D10/D16 Hot Melt Unit

Manual Number: **MM113**

Release Date: **1/2015**

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Part Number: MM113

Printed in the USA

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Declaration of Conformity

(According to EN 45014)

CE

Manufacturer:	Valco Melton A division of Valco Cincinnati, Incorporated 411 Circle Freeway Drive Cincinnati, OH 45246 USA
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declares that the product:	
Product Name:	D10/D16 Hot Melt Unit
complies with the following Council Directives:	
Safety of Machinery: **Low Voltage Equipment:** **EMC:**	2006/42/EC 2006/95/EC 2004/108/EC
and conforms to the following standards:	
Safety:	EN60204-1:2006 EN13849-1
Risk:	EN14121-1:2007
EMC Emissions:	EN61000-6-4:2007 EN61000-4-2
EMC Immunity:	EN61000-6-2:2005 EN61000-4-3 EN61000-4-4 EN61000-4-5 EN61000-4-6 EN61000-4-8 EN61000-4-11
Place and Date:	Cincinnati, Ohio USA CE Mark first fixed 2006
Signature:	David H. Swedes, Director of Engineering & Manufacturing

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VALCO MELTON™

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SECTION 1 - INTRODUCTION

ValcoMelton, a division of Valco Cincinnati, Inc., has prepared this manual as an aid for installing, operating, and servicing the D10/D16 hot melt unit. It also contains a list of part numbers for replacement parts. If you need more information, contact your ValcoMelton representative.

Description

The D10/D16 hot melt unit is a medium-volume system designed to melt and pump thermoplastic adhesives. The D10/D16 unit features a precision electronic temperature control, a digital multi-zone temperature display, an electric motor-driven gear pump (variable or fixed speed), and an adjustable pressure control.

Features and capabilities include:

- Precision electronic temperature control
- Capacity of up to six (6) hoses and guns
- Positive displacement electric motor-driven gear pump
- Adjustable pressure control
- Integrated over-temperature protection
- User selectable inputs and outputs
- Variable frequency drive (VFD) on Variable Speed Units
- Accepts encoder or tachometer inputs for Variable Speed Units

SECTION 2 - SAFETY AND USE

Read Thoroughly Before Handling Equipment

Warning!

Read and follow all safety precautions, warnings, cautions, and other recommendations in this manual. OTHERWISE, DEATH, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

Read this entire section before handling the equipment.

Symbols

The following symbols may be used on the equipment and/or in this manual.

This symbol represents a **Caution** or a **Warning**. *Cautions* draw special attention to anything that could damage equipment or cause the loss of data. *Warnings* draw special attention to anything that could injure or kill the reader. Both Cautions and Warnings are placed before the step they apply to.

This symbol represents a **Hot Surface**.

This symbol represents a **Puncture Risk.** It is usually used in regard to nozzle cleaning appliances and other sharp instruments that can cause puncture wounds and risk exposure to bloodborne pathogens and other debris.

This symbol means that **Working Gloves** are required.

This symbol means that **Goggles** are required.

This symbol indicates a **Shock Hazard**. There is a presence of non-insulated dangerous voltage within the product's enclosure. This voltage may cause electrical shock or fire.

Continued next page

Symbols - Continued

This symbol indicates the need to **Unplug/Disconnect All Power Sources** and to let them de-energize before attempting any type of work or maintenance. Remember that there can still be energy in equipment, cords, and wires even when unplugged/ disconnected.

This symbol indicates the need to **Lock Out All Power Sources** and to let them de-energize before attempting any type of work or maintenance. If power is not locked out, the person working on the equipment may be injured or killed if someone unknowingly switches on the power to the equipment.

This symbol indicates a **Note**. Notes point out something of special interest or importance to the reader. They give tips, hints, and information in addition to what is necessary for the step preceding it.

Owner Responsibilities

The owner of the equipment is under obligation to manage all safety information. Some examples include:

- Examine all safety materials and documents as well as jurisdictional laws and make certain all laws, recommendations, and other safety/hazard laws, certification requirements, training, and instructions are followed and kept current.
- Maintain all safety materials including tags, labels, documents, and MSDS information. Make certain they are distinct and can be read/understood. Replace any that are dirty, worn, or unreadable.
- Make sure all personnel who will handle, install, maintain, operate, fix, and work around the equipment have ready access to the safety information, training, and equipment according to jurisdictional authorities.

The owner of the equipment is under obligation to make certain that all instructions, requirements, and jurisdictional laws are met. Some examples include:

- Make sure there are regular inspections of equipment and safety devices.
- Have regular safety drills and inspections supervised by the proper authorities.
- Provide all required safety items, first aid equipment, and training.

The owner of the equipment is under obligation to make certain that all personnel who will handle, install, maintain, operate, fix, and work around the equipment are qualified, trained, and up-to-date with all information regarding the equipment. Some examples include:

- Make sure all personnel have the proper safety training, equipment, education, and abilities necessary for the job function according to safety instructions and all jurisdictional laws and regulations.
- It is strongly advised that personnel receive first-responder medical care training in case of burns, medical emergencies, or other injuries. Training should be kept up to date.
- Make sure all personnel understand and can follow safety policies and procedures for the organization as well as for the specific equipment.
- Make sure that all personnel are consistently trained, evaluated, free of alcohol and medications that may impair judgment and reflexes, and are tested for banned substances according to jurisdictional authorities.

Limitations of Use

Read this document and all information regarding the equipment before handling the equipment. The intended use of the equipment is stated in Section 1 of this manual.

Do not use this equipment for anything other than its intended use. Do not modify, change, or alter the equipment in any way. If you are unsure of the intended use and the limitations of use for the equipment, contact your Valco Melton Representative before handling the equipment.

Installation/ Startup/Use Safety Information

Valco Melton hot melt units, cold glue units, controllers, inspection systems and all related accessories have the following universal safety precautions (this is not intended to be an exhaustive list; follow all instructions and safety precautions for the specific type of equipment involved):

Warning!

Only qualified personnel should install the equipment. Valco Melton strongly recommends that a Valco Melton Technician install all equipment. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

Warning!

The equipment should be installed so that it can be turned off at a location **away** from the equipment in case of injury, electrical problems, or malfunction. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!

Properly route all electrical wires. Never tamper with equipment. Only use approved and correct voltage, type of current, fuses, and other power supplies. Replace worn cords, hoses, etc. immediately. FAILURE TO OBSERVE WARNING MAY RESULT IN DEATH, PERSONAL INJURY, AND/OR EQUIPMENT DAMAGE.

Warning!

Poor ventilation, smoking, and open flames can cause overheated hot melt to ignite. Adequate ventilation must be provided. Smoking should be prohibited in the immediate vicinity of the molten adhesive. Open flames must be kept away from the area around molten adhesive. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

Warning!

Never use any Valco Melton equipment in an explosive environment. Explosive environments include, but are not limited to, solvent-based cleaners or adhesives, explosive materials, radioactive materials, etc. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!

Equipment will start automatically when remotely controlled by triggering devices. Be sure to disable all triggering devices, carefully release hydraulic pressure, and disconnect air pressure before servicing or working near guns, valves, and other triggered devices. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

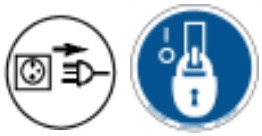
Shut Down Safety Information

Valco Melton hot melt units, cold glue units, controllers, inspection systems and all related accessories have the following universal safety precautions (this is not intended to be an exhaustive list; follow all instructions and safety precautions for the specific type of equipment involved):

Warning!

Purge the fluid pressure and the air pressure from the system before disconnecting/disabling any part of the system. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!



Disconnect and lock out all power before maintenance or other need to open the equipment. Only qualified personnel should open and service the control. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!

Equipment may still be energized even if unplugged! When making adjustments or performing checkout procedures, stay clear of any moving mechanical parts and do not touch exposed electrical equipment or electrical connectors. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!

Disconnect/disable all mechanical and/or electrical devices that send activation signals to the gun(s), valve(s), melter pump(s), etc. This includes pattern controls, timers, input/output signals, etc. Only qualified personnel should open and service the control. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!

Disable all triggering devices, relieve all residual pressure (hydraulic and air) and allow adhesive to cool before attempting to disconnect guns, hoses, valves, etc. Only qualified personnel should open and service the control. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!

Never point an adhesive dispensing gun, valve, hose, air hose, or anything else at yourself or another person. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Hot-Melt-Specific, General Safety Information

Valco Melton hot melt units have the following universal safety precautions **in addition to all other universal precautions previously mentioned** (this is not intended to be an exhaustive list; follow all instructions and safety precautions for the specific type of equipment involved):

Warning!

