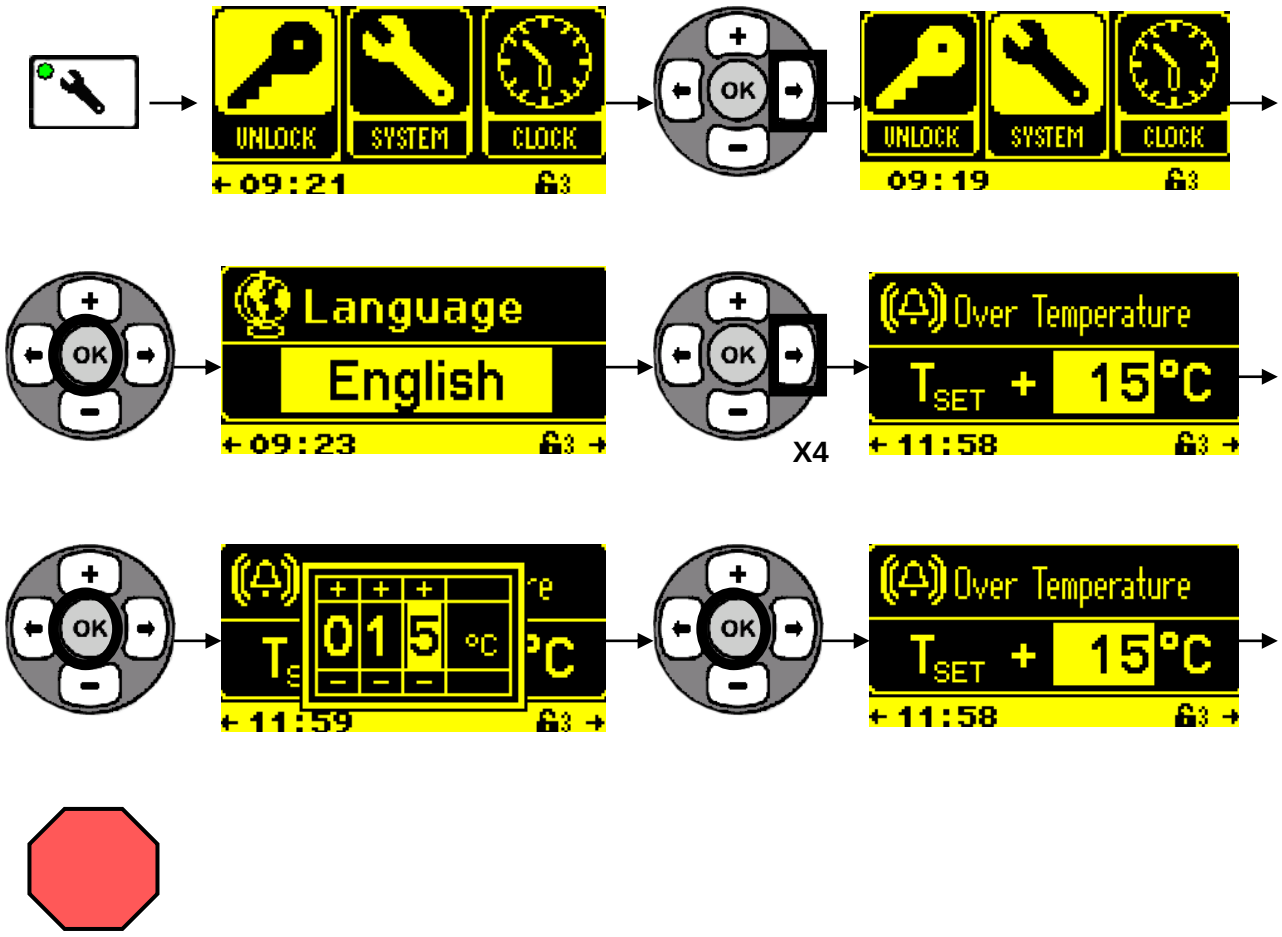
The Over Temperature Alarm is relative to the temperature setpoint of each zone.

The over temperature alarm tolerance is the number of degrees that any zone can heat above its temperature setpoint before triggering an over temperature alarm.

If any zone goes into Over Temperature Alarm, the heaters of the affected zone are automatically shut off.

The over temperature alarm tolerance range is 9°F to 108°F (5°C to 60°C). The factory default setting is 45°F (25°C).

This parameter can be accessed in Password Level 2 or higher.



4.3.2. UNDER TEMPERATURE ALARM

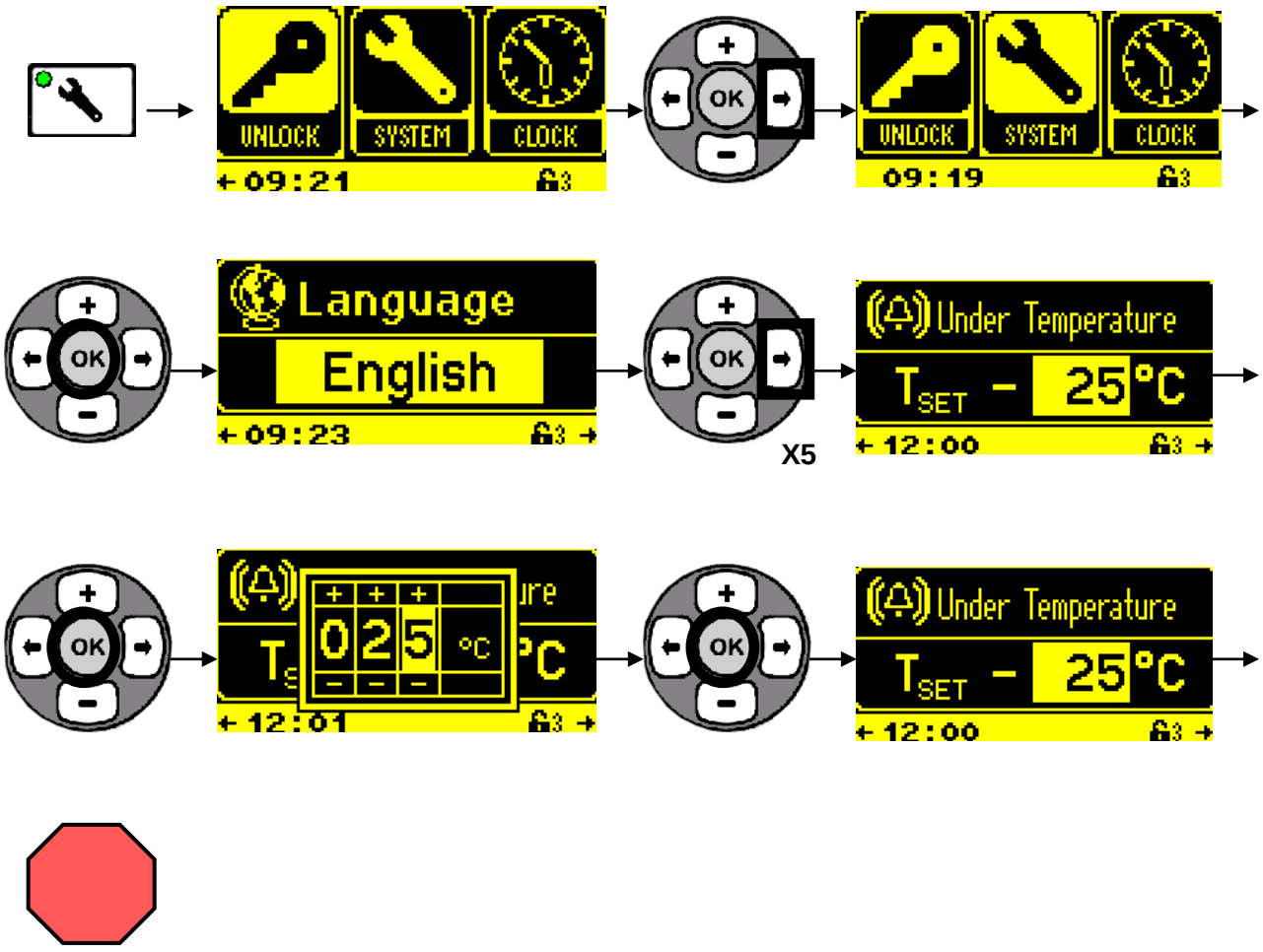
The Under Temperature Alarm is relative to the temperature setpoint of each zone.

The under temperature alarm tolerance is the number of degrees that any zone can cool below its temperature setpoint before triggering an under temperature alarm.

If any zone goes into Under Temperature Alarm, the heaters of the affected zone will remain on to compensate for the drop in temperature.

The under temperature alarm tolerance range is 9°F to 108°F (5°C to 60°C). The factory default setting is 27°F (15°C).

This parameter can be accessed in Password Level 2 or higher.



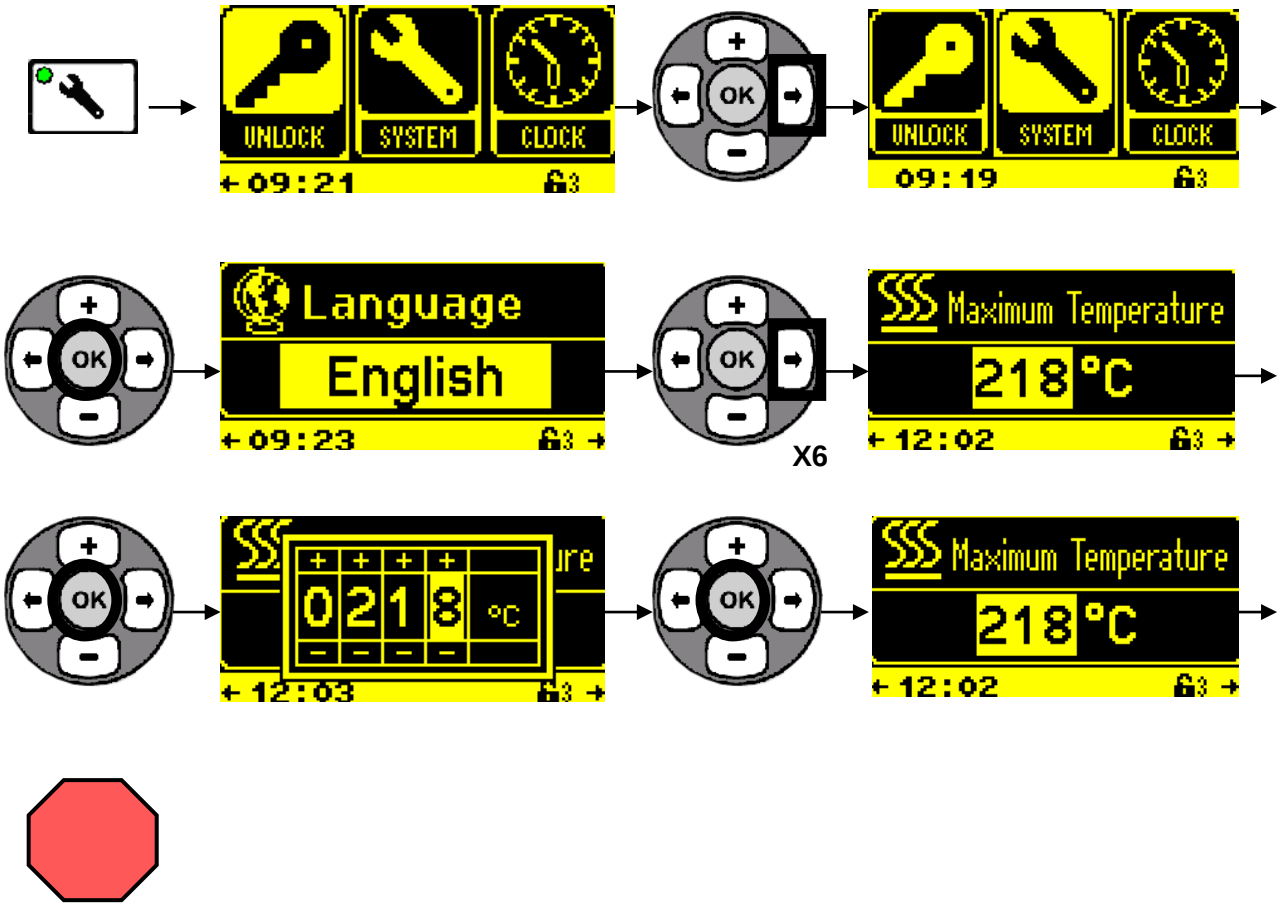
4.3.3. MAXIMUM TEMPERATURE

The Maximum Temperature setting is the maximum value for the setpoint of any zone.

The maximum temperature range is 32°F to 446°F (0°C to 230°C).

The factory default setting is 446°F (230°C).

This parameter can be accessed in Password Level 3 or higher.



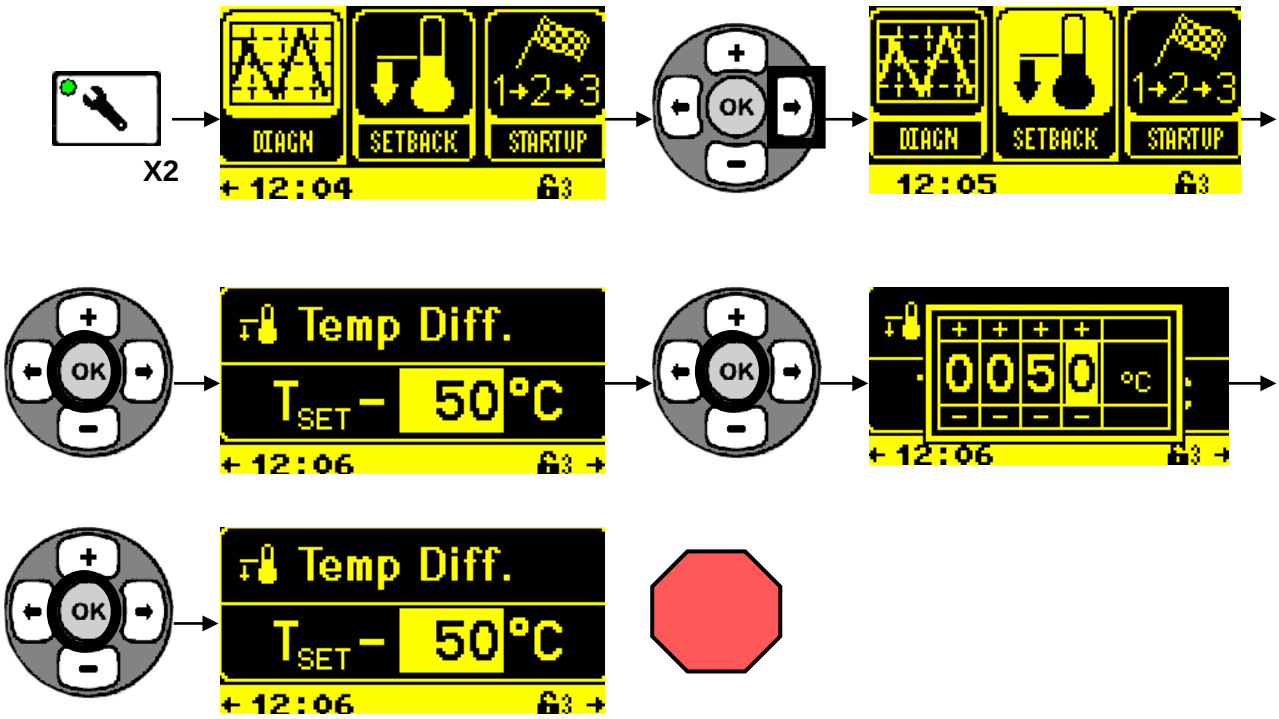
4.3.4. SETBACK TEMPERATURE

The setback feature is used to reduce the temperatures of all zones by a given temperature differential to allow the hot melt to remain soft but not molten during periods of inactivity.

The setback temperature differential is relative to the temperature setpoint of each zone.

The setback temperature differential range is 45°F to 342°F (25°C to 190°C). The default factory setting is 90°F (50°C).

This parameter can be accessed in Password Level 2 or higher.



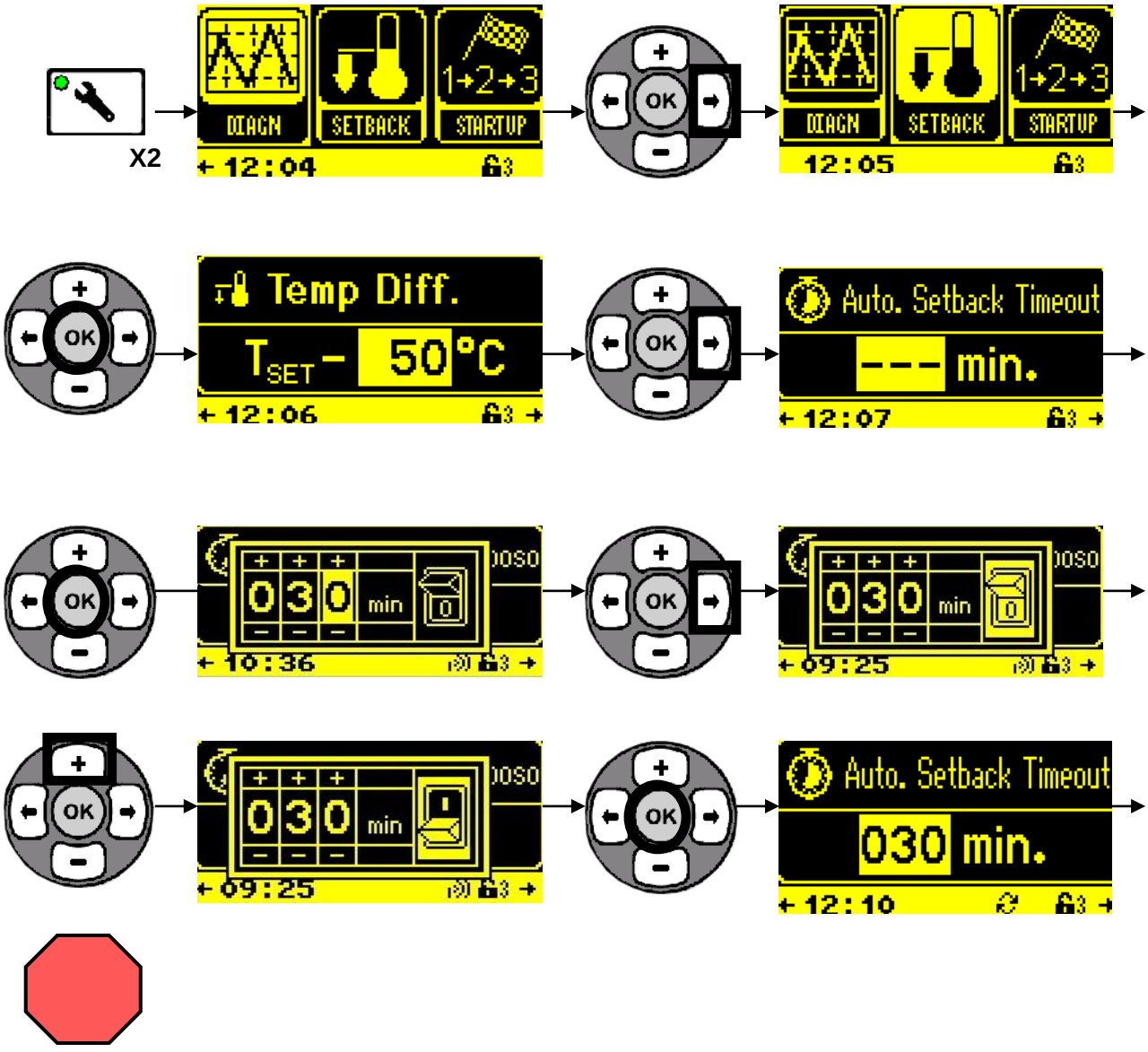
4.3.5. AUTOMATIC SETBACK TIMEOUT

If the Automatic Setback Timeout input is enabled and the unit does not see an external input within the automatic setback timeout period, the unit will automatically go into setback.

The Automatic Setback Timeout feature is used only in conjunction with the Automatic Setback External Input. It is not used in manual or scheduled setback modes.

The automatic setback timeout range is 1 minute to 120 minutes. The default factory setting is 30 minutes.

This parameter can be accessed in Password Level 2 or higher.



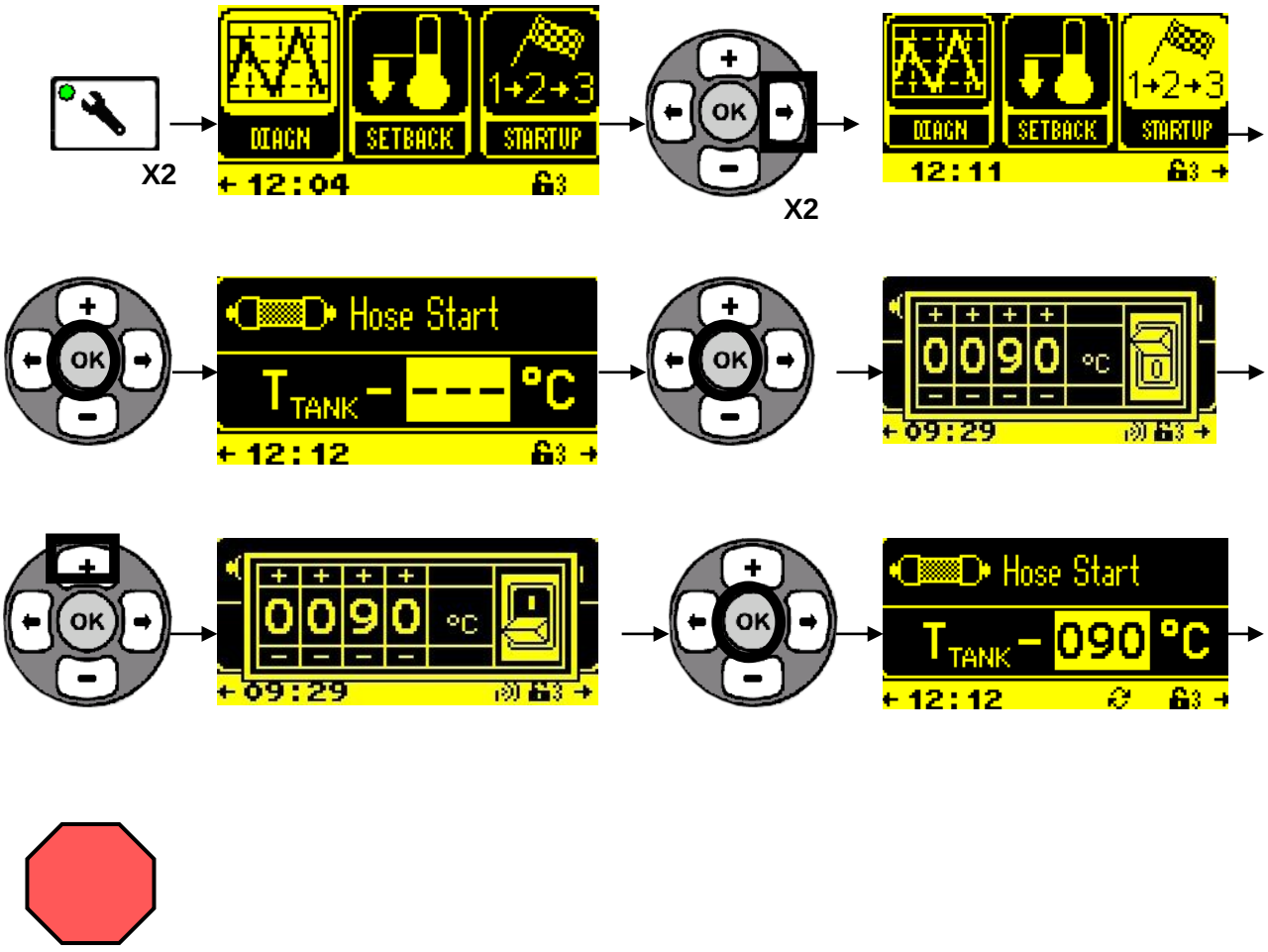
4.3.6. SEQUENTIAL START - HOSE

The Sequential Start function allows the hoses to begin heating after the tank reaches a specified temperature offset below the setpoint temperature.

This feature is used to reduce adhesive degradation caused from heating adhesive in the hoses for long periods while waiting for the tank to reach temperature.

The sequential start range is 0°F to 450°F (0°C to 250°C). The default factory setting is OFF.

This parameter can be accessed in Password Level 2 or higher.



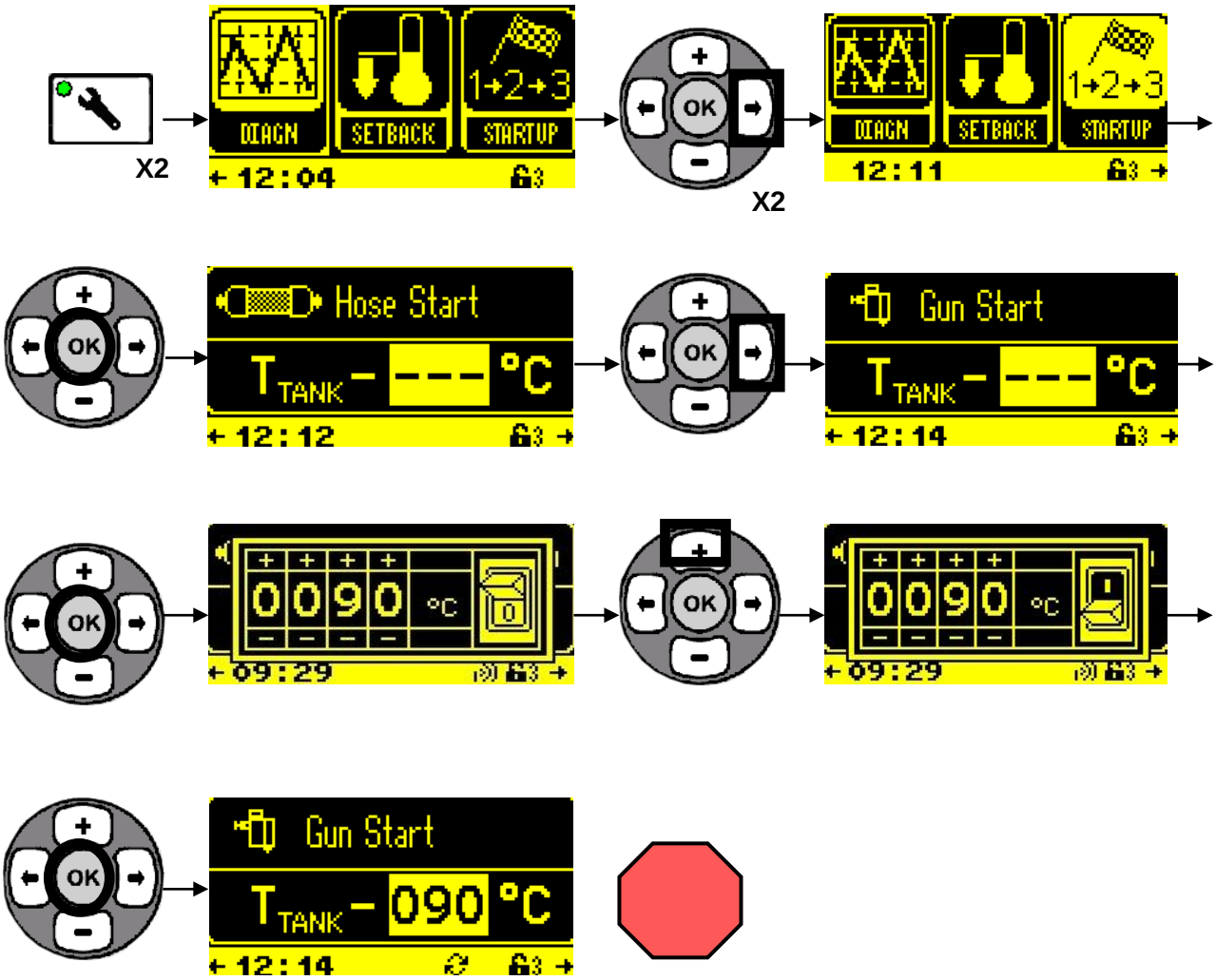
4.3.7. SEQUENTIAL START – GUN

The Sequential Start function allows the gun to begin heating after the tank reaches a specified temperature offset below the setpoint temperature.

This feature is used to reduce adhesive degradation caused from heating adhesive in the gun for long periods while waiting for the tank to reach temperature.

The sequential start range is 0°F to 450°F (0°C to 250°C). The default factory setting is OFF.

This parameter can be accessed in Password Level 2 or higher.

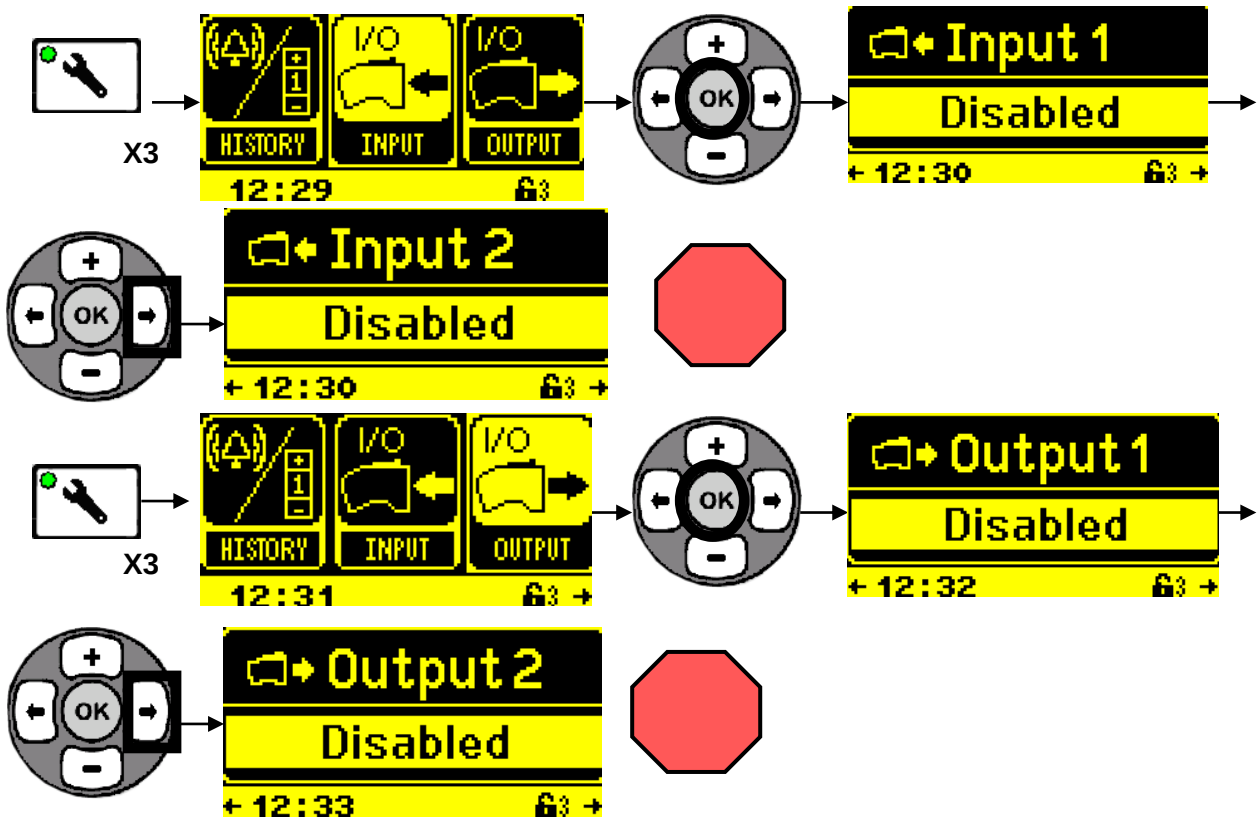


4.3.8. INPUT AND OUTPUT

Peripherals are user selectable inputs and outputs that can be triggered by a remote signal. Inputs include pump enable, heater enable, and setback. Outputs include alarms and system ready signal.

See below for other choices.
See “Connections” in *Section 4 - Installation* for a detailed description of these features.

This parameter can be accessed in Password Level 3 or higher.

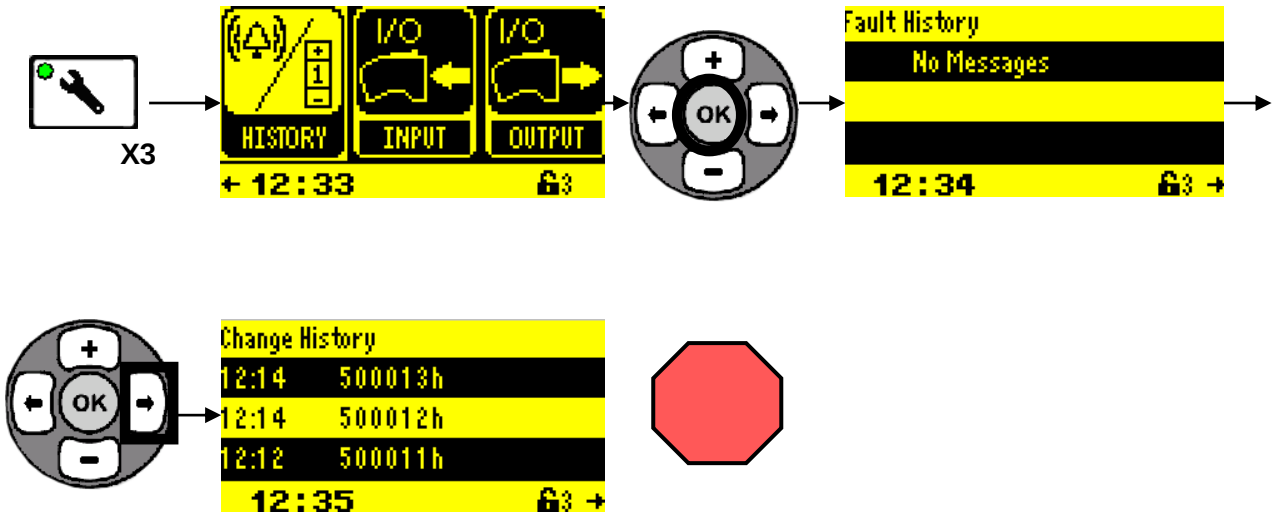


Sub Menu Choices:

Input 1-4	Output 1-4
Disabled	Disabled
Setback	System Ready
Auto Setback	Ready & Pump On
Pump On/Off	Alarm
Tank On/Off	Standby
Tank Hose-Gun 1	Inside level sensor
Tank Hose-Gun 2	External level sensor
Tank Hose-Gun 3	
Tank Hose-Gun 4	
Tank Hose-Gun 5	
Tank Hose-Gun 6	

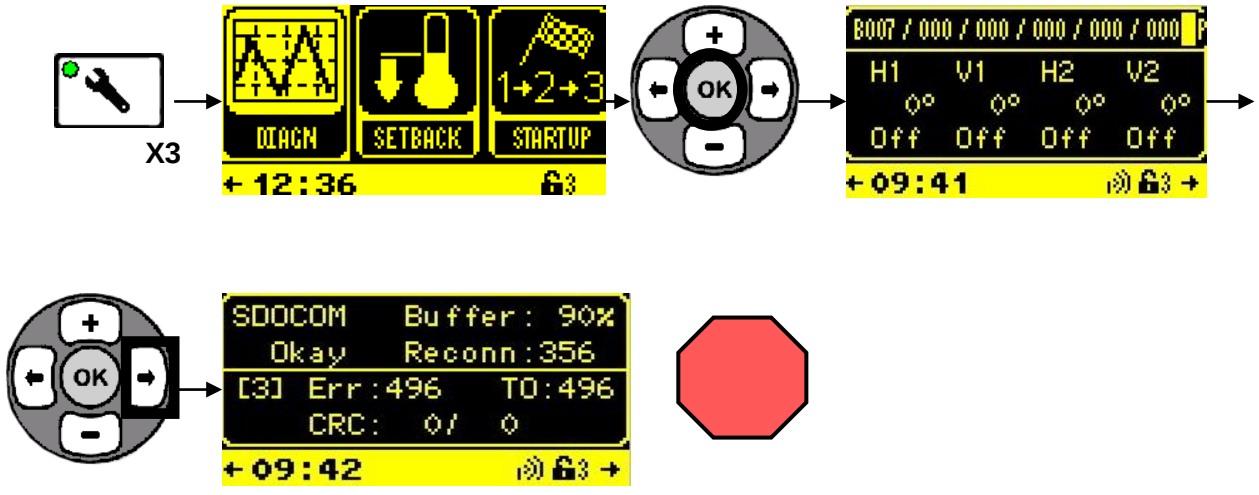
4.3.9. HISTORY

The Fault History Screen keeps a log of all faults that occur with any zone.
The Change History Screen keeps a log of all parameter and setting changes.
The Fault History and the Change History are cleared when the unit is turned off.



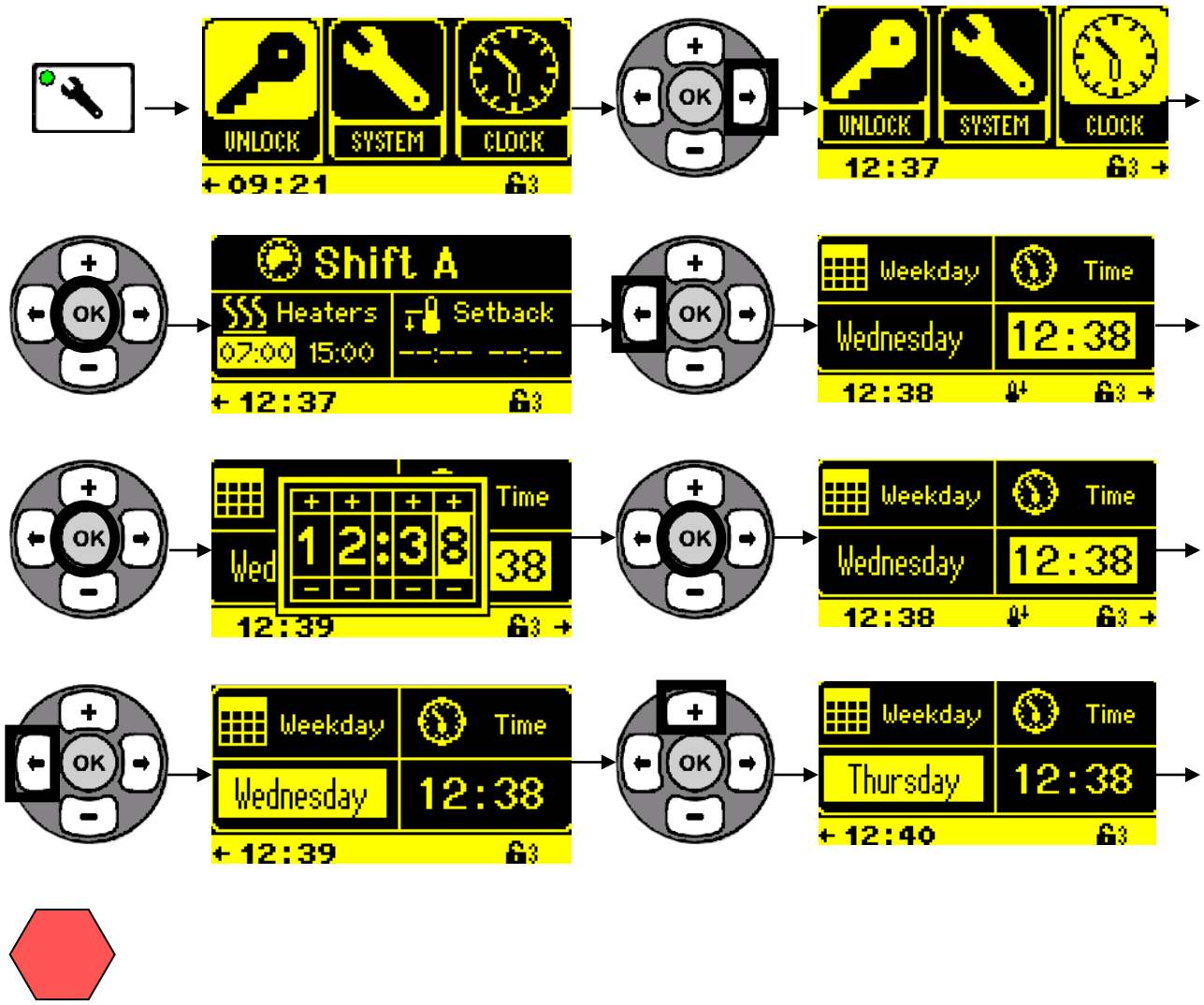
4.3.10. DIAGNOSTICS

The Diagnostics Screen shows the current software version as well as the current temperature and status of each zone.

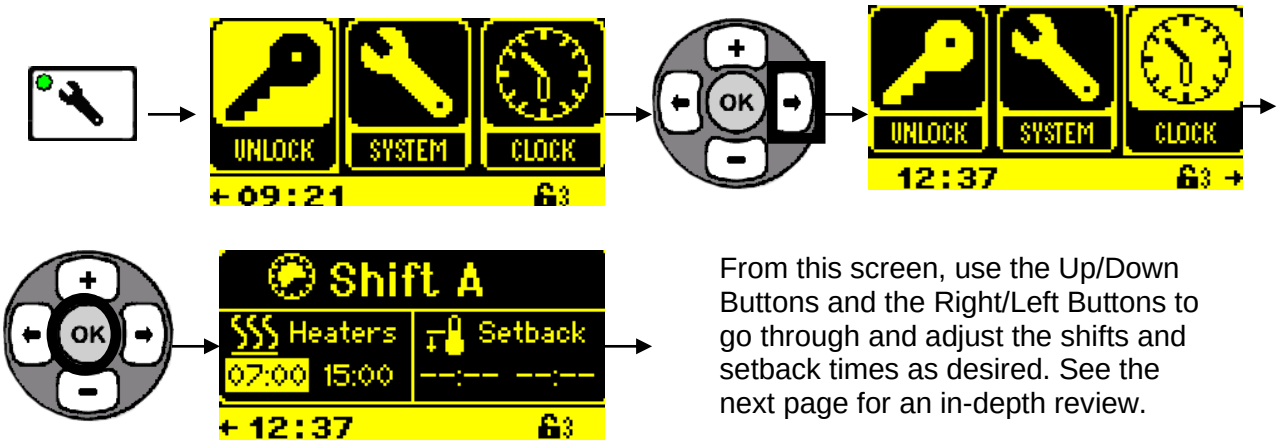


4.3.11. CLOCK AND 7-DAY TIMER

The Clock sub menu is used to set the current day and time and to setup shifts with on, off, and setback times/temperatures that are automatically run by the internal clock.



