KUBE Series

User Manual

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

Declaration of conformity

The product: _____

Model no.: _____

Serial no.: _____

Year of manufacture: _____

Described in the enclosed documentation is in conformity with:

- Directive 2006/42/CE of 29 December 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 EN ISO 12100-1 and ISO 12100-2, relative to safety of the machines, law EN ISO 14121-1, 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 2006/95/CE of December, relating to electric equipment.
- Directive 2004/108/CE of July relating to electromagnetic compatibility.
- Directive 93/68/EEC of July, amending Directive 73/23/EEC, and Directive 89/336/EEC.

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

Orcoyen, on: 21 October 2014

Signed: _____

Gonzalo Marco, Managing Director.

VALCO MELTON

Polígono Industrial Agustinos, calle G, nave D-34

Tel.: +34.948.321.580 Fax: +34.948.326.584

31160 ORCOYEN (Navarra) SPAIN

VALCO MELTON

CONTROL REGISTRATION

CONTROL #:.....

DATE:.....

ELECTRIC CHECK: ☐

CONTROL BOARD CHECK: ☐

TEMPERATURE CONTROL CHECK 150/180ºC ☐

HYDRAULIC CHECK (100 bar) ☐

PNEUMATIC CHECK ☐

APPLICATOR SERIAL NUMBER:

VALCO MELTON

GUARANTEE CARD

DISTRIBUTOR:.....

CONTACT:..... TELEPHONE:.....

ADDRESS:.....

OEM:.....

ADDRESS:.....

TYPE:..... BRAND:..... MODEL:.....

USER:

CONTACT:

ADDRESS: TELEPHONE

SYSTEM LOCATION:

DATE OF INSTALLATION: GUARANTEE UNTIL:

APPLICATOR SERIAL NUMBER:

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

1.1 SYMBOLS AND TERMS:

Miscellaneous prohibitions

Danger hot surface

Miscellaneous precautions

Precaution: Electric current

Precaution: Flammable liquid

Precaution: risk of fluid leakage under high pressure

Precaution: risk of entrapment between mobile parts

European Community markings

Note of special interest

Use of goggles required

Use of safety gloves required

Elements susceptible to electrostatic discharge

Burns:

Burns can be caused by the uncovered parts of the applicator, such as the guns or by splashes of hot melt. The hot adhesive under pressure in the nozzles can cause serious injuries to the skin.

Qualified personnel:

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

1.3 FIRST AID:

In case of burns:

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

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

Seek qualified medical attention immediately.

In case of an accident with the solvent:

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

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

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

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

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:

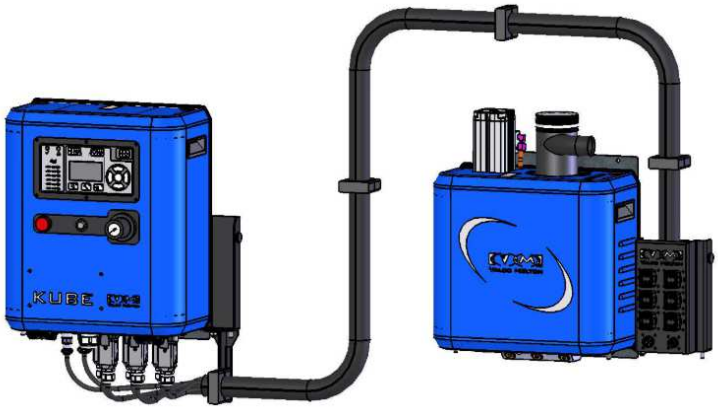
This machine heats hot-melt adhesive (or similar materials) until it goes from solid to liquid state in a heated container. A pump absorbs the glue and propels it at a certain pressure through heated hoses and transfers it to where it is applied.

There are three options:

1. **Compact:**

2. **Panel:**

3. **Split:**

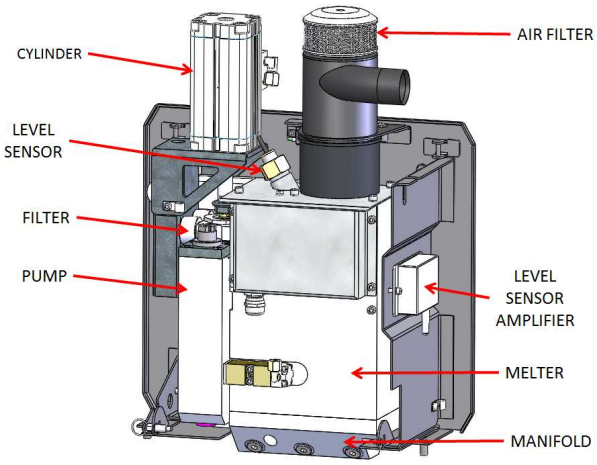


2.2 MAIN PARTS:

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

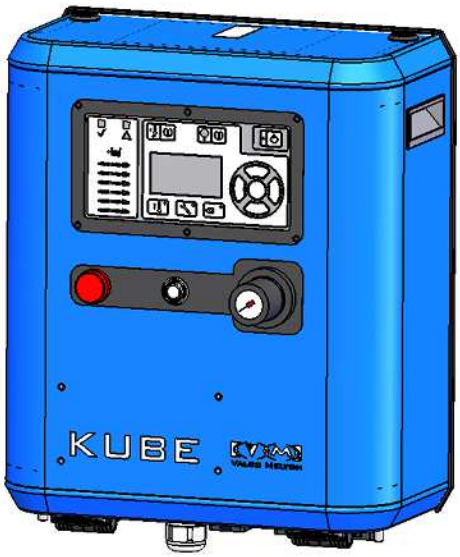
1. Glue Box:

It houses the melting and pumping systems



2. Control Box:

It houses the control systems (electric and pneumatic)



2.2.1. Melter:

This is the system which heats the melting chamber by means of electric heating elements. It is in contact with the manifold to move the glue from the melting chamber to the pump.

A sensor with a micro-controller controls resistance heating, and can be programmed up to 240 ºC

2.2.2. and 2.2.3. Distribution pumping system:

It consists of the following components.

Manifold:

The manifold distributes the Hot-Melt to the hoses and guns.

Made of aluminium, it is located on the lower part of the melting chamber so the melter heaters can heat it indirectly.

The manifold has nine outlet holes to connect the Hot-Melt hoses: three on the front side, three on the middle of manifold and another three on the back side.

The manifold should ONLY be removed if there is glue leakage between the tank and the manifold.

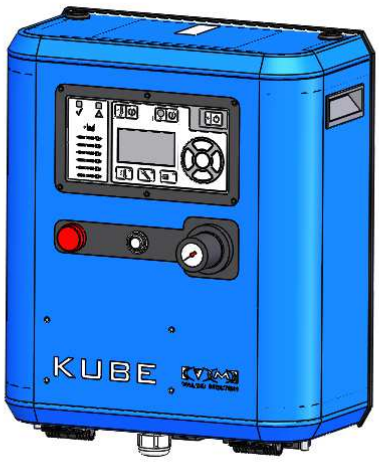
Pump:

The pump delivers the Hot-Melt, or other molten product, at a set pressure, from the bank to the substrate (or material to be glued), after passing through a manifold, filter, hoses and guns.

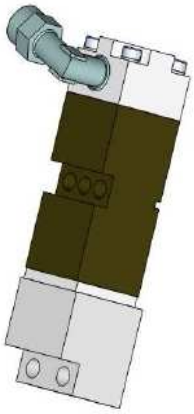
The pump sytem consists of an electrovalve, a pneumatic cylinder and a double-acting hydraulic pump with a pressure compensator, to avoid a drop in the flow produced when changing pump direction, and enabling uniform Hot-Melt discharge.

2.2.4. Control panel:

The control panel, containing the machine's operating and adjustment switches, is on the front of the Control Box.



2.2.5. Discharge module:

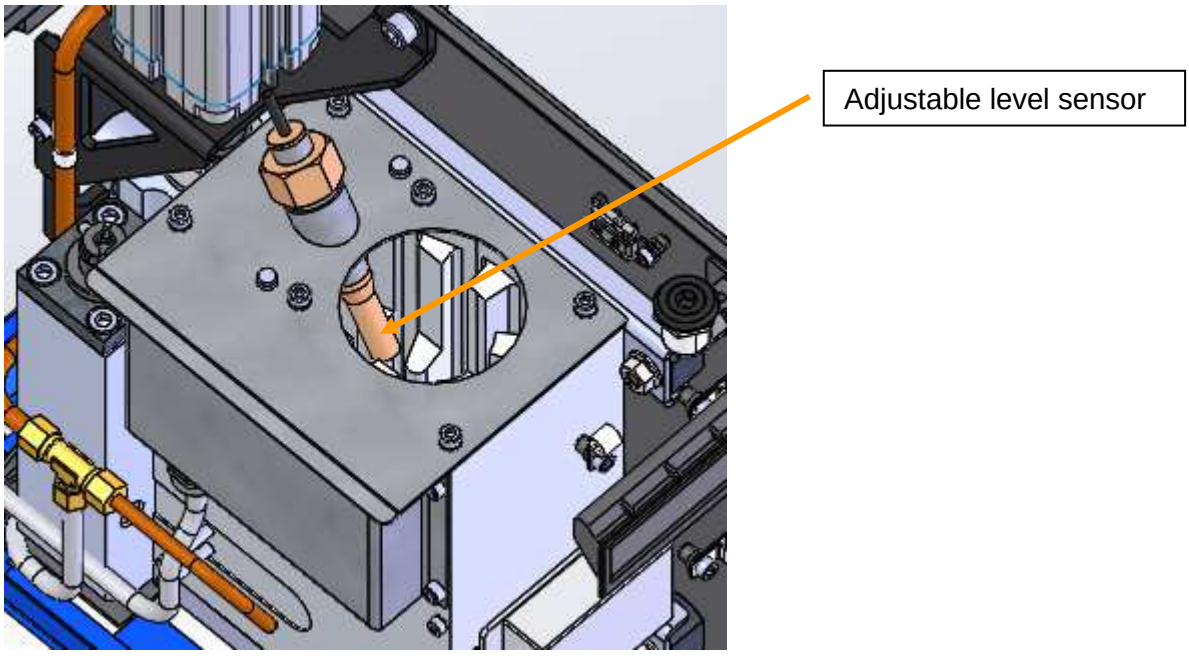


The discharge module actuates like a flow valve. When the system is operating normally, the module stays closed, but if there is an electric failure, the module will open immediately (the air to maintain it closed has been stopped due to the electric failure), so that pressure in the hoses and guns will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

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

2.2.6. Level sensor:

The level sensor measures the adhesive level in the melting chamber. With this, it is possible to determinate acceptable high and low adhesive levels in the melting chamber. 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.



2.2.7. Vacuum Feeder:

The purpose of the vacuum feeder is to automatically fill the melting chamber 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 load chimney is opened, it will deactivate. To reactivate it, put the load chimney 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 dependent on the application.

Bleed electrovalve:

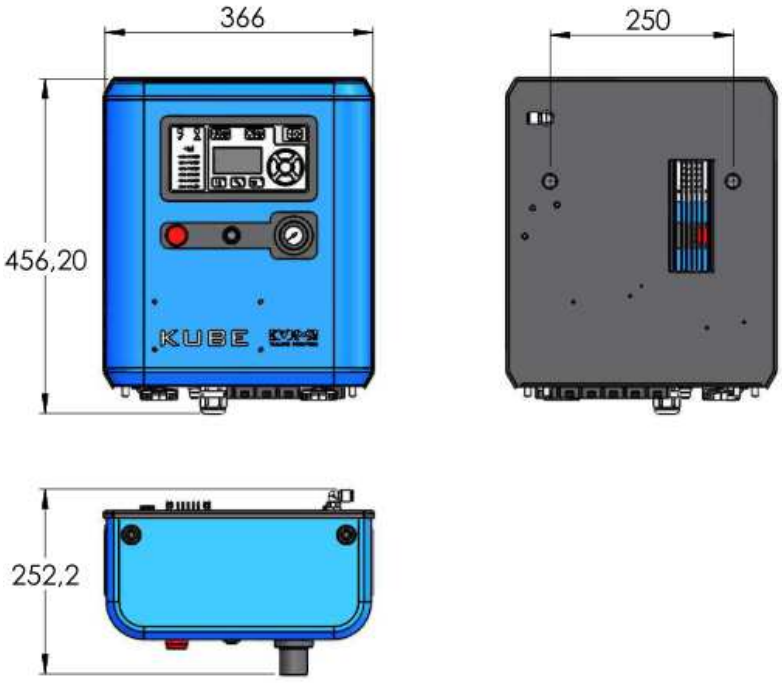
This is the element that controls air passage to the pump. It is electrically connected to the electrical control system. This allows the applicator to adapt to the main machine speed.

2.3. TECHNICAL CHARACTERISTICS:

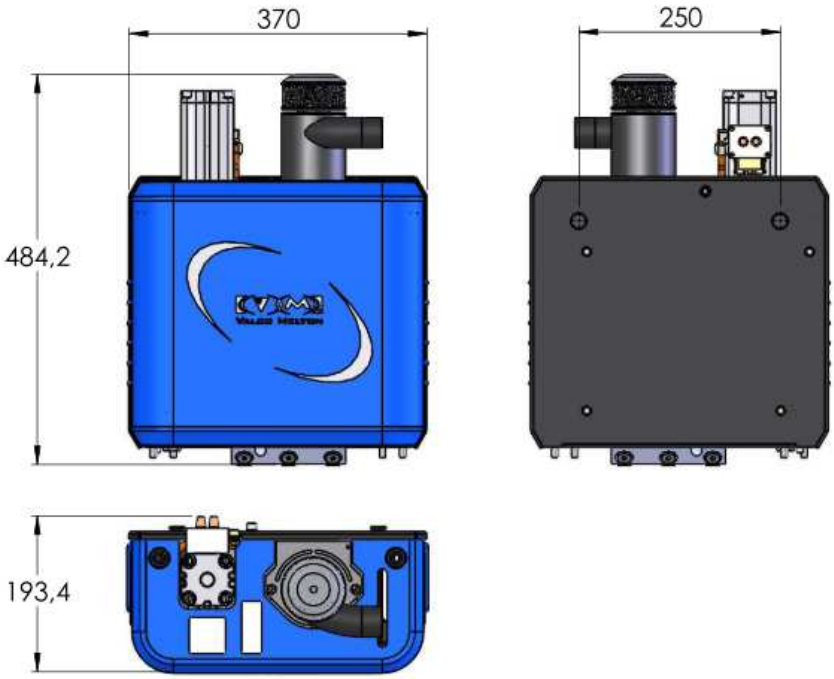
ELEMENT	*DATA*
GENERAL	
Power supply	I 220V+N+T (50/60Hz), III 220V+T (50/60 Hz), III 380V+N+T (50-60Hz)
Hoses (max.)	6
Hydraulic pressure (maximum working)	2.8 – 80 bar (40 – 1138 psi)
Noise level	63 dB
Working temperature	-10 – 50 ºC (32 – 122ºF) HR 20% to 80% non-condensed
CONTROL	
Working temperature	15º - 230º C (59º - 446º F)
Temperature control precision	+/- 0.5º C (+/- 1º F)
Type control	PID Control
PUMP	**LOW FLOW**
Pumping capacity (kg./h)	35
Pump compression ratio	1:14
Pneumatic working pressure	0.5 to 6 bar
MELTER	
Volume (litres)	1.25
Melting capacity (kg./h)	10
Melter electrical consumpstion (W)	2400
VACUUM FEEDING	
Compressed air input	2 - 6 bar (29 up to 87PSI) - 490 l/min (129 gallon/minute)
Hose length	3m (43,5PSI)

2.4. DIMENSIONS:

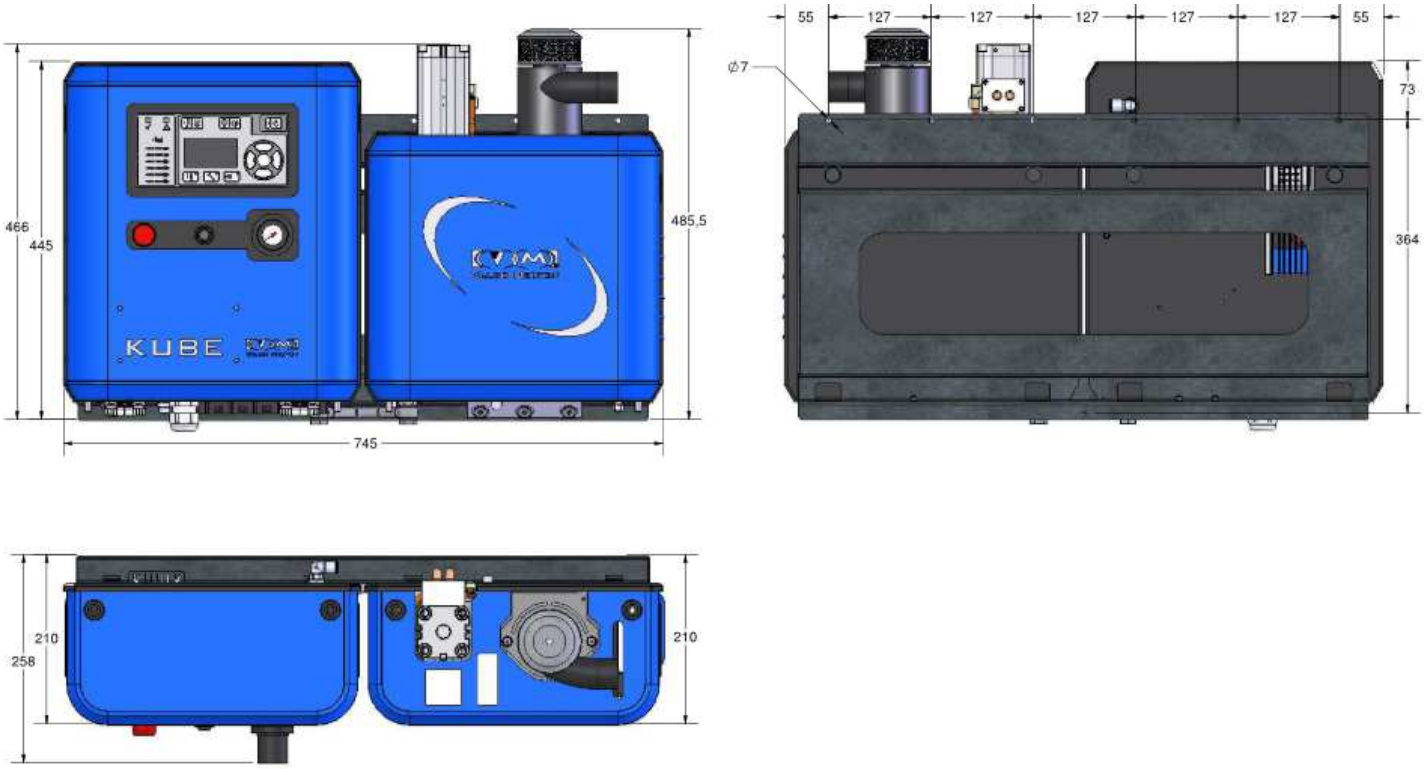
2.4.1. GENERAL DIMENSIONS CONTROL BOX:



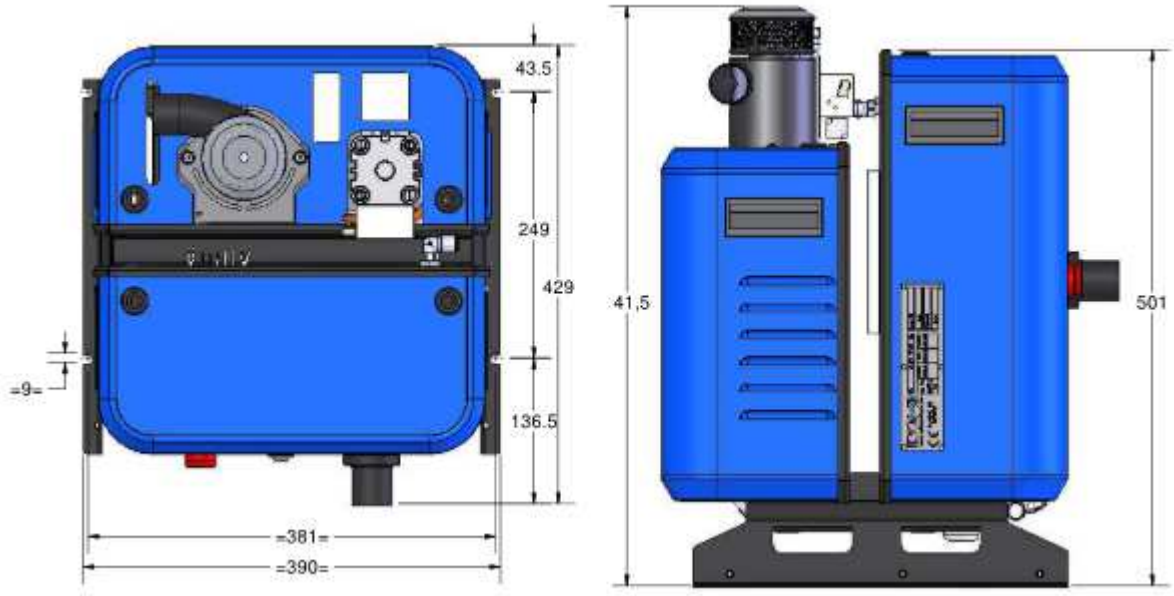
2.4.2. GENERAL DIMENSIONS GLUE BOX:



2.4.3. GENERAL DIMENSIONS KUBE PANEL:



2.4.4. GENERAL DIMENSIONS KUBE COMPACT:



CHAPTER 3 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 follower equipment leaving enough space to be accessed during operations.

Avoid extreme temperatures (below -10 C and above +50°C).
Try to avoid installing the equipment where there are draughts. If this is not possible, the guns will need protecting because if the temperature falls rapidly they may not work properly.

3.4 MECHANICAL INSTALLATION:

The mechanical installation includes the following:

- Positioning the equipment.
- Connecting the hoses.
- Connecting the Vacuum feeder

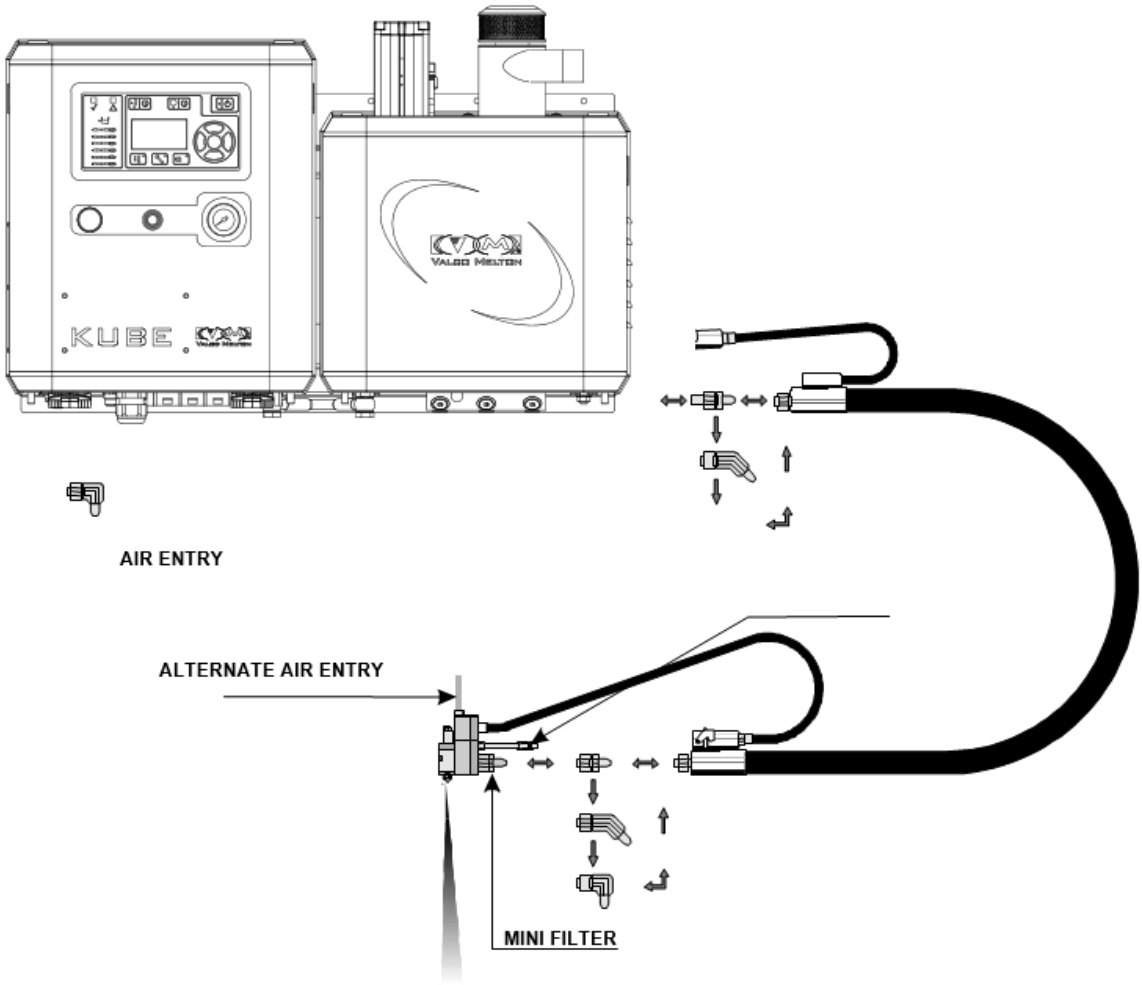
Positioning the equipment:

Remove from the box, and position it according to installation requirements (chapter 3.3)

Connecting the hoses:
Proceed as follows:

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

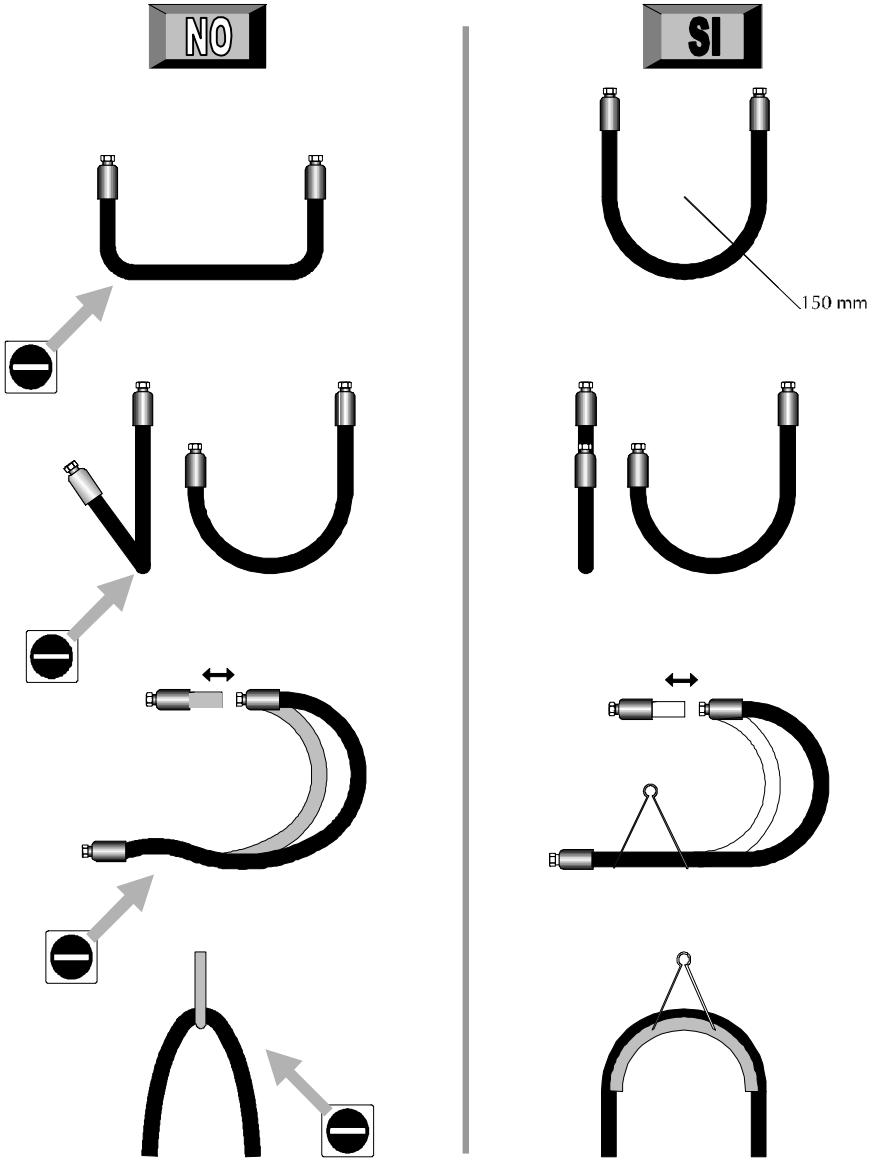
Remove the appropriate hose outlet plug from the manifold (see below)



Connect the hoses from right to left. Failing to do so will create a dead spot where carbon deposits accumulate, increasing nozzle blockage problems.

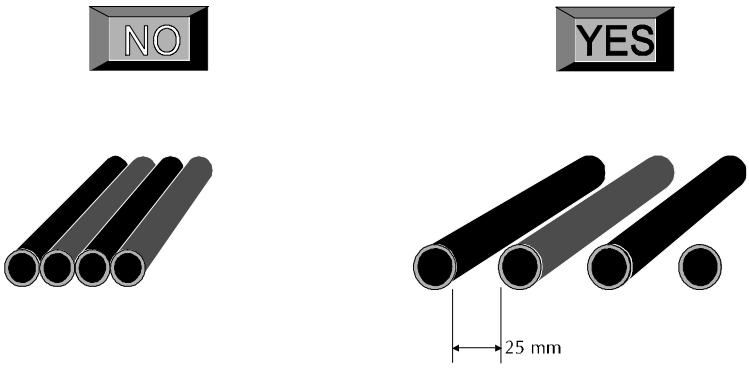
For the hydraulic connection: If the unit is full of adhesive, heat the tank before removing the manifold cap.

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

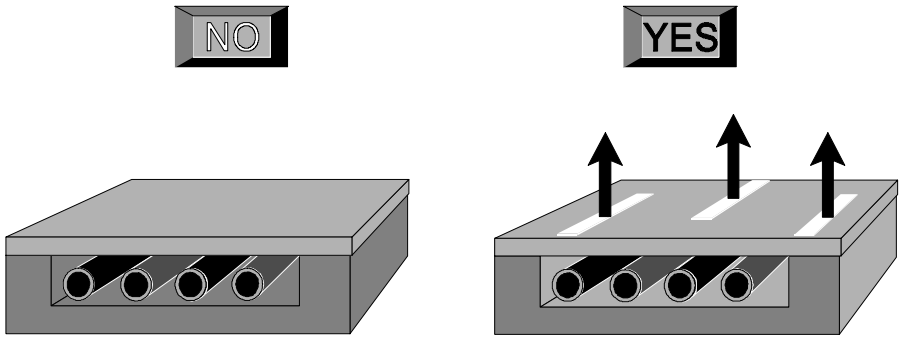


Hoses should not be allowed to lie on cold surfaces such as factory floors.

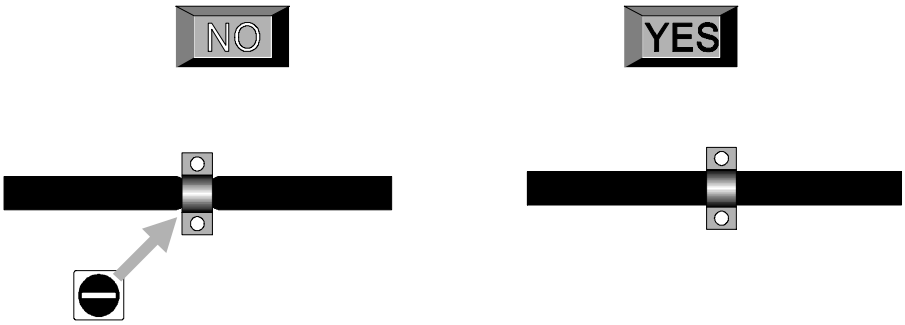
Do not bunch hoses together. Leave at least a 25 mm gap between them.



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



Do not install hoses with clamps smaller that the hoses.



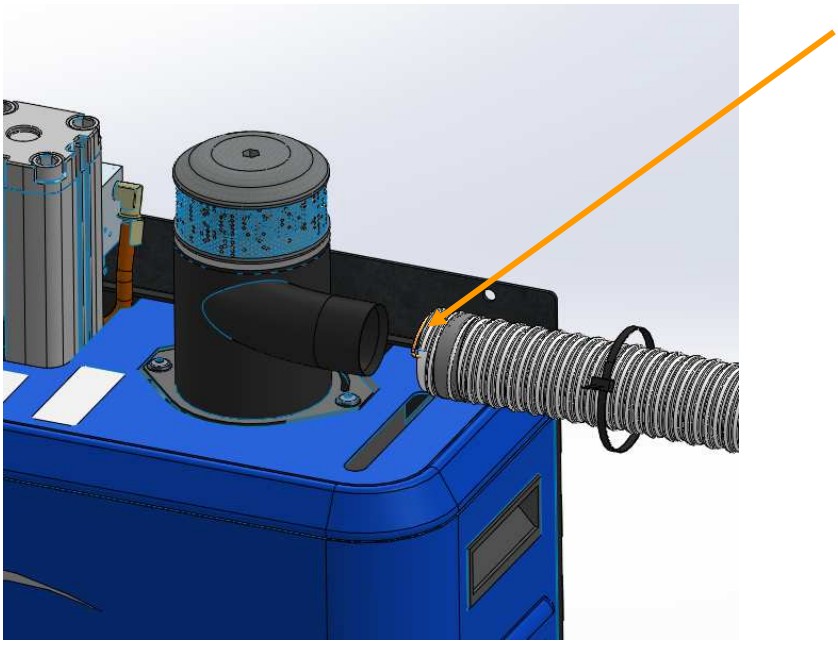
Installing the Vacuum Feeder:

Proceed as follows to connect the vacuum feeder:

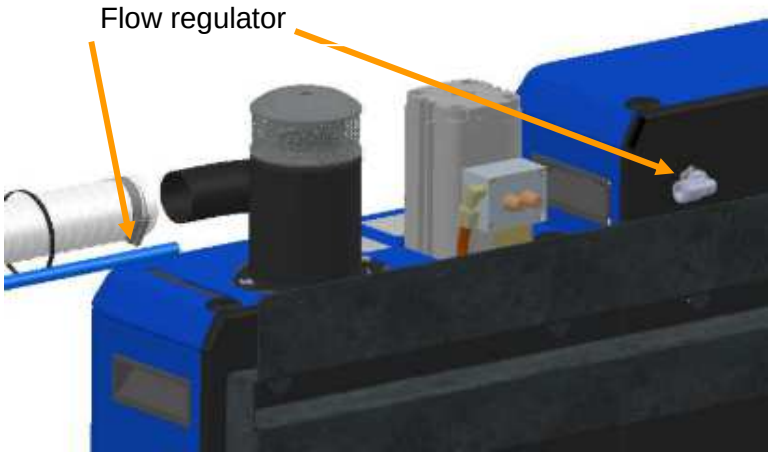
1. Remove the vacuum feeding kit from the packaging. This kit includes all of the tubes needed to install the feeder, as well as other components to be explained later.

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

Secure with a clamp

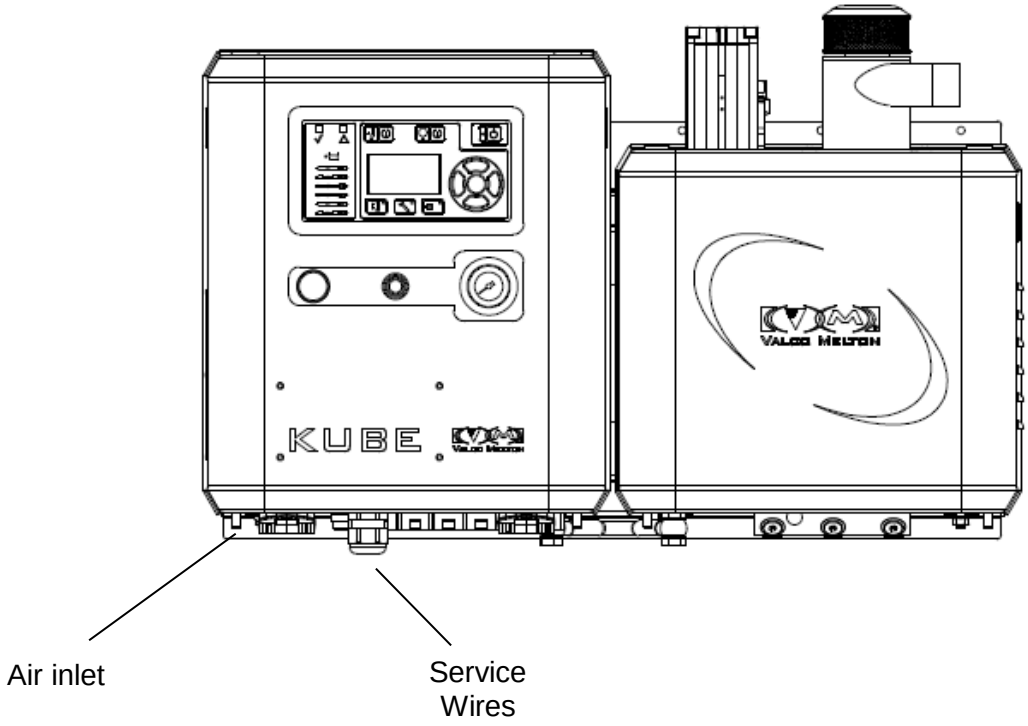


3. Connect the air line (provided in the vacuum feeder kit) to the flow regulator, visible on the upper part of the Control Box, as shown in the picture.



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. For the correct working of the equipment it is advisable to use a **Ø10 pipe** to connect the air inlet.



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.

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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 it 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.

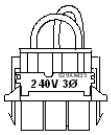
The KUBE hot melt unit can be set up to use one of the following power sources:

Incoming Electrical Service		Power Connector Terminals					Voltage Plug	Connector Label
		A	B	C	D	PE	Part No. / Color	Part No. / Color
380VAC 3-phase with Neutral (4 wire service)	3/N/PE AC 400/230V	L1	L2	L3	N	PE	029XX437 Blue	782XX262 Blue
200 to 240VAC 3-phase w/o Neutral (3 wire service)	3/PE AC 200-240V	L1	L2	X	L3	PE	029XX435 Black	782XX260 Black
200 to 240VAC 1-phase w/o Neutral (2 wire service)	1/PE AC 200-240V	L1	X	X	L2	PE	029XX436 White	782XX261 White

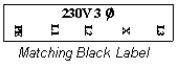
The system should be connected via a suitable type of flexible conduit from a supply isolator and ground-fault power breaker. The supply should be clean and free from excess interference from other machines.

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

1. Open the electrical enclosure door.
2. Route the power cable through the cable clamp in the chassis of the unit. The power cable must meet the minimum requirements given in the chart above.
3. Referring to the chart above, locate the appropriate voltage selector plug and power connector label corresponding to the incoming electrical service.