Never process any polyurethane reactive (PUR) hot melt or solvent-based material in a Valco Melton unit unless you are certain that the unit is compatible and is marked “PUR”! Read all instructions and MSDS sheets carefully, following manufacturer’s instructions, especially regarding heat levels. If you have any question as to the compatibility of a Valco Melton unit for PUR hot melt, call your Valco Melton Representative before attempting to use the unit for PUR or solvent-based materials. OTHERWISE, HAZARDOUS FUMES, EXPLOSION, DEATH, OR PERSONAL INJURY COULD OCCUR.

Warning!

Keep pump cover and electrical enclosures closed except during setup, service, and checkout procedures. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!

People with respiratory problems (e.g., asthma, bronchitis, etc.) should not work in the vicinity of molten adhesive. RESPIRATORY PROBLEMS MAY BE AGGRAVATED BY THE FUMES. Do not wear a face mask when working around molten adhesive. THE MASK MAY TRAP THE FUMES AND DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!

Keep hot melt hoses away from walkways and the moving parts of hot melt systems. OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

Warning!

Hot surfaces! Do not touch! Use extreme caution when refilling the unit by hand. OTHERWISE, PERSONAL INJURY COULD OCCUR.

Warning!

Wear protective gloves and goggles at all times around all machinery, especially hot melt. OTHERWISE, SERIOUS PERSONAL INJURY COULD OCCUR.

Warning!

Never use an open flame to heat hot melt components or adhesive. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

What to Do if Contact with Hot Adhesive Occurs

If hot adhesive comes in contact with the skin**,** do the following:

Warning!

Do not attempt to remove heated hot melt adhesive from the skin. OTHERWISE, SEVERE PERSONAL INJURY AND DEATH COULD OCCUR.

1. Immediately immerse the contacted area in clean, cold water.

   It is strongly recommended that a source of clean, cold water be provided near the hot melt work area.

2. Cover the affected area with a clean, wet compress and call the emergency medical response system (such as 911) immediately.

3. Watch for and treat the subject for signs of shock while waiting for professional help to arrive.

What to Do if Inhalation of Adhesive Fumes Occurs

If adhesive fumes are inhaled, immediately follow these steps:

1. Take the victim away from the immediate work area.

2. Provide victim with fresh air.

3. Call the emergency medical response system (such as 911) immediately.

What to Do if Adhesive-Related Fire or Explosion Occurs

During the heating and melting process, the surface of the adhesive will be exposed to air. The mixture of polymer fumes and air can catch fire if the hot melt is overheated.

Warning!

Poor ventilation, smoking, and open flames can cause overheated hot melt to ignite. Adequate ventilation must be provided. Smoking should be prohibited in the immediate vicinity of the molten adhesive. Open flames must be kept away from the area around molten adhesive. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

Warning!

Exposed arcing may ignite the fume/air mixture. Shield all electrical equipment from melt fumes to avoid exposed arcing. OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

Warning!

Do not use a water extinguisher to extinguish the fire! OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

If the hot melt adhesive ignites, promptly perform the following steps:

1. Sound a fire alarm.
2. Evacuate the immediate area.
3. Turn off all local electrical equipment at the source.
4. Leave the area immediately if conditions are unsafe.

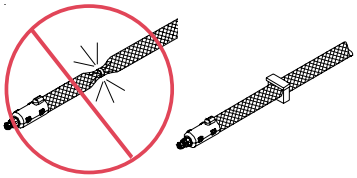
   If you feel you can fight the fire **safely**, do ***one*** of the following:

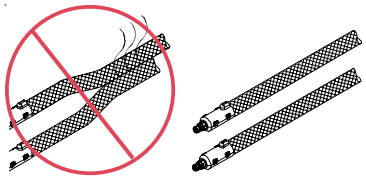
   - Smother the fire with a fire blanket.
   - Aim a CO_2 fire extinguisher at the base of the flames.
   - Aim a dry-powder fire extinguisher at the base of the flames.

Hose Safety Information

Do not use bindings, wire ties, or unapproved fasteners around the hoses.

Do use approved wrapping (P/N KAP0434), making sure the wrapping is slightly snug but not tight.



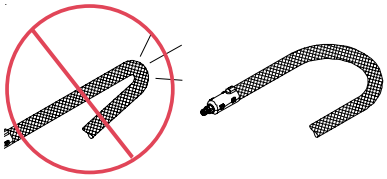


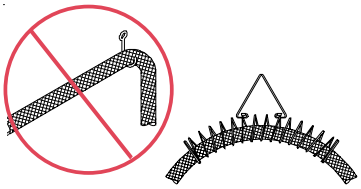
Do not place hoses close together.

Do allow at least 2 inches (5.1 cm) between hoses for proper ventilation.

Do not bend hoses sharply. **Do not** allow kinks or indentations in the hoses.

Do use a minimum bend radius of 10 inches for a 20-inch diameter coil hose.



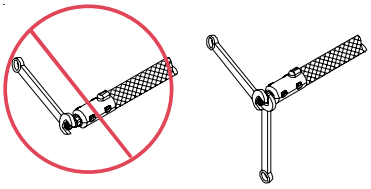


Do not use unapproved hooks to hang hoses. **Do not** wrap hoses over or around objects.

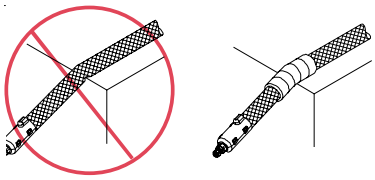
Do use a hose hanging kit (P/N 781xx827).

Do not use the “one handed/one wrench” technique to attach or remove hoses. **Do not** wrench on any surface other than the large hexagon swivel nuts.

Do use two hands and two wrenches to tighten or loosen connections on hoses. **Do** wrench only on large hexagon swivel nuts.



Hose Safety Information - Continued

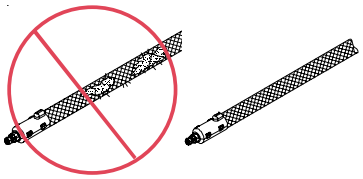


Do not allow hoses to rub against objects or to come into contact with sharp edges or points.

Do wrap the hoses in approved padding (P/N 795xx549) if the hoses must be installed where they will come into contact with objects.

Do not use worn, damaged, or bent hoses.

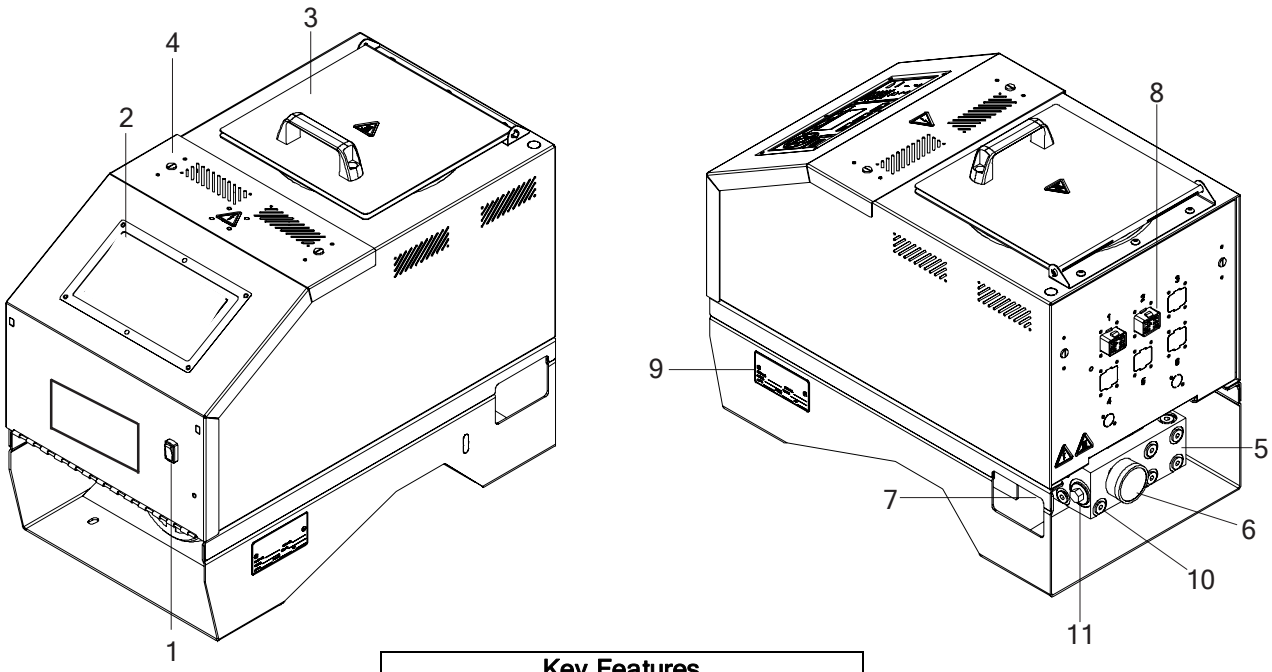
Do inspect all hoses regularly for damage and/or wear and replace damaged or worn hoses immediately.