4.3.12. SHIFT TIMES / COOLING-REGRESSION TIMES



From this screen, use the Up/Down Buttons and the Right/Left Buttons to go through and adjust the shifts and setback times as desired. See the next page for an in-depth review.

4. 3.13. PROGRAMMING SHIFTS

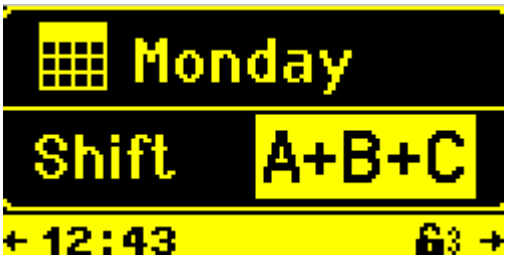
Three shifts can be programmed into the unit. Start shift, end shift, and setback times can be pre-programmed for each shift to reduce downtime. Make certain all desired temperatures are set first (see Programming Temperatures, this section).

First program the time the heaters will be on, off, and in setback for each of the three shifts. Use the Right/Left Arrow Buttons to move through the times and shifts and the OK Button to get a thumbwheel to set the times and turn on the setback feature with a “switch” on the thumbwheel. (The heaters can be set with or without using the setback times.)

Set the start, stop, and setback times for all shifts. Leave the unused shifts/times blank (-- --).

This screen indicates that for shift A, the resistors will begin at 7:00 AM until the programmed temperature (previously established on the temperature screen) and will turn off at 3:00 PM, with all the heaters reaching the cooling/regression temperature before 11:30 AM and 12:00 PM.

After setting all shift times, program the shifts that will be enabled for each day of the week. The Up/Down Arrow Buttons cycle through the different combinations of shifts, and the Left/Right Arrow Buttons cycle through the days of the week.

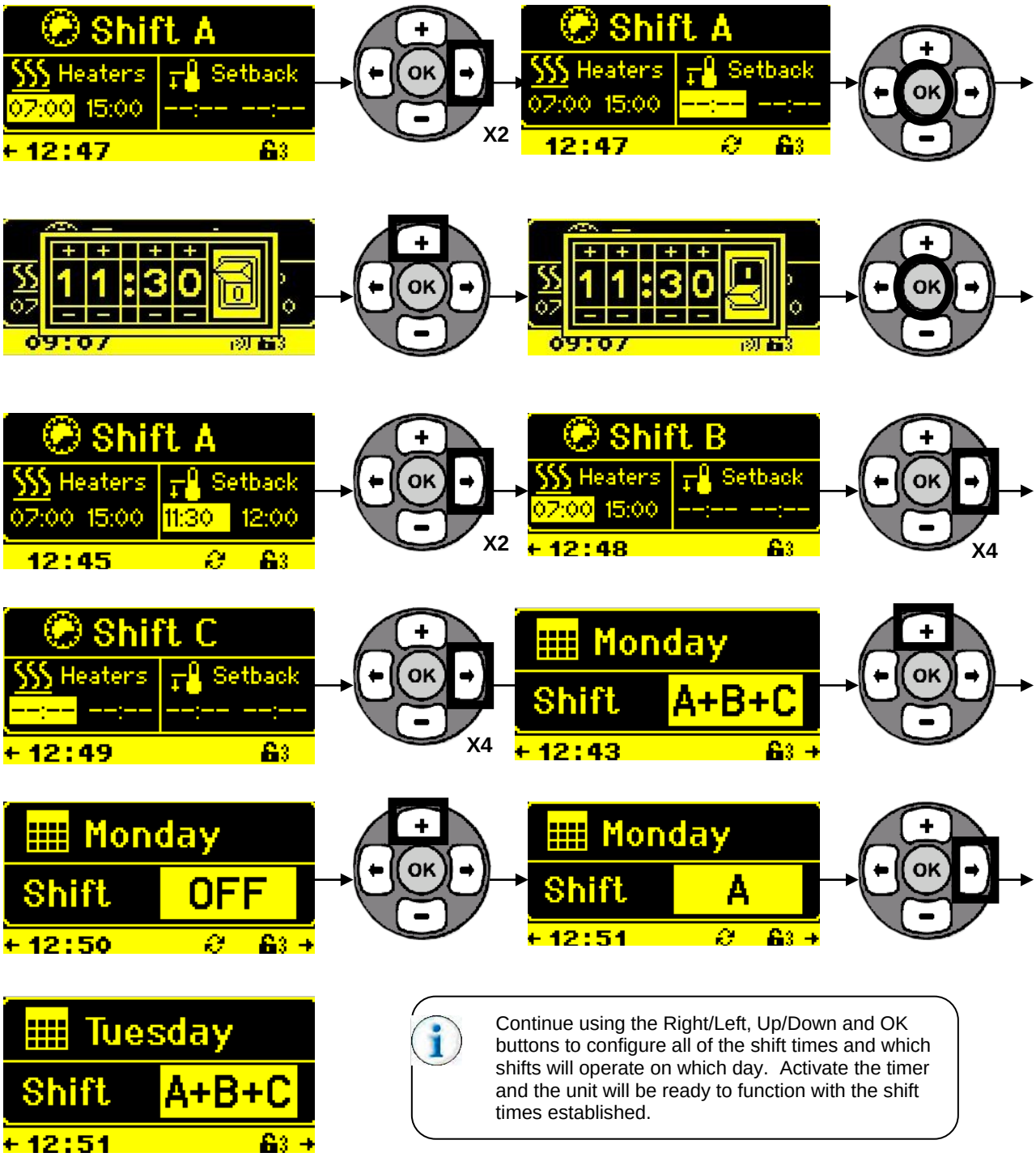


This screen indicates that three shifts (A, B, C) will be operating on Monday.

This screen indicates only the A shift will be operating on Monday.

After configuring all the shift times (previous page) and programming the shifts that are to operate on each day of the week (current page), make sure the timer function is on and is properly configured.

- Moving Through the Shift Time/Day Screens



Continue using the Right/Left, Up/Down and OK buttons to configure all of the shift times and which shifts will operate on which day. Activate the timer and the unit will be ready to function with the shift times established.

Press the Clock Button *to* enable all shift settings (the 7-Day Timer).

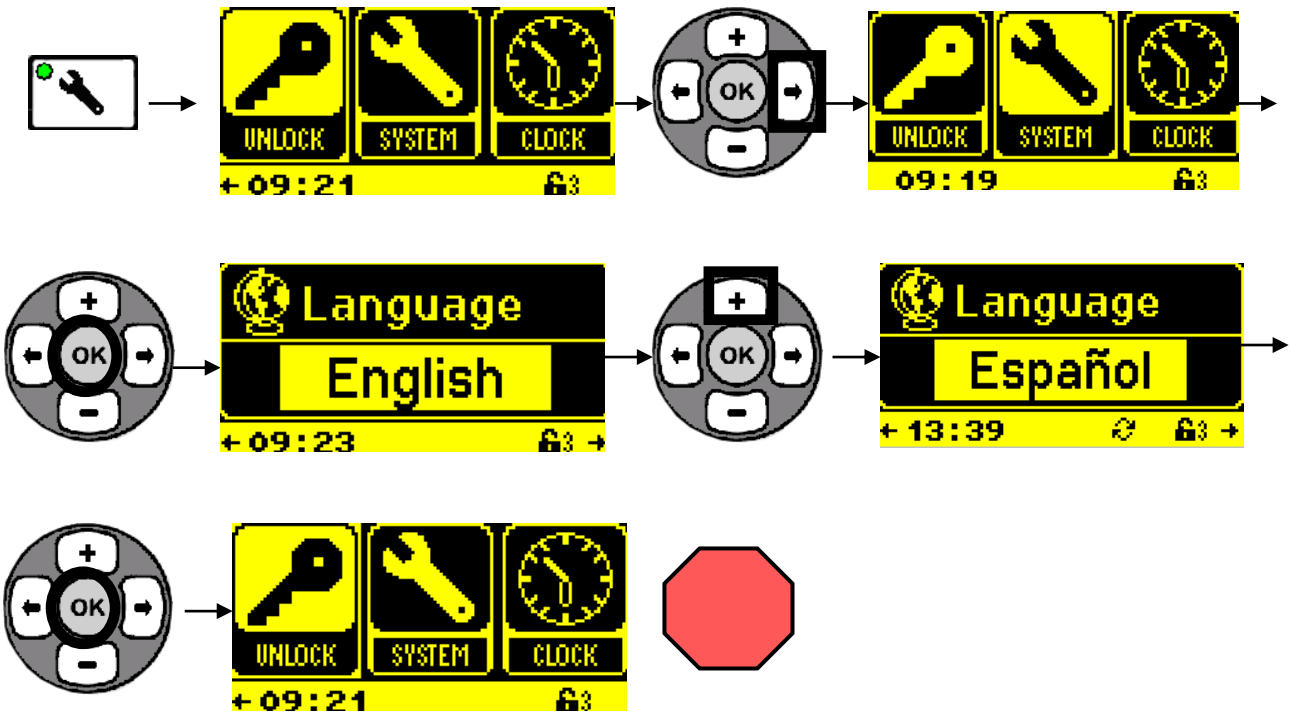
4.3.14. RESTORING FACTORY DEFAULT SETTINGS

To restore the factory default settings, follow these steps:

Restoring the factory default settings will permanently

1. Switch off power to the unit.
2. Power the unit back up while pressing and holding the Setup Button and the OK Button on the keypad. The buttons can be released once the start-up screen appears.erase changes made to any parameter or setting!

4.3.15. LANGUAGE



4.3.16. SYSTEM/PUMP READY TEMPERATURE OFFSET

The System Ready Temperature is relative to the temperature setpoint of each zone. The system is ready (and the System Ready LED illuminates green) when all zones reach their respective temperature setpoints minus the System Ready Temperature Offset.

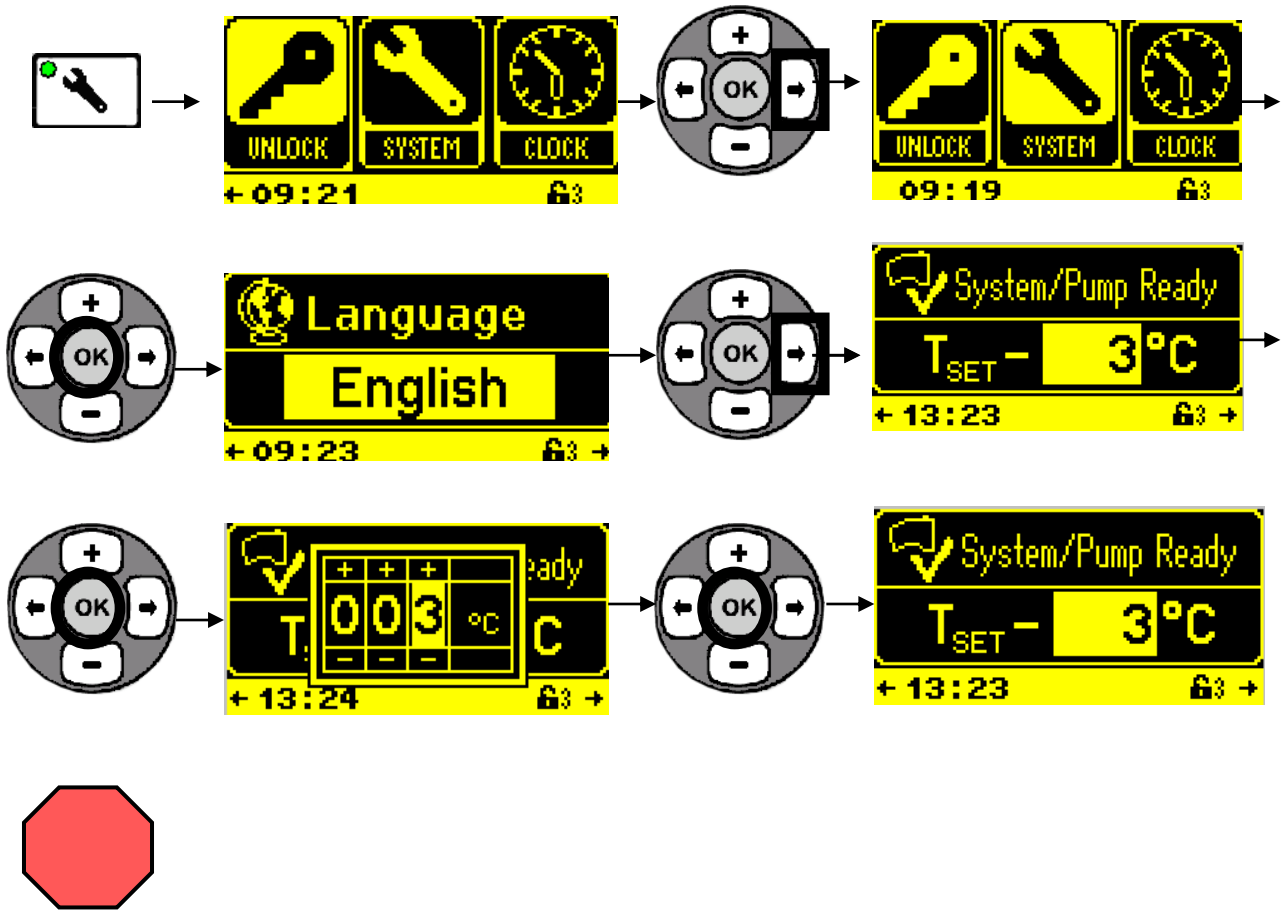
The system ready signal enables the pump motor. This prevents the pump motor from being activated before the adhesive in the pump has softened.

Consult the adhesive data sheet to find the softening point temperature.

The System Ready Temperature Offset must be set to at least -5°F (-3°C). If it is set too close to the setpoint (for example, -1°F), the pump motor will stop during momentary drops in temperature of any zone until the zone is again within 1°F of the setpoint.

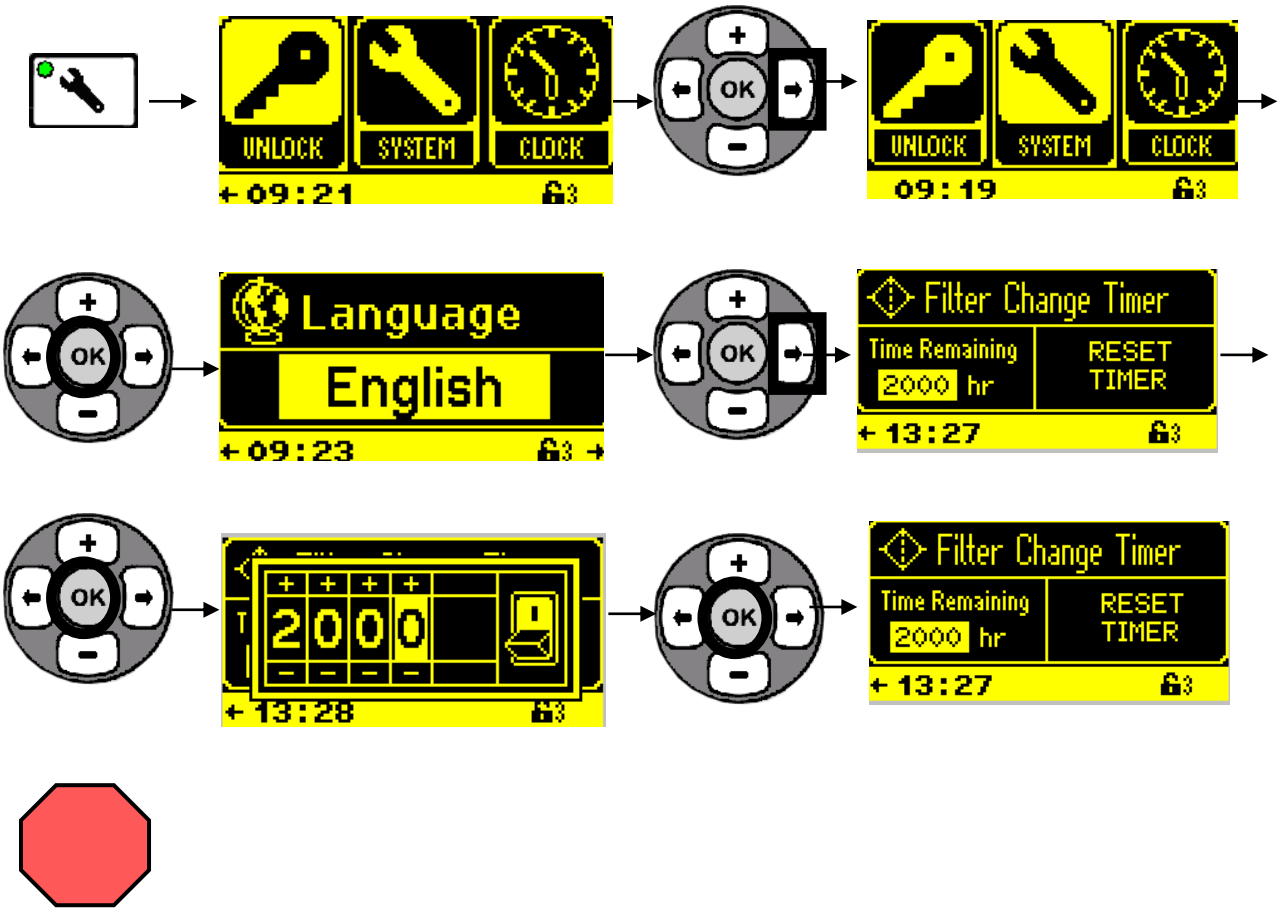
The System Ready Temperature Offset parameter range is 0°F to 36°F (0°C to 20°C) and the default factory setting is 5°F (3°C).

This parameter can be accessed in Password Level 2 or higher.



4.3.17. FILTER CHANGE TIMER

The Filter Change Timer Screen is a count down timer that shows the time remaining on the currently installed glue filter. When the counter gets down to zero (0), an alarm can be sounded and the filter needs to be changed or cleaned. Once the filter has been serviced, the timer can be reset for a user set time of up to 2000 hours.



We have to program Beacon 2 to *Alarm*, in this way the screen will show a message when we should change the filter.

After replacing the filter, we should reset the counter.

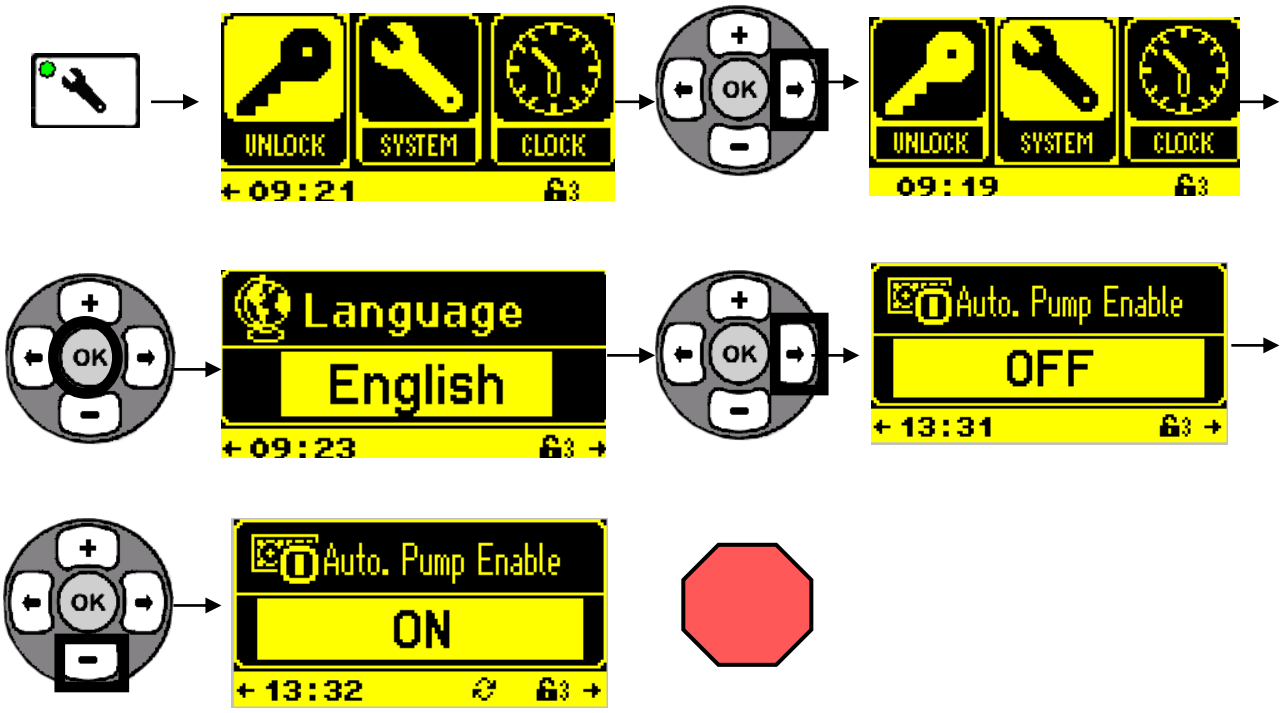
4.3.18. AUTOMATIC PUMP MODE

When the Automatic Pump Mode is on, the pump will automatically start when the system reaches temperature and the System Ready LED illuminates.

If the Ready Delay Time is enabled and set for a preset time (15 minutes), the pump will not start and the unit will not be ready until 15 minutes AFTER the control has gotten to temperature.

The factory default setting is OFF.

This parameter can be accessed in Password Level 2 or higher.



4.3.19. POT FILL MODE

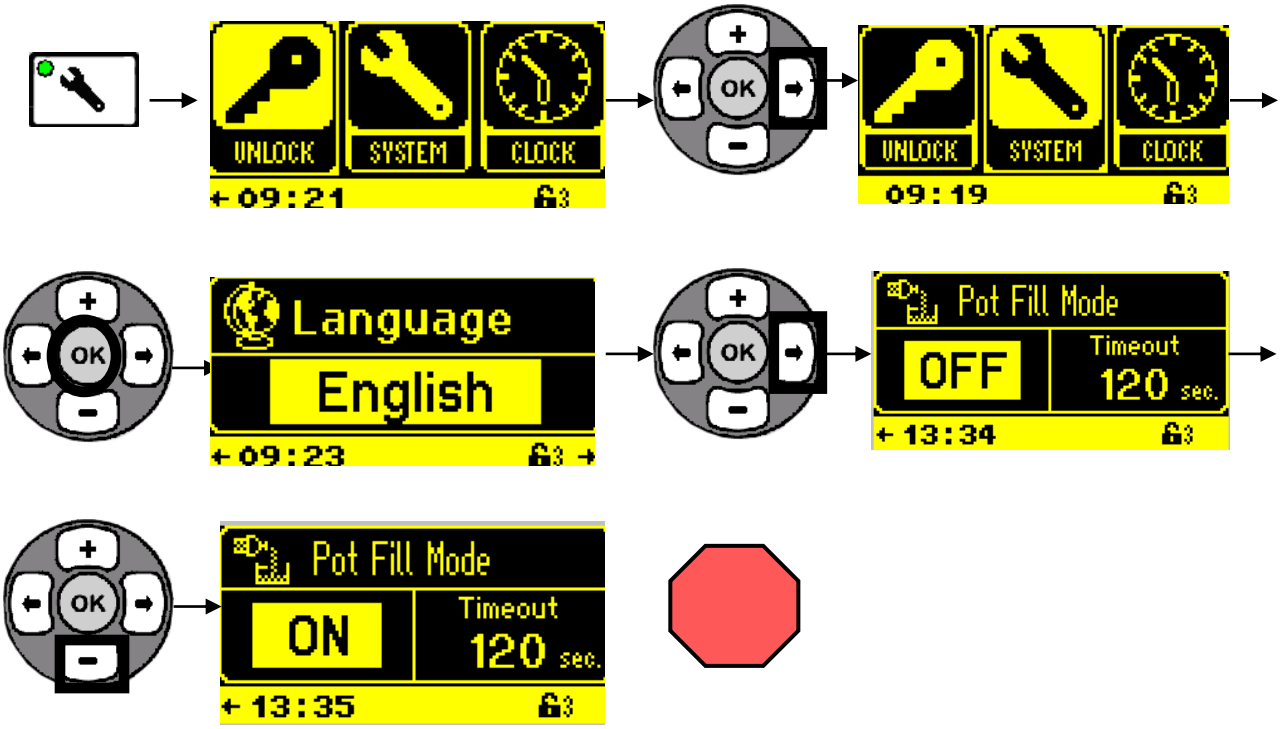
In this mode of operation, melted glue is pumped into an external pot when the external lever control falls below a set level. The external level control is wired to the external level input on the CPU, J6.

In this mode, the pump turns on ONLY when it receives a signal from the external level input, and the unit is ready. Normal pump operation is ignored in this mode. The automatic pump mode should be 'On.' Pattern control and valves are typically not used in this operating mode.

On-delay time is set by the operator to delay pump activation 'x' seconds after the external level input calls for glue.

After the delay time expires, the pump will turn on and run until the external pot level triggers the level sensor that the pot is full, and the pump then turns off.

This parameter can be accessed in Password Level 2 or higher



4.3.20. LEVEL SENSOR SETUP

ADJUSTING THE LEVEL SENSOR

To adjust the probe, follow the procedure:

Turn off and turn on the unit.

Find the electrical box of the probe into the unit.

Disable the feeder oremoving the charging chimney. Feeder alarms may activate during the adjustment procedure.

Drain the adhesive in the tank until this one be empty.

Remove the screw of the potentiometer.

IF THE LIGHT IS RED (NEGATIVE DETECTION):

- Turn the screw clockwise just until the light changes to RED-YELLOW (flashing). Observe that after three seconds of flashing, the light is green.
- After that, turn the screw 1.5 turns counterclockwise.

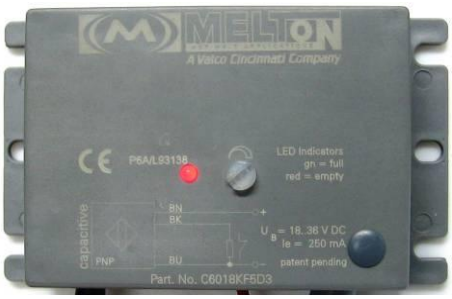
IF THE LIGHT IS GREEN (POSITIVE DETECTION):

- Turn the screw counterclockwise just until the light changes to red.
- Now, turn carefully the screw clockwise just until the light changes to RED-YELLOW (flashing). Observe that after three seconds of flashing, the light is green.
- After that, turn the screw 1.5 turns counterclockwise.

Visual indications:

Green Light → Full; Output not

Red-Yellow blinking light → Full; Output activated, delay at disconnect



Red Light → Empty; Output

Assembly the unit and test the working.

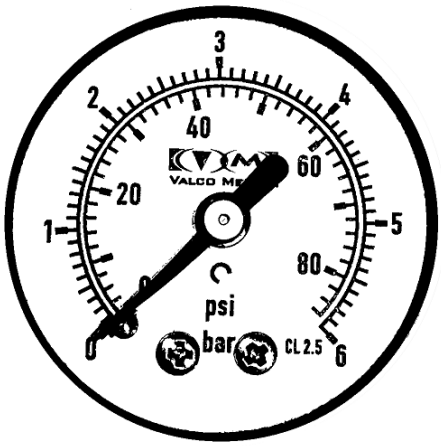
In order for the level probe to be calibrated properly, it must be done with the tank completely empty, or with the least amount of adhesive possible.

For more information on the level sensor, call our toll-free assistance number.

4.3.21. ADJUSTING THE OUTPUT PRESSURE

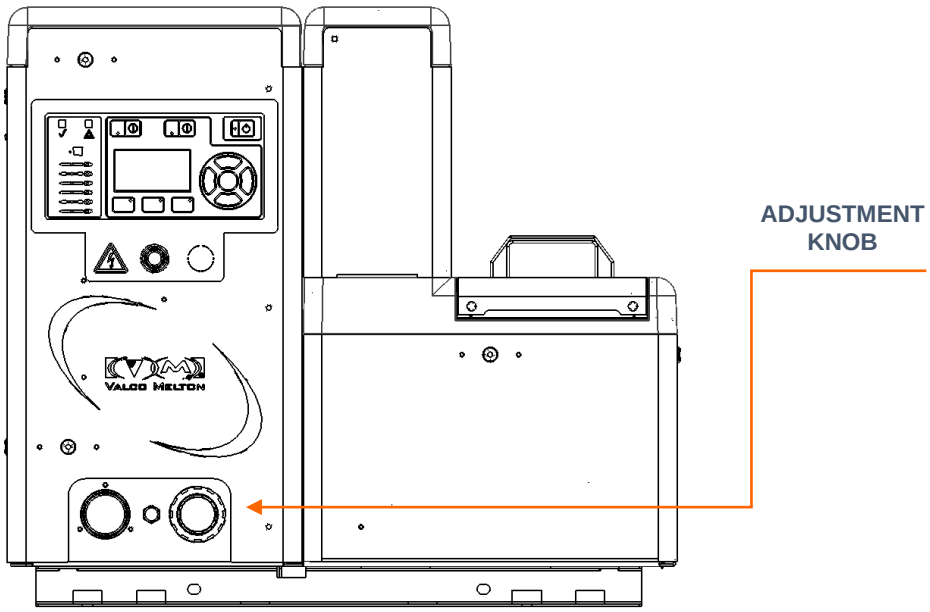
The adhesive output pressure is controlled by the pressure regulator and electrovalve unit. It is located at the front of the ControlBox.

Pressure gauge:



This is the element that indicates pressure, in bar and psi, at which the pneumatic pump and the compensating valve are operating.

- Pull the knob out to set and push it down to lock.
- Set the pump pressure to 40 Psi (2.5 bar)
- The pump will operate and pressurize the system.



This pressure is a starting point setting. You may need to change the pressure setting, depending on application.

The ratio between pneumatic and hydraulic pressure is 1:14. This means that, for each pneumatic bar indicated on the pressure gauge, there will be 14 hydraulic bar at the pump.

4.3.22. PASSWORD LEVELS

The KUBE 4 series has multiple security levels in order to protect the access to important information from non authorized personel. The different levels can be activated with PIN codes inside the "Configuration Menu". The following list shows the levels available and their differences:

Level 1- Operator (nopassword required)

- Allowed to see information, but only edit the basic parameters.
- Allowed to adjust the temperature program value.
- Allowed to switch ON/OFF the different zones.

Level 2 – Advanced operator (PIN code: 1234)

- Allowed to access all the level 1 characteristics.
- Allowed to access almost every parameter configurations.
- Allowed to access all the clocks, Setback, Start, History and Diagnostics menus.

Level 3 - Supervisor (PIN code: 6550)

- Allowed to access levels 1 y 2.
- Allowed to access the Maximum Parameters menu inside the System Configuration menu.
- Allowed to access the periferic menus (Inputs/Outputs) and the Temperatures control (PID).

CHAPTER 5: OPERATION

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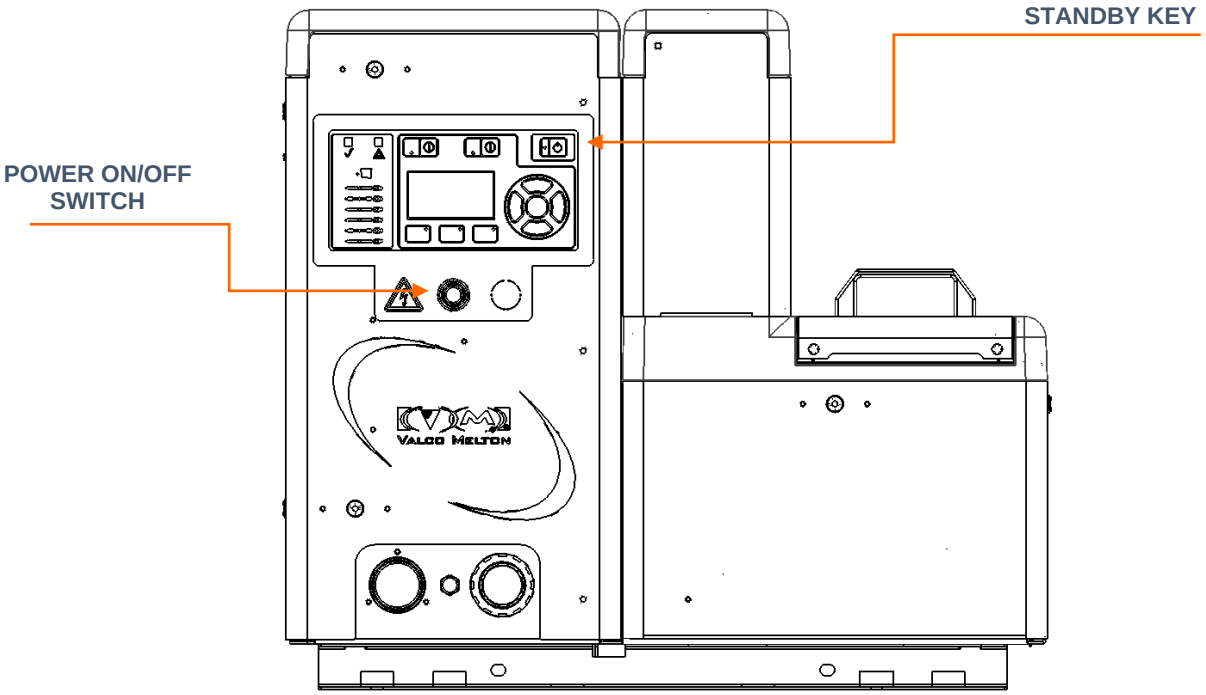
Warning: It is recommended that the Machine Adjustment Section is read, understood, and followed before attempting to read this Section and operate the Universal Temperature Control unit.

OTHERWISE, DAMAGE TO EQUIPMENT AND PERSONAL INJURY COULD OCCUR.

5.1 START THE UNIT

To start the unit, do the following:

1. Toggle the Power On/Off Switch to the “On” position to power up the system.



Note: The Standby LED will illuminate green when the power to the unit is on. If the Standby LED illuminates orange, the unit is in Standby Mode. Press the Standby Button to turn the unit on.

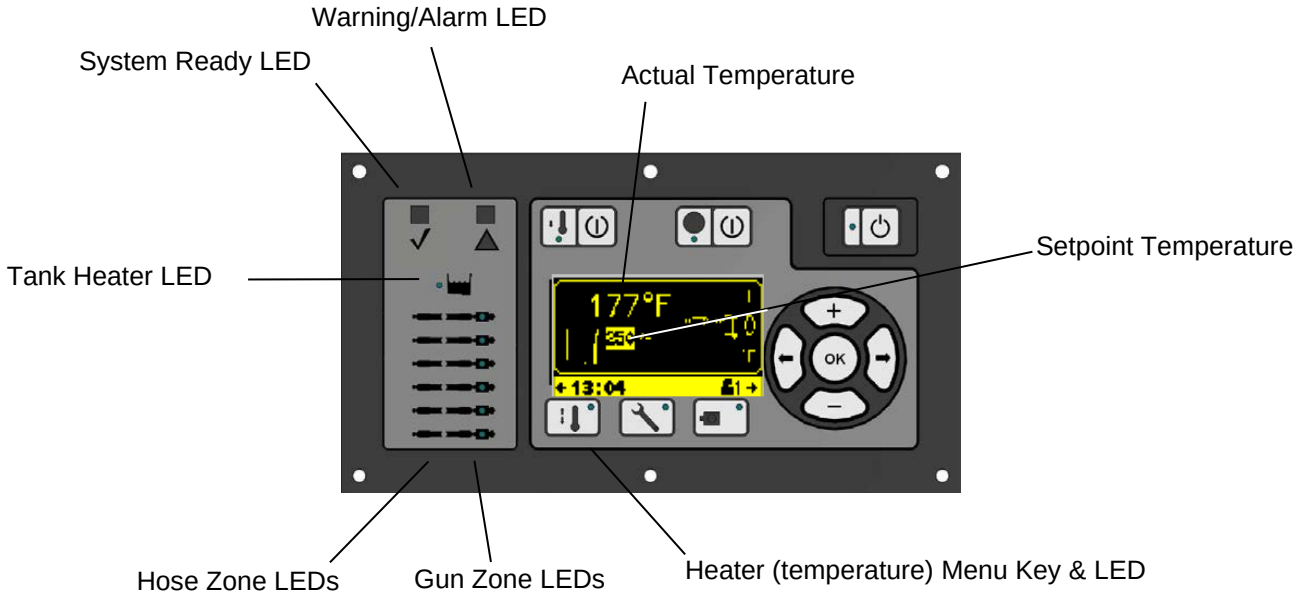
Once the unit has completed its start-up sequence, it will turn on the heaters in the tank and all active hoses and guns.

The heater’s corresponding Zone LED will illuminate green when the heater is on.

5.2 TEMPERATURE

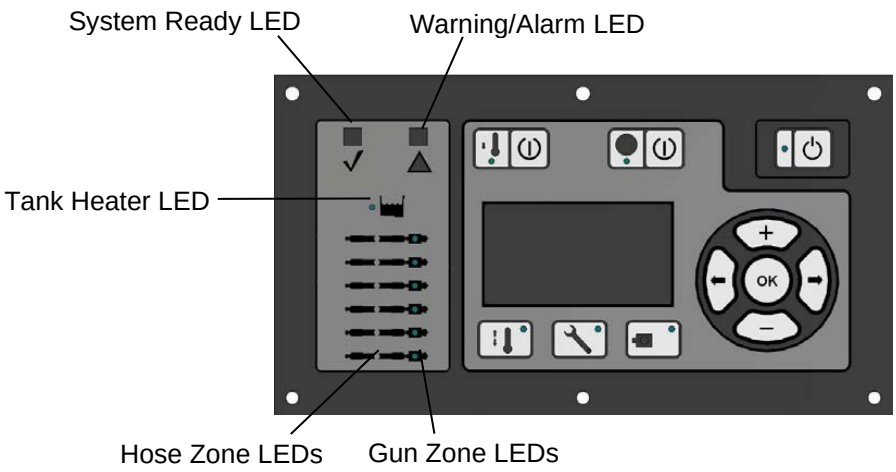
The melting chamber temperature screen will show the actual meting chamber temperature and the chamber temperature temperature setpoint. For operator convenience, the right side of the display screen alternately displays the Hose & Gun temperatures (see the *Machine Adjustment* section for setting zone temperatures). Press the Heater Key (or use the Navigation Buttons) to cycle through the temperature screens until you reach the desired screen.

5.2.1 SETPOINT AND ACTUAL TEMPERATURE



5.2.2 TEMPERATURE STATUS LEDS

The Control Panel contains LEDs that indicate the status of each heated zone. When the zone is in warm-up mode, the zone LED will illuminate green and stay on continuously. Once the zone reaches its setpoint temperature, the LED will blink on and off indicating that the heaters are switching on and off to maintain the setpoint temperature. If the LED illuminates red, it indicates a fault for that zone. The status bar will provide a more detailed explanation of the fault. Also, if the fault triggers a temperature alarm, the Temperature Alarm LED will illuminate red (see the *Machine Adjustment* section, “Over Temperature Alarm” and “Under Temperature Alarm,” for details).



If the temperature set points are not correct or need to be adjusted, select the appropriate zone and adjust the temperature setting (see the *Machine Adjustment* section for setting temperatures). The system is ready (and the System Ready LED illuminates green) when all zones reach their respective temperature setpoints minus the System Ready Temperature Offset.

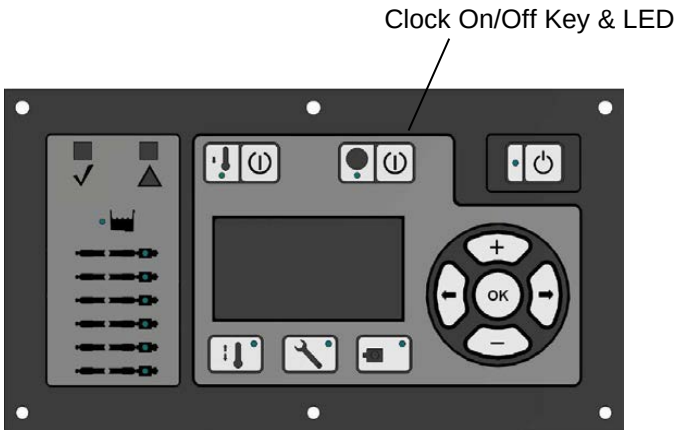
The system ready signal enables the pump motor. This prevents the pump motor from being activated before the adhesive in the pump has softened.

Consult the adhesive data sheet to find the softening point temperature of the adhesive.

5.3 CLOCK ON/OFF

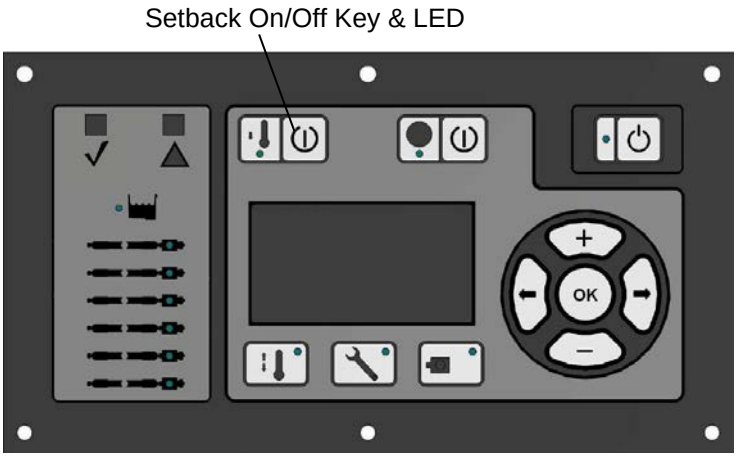
The Clock must be On (Clock LED illuminated green) for all of the programmed scheduled shifts to run, unless the unit will be operated manually (no pre-programming).

To turn the clock on or off, press the Clock On/Off Button. When the clock is on, the Clock LED illuminates green. See the Machine Adjustment section for detailed information on setting the clock.



5.4 SETBACK

The Setback Temperatures are pre-programmed (see “Setback Temperatures”, *Machine Adjustment* section). When setback times are set (See “Clock - Shift Times/Setback Times,” *Machine Adjustment* section) and the clock is on, the unit automatically enters setback during each shift as programmed. If, however, an unscheduled break occurs, the Setback Button can be pressed (Setback LED illuminated yellow) to put the unit into setback manually. To exit setback mode, press the Setback Button again (LED not illuminated). The setback time and temperature can be set manually by using the arrow navigation keys to access the temperature and time set screens and entering values on these screens (see the *Machine Adjustment* section).