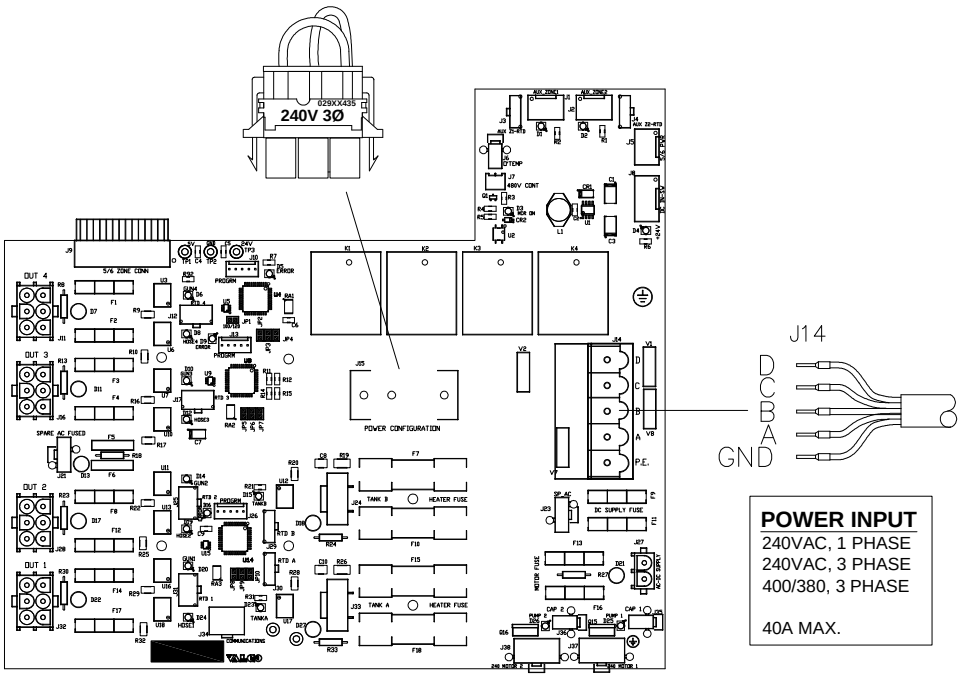
029XX435 Selector Plug



Matching Black Label

4. Adhere the appropriate power connector label to the power connector on the 12 zone board (see illustration).

   Warning: The label must be correctly oriented on the power connector.
5. Remove the power connector from the 12 zone board and connect the power cable leads to the power connector terminals as shown int the chart above.
6. Install the appropriate voltage selector plug into the connector marked J15 in the 12 zone board (see illustration).
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



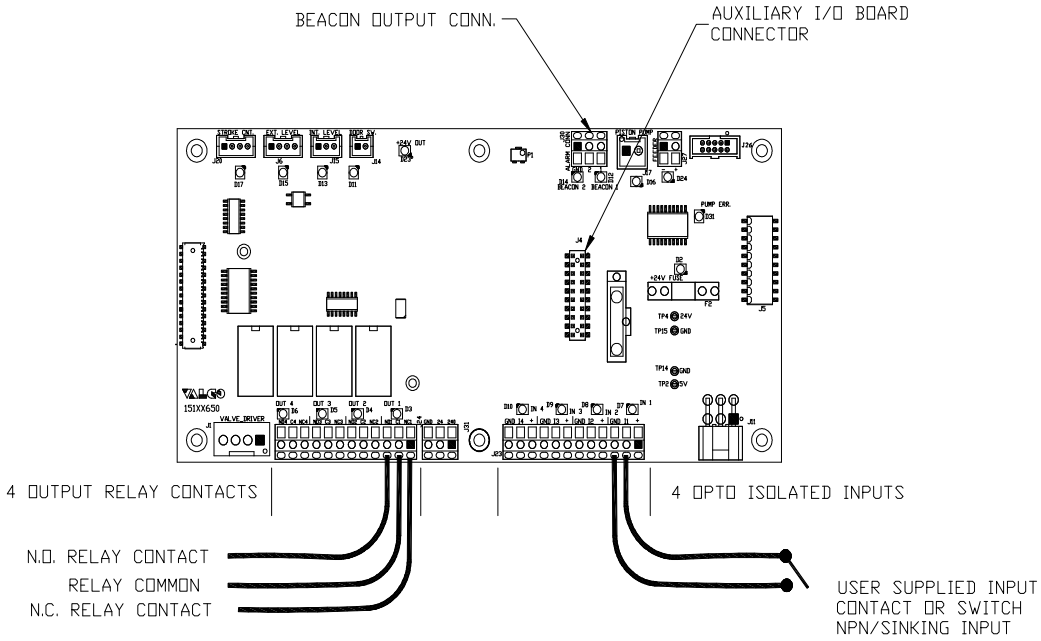
12 Zone Power Board

3.6.3 Input/Output 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.

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

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 or 6 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:

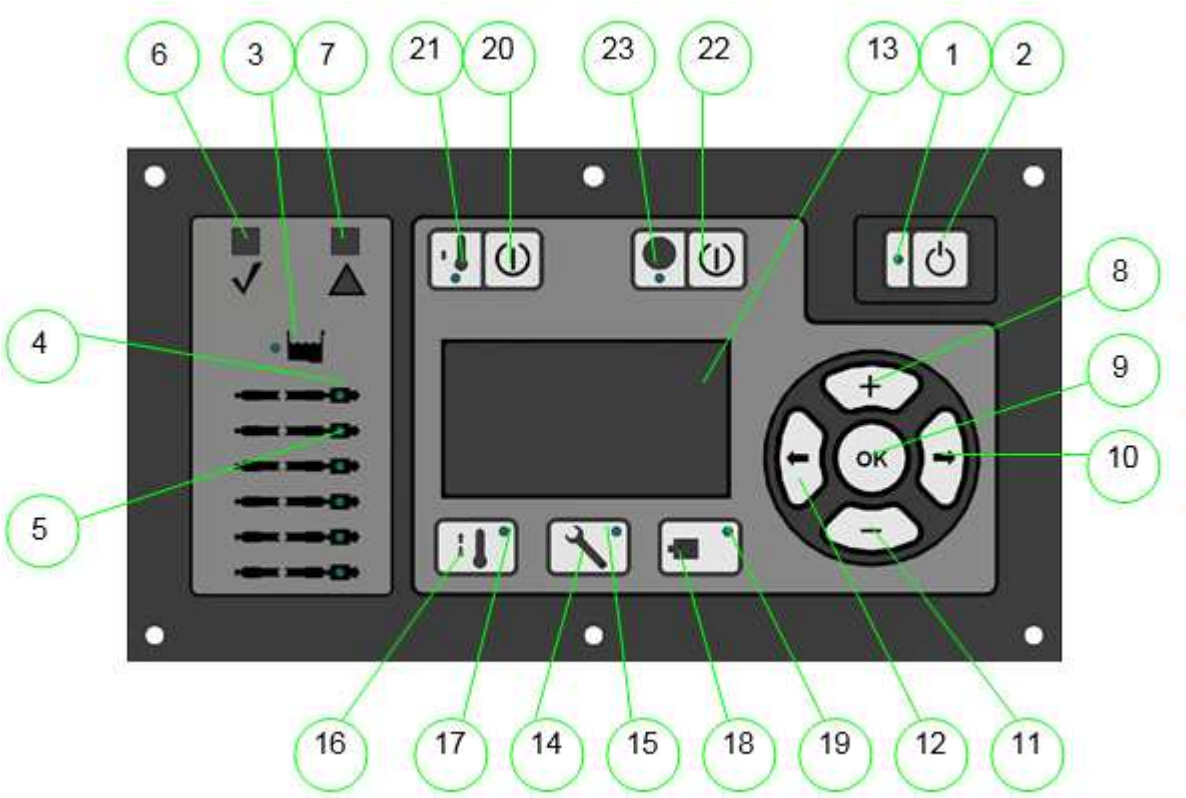
Given that the warmed adhesive melting chamber has greater inertia than the warmed peripherals (hoses and guns), the latter will get to the programmed temperature faster. This quick warming process has an enormous effect on the resistors and insulator. At the same time, this process creates excessive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

4.2.3. Description of the control panel:

4.2.3.1 Keyboard:

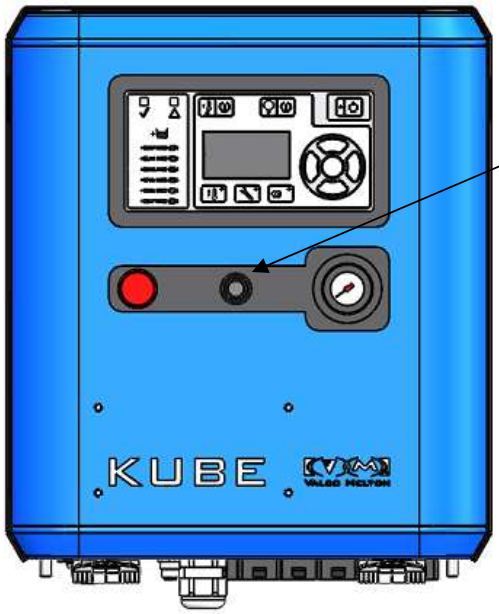
The unit control panel has 11 control keys that provide access to the programme menus and general operating processes.



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
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).



Power On/Off Switch

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.

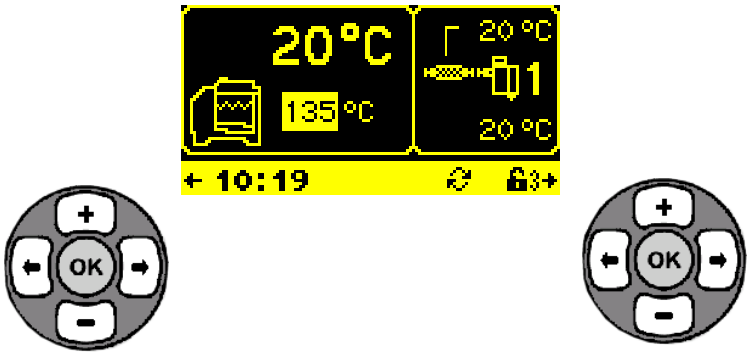
Heat button On/Off

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.

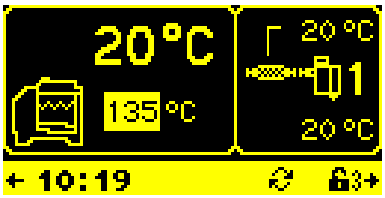
4.2.3.4 Navigation

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



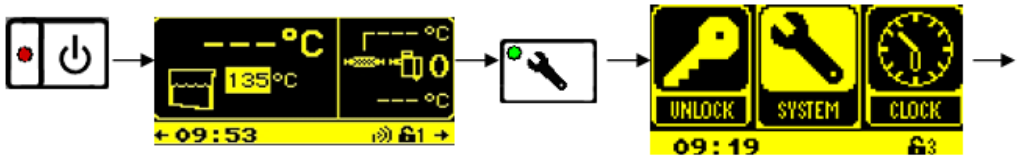
4.2.3.5 Settings

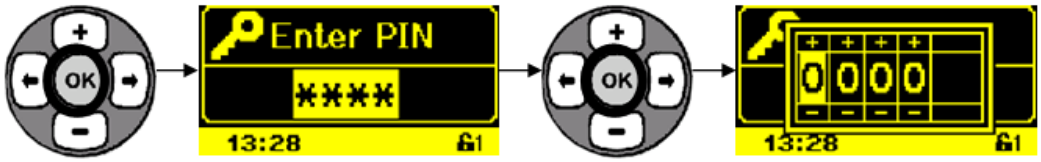
The information displayed can be edited. Use the appropriate buttons (depending on the symbols displayed) to navigate through the menus.



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

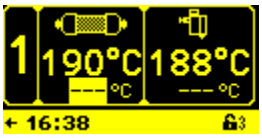
4.2.3.7 Programming Temperatures

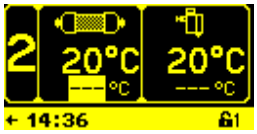
Press the temperature button (if the temperature LED is not green) to display the first temperature screen.

4.2.3.8 Temperature Screens

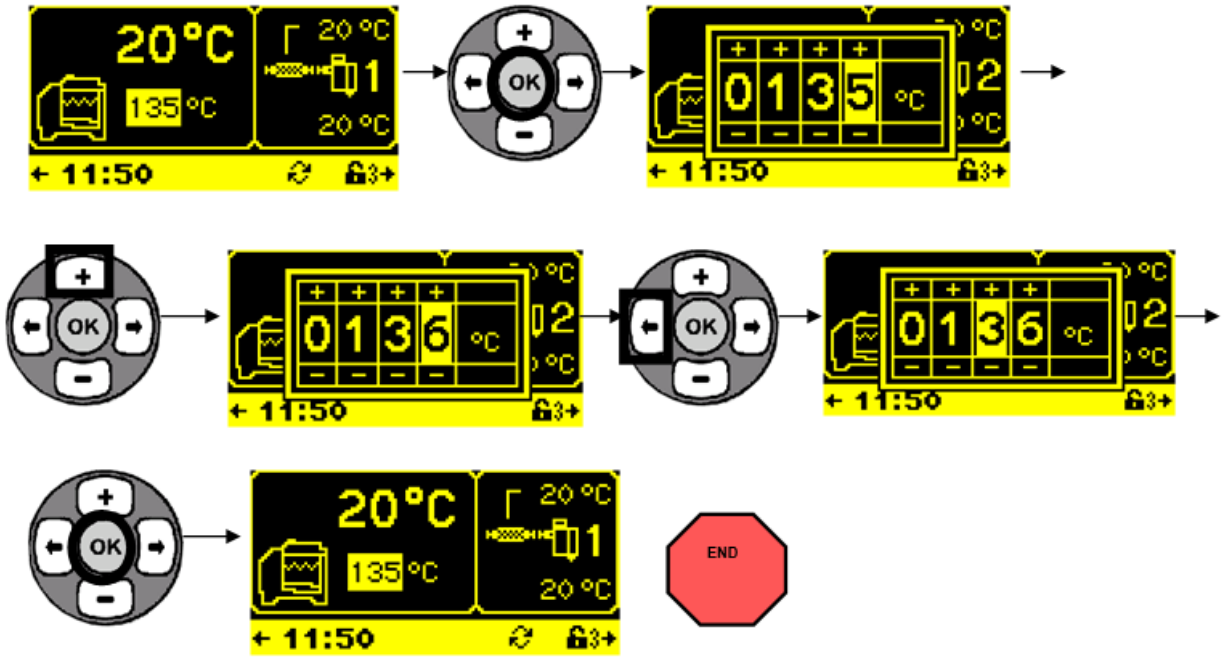
The tank temperature screen displays the current and programmed temperature. Output 1 and output 2 temperatures alternate on the screen to the right.

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

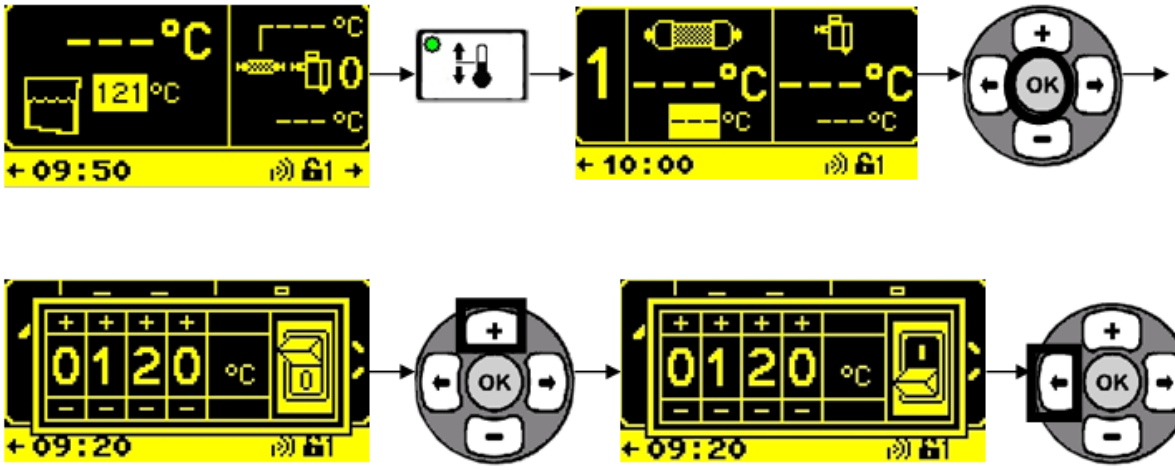


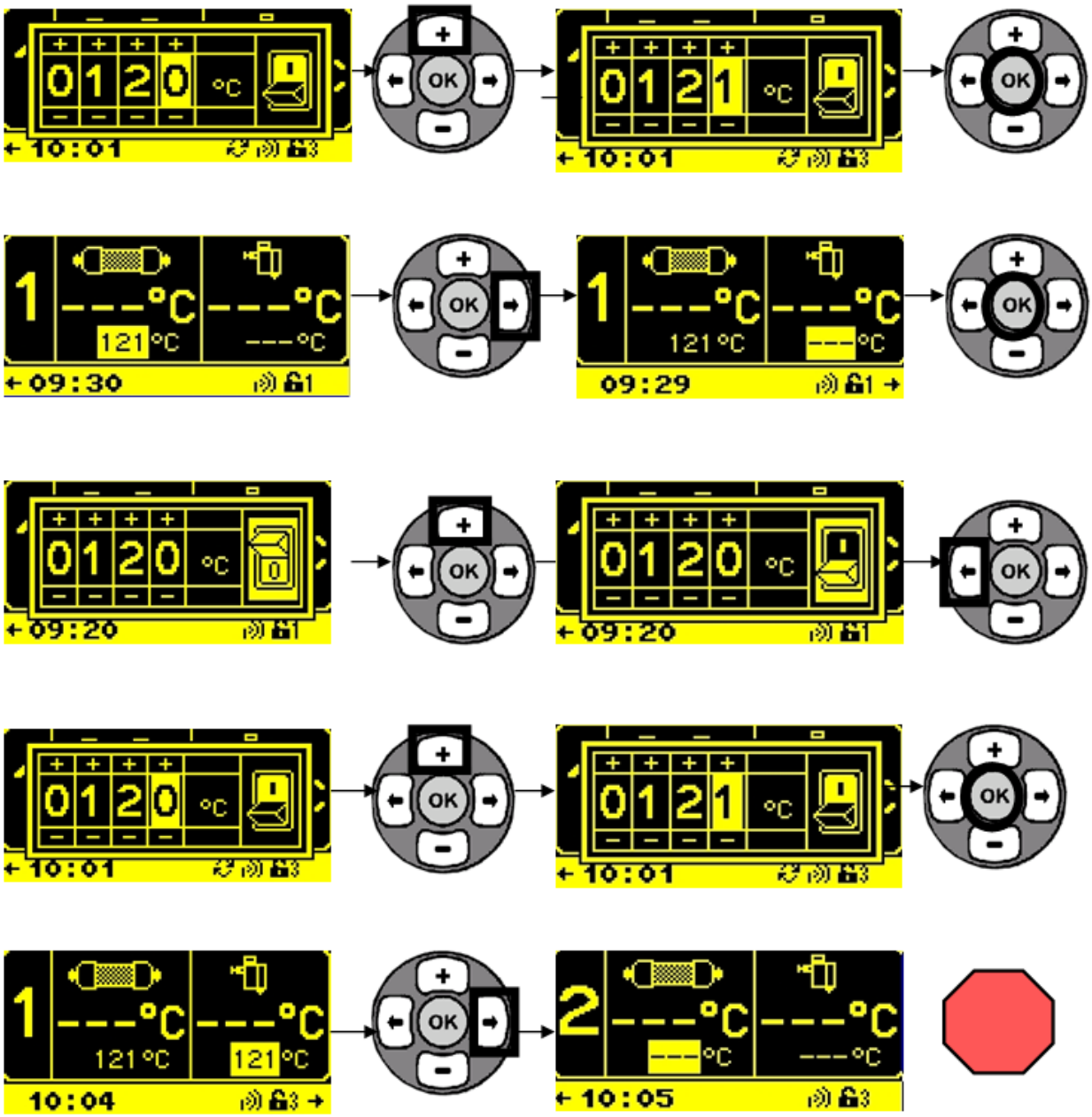


4.2.3.9 Tank temperature



4.2.3.10 Hose / Gun temperature

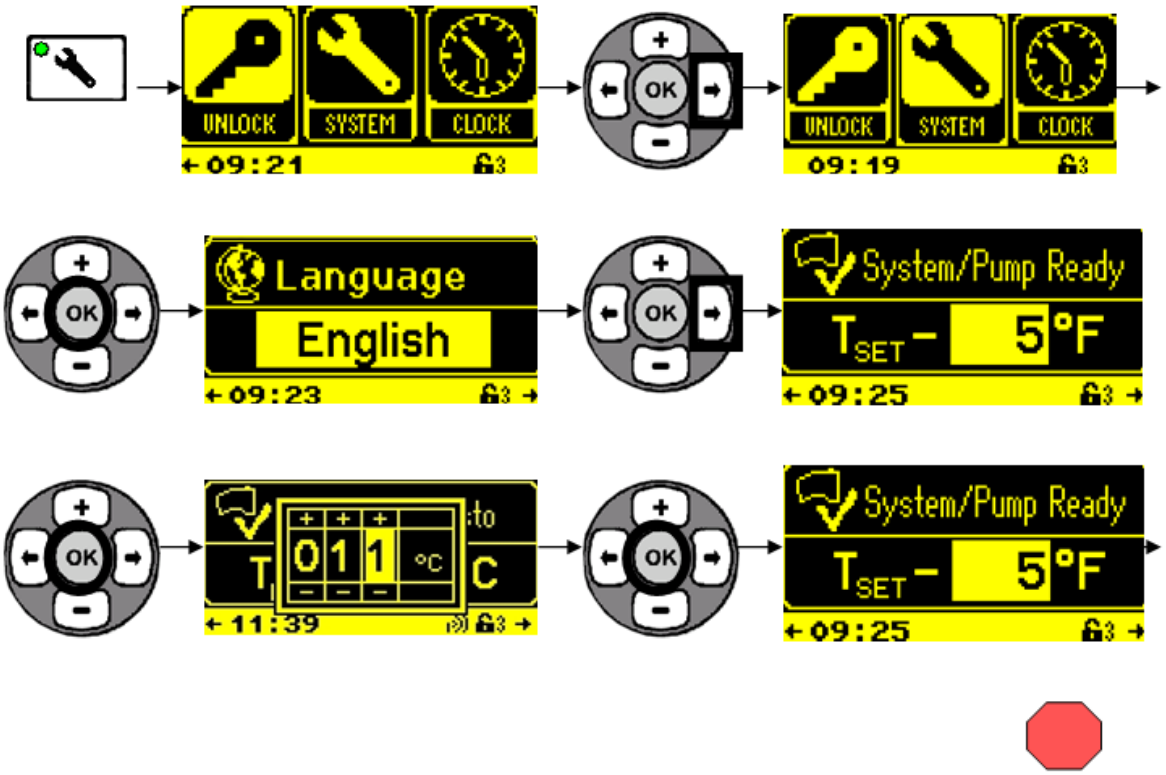

---°C
121°C
---°C
0
---°C
09:50
1
---°C
---°C
---°C
---°C
10:00
OK
0120
°C
09:20
OK
0120
°C
09:20
OK



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

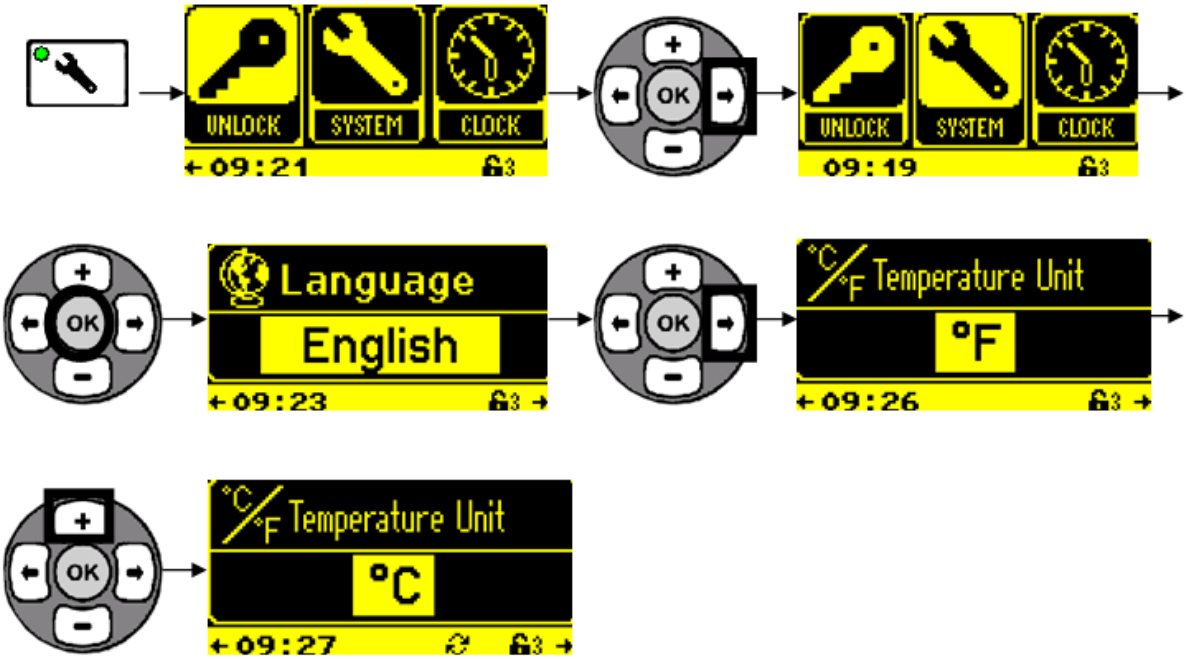
4.2.3.11 Temperature Programming

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

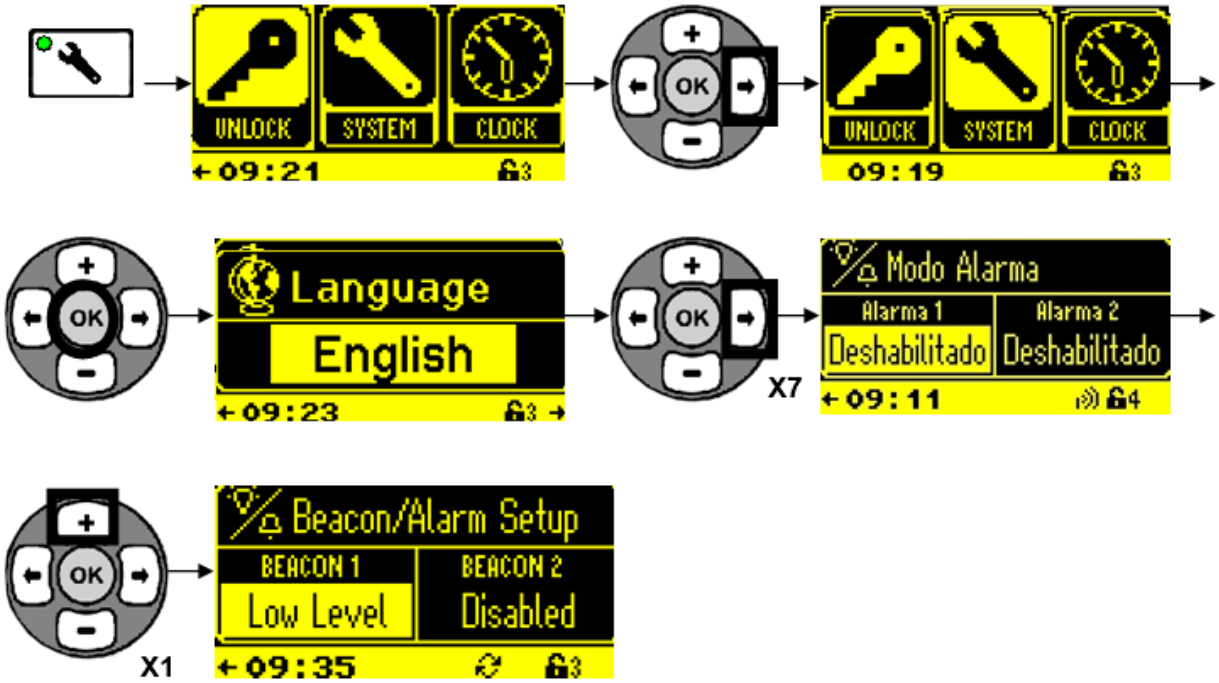
The equipment has the option to choice between two temperature units.



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

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

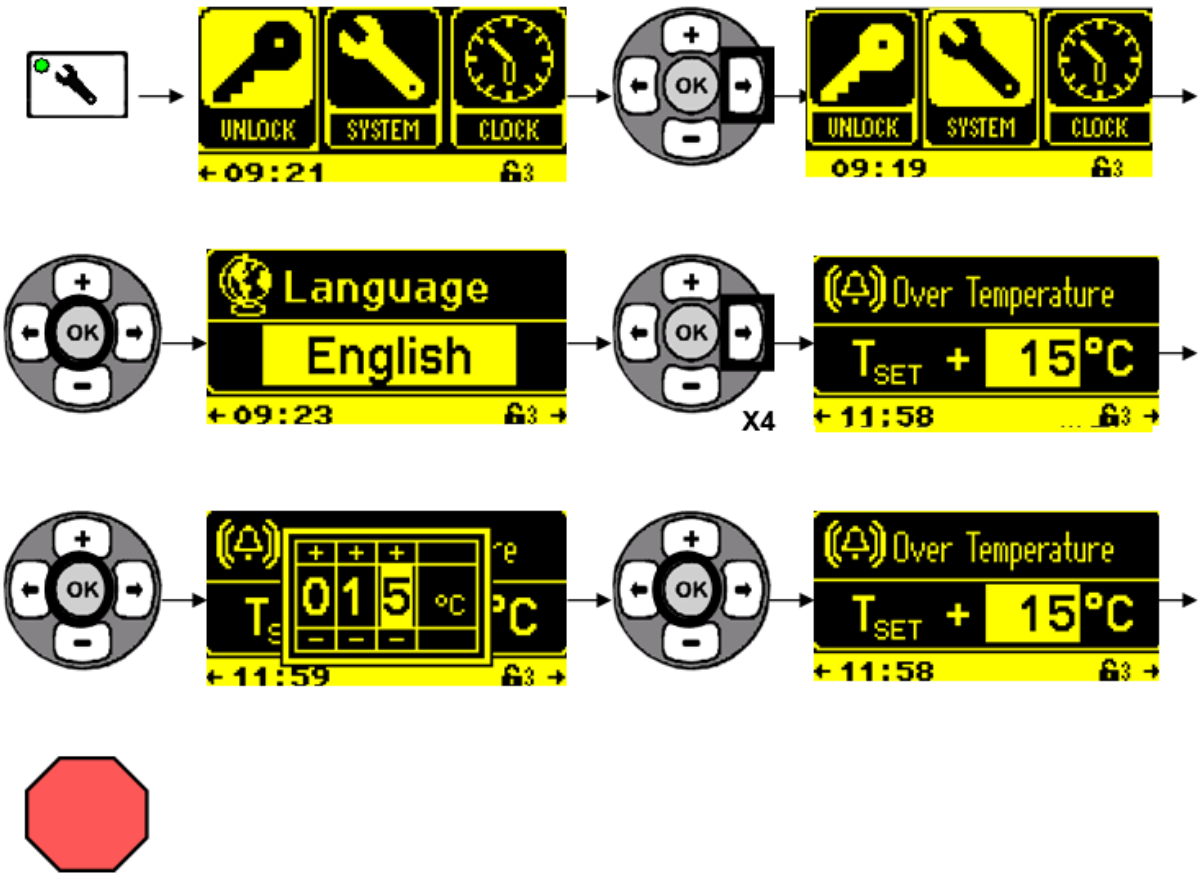
The Over Temperature Alarm is relative to the temperature setpoint of each zone.

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

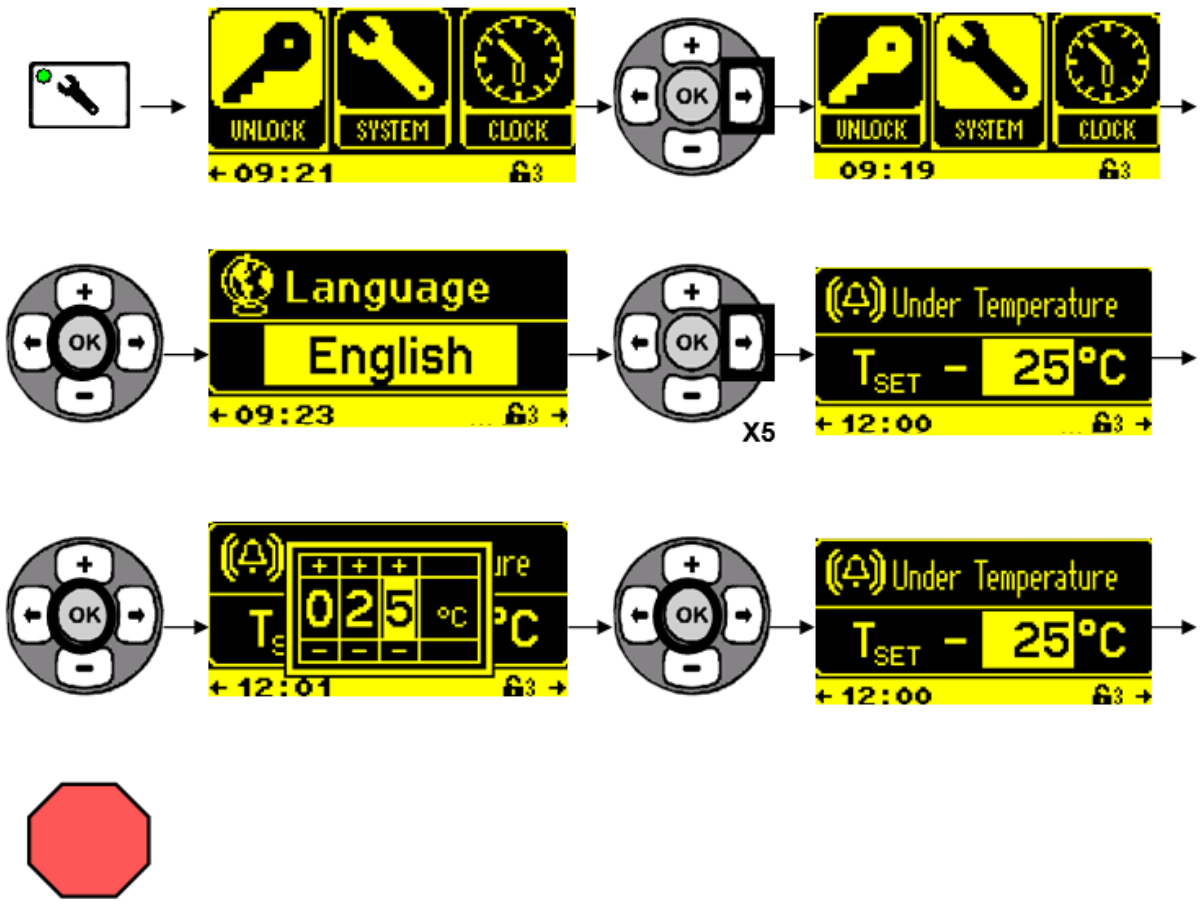
The Under Temperature Alarm is relative to the temperature setpoint of each zone.

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.



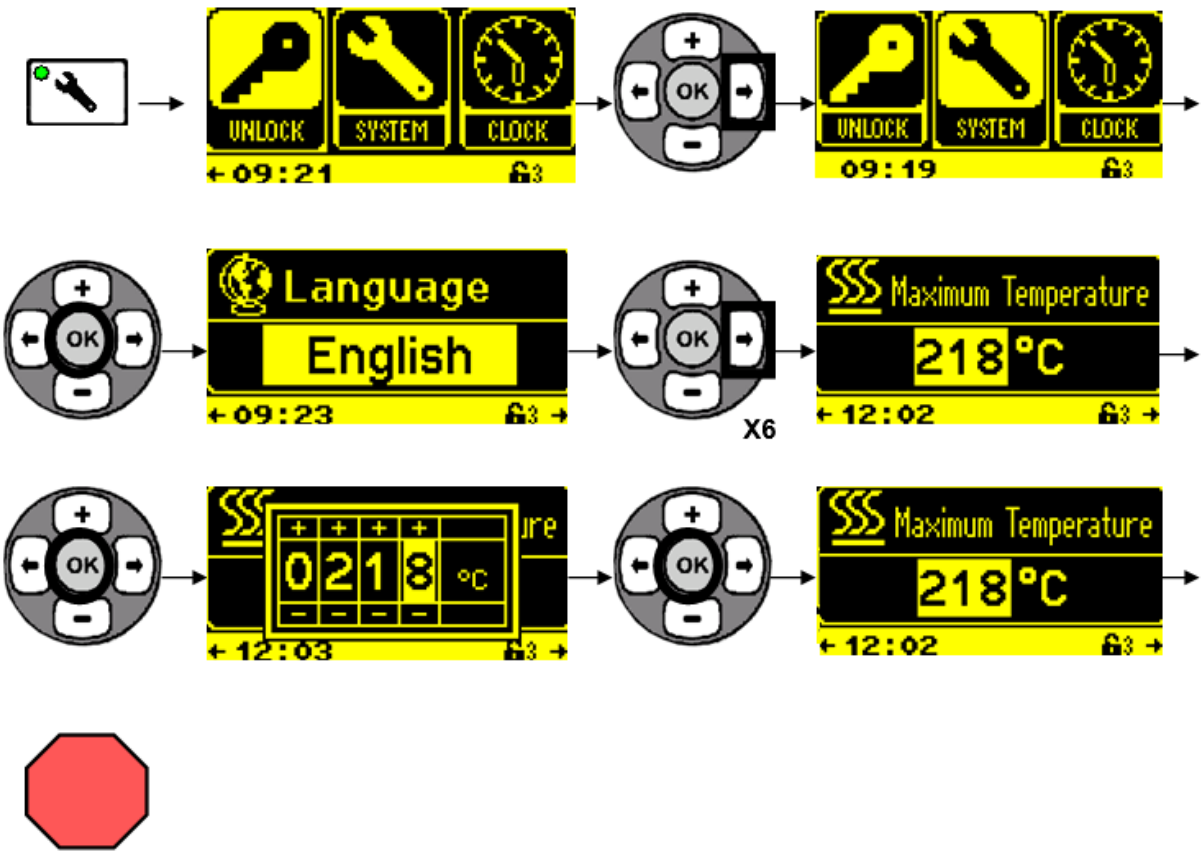
4.3.3. Maximum Temperature

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.



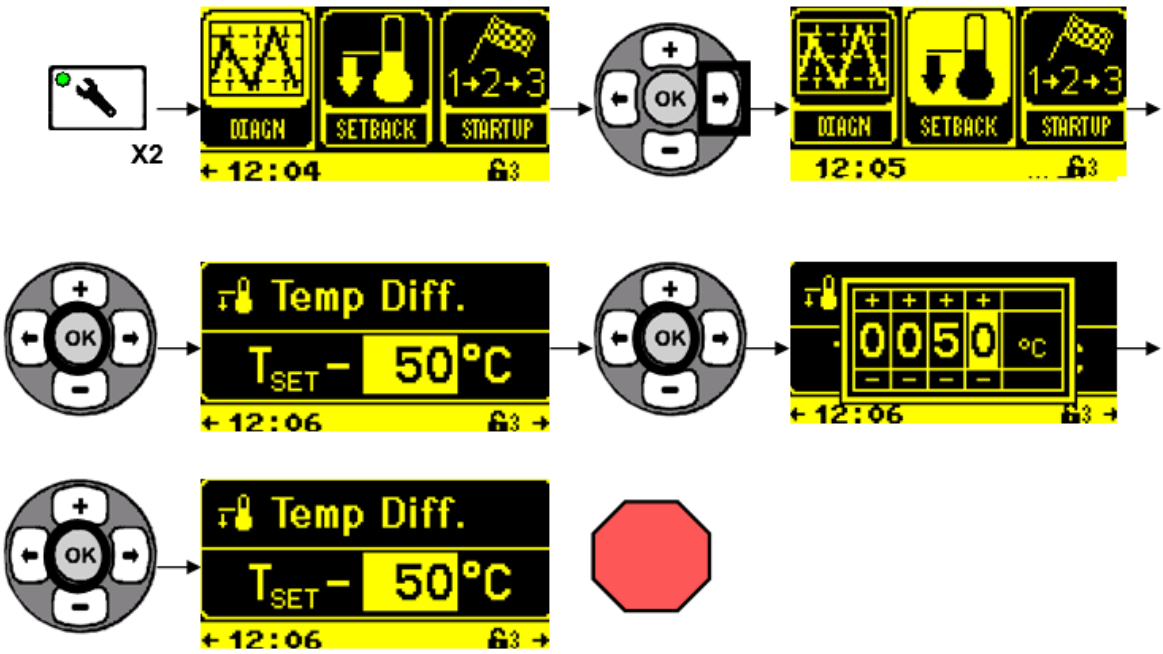
4.3.4. Setback Temperature

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.