SECTION 3 - BASIC FEATURES

Key Features

This section describes the basic features of the D-Series Hot Melt Systems. The basic features of the D10 and D16 Hot Melt Units are similar, with the exception of the tank capacity of each unit. For clarity, only the D10 Hot Melt Unit is shown in this section.



Key Features	
1	Unit power switch
2	Temperature controller
3	Tank lid
4	Electrical enclosure door
5	Manifold
6	Pressure gauge
7	Pressure relief valve
8	Hose/valve receptacles
9	Data plate
10	Hose ports
11	Filter

SECTION 4 - INSTALLATION

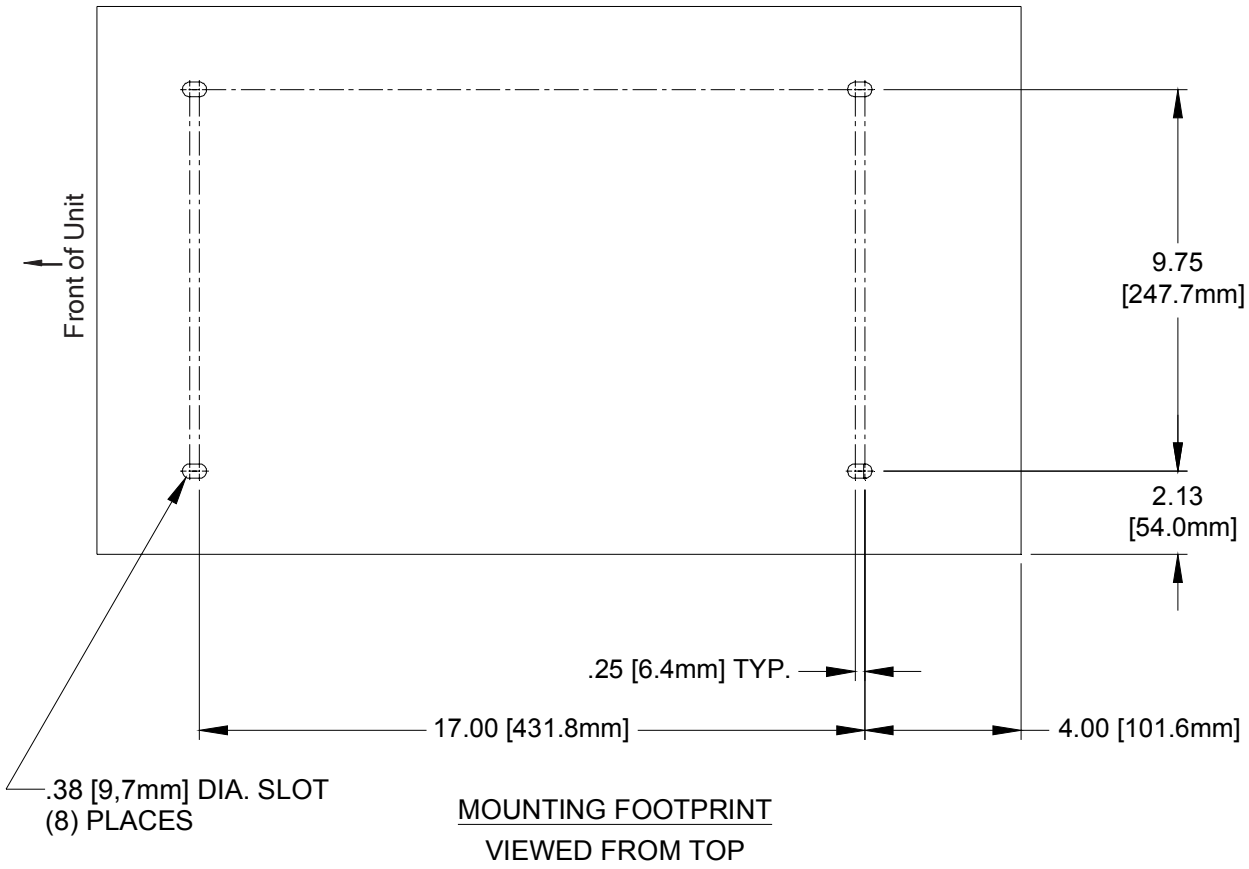
Choosing a Location

The D10/D16 hot melt unit is assembled at the factory. However, the power and the glue hoses must be connected by the customer. This section contains instructions for making the necessary connections.

While choosing a location for the unit, keep in mind that:

- Service personnel will need access to the left and right sides of the unit for electrical service, and the back of the unit for changing the glue hoses and filter.
- The operator needs easy access to the front operator panel.
- If the unit will not be moved from one location to another, it should be screwed or bolted to a suitable stable, flat, level surface.
- The unit should have clearance around the outside of the case to allow air to circulate freely around it.
- The unit should have clearance above the top of the unit so it may be filled easily without obstruction to the operator.
- The location should be near the glue station so that the glue hoses can be routed to the applicators in as straight a line as possible.
- The location for the unit should be clean. Dirt in the glue tank causes clogging of the applicator nozzles.
- The unit should be protected from high and low ambient temperatures, as well as from rapid changes in ambient temperature.
- The unit must be protected from condensate and water.
- The unit must be protected from strong vibrations.
- The tank lid must be able to open fully back so there is no danger of it falling onto operator's hands while filling.

Mounting Footprint



MOUNTING FOOTPRINT
VIEWED FROM TOP

Installation Kit

An Installation Kit (091xx664) is available for this unit, containing spare fuses, a copy of this manual on CD and warranty information. For details, see Section 10 - Parts List.

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.

Connecting the Electrical Power

WARNING!

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

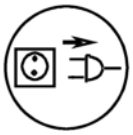
When connecting the supply of electrical power, follow these guidelines:

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

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.

Connecting the Electrical Power - Continued

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.

WARNING!

Only experienced service personnel should connect power to the unit! Failure to observe could result in personal injury, death, or damage to equipment.

WARNING!

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 D10/D16 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.

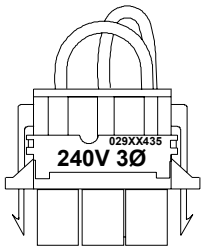
3. Referring to the chart above, locate the appropriate voltage selector plug and power connector label corresponding to the incoming electrical service.

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

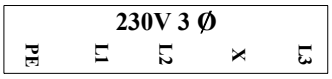
Connecting the Electrical Power - Continued

WARNING!

The label must be correctly oriented on the power connector.