5.4.1 AUTOMATIC SETBACK

Automatic setback can be programmed through one of the remote inputs from the input screen. When an input is set for Auto. Setback, AND the Auto Setback Timeout is enabled, the control will AUTOMATICALLY go into set back if the input has not been triggered for the timeout set by the user.

For instance, if a valve fire signal is connected to Input #2, Input #2 is programmed for Auto. Setback and the Auto. Setback Timeout is enabled and set for 30 minutes, the control will automatically go into set back if the valve has not been fired for 30 minutes. Each valve fire within that 30 minute time period will reset the Timeout timer to start back at 30 minutes. The setback symbol will start to flash 2 minutes prior to the control going into setback.

5.5 POT FILL – EXTERNAL LOW LEVEL DETECTION

Pot Fill is used when the hot melt control is being used to heat the hot melt adhesive and remotely fill a pot. Using the *Pot Fill* mode, the hot melt control can precisely monitor the pot level and fill the pot on demand from the low level sensor mounted in the pot.

For setup details, refer to Section 4.

5.6 HOPPER FEEDER – INTERNAL LOW LEVEL DETECTION

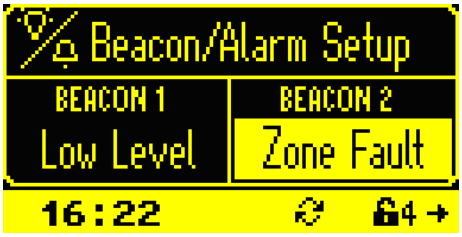
The Hopper Feeder option is used to refill the hot melt control's tank with fresh adhesive when the tank level drops below the set level sensor. This eliminates the need for the operator to manually open the tank lid and add adhesive to the tank.

For setup details, refer to Section 4.

5.7 BEACON ALARM

The Beacon / Alarm output connector is provided as a dedicated +24VDC @ 0.5A output for a visual or audio alarm. This can be set up to alert the operator of one of 4 fault conditions (see *Section 5 – Setup* for description).

The installer can connect the "+" lead of the alarm to Beacon 1 (pin 3) and the "-" lead to GND (pin 1) of J30 on the CPU board. When the Beacon / Alarm screen is set up for an alarm condition, the +24VDC output will enable the alarm device to signal that the condition on the control has been met (eg. Low Level).



5.8 EXTERNAL INPUT

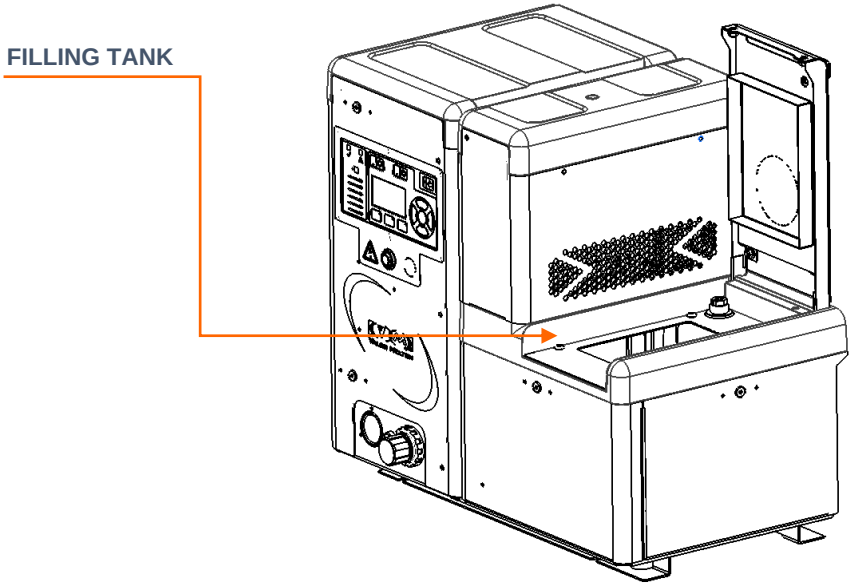
The External Input can accept 230VAC, 24VAC or +24VDC to reset the Setback Timeout when the control is in Auto. Setback. This is used in special applications and the programmable inputs should be used for this feature (see *Automatic Setback,* above). The pin out for this connector on the CPU board is critical (see Section 4 for this connector location).

5.9 FILLING THE TANK

Before filling the tank, put on goggles, gloves and long sleeves to avoid possible burns from splashes of hot adhesive.

- **Models type A / B (Without Vacuum Feeding):**

1. Ensure that the tank is clean and free of foreign particles.
2. Fill the heated tank with the hot-melt material, to a maximum of 10mm below the edge of the tank.

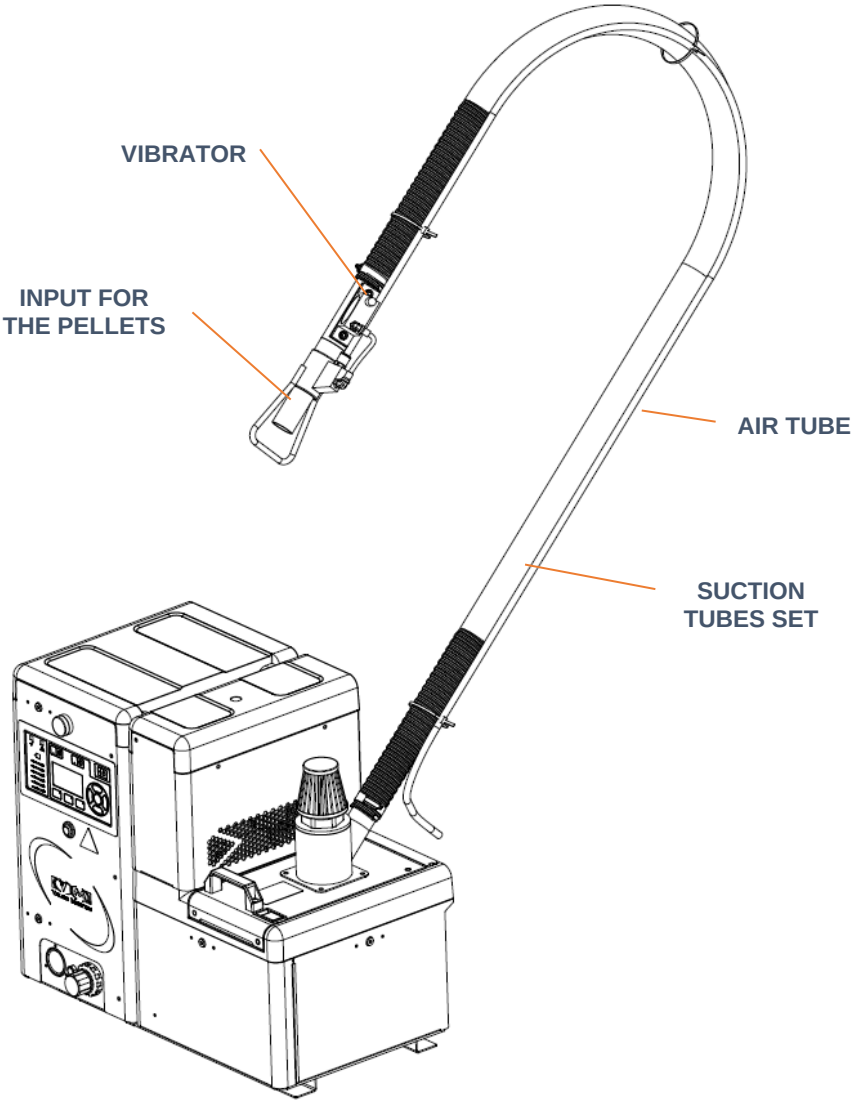


3. Close the tank cover immediately after filling the tank.

- **Models type C (With Vacuum Feeding):**

1. Make sure that the tank is clean and free of foreign particles.

2. In this case, the equipment is fed automatically by the installed vacuum feeder. The sensors detect when the tank needs adhesive, as well as when it is no longer needed. This way, the person handling the equipment does not have to worry about anything except making sure the vacuum feeder is always supplied with adhesive, in the container used to hold it. Said container must be placed near the equipment so the tubes comprising the vacuum feeder are not pulled, which might cause damage.



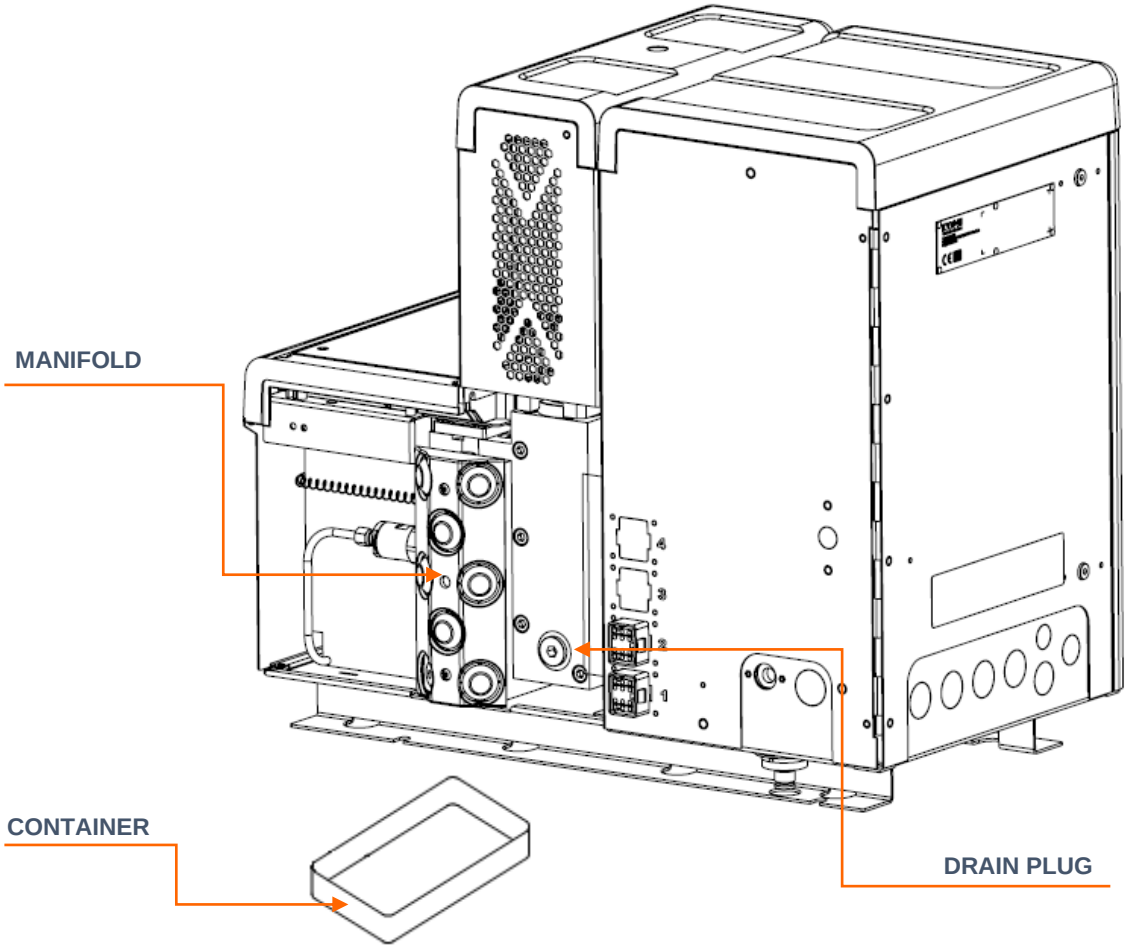
When you wish to check the melting chamber adhesive level, you can do so while the equipment is loading, without any problem, using the visor on the front of container.

Note: Never operate the applicator if the tank is empty. If the quantity of hot-melt material is very small, the adhesive may degrade, leading to the carbonisation of the HOT-MELT material, and the formation of deposits inside the unit. This may lead to unnecessary downtimes later on.

5.10 EMPTYING THE MELTING CHAMBER

Before emptying the tank, put on a face shield, gloves and long-sleeve shirt to prevent possible burns caused by hot adhesive splashing.

1. Warm the equipment to the working temperature.
2. Reduce the air pressure to zero.
3. Eliminate system pressure by releasing the manual guns.
4. Remove the back plate from the tank side of the equipment.
5. Unscrew the drain plug with an hexagonal tip.
6. Increase the pressure gradually until adhesive flows through the drain plug and the manifold, and the tank empties.
7. Changing the seals on the dismantled parts is recommended once the tank is empty



5.11 STOPS

There are two cases:

Pump stop:

If you wish to stop pumping, you must turn the pressure regulator to 0.
The temperature control will maintain the equipment temperature.

If the stop is to be for an extended period, activating the Setback function is recommended. (See Section 4)

Total stop:

To power down the equipment, switch the unit off.

CHAPTER 6: EQUIPMENT MAINTENANCE

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

6.1. INTRODUCTION

This chapter contains the procedures involved in the maintenance of the KUBE 4 equipment. These maintenance procedures guarantee safe operation and increase machine life. Before starting a maintenance operation, read chapter 1. “Safety” carefully.

General recommendations for proper maintenance:

- Keep the tank as full of adhesive as possible. This will reduce the formation of charred adhesive on the tank’s inner walls.
- Keep the tank cover closed. (Any contamination in the tank will increase the possibility of low performance. Humidity, dirt and charred adhesive are the main causes of nozzle obstruction).
- Use cheesecloth to remove material leaking from the seals and other connectors when the machine is hot, but not in operation.
- Empty and clean the system completely when there are frequent obstructions, due to dirt and char.

Make sure that you are properly protected and follow all pertinent safety measures:

1. Switch off the air at the mains.
2. Switch off the main switch.
3. Lock and tag out the main switch.
4. Make sure power is off.
5. Follow all applicable safety standards.

6.2. MAINTENANCE RECOMMENDATIONS

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

FREQUENCY	MAINTENANCE
Weekly (40 hours)	Switch off the system and extact and clean the filter from the manifold. Clean the outer surface of the equipment. Use a liquid cleaner, following the instructions for the adhesive being used. Inspect all the electric, pneumatic and hydraulic connections. Replace or repair when necessary
6 Months (2000 hours)	Change the air regulator filter.
	Clean the tank filter.

Operation frequency depends on the type of adhesive used and the environmental conditions where the equipment is placed.

6.3. MAINTENANCE PROCESSES

6.3.1. CLEANING THE EQUIPMENT

Vacuum the dust or glue remnants, or remove them with a soft cloth, especially from the manifold.
Clean the control panel periodically with a soft cloth. Do not use solvents, which could damage the control panel.
Use a soft cloth to remove dust and glue remnants from the cylinder, valve and exhaust mufflers.

If you use a cleaning agent, make sure that it is compatible with the adhesive being employed. When in doubt, contact the adhesive manufacturer.

6.3.3 CHANGING ADHESIVE

To replace one adhesive with another, empty the system (See 5.10 "Emptying the Tank").

Emptying the system is important when changing the adhesive. Not doing so may cause equipment damage.

CHAPTER 7: TROUBLESHOOTING

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

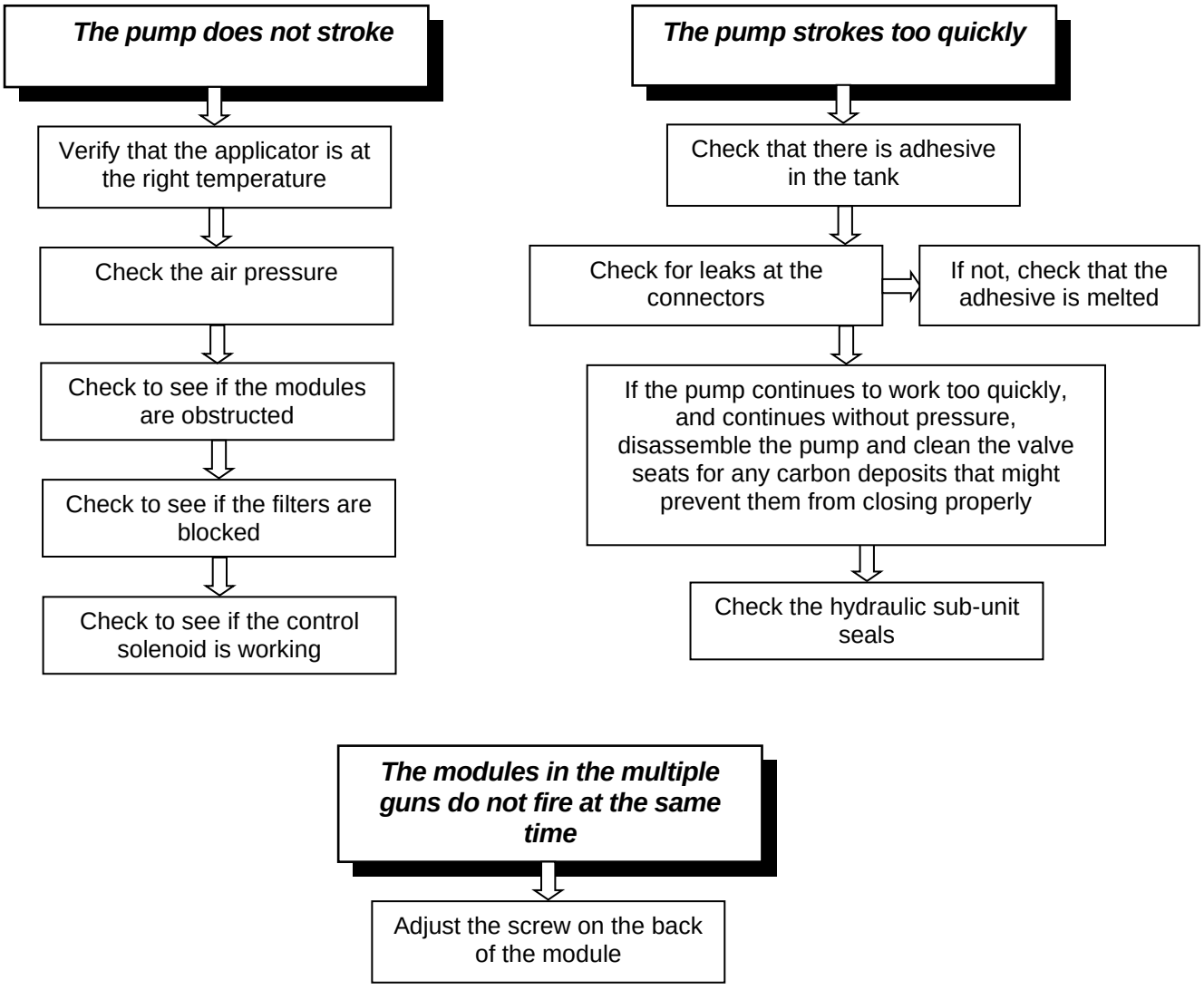
7.1. INTRODUCTION

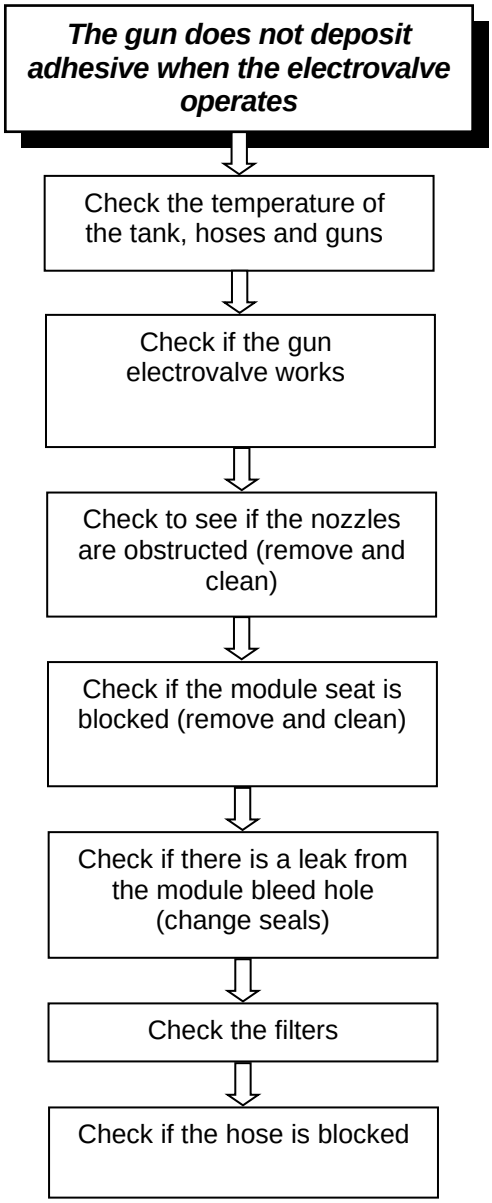
This chapter refers to the most common equipment faults.

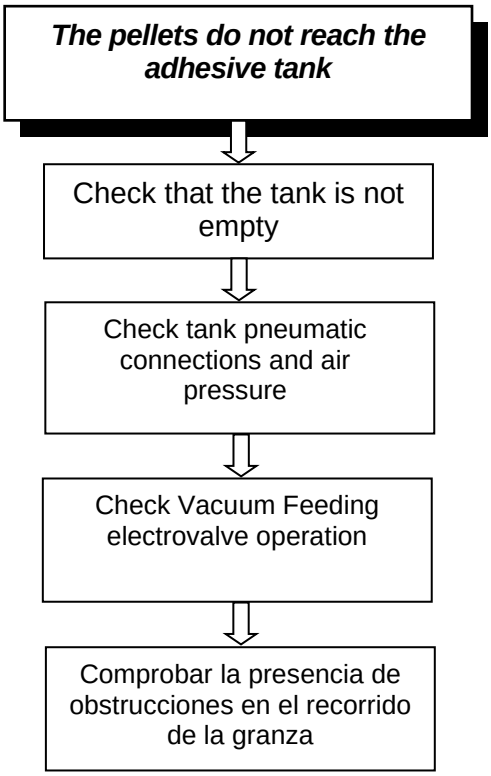
Problems may occur when glue flow is reduced or stopped, or when the alert system signals a fault. Many problems can be solved with the help of this manual.

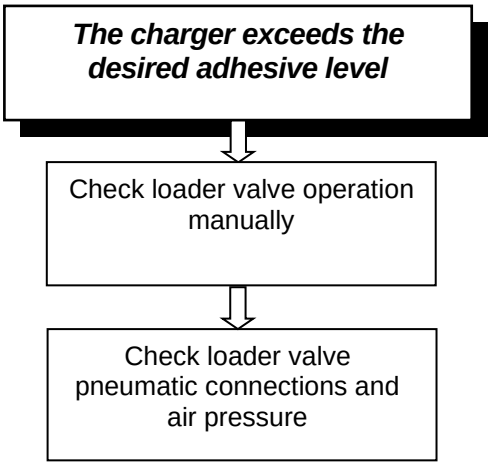
If the problem cannot be solved with the information provided here, contact your Melton representative.

7.2. MECHANICAL FAULTS

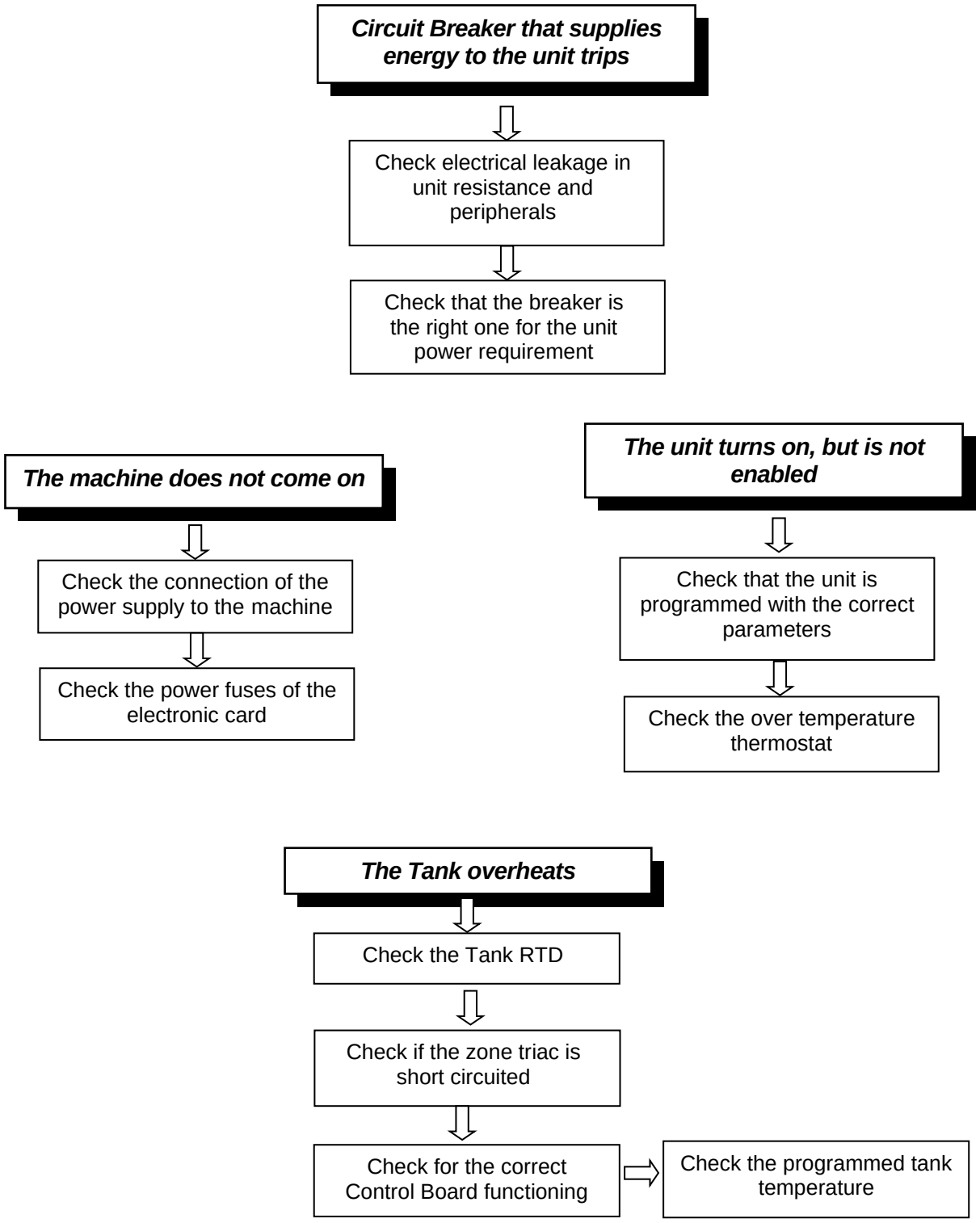


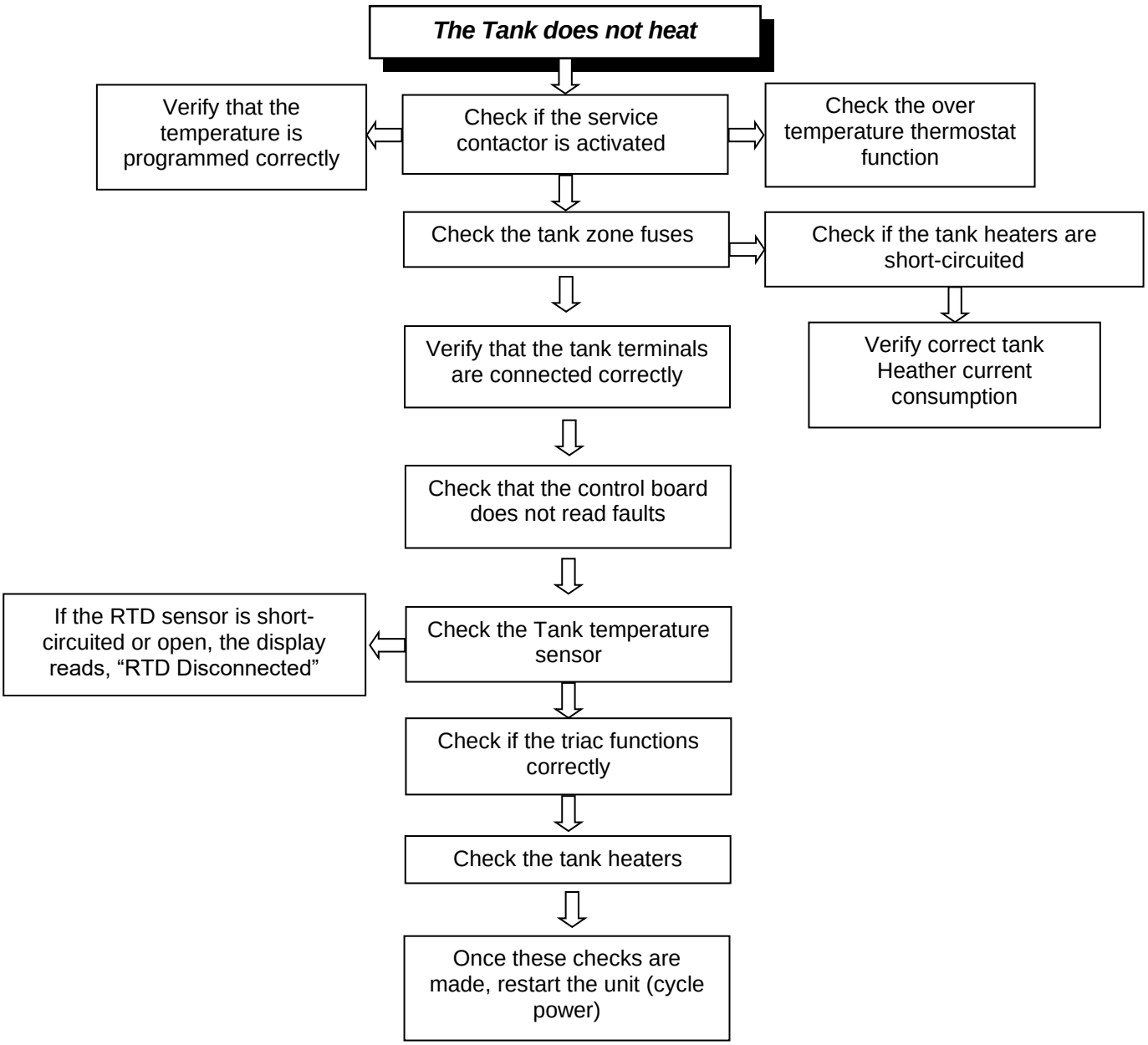

The gun does not deposit adhesive when the electrovalve operates
Check the temperature of the tank, hoses and guns
Check if the gun electrovalve works
Check to see if the nozzles are obstructed (remove and clean)
Check if the module seat is blocked (remove and clean)
Check if there is a leak from the module bleed hole (change seals)
Check the filters
Check if the hose is blocked

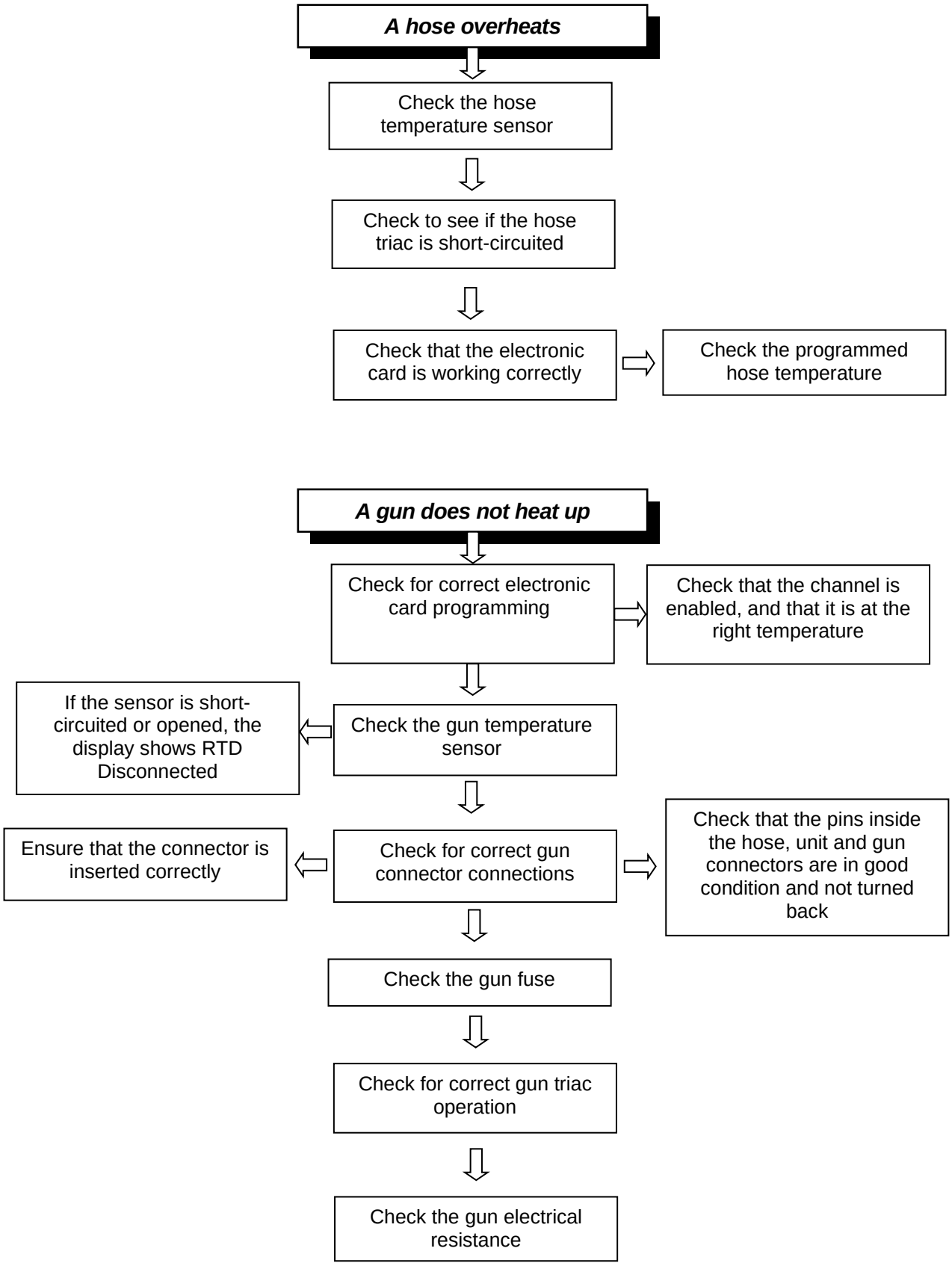

The pellets do not reach the adhesive tank
Check that the tank is not empty
Check tank pneumatic connections and air pressure
Check Vacuum Feeding electrovalve operation
Comprobar la presencia de obstrucciones en el recorrido de la granza

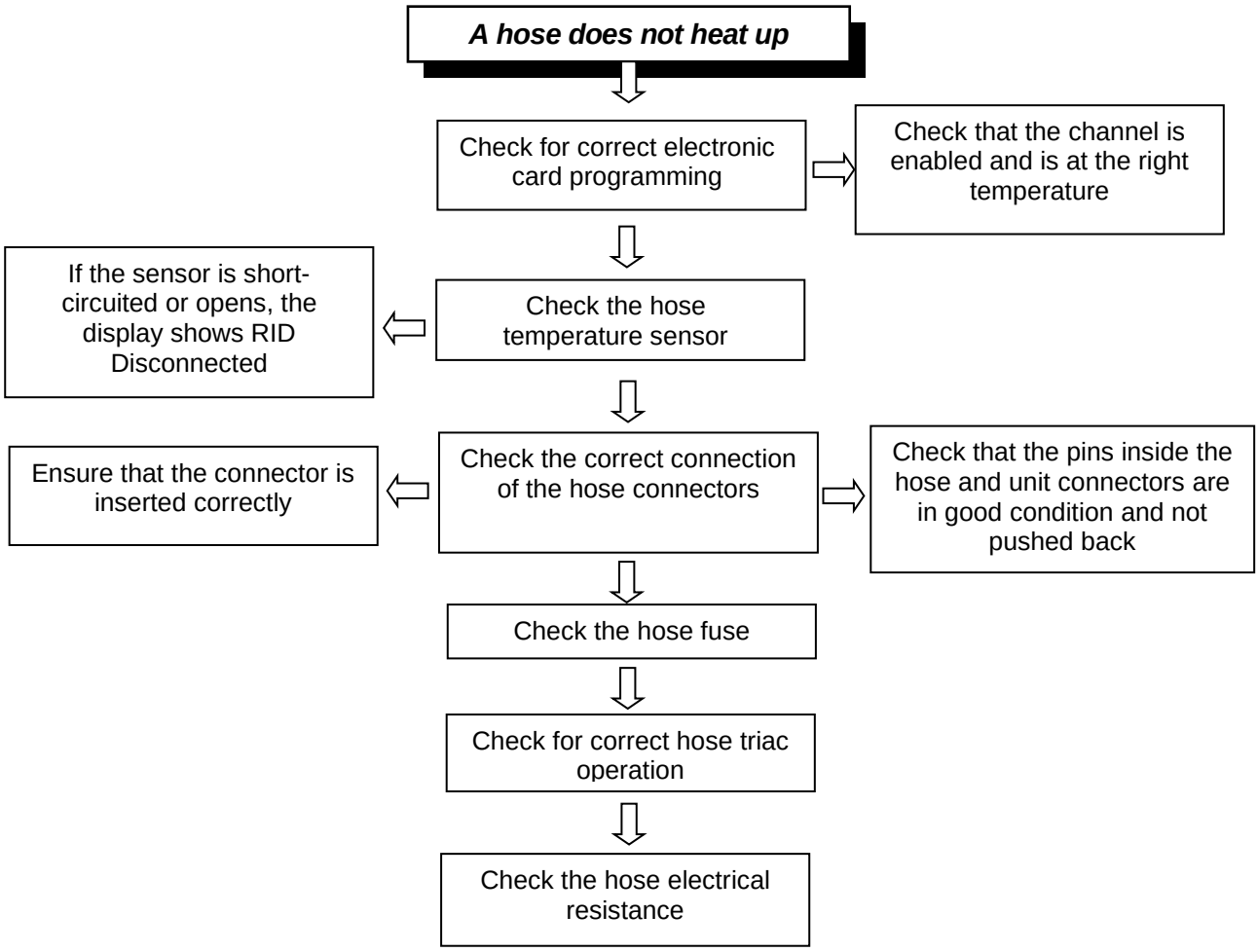

The charger exceeds the desired adhesive level
Check loader valve operation manually
Check loader valve pneumatic connections and air pressure

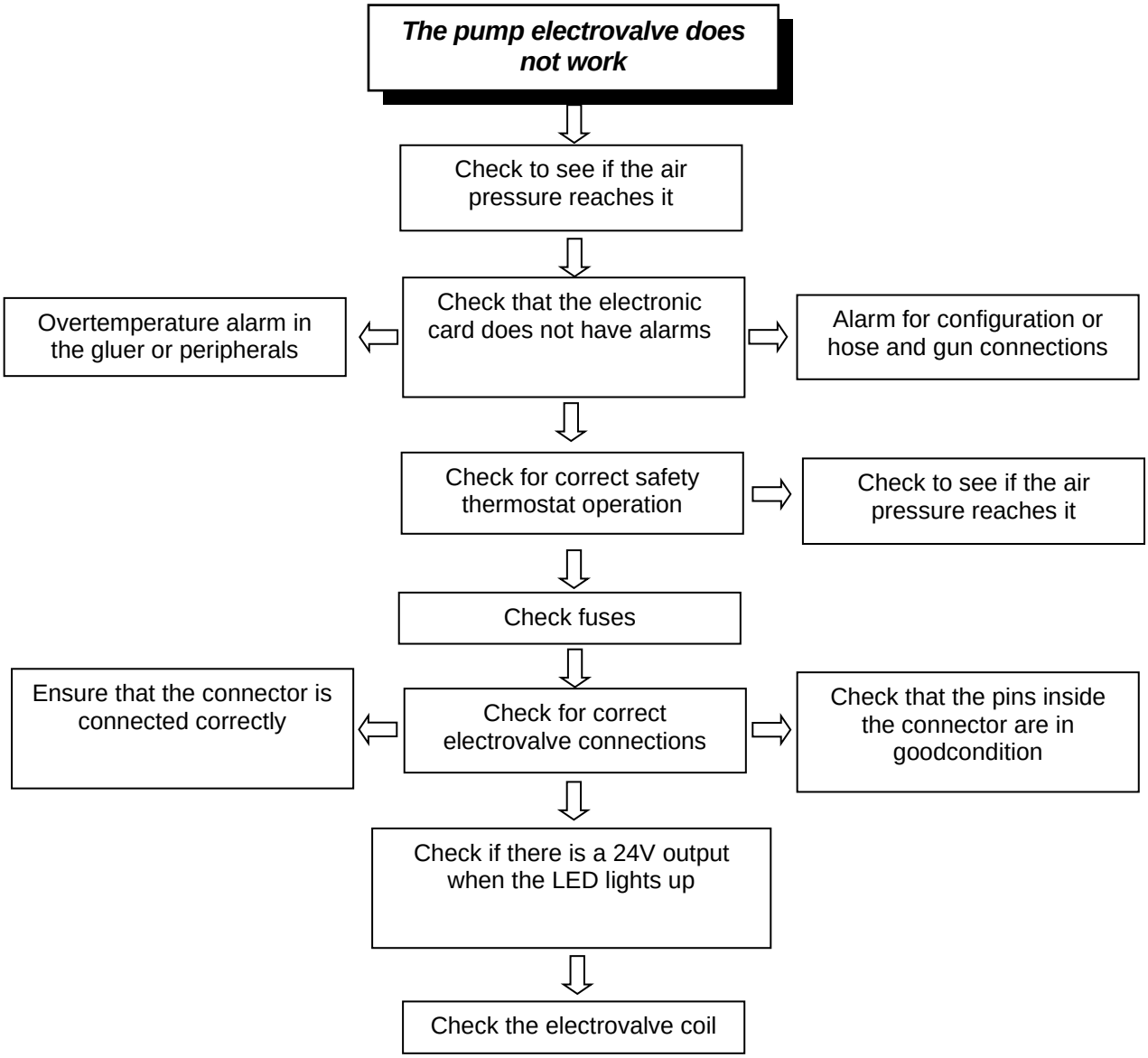
7.3. ELECTRICAL FAULTS

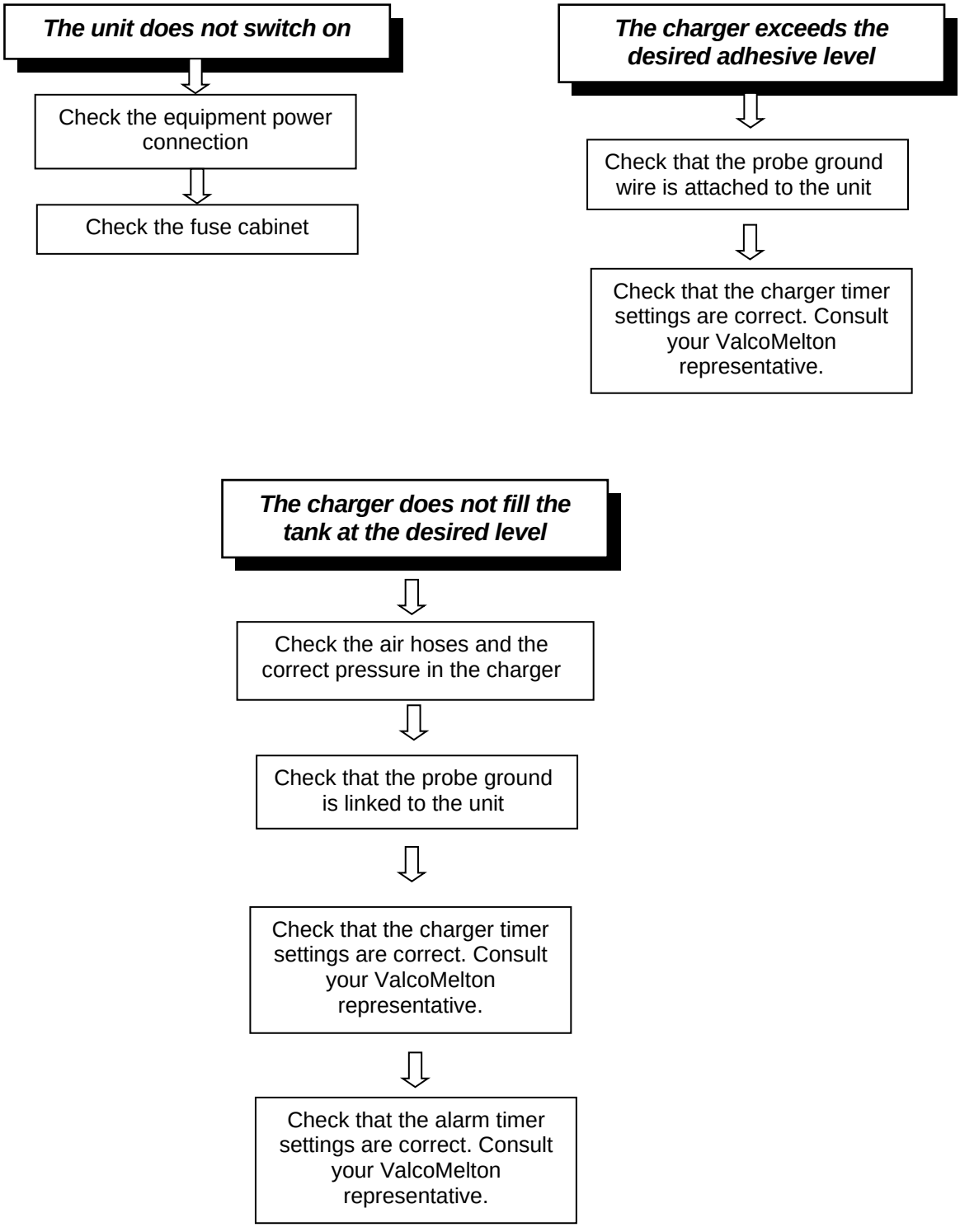



The Tank does not heat
Verify that the temperature is programmed correctly
Check if the service contactor is activated
Check the over temperature thermostat function
Check the tank zone fuses
Check if the tank heaters are short-circuited
Verify that the tank terminals are connected correctly
Verify correct tank Heather current consumption
Check that the control board does not read faults
If the RTD sensor is short-circuited or open, the display reads, “RTD Disconnected”
Check the Tank temperature sensor
Check if the triac functions correctly
Check the tank heaters
Once these checks are made, restart the unit (cycle power)