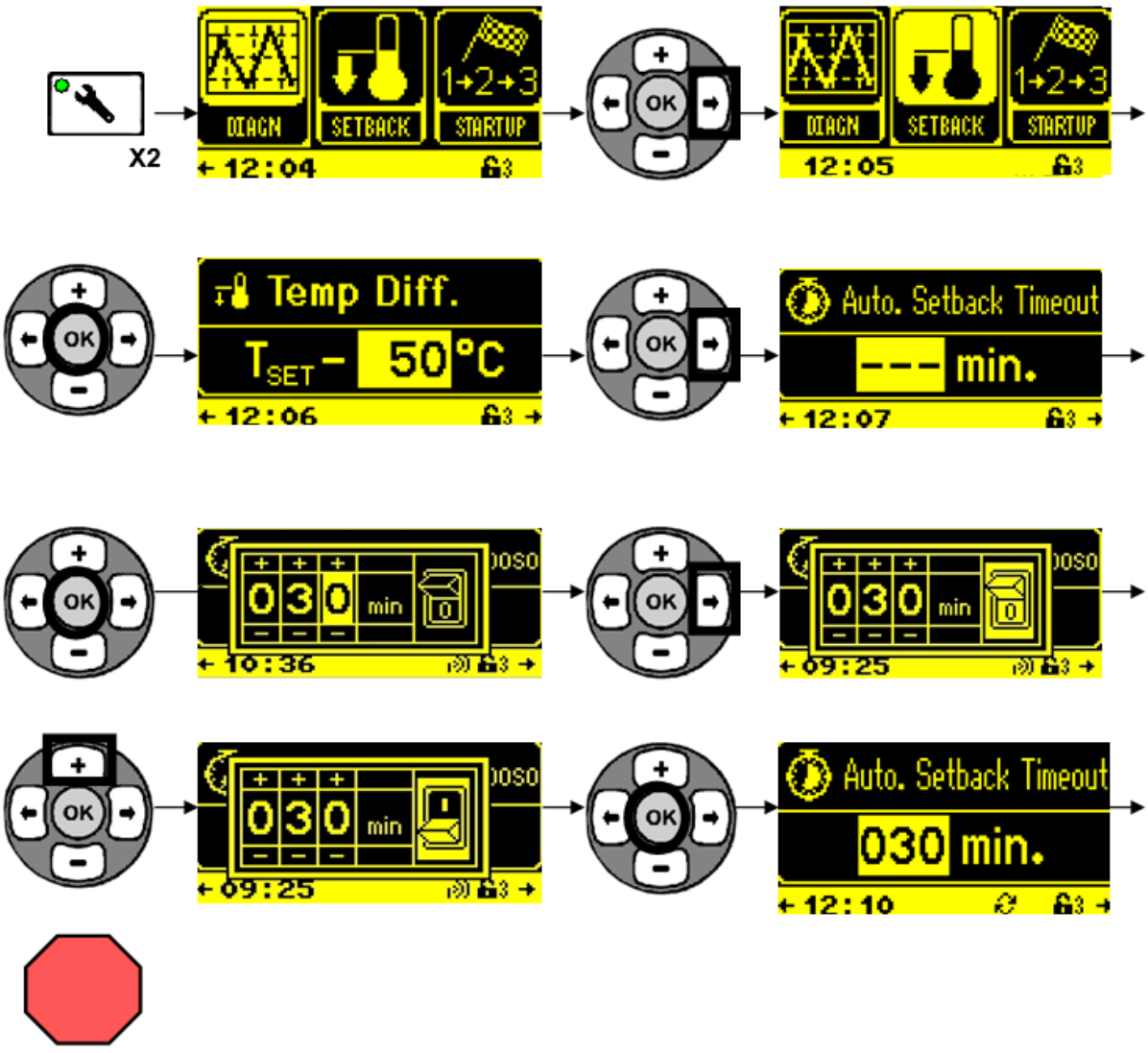
4.3.5. Automatic Setback Timeout

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.

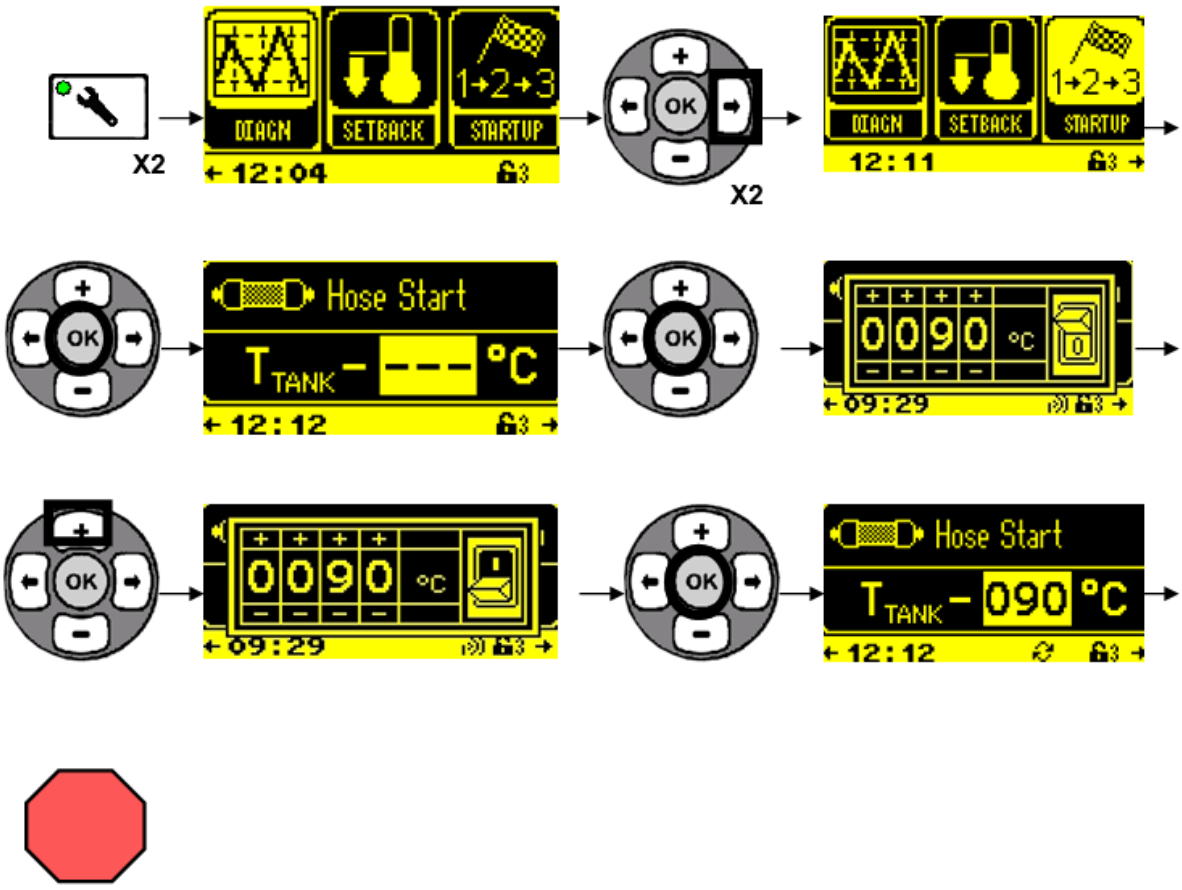


4.3.6. Sequential Start - Hose

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.

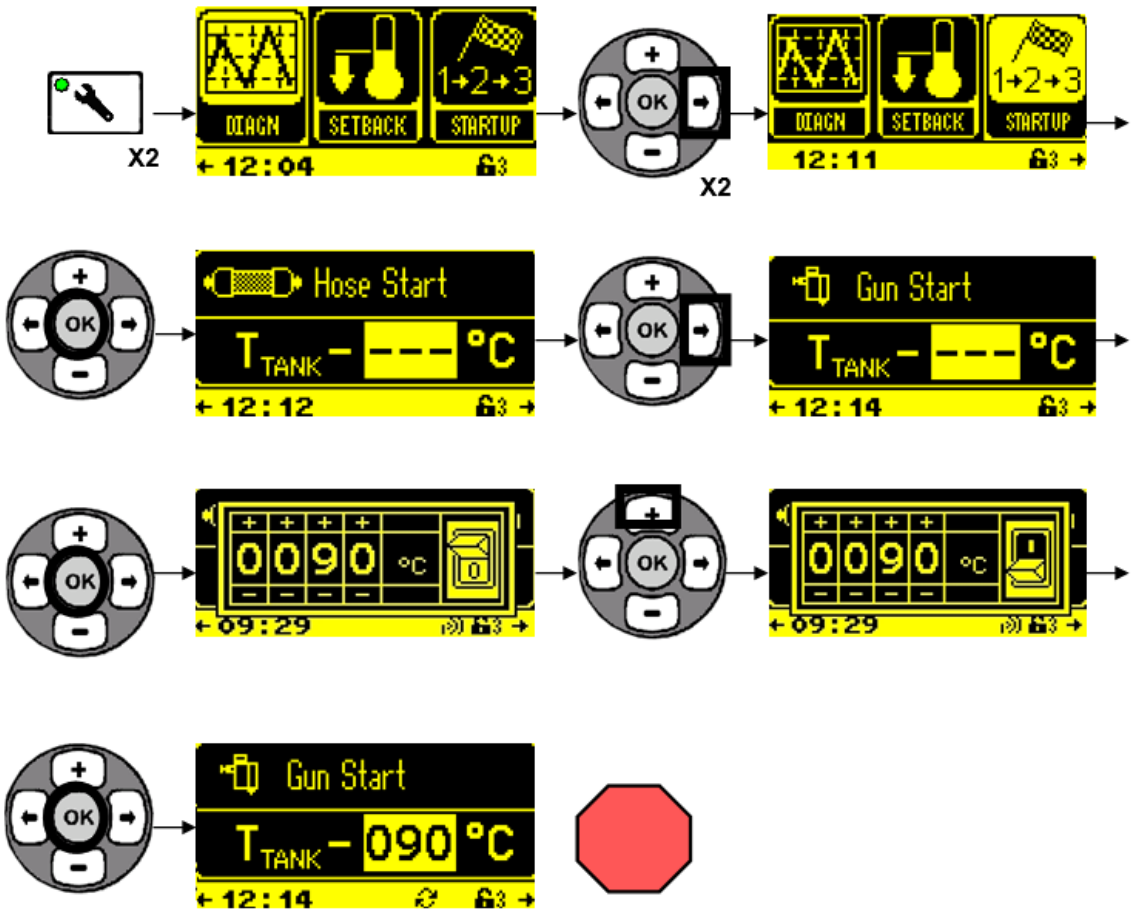


4.3.7. Sequential Start – Gun

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.

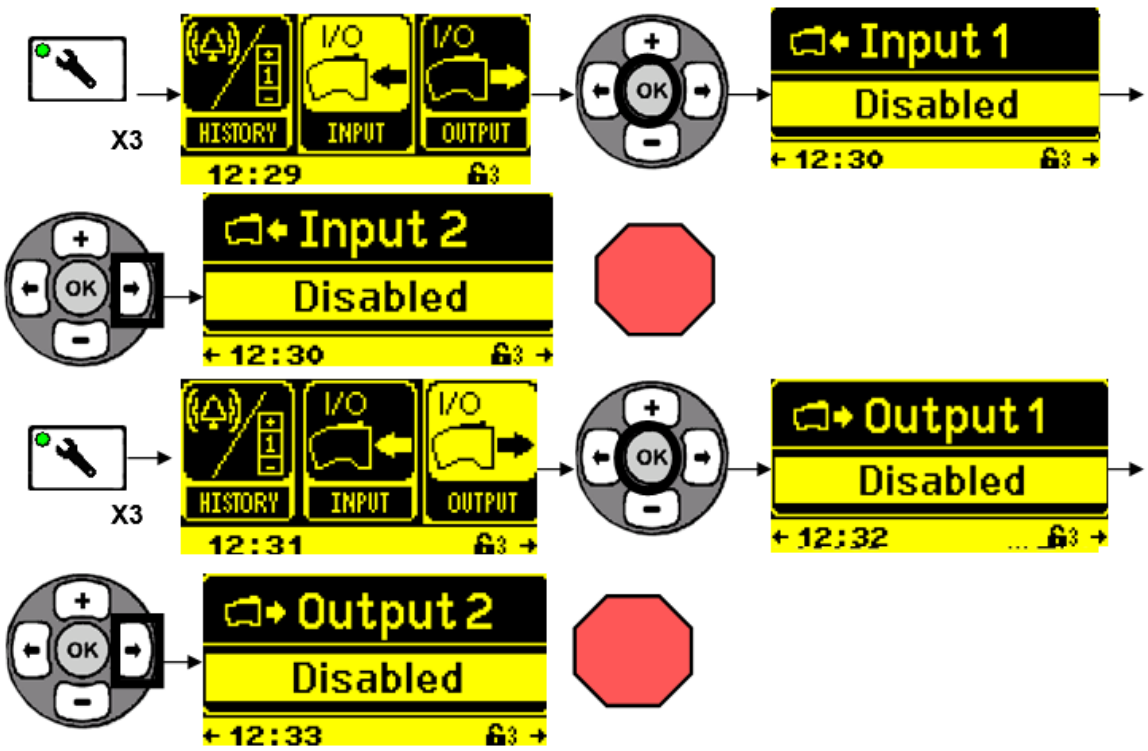
The sequential start range is 0°F to 450°F (0°C to 250°C). The default factory setting is OFF.

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.

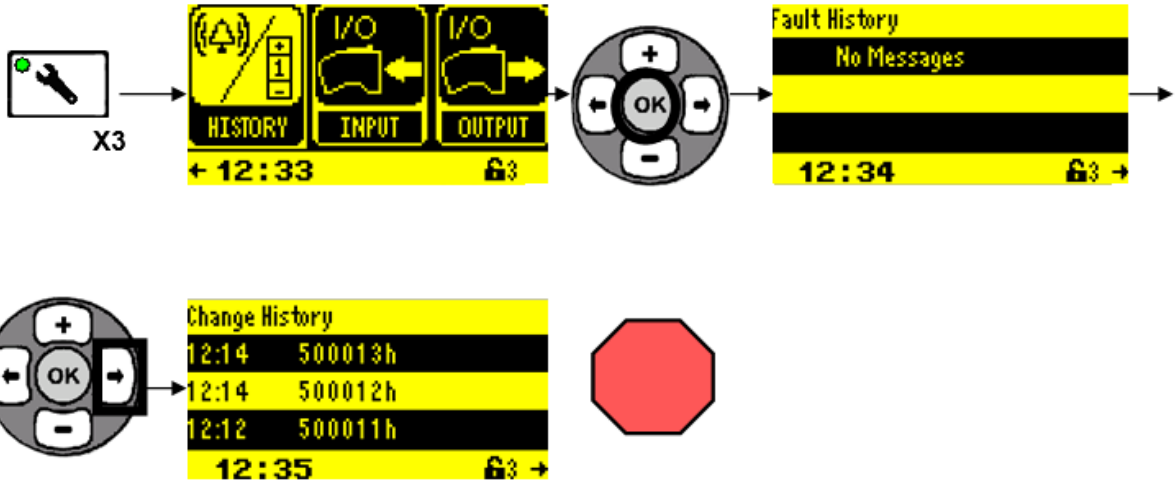


Sub Menu Choices:

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	

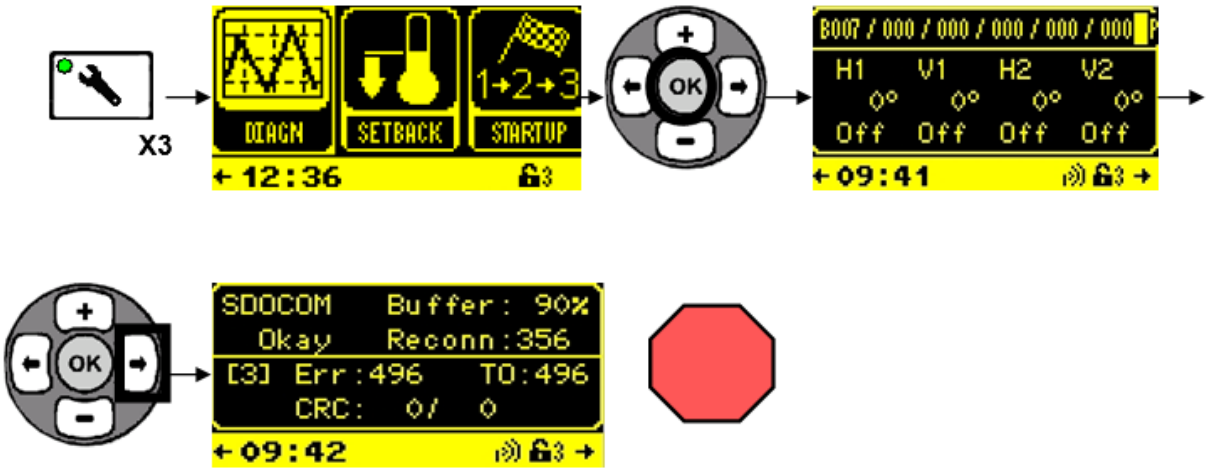
4.3.9. History

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.



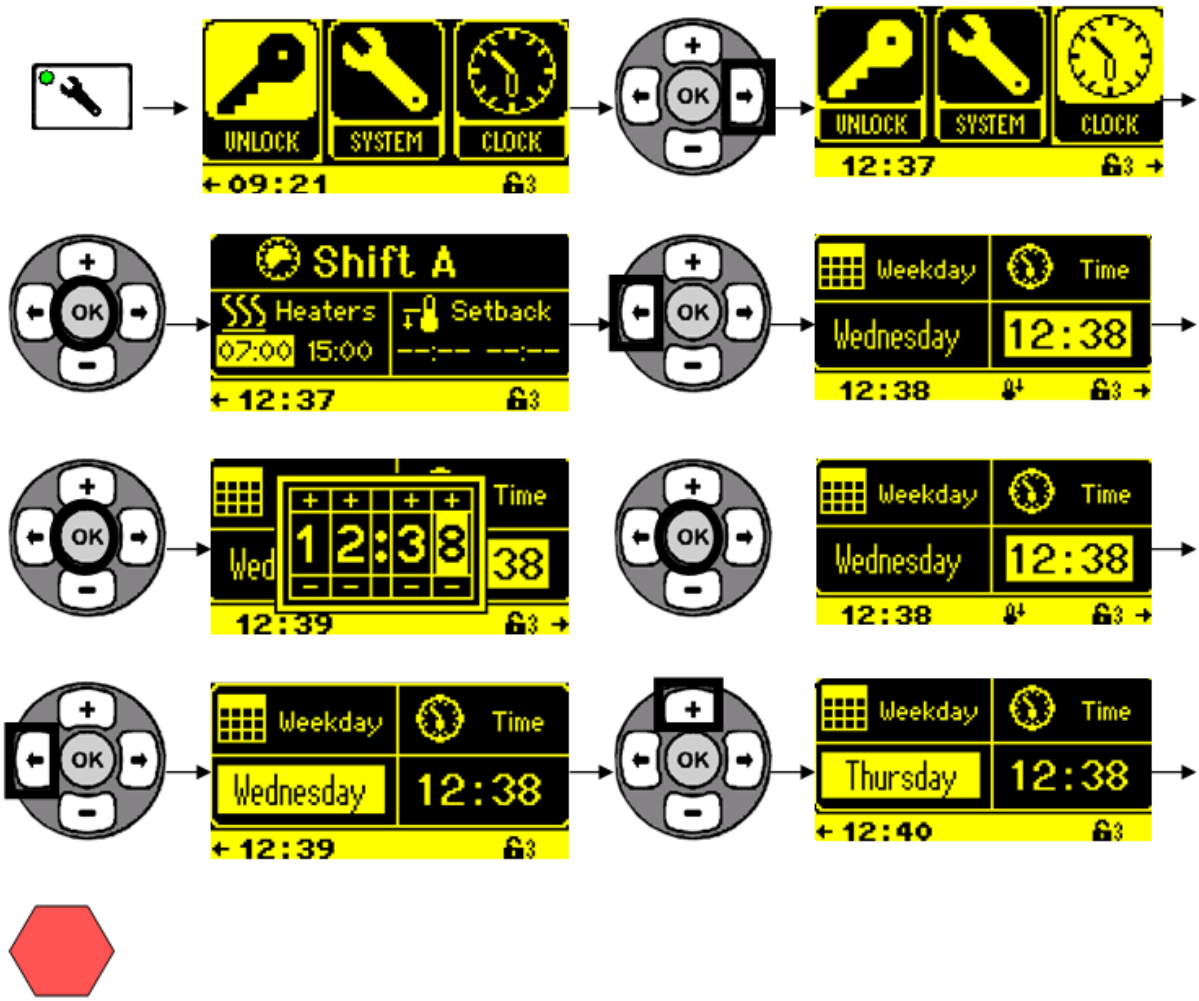
4.3.10. Diagnostics

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

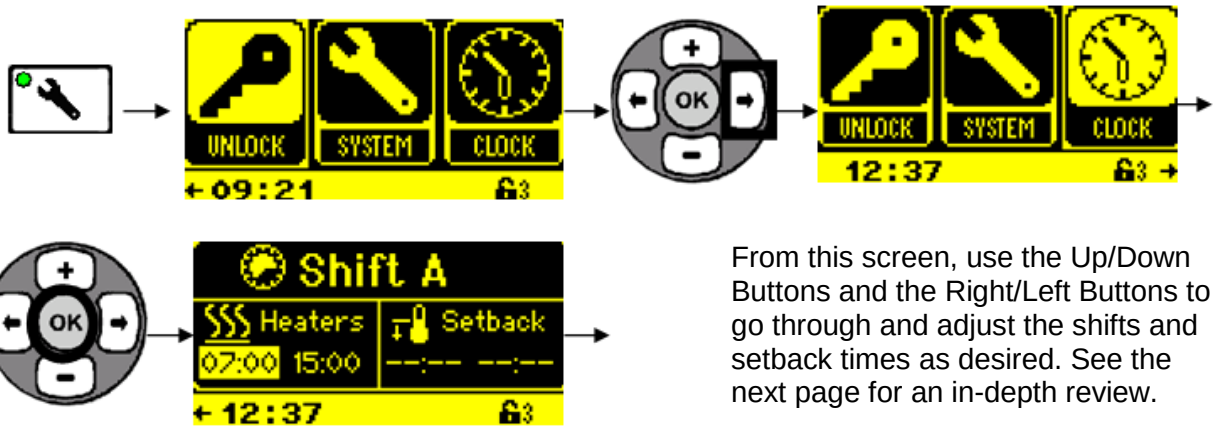


4.3.11. Clock and 7-Day Timer

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.

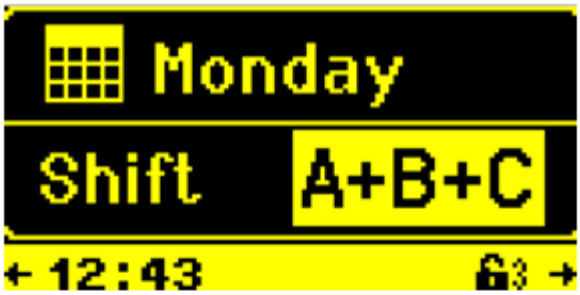
4. 3.13. Programming Shifts

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.

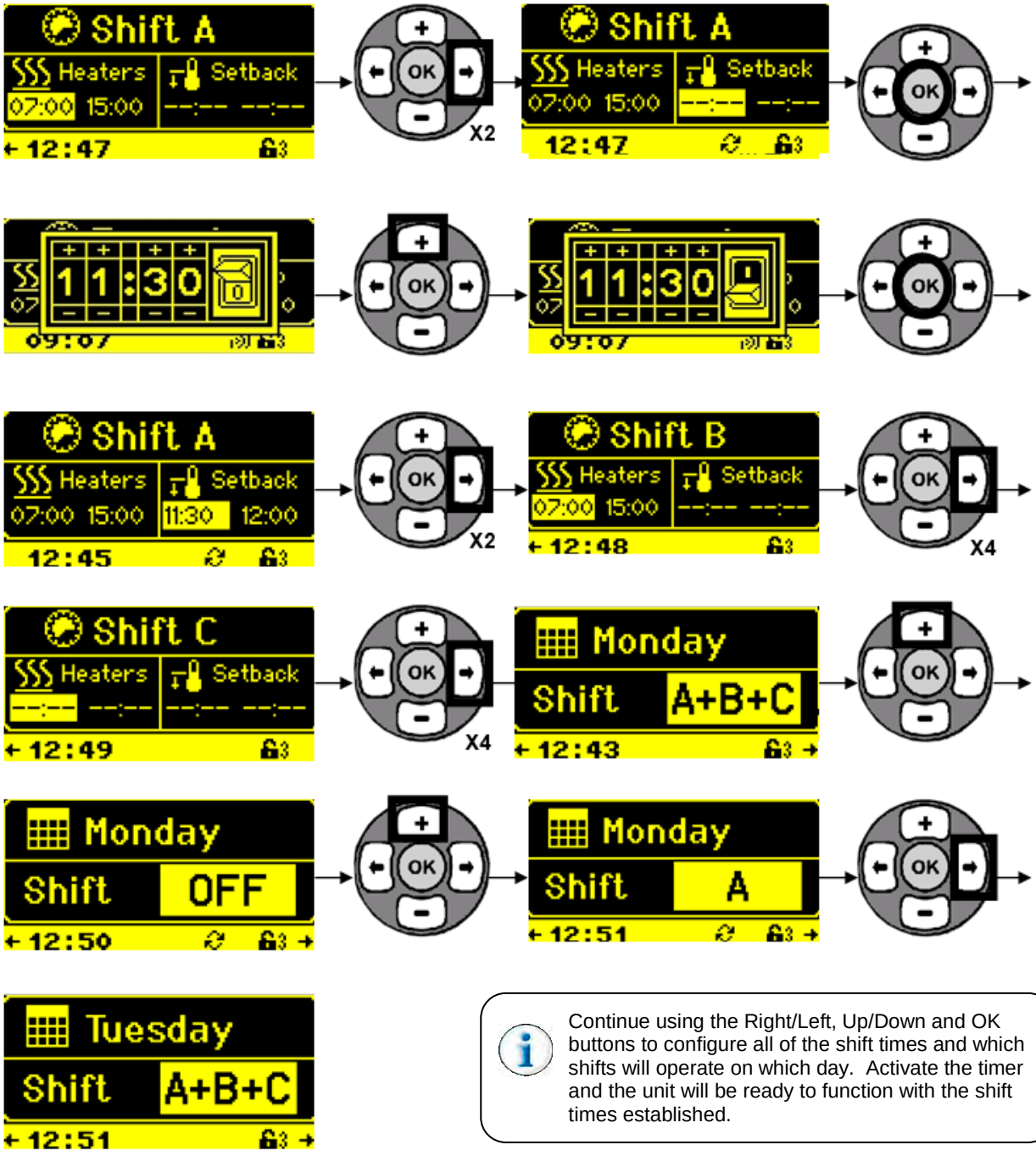


This screen indicates that three shifts (A, B, C) will be operating on Monday.

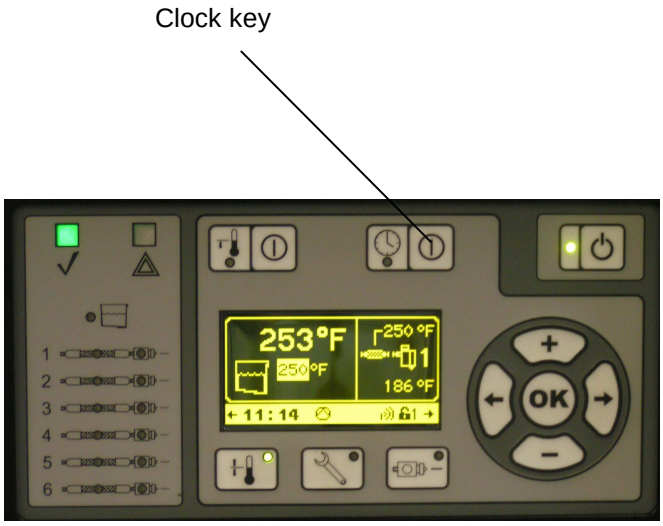
This screen indicates only the A shift will be operating on Monday.

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).

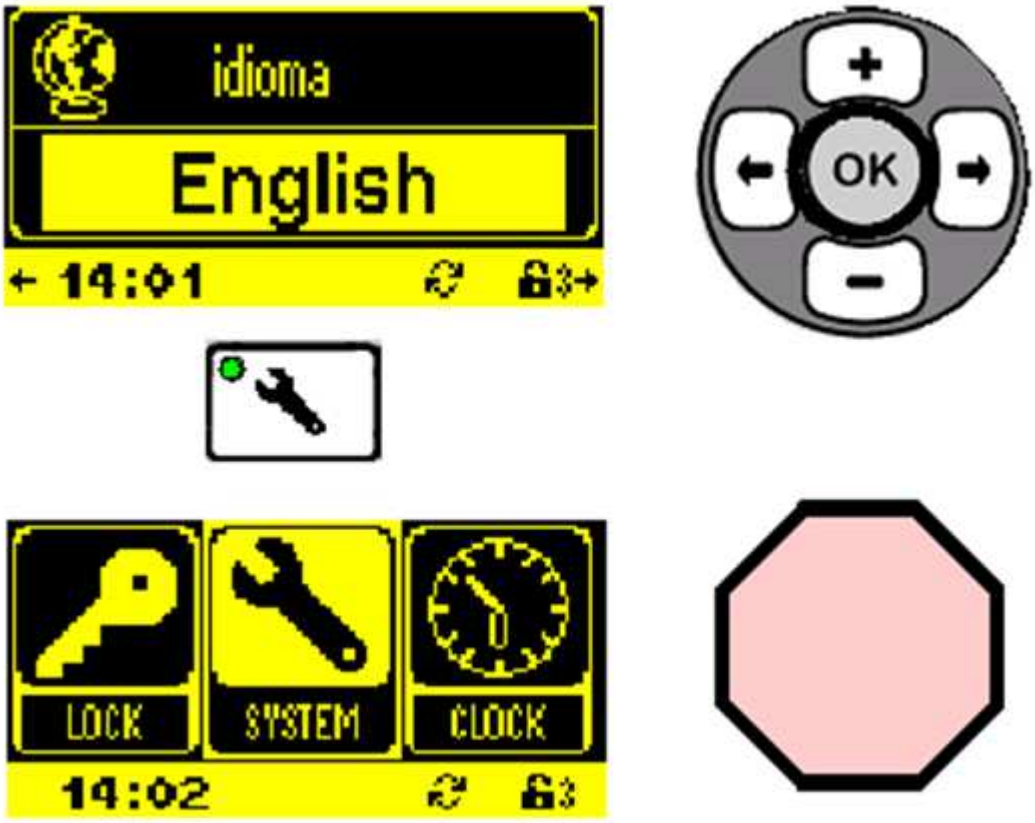
4.3.14. Restoring Factory Default Settings

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.

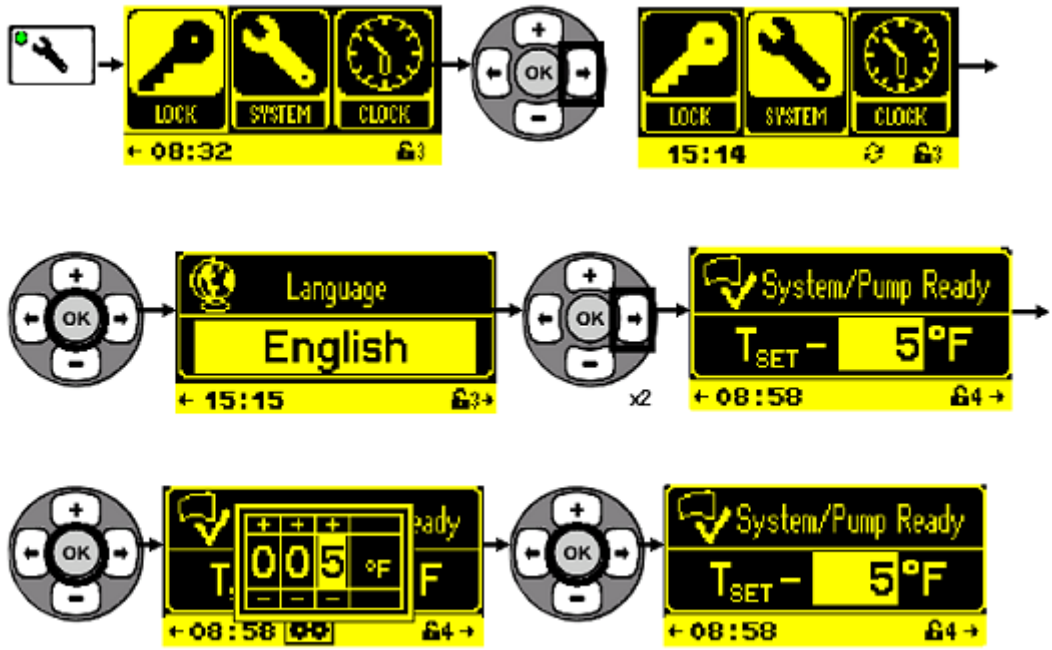
The system ready signal enables the pump motor. This prevents the pump motor from being activated before the adhesive in the pump has softened.

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.

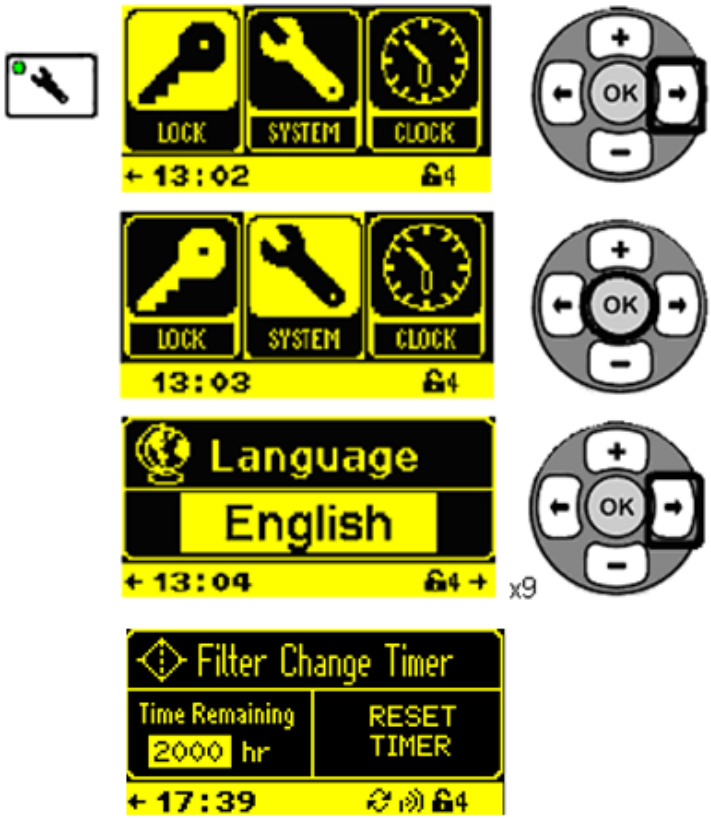
The System Ready Temperature Offset parameter range is 0°F to 36°F (0°C to 20°C) and the default factory setting is 5°F (3°C).

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 (see page 40) 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

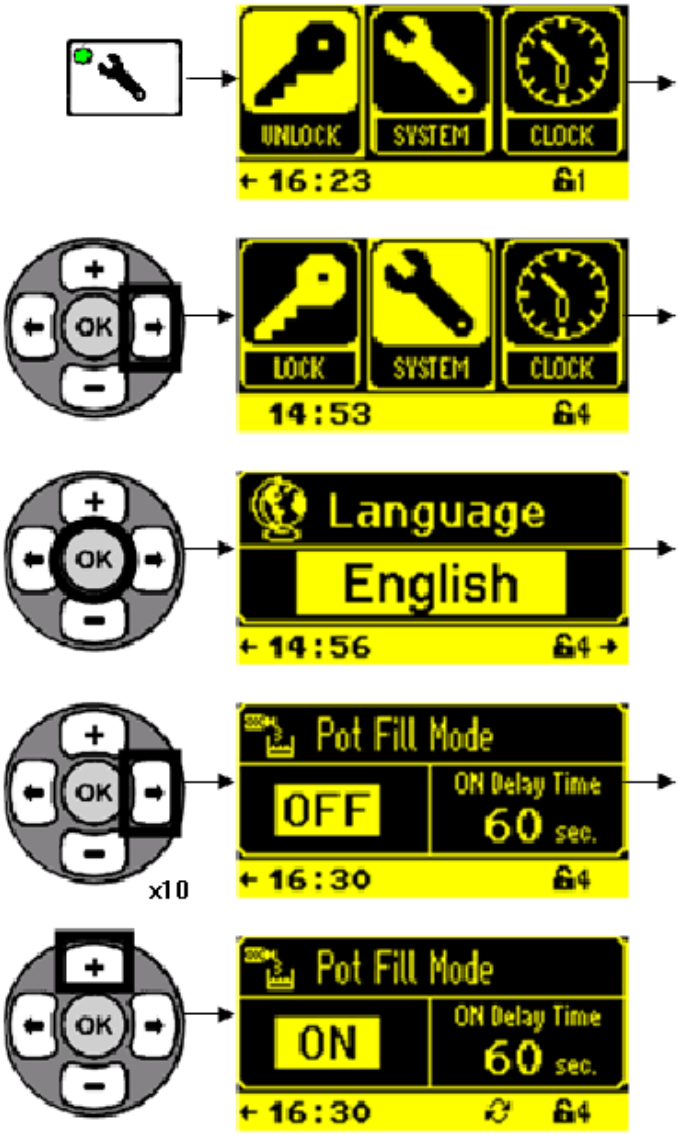
In this mode of operation, melted glue is pumped into an external pot when the external lever control falls below a set level. The external level control is wired to the external level input on the CPU, J6.

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.