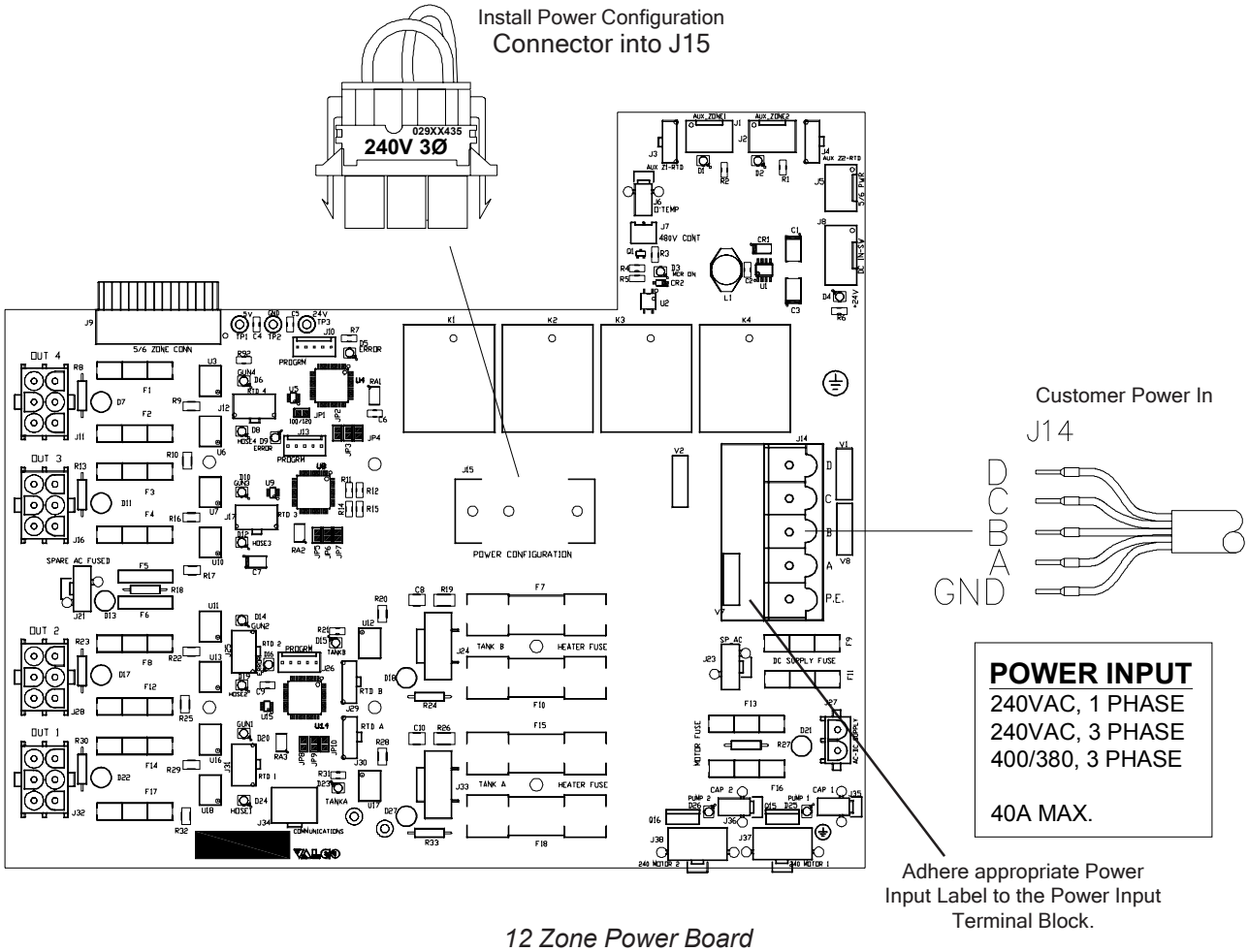


029XX435 Selector Plug



Matching Black Label

5. Remove the power connector from the 12 zone board and connect the power cable leads to the power connector terminals as shown in the chart above.
6. Install the appropriate voltage selector plug into the connector marked J15 on 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

Connecting the Hoses

WARNING!

Never disconnect the hot melt hoses from a running unit. Hot melt is under high pressure. Turn off the pump, shut off power to the unit, and actuate the gun to relieve residual pressure before removing the hose. Failure to observe could result in personal injury, death, or damage to equipment.

CAUTION!

Do not operate the unit with the fluid outlet ports open to the air. Failure to observe could result in personal injury, death, or damage to equipment.

When routing and installing heated hoses, follow these guidelines:

- Avoid creating sharp corners and edges.
- Do not bend hoses sharper than 18" (460 mm) radius.
- Do not group heated hoses so that they contact one another.
- Avoid positioning hoses where they can be stepped on or have a chance of being crushed or cut.
- Avoid the use of unnecessarily long hoses where the hose is looped or curled on the floor. Excess twisting of the hose can cause irreparable damage to it.
- Maintain separation between hoses to avoid hot spots.

Connecting the Hoses - Continued

To connect the hot melt hoses to the unit, follow these steps:

1. Using a pair of wrenches, one on the fluid outlet fitting and the other on the fluid cap, remove the protective caps from the fluid outlet fittings.

2. Ensure that the fluid outlet fitting is tight into the machine.

3. Ensure that the fluid outlet ports are clean.

4. Select the end of the glue hose that has the lead assembly with the male electrical connector (Figure 4-1).

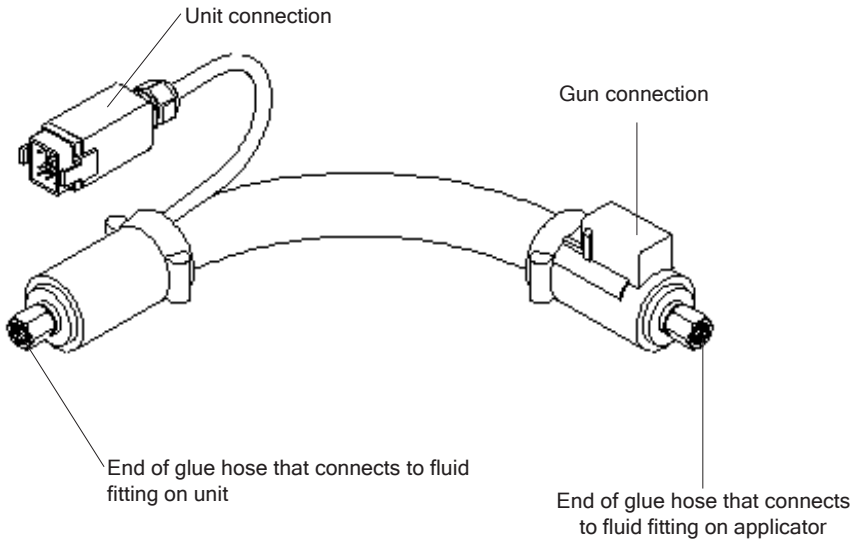


Figure 4-1. Hot Melt Hose

Connecting the Hoses - Continued

5. Attach this end of the glue hose to the fluid outlet fitting in the manifold (Figure 4-2).

6. Using two wrenches, one on the fluid outlet fitting and the other on the hose swivel nut, connect hose ‘one’ to fluid outlet port ‘one’ of the machine.

> The left fluid outlet port should be used first to prevent trapped hot melt adhesive from charring in the lower portion of the manifold.

> Fittings are available from Valco Cincinnati (see *Section 10–Part-Number List*).

> The use of two wrenches prevents the hose from twisting inside while it is being tightened.

7. Connect the lead assembly’s male electrical connector to the electrical receptacle located on the back panel above the fluid outlet ports. Connections are shown in Figure 4-2.

> Fuses for the receptacles are located in the installation kit provided with the unit.

Connecting the Hoses - Continued

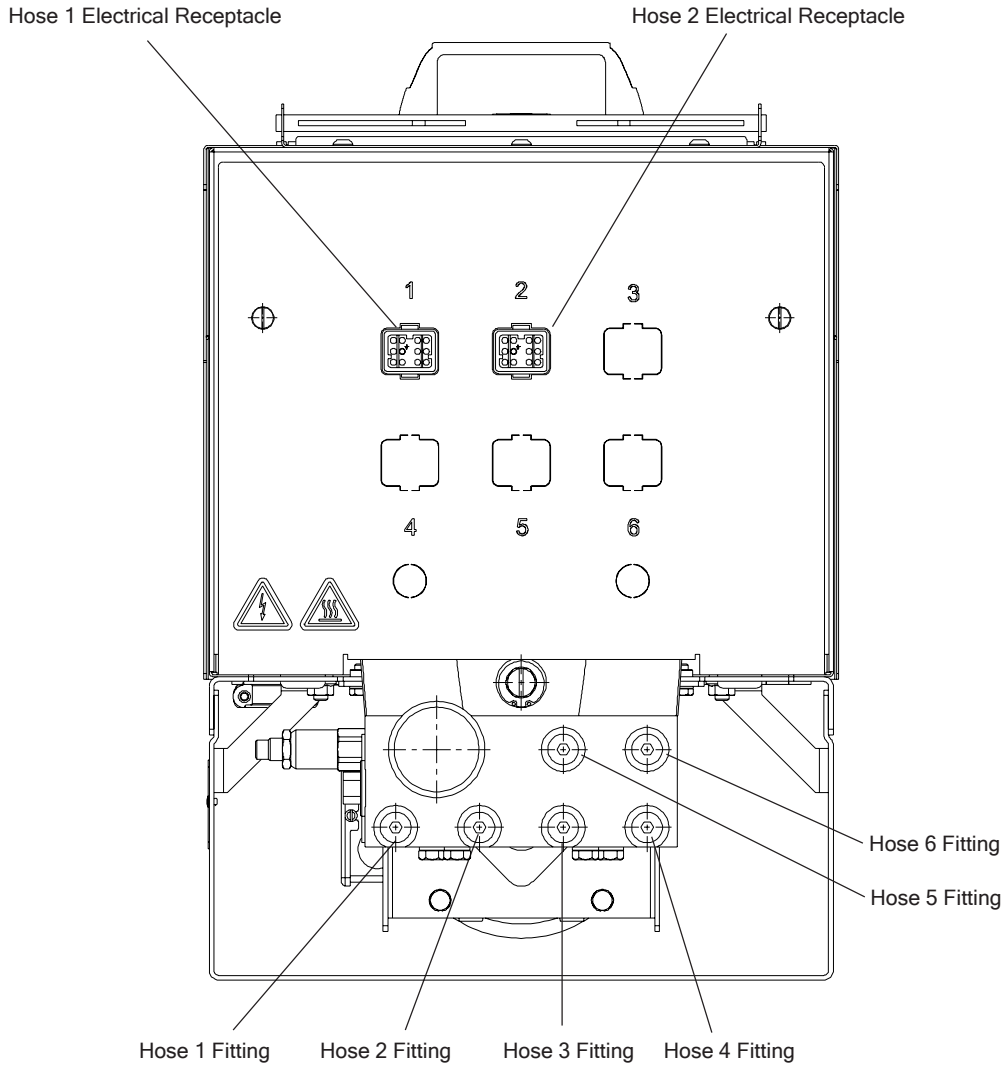


Figure 4-2. Hose Connections

Connecting the Hot Melt Hoses to the Applicators

WARNING!