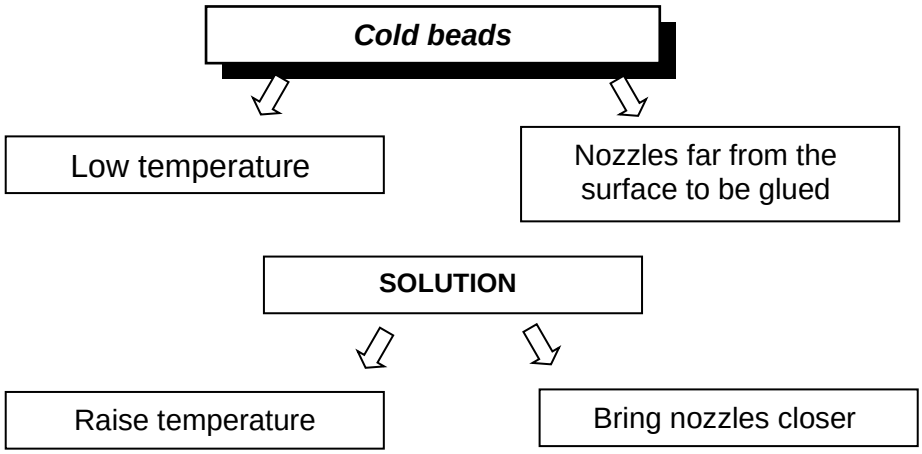

A hose overheats
Check the hose temperature sensor
Check to see if the hose triac is short-circuited
Check that the electronic card is working correctly
Check the programmed hose temperature
A gun does not heat up
Check for correct electronic card programming
Check that the channel is enabled, and that it is at the right temperature
If the sensor is short-circuited or opened, the display shows RTD Disconnected
Check the gun temperature sensor
Ensure that the connector is inserted correctly
Check for correct gun connector connections
Check that the pins inside the hose, unit and gun connectors are in good condition and not turned back
Check the gun fuse
Check for correct gun triac operation
Check the gun electrical resistance

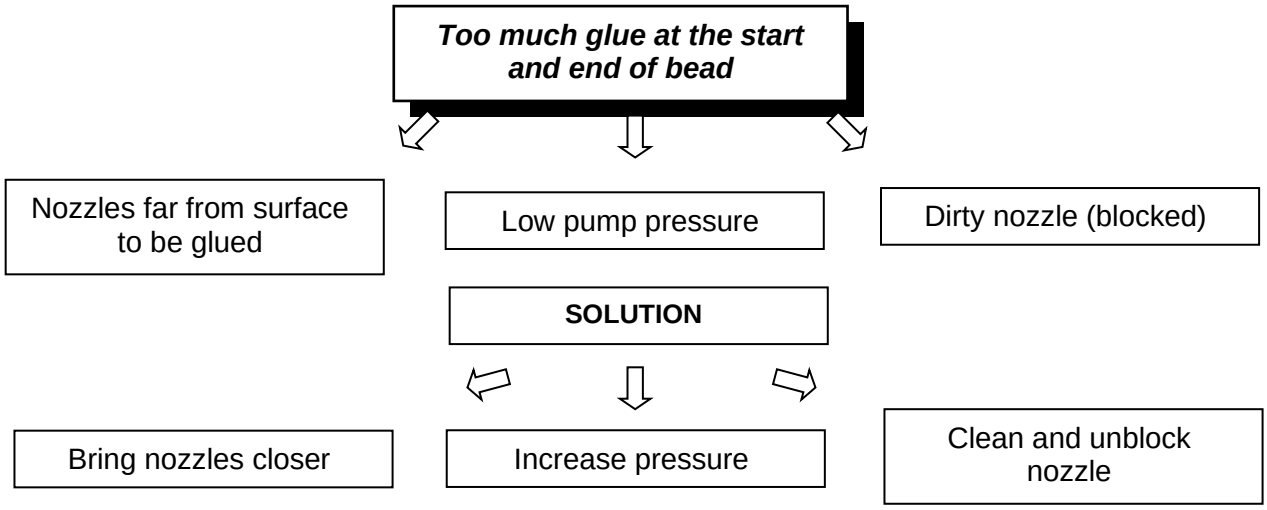

A hose does not heat up
Check for correct electronic card programming
Check that the channel is enabled and is at the right temperature
Check the hose temperature sensor
If the sensor is short-circuited or opens, the display shows RID Disconnected
Check the correct connection of the hose connectors
Ensure that the connector is inserted correctly
Check that the pins inside the hose and unit connectors are in good condition and not pushed back
Check the hose fuse
Check for correct hose triac operation
Check the hose electrical resistance

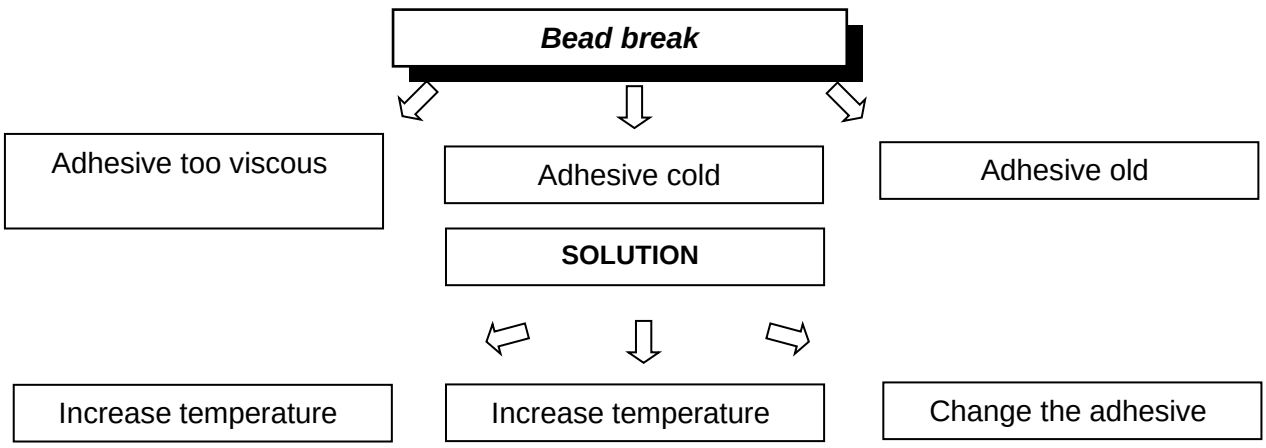

The pump electrovalve does not work
Check to see if the air pressure reaches it
Check that the electronic card does not have alarms
Overtemperature alarm in the gluer or peripherals
Alarm for configuration or hose and gun connections
Check for correct safety thermostat operation
Check to see if the air pressure reaches it
Check fuses
Check for correct electrovalve connections
Ensure that the connector is connected correctly
Check that the pins inside the connector are in goodcondition
Check if there is a 24V output when the LED lights up
Check the electrovalve coil

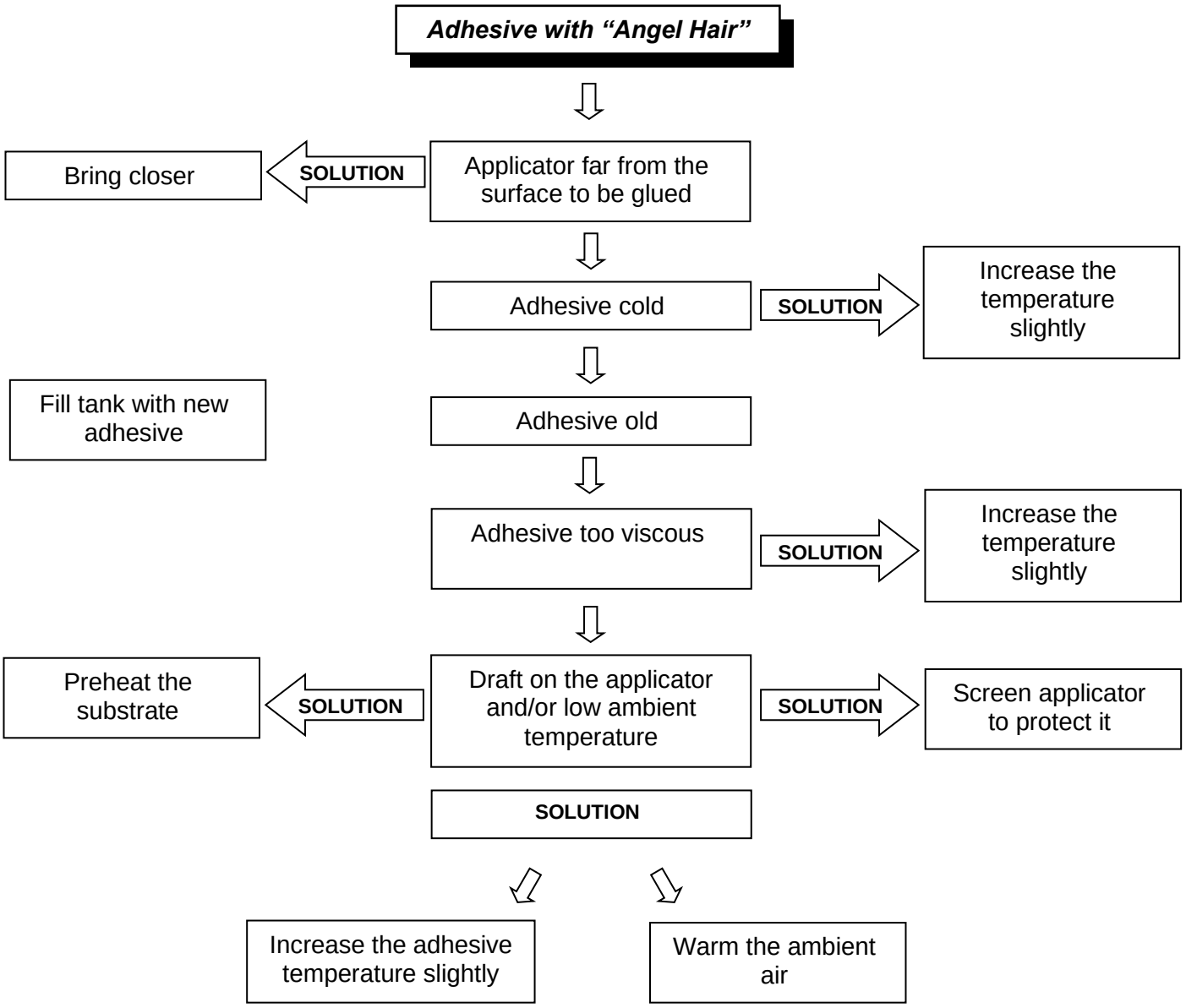

The unit does not switch on
Check the equipment power connection
Check the fuse cabinet
The charger exceeds the desired adhesive level
Check that the probe ground wire is attached to the unit
Check that the charger timer settings are correct. Consult your ValcoMelton representative.
The charger does not fill the tank at the desired level
Check the air hoses and the correct pressure in the charger
Check that the probe ground is linked to the unit
Check that the charger timer settings are correct. Consult your ValcoMelton representative.
Check that the alarm timer settings are correct. Consult your ValcoMelton representative.

7.4. ADHESIVE APPLICATION PROBLEMS









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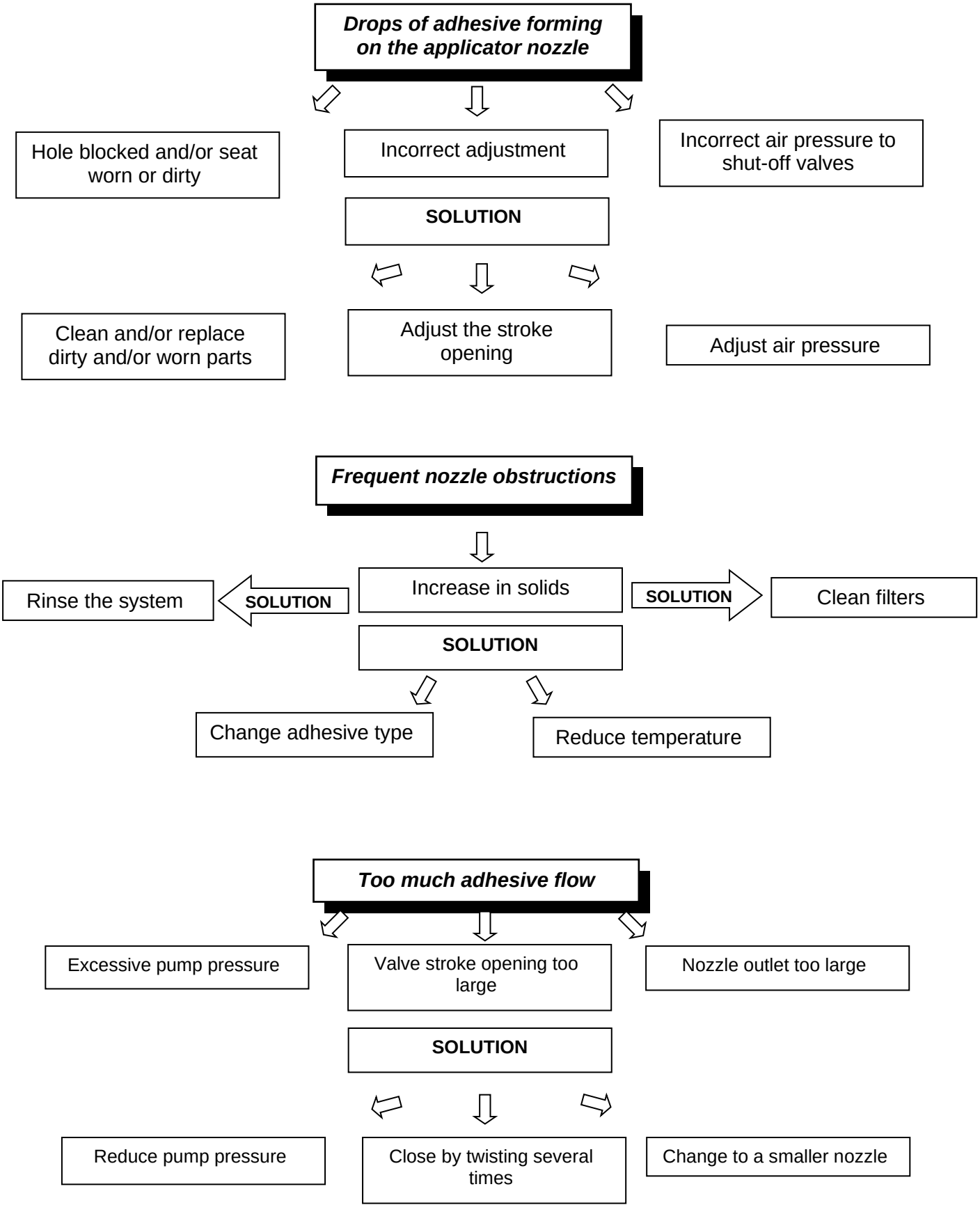
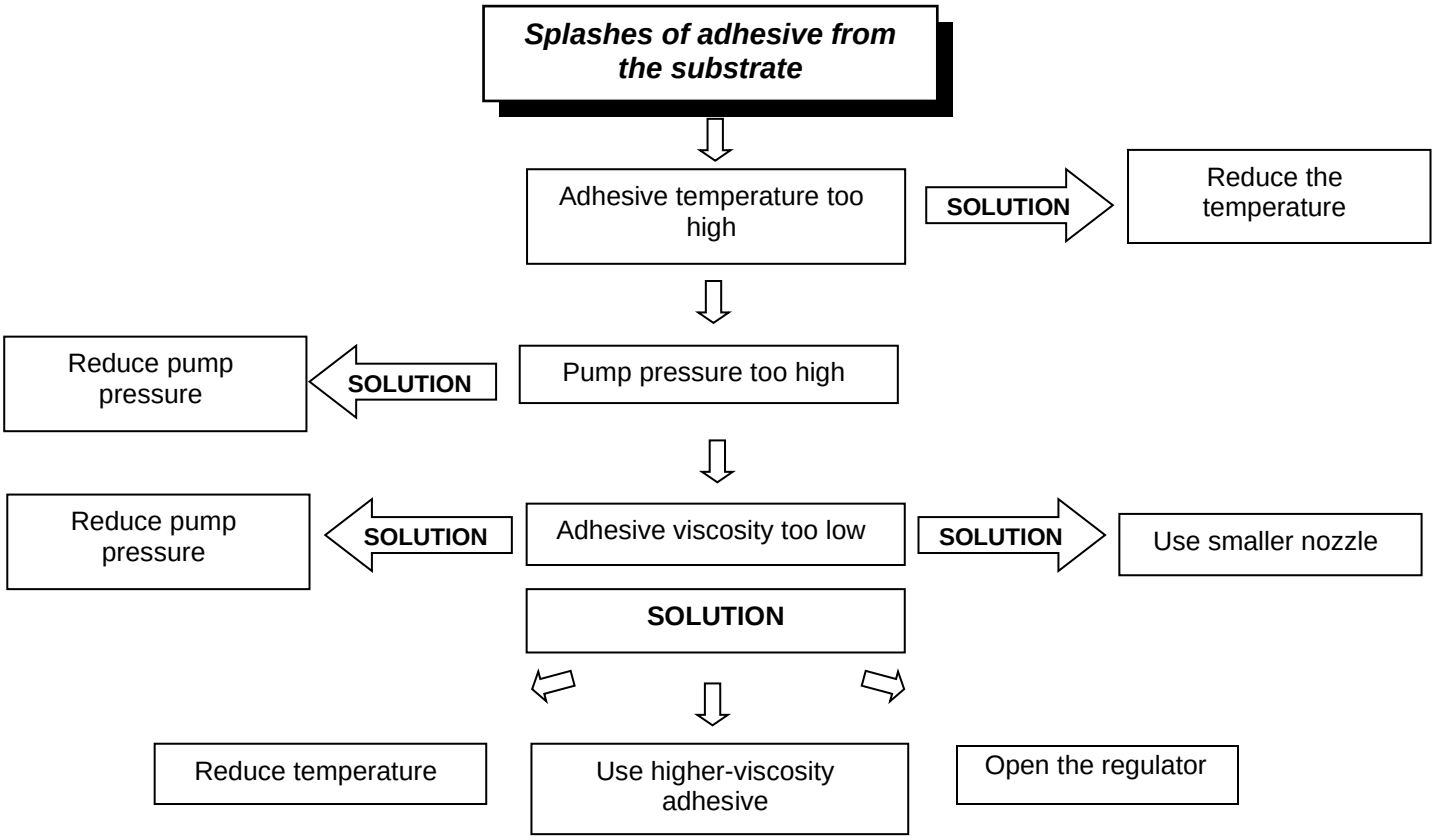
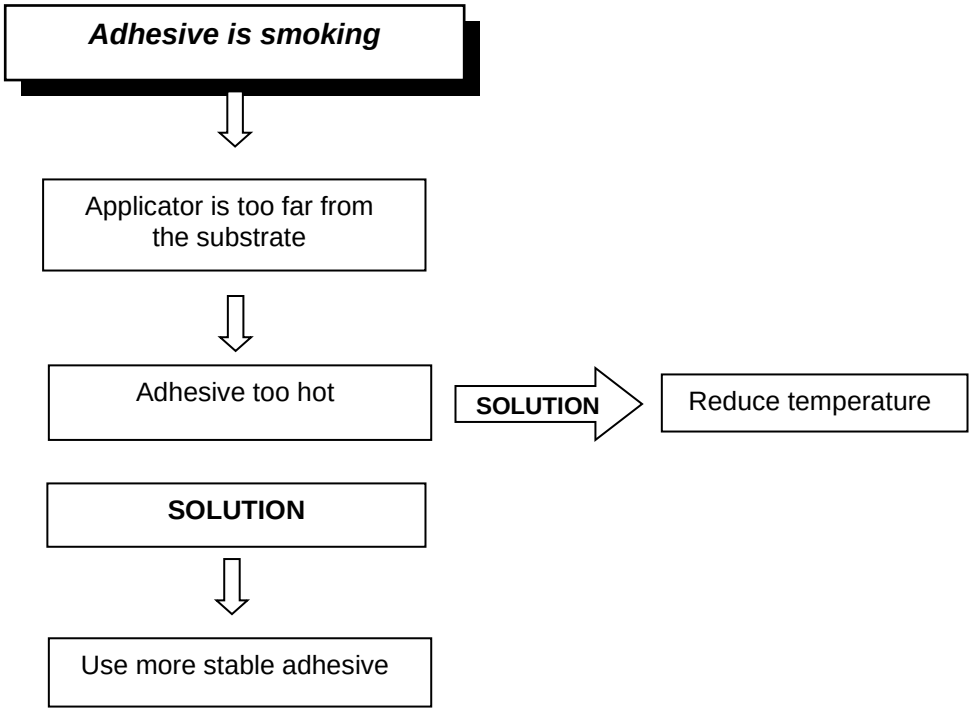
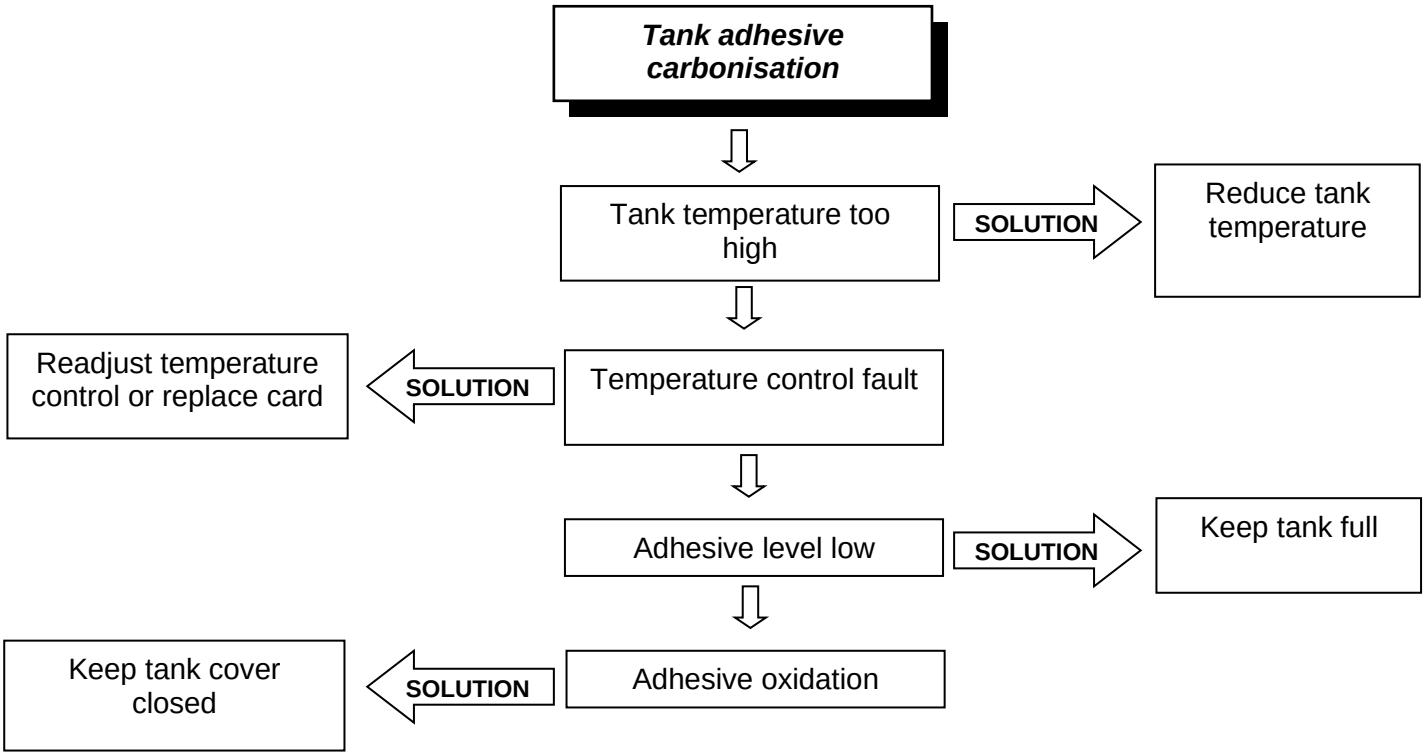
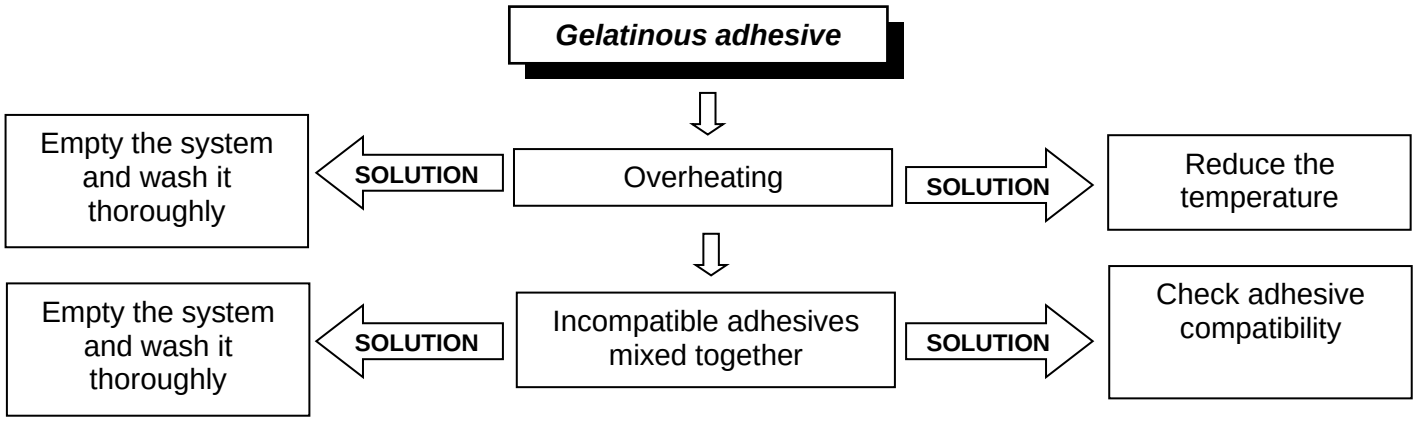
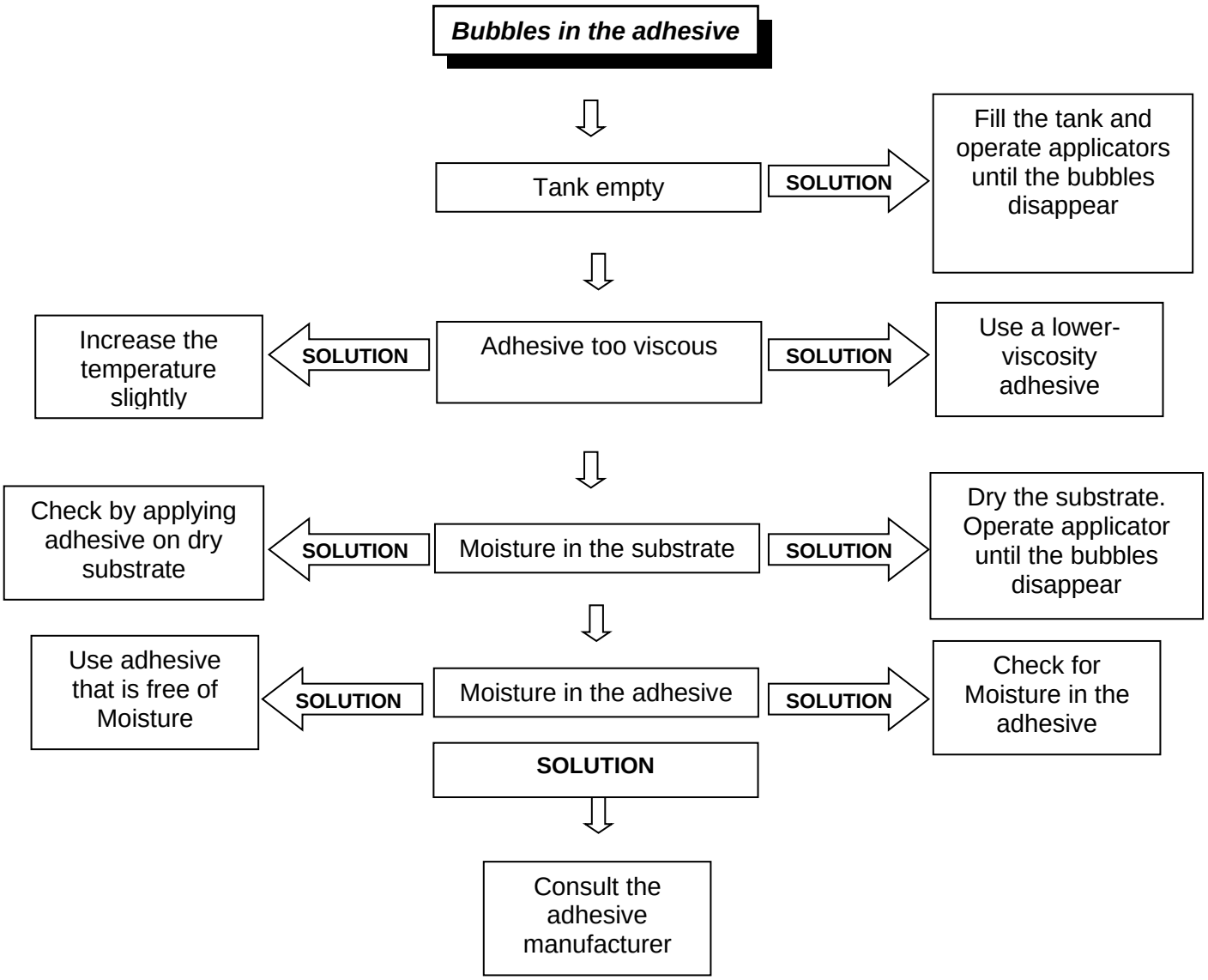

Drops of adhesive forming on the applicator nozzle
Hole blocked and/or seat worn or dirty
Incorrect adjustment
Incorrect air pressure to shut-off valves
SOLUTION
Clean and/or replace dirty and/or worn parts
Adjust the stroke opening
Adjust air pressure
Frequent nozzle obstructions
Rinse the system
SOLUTION
Increase in solids
SOLUTION
Clean filters
SOLUTION
Change adhesive type
Reduce temperature
Too much adhesive flow
Excessive pump pressure
Valve stroke opening too large
Nozzle outlet too large
SOLUTION
Reduce pump pressure
Close by twisting several times
Change to a smaller nozzle


Splashes of adhesive from the substrate
Adhesive temperature too high
SOLUTION
Reduce the temperature
Pump pressure too high
SOLUTION
Reduce pump pressure
Adhesive viscosity too low
SOLUTION
Use smaller nozzle
SOLUTION
Reduce pump pressure
SOLUTION
Reduce temperature
Use higher-viscosity adhesive
Open the regulator


Adhesive is smoking
Applicator is too far from the substrate
Adhesive too hot
SOLUTION
Reduce temperature
SOLUTION
Use more stable adhesive


Tank adhesive carbonisation
Tank temperature too high
SOLUTION
Reduce tank temperature
Readjust temperature control or replace card
SOLUTION
Temperature control fault
Adhesive level low
SOLUTION
Keep tank full
Keep tank cover closed
SOLUTION
Adhesive oxidation


Gelatinous adhesive
Empty the system and wash it thoroughly
SOLUTION
Overheating
SOLUTION
Reduce the temperature
Empty the system and wash it thoroughly
SOLUTION
Incompatible adhesives mixed together
SOLUTION
Check adhesive compatibility


Bubbles in the adhesive
Tank empty
SOLUTION
Fill the tank and operate applicators until the bubbles disappear
Increase the temperature slightly
SOLUTION
Adhesive too viscous
SOLUTION
Use a lower-viscosity adhesive
Check by applying adhesive on dry substrate
SOLUTION
Moisture in the substrate
SOLUTION
Dry the substrate. Operate applicator until the bubbles disappear
Use adhesive that is free of Moisture
SOLUTION
Moisture in the adhesive
SOLUTION
Check for Moisture in the adhesive
SOLUTION
Consult the adhesive manufacturer

CHAPTER 8: EQUIPMENT REPAIR GUIDE

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

8.1. INTRODUCTION

This chapter explains the procedures for dismantling and replacing some components. These procedures must be done during maintenance tasks, or when there is a failure. Before beginning, make sure the operator is properly protected and all safety measures are being followed.

1. Switch off the air at the mains.
2. Switch off the main switch.
3. Lock and tag out the main switch.
4. Make sure the electricity is off.
5. Follow applicable safety and health standards.

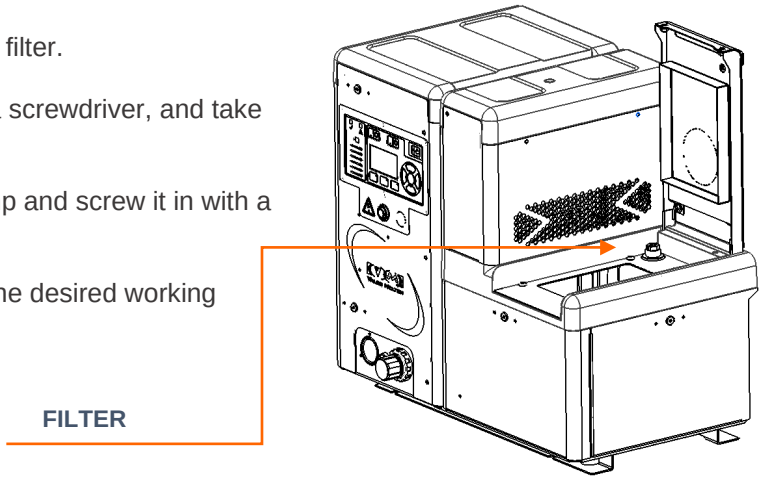
Attached are the exploded views that illustrate the procedures.

8.2. CHANGING THE FILTER

Before changing the filter, put on a face shield, gloves and a long-sleeve shirt to prevent possible burns caused by hot adhesive splashing.

Keeping a filter on hand, to replace when necessary, is recommended. This replacement is quick and improves equipment performance.

1. To change the filter, the applicator should be at working temperature.
2. Reduce the applicator air pressure to "0".
3. Open the tank door to reach the filter.
4. Open the filter plug screw with a screwdriver, and take out the filter unit.
5. Place the new filter into the pump and screw it in with a screwdriver.
6. Close the tank door and set to the desired working pressure.



8.3. REPAIRING THE MANIFOLD

The manifold is the element that distributes Hot-Melt, after it has been filtered, to the hoses and guns.

It is assembled at the bottom of the melting chamber so that the tank heaters heat it indirectly.

The manifold has nine outlet ports to connect the Hot-Melt hoses; three at the bottom, three in the middle and another three at the front.

Do not disassemble the manifold. This operation should only be done if there is a Hot-Melt leak between the tank and the manifold.

8.4. REPAIRING ELECTRIC COMPONENTS

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

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 properly bled and depressurised.

WARNING: When a fuse is blown, it is essential to replace it with fuses supplied with the equipment.

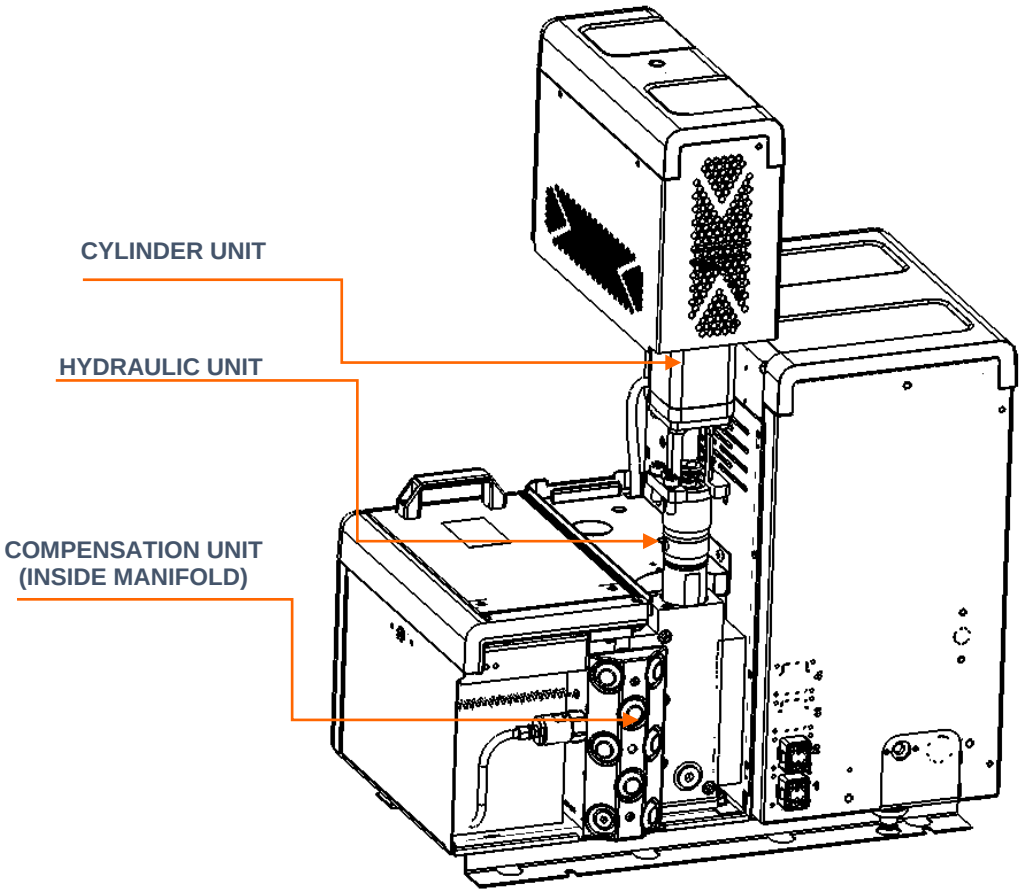
If fuses are not available, use ULTRAFAST fuses with the same characteristics.

ELECTRONIC CARD WARNING

During equipment manipulation, avoid contact with electronic elements and connector metallic parts; elements susceptible to electrostatic discharge.

8.5. REPAIRING THE PNEUMATIC PUMP UNIT

The pump unit consist of a valve, a shifter valve, a pneumatic cylinder and a double acting hydraulic pump, equipped with a pressure compensator to avoid a drop in flow rate that occurs when changing pump direction, and to enable maximum uniformity in Hot-Melt flow.



Before disassembling the hydraulic unit, put on goggles, gloves and long sleeves to avoid possible burns from splashes of hot adhesive.