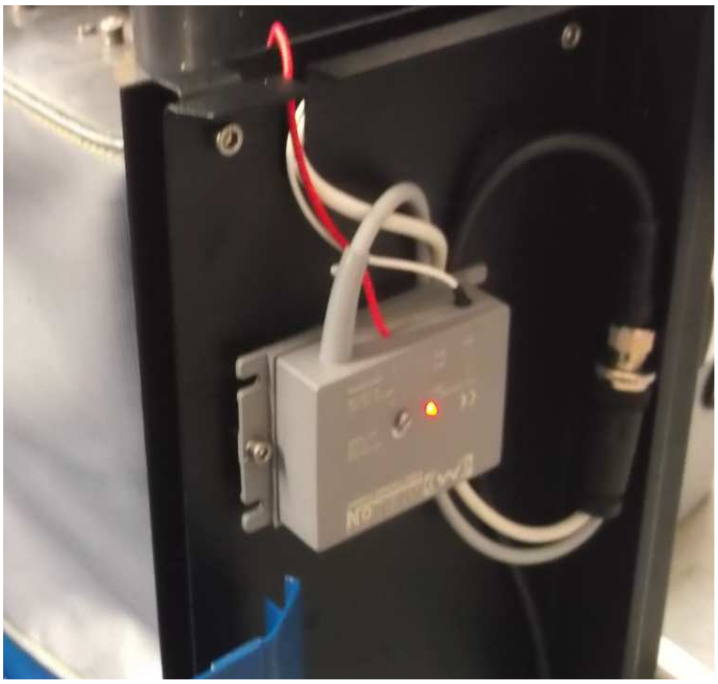
After the delay time expires, the pump will turn on and run until the external pot level triggers the level sensor that the pot is full, and the pump then turns off.

This parameter can be accessed in Password Level 2 or higher


UNLOCK
SYSTEM
CLOCK
16:23
LOCK
SYSTEM
CLOCK
14:53
OK
Language
English
14:56
Pot Fill Mode
OFF
ON Delay Time
60 sec.
16:30
x10
Pot Fill Mode
ON
ON Delay Time
60 sec.
16:30

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 into the GlueBox, more exactly in the right of the thermal partition.

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.

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.

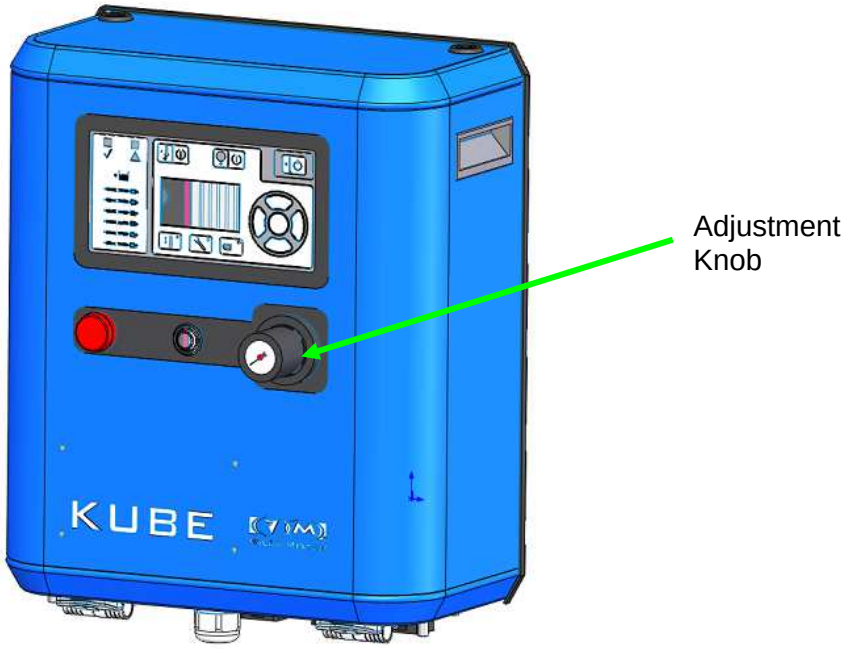
4.3.21. ADJUSTING THE OUTPUT PRESSURE:

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.

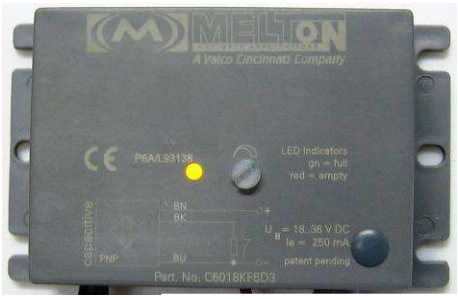
4.3.22. MELTON-RECHNER LEVEL PROBE

This is a capacitive level probe that controls the vacuum feeder system.

It detects the level of adhesive and orders activation. There is a three-second disconnect delay when going from a low to a high level, in order to ensure that the system performs minimum, effective loads.

Visual Indications:

Green Light → Full; Output not



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

Red Light → Empty; Output

- **Green Light: Positive Detection.**

The probe interprets that the melting chamber is full. It does not activate the output that orders the feeder to load adhesive.

- **Red Light: Negative Detection.**

The probe interprets that the melting chamber is not full and orders the adhesive feeder to be loaded.

- **Red/Yellow Intermittent Light: Positive Detection, Disconnect Delay.**

After switching from a negative detection to a positive detection, the probe maintains the feeder load signal for three seconds. This ensures a minimum effective load. This delay does not apply to the initial transition; in other words, when the probe is turned on.

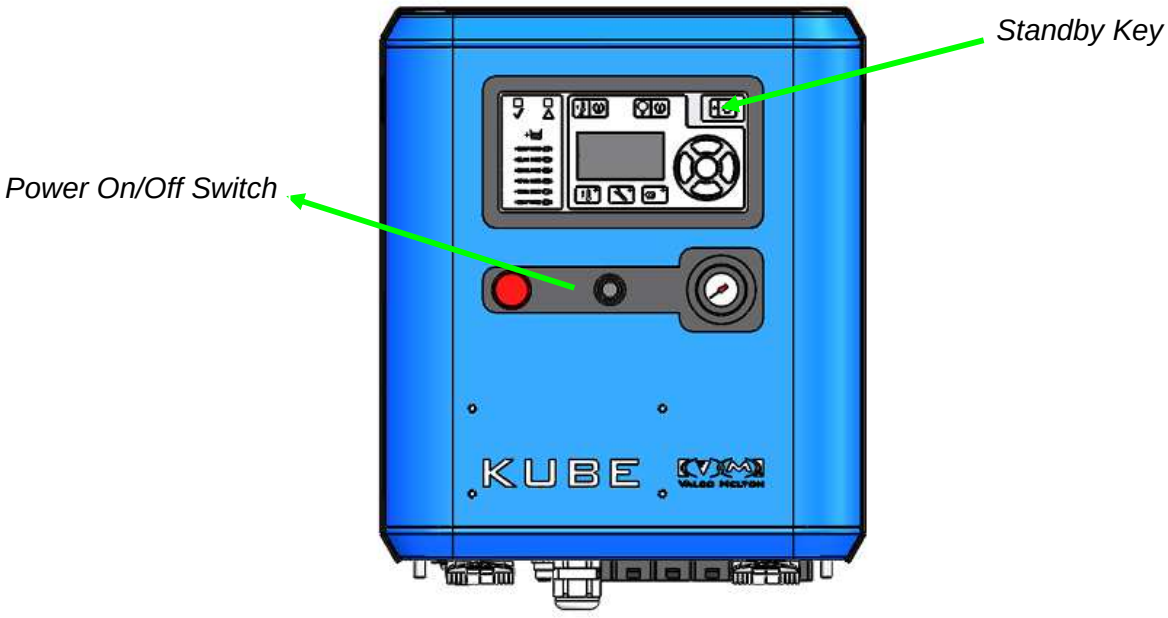
CHAPTER 5 OPERATION

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

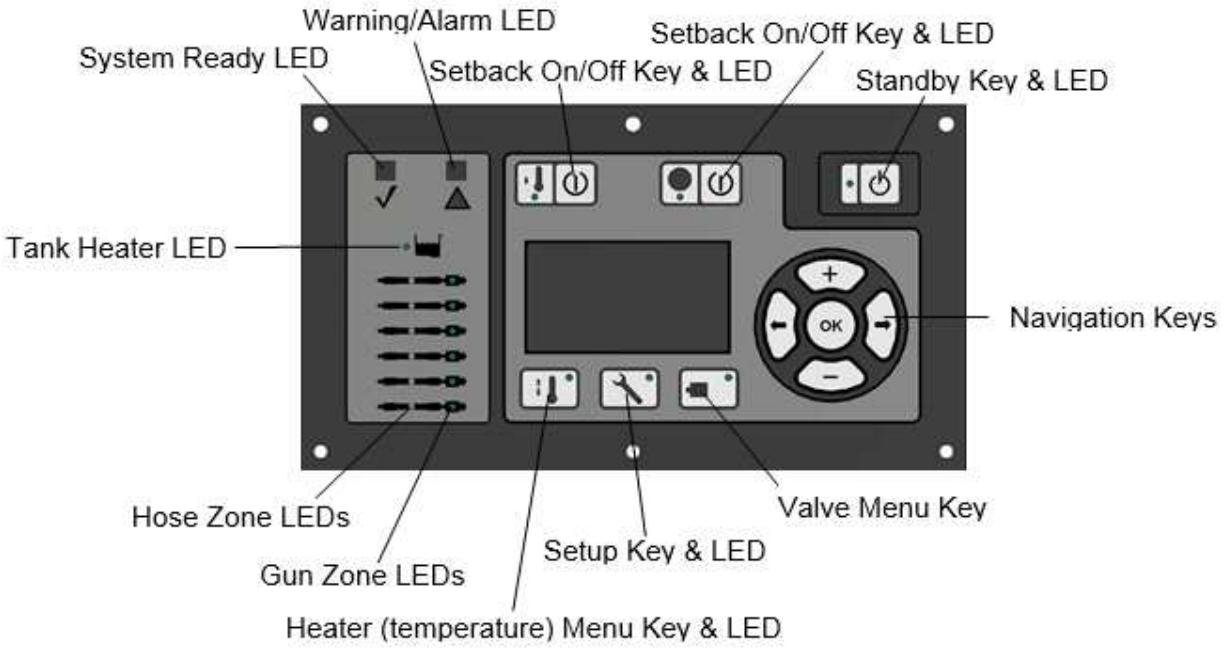
To start the unit, do the following:

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.

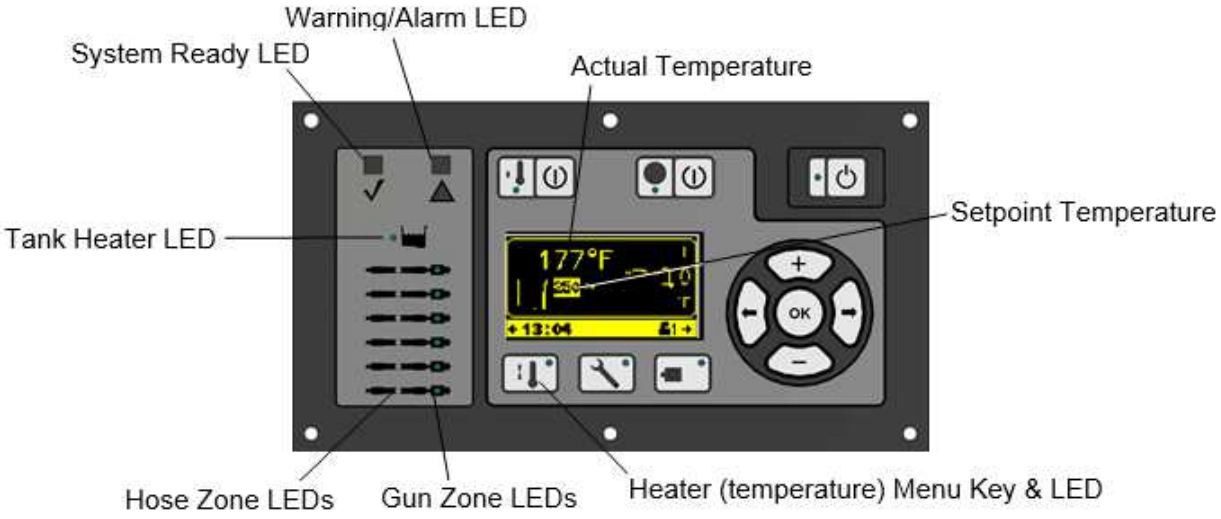
Once the unit has completed its start-up sequence, it will turn on the heaters in the tank and all active hoses and guns. The heater’s corresponding Zone LED will illuminate green when the heater is on



5.2 TEMPERATURE

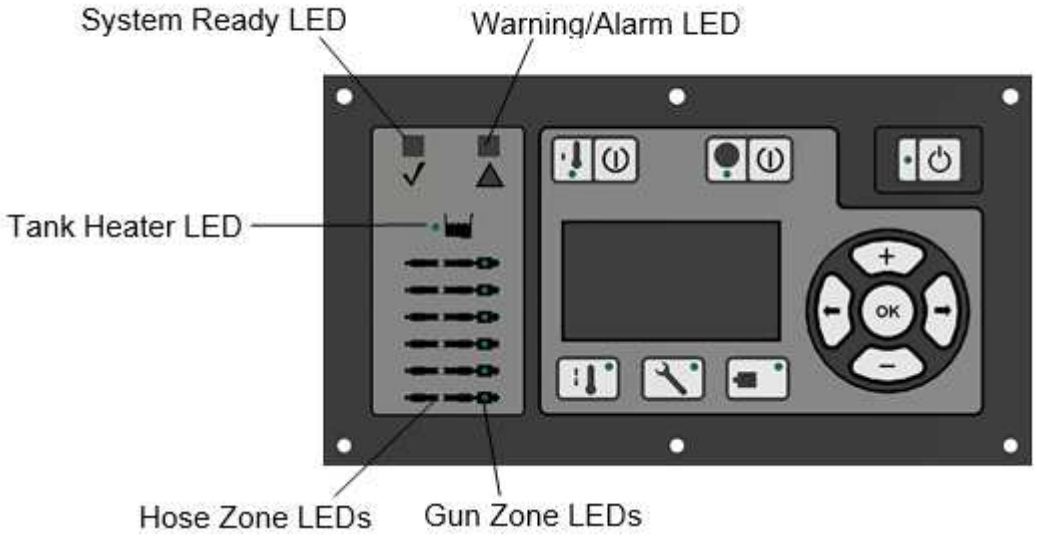
The melting chamber temperature screen will show the actual meting chamber temperature and the chamber temperature temperature setpoint. For operator convenience, the right side of the display screen alternately displays the Hose & Gun temperatures (see the *Machine Adjustment* section for setting zone 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.

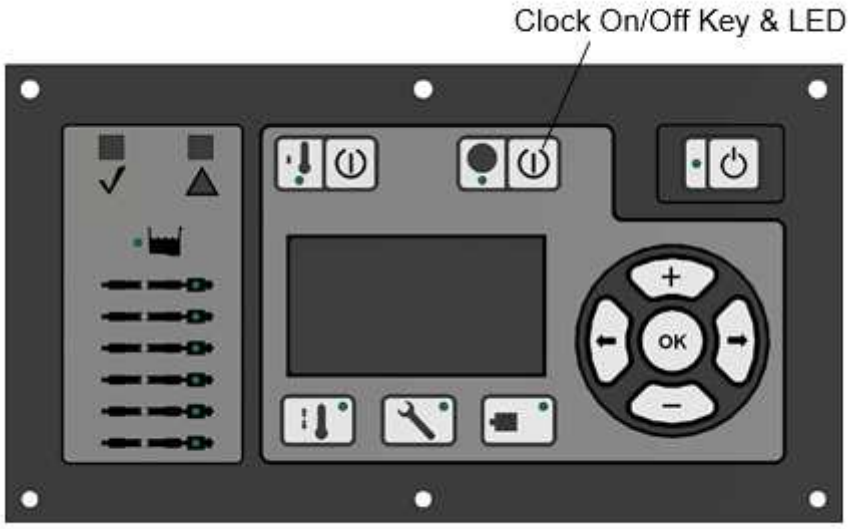
The system ready signal enables the pump motor. This prevents the pump motor from being activated before the adhesive in the pump has softened.

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).

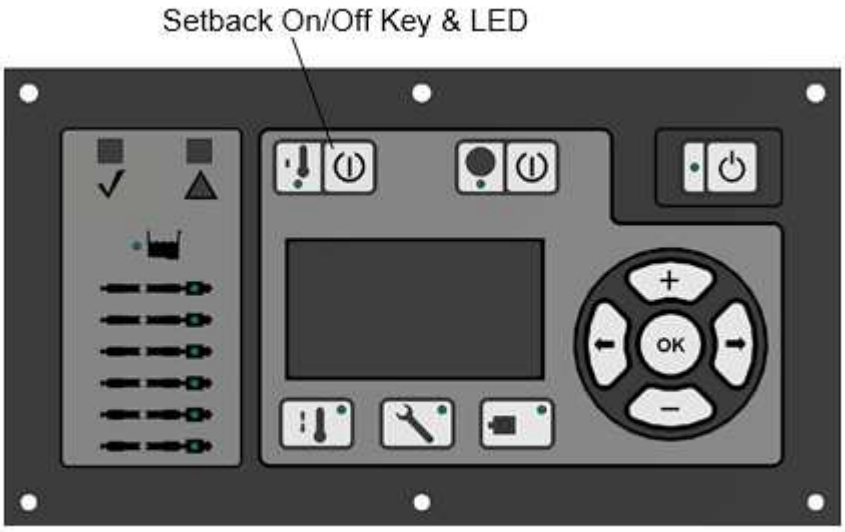
To turn the clock on or off, press the Clock On/Off Button. When the clock is on, the Clock LED illuminates green. See the Machine Adjustment section for detailed information on setting the clock.



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).

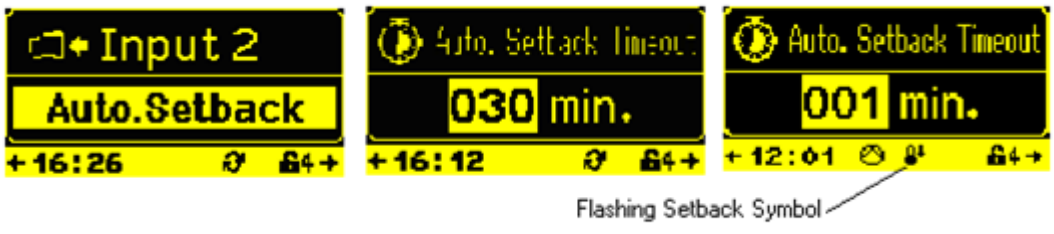
Setback On/Off Key & LED



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

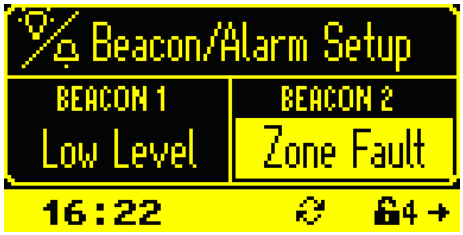
The Hopper Feeder option is used to refill the hot melt control's tank with fresh adhesive when the tank level drops below the set level sensor. This eliminates the need for the operator to manually open the tank lid and add adhesive to the tank.

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 MELTING CHAMBER

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

1. Make sure that the melting chamber is clean and free of foreign particles.
2. The equipment is fed automatically by the installed vacuum feeder. The sensors detect when the melting chamber 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.

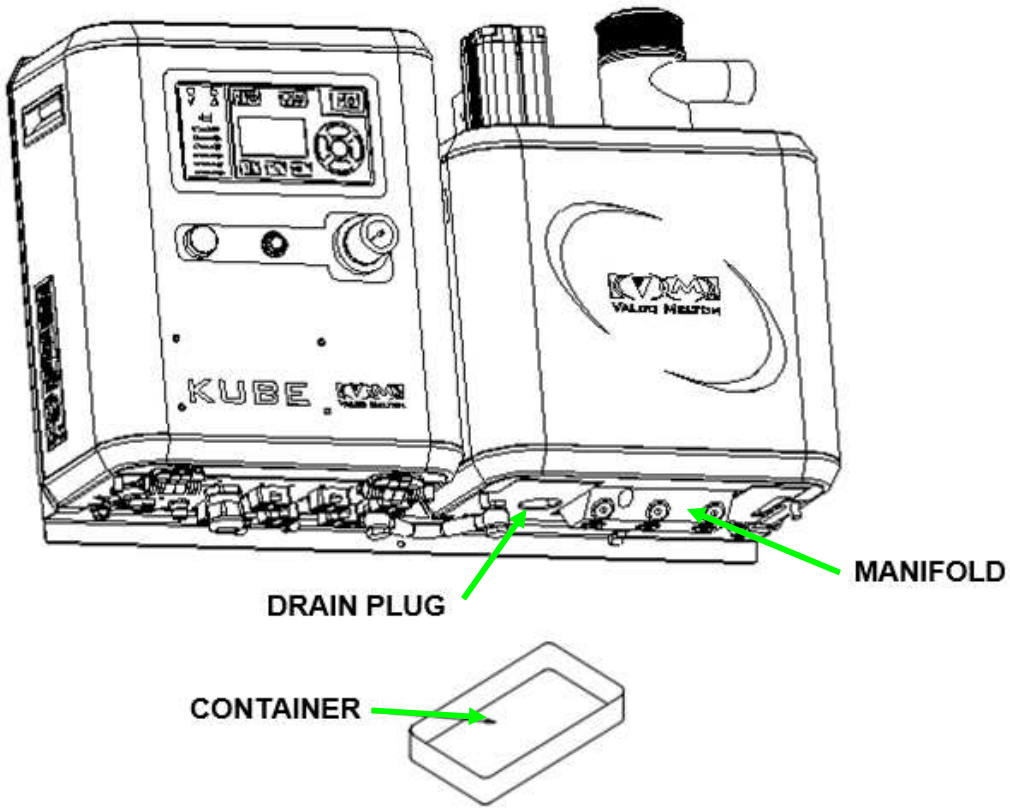
When you wish to check the melting chamber adhesive level, you can do so while the equipment is loading, without any problem, using the visor on the front of container.

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.

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 or opening the bleed valve.
4. Place an appropriate container under the manifold to collect the adhesive.
5. Unscrew the purging valve with a screw driver.
6. Increase the pressure gradually until adhesive flows through the purging valve and the manifold, and the tank empties.
7. Changing the seals on the dismantled parts is recommended once the tank is empty.



5.10 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 and Section 5)

Total stop:

To power down the equipment, switch the unit off.

CHAPTER 6 EQUIPMENT MAINTENANCE

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 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)	**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
	Bleed the drain valve.
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 and bleed valves.

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.

6.3.2. Bleeding the pressure regulator air filter:

Bleed the air-regulation unit by pushing the lower button on the filter.

Change the regulator filter as necessary, depending on the contaminants that accumulate in the pneumatic system.

6.3.3 Changing Adhesive

To replace one adhesive with another, empty the system (See 5.2 "Emptying the Tank").

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

CHAPTER 7 TROUBLESHOOTING

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.

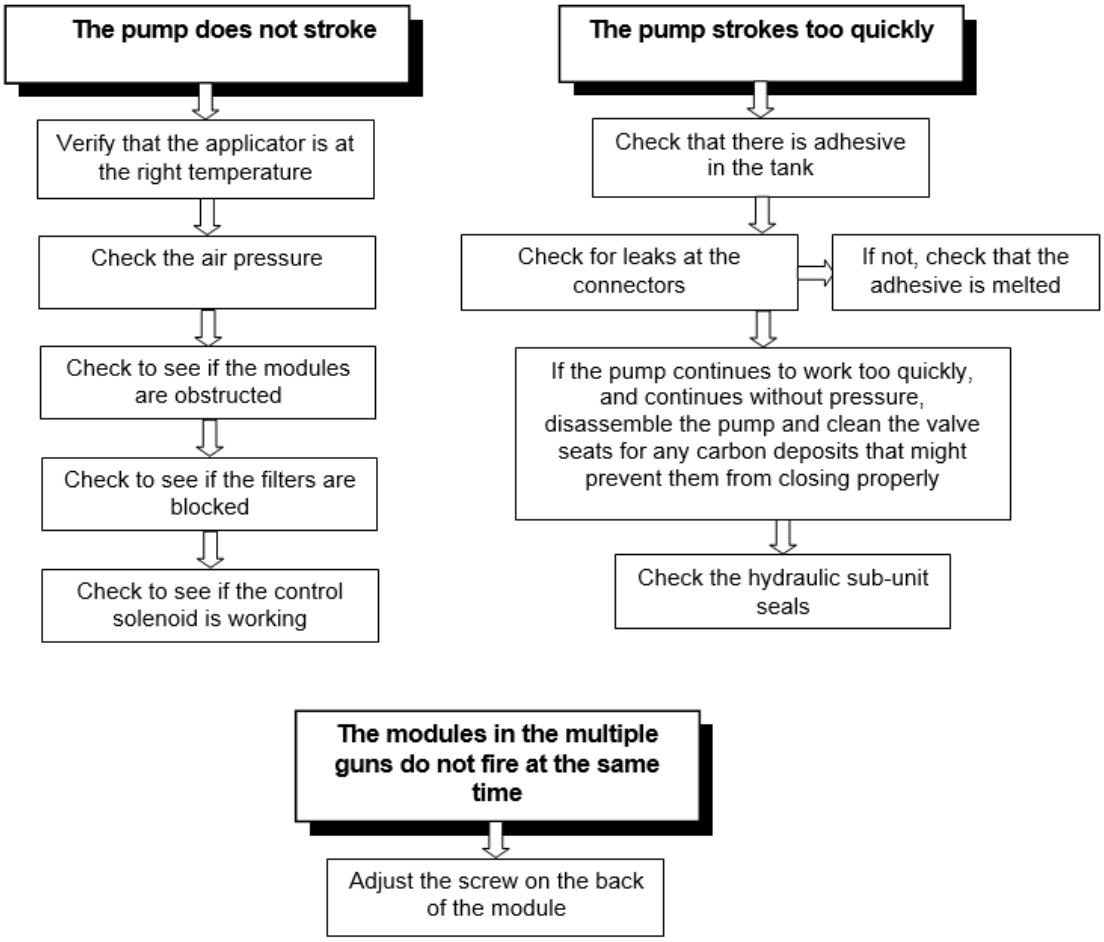
7.1. INTRODUCTION:

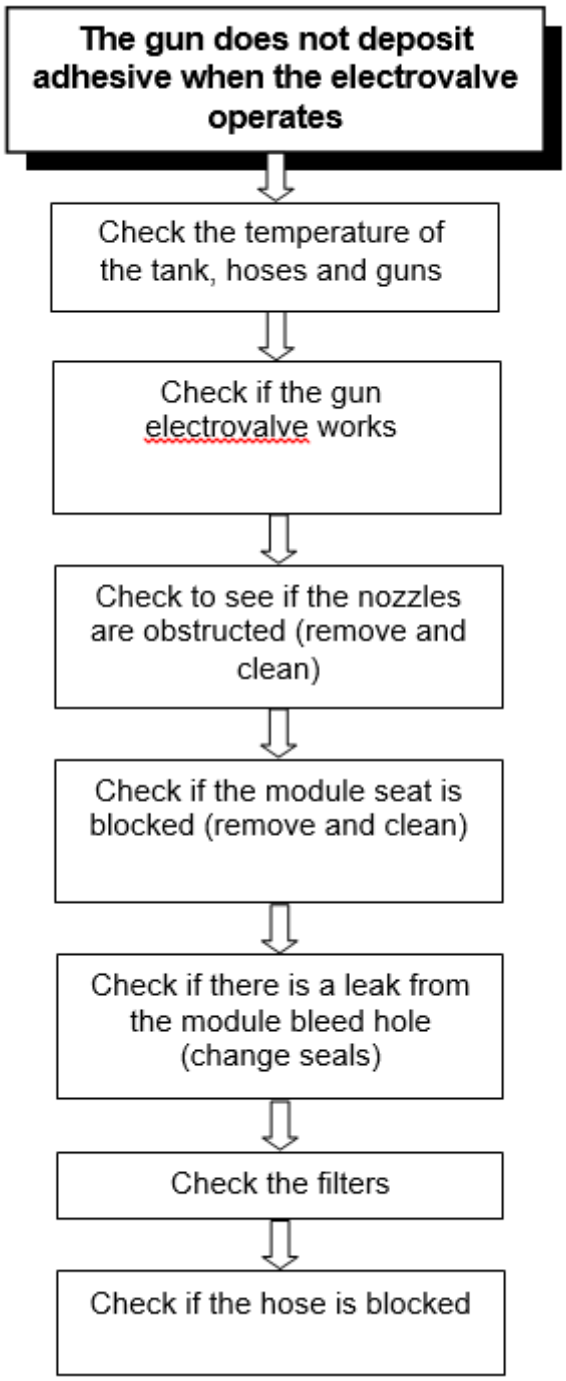
This chapter refers to the most common equipment faults.

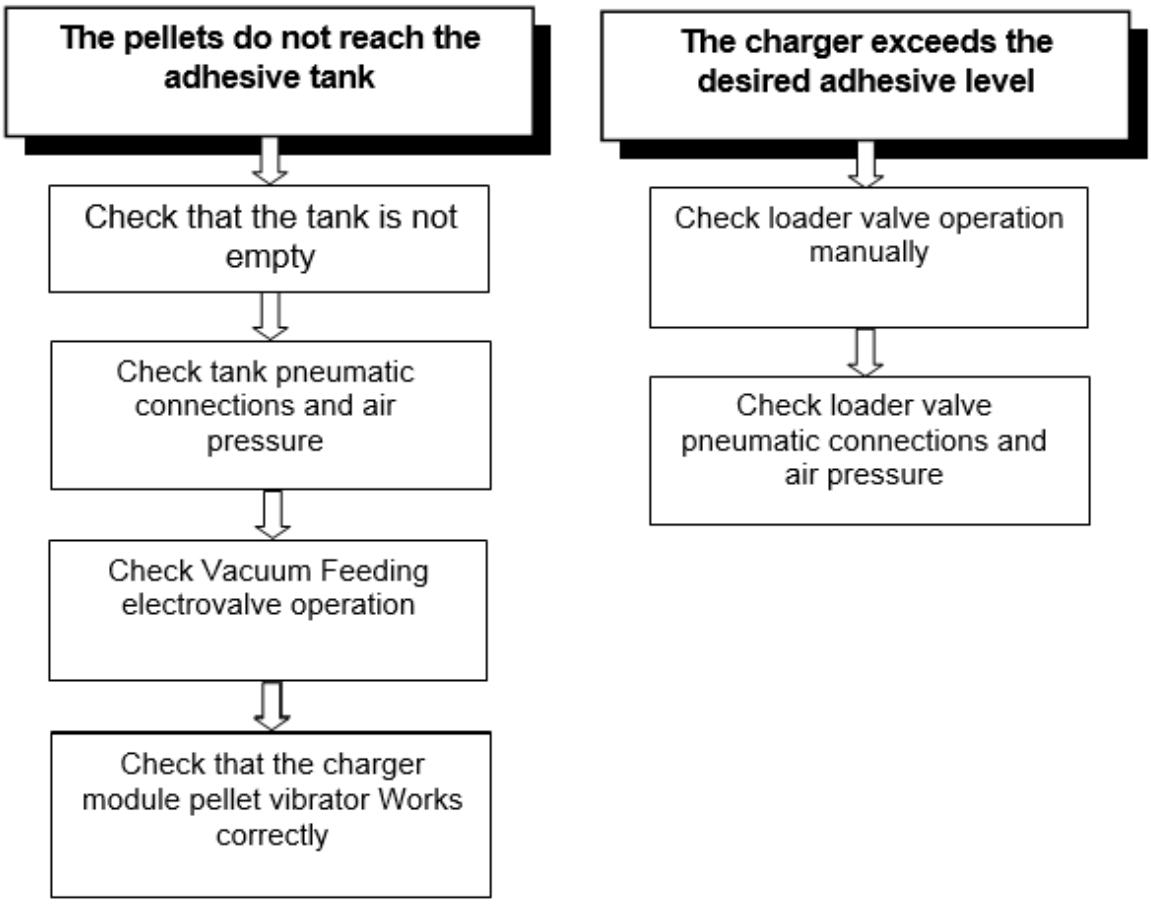
Problems may occur when glue flow is reduced or stopped, or when the alert system signals a fault. Many problems can be solved with the help of this manual.

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

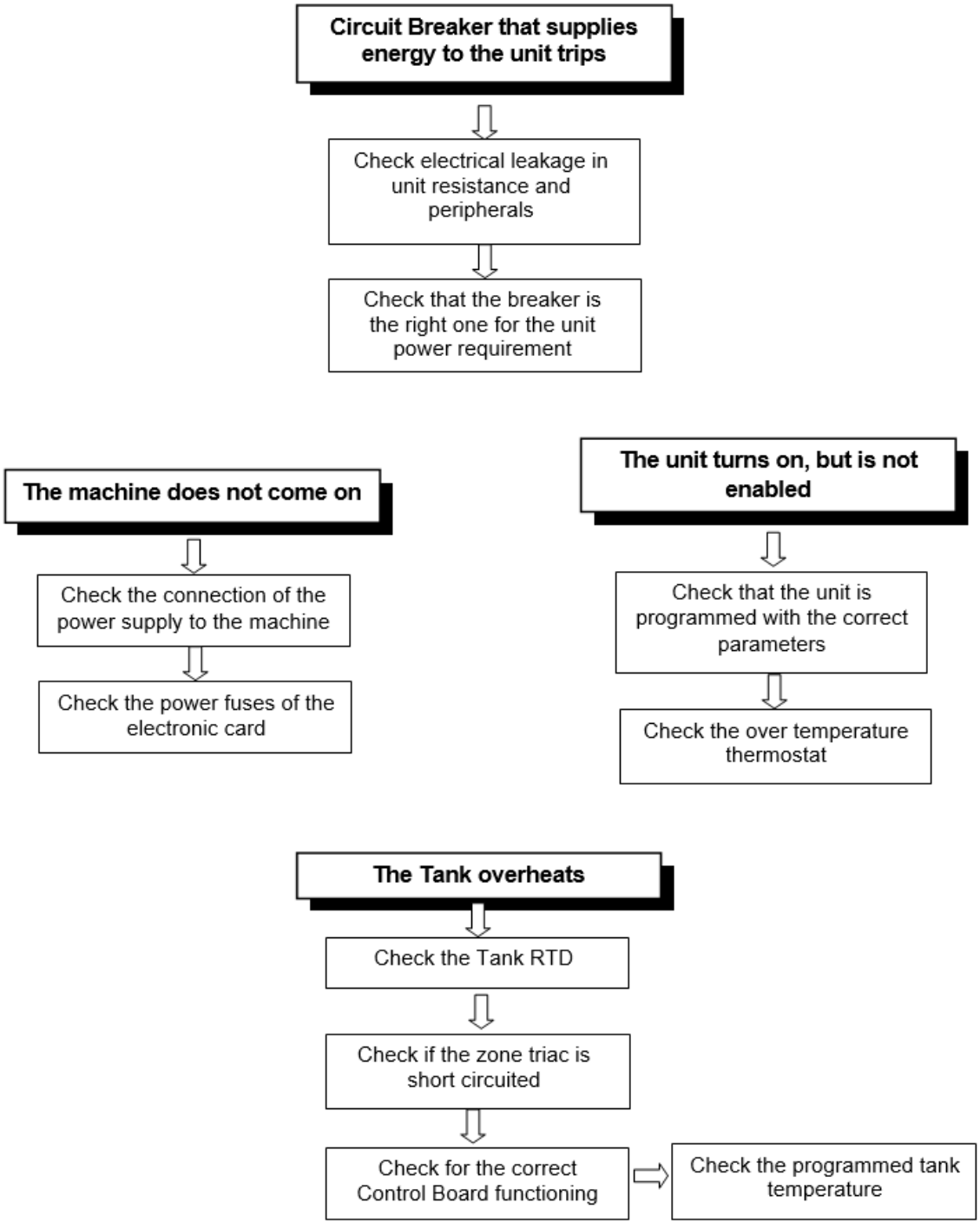
7.2. MECHANICAL FAULTS:

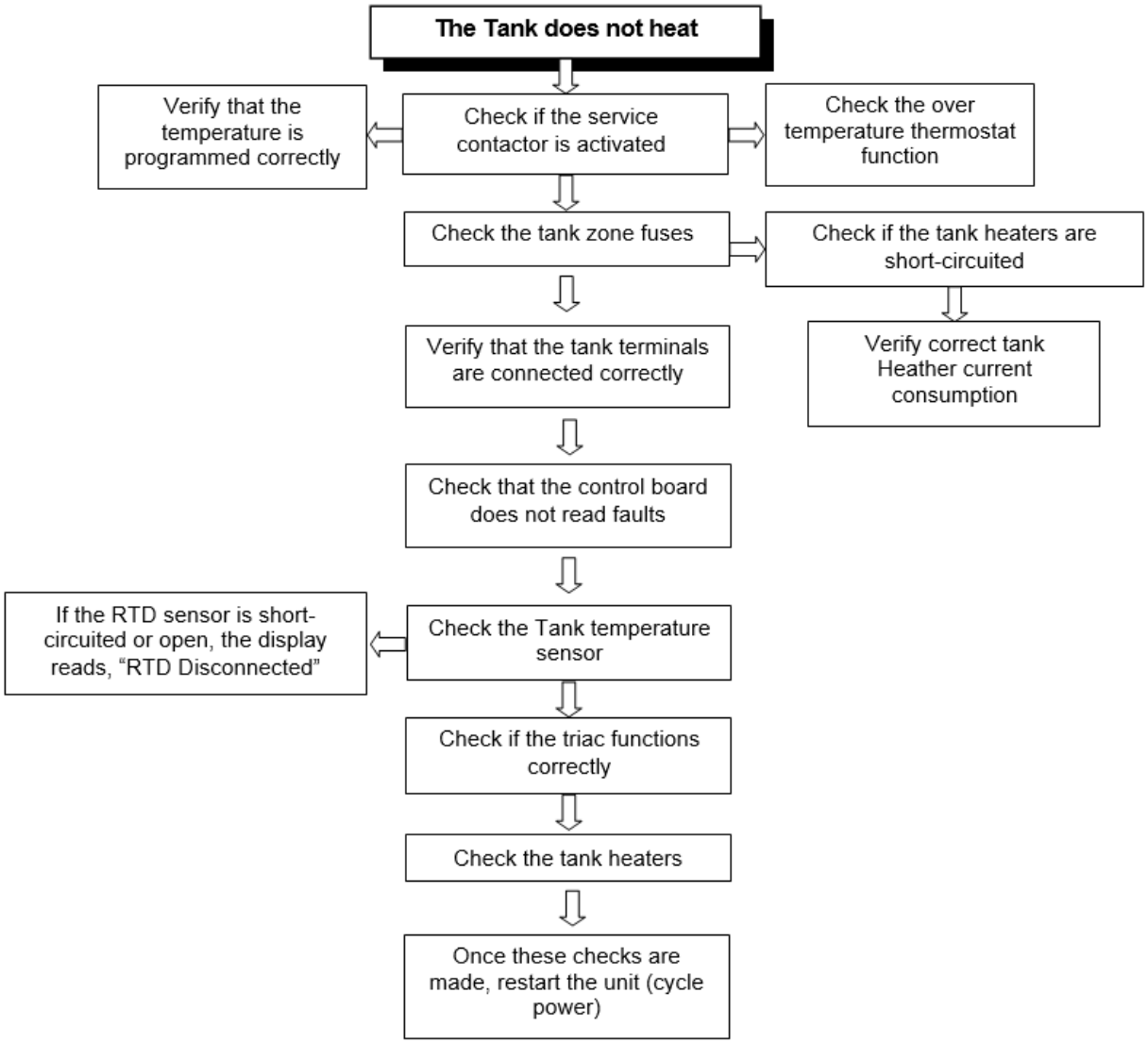


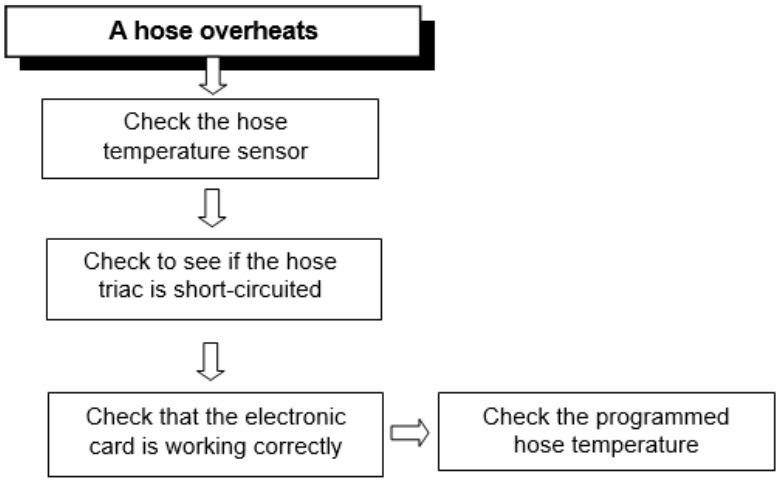

The gun does not deposit adhesive when the electrovalve operates
Check the temperature of the tank, hoses and guns
Check if the gun electrovalve works
Check to see if the nozzles are obstructed (remove and clean)
Check if the module seat is blocked (remove and clean)
Check if there is a leak from the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