If hand-held applicators are used, care should be taken to ensure safe operation. Heat protective gloves should be worn. Hot melt is under high pressure at the nozzle tip of the applicator. Failure to observe could result in personal injury (burns).

WARNING!

If hand-held applicators are used, operators should not work facing each other. Failure to observe could result in personal injury (burns).

WARNING!

If fixed applicators are used, they should be protected from accidental contact by the operator. Failure to observe could result in personal injury (burns).

CAUTION!

Hand-held applicators require a suitable hook for hanging while not in use. The hook must support the weight of the applicator with the hose. Failure to observe could result in damage to equipment.

Either hand-held or fixed applicators can be used with the unit.

To connect the fixed applicators, follow these steps:

1. Mount the applicator to the desired location on the parent machine.

   Do not place applicators where the ambient temperature is low or where there is a draft.

2. Connect the end of the hot melt hose (Figure 4-3) to the fluid inlet fitting on the applicator (Figure 4-4).

3. Connect the hot melt hose lead assembly's female connector to the lead assembly on the applicator.

Connecting the Hot Melt Hoses to the Applicators - Continued

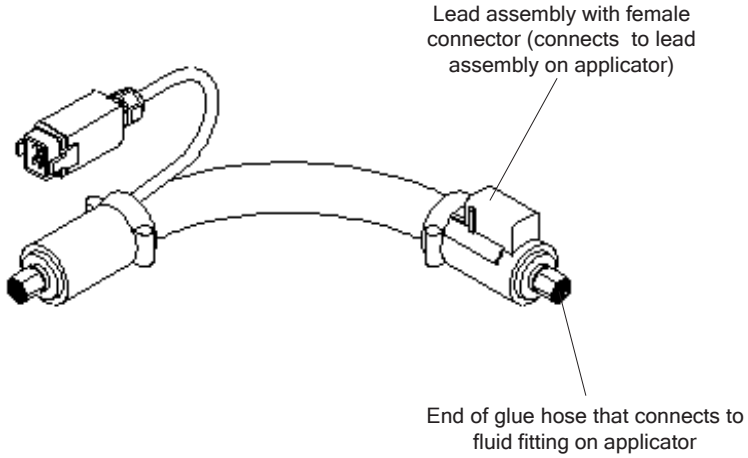


Figure 4-3. Hot Melt Hose

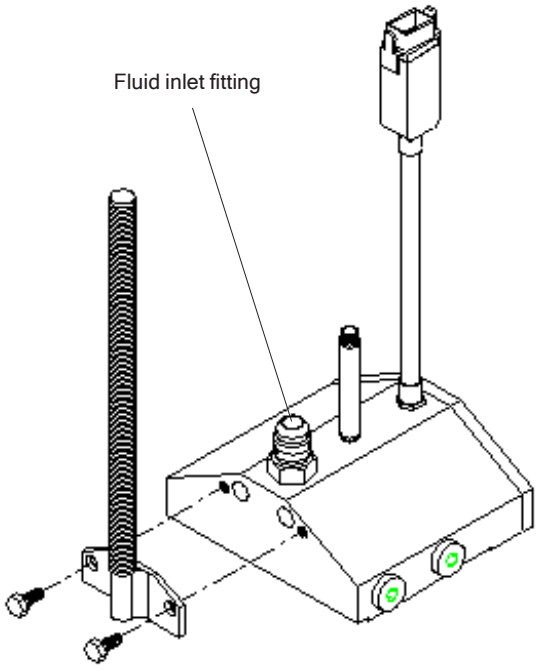
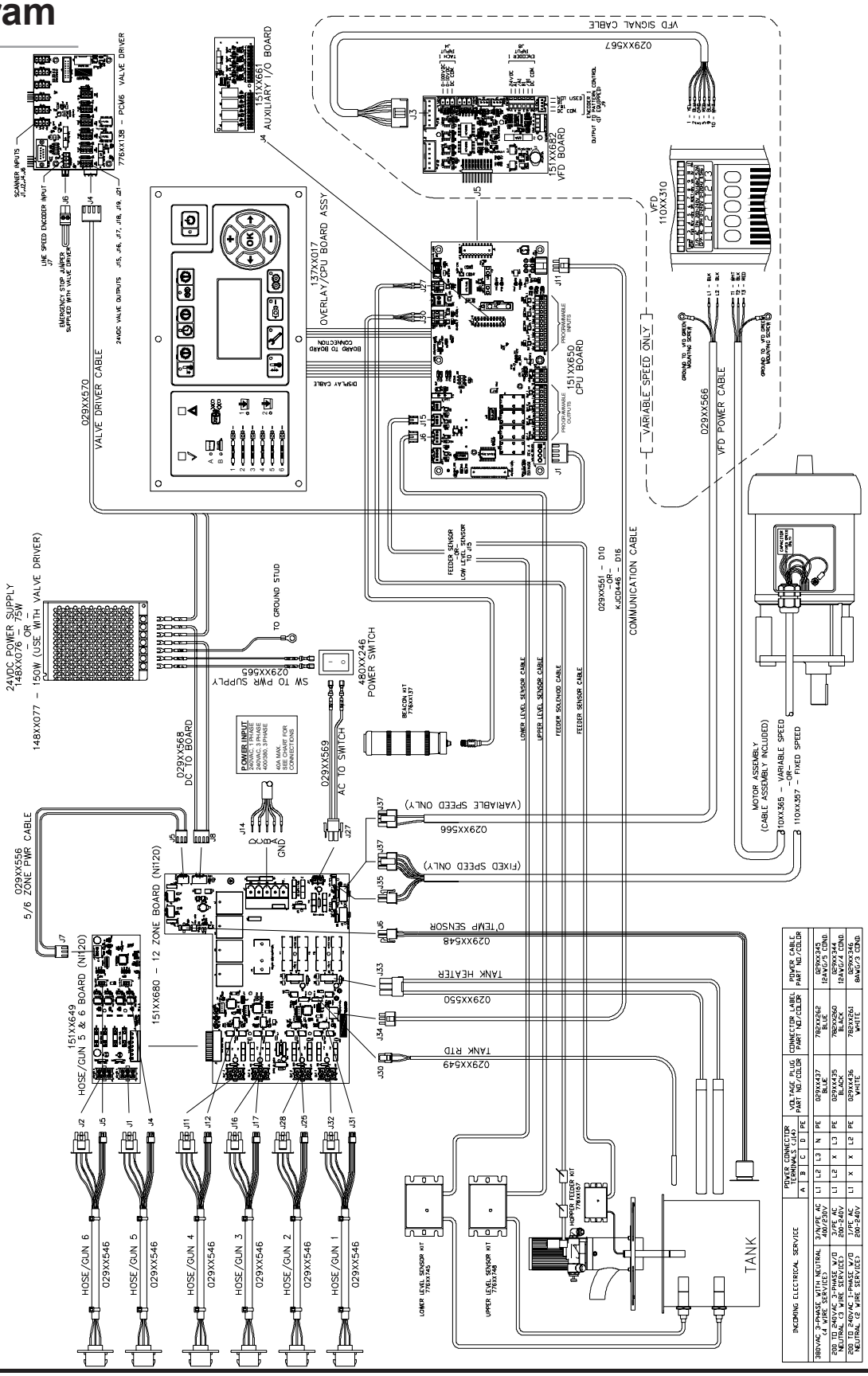