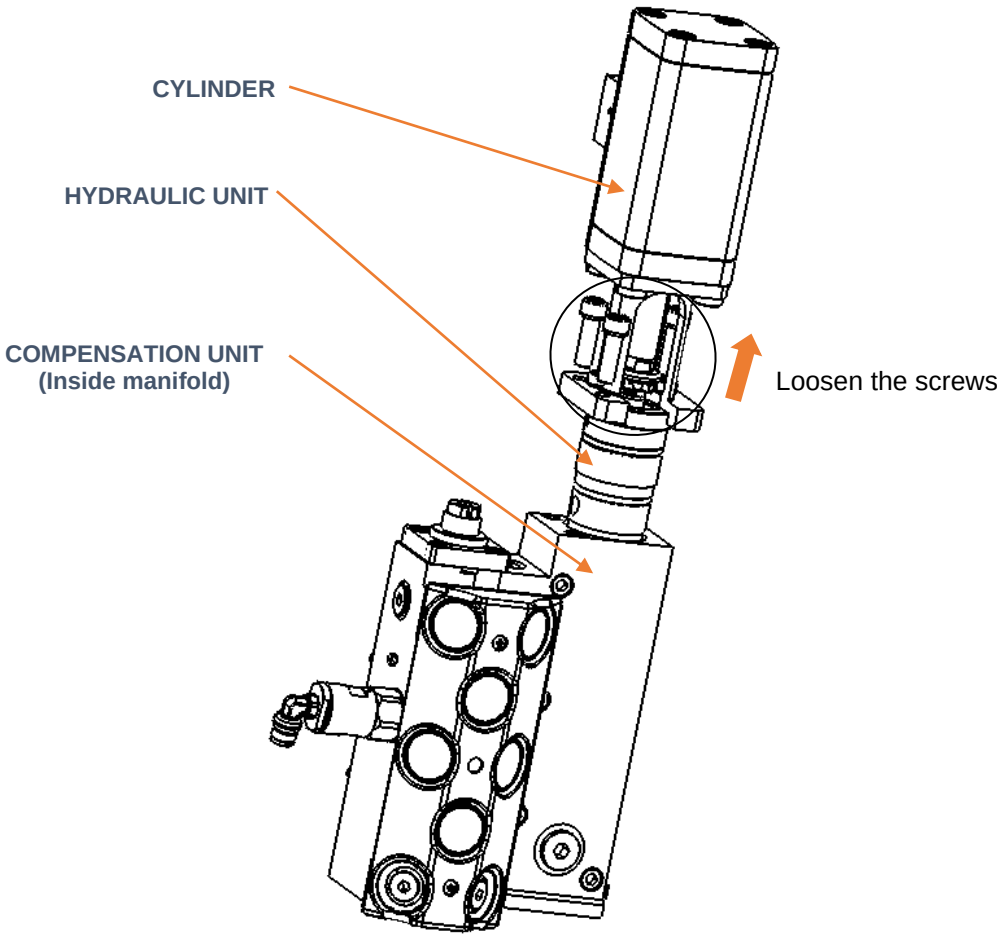
1. Warm the tank until adhesive is melted
2. Reduce the air pressure to zero
3. Eliminate system pressure by releasing the guns manually and setting the pump pressure to zero
4. Disconnect the electricity
5. Disconnect the regulator unit electrically and mechanically.
6. Loosen the pump cover closing with hexagon 6.

Follow the assembly procedure instructions carefully.
Positioning and alignment of some elements are critical to perfect pump operation.

In the event the pump is not working correctly, carry out the following checks.

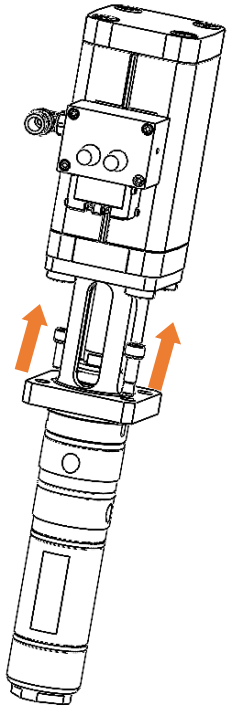
Is the air pipe connected?
Does the electrovalve work?
Is the equipment at the right temperature?
Is the regulator working at the right pressure?
Are the filters clean?
Are the modules blocked?
Is the shaft aligned correctly?

8.5.1. LOW FLOW PUMP

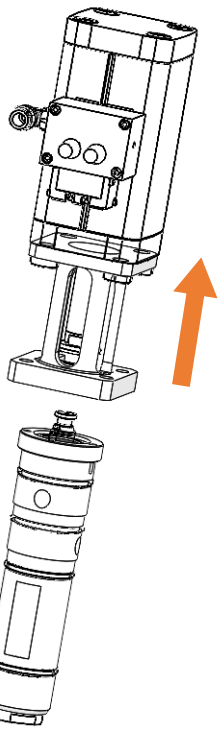


A) CYLINDER

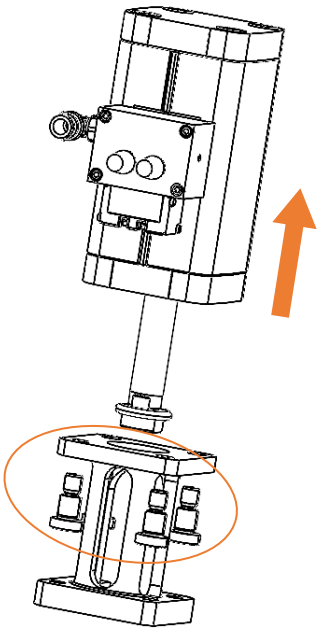
1. Loosen the screws of hydraulic pump.



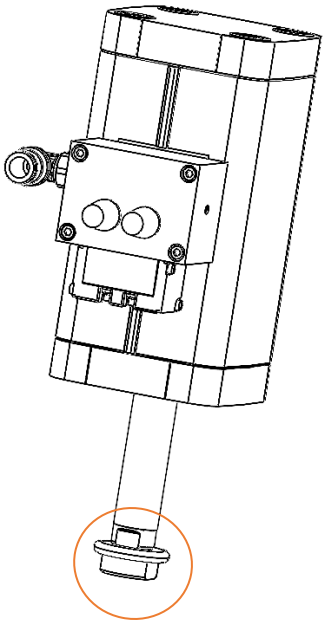
2. Separate the units.



3. Loosen the four screws and separate the cylinder from the support.

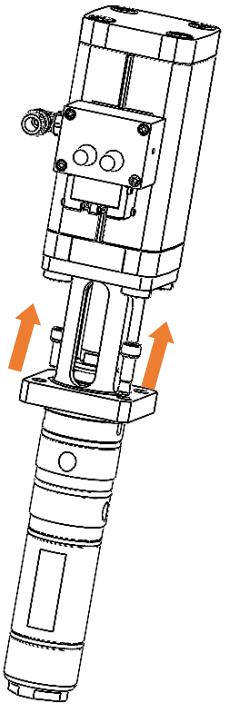


4. Loosen the shaft knob and socket joint.

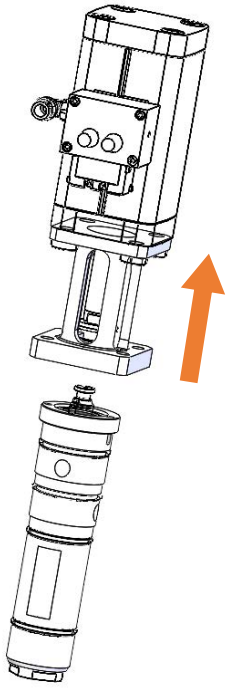


B) HYDRAULIC UNIT (REPAIR + CLEANING VALVES)

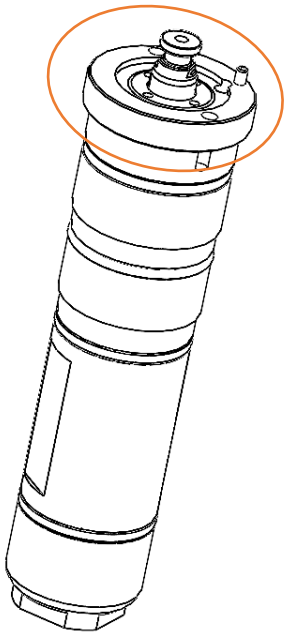
1. Loosen the screws of hydraulic pump.



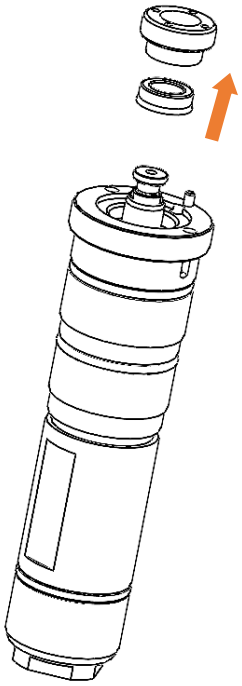
2. Separate the units.



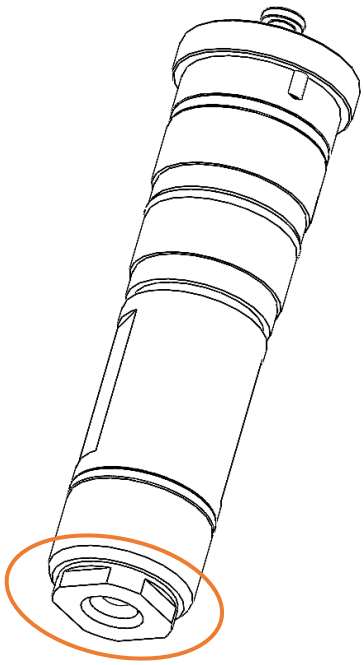
3. Loosen.



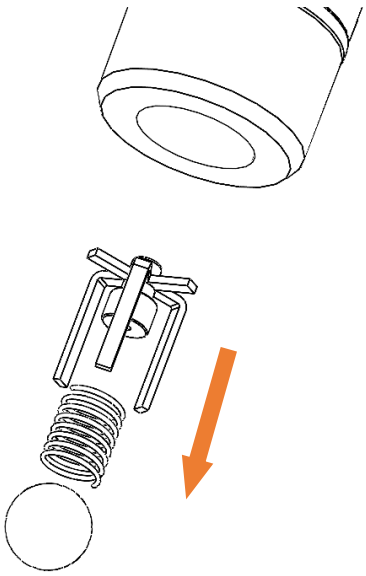
4. Remove the shaft seal.



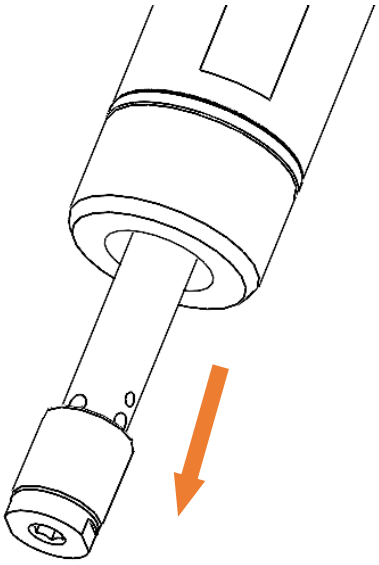
5. Loosen



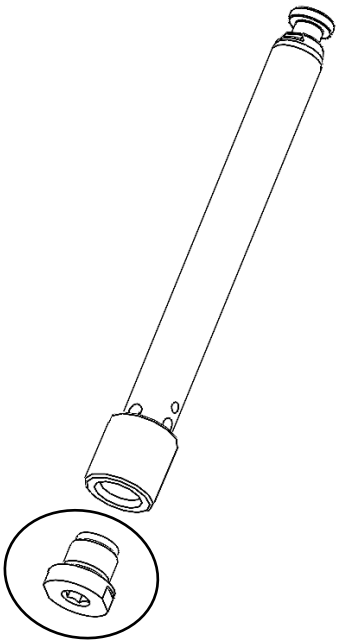
6. Clean the valve



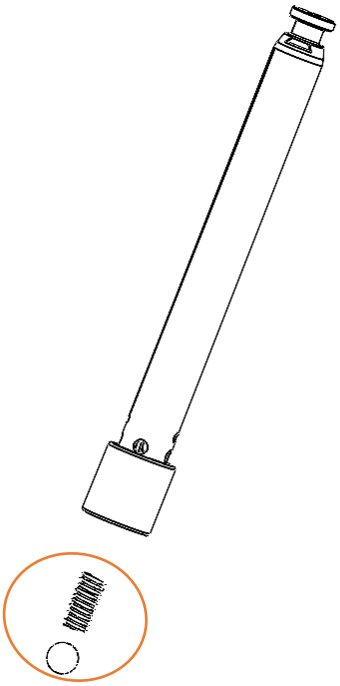
7. Remove the shaft



8. Use the 6mm Allen wrench to remove the compression valve.

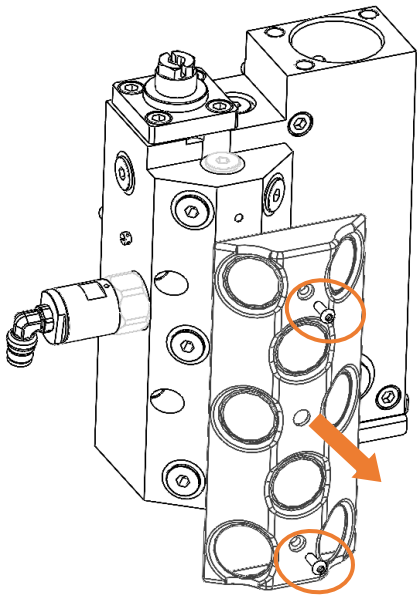


9. Remove the ball and spring and clean.

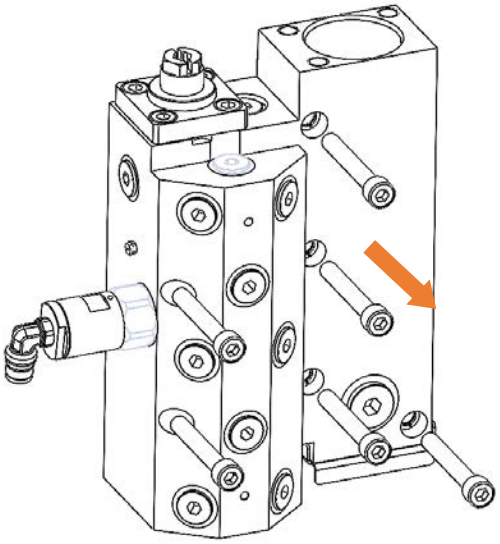


C) COMPENSATION UNIT

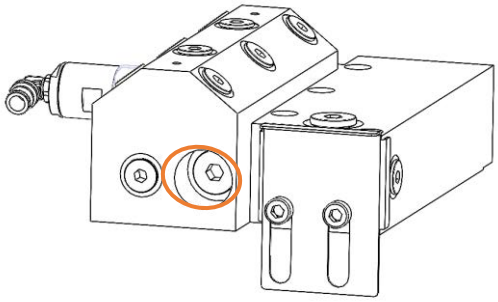
1. Loosen he screws and remove the protection.



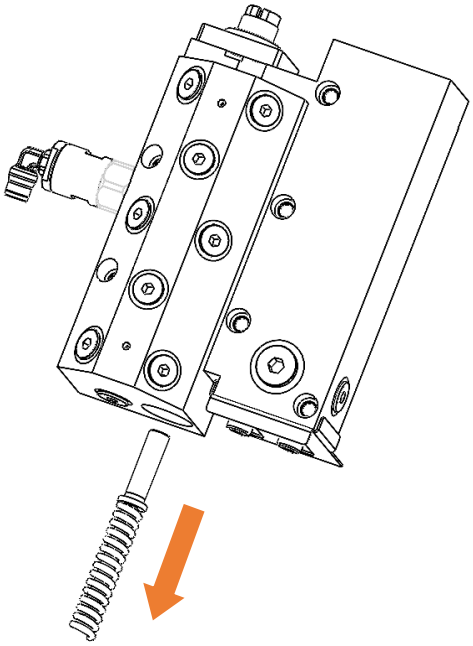
2. Loosen the screws from manifold.



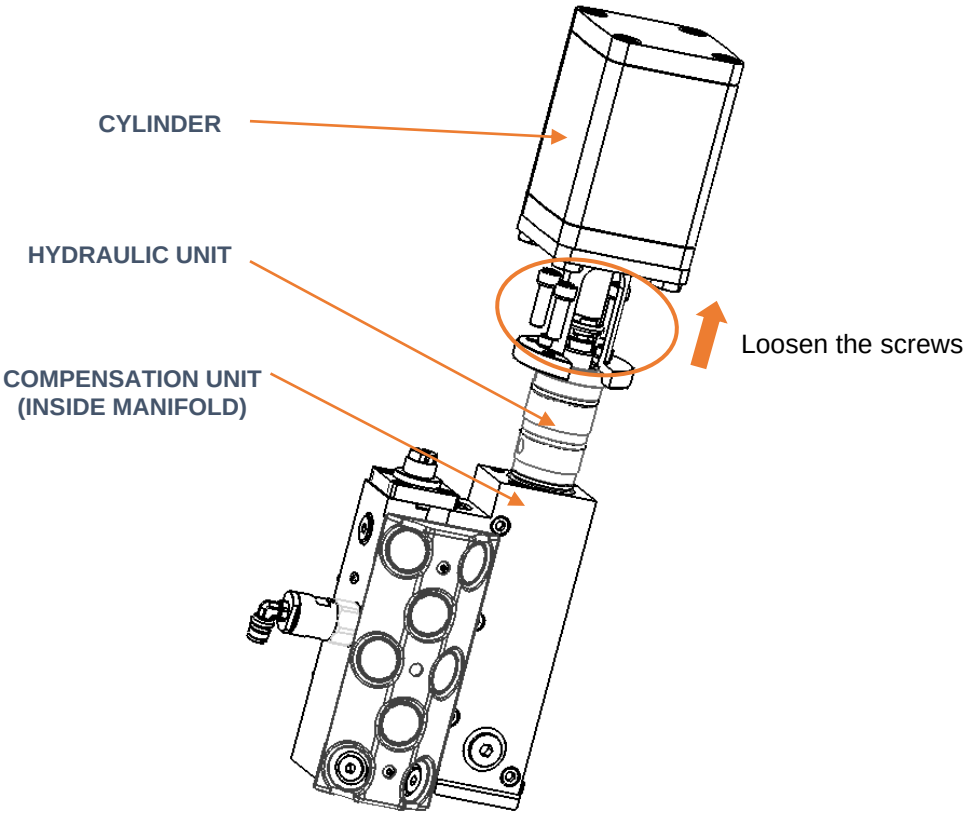
3. Loosen.



4. Remove the spring and inlet tube

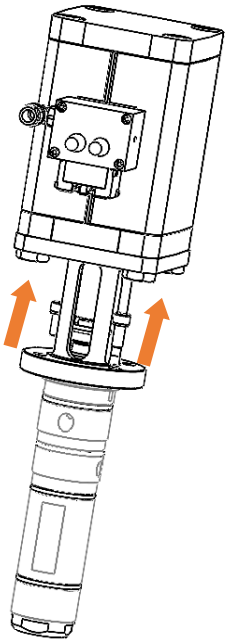


8.5.2. HIGH FLOW PUMP

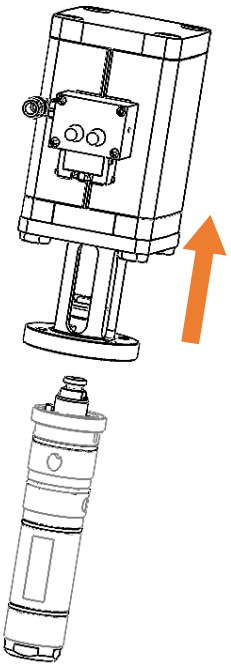


A) CYLINDER

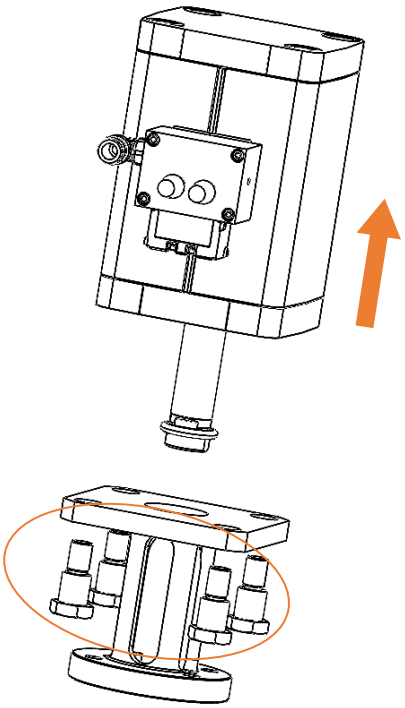
1. Loosen the screws of hydraulic pump.



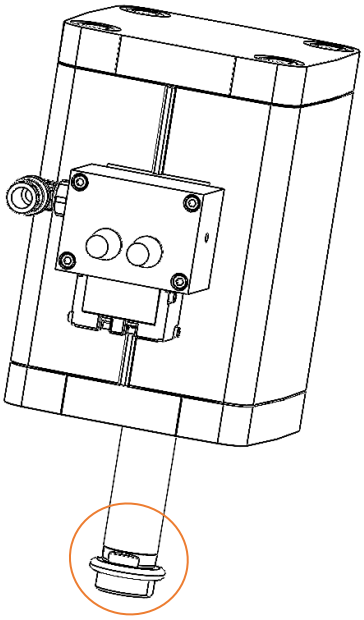
2. Separate the units.



3. Loosen the four screws and separate the cylinder from the support.

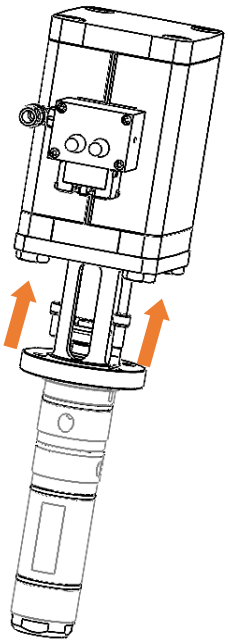


4. Loosen the shaft knob and socket joint.

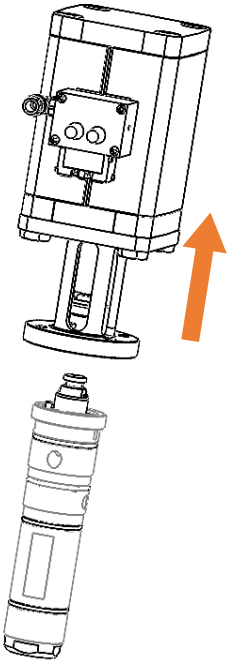


B) HYDRAULIC UNIT (REPAIR + CLEANING VALVES)

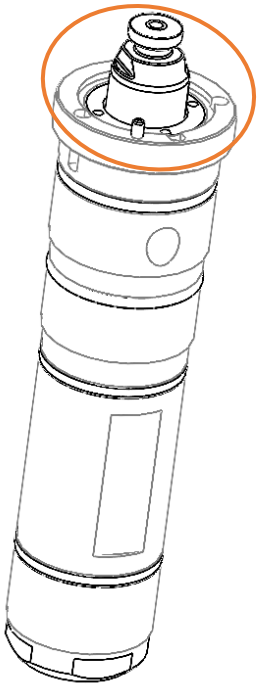
1. Loosen the screws of hydraulic pump.



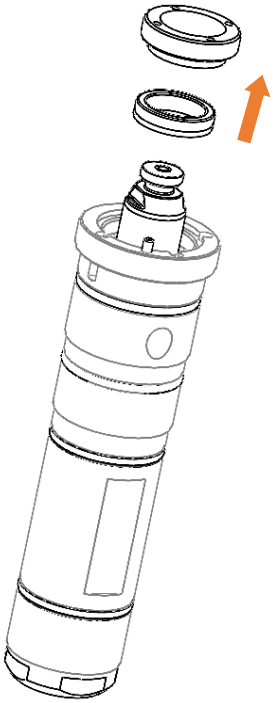
2. Separate the units.



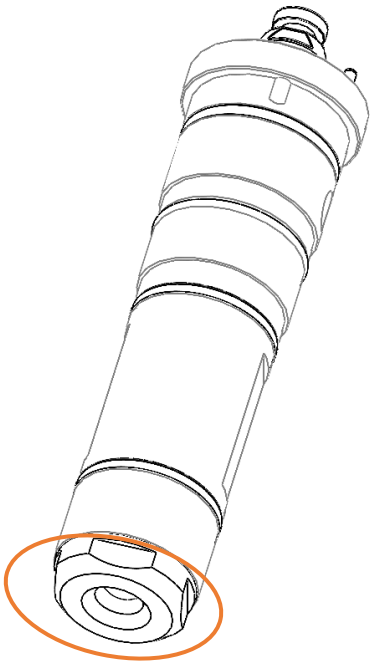
3. Loosen.



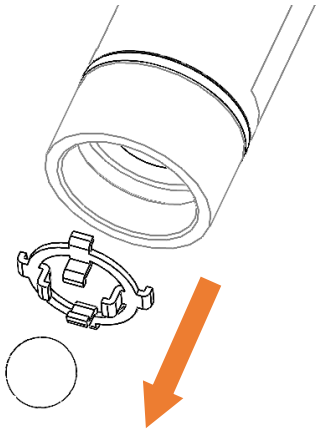
4. Remove the shaft seal.



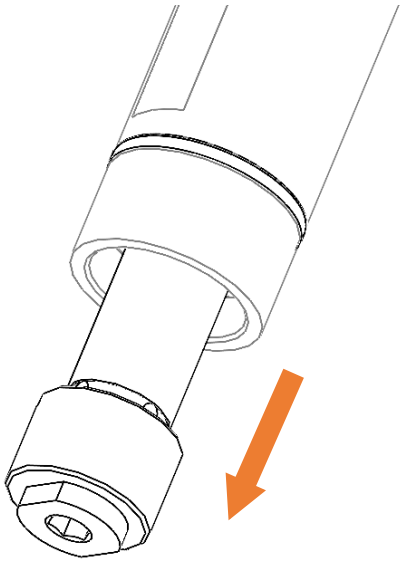
5. Loosen



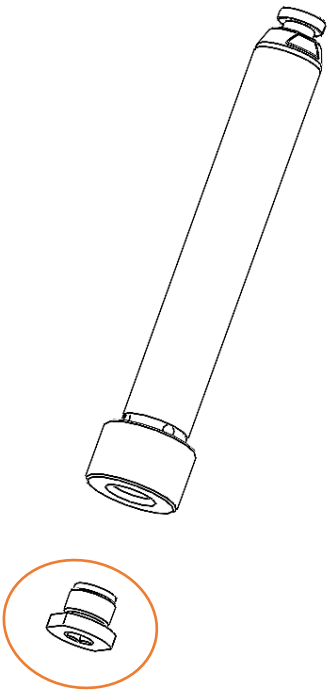
6. Clean the valve



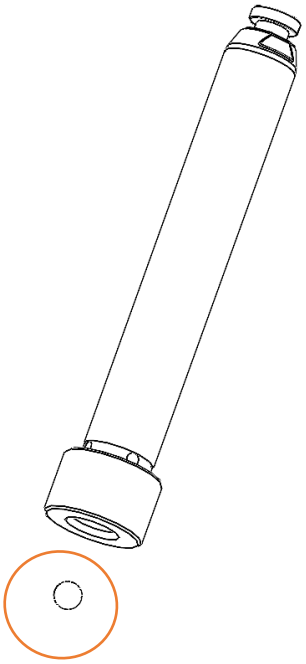
7. Remove the shaft



8. Use the M6 Allen wrench to remove the compression valve.

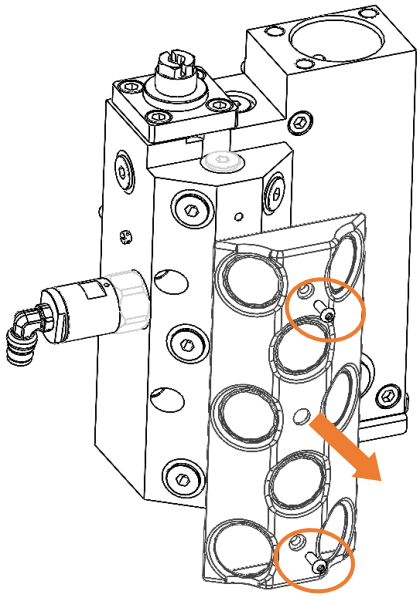


9. Remove the ball and spring and clean.

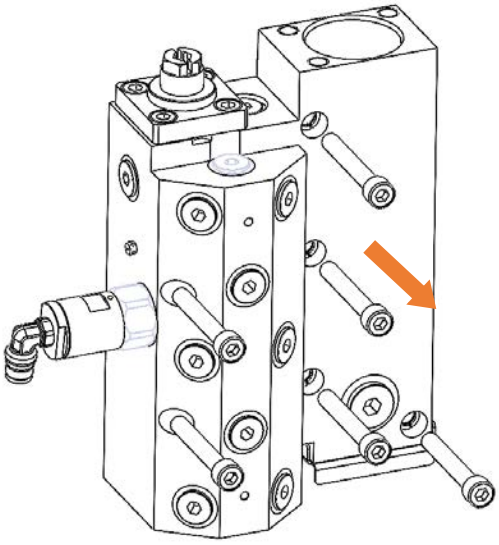


C) COMPENSATION UNIT

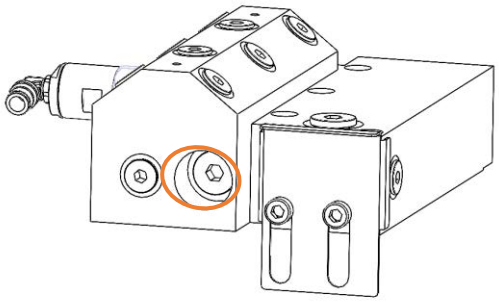
1. Loosen he screws and remove the protection.



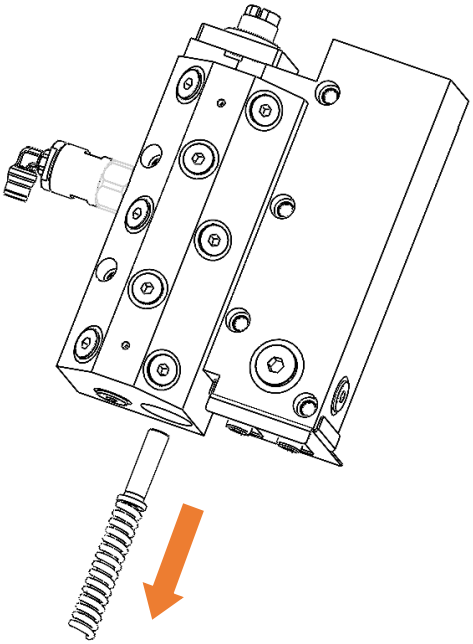
2. Loosen the screws from manifold.



3. Loosen.



4. Remove the spring and inlet tube



Valco Melton S.L.U. Pol. Ind. Comarca I C/G 34 31160, Orkoien, Spain
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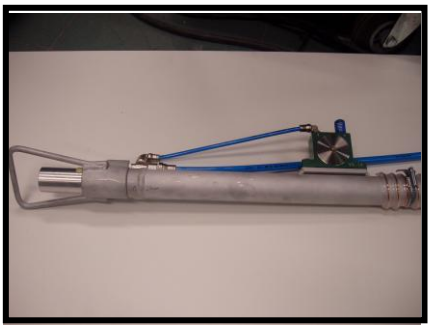
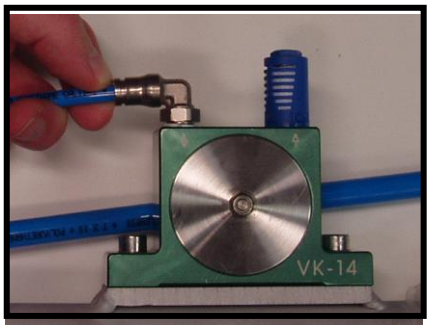
8.7. REPAIRING VACUUM FEEDER

For any electrical part requiring replacement, contact your Melton dealer. For mechanical, stress the following:

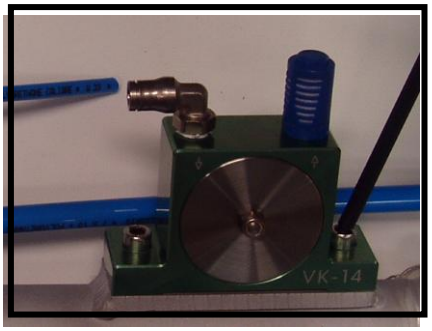
Changing the vibrator module:



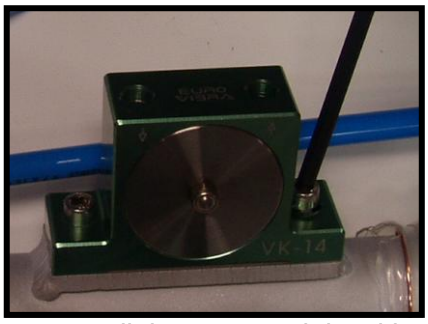
Locate the vibrator module, mounted on the loader arm



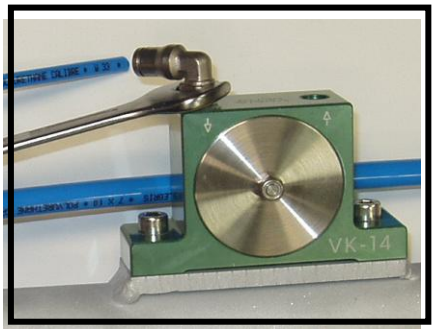
Remove the air hose fitting. Press the plunger



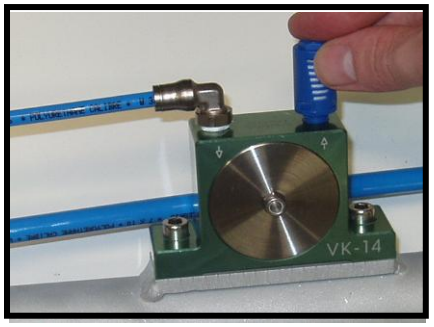
Remove the two screws and remove the module



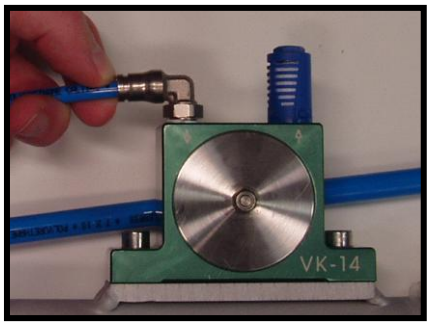
Install the new module with the screws



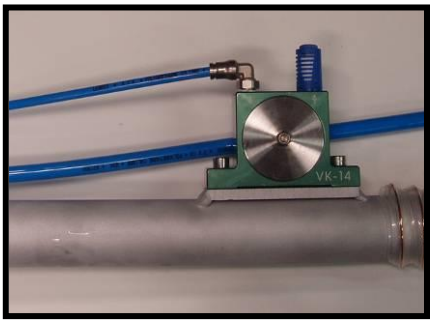
Attach the quick connect fitting inlet



Place the air filter onto the exhaust to the air module



Press the end of the cable and insert the air hose



Vibrator module mounted

Open the main air inlet.
Turn on the equipment.

The equipment is ready again!

ANNEX A: LOG SHEETS

DATE	INCIDENCE

Valco Melton S.L.U. Pol. Ind. Comarca I C/G 34 31160, Orkoien, Spain
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VALCO MELTON

Adhesive Dispensing & Quality Assurance Systems

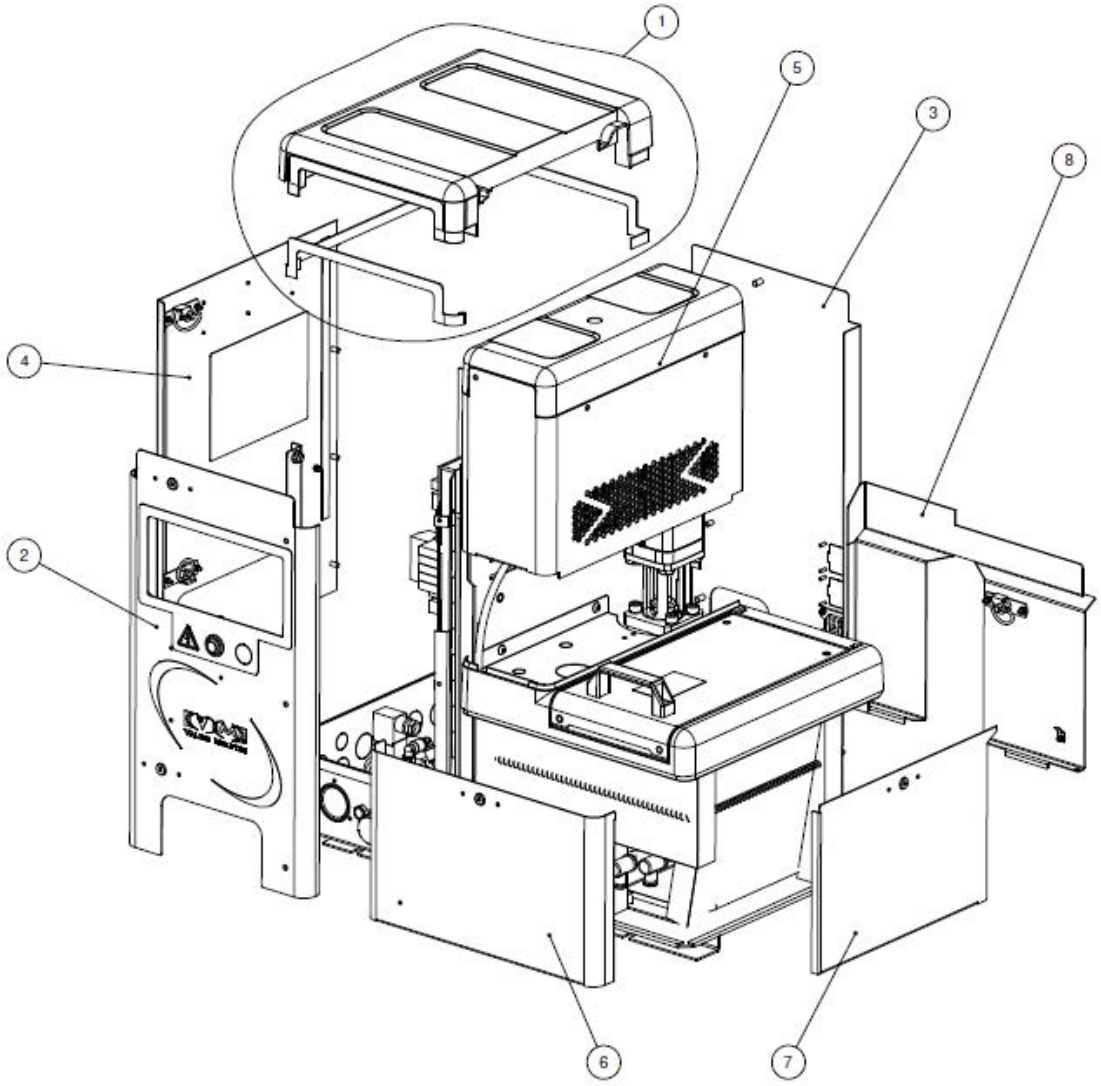
DESPIECE / PART LIST

KUBE 4 / 8 / 16

R038010201

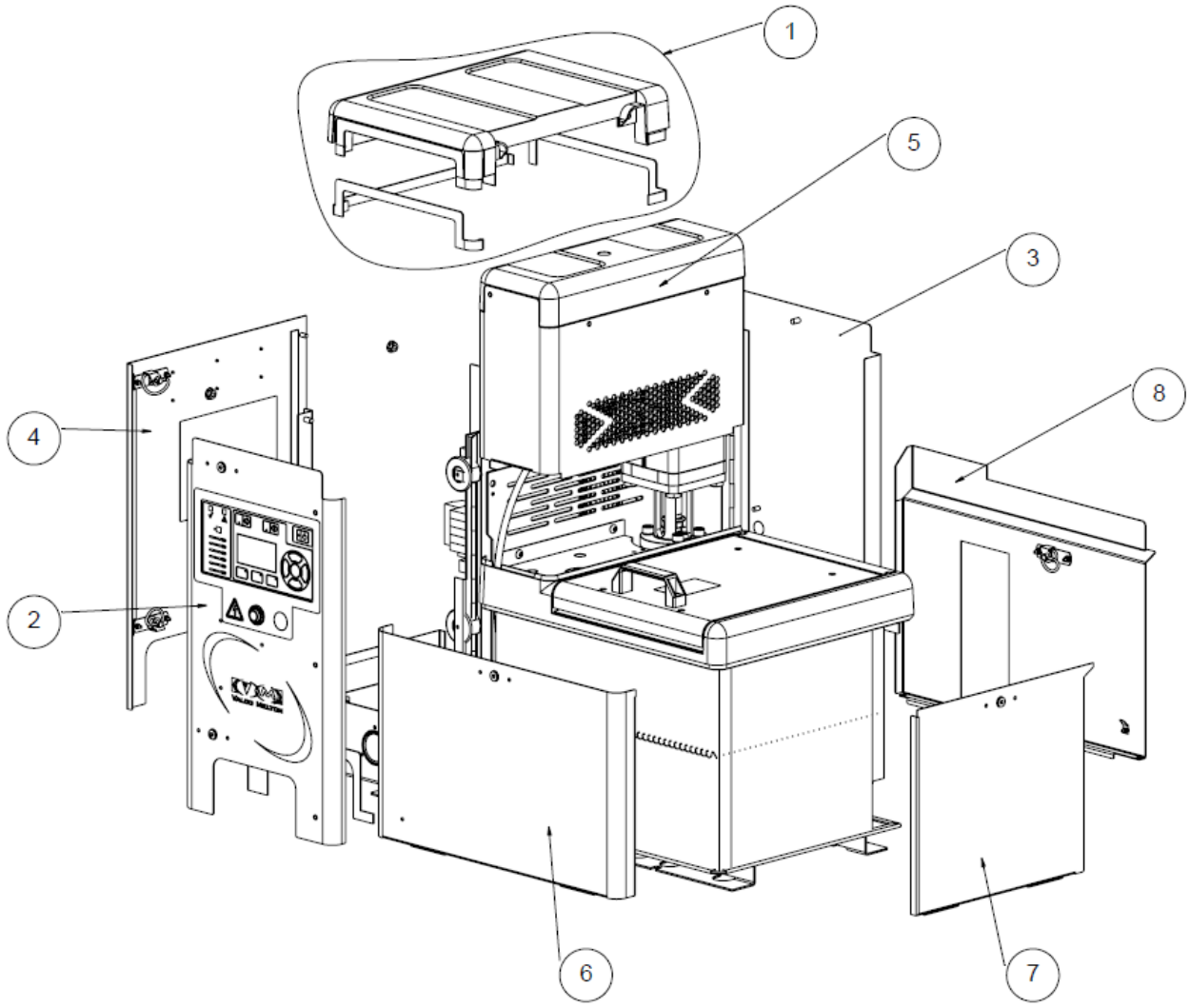
1. CARENADO / ENCLOSURE

1.1. KUBE 4/8



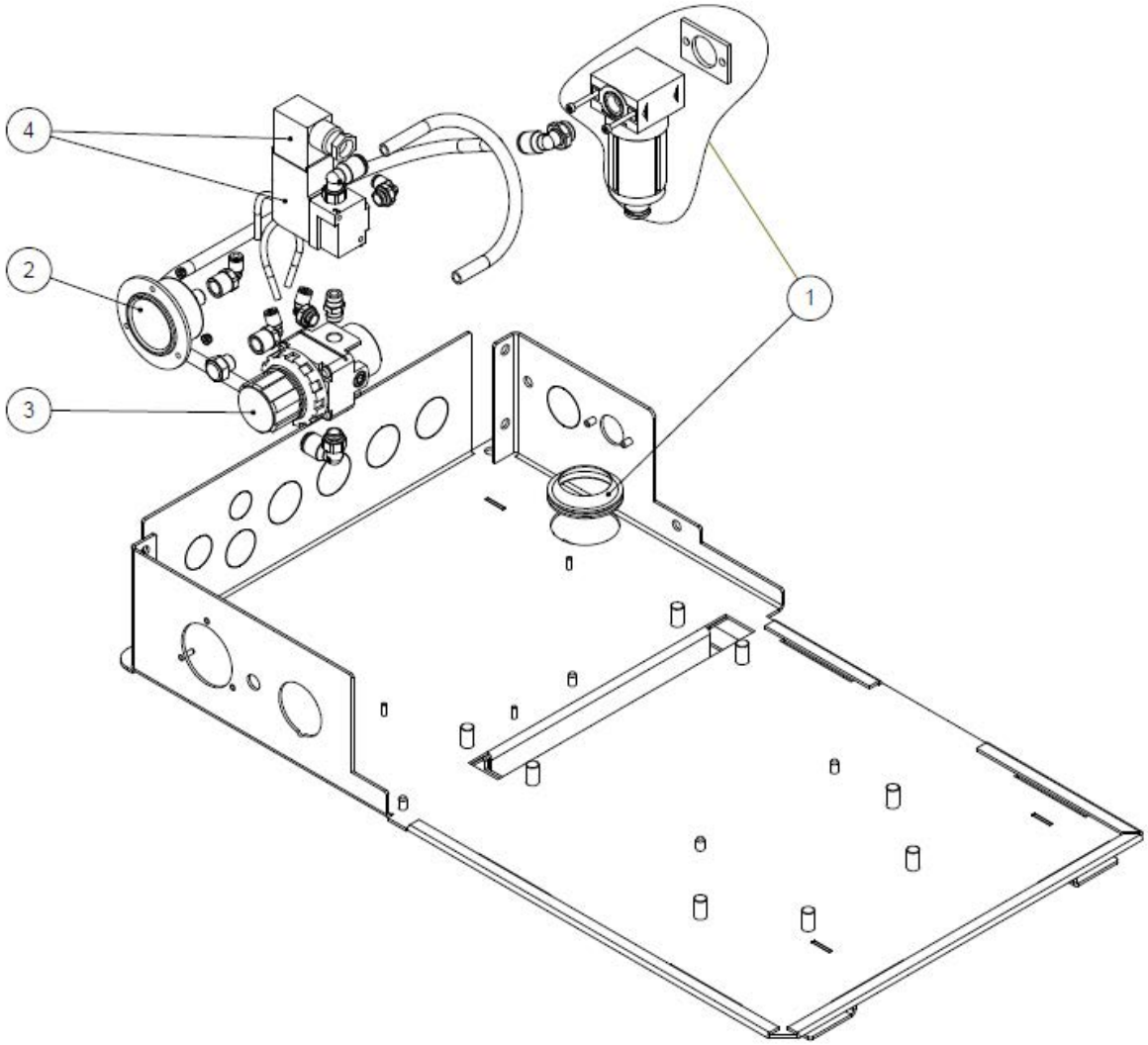
Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	KIT BANDEJA CABINA ELECTRICA	ELECTRICAL CABINET TRAY KIT	900XX736	1
2	RECAMBIO PANEL FRONTAL	FRONT PANEL REPLACEMENT	900XX737	1
3	RECAMBIO PANEL CONECTORES 1 – 4 SALIDAS	CONEXION PANEL REPLACEMENT 1 – 4 OUTPUTS	900XX738	1
	RECAMBIO PANEL CONECTORES 6 – 8 SALIDAS	CONEXION PANEL REPLACEMENT 6 – 8 OUTPUTS	900XX839	
4	SUBCJTO. PUERTA LATERAL	SIDE DOOR ASSEMBLY	900XX739	1
5	SUBCJTO. CARCASA BOMBA	PUMP COVER ASSEMBLY	900XX740	1
6	SUBCJTO. CARCASA FRONTAL DEPOSITO	DEPOSIT FRONT COVER ASSEMBLY	900XX741	1
7	SUBCJTO. CARCASA LATERAL DEPOSITO	DEPOSIT SIDE COVER ASSEMBLY	900XX742	1
8	SUBCJTO. CHAPA TRASERA DEPOSITO	DEPOSIT REAR COVER ASSEMBLY	900XX743	1