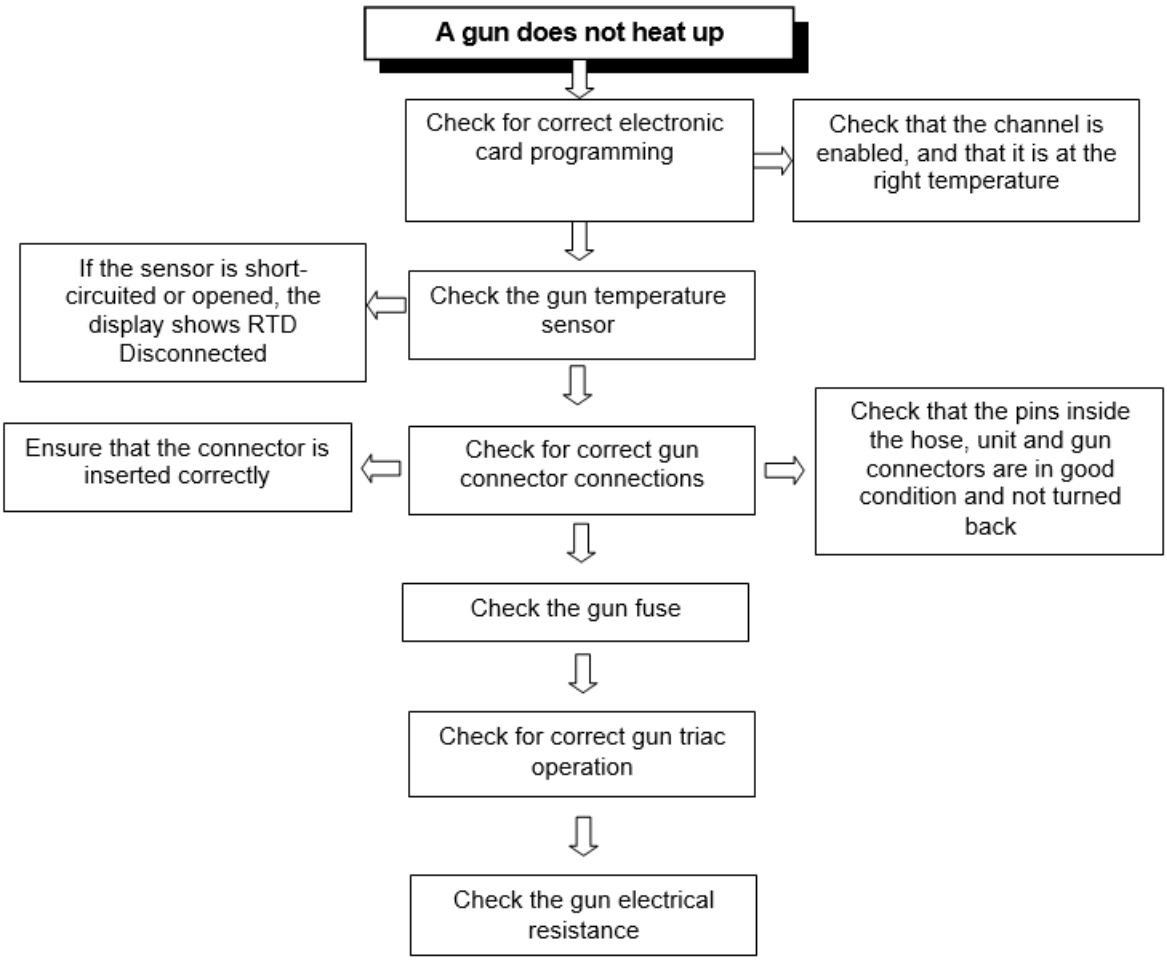

The pellets do not reach the adhesive tank
Check that the tank is not empty
Check tank pneumatic connections and air pressure
Check Vacuum Feeding electrovalve operation
Check that the charger module pellet vibrator Works correctly
The charger exceeds the desired adhesive level
Check loader valve operation manually
Check loader valve pneumatic connections and air pressure

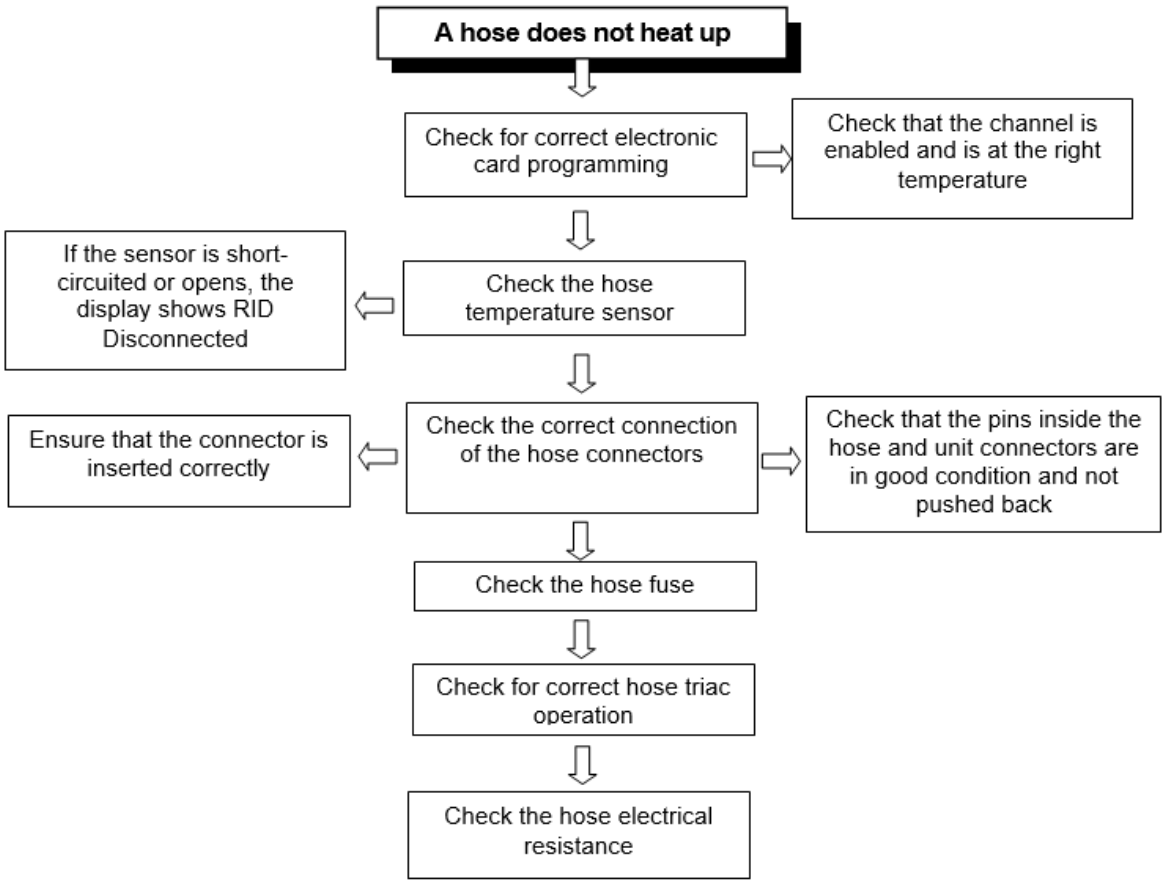
7.3. ELECTRICAL FAULTS:

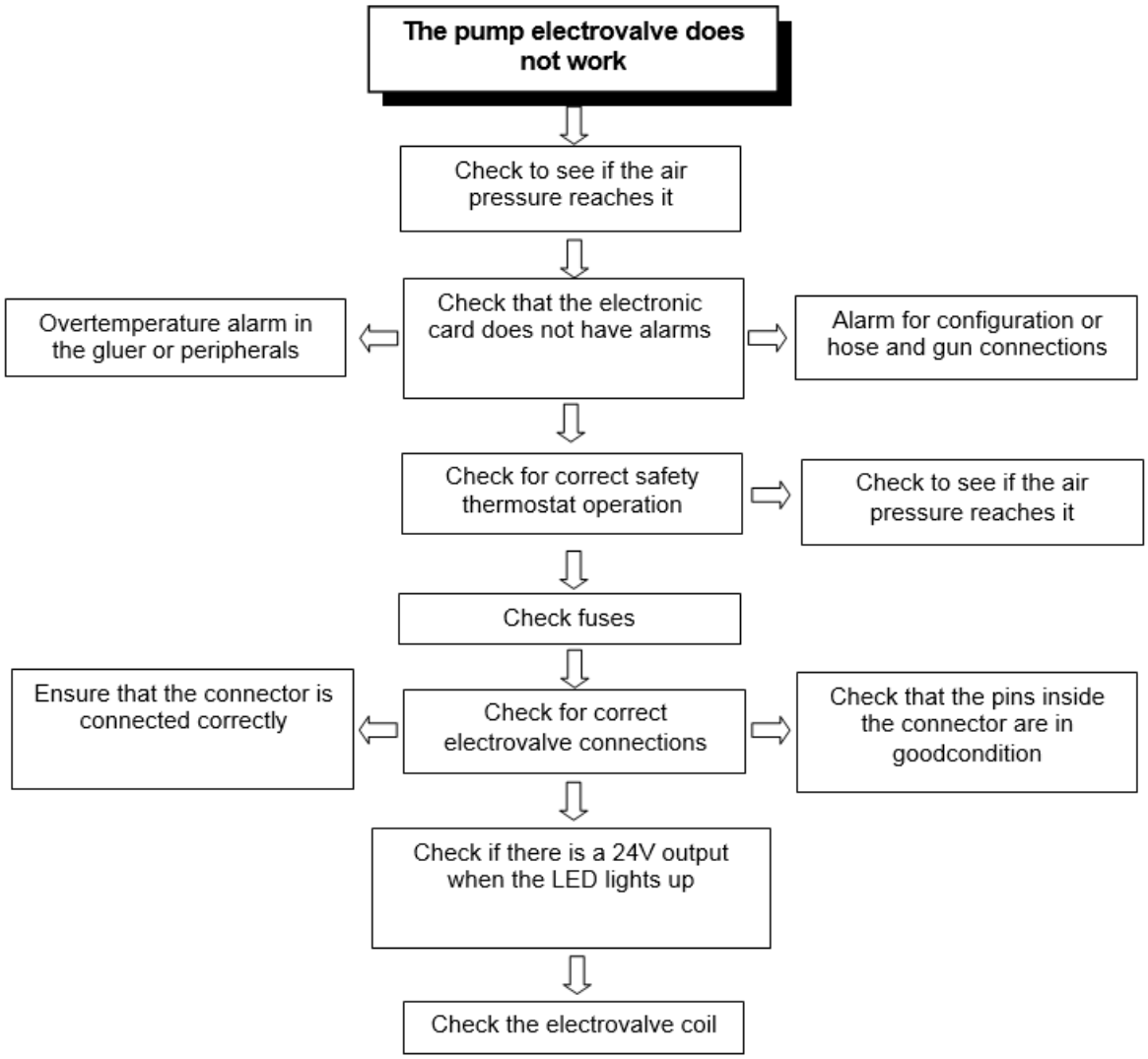


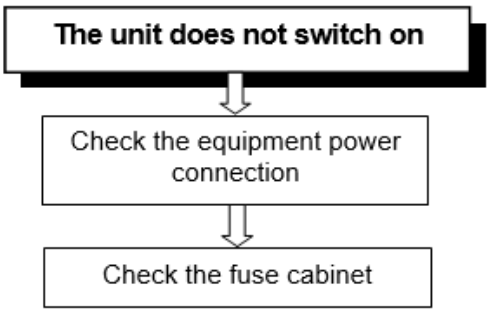

The Tank does not heat
Verify that the temperature is programmed correctly
Check if the service contactor is activated
Check the over temperature thermostat function
Check the tank zone fuses
Check if the tank heaters are short-circuited
Verify correct tank Heather current consumption
Verify that the tank terminals are connected correctly
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)

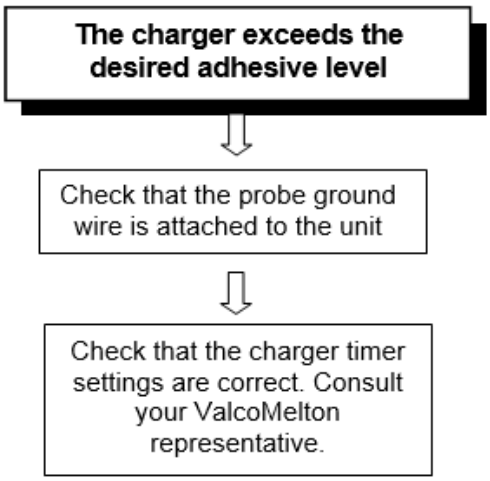

A hose overheats
Check the hose temperature sensor
Check to see if the hose triac is short-circuited
Check that the electronic card is working correctly
Check the programmed hose temperature

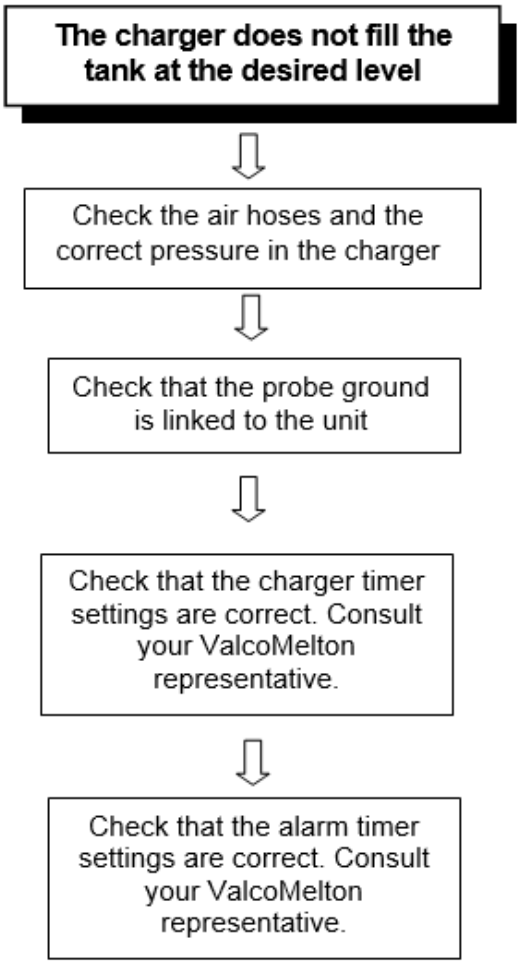

A gun does not heat up
Check for correct electronic card programming
Check that the channel is enabled, and that it is at the right temperature
If the sensor is short-circuited or opened, the display shows RTD Disconnected
Check the gun temperature sensor
Ensure that the connector is inserted correctly
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
If the sensor is short-circuited or opens, the display shows RID Disconnected
Check the hose temperature sensor
Ensure that the connector is inserted correctly
Check the correct connection of the hose connectors
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

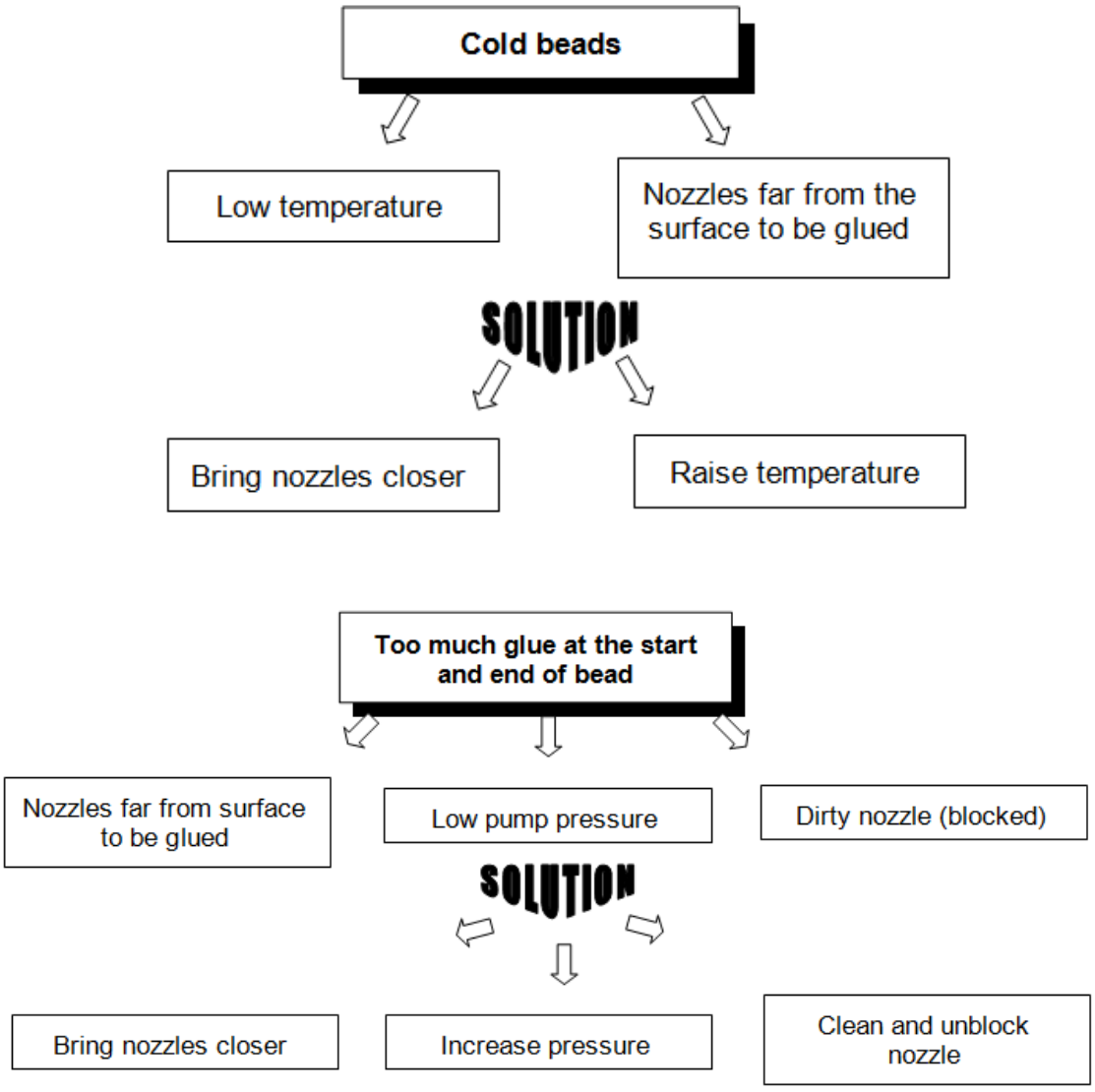

The pump electrovalve does not work
Check to see if the air pressure reaches it
Check that the electronic card does not have alarms
Overtemperature alarm in the gluer or peripherals
Alarm for configuration or hose and gun connections
Check for correct safety thermostat operation
Check to see if the air 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

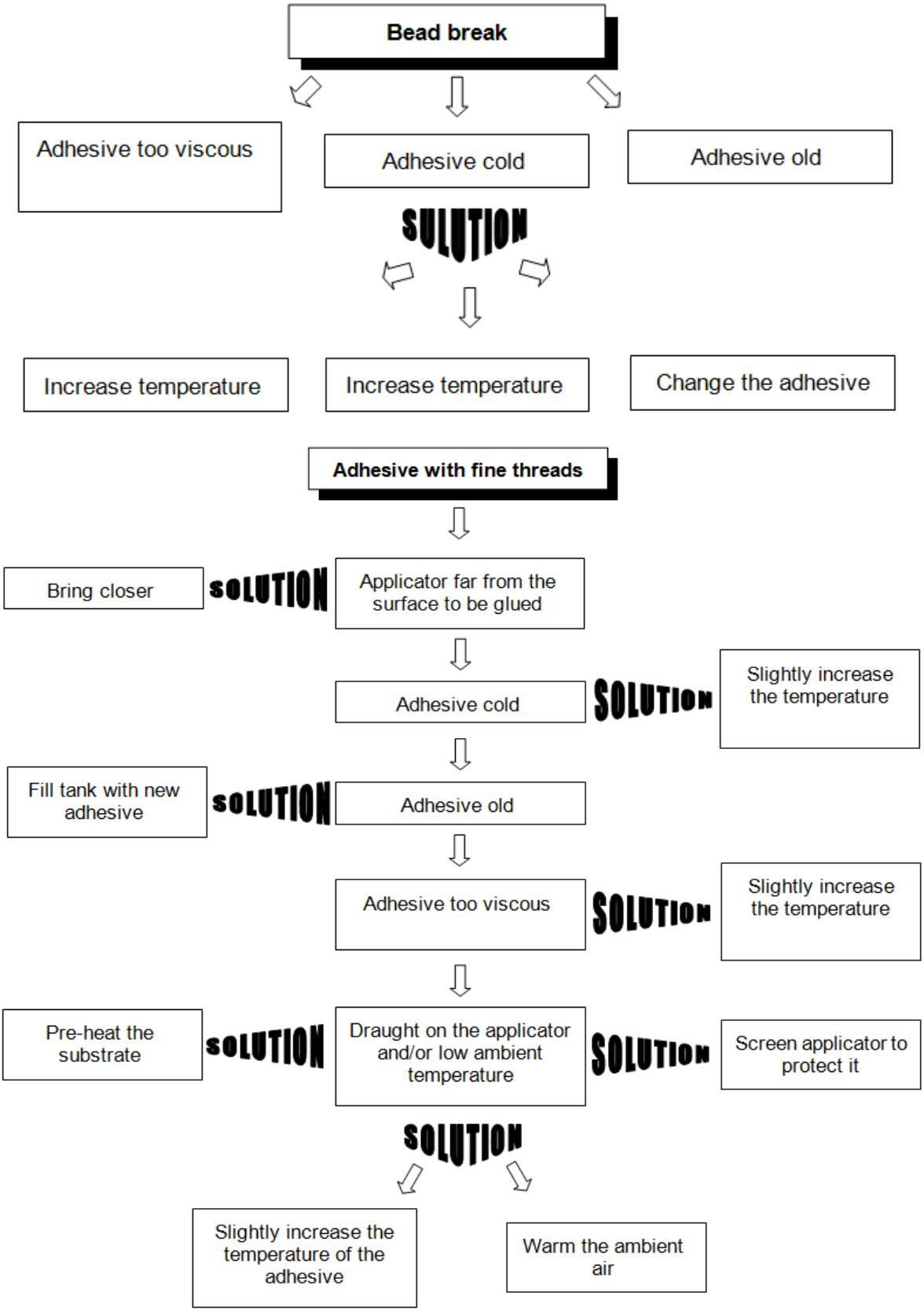

The unit does not switch on
Check the equipment power connection
Check the fuse cabinet

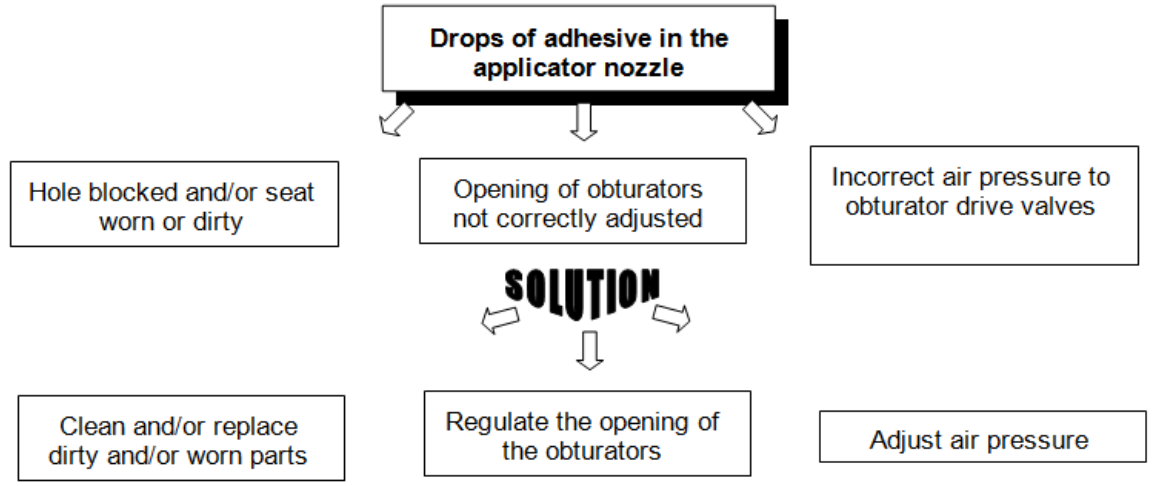

The charger exceeds the desired adhesive level
Check that the probe ground wire is attached to the unit
Check that the charger timer settings are correct. Consult your ValcoMelton representative.

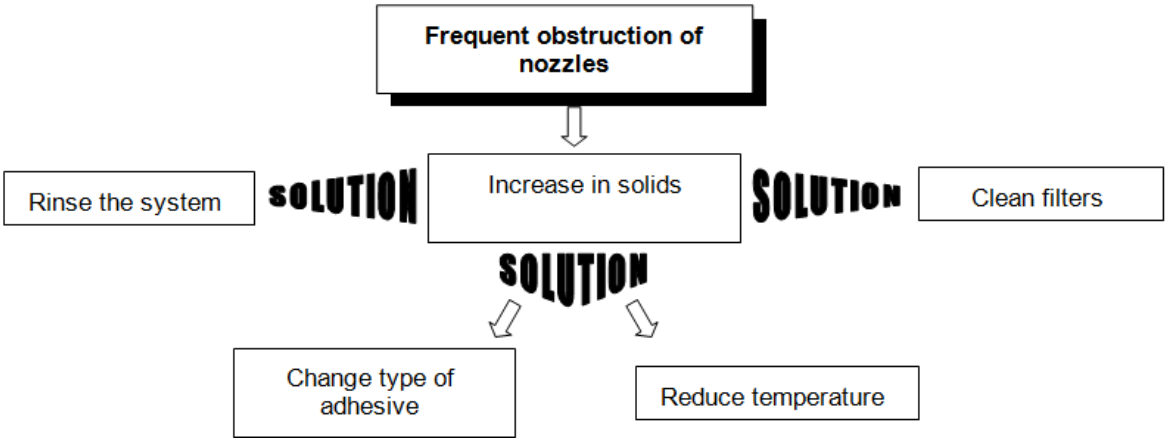

The charger does not fill the tank at the desired level
Check the air hoses and the correct pressure in the charger
Check that the probe ground is linked to the unit
Check that the charger timer settings are correct. Consult your ValcoMelton representative.
Check that the alarm timer settings are correct. Consult your ValcoMelton representative.

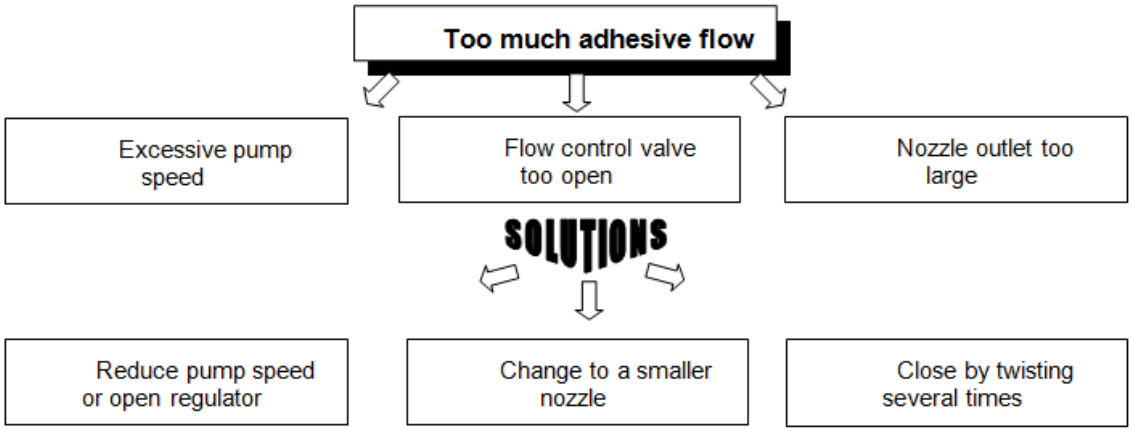
7.4. ADHESIVE APPLICATION PROBLEMS:

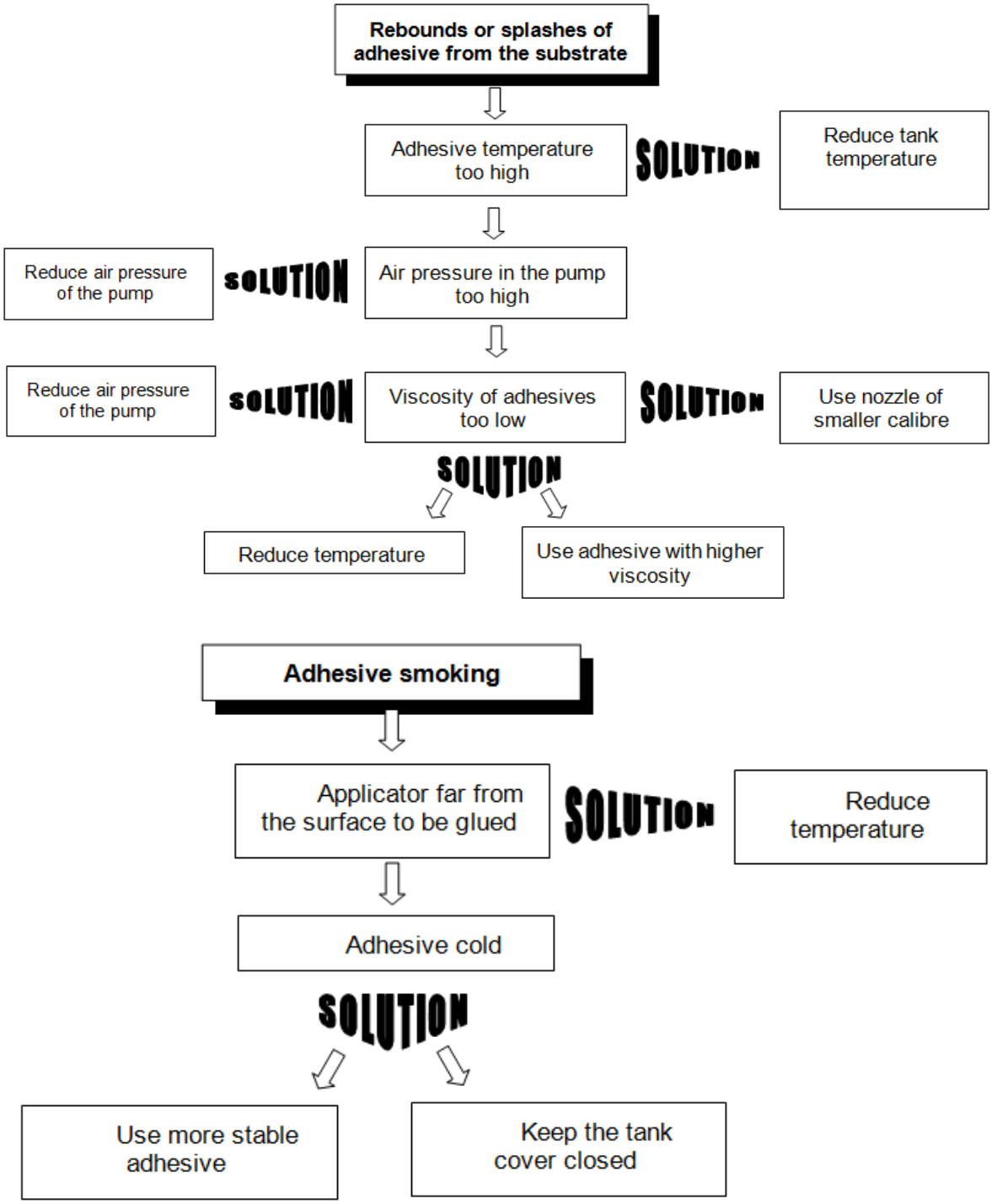


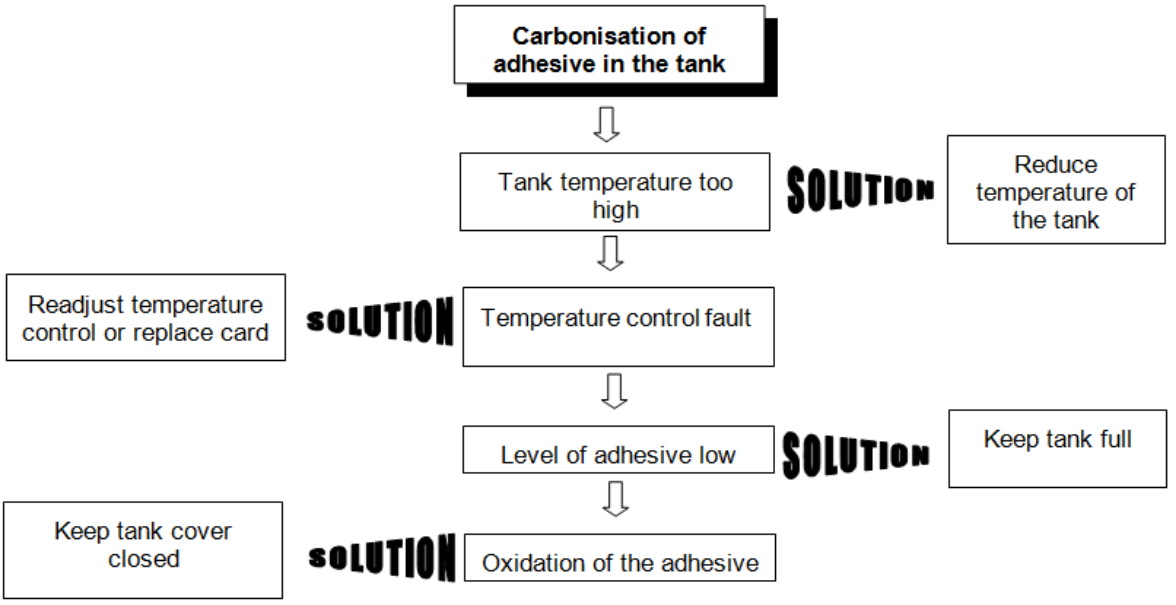

Bead break
Adhesive too viscous
Adhesive cold
Adhesive old
SOLUTION
Increase temperature
Increase temperature
Change the adhesive
Adhesive with fine threads
Bring closer
SOLUTION
Applicator far from the surface to be glued
Adhesive cold
SOLUTION
Slightly increase the temperature
Fill tank with new adhesive
SOLUTION
Adhesive old
Adhesive too viscous
SOLUTION
Slightly increase the temperature
Pre-heat the substrate
SOLUTION
Draught on the applicator and/or low ambient temperature
SOLUTION
Screen applicator to protect it
SOLUTION
Slightly increase the temperature of the adhesive
Warm the ambient air

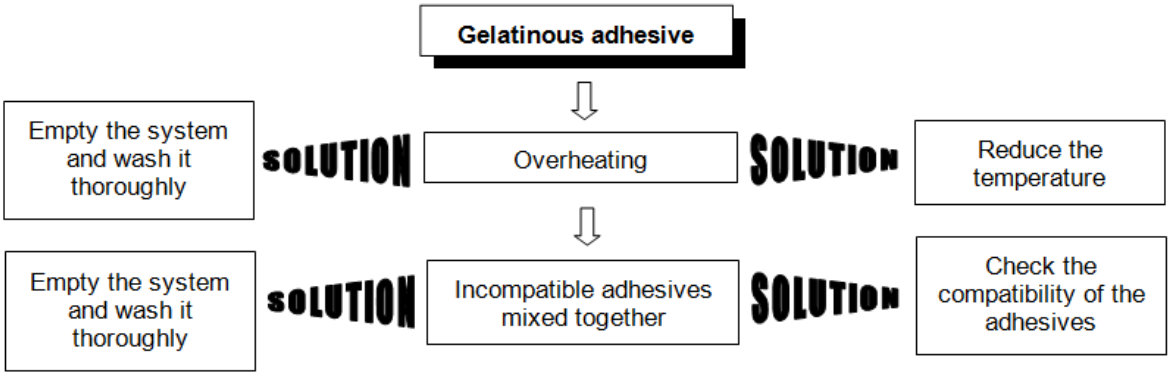

Drops of adhesive in the applicator nozzle
Hole blocked and/or seat worn or dirty
Opening of obturators not correctly adjusted
Incorrect air pressure to obturator drive valves
SOLUTION
Clean and/or replace dirty and/or worn parts
Regulate the opening of the obturators
Adjust air pressure

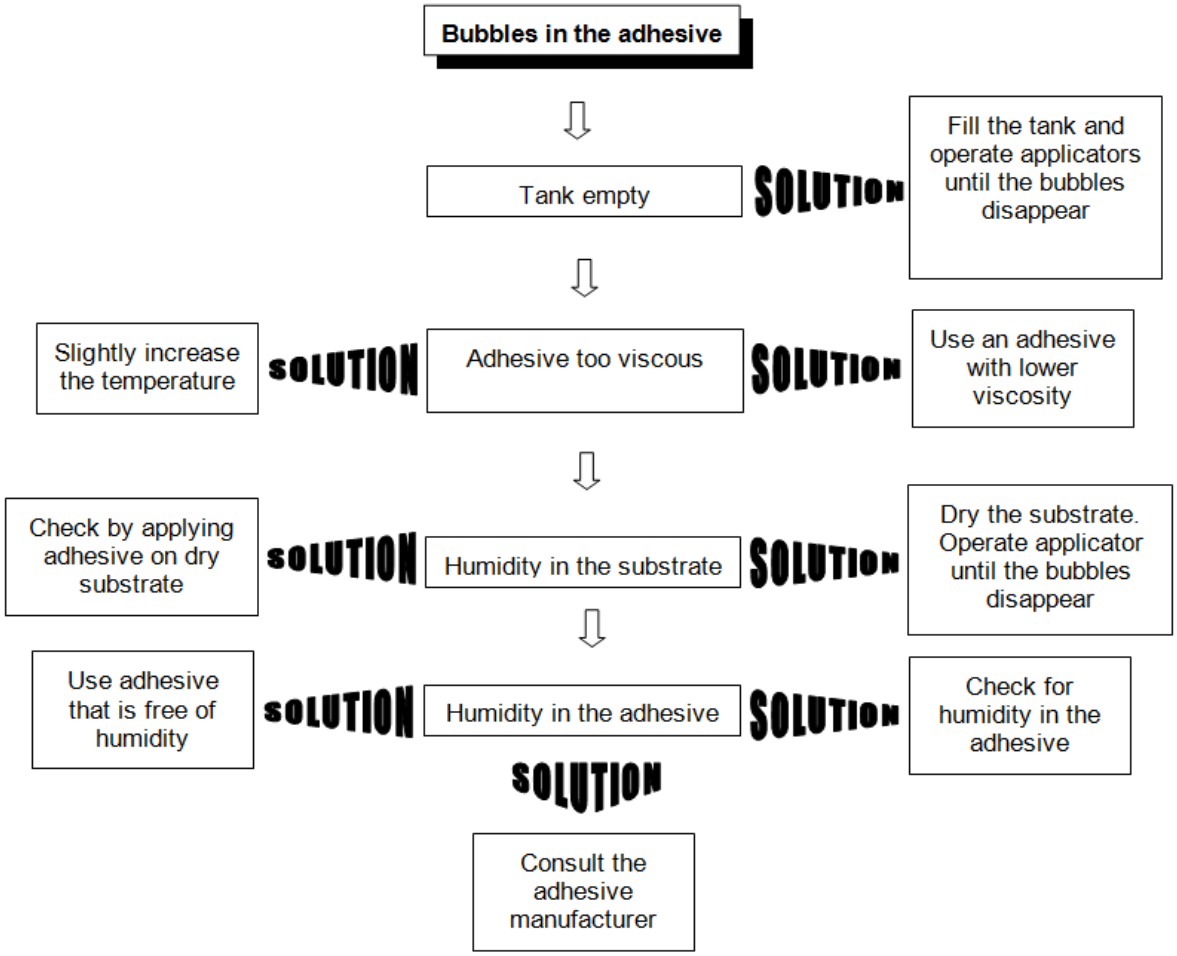

Frequent obstruction of nozzles
Rinse the system
SOLUTION
Increase in solids
SOLUTION
Clean filters
SOLUTION
Change type of adhesive
Reduce temperature


Too much adhesive flow
Excessive pump speed
Flow control valve too open
Nozzle outlet too large
SOLUTIONS
Reduce pump speed or open regulator
Change to a smaller nozzle
Close by twisting several times


Rebounds or splashes of adhesive from the substrate
Adhesive temperature too high
SOLUTION
Reduce tank temperature
Reduce air pressure of the pump
SOLUTION
Air pressure in the pump too high
Reduce air pressure of the pump
SOLUTION
Viscosity of adhesives too low
SOLUTION
Use nozzle of smaller calibre
SOLUTION
Reduce temperature
Use adhesive with higher viscosity
Adhesive smoking
Applicator far from the surface to be glued
SOLUTION
Reduce temperature
Adhesive cold
SOLUTION
Use more stable adhesive
Keep the tank cover closed


Carbonisation of adhesive in the tank
Tank temperature too high
SOLUTION
Reduce temperature of the tank
Readjust temperature control or replace card
SOLUTION
Temperature control fault
Level of adhesive low
SOLUTION
Keep tank full
Keep tank cover closed
SOLUTION
Oxidation of the adhesive


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 the compatibility of the adhesives


Bubbles in the adhesive
Tank empty
SOLUTION
Fill the tank and operate applicators until the bubbles disappear
Slightly increase the temperature
SOLUTION
Adhesive too viscous
SOLUTION
Use an adhesive with lower viscosity
Check by applying adhesive on dry substrate
SOLUTION
Humidity in the substrate
SOLUTION
Dry the substrate. Operate applicator until the bubbles disappear
Use adhesive that is free of humidity
SOLUTION
Humidity in the adhesive
SOLUTION
Check for humidity 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. Place a receptacle below to collect the adhesive from the manifold.
4. Open the drain valve with a screwdriver to eliminate residual pressure.
5. Open the filter plug screw with a screwdriver, and take out the filter unit.
6. Place the filter into the pump and screw it in with a screwdriver.
7. Close the drain valve with a screwdriver.
8. 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.*

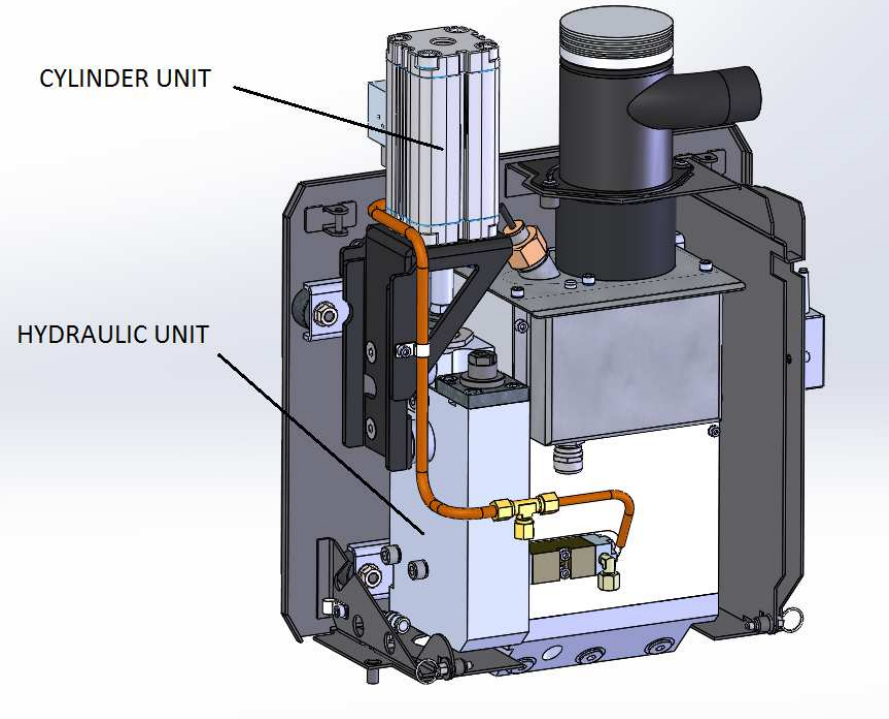
If fuses are not available, use ULTRAFAST fuses with the same characteristics.