Figure 4-4. Applicator

Wiring Diagram



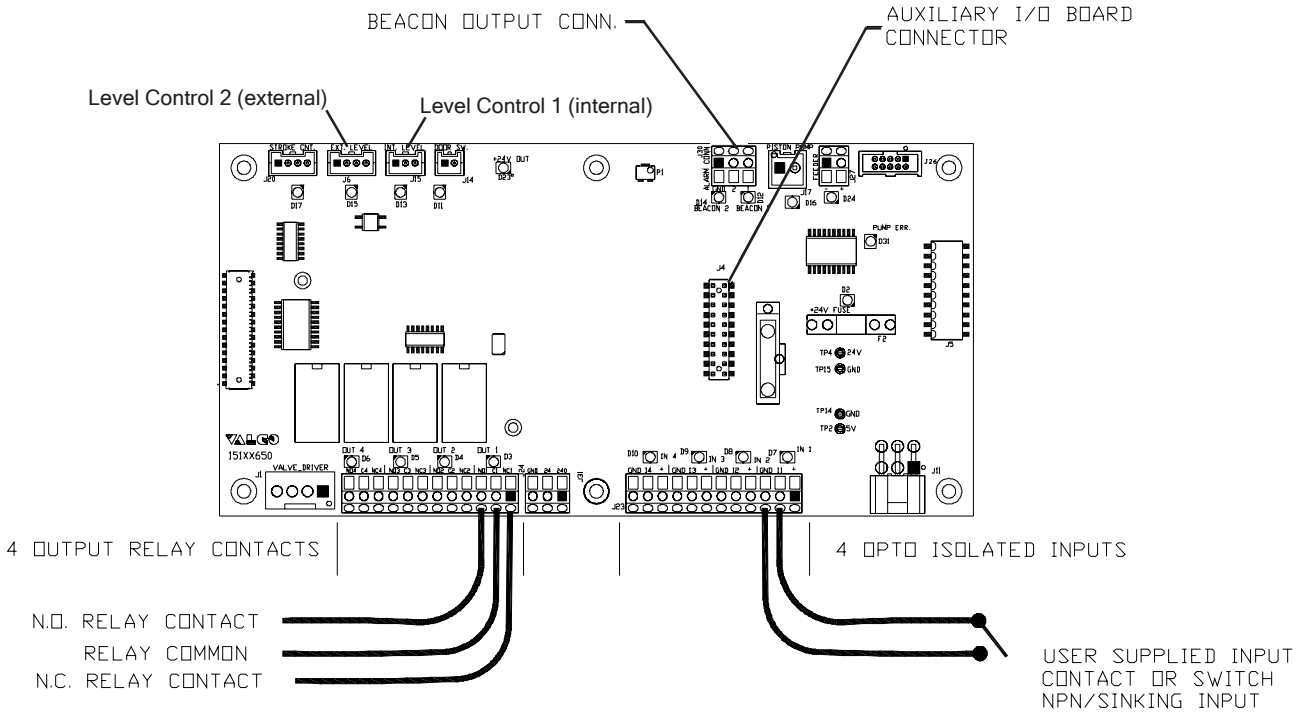
INCOMING ELECTRICAL SERVICE	POWER CONNECTOR TERMINALS USED							VOLTAGE PLUG PART NO/COLOR	CONNECTOR LABEL PART NO/COLOR	POWER CABLE PART NO/COLOR
	A	B	C	D	PE					
380VAC, 3-PHASE WITH NEUTRAL (4 WIRE SERVICE)	L1	L2	L3	N	PE			029XX437 BLUE	782XX262 BLUE	029XX345 12AWG/5 COND
200 TO 240VAC, 3-PHASE W/O NEUTRAL (3 WIRE SERVICE)	L1	L2	X	L3	PE			029XX435 BLACK	782XX260 BLACK	029XX344 12AWG/4 COND
200 TO 240VAC, 1-PHASE W/O NEUTRAL (2 WIRE SERVICE)	L1	X		L2	PE			029XX436 WHITE	782XX261 WHITE	029XX346 8AWG/3 COND

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 4 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, 4 dry contact user selectable outputs rated for 250V @ 5A each.

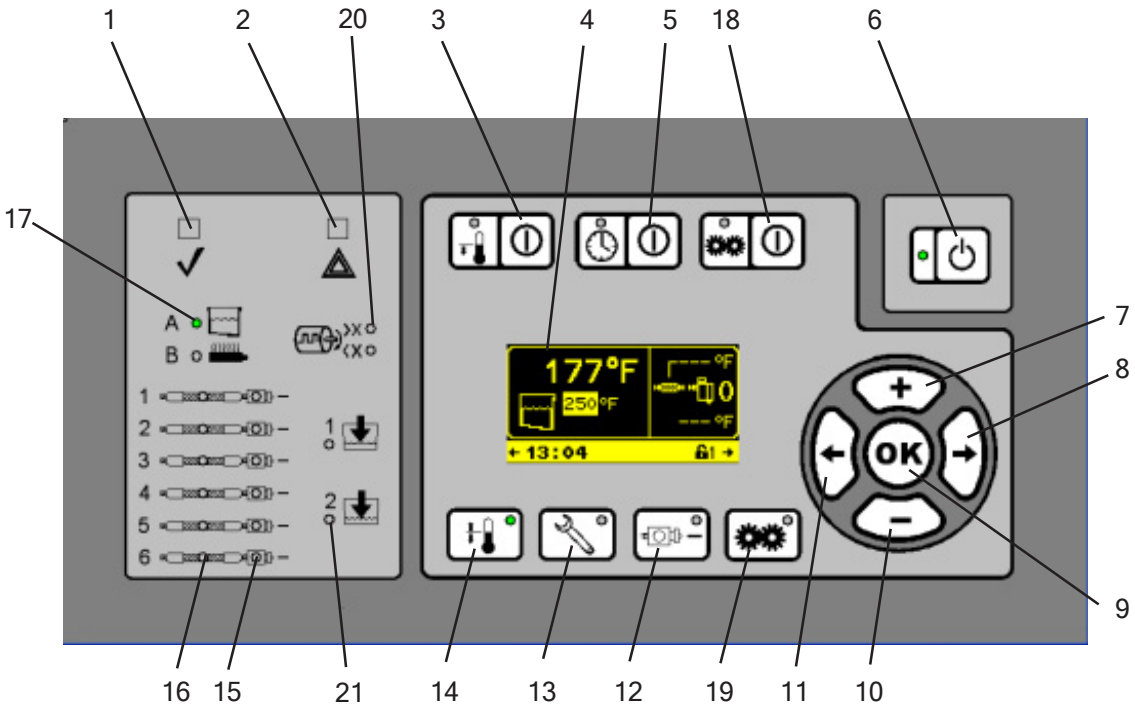


CPU Board Showing Input & Output Connectors

> The CPU supports up to four inputs and four outputs, and up to eight inputs and eight outputs with the Auxilliary I/O Board.

The diagrams show the functions of the CPU Board Connectors and Wiring Connections. Further descriptions of these functions can be found in *Section 6 - Operation.*