1.2. KUBE 16



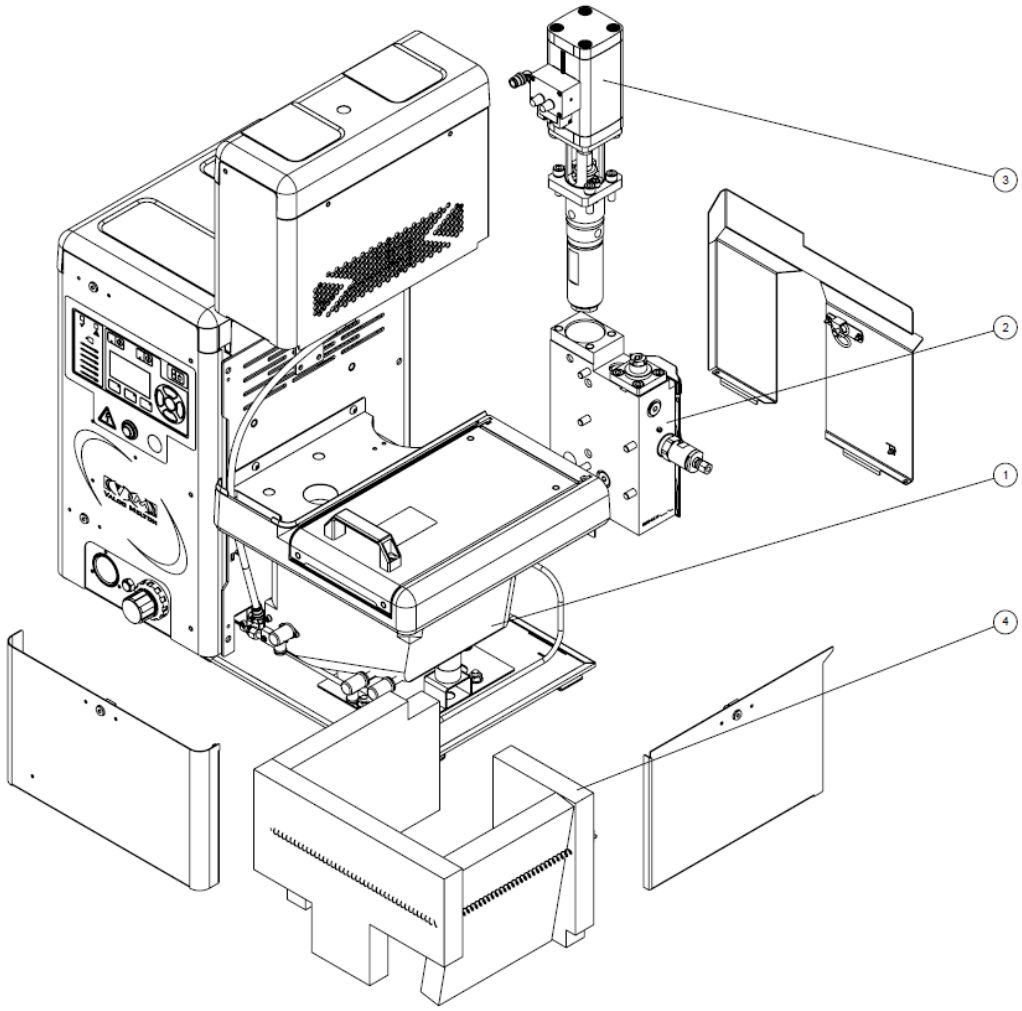
Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	KIT BANDEJA CABINA ELECTRICA	ELECTRICAL CABINET TRAY KIT	900XX736	1
2	RECAMBIO PANEL FRONTAL	FRONT PANEL REPLACEMENT	900XX737	1
3	RECAMBIO PANEL CONECTORES 1 – 4 SALIDAS	CONEXION PANEL REPLACEMENT 1 – 4 OUTPUTS	900XX738	1
	RECAMBIO PANEL CONECTORES 6 – 8 SALIDAS	CONEXION PANEL REPLACEMENT 6 – 8 OUTPUTS	900XX839	
4	SUBCJTO. PUERTA LATERAL	SIDE DOOR ASSEMBLY	900XX739	1
5	SUBCJTO. CARCASA BOMBA KUBE 16	PUMP COVER ASSEMBLY	904XX252	1
6	SUBCJTO. CARCASA FRONTAL DEPOSITO KUBE 16	DEPOSIT FRONT COVER ASSEMBLY	904XX253	1
7	SUBCJTO. CARCASA LATERAL DEPOSITO KUBE 16	DEPOSIT SIDE COVER ASSEMBLY	904XX254	1
8	SUBCJTO. CHAPA TRASERA DEPOSITO KUBE 16	DEPOSIT REAR COVER ASSEMBLY	904XX255	1

1. SISTEMA NEUMÁTICO / PNEUMATIC SYSTEM



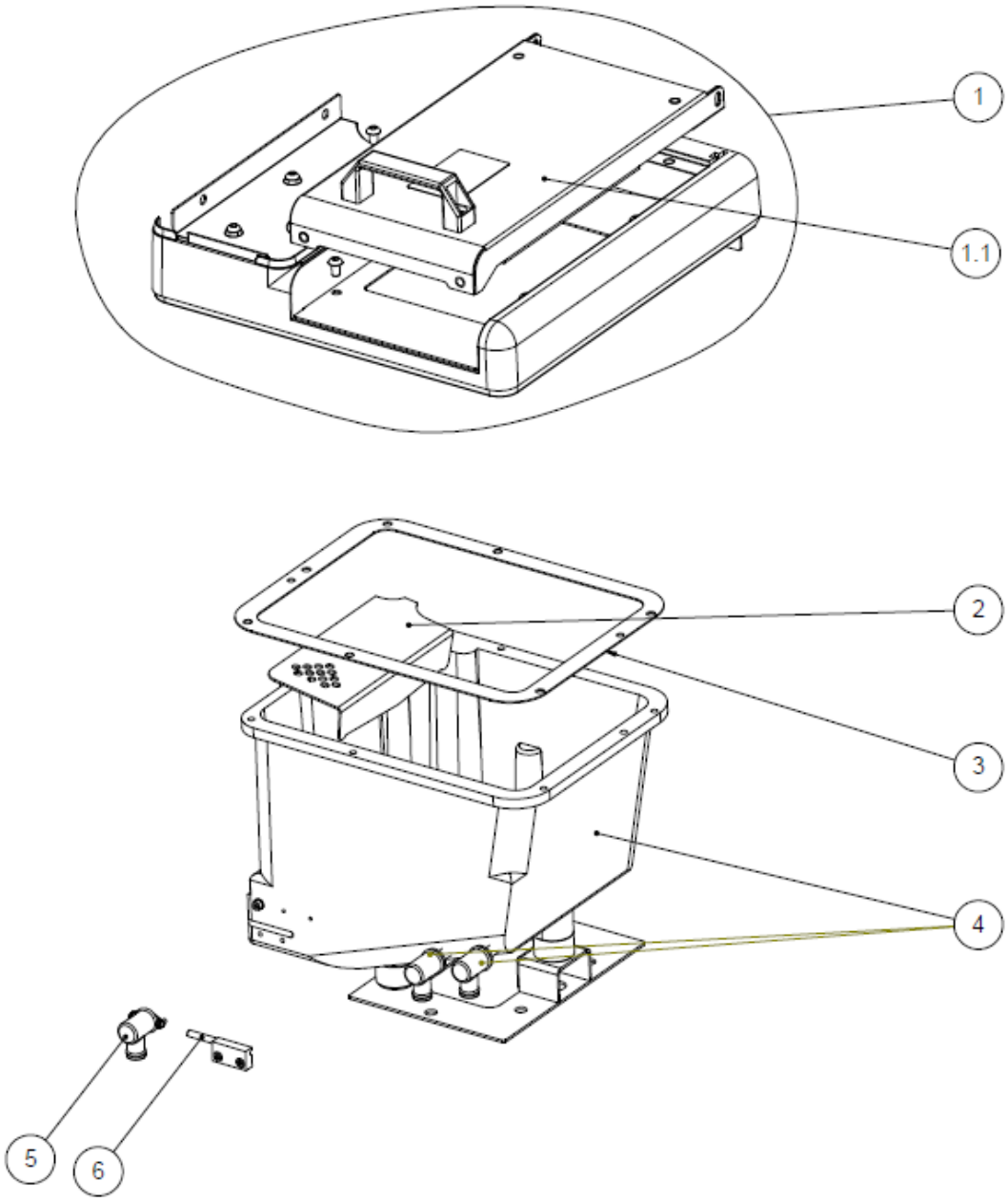
Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	KIT FILTRO AIRE	AIR FILTER KIT	900XX744	1
2	MANÓMETRO 0 A 6 CON MARCO	0-6 MANOMETER WITH FRAME	918XX849	1
3	REGULADOR TOMAS 1/8" 0-7 BAR	1/8" 0-7 BAR PRESSURE REGULATOR	900XX745	1
4	KIT ELECTROVALVULA	ELECTRIC VALVE KIT	900XX746	1
5	TUBO COBRE VALVULA	VALVE COOPER TUBE	900XX877	1

2. DEPÓSITO, DISTRIBUIDOR Y BOMBA / TANK, MANIFOLD AND PUMP



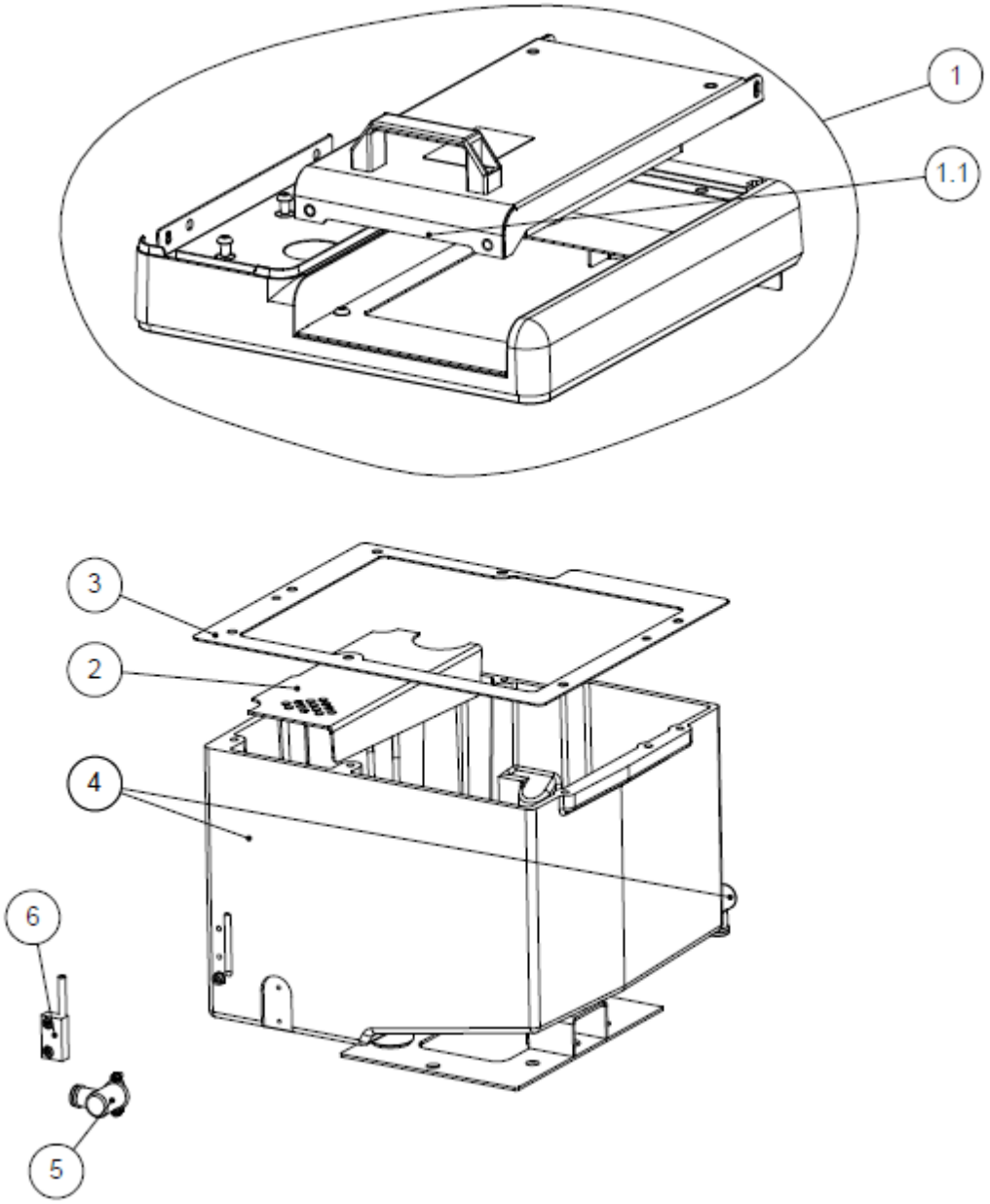
Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	SUBCJTO DEPOSITO	TANK ASSEMBLY	PAGE 5	1
2	SUBCJTO DISTRIBUIDOR	MANIFOLD ASSEMBLY	PAGE 8	1
3	SUBCJTO BOMBA	PUMP ASSEMBLY	PAGE 10	1
4	KIT AISLAMIENTO DEPÓSITO KUBE 4	KUBE 4 TANK INSULATION KIT	900XX780	1
	KIT AISLAMIENTO DEPÓSITO KUBE 8	KUBE 8 TANK INSULATION KIT	900XX781	
	KIT AISLAMIENTO DEPÓSITO KUBE 16	KUBE 16 TANK INSULATION KIT	904XX265	

2.1. SUBCONJUNTO DEPÓSITO KUBE 4 / KUBE 4 TANK ASSEMBLY



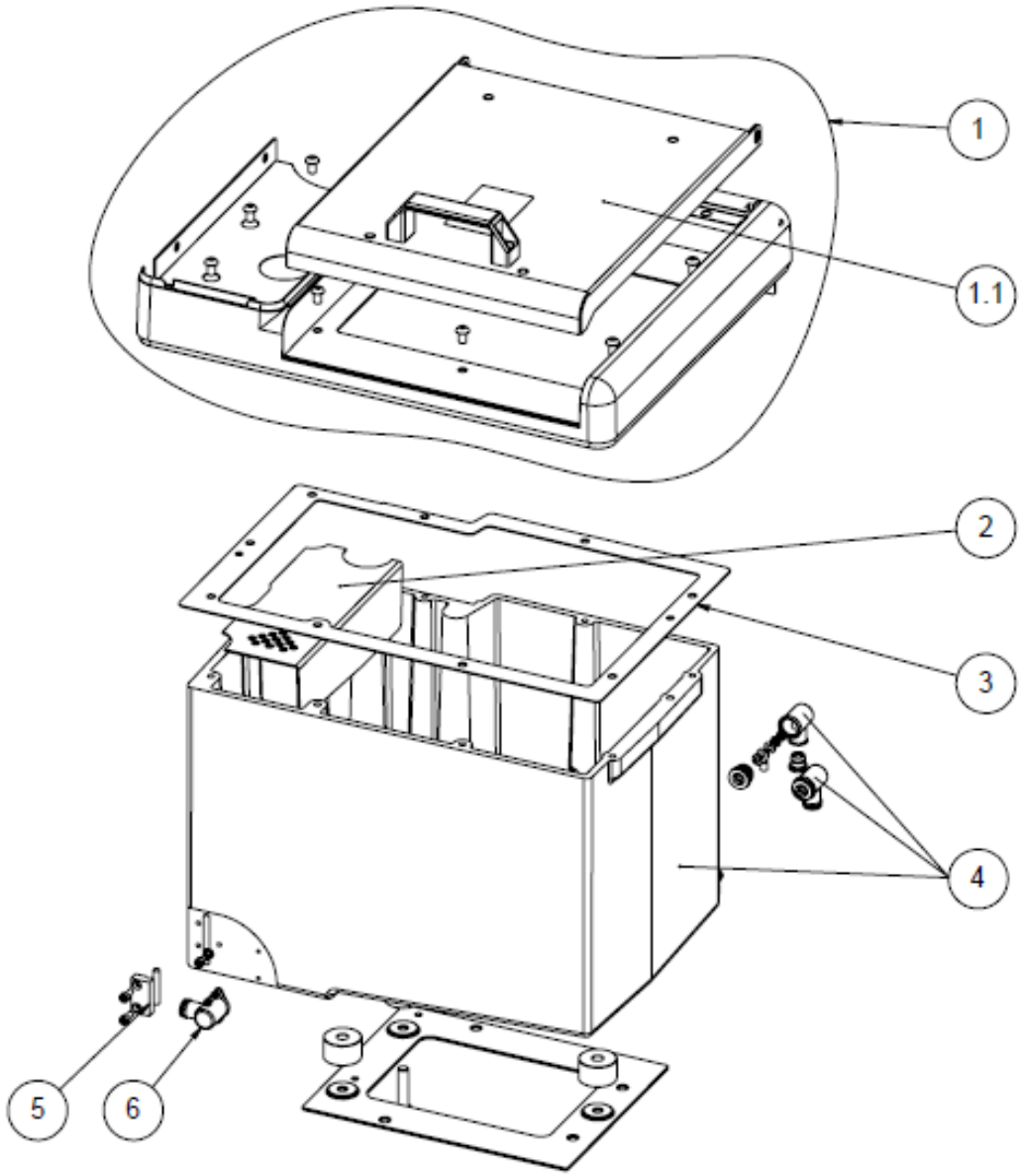
Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	KIT CHAPA BOCA DEPÓSITO KUBE 4	KUBE 4 TANK PLATE KIT	900XX747	1
1.1	SUBCJTO TAPA DEPOSITO KUBE 4	KUBE 4 TANK LID ASSEMBLY	900XX748	1
2	REJILLA DEPÓSITO KUBE 4	KUBE 4 TANK GRATING	900XX749	1
3	JUNTA BOCA DEPÓSITO KUBE 4	KUBE 4 TANK GASKET SEAL	900XX750	1
4	RECAMBIO DEPÓSITO KUBE 4	KUBE 4 TANK REPLACEMENT	900XX751	1
5	MAZO TERMOSTATO	THERMOSTAT WIRING CORDSET	900XX752	1
6	MAZO SONDA TEMPERATURA	TEMPERATURE PROBE WIRING CORDSET	918XX452	1

2.2. SUBCONJUNTO DEPÓSITO KUBE 8 / KUBE 8 TANK ASSEMBLY



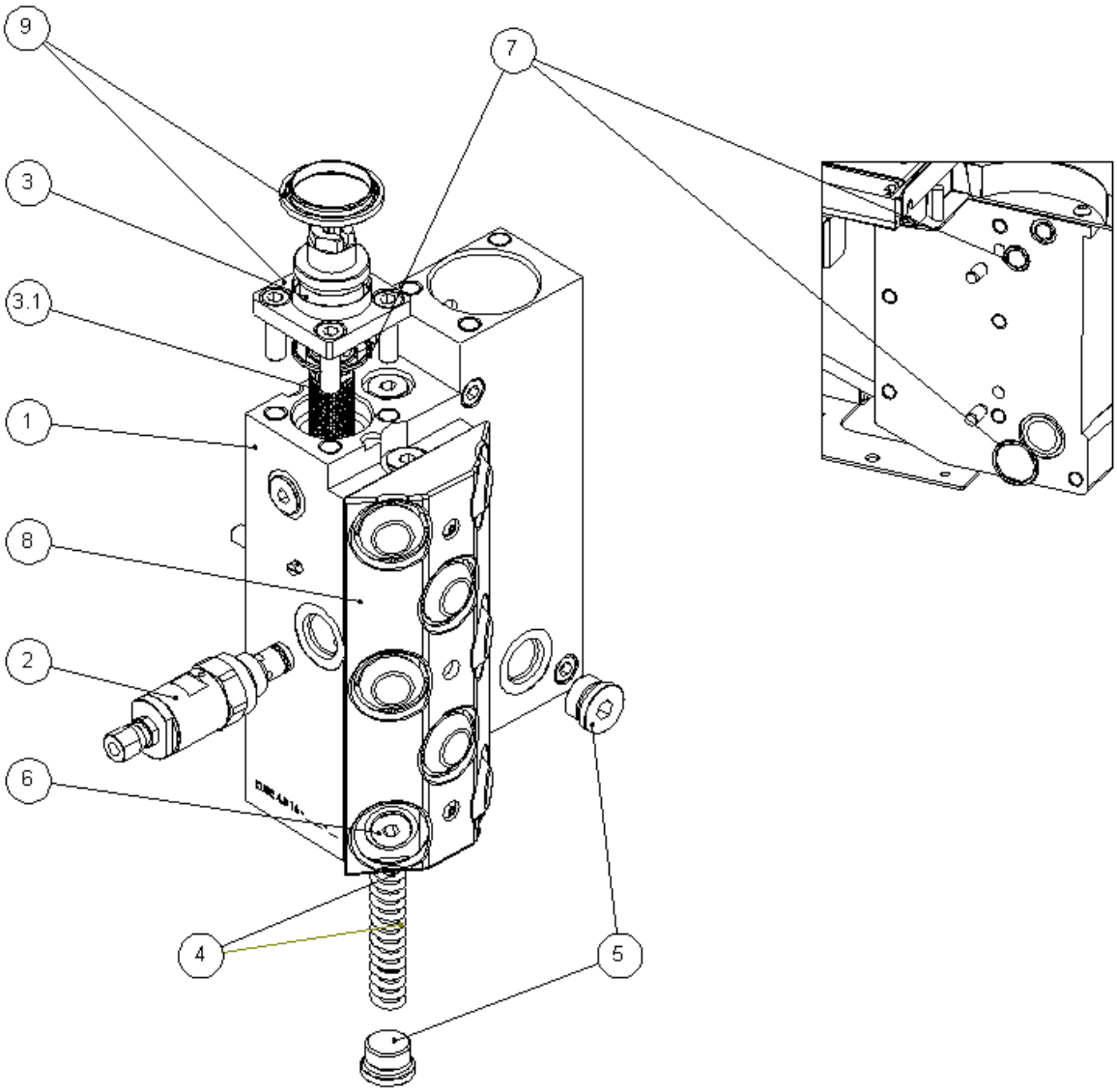
Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	KIT CHAPA BOCA DEPÓSITO KUBE 8	KUBE 8 TANK PLATE KIT	904XX150	1
1.1	SUBCJTO TAPA DEPOSITO KUBE 8	KUBE 8 TANK LID ASSEMBLY	904XX151	1
2	REJILLA DEPÓSITO KUBE 8	KUBE 8 TANK GRATING	900XX753	1
3	JUNTA BOCA DEPÓSITO KUBE 8	KUBE 8 TANK GASKET SEAL	900XX754	1
4	RECAMBIO DEPÓSITO KUBE 8	KUBE 8 TANK REPLACEMENT	900XX755	1
5	MAZO TERMOSTATO	THERMOSTAT WIRING CORDSET	900XX752	1
6	MAZO SONDA TEMPERATURA	TEMPERATURE PROBE WIRING CORDSET	918XX452	1

2.3. SUBCONJUNTO DEPÓSITO KUBE 16 / KUBE 16 TANK ASSEMBLY



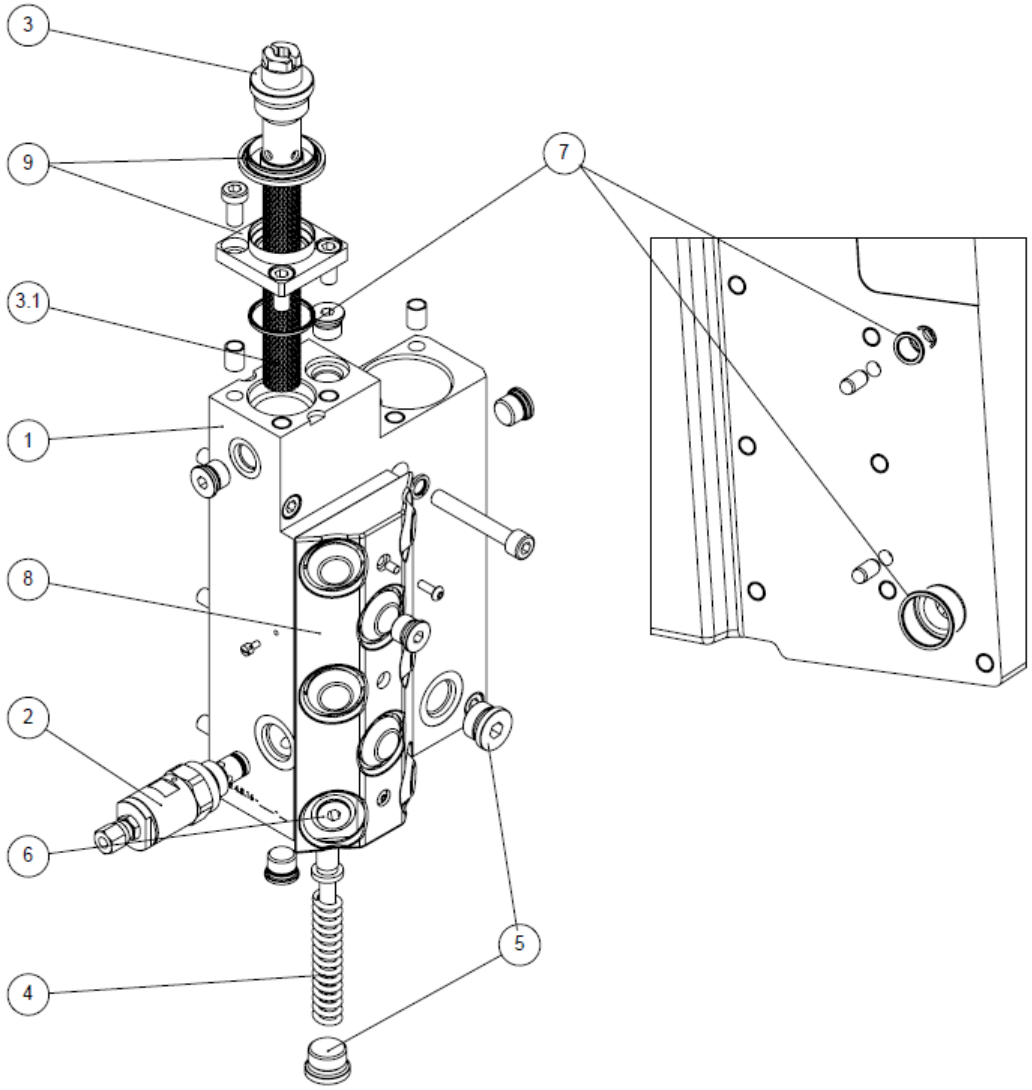
Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	KIT CHAPA BOCA DEPÓSITO KUBE 16	KUBE 16 TANK PLATE KIT	904XX256	1
1.1	SUBCJTO TAPA DEPOSITO KUBE 16	KUBE 16 TANK LID ASSEMBLY	904XX257	1
2	REJILLA DEPÓSITO KUBE 16	KUBE 16 TANK GRATING	904XX258	1
3	JUNTA BOCA DEPÓSITO KUBE 16	KUBE 16 TANK GASKET SEAL	904XX259	1
4	RECAMBIO DEPÓSITO KUBE 16	KUBE 16 TANK REPLACEMENT	904XX260	1
5	MAZO TERMOSTATO	THERMOSTAT WIRING CORDSET	900XX752	1
6	MAZO SONDA TEMPERATURA	TEMPERATURE PROBE WIRING CORDSET	918XX452	1

2.4. SUBCONJUNTO DISTRIBUIDOR KUBE 4/8 / KUBE 4/8 MANIFOLD ASSEMBLY (900XX756)



Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	RECAMBIO CUERPO DISTRIBUIDOR	MANIFOLD BODY REPLACEMENT	900XX757	1
2	VALVULA REGULADORA PRESION	PRESSURE REGULATOR VALVE	900XX876	1
3	CONJUNTO FILTRO KUBE	KUBE FILTER ASSEMBLY	916XX560	1
3.1	CARTUCHO FILTRO MALLA KUBE	KUBE MESH FILTER CARTRIDGE	911XX572	1
4	KIT COMPENSACIÓN BOMBA	PUMP COMPENSATION KIT	900XX758	1
5	TAPÓN 3/4"16H UNF CON JUNTA	3/4" 16H UNF PLUG WITH VITON O'RING	915XX960	2
6	TAPÓN 9/16" CON JUNTA	9/16" PLUG WITH VITON O'RING	917XX031	14
7	KIT JUNTAS DISTRIBUIDOR KUBE 4	KUBE 4 MANIFOLD VITON O'RING KIT	900XX759	1
8	PROTECTOR DISTRIBUIDOR	MANIFOLD PROTECTION	900XX784	1
9	BRIDA FILTRO BOMBA KUBE 04-08 C/JUNTA	KUBE 04-08 PUMP FILTER FLANGE W/JOINT	904XX187	1

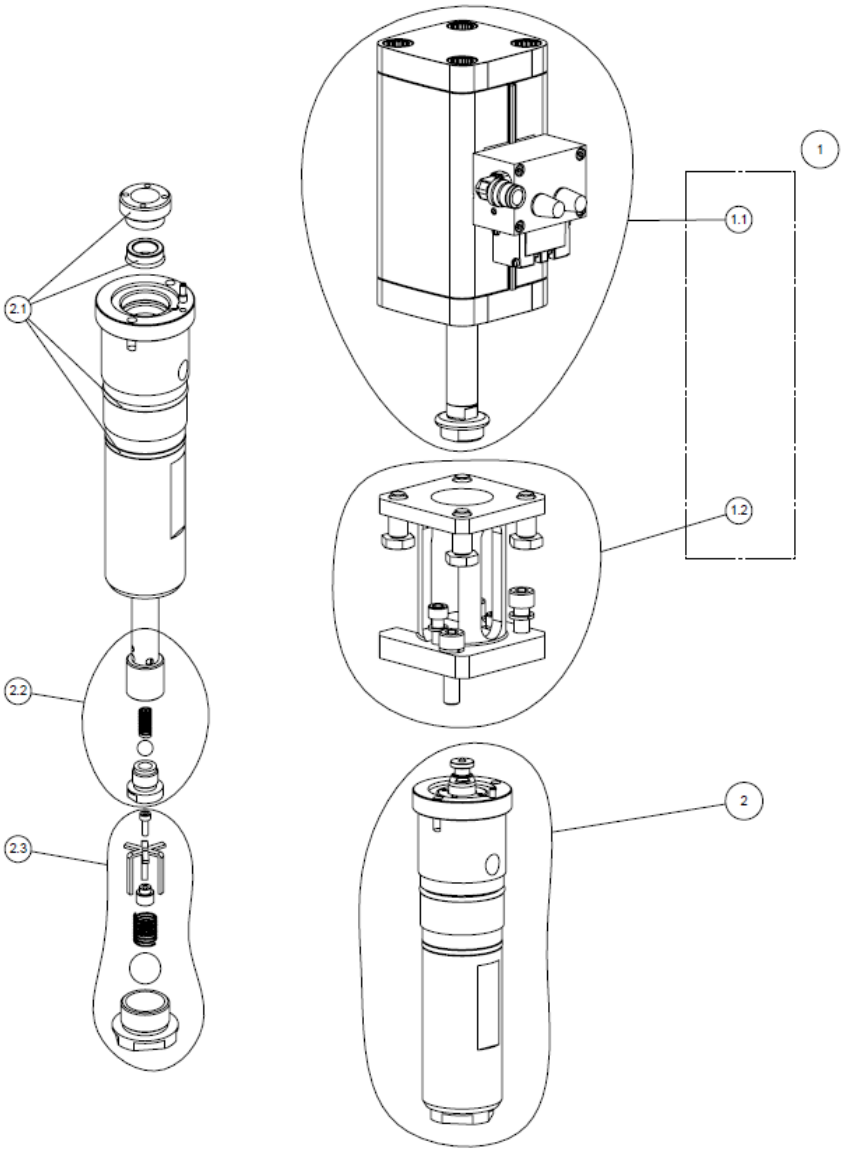
2.5. SUBCONJUNTO DISTRIBUIDOR KUBE 16 / KUBE 16 MANIFOLD ASSEMBLY (904XX268)



Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	RECAMBIO CUERPO DISTRIBUIDOR	MANIFOLD BODY REPLACEMENT	904XX261	1
2	VALVULA REGULADORA PRESION	PRESSURE REGULATOR VALVE	900XX876	1
3	CONJUNTO FILTRO KUBE	KUBE FILTER ASSEMBLY	916XX560	1
3.1	CARTUCHO FILTRO MALLA KUBE	KUBE MESH FILTER CARTRIDGE	911XX572	1
4	KIT COMPENSACIÓN BOMBA	PUMP COMPENSATION KIT	900XX758	1
5	TAPÓN 3/4"16H UNF CON JUNTA	3/4" 16H UNF PLUG WITH VITON O'RING	915XX960	2
6	TAPÓN 9/16" CON JUNTA	9/16" PLUG WITH VITON O'RING	917XX031	14
7	KIT JUNTAS DISTRIBUIDOR KUBE 4	KUBE 4 MANIFOLD VITON O'RING KIT	900XX759	1
8	PROTECTOR DISTRIBUIDOR	MANIFOLD PROTECTION	900XX784	1
9	BRIDA FILTRO BOMBA KUBE 04-08 C/JUNTA	KUBE 04-08 PUMP FILTER FLANGE W/JOINT	904XX187	1