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 or by opening the bleed valve

4. Disconnect the electricity

5. Disconnect the regulator unit electrically and mechanically.

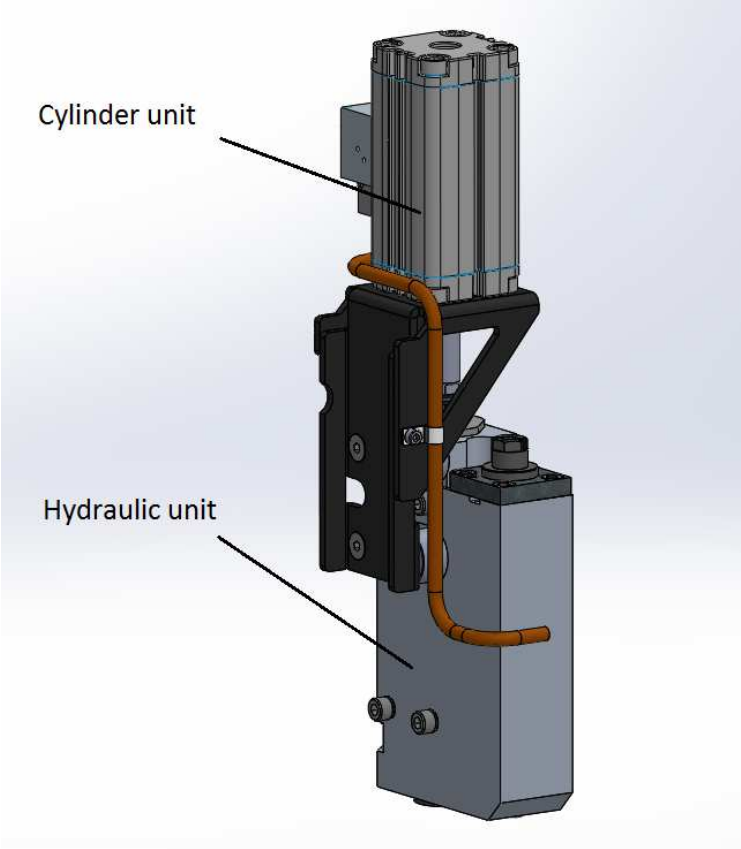
6. Loosen the two pump cover closing quuaerter back with hexagon 8 and lift the Gluebox casing

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

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

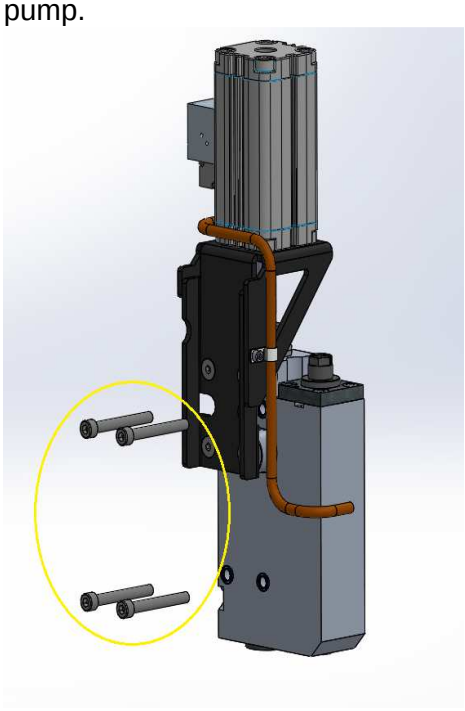
Is the air pipe connected? Does the electrovalve work? Is the equipment at the right temperature? Is the regulator working at the right pressure? Are the filters clean? Are the modules blocked? Is the shaft aligned correctly?

8.5.1. Low flow pump

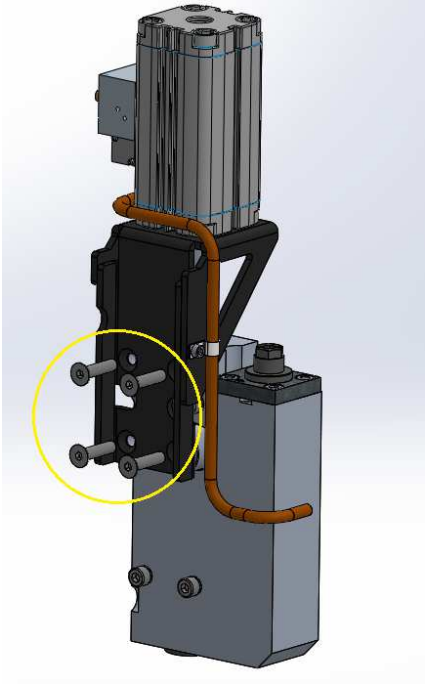


8.5.1.1 Cylinder

1. Loosen the screws of hydraulic pump.

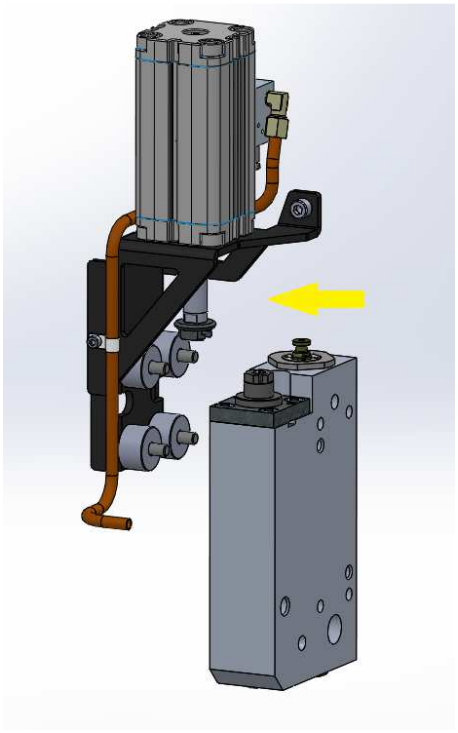


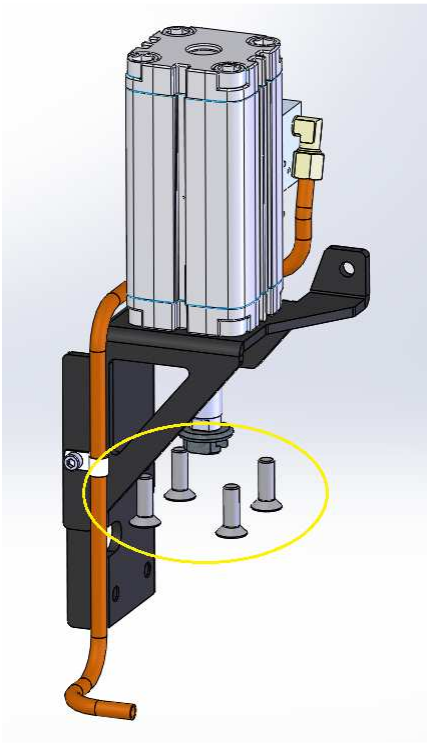
2. Loosen the screws of support.



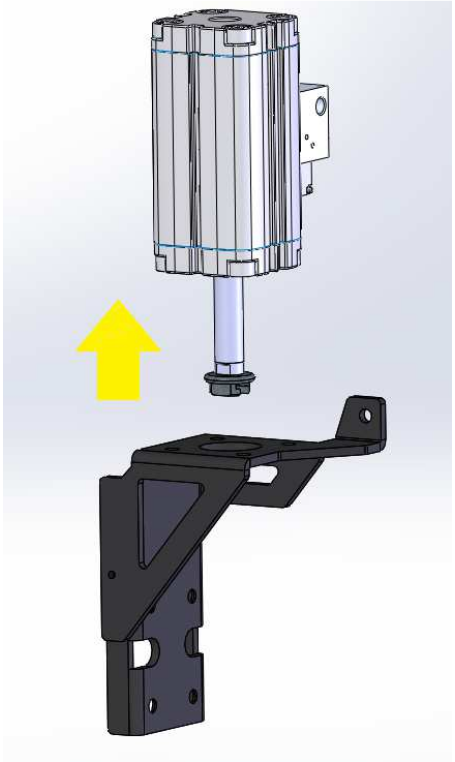
3. Separate the units.

4. Separate the support of cylinder

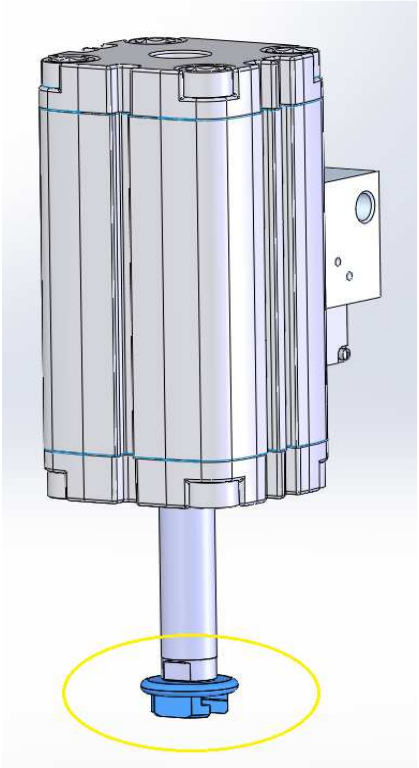




5. Separate the cylinder. Previously remove the tube.

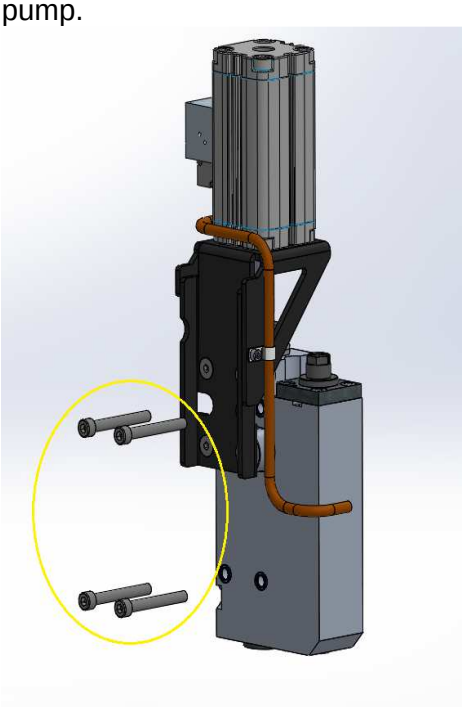


6. Loosen the shaft knob and socket joint.

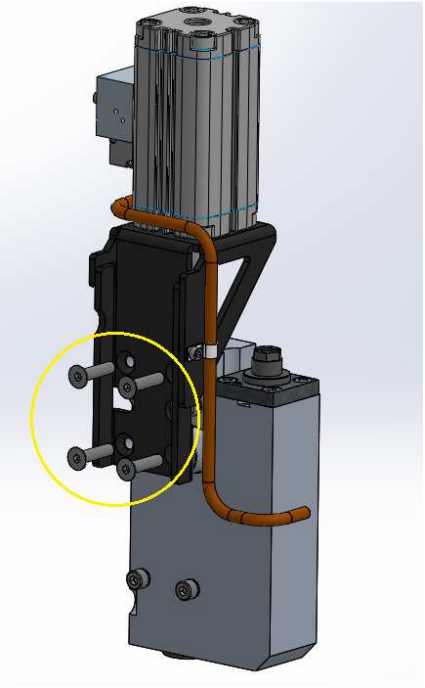


8.5.1.2 Hydraulic unit

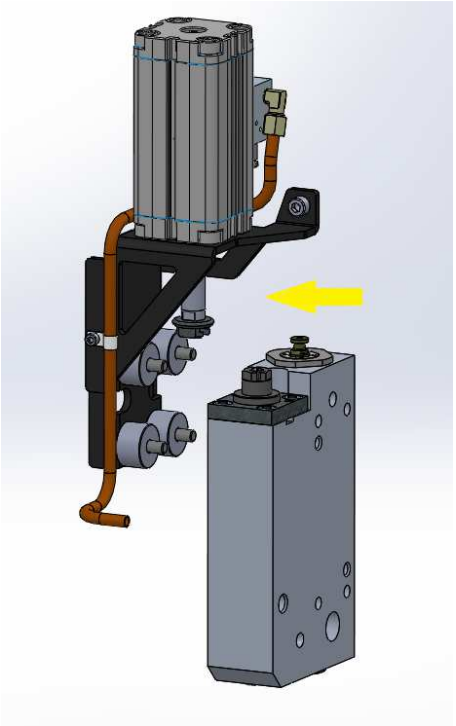
1. Loosen the screws of hydraulic pump.



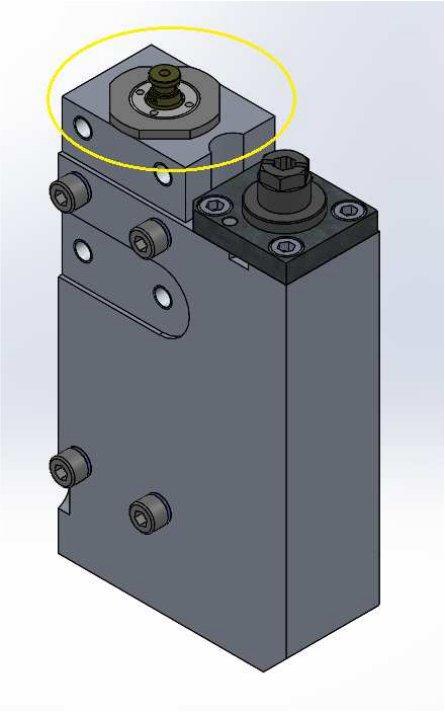
2. Loosen the screws of support.



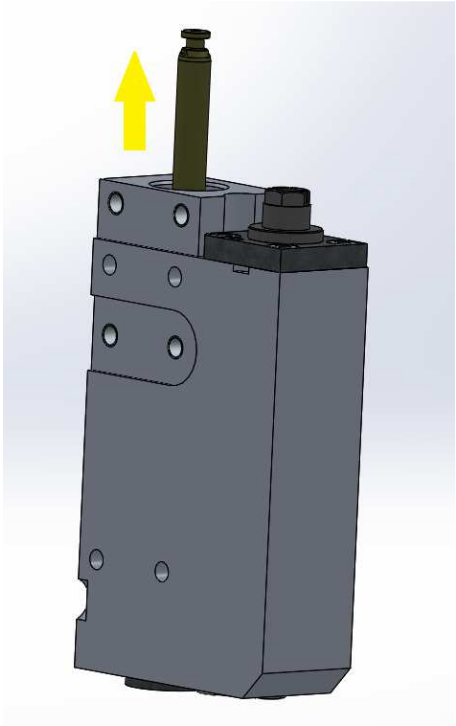
3. Separate the units.



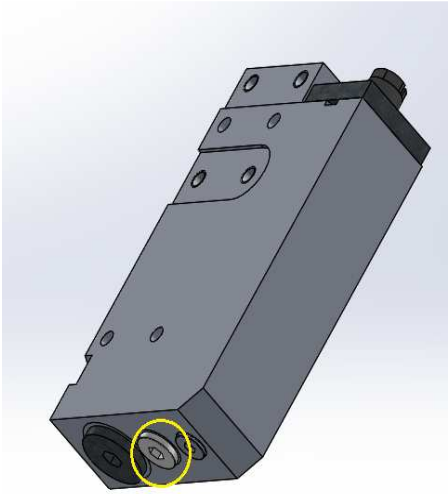
4. Loosen



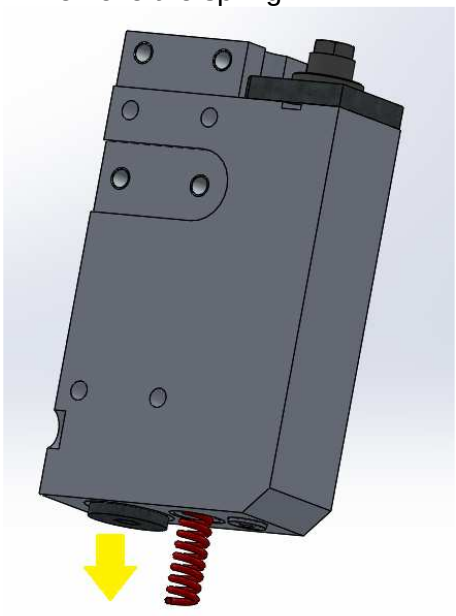
5. Remove the shaft.



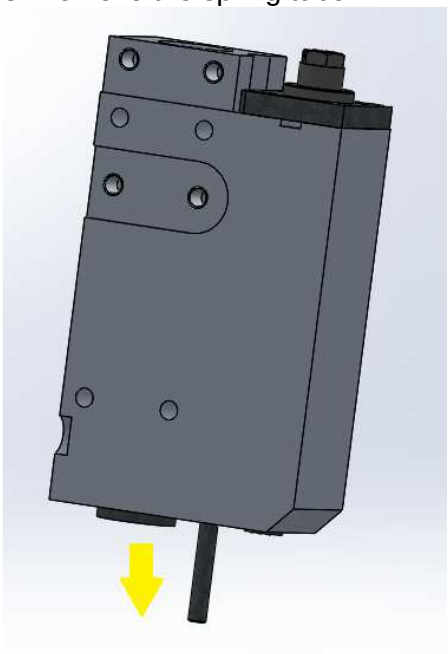
6. Loosen.



7. Remove the spring.

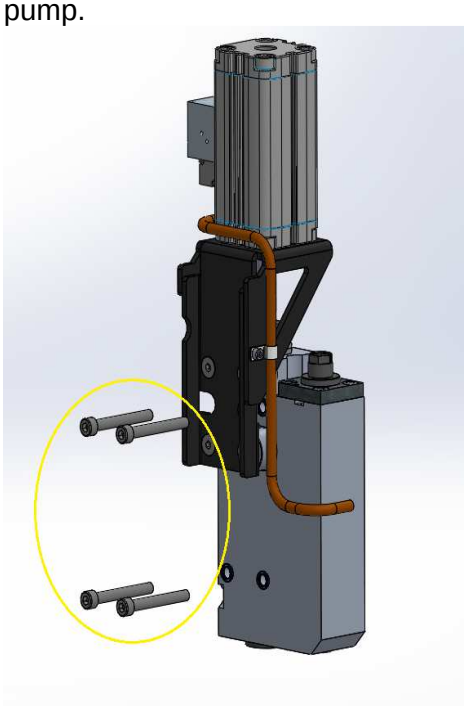


8. Remove the spring tube

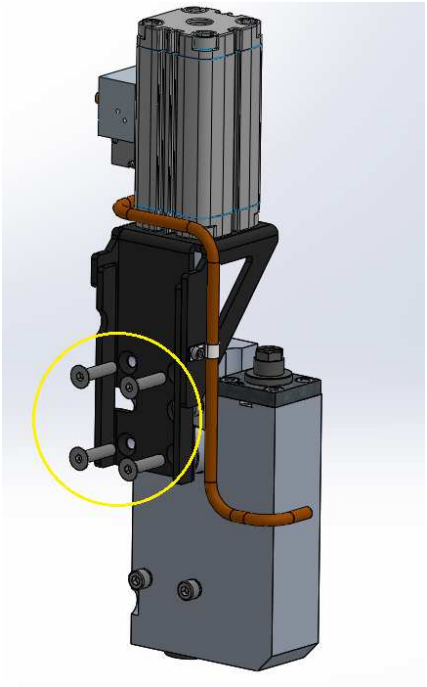


8.6. Cleaning valves

1. Loosen the screws of hydraulic pump.

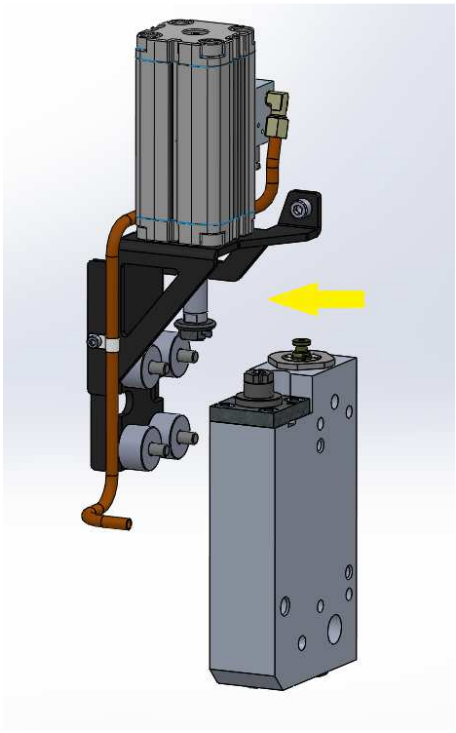


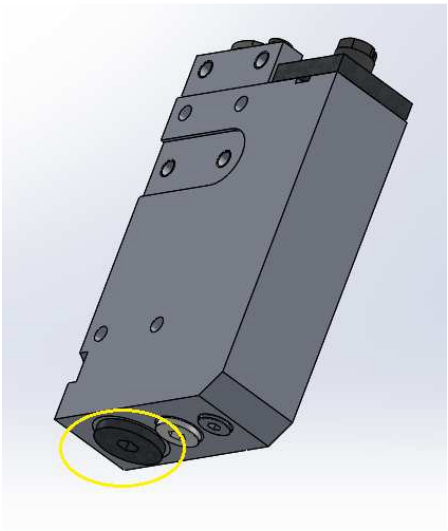
2. Loosen the screws of support.



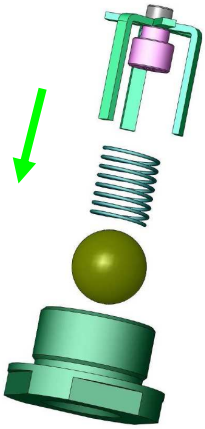
3. Separate the units.

4. Loosen

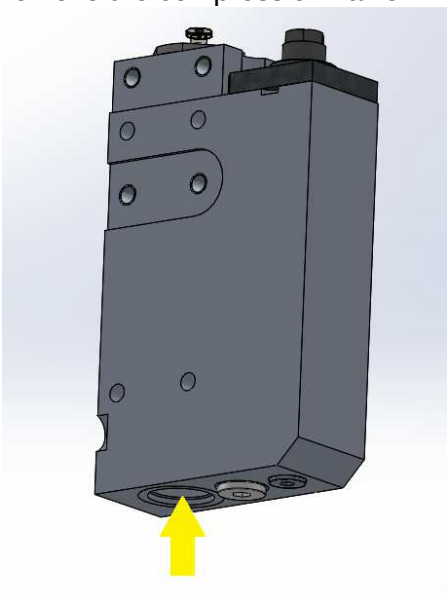




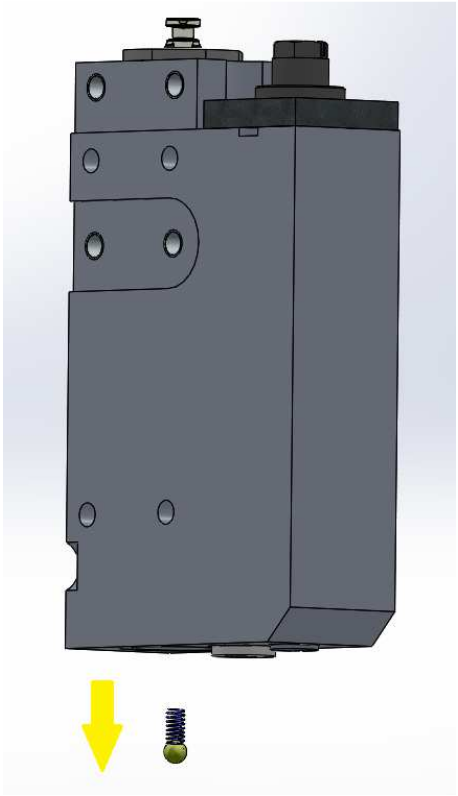
5. Clean the valve.



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



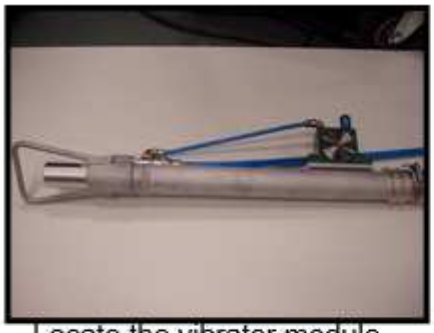
7. Remove the ball and spring and clean.



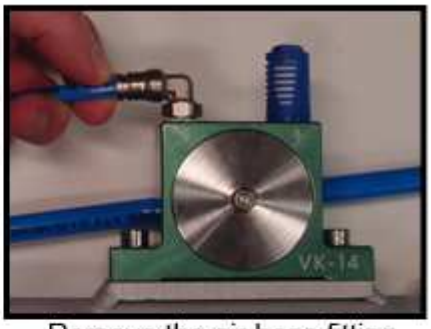
8.7. REPAIRING VACUUM FEEDER

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

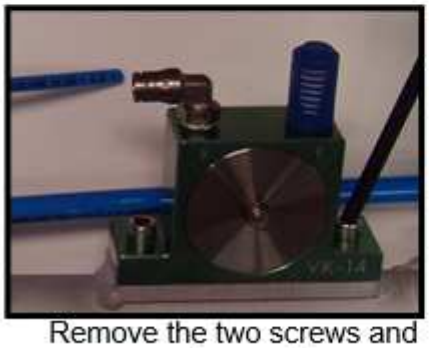
Changing the vibrator module



Locate the vibrator module, mounted into the container

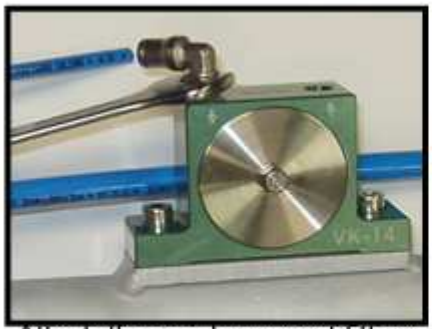


Remove the air hose fitting. Press the plunger

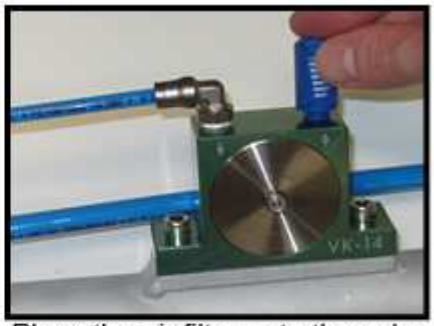


Remove the two screws and remove the module

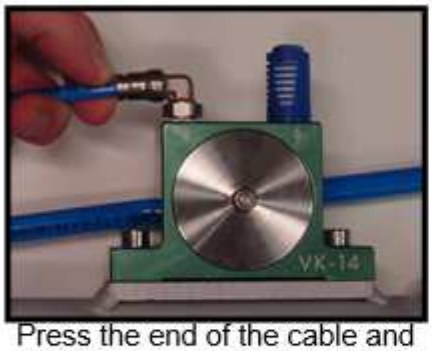
Install the new module with the screws



Attach the quick connect fitting to the air inlet



Place the air filter onto the exhaust module



Press the end of the cable and insert the air hose

Open the main air inlet.
Turn on the equipment.

Vibrator module mounted

The equipment is ready again!

CHAPTER 9 LOG SHEETS

DATE	*INCIDENCE*

DESPIECE / PART LISTING

EQUIPO KUBE /KUBE EQUIPMENT

R034010101

1

VALCO MELTON S.L.U. Pol. Ind. Agustinos C/G 34 3116 0 ORCOYEN, NAVARRA

TEL: +34 948 321580 Fax: +34 948 326584 melton@melton.es www.valcomelton.com

INDICE / INDEX:

VALCO MELTON S.L.U. Pol. Ind. Agustinos C/G 34 3116 0 ORCOYEN, NAVARRA

TEL: +34 948 321580 Fax: +34 948 326584 melton@melton.es www.valcomelton.com

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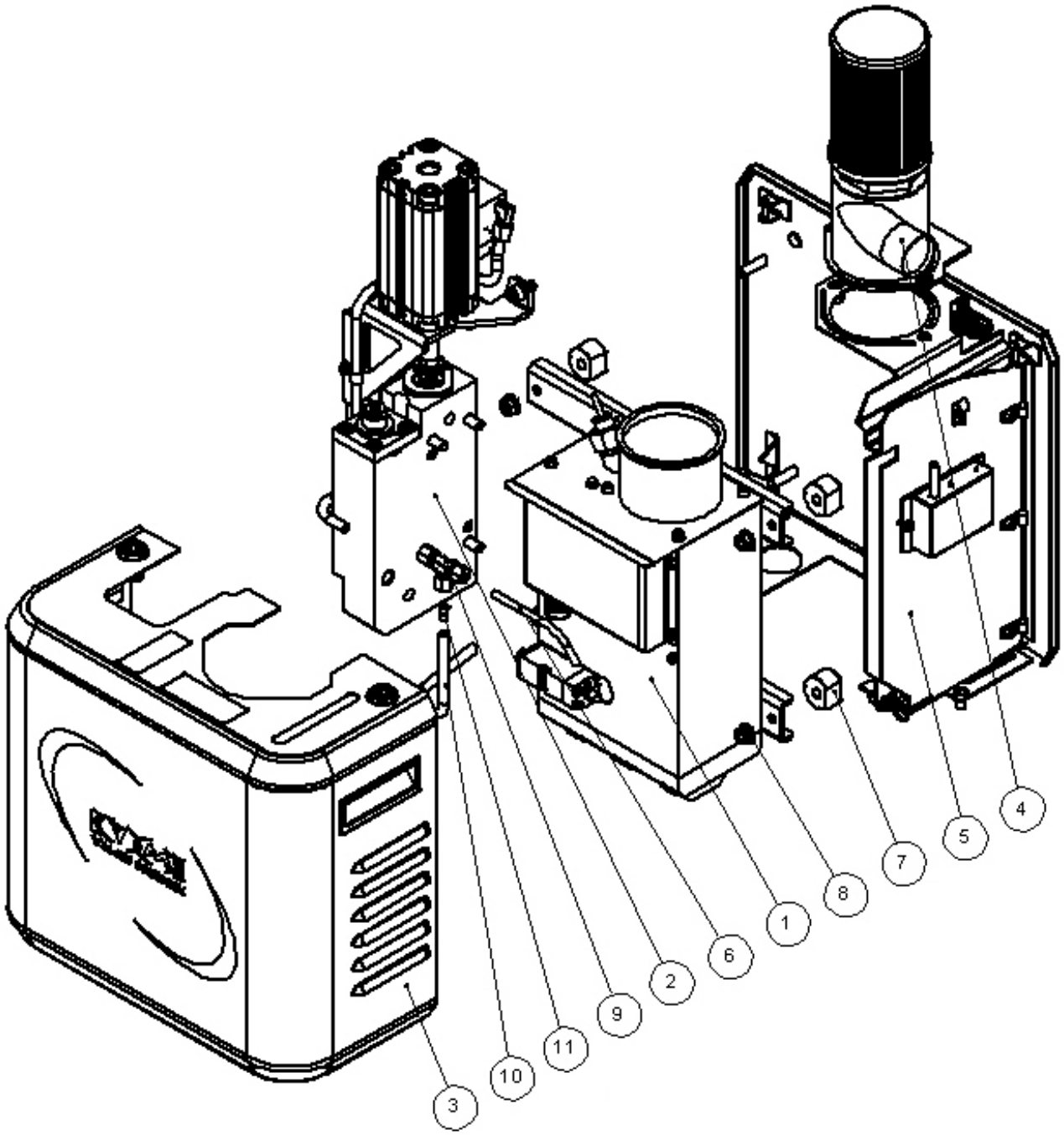
TEL: +34 948 321580 Fax: +34 948 326584 melton@melton.es www.valcomelton.com

1.1. GLUEBOX KUBE CON CARGADOR CICLON / GLUEBOX KUBE WITH CYCLONE CHARGER:



VALCO MELTON S.L.U. Pol. Ind. Agustinos C/G 34 3116 0 ORCOYEN, NAVARRA

TEL: +34 948 321580 Fax: +34 948 326584 melton@melton.es www.valcomelton.com

Pos.	Denominación	Denomination	Ref.	Cant.
1	SUBCONJUNTO DEPOSITO KUBE	ASSEMBLY DEPOSIT KUBE	PAG 5	1
2	SUBCONJUNTO BOMBA KUBE	ASSEMBLY PUMP KUBE	PAG 10-14	1
3	SUBCONJUNTO CARCASA GLUEBOX	ASSEMBLY PUMP GLUEBOX	PAG	1
4	SUBCONJUNTO CHIMENEA CARGADOR CICLON	ASSEMBLY CYCLONE CHARGER CHIMNEY	PAG 17	1
5	SUBCONJUNTO TABIQUE TERMICO	ASSEMBLY THERMIC WALL	PAG	1
6	TUBO ENTRADA MODULO DESCARGA	INPUT PIPE OF DISCHARGE MODULE	900XX176	1
7	AISLANTE PATA DEPOSITO KUBE	INSULATION TANK LEG KUBE	900XX177	4
8	TUERCA DENTADA M8	SPROCKET NUT M8	900XX178	4
9	RACOR T CON OVALILLO TUBO 8 / SALIDAD LATERAL TUBO	T FITTING WITH OLIVE TUBE 8/ LATERAL OUTPUT	918XX448	1
10	TUBO TEFLON 8x6	TEFLON TUBE 8x6	988XX019	4
11	REFUERZO NYLON Ø8XØ6	NYLON 8*6 REINFORCEMENT	915XX495	1