Control Panel

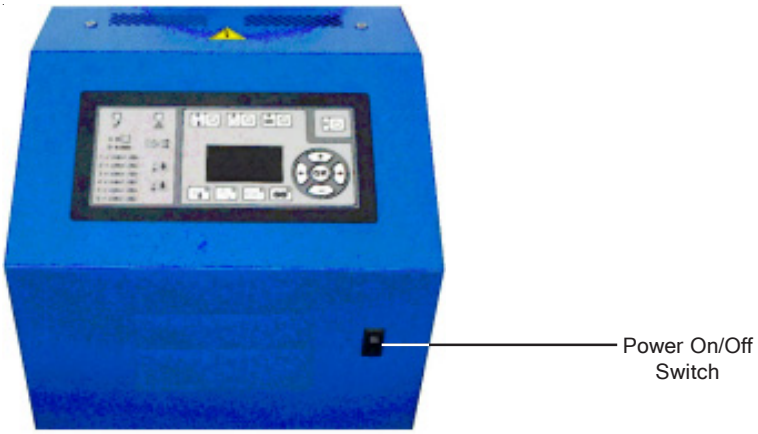


Control Panel, Continued

ITEM	NAME	DESCRIPTION
1	SYSTEM READY LED	ILLUMINATES GREEN WHEN THE SYSTEM REACHES READY TEMPERATURE.
2	WARNING LED	ILLUMINATES RED WHEN THE UNIT ENTERS AN ALARM CONDITION
3	SETBACK ON/OFF KEY	PUTS THE UNIT INTO AND OUT OF SETBACK MODE. THIS REDUCES THE TEMPERATURE TO KEEP THE ADHESIVE SOFT BUT NOT MOLTEN DURING DOWNTIME. YELLOW LED INDICATES THAT THE SETBACK MODE IS INITIALIZED.
4	DISPLAY SCREEN	DISPLAYS THE MENU AND EVENT SCREENS
5	CLOCK ON/OFF KEY	TURNS THE CLOCK FUNCTION ON AND OFF. GREEN LED INDICATES THE CLOCK IS ACTIVE.
6	STANDBY KEY	PUTS THE UNIT IN AND OUT OF STANDBY. GREEN LED INDICATES UNIT IS ON, ORANGE LED INDICATES UNIT IS IN STANDBY.
7	PLUS KEY	INCREASES THE VALUE OF THE SELECTED FIELD
8	RIGHT ARROW KEY	MOVES RIGHT THRU FIELDS ON THE SCREEN
9	OK KEY	ENTERS OR EXITS A SCREEN WHERE A SELECTED FIELD CAN BE EDITED.
10	MINUS KEY	DECREASES THE VALUE OF THE SELECTED FIELD
11	LEFT ARROW KEY	MOVES LEFT THRU FIELDS ON THE SCREEN
12	VALVE MENU KEY	SETS UP FUNCTIONS FOR VALVE DRIVER OPTION, IF ENABLED.
13	SETUP MENU KEY	DISPLAYS THE SETUP MENU SCREENS
14	TEMPERATURE MENU KEY	DISPLAYS THE TEMPERATURE GROUP SCREENS
15	GUN LEDS	ILLUMINATES GREEN WHEN THE GUN ZONE IS HEATING AND RED WHEN THE ZONE IS IN ALARM.
16	HOSE LEDS	ILLUMINATES GREEN WHEN THE HOSE ZONE IS HEATING AND RED WHEN THE ZONE IS IN ALARM.
17	TANK LED	ILLUMINATES GREEN WHEN THE TANK ZONE IS HEATING AND RED WHEN THE ZONE IS IN ALARM.
18	PUMP ON/OFF KEY	TURNS THE PUMP ON AND OFF. GREEN LED INDICATES PUMP IS ACTIVE.
19	PUMP MENU KEY	DISPLAYS THE PUMP GROUP SCREENS
20	ABOVE OR BELOW MINIMUM SPEED LEDs	APPLICABLE LIGHT ILLUMINATES WHEN SPEED IS ABOVE OR BELOW MINIMUM SETTING.
21	LEVEL CONTROL LEDs	ALWAYS ON UNLESS LOW LEVEL OCCURS ON THE INTERNAL OR EXTERNAL LEVEL CONTROL INPUTS.

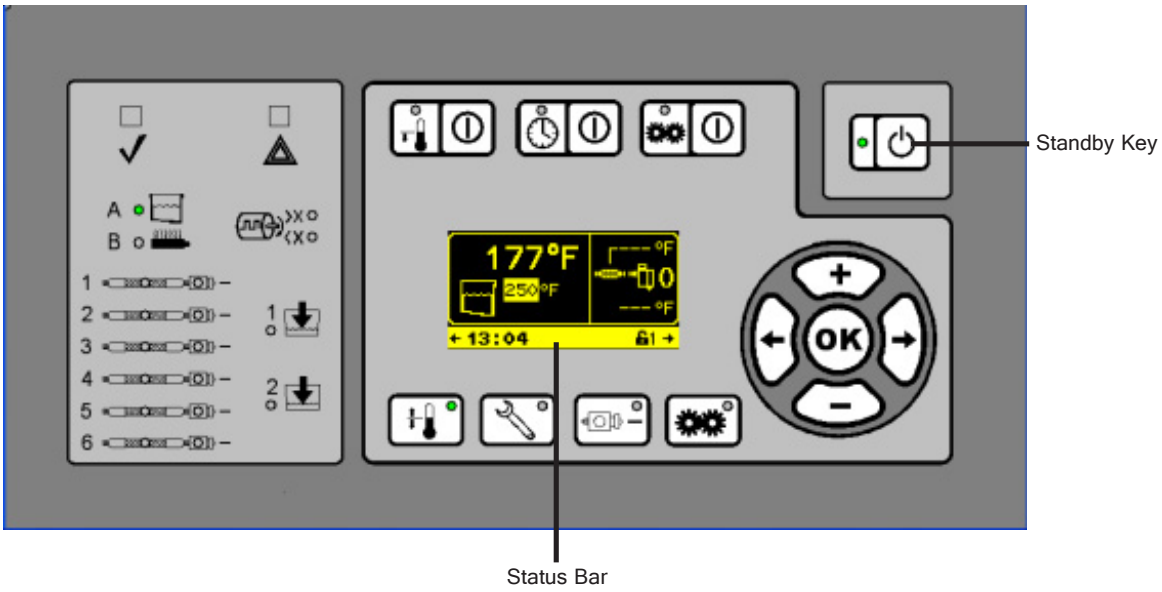
Power On/Off and Standby Mode

The Power On/Off Switch is located on the front of the unit (see picture below). The Power Switch controls the power to the system.



The Standby Button controls the power to the Heater circuits. Press the Standby Button once. The display screen will come on and the Standby LED will illuminate green, indicating that the unit is on. When the Standby Button is pressed again, the temperature screen will go blank, the Standby LED will illuminate orange and the status bar will be active, indicating the unit is in Standby Mode.

When the unit is in Standby Mode, the internal clock is still working. The clock will turn the unit off and on in the Timer Mode, as usual. If the Power Switch is turned off, however, the internal clock will NOT automatically turn the unit on and off; the internal clock has no power when the system is off.



Display Contrast Adjustment

The display contrast is adjusted for optimal viewing at the factory. If the display is not visible when the Hot Melt Controller powers up, the contrast may need to be adjusted.

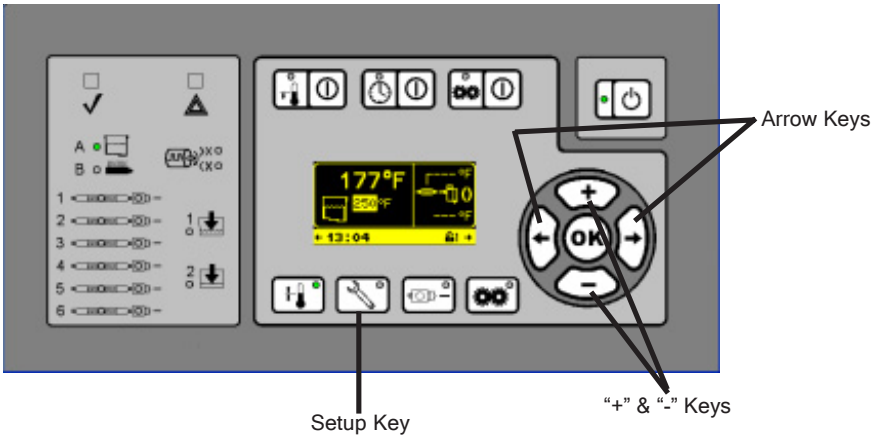
Follow the procedure below to adjust the contrast:

1. While holding down the 'SETUP' key on the front panel keyboard, simultaneously press the "+" and "-" keys to change the contrast on the display. This will make the characters on the display brighter and dimmer, and is considered the fine adjustment.

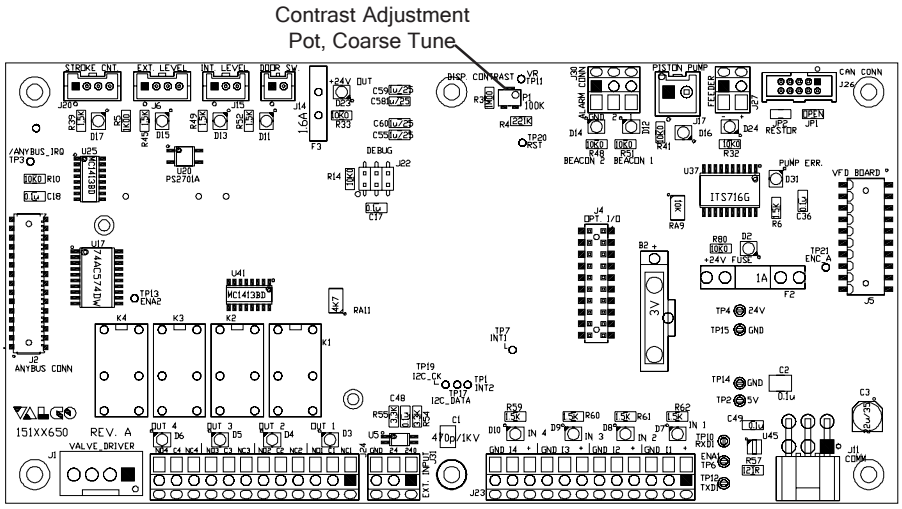
2. If this does not work, or is not enough to see the display, open the electrical enclosure door to view the rear of the CPU board.