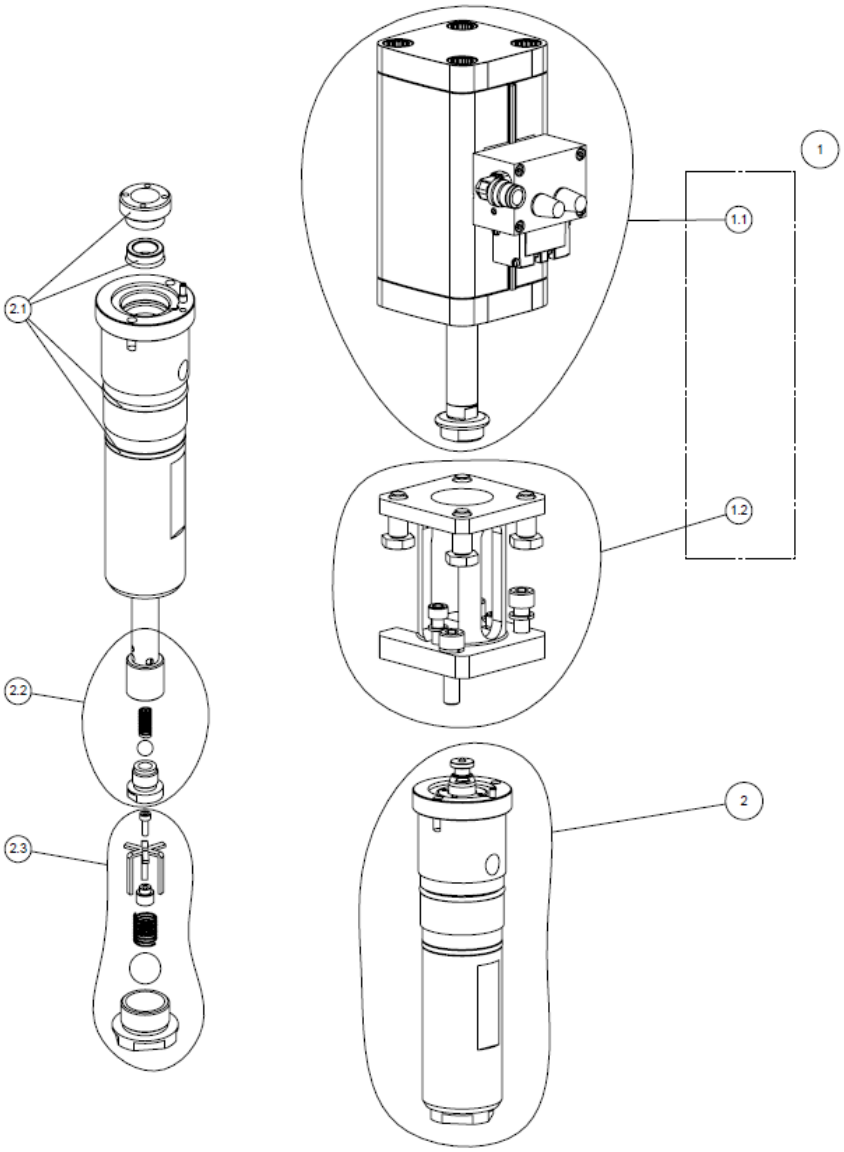
2.6. SUBCJTO BOMBA / PUMP ASSEMBLY

2.6.1. BAJO CAUDAL KUBE 4/8 / KUBE 4/8 LOW FLOW (900XX804)



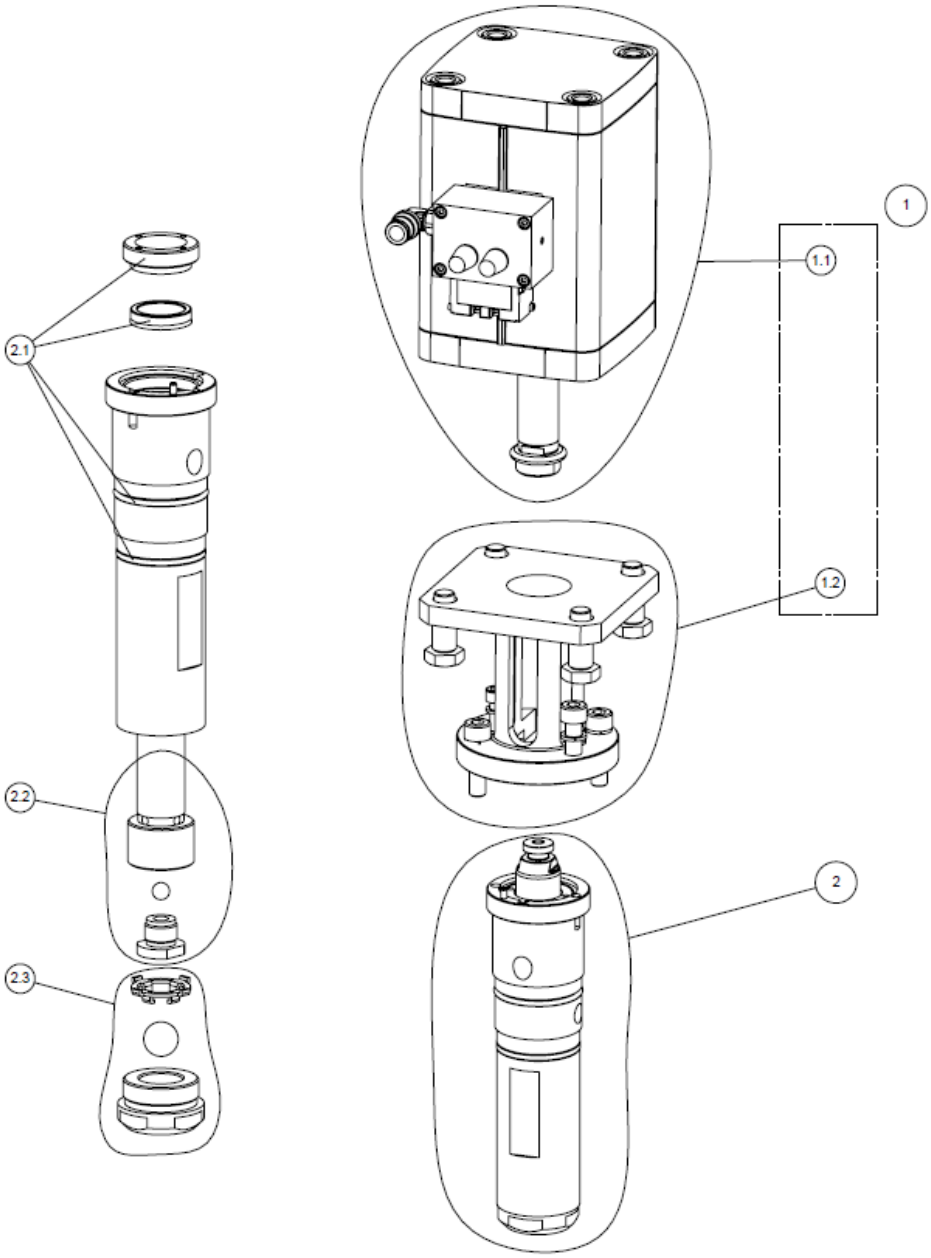
Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	KIT SUBCJTO CILINDRO BOMBA LF	LF PUMP CYLINDER ASSEMBLY KIT	900XX760	1
1.1	CILINDRO BOMBA LF	LF PUMP CYLINDER	900XX761	1
1.2	SOPORTE CILINDRO BOMBA LF	LF PUMP CYLINDER SUPPORT	900XX762	1
2	SUBCJTO HIDRAULICO BOMBA LF	LF PUMP HYDRAULIC ASSEMBLY	900XX763	1
2.1	KIT JUNTAS BOMBA LF	LF PUMP VITON O'RING KIT	900XX764	1
2.2	KIT EJE BOMBA LF	LF PUMP AXLE KIT	900XX765	1
2.3	CONJ. VALVULA ASPIRACION N8	ASPIRATION VALVE KIT N8	916XX327	1

2.6.2. BAJO CAUDAL KUBE 16 / KUBE 16 LOW FLOW (-)



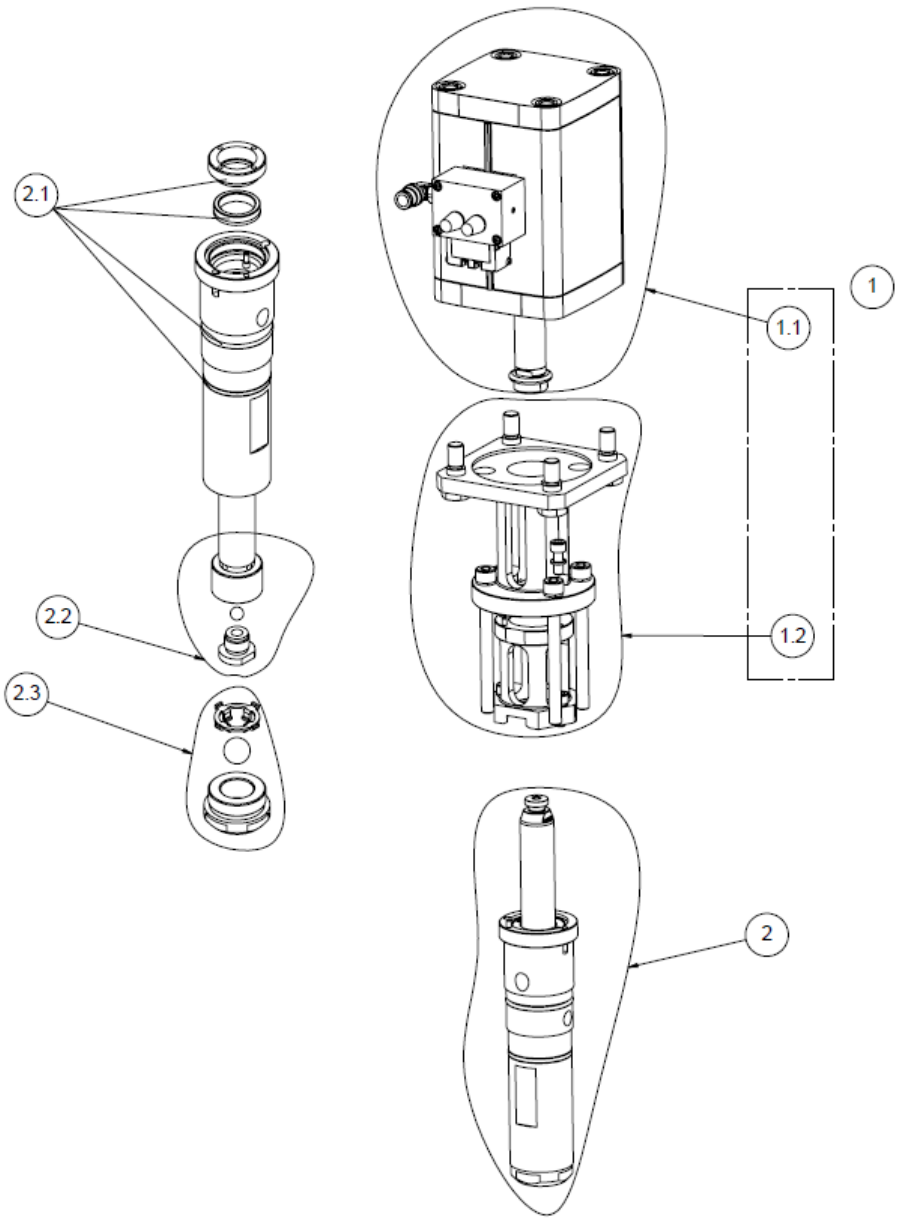
Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	KIT SUBCJTO CILINDRO BOMBA LF	LF PUMP CYLINDER ASSEMBLY KIT	900XX760	1
1.1	CILINDRO BOMBA LF	LF PUMP CYLINDER	900XX761	1
1.2	SOPORTE CILINDRO BOMBA LF	LF PUMP CYLINDER SUPPORT	900XX762	1
2	SUBCJTO HIDRAULICO BOMBA LF	LF PUMP HYDRAULIC ASSEMBLY	900XX763	1
2.1	KIT JUNTAS BOMBA LF	LF PUMP VITON O'RING KIT	900XX764	1
2.2	KIT EJE BOMBA LF	LF PUMP AXLE KIT	900XX765	1
2.3	CONJ. VALVULA ASPIRACION N8	ASPIRATION VALVE KIT N8	916XX327	1

2.6.3. ALTO CAUDAL KUBE 4/8/ KUBE 4/8 HIGH FLOW (900XX805)



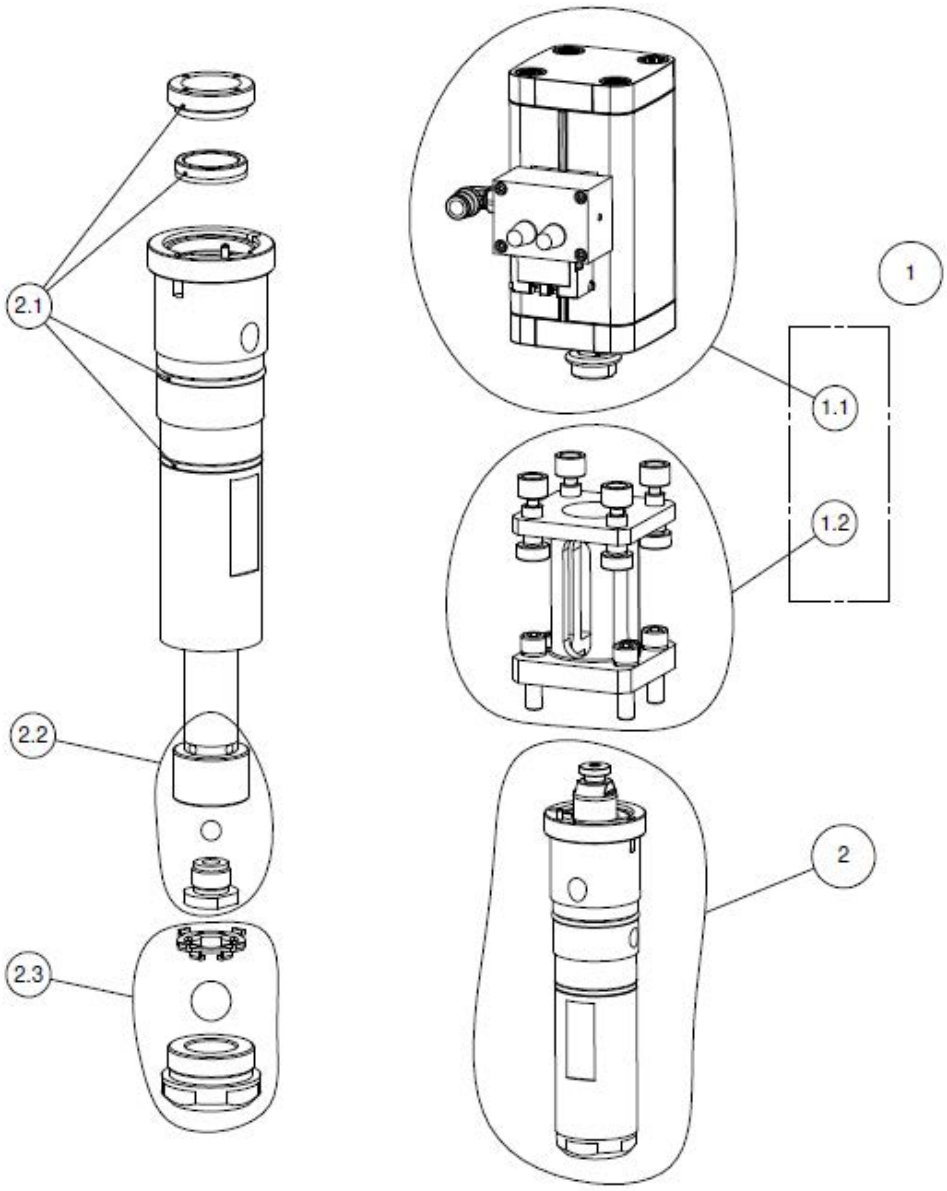
Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	KIT SUBCJTO CILINDRO BOMBA HF	HF PUMP CYLINDER ASSEMBLY KIT	900XX766	1
1.1	CILINDRO BOMBA HF	HF PUMP CYLINDER	900XX767	1
1.2	SOPORTE CILINDRO BOMBA HF	HF PUMP CYLINDER SUPPORT	900XX768	1
2	SUBCJTO HIDRAULICO BOMBA HF	HF PUMP HYDRAULIC ASSEMBLY	900XX769	1
2.1	KIT JUNTAS BOMBA HF	HF PUMP VITON O'RING KIT	900XX770	1
2.2	KIT EJE BOMBA HF	HF PUMP AXLE KIT	900XX771	1
2.3	CONJ. VALVULA ASPIRACION	ASPIRATION VALVE KIT	916XX281	1

2.6.4. ALTO CAUDAL KUBE 16/ KUBE 16 HIGH FLOW (904XX267)



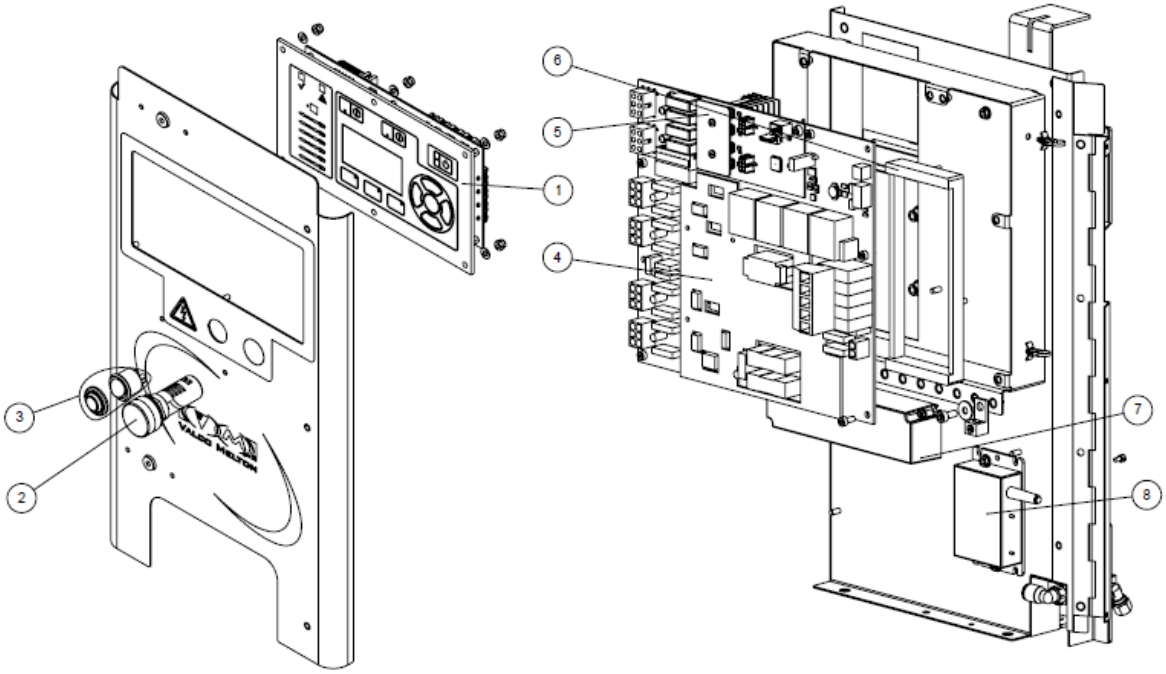
Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	KIT SUBCJTO CILINDRO BOMBA HF 16	16 HF PUMP CYLINDER ASSEMBLY KIT	904XX266	1
1.1	CILINDRO BOMBA HF	HF PUMP CYLINDER	900XX767	1
1.2	SOPORTE CILINDRO BOMBA HF 16	16 HF PUMP CYLINDER SUPPORT	904XX262	1
2	SUBCJTO HIDRAULICO BOMBA HF	HF PUMP HYDRAULIC ASSEMBLY	900XX769	1
2.1	KIT JUNTAS BOMBA HF	HF PUMP VITON O'RING KIT	900XX770	1
2.2	KIT EJE BOMBA HF	HF PUMP AXLE KIT	900XX771	1
2.3	CONJ. VALVULA ASPIRACION	ASPIRATION VALVE KIT	916XX281	1

2.6.5. BAJA PRESIÓN / LOW PRESSURE (904XX115)



Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	SUBCJTO CILINDRO BOMBA LP	LP PUMP CYLINDER ASSEMBLY	904XX116	1
1.1	CILINDRO BOMBA LP KUBE 04/08	KUBE 04/08 LP PUMP CYLINDER	904XX120	1
1.2	SOPORTE CILINDRO BOMBA LP	LP PUMP CYLINDER SUPPORT	904XX121	1
2	SUBCJTO HIDRAULICO BOMBA HF	HF PUMP HYDRAULIC ASSEMBLY	900XX769	1
2.1	KIT JUNTAS BOMBA HF	HF PUMP VITON O'RING KIT	900XX770	1
2.2	KIT EJE BOMBA HF	HF PUMP AXLE KIT	900XX771	1
2.3	CONJ. VALVULA ASPIRACION	ASPIRATION VALVE KIT	916XX281	1

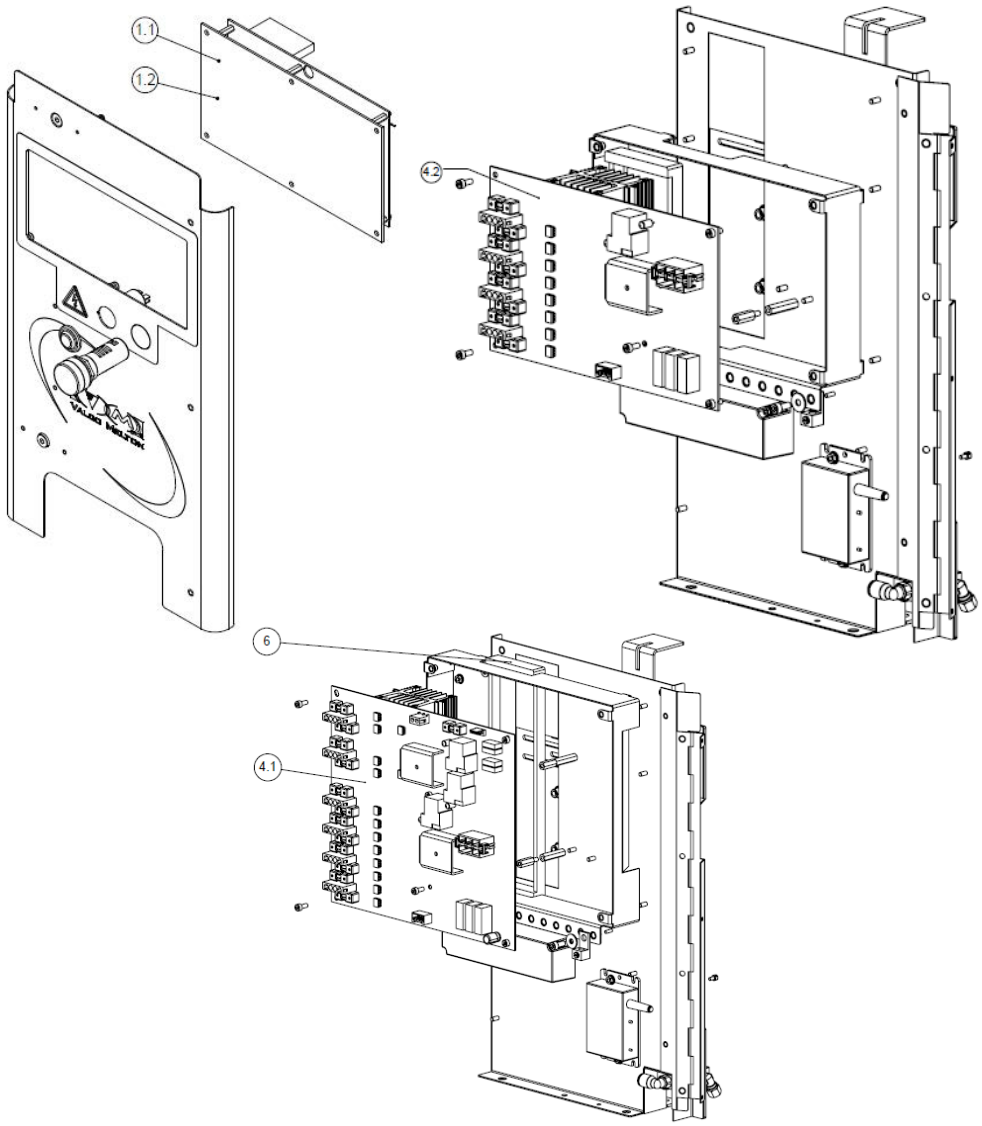
3. COMPONENTES ELÉCTRICOS Y ELECTRÓNICOS / ELECTRIC AND ELECTRONIC COMPONENTS



Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	CPU OVERLAY ASSY EC 6CH PCM	CPU OVERLAY ASSY EC 6CH PCM	137XX038	1
2	PILOTO ZUMBADOR	BUFFER-FLASHING ALARM	900XX195	1
	MAZO PILOTO ZUMBADOR	BUFFER-FLASHING ALARM WIRING CORDSET	900XX772	1
3	INTERRUPTOR REDONDO 2 POLOS	2 POLE ROUND SWITCH	918XX637	1
	MAZO INTERRUPTOR REDONDO 2 POLOS	2 POLE ROUND SWITCH WIRING CORDSET	918XX912	1
4	PCB ASSY, 12 ZONE POWER BOARD	PCB ASSY, 12 ZONE POWER BOARD	151XX651	1
5	PCB ASSY, 5/6 ZONE OPTION BOARD	PCB ASSY, 5/6 ZONE OPTION BOARD	151XX649	1
6	JUNTA RADIADOR TARJETA POTENCIA EC	EC POWER CARD RADIATOR JOINT	912XX166	1
7	MAZO FUENTE ALIMENTACION 60W	POWER SUPPLY WIRING CORDSET	912XX548	1
8	MAZO SONDA RECHNER	RECHNER LEVEL SENSOR WIRING CORDSET	914XX327	1

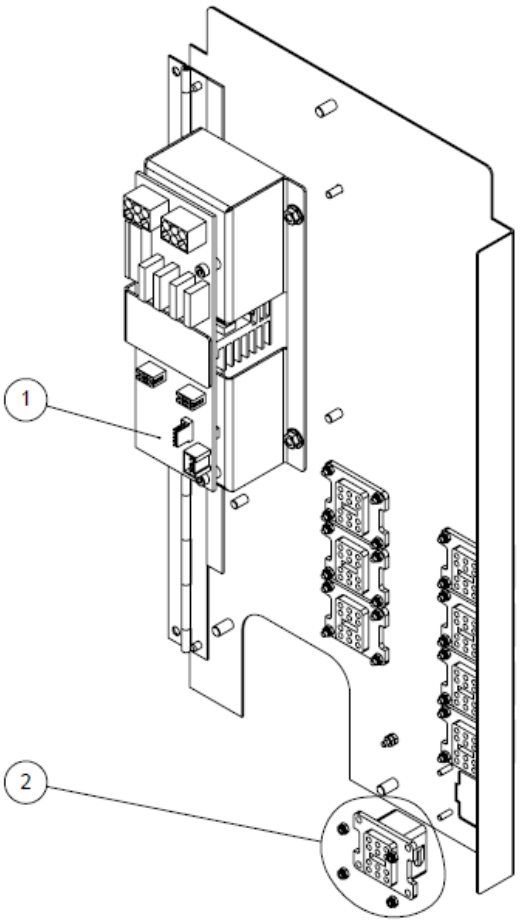
ELECTRÓNICA SELCO / SELCO ELECTRONICS

LOS EQUIPOS A PARTIR DEL Nº DE SERIE 35488 LLEVAN TARJETA POTENCIA UL / THE EQUIPMENTS FROM SERIAL NUMBER 35488 ARE EQUIPPED WITH POWER BOARD UL:



Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1.1	CPU OVERLAY ASSY NC 6CH PCM	CPU OVERLAY ASSY NC 6CH PCM	911XX528	1
1.2	CPU OVERLAY ASSY NC 4CH PCM	CPU OVERLAY ASSY NC 4CH PCM	911XX527	1
4.1	PCB ASSY, 6 CH POWER BOARD	PCB ASSY, 6 CH POWER BOARD	911XX520	1
4.2	PCB ASSY, 4 CH POWER BOARD	PCB ASSY, 4 CH POWER BOARD	911XX519	1
6	JUNTA RADIADOR TARJETA POTENCIA SELCO 6S	6E SELCO POWER CARD RADIATOR JOINT	-	1

Nº	TARJETA POTENCIA UL	POWER BOARD UL	REF.	QTY
4.1	PCB ASSY, 6 CH POWER BOARD	PCB ASSY, 6 CH POWER BOARD	904XX181	1
4.2	PCB ASSY, 4 CH POWER BOARD	PCB ASSY, 4 CH POWER BOARD	904XX182	1

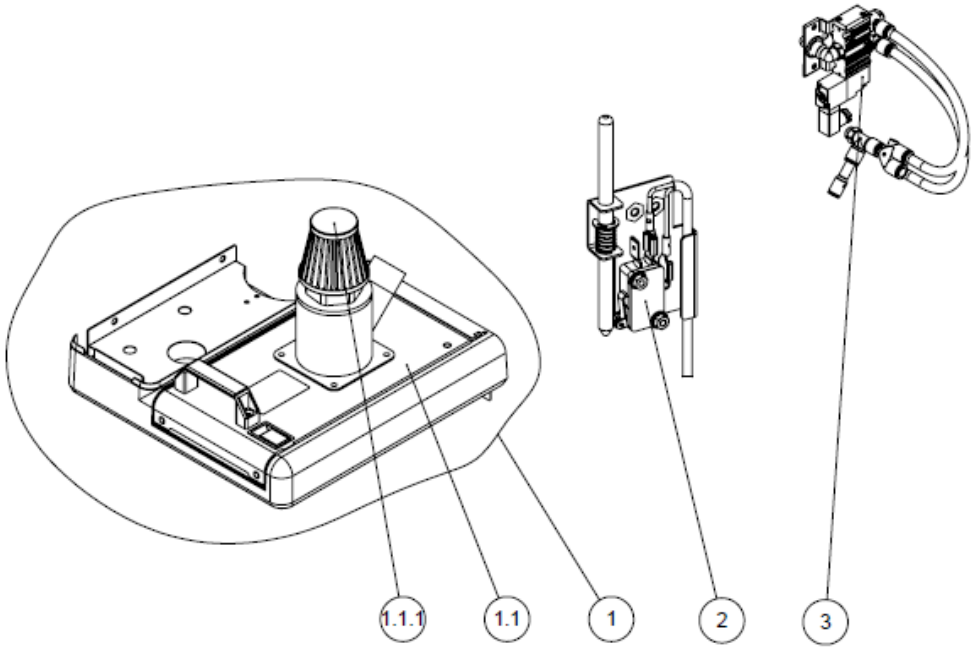


Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	PCB ASSY 4Z GUN/HOSE CH-7/8 HM	PCB ASSY 4Z GUN/HOSE CH-7/8 HM	151XX798	1
2	KIT MAZO SALIDAS MANGUERA-PISTOLA	HOSE-GUN CONNECTOR KIT	TABLE	TABLE

SALIDAS / OUTPUTS	NI120 HOSE-GUN CONNECTOR KIT
1 - 5	900XX773
6	900XX774
7 - 8	900XX775

4. CARGADOR / VACUUM FEEDER

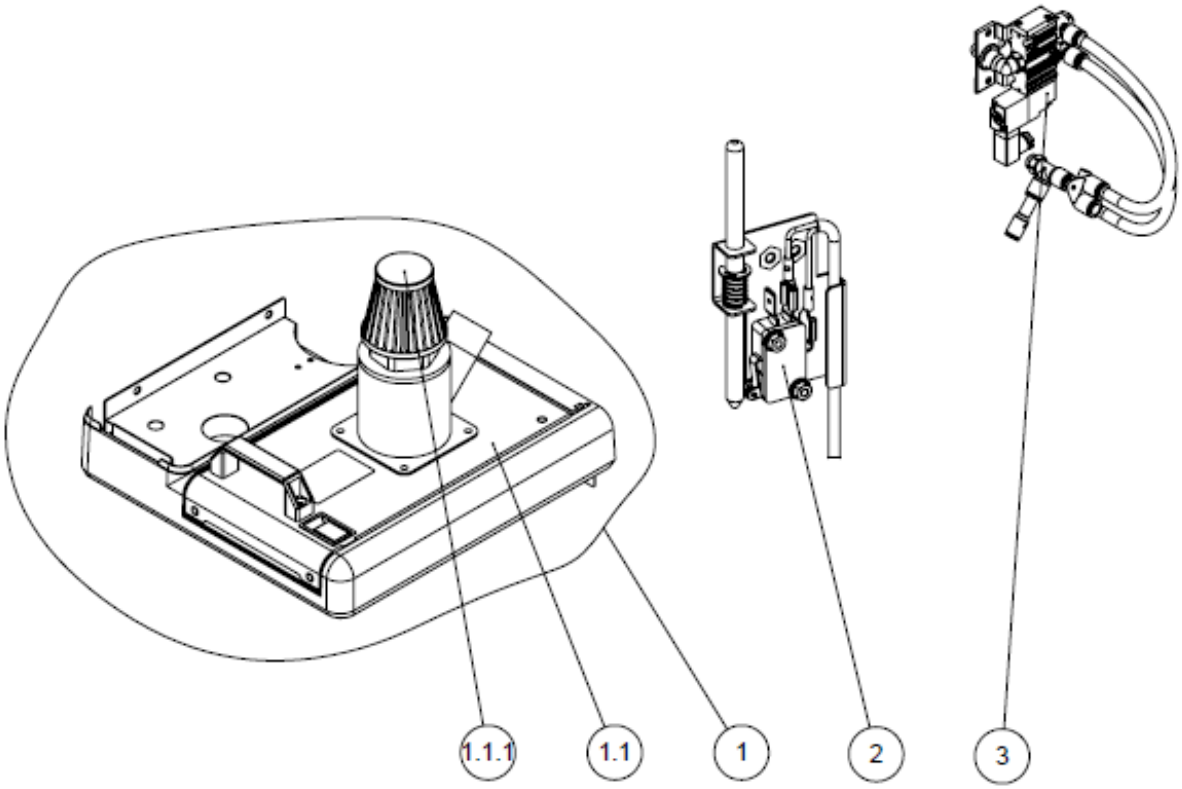
4.1. KUBE 4



Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	KIT CHAPA BOCA DEPÓSITO CARGADOR	TANK PLATE KIT WITH FEEDER	900XX776	1
1.1	SUBCJTO. TAPA DEPOSITO KUBE 4	KUBE 4 TANK LID ASSEMBLY WITH FEEDER	900XX777	1
1.1.1	FILTRO CARGADOR	FEEDER FILTER	910XX465	1
2	SUBCONJUNTO MICRO CARGADOR	FEEDER SENSOR ASSEMBLY	900XX779	1
3	KIT ELECTROVALVULA CARGADOR	FEEDER VALVE KIT	DEP MODEL	1

N.º	N.º DE DERIE 34136 A 36005 SERIAL NUMBER 34136 TO 36005	RESTO DE EQUIPOS REST OF UNITS
3	900XX778	903XX257

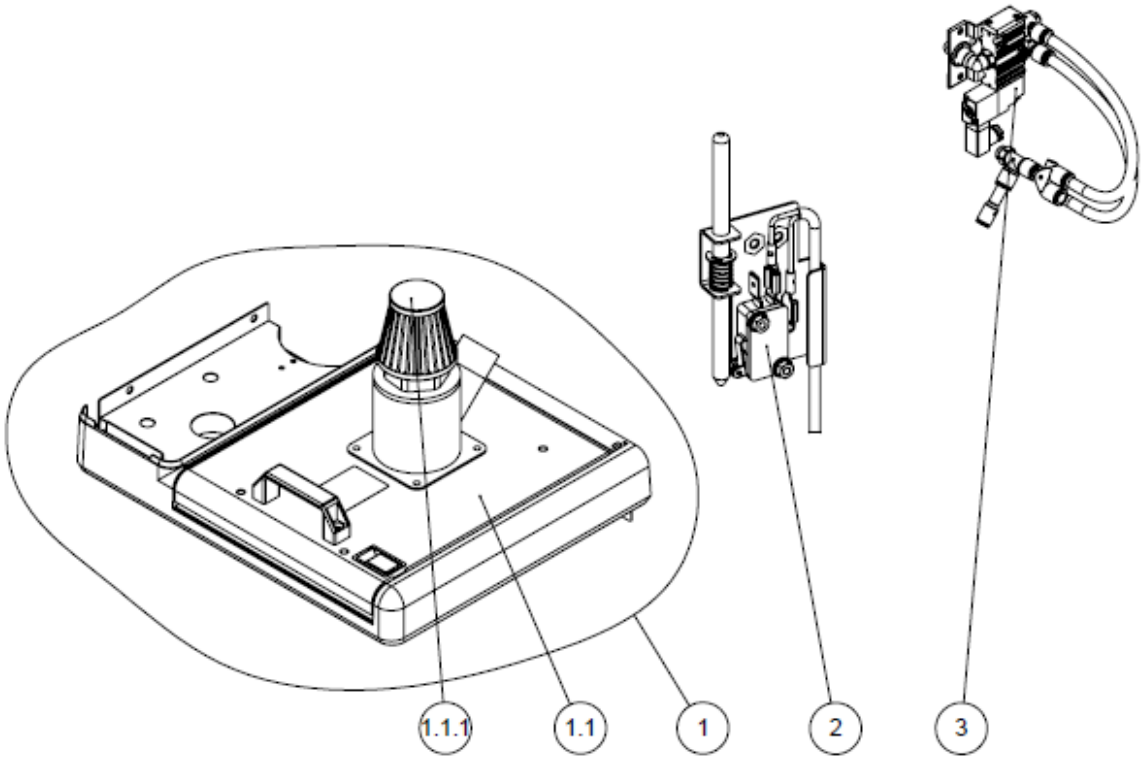
4.2. KUBE 8



Nº	DESCRIPCIÓN	DESCRIPTION	REF.	QTY
1	KIT CHAPA BOCA DEPÓSITO CARGADOR	TANK PLATE KIT WITH FEEDER	904XX152	1
1.1	SUBCJTO. TAPA DEPOSITO KUBE 8 CARGADOR	KUBE 8 TANK LID ASSEMBLY WITH FEEDER	904XX153	1
1.1.1	FILTRO CARGADOR	FEEDER FILTER	910XX465	1
2	SUBCONJUNTO MICRO CARGADOR	FEEDER SENSOR ASSEMBLY	900XX779	1
3	KIT ELECTROVALVULA CARGADOR	FEEDER VALVE KIT	DEP MODEL	1

N.º	N.º DE DERIE 34136 A 36005 SERIAL NUMBER 34136 TO 36005	RESTO DE EQUIPOS REST OF UNITS
3	900XX778	903XX257

4.3. KUBE 16



Nº	DESCRIPCIÓN	DESCRIPTION	REF.	Qty
1	KIT CHAPA BOCA DEPÓSITO CARGADOR KUBE 16	KUBE 16 TANK PLATE KIT WITH FEEDER	904XX263	1
1.1	SUBCJTO. TAPA DEPOSITO KUBE 16 CARGADOR	KUBE16 TANK LID ASSEMBLY WITH FEEDER	904XX264	1
1.1.1	FILTRO CARGADOR	FEEDER FILTER	910XX465	1
2	SUBCONJUNTO MICRO CARGADOR	FEEDER SENSOR ASSEMBLY	900XX779	1
3	KIT ELECTROVALVULA CARGADOR	FEEDER VALVE KIT	DEP MODEL	1

N.º	N.º DE DERIE 34136 A 36005 SERIAL NUMBER 34136 TO 36005	RESTO DE EQUIPOS REST OF UNITS
3	900XX778	903XX257

S038010201
KUBE 04/08/16-8S-N

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COVER PAGE

PROJECT: S038010201 KUBE 04/08/16-8S-N

REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 01

1

Drawing	Function	Location	Revision	Date	Created by	Description	Folder mark	Folder designation
01	F1	P1	G	22/05/2025	rsolla	Cover page		
02	F1	P1	G	22/05/2025	rsolla	Drawing list		
03	F1	P1	G	22/05/2025	rsolla	Wiring line diagram		
04	F1	P1	G	22/05/2025	rsolla	SERVICE WIRES		
05	F1	P1	G	22/05/2025	rsolla	POWER SUPPLY		
06	F1	P1	G	22/05/2025	rsolla	TANK HEATERS		
07	F1	P1	G	22/05/2025	rsolla	CHANNELS 1 AND 2		
08	F1	P1	G	22/05/2025	rsolla	CHANNELS 3 AND 4		
09	F1	P1	G	22/05/2025	rsolla	CHANNELS 5 AND 6		
10	F1	P1	G	22/05/2025	rsolla	CHANNELS 7 AND 8		
11	F1	P1	G	22/05/2025	rsolla	CONTROL BOARD		
12	F1	P1	G	22/05/2025	rsolla	COMMUNICATION		
13	F1	P1	G	22/05/2025	rsolla	PCM-6		
14	F1	P1	G	22/05/2025	rsolla	VM CONNECT		
15	F1	P1	G	22/05/2025	rsolla	Thermall wall		
16	F1	P2	G	22/05/2025	rsolla	Frontal panel		
17	F1	P1	G	22/05/2025	rsolla	Bill of materials		
18	F1	P1	G	22/05/2025	rsolla	Bill of materials		
19	F1	P1	G	22/05/2025	rsolla	Bill of materials		
20	F1	P1	G	22/05/2025	rsolla	Bill of materials		
21	F1	P1	G	22/05/2025	rsolla	Bill of materials		
22	F1	P1	G	22/05/2025	rsolla	List of wires		
23	F1	P1	G	22/05/2025	rsolla	List of wires		
24	F1	P1	G	22/05/2025	rsolla	List of wires		
25	F1	P1	G	22/05/2025	rsolla	List of wires		
26	F1	P1	G	22/05/2025	rsolla	List of wires		
27	F1	P1	G	22/05/2025	rsolla	List of the cables		
28	F1	P1	G	22/05/2025	rsolla	List of cable strands		
30	F1	P1	G	22/05/2025	rsolla	GROUND CONNECTION		

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DRAWING LIST

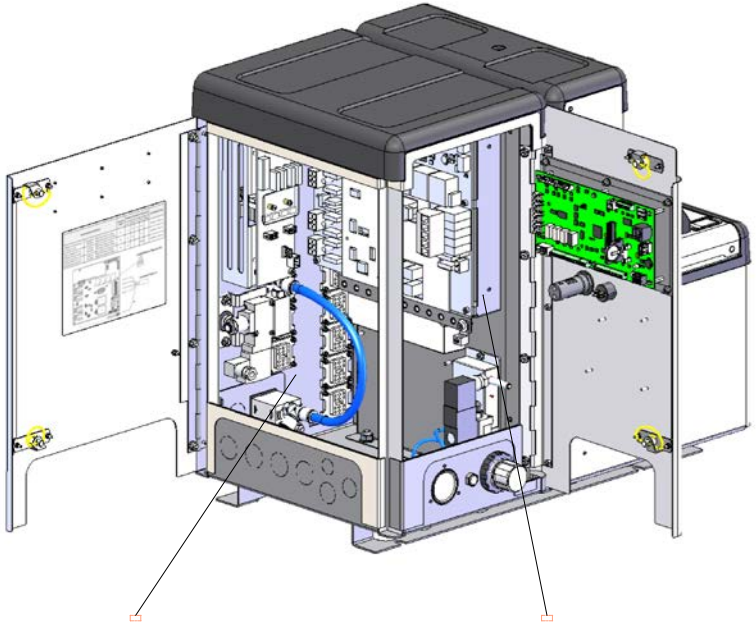
PROJECT: S038010201 KUBE 04/08/16-8S-N

REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	26/07/2024	imateo	PM20989 Change service wire PE connection
C	26/07/2024	imateo	PG038 Add VM CONNECT

REVISION
G

SCHEME
02

1	2	3	4	5	6	7	8	9	10



+P4 - Connectors plate

+P1 - Thermall wall

+P2 - Frontal panel

+P3 - Tank

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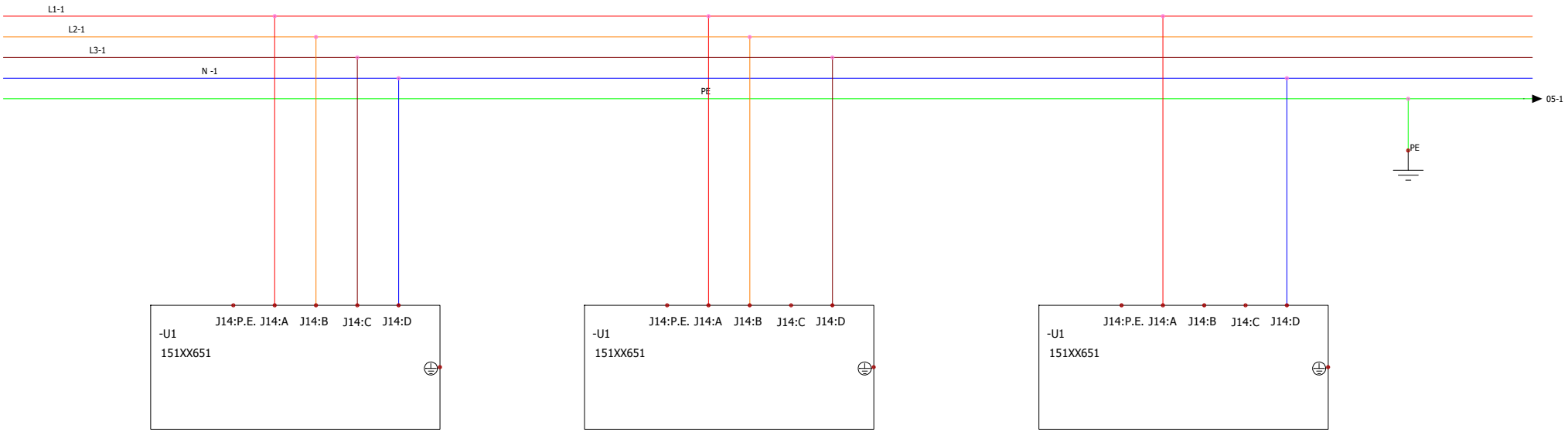
WIRING LINE DIAGRAM