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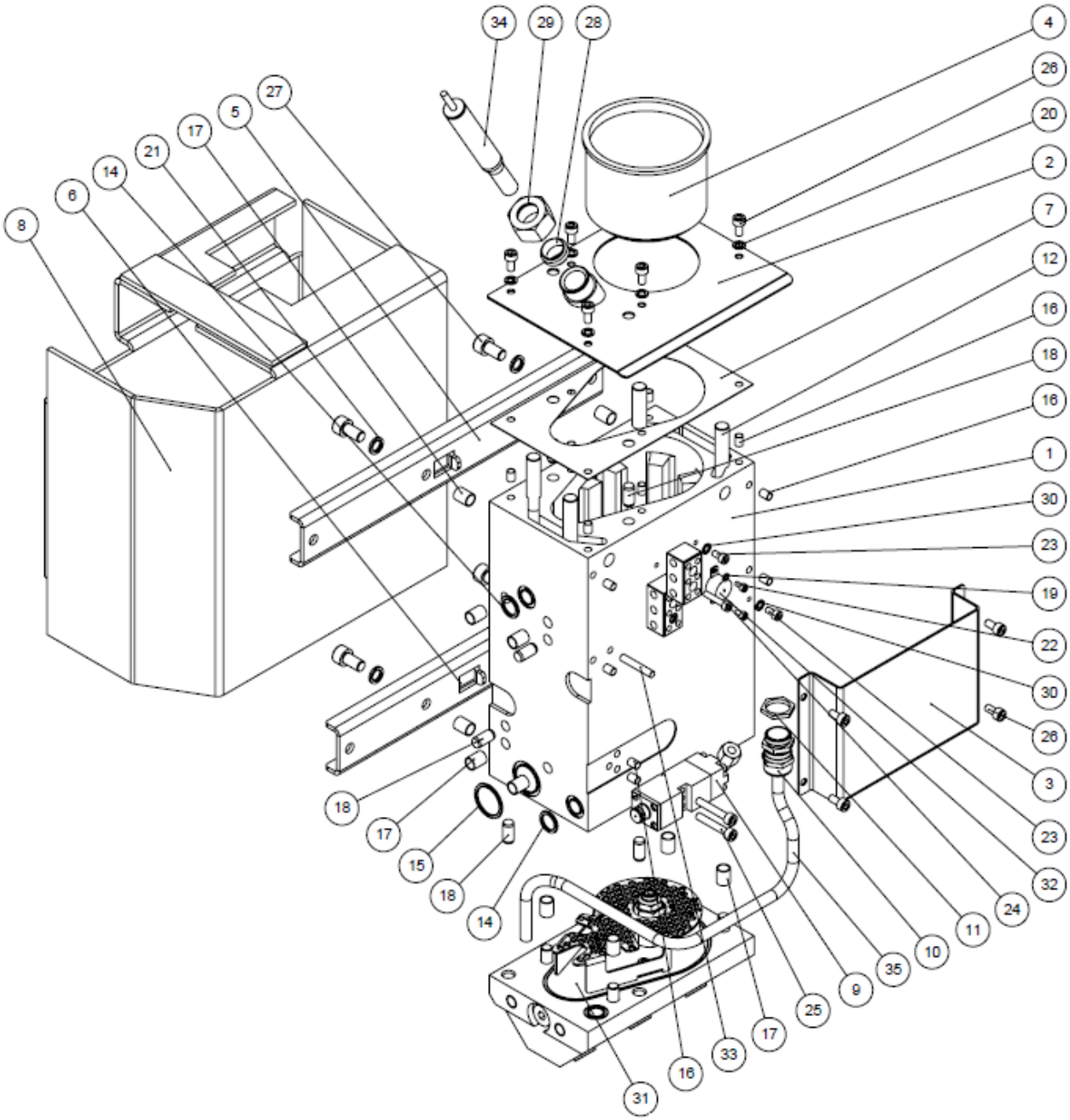
1.2. SUBCONJUNTO DEPOSITO KUBE / ASSEMBLY DEPOSIT KUBE:



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Pos.	Denominación	Denomination	Ref.	Cant.
1	CUERPO MECANIZADO DEPOSITO	MACHINING BODY TANK	-	1
2	CHAPA SUPERIOR DEPOSITO	TOP TANK SHEET	-	1
3	CHAPA CAJA ELECTRICA DEPOSITO	SHEET ELECTRICAL BOX DEPOSIT	-	1
4	CUELLO CARGADOR NORMAL	NECK CHARGER	900XX181	1
5	ESCUADRA SOPORTE SUPERIOR DEPOSITO	SUPERIOR TANK SUPPORT BRACKET	PAG 7	1
6	ESCUADRA SOPORTE INFERIOR DEPOSITO	BOTTOM TANK SUPPORT BRACKET	PAG 7	1
7	JUNTA SUPERIOR DEPOSITO	SUPERIOR JOINT TANK	900XX180	1
8	MANTA AISLANTE DEPOSITO	ISOLATED BLANKET TANK	900XX182	1
9	SUBCONJUNTO MODULO DESCARGA K14	ASSEMBLY DISCHARGE MODULE K 14	900XX183	1
10	PRENSA PG-11 LATON ALTA TEMPERATURA	HIGH TEMPERATURE PG-11 PRESS	915XX090	1
11	TUERCA PG-11 LATON ALTA TEMP.	BRASS PG-11 NUT HIGH TEMPERATURE	915XX081	
12	RESISTENCIA 10X220 600 W 230 V	10X220 600W 230V CARTRIDGE HEATER	912XX554	4
13	REGLETA CERAMICA 20 A TRIPOLAR	CERAMIC STRIP 20A TRIPOLAR	911XX162	2
14	JUNTA TORICA 12x2	VITON O-RING 12x2	910XX049	2
15	JUNTA TORICA 22x2	VITON O-RING 22x2	918XX541	1
16	HELICOIL M5x7.5	M5x7.5 HELICOIL	915XX261	12
17	HELICOIL M8x12 PLUS SCREWLOCK	M8x12 PLUS SCREWLOCK HELICOIL	900XX173	12
18	PASADOR CILINDRICO 8x16	DOWEL PIN Ø 8x16	900XX184	6
19	ARANDELA DENTADA M3	TOOTHED WASHER M3	910XX397	2
20	ARANDELA GROVER 5 INOX	GROVER WASHER M5 INOX	910XX397	6
21	ARANDELA GROVER 8 INOX	GROVER WASHER M8 INOX	910XX135	4
22	TORNILLO CILINDRICO M3x6 INOX	CYLINDRICAL SCREW M3X6 STAINLESS	914XX303	2
23	TORNILLO ALLEN M4x8 INOX	ALLEN SCREW M4X8 STAINLESS	910XX343	2
24	TORNILLO ALLEN M4x20 INOX	ALLEN SCREW M4X20 STAINLESS	914XX304	2
25	TORNILLO ALLEN M5x30 INOX	ALLEN SCREW M5X30 STAINLESS	910XX327	2
26	TORNILLO ALLEN M5x12 INOX	ALLEN SCREW M5X12 STAINLESS	917XX406	10
27	TORNILLO ALLEN M8x15 INOX	ALLEN SCREW M8X15 STAINLESS	914XX067	4
28	OVALILLO Ø16	OLIVE Ø16	918XX445	1
29	TUERCA RACOR OVALILLO Ø16	FITTING NUT Ø16 WITH OLIVE	918XX444	1
30	ARANDELA DENTADA M4	TOOTHED WASHER M4	912XX565	2
31	SUBCONJUNTO DISTRIBUIDOR	ASSEMBLY MANIFOLD	PAG 8	1
32	MAZO TERMOSTATO	THERMOSTAT HARNESS	-	1
33	SONDA TEMPERATURA	TEMPERATURE GAUGE	-	1
34	BULBO SONDA RECHNER	GAUGE WELL RECHNER	-	1
35	MAZO CABLES DEPOSITO	WIRE HARNESS TANK	-	1

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1.2.1 SUBCONJUNTO KIT CUERPO DEPÓSITO / ASSEMBLY KIT BODY TANK (900XX179)

Pos.	Denominación	Denomination	Ref.	Cant.
1	CUERPO MECANIZADO DEPOSITO	MACHINING BODY TANK	-	1
7	JUNTA SUPERIOR DEPOSITO	SUPERIOR JOINT TANK	900XX180	1
14	JUNTA TORICA 12x2	VITON O-RING 12x2	910XX049	2
15	JUNTA TORICA 22x2	VITON O-RING 22x2	918XX541	1
16	HELICOIL M5x7.5	M5x7.5 HELICOIL	915XX261	12
17	HELICOIL M8x12 PLUS SCREWLOCK	M8x12 PLUS SCREWLOCK HELICOIL	900XX173	12
18	PASADOR CILINDRICO 8x16	DOWEL PIN Ø 8x16	900XX184	6

1.2.2 SUBCONJUNTO KIT SOPORTE DEPÓSITO / ASSEMBLY KIT BODY TANK (900XX185)

Pos.	Denominación	Denomination	Ref.	Cant.
5	ESCUADRA SOPORTE SUPERIOR DEPOSITO	SUPERIOR TANK SUPPORT BRACKET	-	1
6	ESCUADRA SOPORTE INFERIOR DEPOSITO	BOTTOM TANK SUPPORT BRACKET	-	1
21	ARANDELA GROVER 8 INOX	GROVER WASHER M8 INOX	910XX135	4
27	TORNILLO ALLEN M8x15 INOX	ALLEN SCREW M8X15 STAINLESS	914XX067	4

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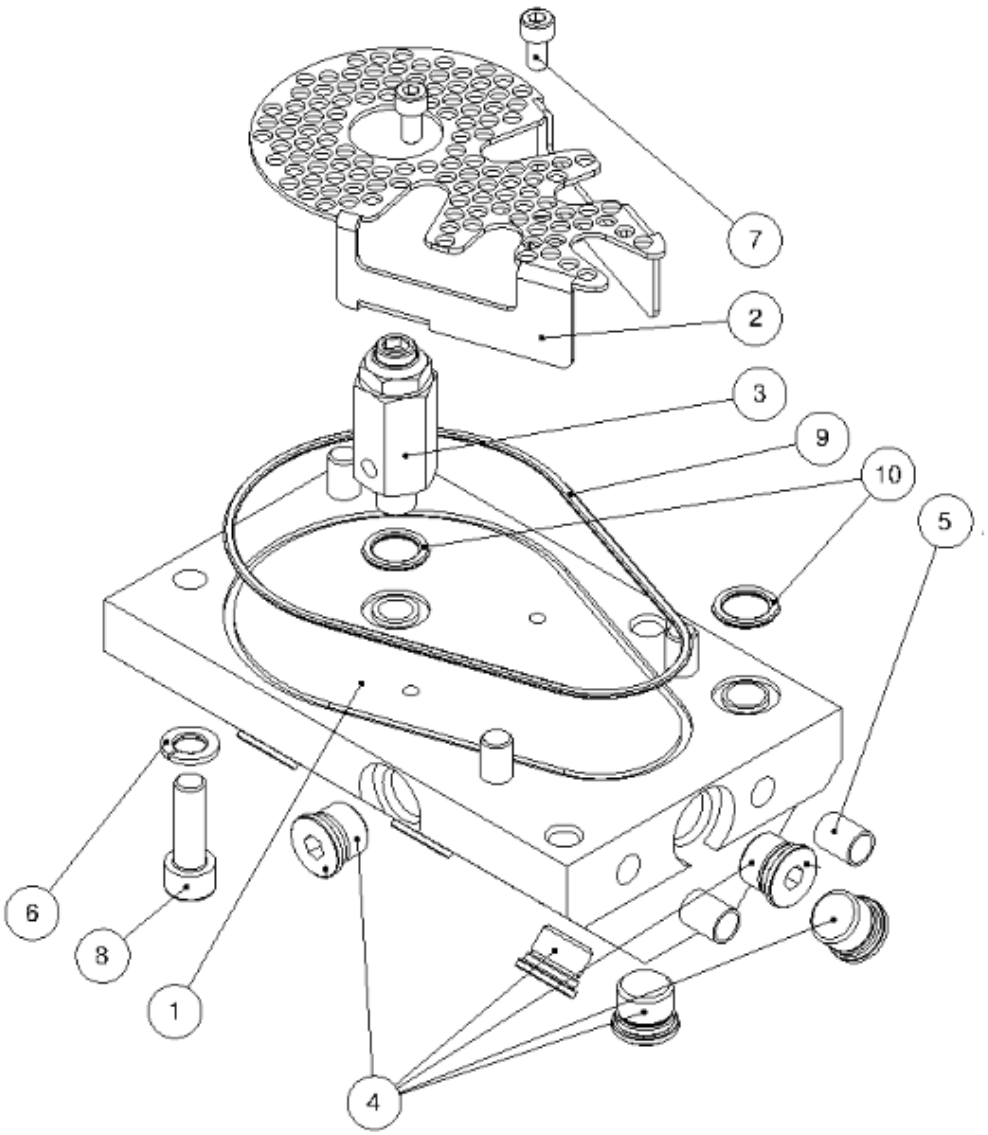
1.3. SUBCONJUNTO DISTRIBUIDOR / ASSEMBLY MANIFOLD (900XX155)



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Pos.	Denominación	Denomination	Ref.	Cant.
1	CUERPO DISTRIBUIDOR KUBE	DISTRIBUTR BODY KUBE	-	1
2	REJILLA ENTERA DEPOSITO KUBE	TANK GRATE KUBE	-	1
3	CONJ. VALVULA SEGURIDAD	ASSEMLBY SAFETY VALVE	917XX087	1
4	TAPON 9/16" CON JUNTA	9/16" CAP	917XX031	11
5	HELICOIL M8X12 PLUS SCREWLOCK	M8x12 HELICOIL PLUS SCREWLOCK	900XX173	2
6	ARANDELA GROWER M8 INOX.	GROVER WASHER M8 STAINLESS	910XX135	4
7	TORNILLO ALLEN M5X12 INOX.	ALLEN SCREW M5X12 STAINLESS	917XX406	2
8	TORNILLO ALLEN M8X25 INOX.	ALLEN SCREW M8X25 STAINLESS	915XX189	4
9	JUNTA TORICA VITON Ø110XØ2	VITON O-RING Ø110XØ2	900XX172	1
10	JUNTA TORICA VITON 12X2	VITON O-RING 12X2	910XX049	2

1.3.1. SUBCONJUNTO KIT CUERPO DISTRIBUIDOR / KIT BODY MANIFOLD (900XX157)

Pos.	Denominación	Denomination	Ref.	Cant.
1	CUERPO DISTRIBUIDOR KUBE	DISTRIBUTR BODY KUBE	-	1
4	TAPON 9/16" CON JUNTA	9/16" CAP	917XX031	11
5	HELICOIL M8X12 PLUS SCREWLOCK	M8x12 HELICOIL PLUS SCREWLOCK	900XX173	2
9	JUNTA TORICA VITON Ø110XØ2	VITON O-RING Ø110XØ2	900XX172	1
10	JUNTA TORICA VITON 12X2	VITON O-RING 12X2	910XX049	2

1.3.2. SUBCONJUNTO KIT REJILLA DEPOSITO / KIT GRATE TANK (900XX158)

Pos.	Denominación	Denomination	Ref.	Cant.
2	REJILLA ENTERA DEPOSITO KUBE	TANK GRATE KUBE	-	1
7	TORNILLO ALLEN M5X12 INOX.	ALLEN SCREW M5X12 STAINLESS	917XX406	2

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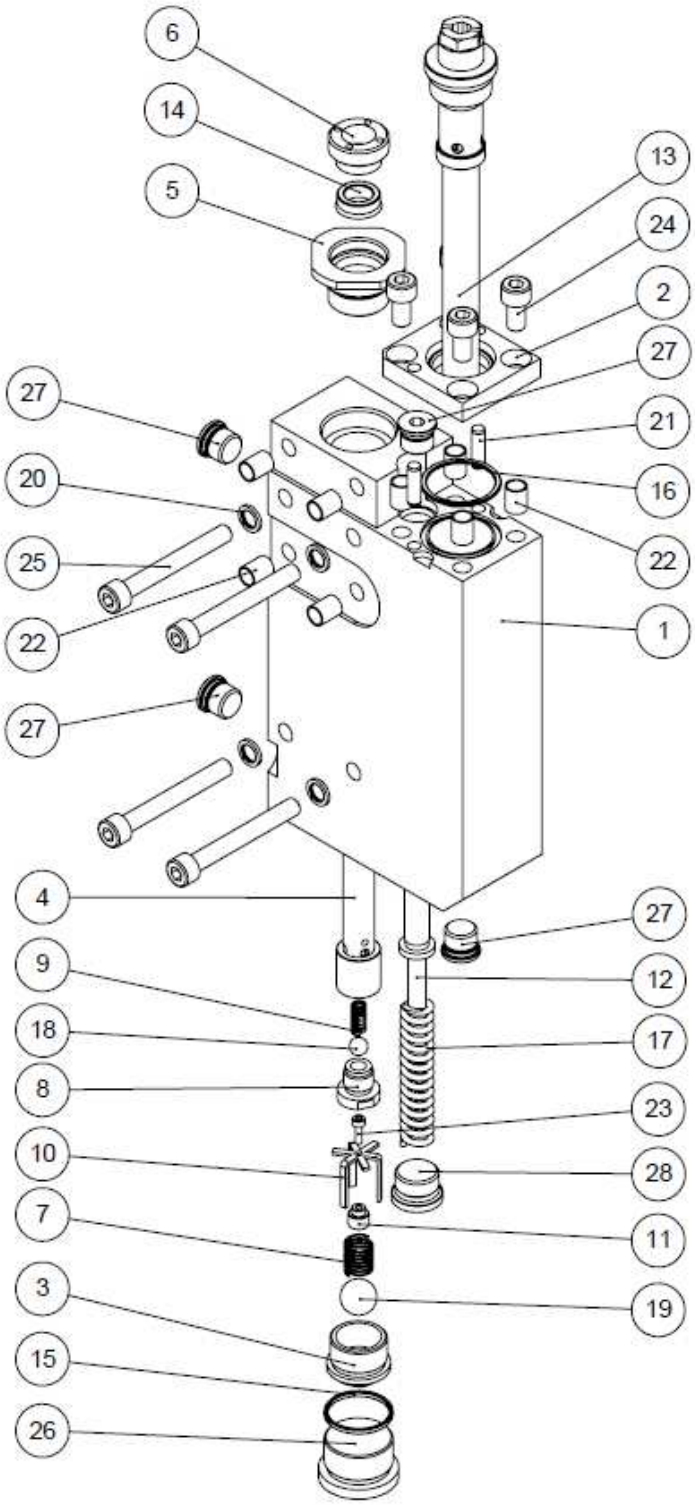
1.4. SUBCONJUNTO HIDRAULICO BOMBA / ASSEMBLY HYDRAULIC PUMP (900XX160):



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Pos.	Denominación	Denomination	Ref.	Cant.
1	CUERPO BOMBA	PUMP BODY	-	1
2	BRIDA FILTRO BOMBA	FILTER CLAMP PUMP	900XX186	1
3	VALVULA ASPIRACION BOMBA	SUCTION VALVE PUMP	900XX162	1
4	EJE BOMBA LF	AXLE PUMP LF	917XX187	1
5	TORNILLO PORTAJUNTA BOMBA LF	JOINT HOLDER SCREW PUMP LF	915XX468	1
6	TUERCA PORTAJUNTA BOMBA LF	JOINT HOLDER NUT PUMP LF	915XX471	1
7	MUELLE VALVULA ASPIRACION	ASPIRATION SPRING VALVE	914XX032	1
8	VALVULA COMPRESION	COMPRESSION VALVE	914XX030	1
9	MUELLE VALVULA COMPRESION	COMPRESSION SPRING VALVE	914XX028	1
10	GUIA BOLA VALVULA ASPIRACION	ASPIRACTION BALL GUIDE VALVE	914XX031	1
11	TOPE BOLA VALVULA ASPIRACION	ASPIRACTION TOP VALVE	914XX938	1
12	EJE GUIA VALVULA COMPENSACION	COMPENSATION AXLE GUIDE VALE	914XX022	1
13	SUBCONJUNTO FILTRO	FILTER ASSEMBLY	916XX560	1
14	JUNTA COLLARIN EJE BOMBA	AXLET PUMP VARISEAL	915XX467	1
15	JUNTA TORICA VITON 26x2	VITON O-RING Ø26X2	914XX177	1
16	JUNTA TORICA VITON 30x2	VITON O-RING Ø30X2	914XX090	1
17	MUELLE DANLY 8x16x76 ROJO	8x16x76 RED DANLY SPRING	910XX407	1
18	BOLA 8	COMPRESSION Ø8 BALL	910XX122	1
19	BOLA 16	ASPIRATION Ø BALL	910XX119	1
20	ARANDELA GROVER 8 INOX	GROVER WASHER M8 STAINLESS	910XX135	4
21	PASADOR CILINDRICO 6x20	DOWEL PIN Ø6X20	917XX492	2
22	HELICOIL M8x12 PLUS SCREWLOCK	M8x12 HELICOIL PLUS SCREWLOCK	900XX173	8
23	TORNILLO ALLEN M3x10	ALLEN SCREW M3X10 STAINLESS	910XX084	1
24	TORNILLO ALLEN M8x15	ALLEN SCREW M8X15 STAINLESS	914XX067	4
25	TORNILLO ALLEN M8x65	ALLEN SCREW M8X65 STAINLESS	900XX187	4
26	TAPON HEXAGONO INTERIOR M30x1.5	M30x1.5 HEX CAP	900XX188	1
27	TAPON 9/16” CON JUNTA	9/16” CAP WITH JOINT	917XX031	4
28	TAPON ¾” 16H UNF CON JUNTA	¾” 16H UNF CAP WITH JOINT	917XX962	1

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1.4.1. CONJUNTO PORTAJUNTA BOMBA LF / ASSEMBLY PORTASEAL PUMP LF (919XX328)

Pos.	Denominación	Denomination	Ref.	Cant.
5	TORNILLO PORTAJUNTA BOMBA LF	JOINT HOLDER SCREW PUMP LF	915XX468	1
6	TUERCA PORTAJUNTA BOMBA LF	JOINT HOLDER NUT PUMP LF	915XX471	1
14	JUNTA COLLARIN EJE BOMBA	AXLET PUMP VARISEAL	915XX467	1

1.4.2. CONJ. VALVULA ASPIRACION KUBE/ BALL VALVE ASSEMBLY KUBE (900XX161)

Pos.	Denominación	Denomination	Ref.	Cant.
3	VALVULA ASPIRACION BOMBA	SUCTION VALVE PUMP	900XX162	1
7	MUELLE VALVULA ASPIRACION	ASPIRATION SPRING VALVE	914XX032	1
10	GUIA BOLA VALVULA ASPIRACION	ASPIRACTION BALL GUIDE VALVE	914XX031	1
11	TOPE BOLA VALVULA ASPIRACION	ASPIRACTION TOP VALVE	914XX938	1
19	BOLA 16	ASPIRATION Ø BALL	910XX119	1
23	TORNILLO ALLEN M3x10	ALLEN SCREW M3X10 STAINLESS	910XX084	1

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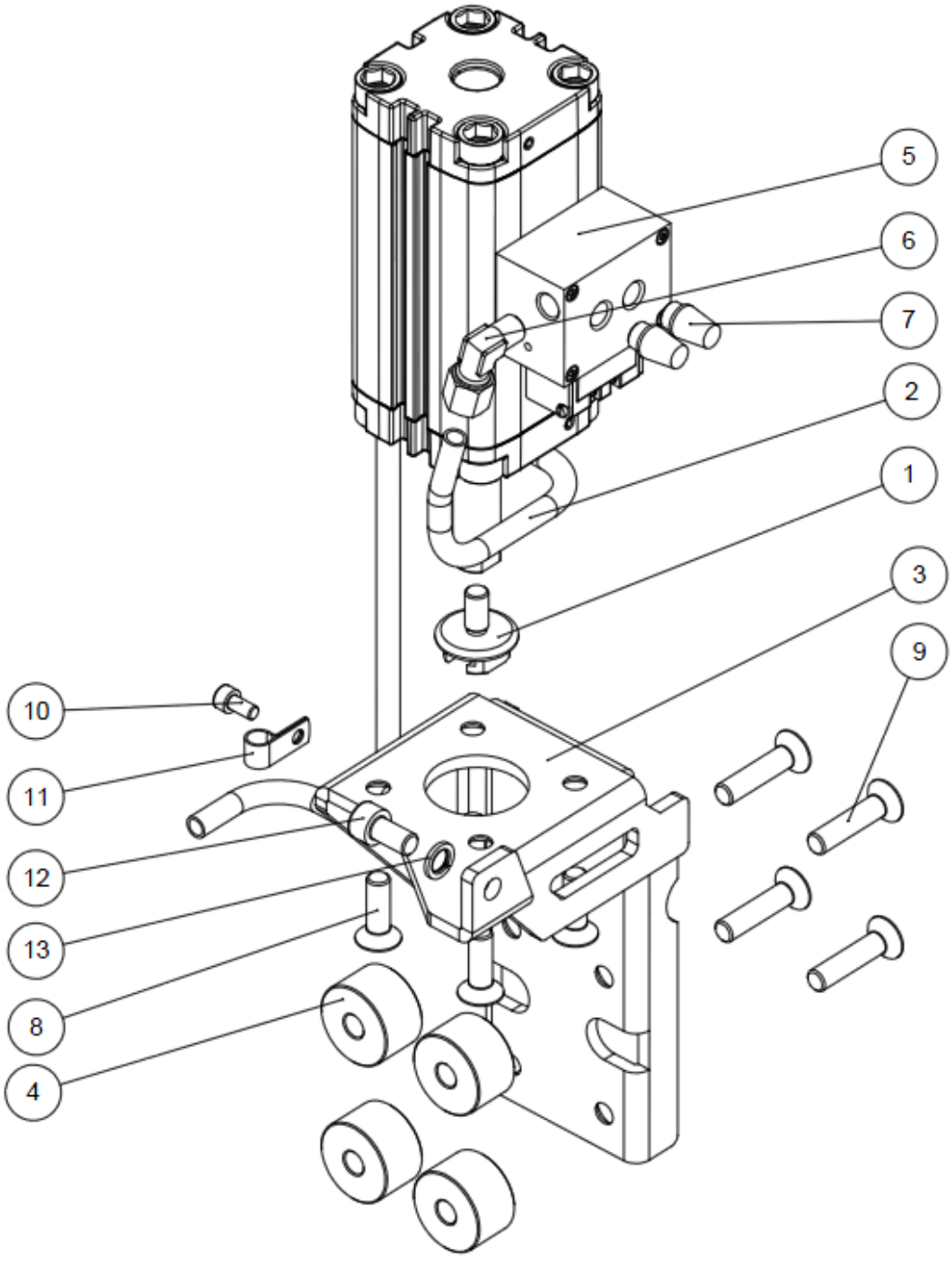
1.5. SUBCONJUNTO CILINDRO NEUMÁTICO / ASSEMBLY PNEUMATIC CILINDER (900XX163):



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Pos.	Denominación	Denomination	Ref.	Cant.
1	ROTULA CILINDRO	CYLINDER BALL	900XX167	1
2	TUBO ENTRADA CILINDRO	INPUT CYLINDER PIPE	900XX168	1
3	SOPORTE CILINDRO V2	CYLINDER SUPPORT V2	900XX169	1
4	AISLANTE PATA DEPOSITO	TANK LEG INSULATED	910XX072	4
5	CILINDRO NEUMATICO Ø50 ALTA TEMPERATURA NMT	CYLINDER PNEUMATIC Ø50 HIGH TEMPERATURE NMT	913XX586	1
6	RACOR 90º R1/8 / ER8-BN	90º FITTING R1/8 / ER8-BN	910XX415	1
7	SILENCIADOR LARGO G1/8-B	G1/8-B LARGE SILENCER	914XX041	2
8	TORNILLO AVELLANADO ALLEN M8x25 INOX	ALLEN SCREW M8X25 STAINLESS	917XX416	4
9	TORNILLO AVELLANADO ALLEN M8x35 INOX	ALLEN SCREW M8X35 STAINLESS	918XX480	4
10	TORNILLO ALLEN M5x12 INOX	ALLEN SCREW M5X12 STAINLESS	917XX406	1
11	BRIDA MOSS AL5	CLAMP MOSS AL5	900XX174	1
12	TORNILLO ALLEN M8x15 INOX	ALLEN SCREW M8X15 STAINLESS	914XX067	1
13	ARANDELA GROVER 8 INOX	GROVER WASHER M8 INOX	910XX135	1

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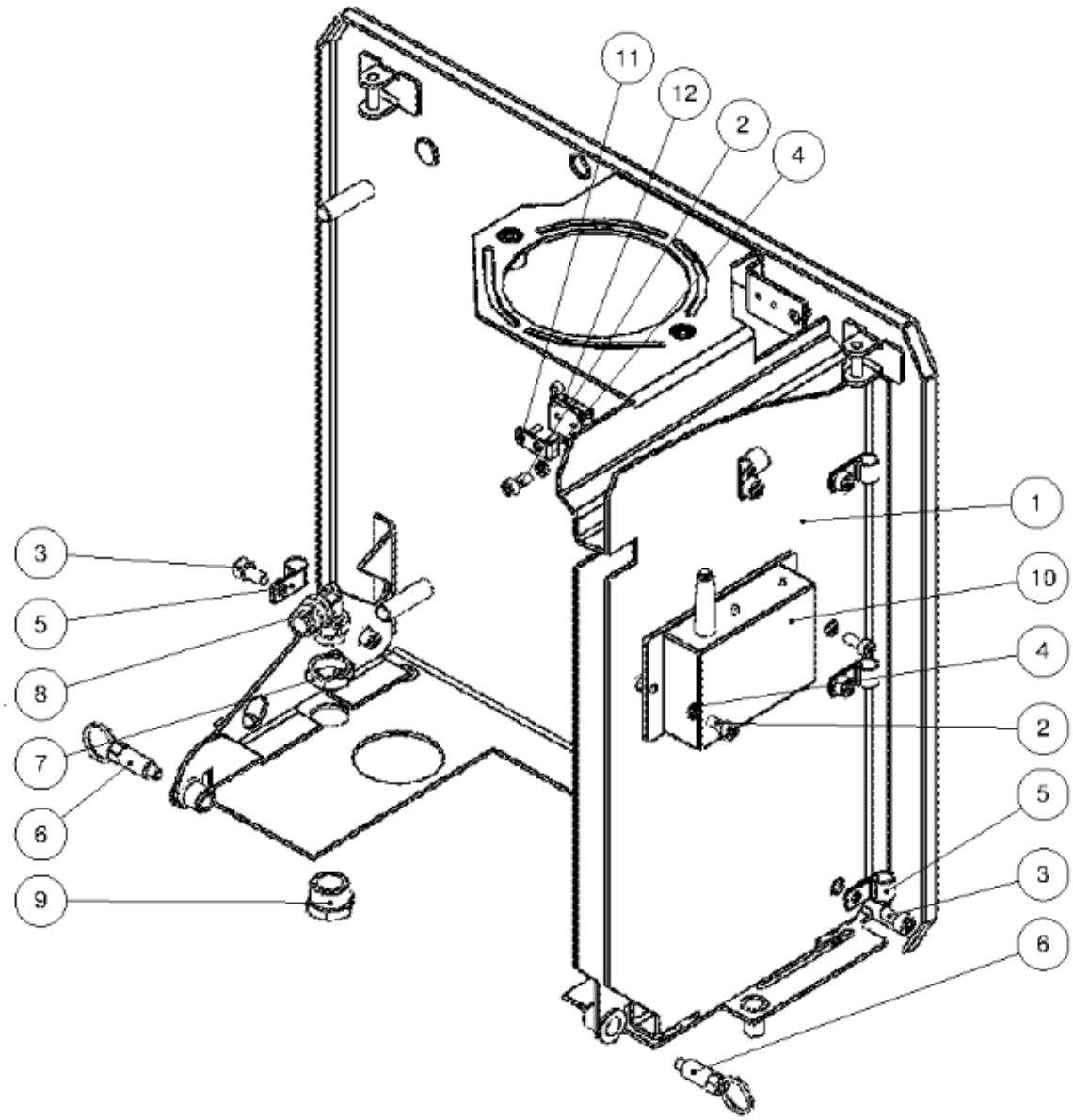
1.6. SUBCONJUNTO TABIQUE GLUEBOX / ASSEMBLY WALL GLUEBOX



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Pos.	Denominación	Denomination	Ref.	Cant.
1	TABIQUE GLUEBOX	GLUEBOX WALL	900XX221	1
2	TORNILLO ALLEN M4X10 INOX.	ALLEN SCREW M4X10 STAINLESS	910XX129	3
3	TORNILLO ALLEN M5X12 INOX.	ALLEN SCREW M5X12 STAINLESS	917XX406	5
4	ARANDELA GROWER M4 INOX.	GROVER WASHER M4 STAINLESS	910XX332	3
5	BRIDA MOSS AL5	MOSS FLANGE AL5	900XX174	5
6	POSICIONADOR DE MUELLE GN 717-5-M8-AK-ST	GN 717-5-M8-AK-ST POSITIONING SPRING GN	900XX223	2
7	TUERCA HEX. 3/8" GAS LATON NIQUELADO	NUT HEX. 3/8 "GAS BRASS NICKEL	-	
8	RACOR 90º G1/4 / ER8-BN	FITTING 90º G1/4 / ER8-BN	-	
9	REDUCCION G3/8 / G1/4 H-BN	REDUCTION G3/8 / G1/4 H-BN	-	
11	BRIDA AMARRE MICRO	MICRO CLAMP TIE	900XX222	1
10	MAZO SENSOR RECHNER Y MICRO GLUE BOX KUB	RECHNER SENSOR AND MICRO GLUE BOX	900XX224	1
12	CABLE CONECTORES M12 M-H 8 POLOS 1M	M12 M-H 8 POLOS 1M CONNECTOR WIRE	900XX225	1

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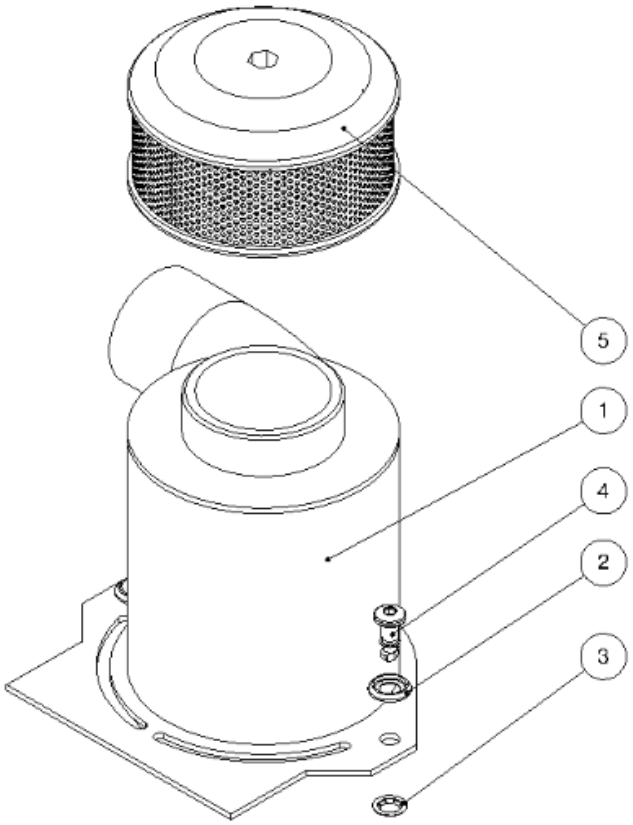
1.7. SUBCONJUNTO CHIMENEA CARGADOR CICLON / ASSEMBLY CYCLONE CHARGE CHIMNEY (900XX171)



Pos.	Denominación	Denomination	Ref.	Cant.
1	CHIMENEA CARGADOR CICLON	CYCLONE LOADER CHIMNEY	900XX170	1
2	ARANDELA TORNILLO CAUTIVO	SCREW CAPTIVE WASHER	914XX378	2
3	RETEN SOUTHCO	SOUTHCO RETEN	917XX264	2
4	TORNILLO 1/4 VUELTA SOUTHCO 280	SCREW ¼ TURN SOUTCHO 280	917XX263	2
5	FILTRO ASPIRACIÓN ROSCA 1/2 MICRAJE 125	SUCTION FILTER THREAD ½ MICRON 125	910XX465	1

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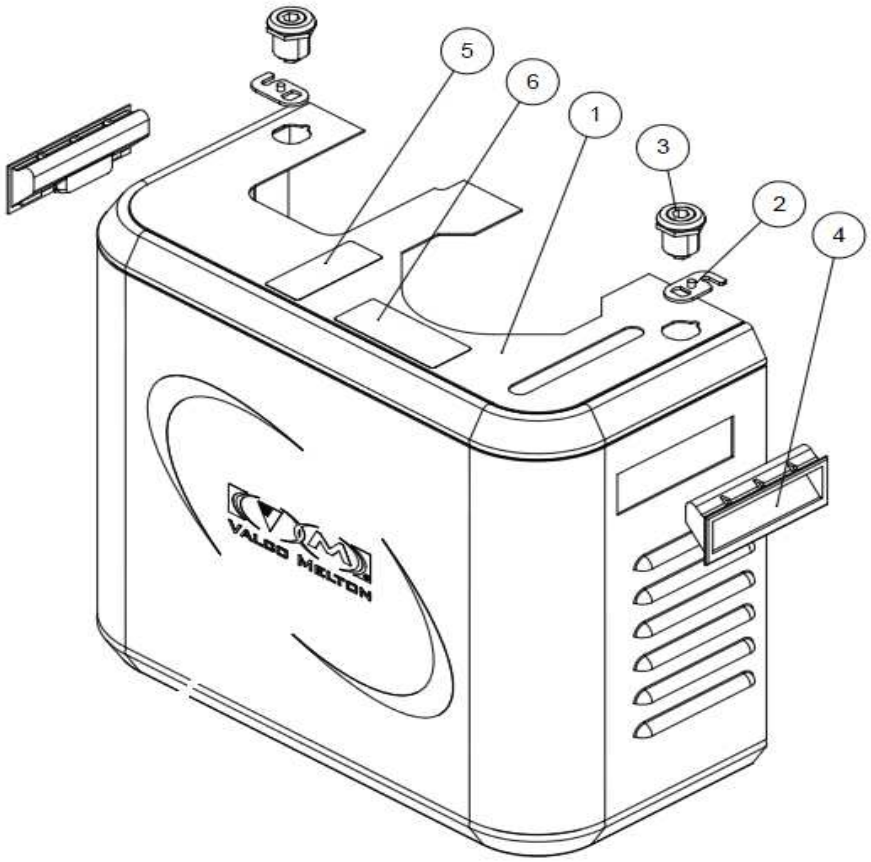
1.8. SUBCONJUNTO CARCASA GLUEBOX / ASSEMBLY CARCASE (900XX193)



Pos.	Denominación	Denomination	Ref.	Cant.
1	CARCASA GLUEBOX	CARCASE GLUEBOX	-	1
2	LENGÜETA DE CIERRE	CLOSE TAB	PAG 19	2
3	CIERRE DE 1/4 DE VUELTA CON HEXAGONO 8	CLOSING QUARTER BACK WITH HEXAGON 8	PAG 19	2
4	TIRADOR ENCASTRADO PEQUEÑO	BUILT SMALL HANDLE	900XX192	2
5	PEGATINA RIESGO ELECTRICO V1	BUMPER ELECTRICAL RISK V1	900XX190	1
6	PEGATINA ALTA TEMPERATURA FLEXMELT V1	BUMPER HIGH TEMPERATURE FLEXMELT V1	900XX191	1

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1.8.1. SISTEMA CIERRE CARCASA / CASE CLOSURE SYSTEM (900XX189)

Pos.	Denominación	Denomination	Ref.	Cant.
2	LENGÜETA DE CIERRE	CLOSE TAB	-	2
3	CIERRE DE 1/4 DE VUELTA CON HEXAGONO 8	CLOSING QUARTER BACK WITH HEXAGON 8	-	2