PROJECT: S038010201 KUBE 04/08/16-8S-N

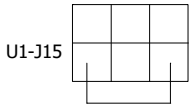
REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 03



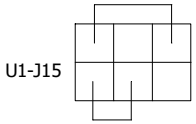
JUMPER 029XX437



OPTION A

400III + N + T

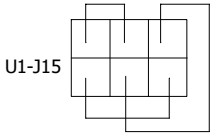
JUMPER 029XX435



OPTION B

240III + T

JUMPER 029XX436



OPTION C

240I + N + T

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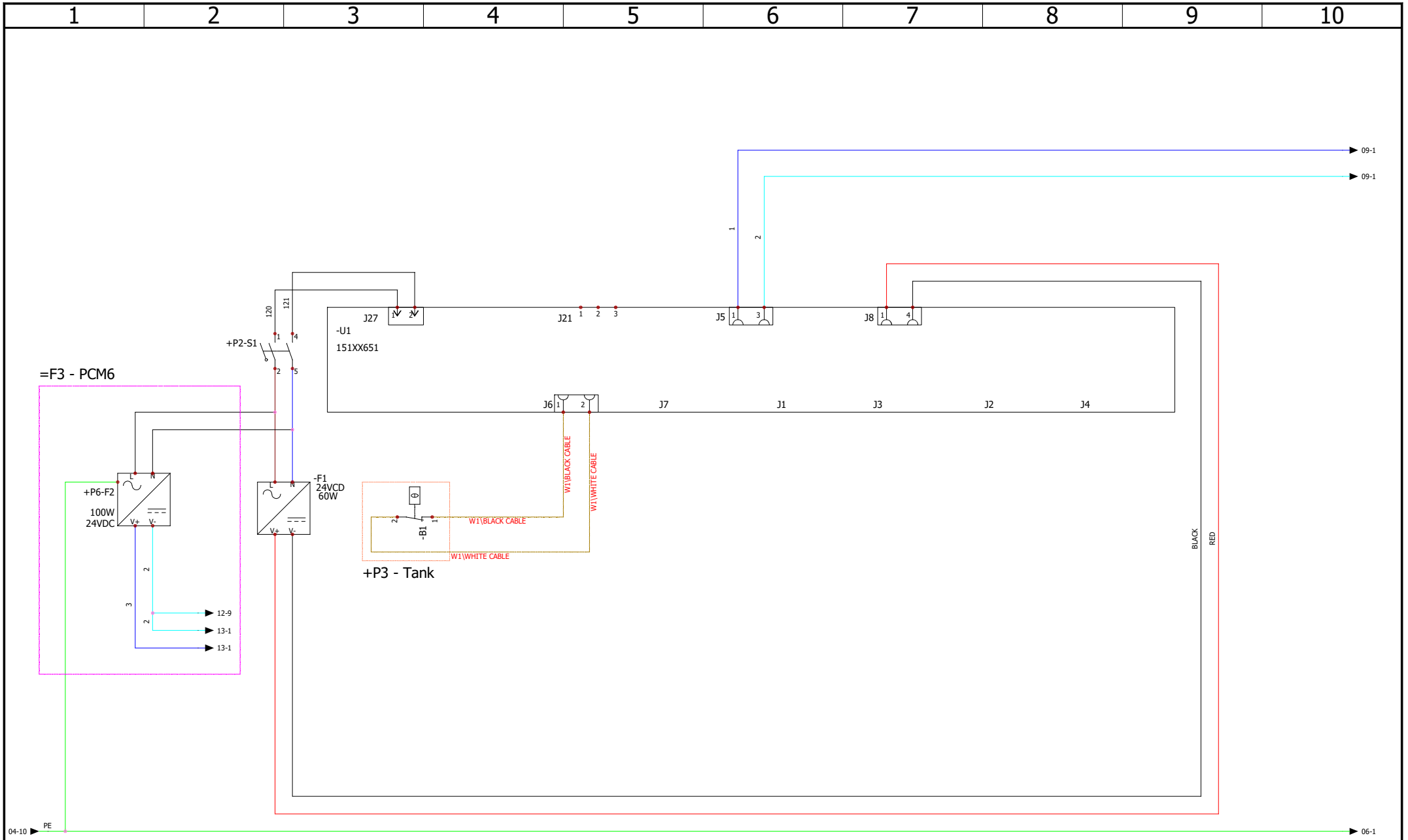
SERVICE WIRES CONNECTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 04



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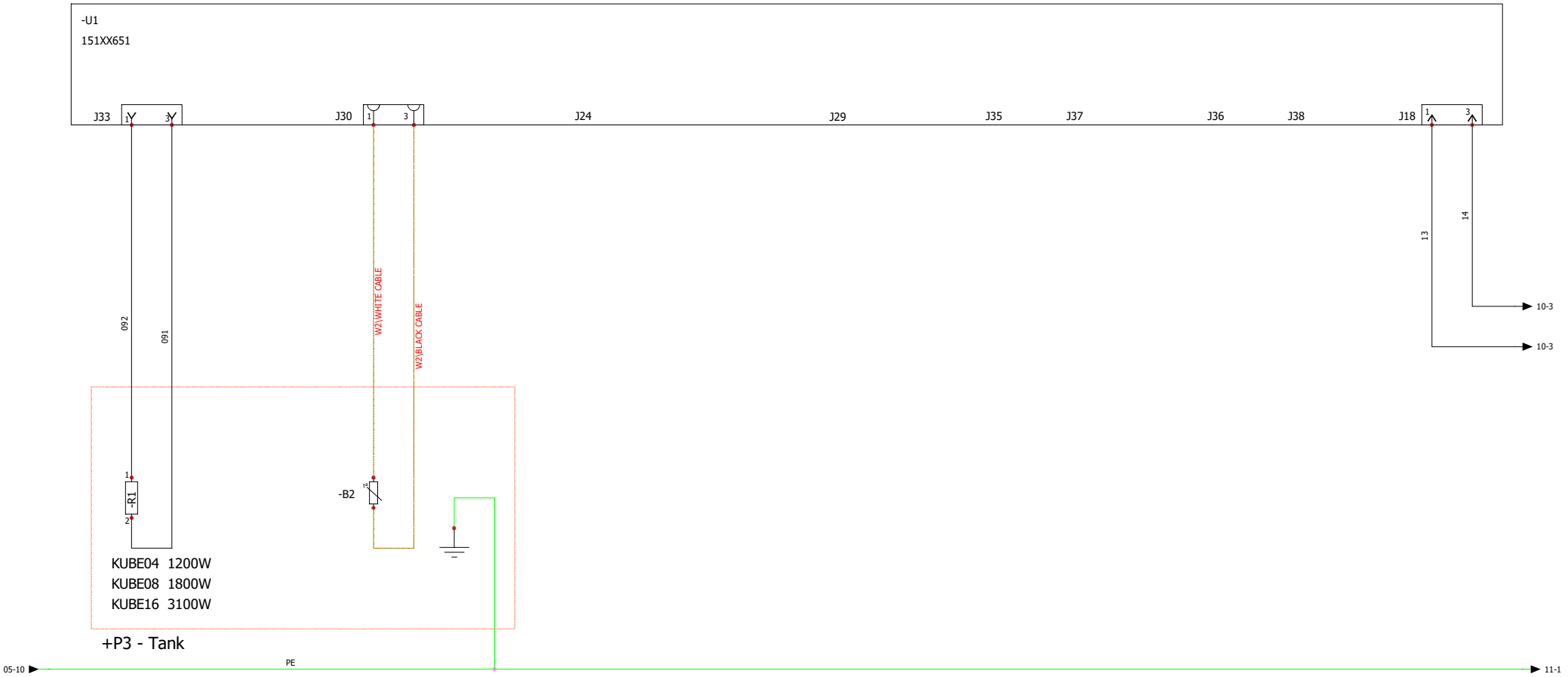
POWER SUPPLY, THERMOSTAT AND MAIN SWITCH CONNECTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 05



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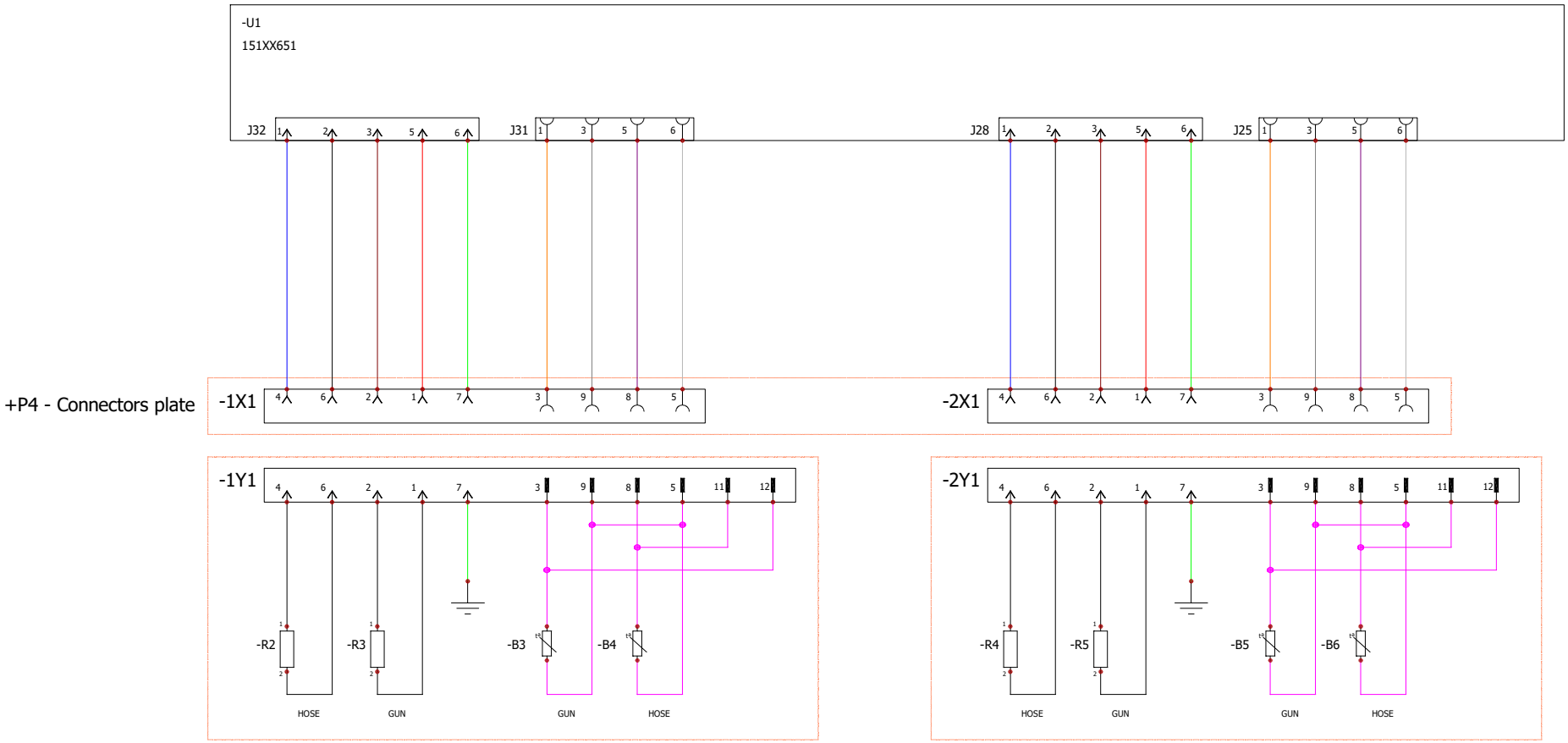
TANK HEATERS AND RTD CONNECTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 06



+P4 - Connectors plate

+P7 - Output 1

P.MAX CHANNEL 1 1.800W

+P8 - Output 2

P.MAX CHANNEL 2 1.800W

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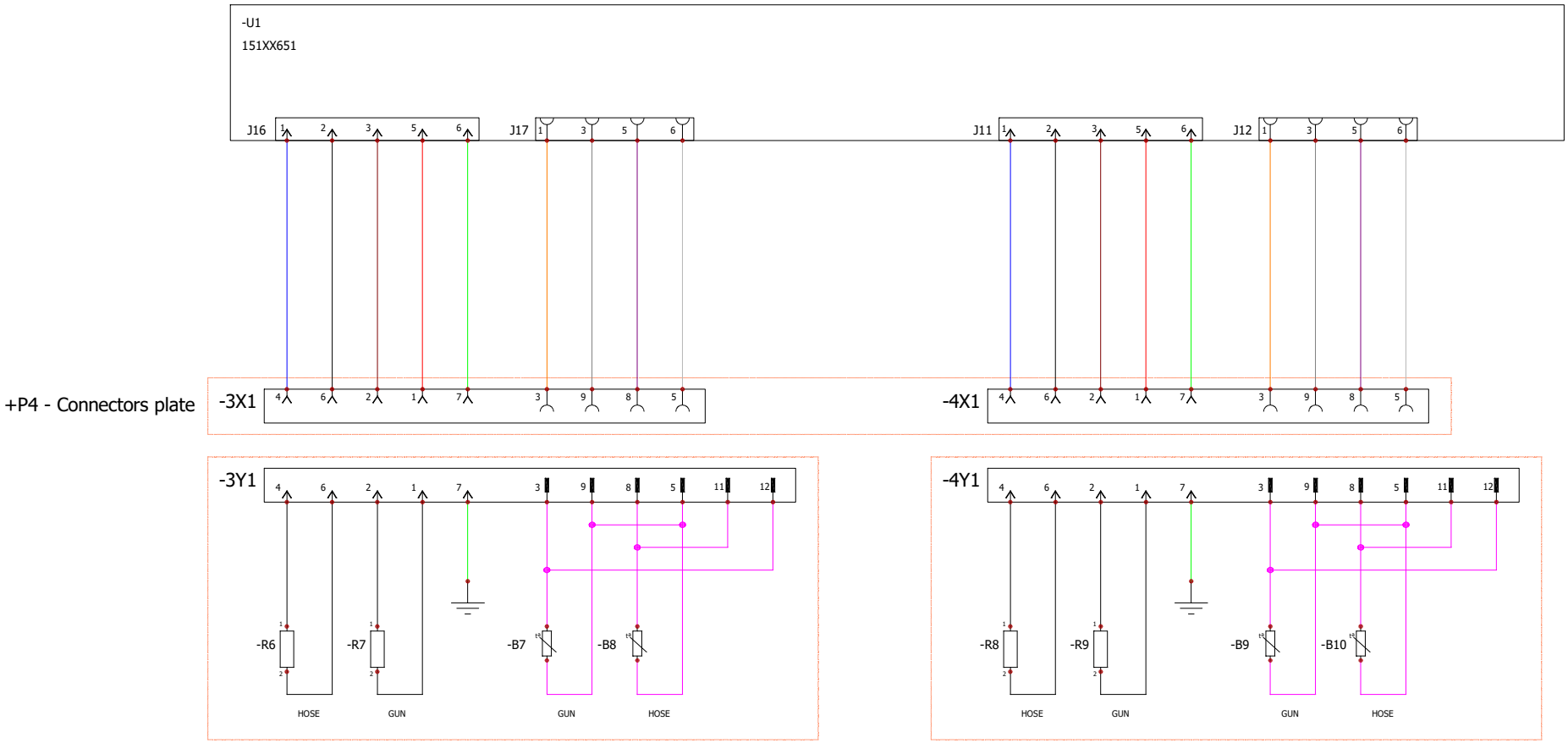
CHANNELS 1 AND 2
HOSE-GUN NI120 CONNECTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 07



+P4 - Connectors plate

+P9 - Output 3

P.MAX CHANNEL 3 1.400W

+P10 - Output 4

P.MAX CHANNEL 4 1.400W

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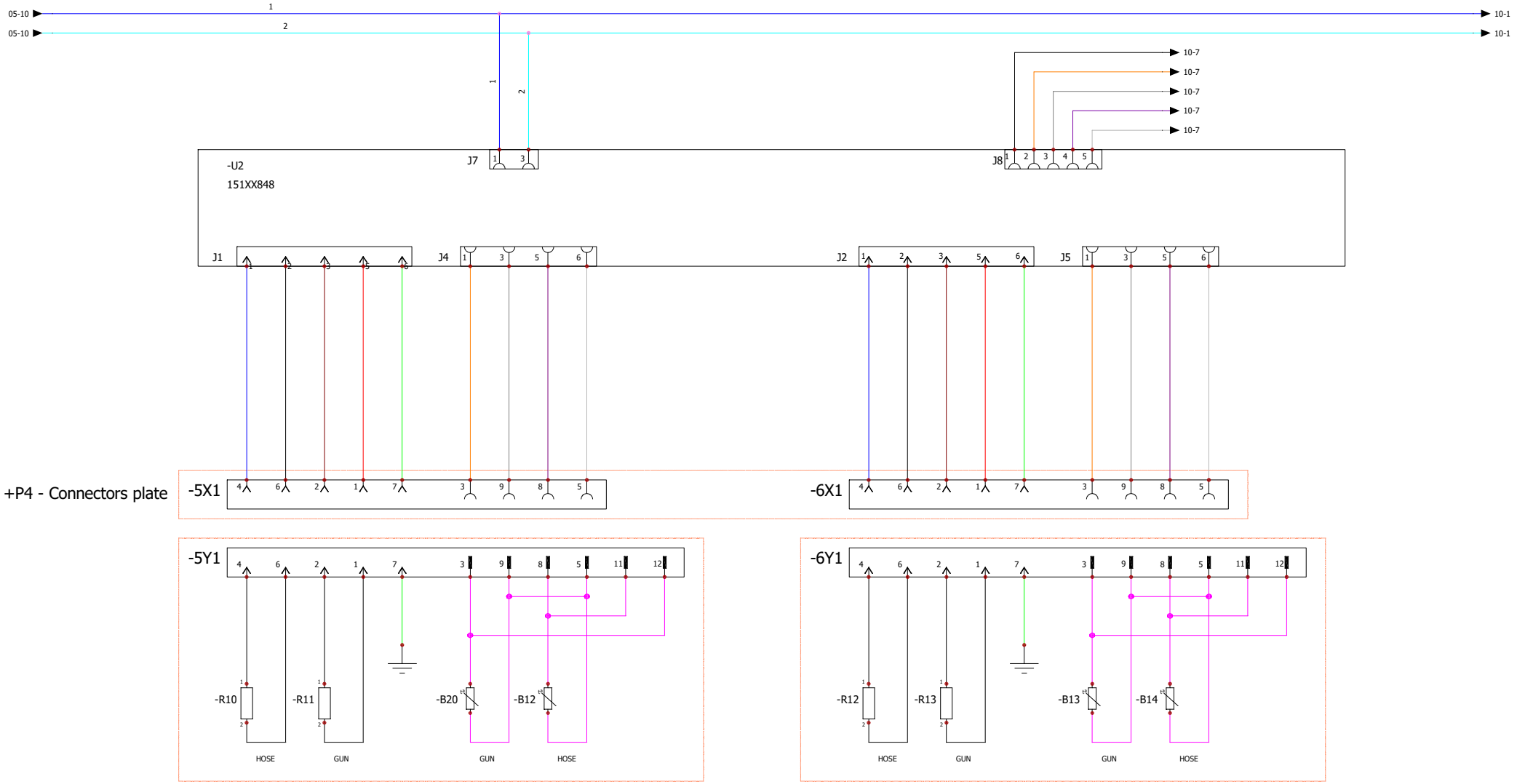
CHANNELS 3 AND 4
HOSE-GUN NI120 CONNECTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 08



+P11 - Output 5

P.MAX CHANNEL 5 1.400W

+P12 - Output 6

P.MAX CHANNEL 6 1.400W

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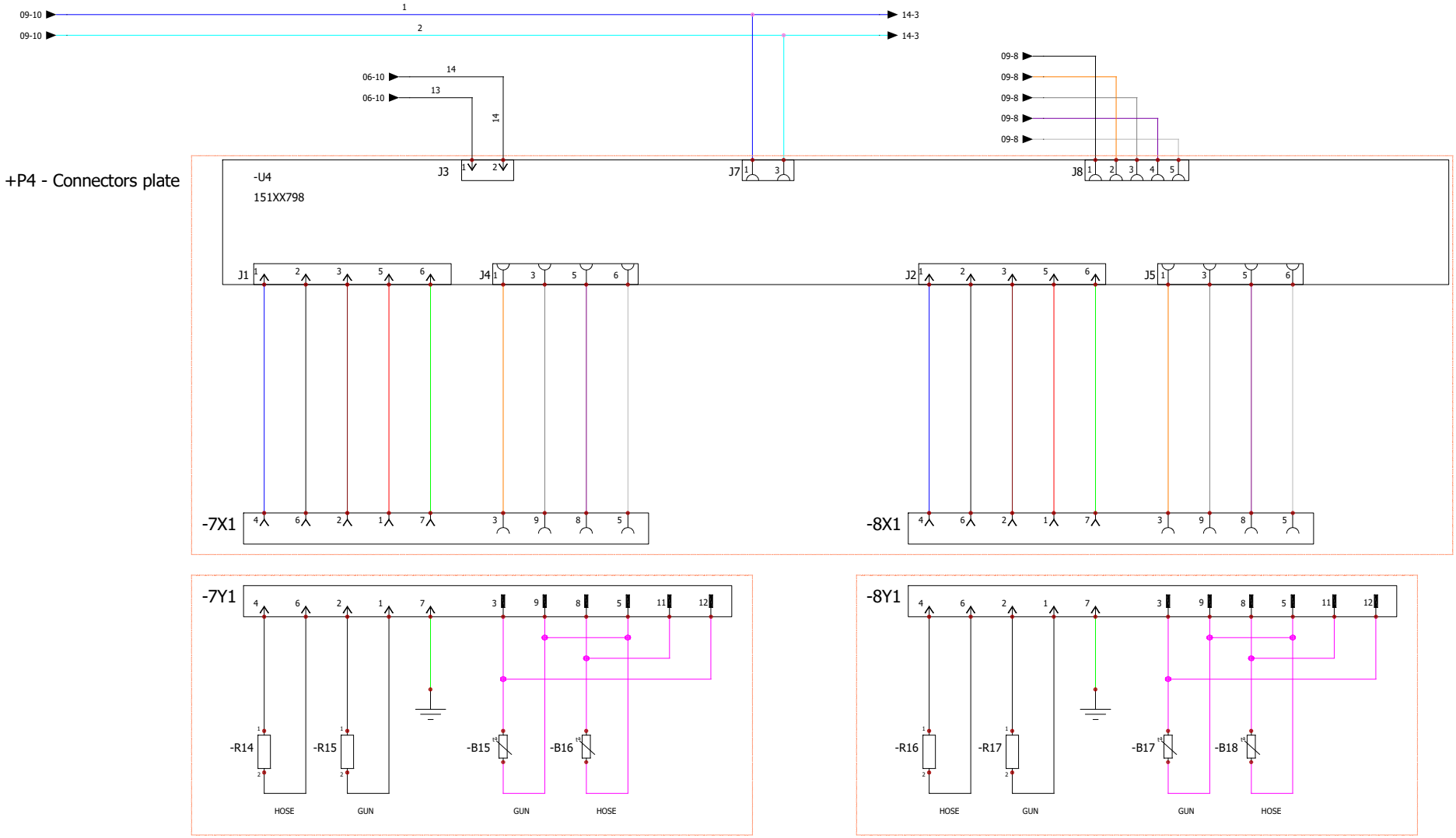
CHANNELS 5 AND 6
HOSE-GUN NI120 CONNECTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 09



+P13 - Output 7

P.MAX CHANNEL 7 1.400W

+P14 - Output 8

P.MAX CHANNEL 8 1.400W

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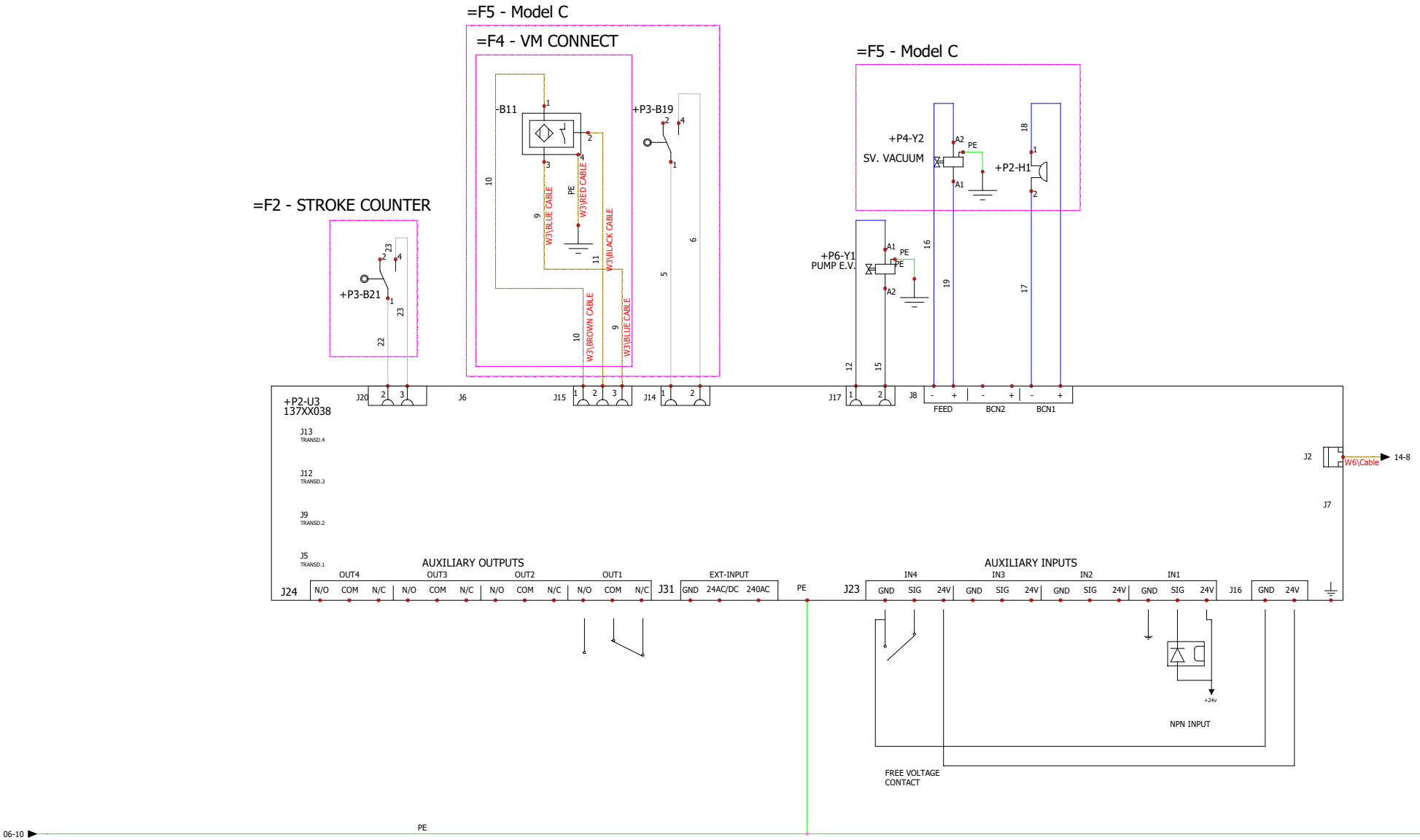
CHANNELS 7 AND 8
HOSE-GUN NI120 CONNECTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 10



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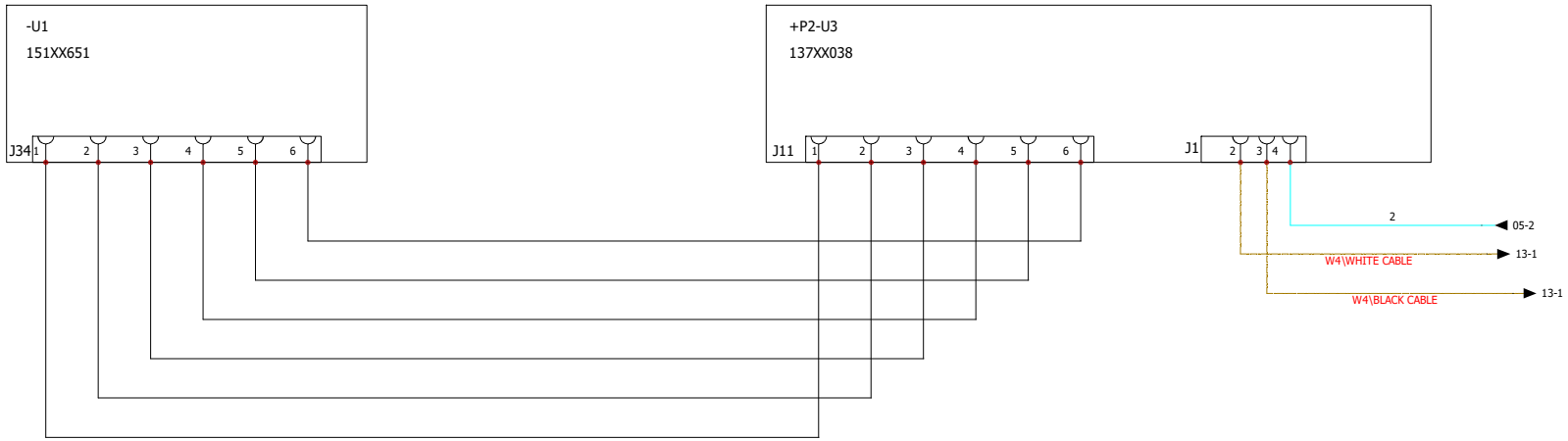
CONTROL BOARD CONNECTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 11



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COMMUNICATION CONNECTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

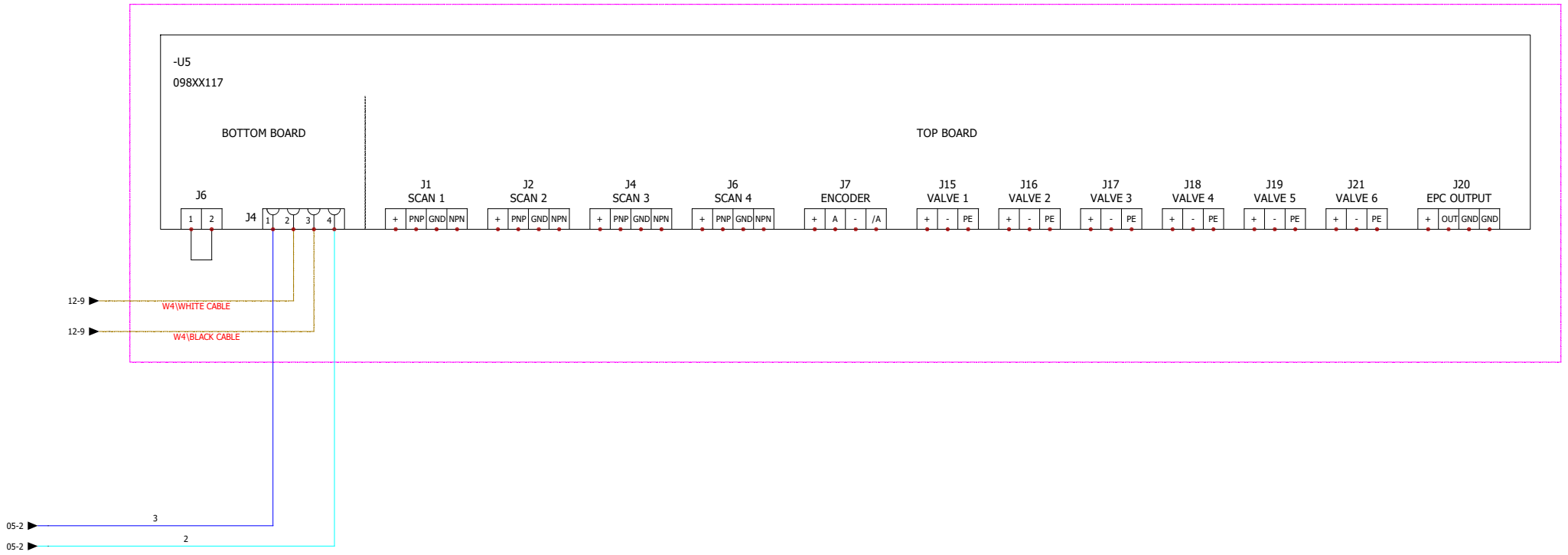
REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 12

1	2	3	4	5	6	7	8	9	10

=F3 - PCM6



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PCM-6 VALVE DRIVER CONNECTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

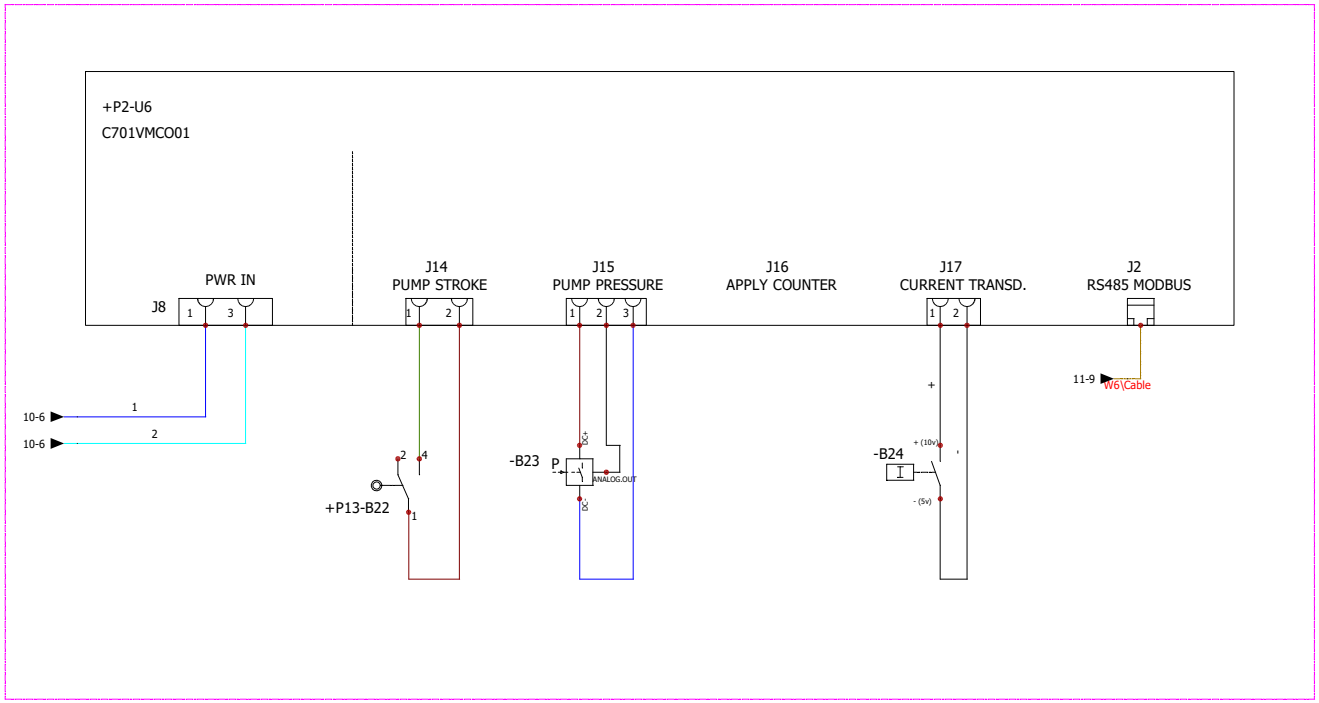
REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 13

1	2	3	4	5	6	7	8	9	10

=F4 - VM CONNECT



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VM CONNECT
BOARD CONNECTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

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G	22/05/2025	rsolla	PM22185 Change power board
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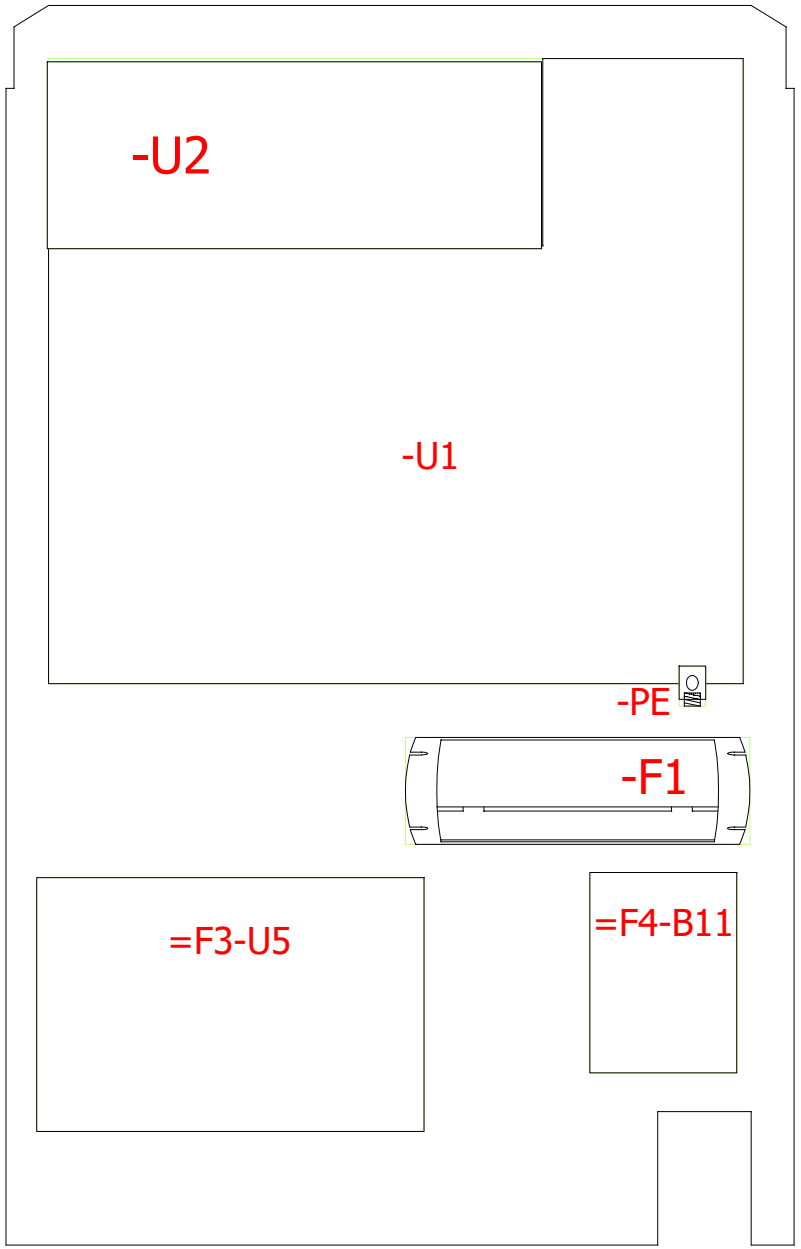
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

REVISION G

SCHEME 14



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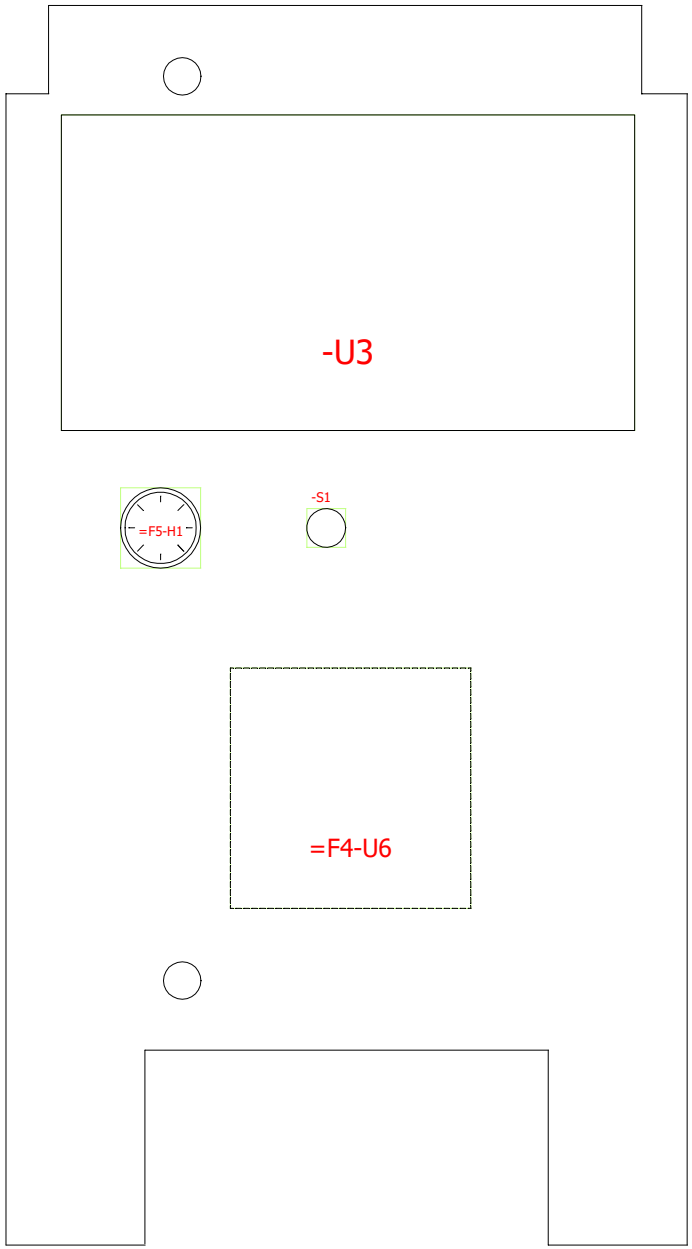
THERMALL WALL CONSTRUCTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

SCALE 1 / 2
REVISION G
DRAWING 15



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FRONTAL PANEL CONSTRUCTION

PROJECT: S038010201 KUBE 04/08/16-8S-N

REV.	DATE	NAME	CHANGES
G	22/05/2025	rsolla	PM22185 Change power board
F	06/03/2025	imateo	PM22095 CPU to 137XX038 Rev.B
E	26/07/2024	imateo	PM20989 Update tank heater power
D	17/04/2024	imateo	PM20989 Change service wire PE connection
C	11/01/2023	fcasedas	PG038 Add VM CONNECT

SCALE 1 / 2
REVISION G
DRAWING 16