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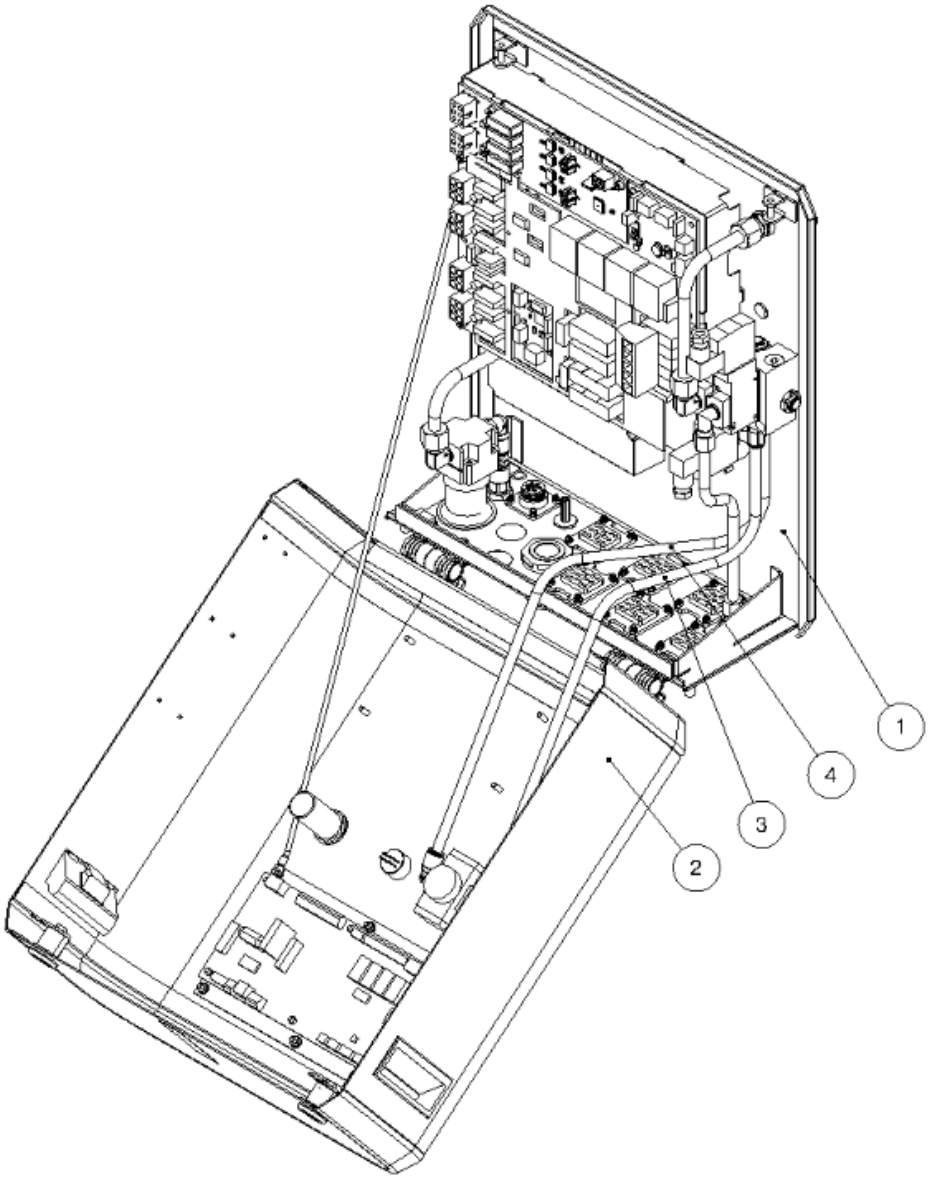
2.1. SUBCONJUNTO CONTROLBOX KUBE / ASSEMBLY CONTROLBOX KUBE



Pos.	Denominación	Denomination	Ref.	Cant.
1	SUBCONJUNTO TABIQUE TERMICO	ASSEMBLY THERMAL WALL	PAG 21	1
2	SUBCONJUNTO CARCASA CONTROLBOX	ASSEMBLY CONTROLBOX CARCASE	PAG 25	1
3	TUBO POLIURETANO 8X5,5 490 AZUL	BLUE POLYURETHANE TUBE 8X5,5 490	918XX639	1
4	TUBO POLIURETANO 8X5,5 530 AZUL	BLUE POLYURETHANE TUBE 8X5,5 530	918XX639	1

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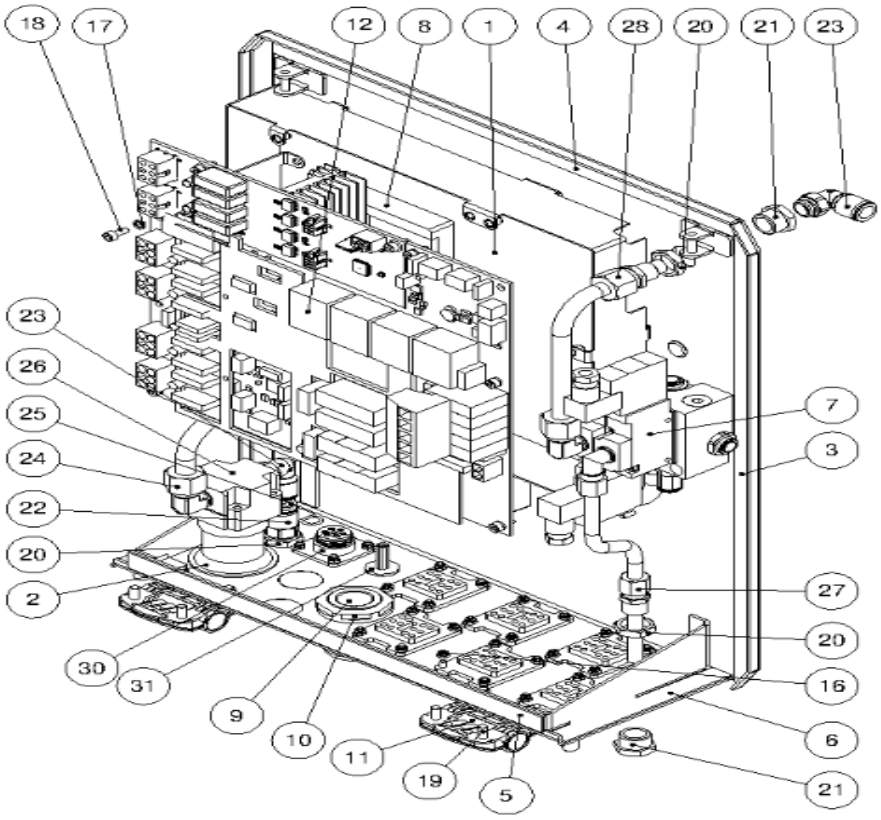
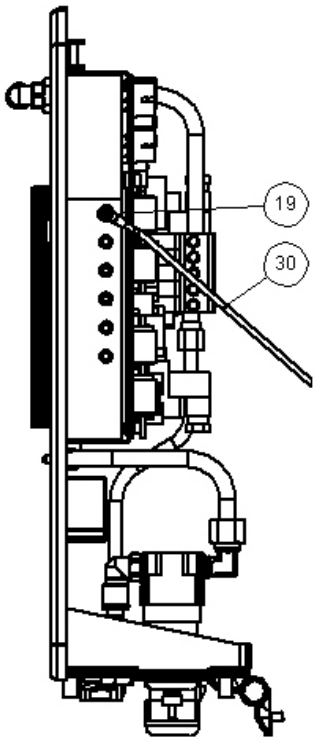
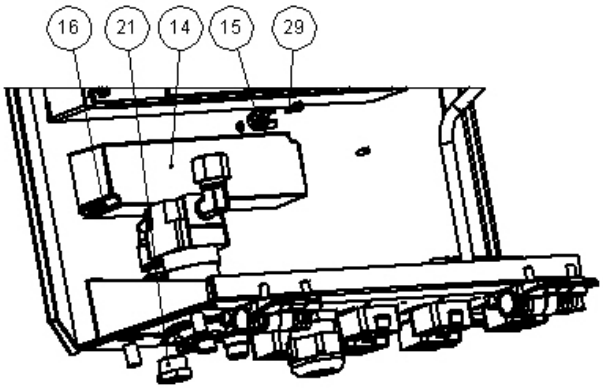
2.2. SUBCONJUNTO TABIQUE TERMICO / ASSEMBLY THERMAL WALL







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Pos.	Denominación	Denomination	Ref.	Cant.
1	TABIQUE CONTROLBOX	CONTROLBOX WALL	900XX218	1
2	JUNTA FILTRO	FILTER JOINT	914XX980	1
3	JUNTA CONTROLBOX Nº1	Nº1 CONTROLBOX JOINT	-	2
4	JUNTA CONTROLBOX Nº2	Nº2 CONTROLBOX JOINT	-	1
5	JUNTA CONTROLBOX Nº3	Nº3 CONTROLBOX JOINT	-	1
6	JUNTA CONTROLBOX Nº4	Nº4 CONTROLBOX JOINT	-	2
7	SUBCJTO. DISTRIBUCION AIRE	ASSEMBLY AIR DISTRIBUTION	PAG 23	1
8	JUNTA RADIADOR TARJETA POTENCIA EC	POWER EC CARD RADIATOR JOINT	-	1
9	PRENSA PVC PG-21 GRIS	PVC PG21 PRESS	914XX292	1
10	TUERCA PVC PG-21 GRIS	PVC PG21 NUT	914XX295	1
11	BISAGRA SOUTHCO C6-6	SOUTHCO C6-6 HINGE	917XX752	2
12	PCB ASSY, 12 ZONE POWER BOARD	PCB ASSY, 12 ZONE POWER BOARD	151XX651	1
13	PCB ASSY, 5/6 ZONE OPTION BOARD	PCB ASSY, 5/6 ZONE OPTION BOARD	151XX649	1
14	FUENTE ALIMENTACION 60 W 24 DVC	60W 24 DVC POWER SUPPLY	900XX220	1
15	CLIP PARA TUBO Ø10	TUBE CLIP Ø10	-	1
16	TUERCA HEXAGONAL AUTOBLOC. M3 DIN 985	M3 HEX NUT AUTOBLOCK	-	30
17	ARANDELA GROWER M4 INOX.	GROVER WASHER M4 STAINLESS	910XX332	7
18	TORNILLO ALLEN M4X10 INOX.	ALLEN SCREW M4X10 STAINLESS	910XX129	7
19	TORNILLO ALLEN M5X12 INOX.	ALLEN SCREW M5X12 STAINLESS	917XX406	9
20	TUERCA HEX. 3/8" GAS LATON NIQUELADO	3/8" GASS HEX BRASS NICKEL NUT	-	3
21	REDUCCION G3/8 / G1/4 H-BN	G3/8 / G1/4 H-BN REDUCTION	-	3
22	RACOR RECTO G1/4 / ER10-P	STRAIGHT FITTING G1/4 / ER10-P	-	1
23	RACOR 90º G1/4 / ER10-P	90º FITTING G1/4 / ER10-P	-	2
24	RACOR 90º R1/4 / O10-BN	90º FITTING R1/4 / O10-BN	-	1
25	UNION DOBLE MACHO TUBO 10	DOBLE MALE JOIN TUBE 10	-	1
26	FILTRO SMC AF20-F02	SMC AF20-F02 FILTER	913XX104	1
27	RACOR RECTO R1/4 / O8-B	STRAIGHT FITTING R1/4 / O8-B	910XX244	1
28	RACOR RECTO 1/4 TUBO 10 C/OVAL	STRAIGHT FITTING 1/4 TUBO 10 C/OVALE	-	1
29	TORNILLO ALLEN M3X10 INOX.	ALLEN SCREW M3X10 STAINLESS	910XX084	1
30	SIRGA APERTURA CARCASA	WIRE OPENNING CARCASE	-	1

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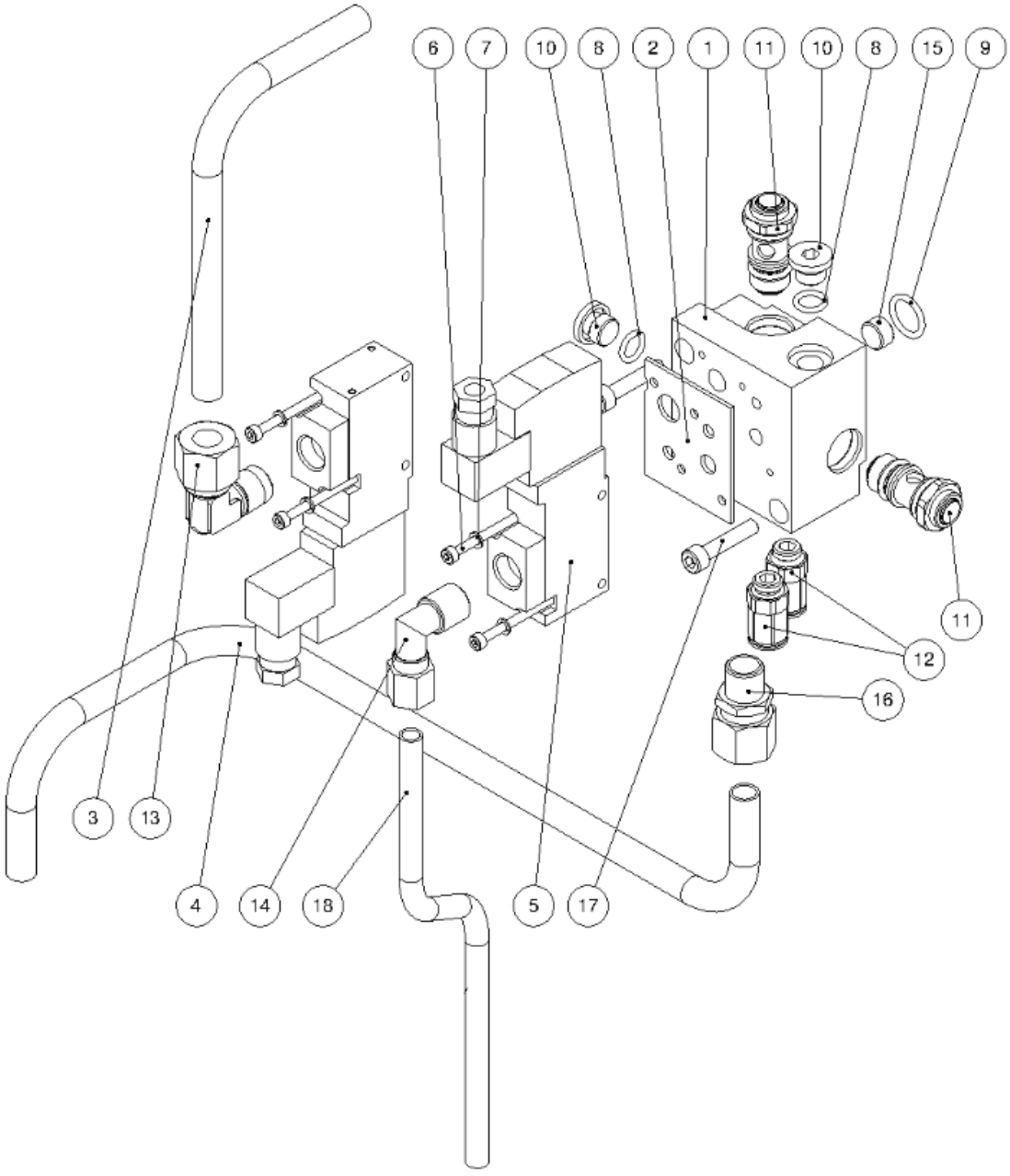
TEL: +34 948 321580 Fax: +34 948 326584 melton@melton.es www.valcomelton.com

2.3. SUBCONJUNTO DISTRIBUCIÓN AIRE / ASSEMBLY AIR DISTRIBUTION (900XX212)



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Pos.	Denominación	Denomination	Ref.	Cant.
1	BASE VALVULAS	VALVE BASE	-	1
2	JUNTA BASE VALVULAS	VALVE JOINT BASE	900XX213	1
3	TUBO SALIDA CARGADOR	OUTPUT TUBE CHARGE	900XX215	1
4	TUBO ENTRADA DISTRIBUCIÓN	INPUT TUBE DISTRIBUTOR	900XX216	1
5	ELECTROVALVULA SMC VQZ312-5Y1-02F-Q	SMC VQZ312-5Y1-02F-Q ELECTROVALVE	900XX214	2
6	TORNILLO ALLEN M3X35 INOX.	ALLEN SCREW M3X35 STAINLESS	-	4
7	ARANDELA GROWER M3 INOX.	GROVER WASHER M3 STAINLESS	910XX328	4
8	JUNTA TORICA VITON 8X1.8	VITON O-RING Ø8X1,8	913XX668	2
9	JUNTA TORICA VITON 12X2	VITON O-RING Ø12X2	910XX049	1
10	TAPON HEXAGONAL INTERIOR 1/8 BSP C/JUNT	1/8" BSP INNER HEX CAP WITH JOINT	915XX431	2
11	REGUL. CAUDAL 1/4 / ER6-P TORN. OCULTO	1/4 / ER6-P FLOW REGULATOR HIDDENSCREW	-	2
12	RACOR RECTO G1/8 / ER8-P	STARIGHT FITTING G1/8 / ER8-P	913XX878	2
13	RACOR 90º R1/4 / O10-BN	90º FITTING R1/4 / O10-BN	-	1
14	RACOR 90º R1/4 / O8-BN	90º FITTING R1/4 / O8-B	910XX240	1
15	SILENCIADOR MINIATURA G1/8-B	G1/8-B MINI SILENCER	917XX598	1
16	RACOR RECTO 1/4 TUBO 10 C/OVAL	STRAIGHT FITTING 1/4 TUBO 10 C/OVALE	-	1
17	TORNILLO ALLEN M5X25 INOX.	ALLEN SCREW M5X25 STAINLESS	914XX197	2
18	TUBO SALIDA GLUEBOX	OUTPUT TUBE GLUEBOX	900XX217	1

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2.3.1 KIT CUERPO DISTRIBUCION AIRE / KIT AIR DISTRIBUTION BODY (900XX211)

Pos.	Denominación	Denomination	Ref.	Cant.
1	BASE VALVULAS	VALVE BASE	-	1
2	JUNTA BASE VALVULAS	VALVE JOINT BASE	900XX213	1
8	JUNTA TORICA VITON 8X1.8	VITON O-RING Ø8X1,8	913XX668	2
9	JUNTA TORICA VITON 12X2	VITON O-RING Ø12X2	910XX049	1
10	TAPON HEXAGONAL INTERIOR 1/8 BSP C/JUNT	1/8" BSP INNER HEX CAP WITH JOINT	915XX431	2
11	REGUL. CAUDAL 1/4 / ER6-P TORN. OCULTO	1/4 / ER6-P FLOW REGULATOR HIDDENSCREW	-	2
12	RACOR RECTO G1/8 / ER8-P	STARIGHT FITTING G1/8 / ER8-P	913XX878	2
15	SILENCIADOR MINIATURA G1/8-B	G1/8-B MINI SILENCER	917XX598	1
16	RACOR RECTO 1/4 TUBO 10 C/OVAL	STRAIGHT FITTING 1/4 TUBO 10 C/OVALE	-	1

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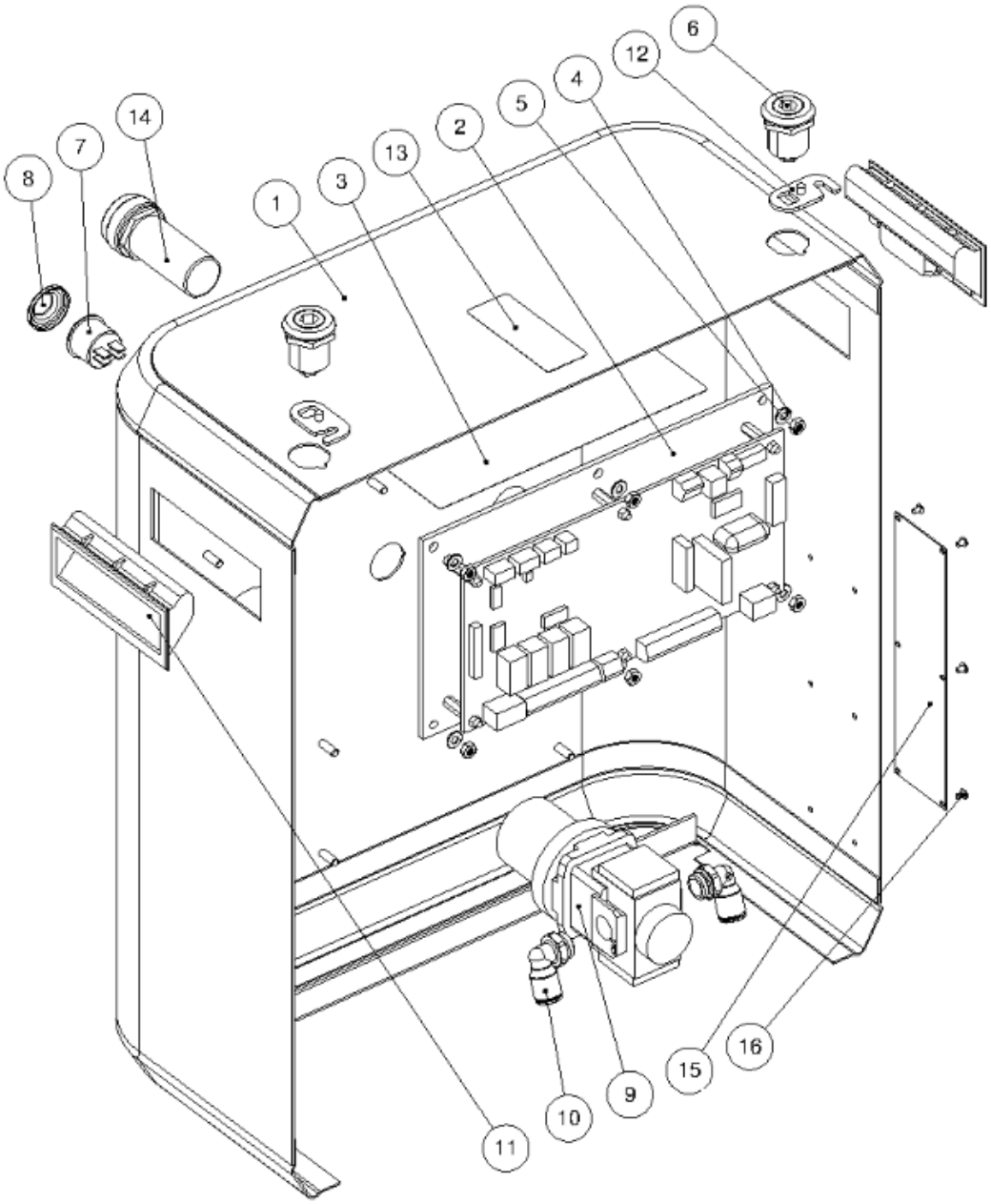
2.4. SUBCONJUNTO CARCASA CONTROLBOX / ASSEMBLY CONTROLBOX CARCASE



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Pos.	Denominación	Denomination	Ref.	Cant.
1	CARCASA CONTROLBOX	CONTROLBOX CARCASE	-	1
2	OVERLAY ASSY, HOT MELT EC DISP	OVERLAY ASSY, HOT MELT EC DISP	137XX015	1
3	PEGATINA CONEXIONES ELECTRICAS	ELECTRICAL CONNECTION BUMPER	913XX245	1
4	ARANDELA PLANA M4 INOX	M4 PLAIN WASHER STAINLESS	914XX330	6
5	TUERCA HEXAGONAL M4 INOX.	HEXAGONAL NUT M4 STAINLESS	915XX159	6
6	CIERRE DE 1/4 DE VUELTA CON HEXAGONO 8	1/4 CLOSE LAP WITH M8 HEX.	PAG 19	2
7	INTERRUPTOR REDONDO 2 POLOS	BIPOLAR ROUND SWITCH	918XX637	1
8	PROTECCION INTERRUPTOR 2 POLOS	BIPOLAR SWITCH PROTECTION	918XX638	1
9	REGULADOR SMC ARG20-F02G1H	SMC ARG20-F02G3H PRESSURE REGULATOR	913XX103	1
10	RACOR 90º G1/4 / ER8-P	90º FITTING G1/4 / ER8-P	900XX194	2
11	TIRADOR ENCASTRADO PEQUEÑO	BUILT SMALL HANDLE	900XX192	2
12	LENGÜETA DE CIERRE	CLOSER TAB	PAG 19	2
13	PEGATINA RIESGO ELECTRICO V1	V1 ELECTRICAL RISK BUMPER	900XX190	1
14	PILOTO INTERMITENTE Y ZUMBADOR 24V ROJO	RED 24V BUFFER-FLASHING ALARM	900XX195	1
15	CHAPA MATRICULA	IDENTIFICATION SHEET	917XX326	1
16	REMACHES POP 2,4X5,1 (MANG.)	2,4X5,1 POP RIVET	915XX249	6

2.4.1. SISTEMA CIERRE CARCASA / CASE CLOSURE SYSTEM (900XX189)

Pos.	Denominación	Denomination	Ref.	Cant.
12	LENGÜETA DE CIERRE	CLOSE TAB	-	2
6	CIERRE DE 1/4 DE VUELTA CON HEXAGONO 8	CLOSING QUARTER BACK WITH HEXAGON 8	-	2

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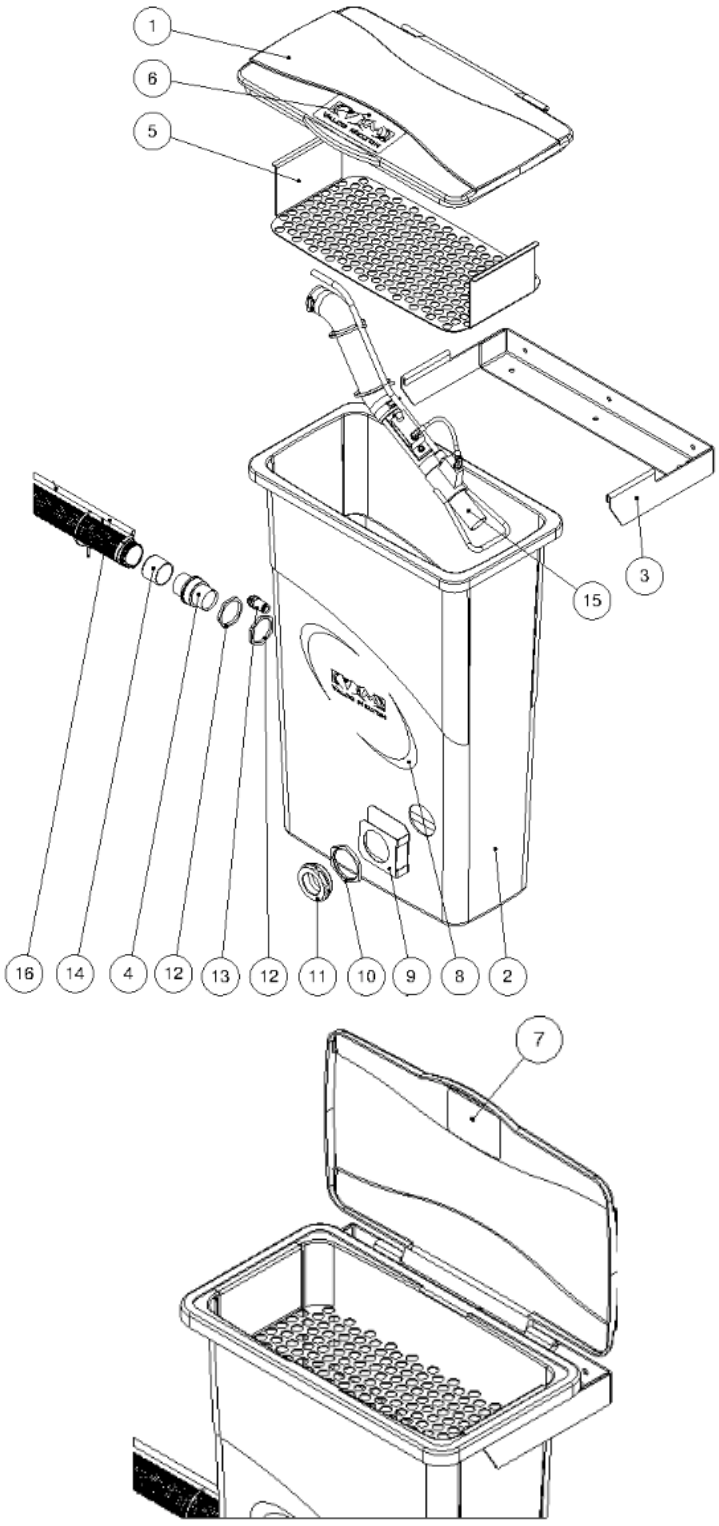
TEL: +34 948 321580 Fax: +34 948 326584 melton@melton.es www.valcomelton.com

3.1. SUBCONJUNTO CUBO GRANZA KUBE / ASSEMBLY PELLET KUBE CONTAINER (900XX207)



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Pos.	Denominación	Denomination	Ref.	Cant.
1	TAPA RUBBERMAID CUBO 87L. SLIM JIM	87L. SLIM JIM RUBBERMAID LID CONTAINER	900XX196	1
2	CUBO GRANZA KUBE	PELLETS KUBE CONTAINER	900XX197	1
3	SOPORTE CUBO KUBE	SUPPORT KUBE CONTAINER	900XX199	1
4	RACOR PASAMANGUERA CUBO KUBE	PASS HOSE KUBE CONTAINER	-	1
5	REJILLA CUBO KUBE	GRID KUBE CONTAINER	900XX200	1
6	PEGATINA SUPERIOR TAPA CUBO KUBE	TOP LID BUMPER KUBE CONTAINER	900XX202	1
7	PEGATINA INFERIOR TAPA CUBO KUBE	BOTTOM LID BUMPER KUBE CONTAINER	900XX203	1
8	PEGATINA FRONTAL CUBO KUBE	FRONT STICKER	900XX084	1
9	CHAPA VISOR	VISOR SHEET	900XX201	1
10	TUERCA ELESA 15051 - GH.2	15051 - GH.2 ELESA NUT	-	1
11	VISOR ELESA 14566 - HGFT.40/SL-2	14566 - HGFT.40/SL-2 ELESA VISOR	900XX198	1
12	TUERCA PG-36 LATON	PG-36 BRASS NUT	-	2
13	PASATABIQUE ER10 / ER10-BN	WALL PIN ER10/ ER10- BN	-	1
14	TAPON CUBRIR CARGADOR Ø38 GRANZA REF. 1	COVERING CAP FEEDING Ø38 PELLETS	918XX631	1
15	SUBCONJUNTO MANGUERA INTERIOR CUBO KUBE	ASSEMBLY INTERIOR HOSE KUBE CONTAINER	PAG 29	1
16	SUBCONJUNTO MANGUERA EXTERIOR CUBO KUBE	ASSEMBLY EXTERIOR HOSE KUBE CONTAINER	PAG 31	1

3.1.1. KIT TAPA CUBO KUBE / KIT LID KUBE CONTAINER (900XX204)

Pos.	Denominación	Denomination	Ref.	Cant.
1	TAPA RUBBERMAID CUBO 87L. SLIM JIM	87L. SLIM JIM RUBBERMAID LID CONTAINER	900XX196	1
6	PEGATINA SUPERIOR TAPA CUBO KUBE	TOP LID BUMPER KUBE CONTAINER	900XX202	1
7	PEGATINA INFERIOR TAPA CUBO KUBE	BOTTOM LID BUMPER KUBE CONTAINER	900XX203	1

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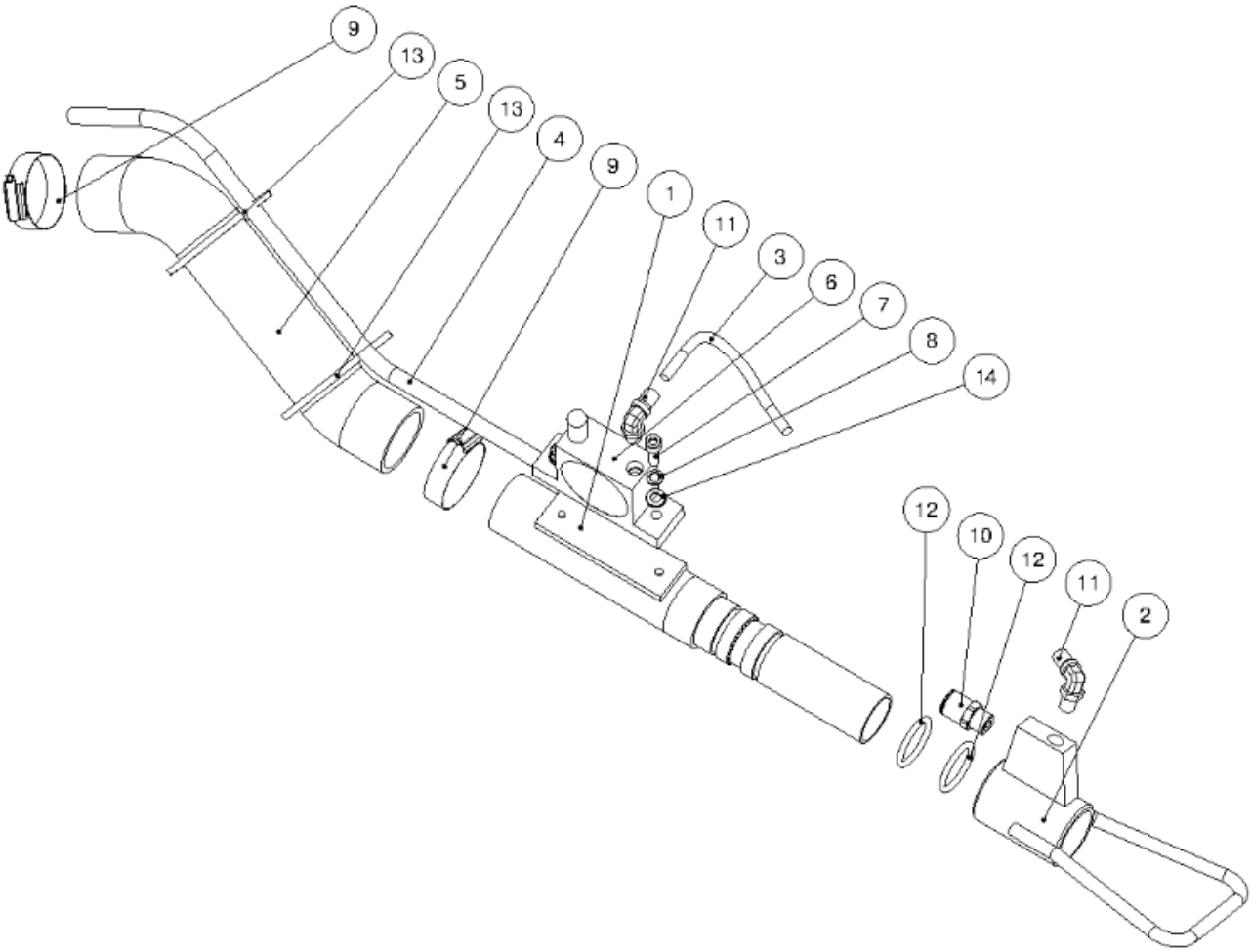
TEL: +34 948 321580 Fax: +34 948 326584 melton@melton.es www.valcomelton.com

3.2. SUBCONJUNTO MANGUERA INTERIOR CUBO / ASSEMBLY INTERIOR HOSE CONTAINER (900XX208)



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Pos.	Denominación	Denomination	Ref.	Cant.
1	TUBO INFERIOR Ø40 MODELO 2	INFERIOR PIPE Ø40 MODEL 2	900XX205	1
2	CASQUILLO ENTRADA AIRE	INPUT AIR SPILE	910XX508	1
3	TUBO POLIURETANO 6X4 AZUL	BLUE POLYURETHANE PIPE 6X4	-	1
4	TUBO POLIURETANO 10X7 AZUL	BLUE POLYURETHANE PIPE 10X7	-	1
5	TUBO Ø INT 40 GRANZA	PELLET PIPE Ø INT 40	915XX870	1
6	VIBRADOR CARGADOR GRANZA	PELLET FEEDING VIBRATOR	900XX206	1
7	TORNILLO ALLEN M6X20 INOX.	ALLEN SCREW M6X20 STAINLESS	910XX055	2
8	ARANDELA GROWER M6 INOX.	GROVER WASHER M6 STAINLESS	910XX131	2
9	ABRAZADERA ASFA 32-50	ASFA 32-50 CLAMP	918XX620	2
10	RACOR RECTO R1/4 / ER10-BN	STRAIGHT FITTING E/R 1/4" GAS PIPEØ10	943XX049	1
11	RACOR 90º G1/8 / ER6-BN	90º FITTING G1/8 / ER6-BN	911XX476	2
12	JUNTA NBR 27X3,5	NBR 27X3.5 JOINT	914XX344	2
13	BRIDA UNEX 2247-0	UNEX CLAMP 2247-0	915XX947	2
14	ARANDELA PLANA M6 INOX.	PLAIN WASHER M6 STAINLESS	917XX498	2

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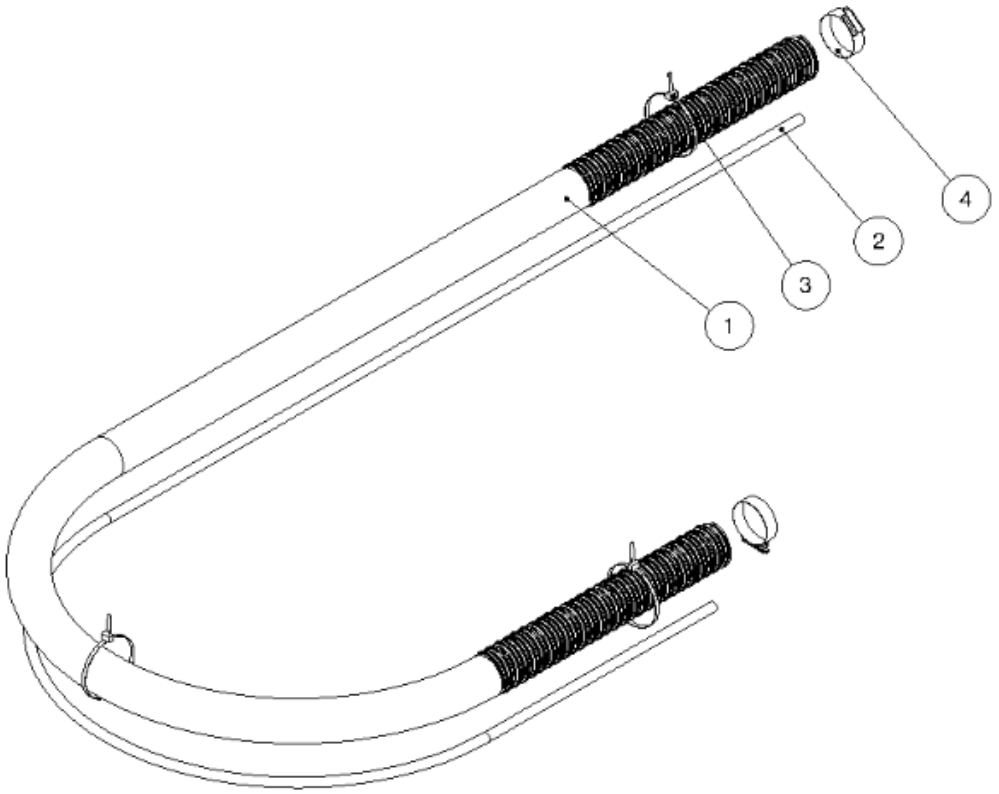
3.3 SUBCONJUNTO MANGUERA EXTERIOR CUBO / ASSEMBLY EXTERIOR HOSE CONTAINER (900XX209)



Pos.	Denominación	Denomination	Ref.	Cant.
1	TUBO Ø INT 40 GRANZA	PELLET PIPE Ø INT 40	915XX870	3
2	TUBO POLIURETANO 10X7 AZUL	BLUE POLYURETHANE PIPE 10X7	-	3
3	BRIDA UNEX 2247-0	UNEX CLAMP 2247-0	915XX947	3
4	ABRAZADERA ASFA 32-50	ASFA 32-50 CLAMP	918XX620	2
5	CARRETE 1 MANGUERA	RILL 1 HOSE	-	1
6	FILM ESTIRABLE 250MM	250MM FILM	-	0,25

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