3. Adjust the Display Contrast Adjustment Pot on the rear of the CPU board using a small screwdriver. (this requires a very small slotted screwdriver)

4. This is the course adjustment and small incremental turns of this pot will make drastic changes in the brightness of the display.



Contrast Adjustment – Fine Adjust

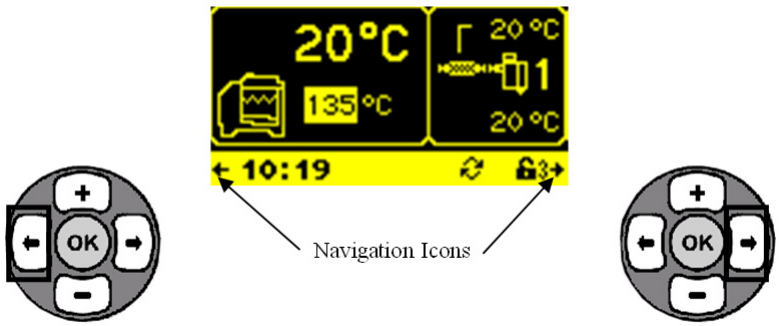


Contrast Adjustment – Coarse Adjustment

User Interface

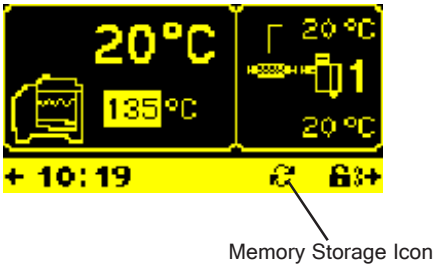
Navigation

Navigation symbols on the bottom of the display screen indicate that additional menus are available. Use the indicated button(s) to navigate as follows:



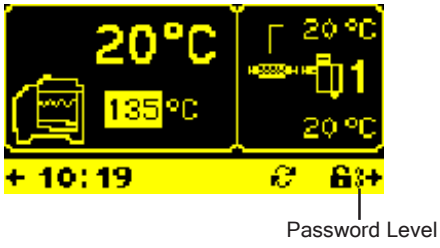
Memory Storage

The symbol consisting of two arrows in a circular pattern indicates that a value has been changed but the change is not yet stored in the flash memory.



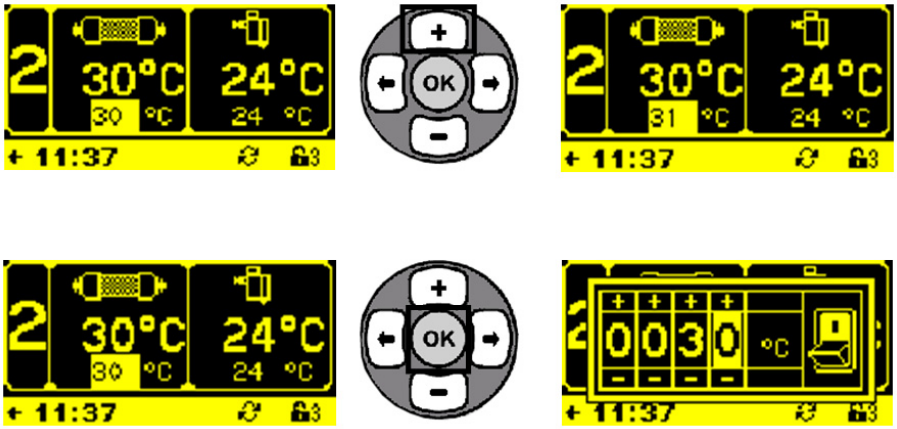
Editing

Highlighted information is editable. Use the appropriate buttons (depending on the navigation symbols shown) to navigate through the editable (highlighted) information



Thumbwheel vs. Single Digit Edit

When editable information is numerical, the information may be edited with the Plus/Minus Buttons for single digit editing, or the OK Button may be pressed to bring up a thumbwheel for more detailed editing.

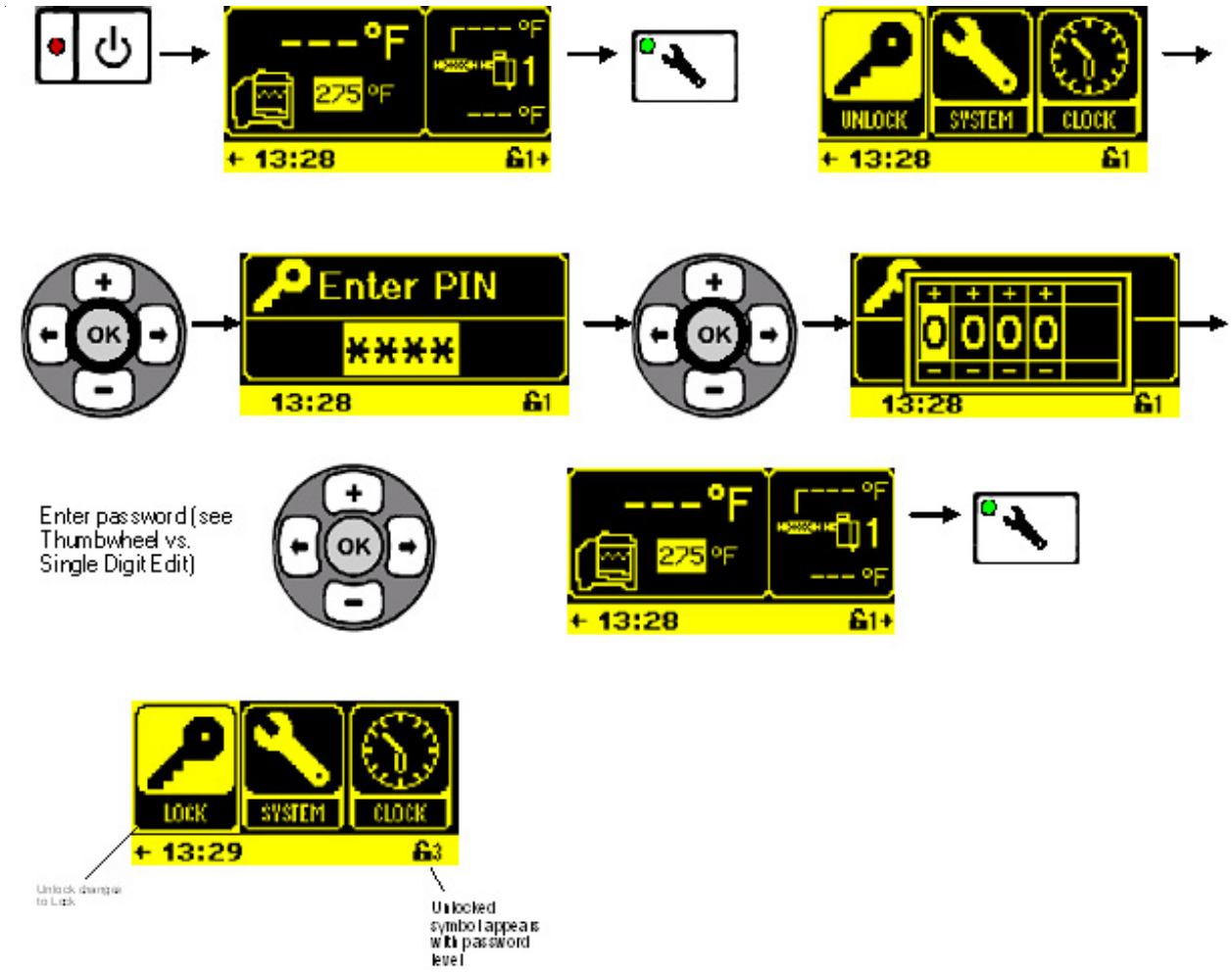


In Thumbwheel Edit, use the Right/Left Arrow Buttons to select the digit position, and the Plus/Minus Arrow Buttons to increase/decrease the value of the selected digit.

Some thumbwheel screens contain a switch that can be used to turn the selected function ON or OFF. Common examples would be turning a hose or gun zone ON or OFF, making a schedule change to turn on setback during a shift, or enabling Sequential Start. Use the Right/Left Arrow Buttons to select the switch, then use the Plus/Minus Buttons to toggle the switch ON or OFF.

Entering Passwords

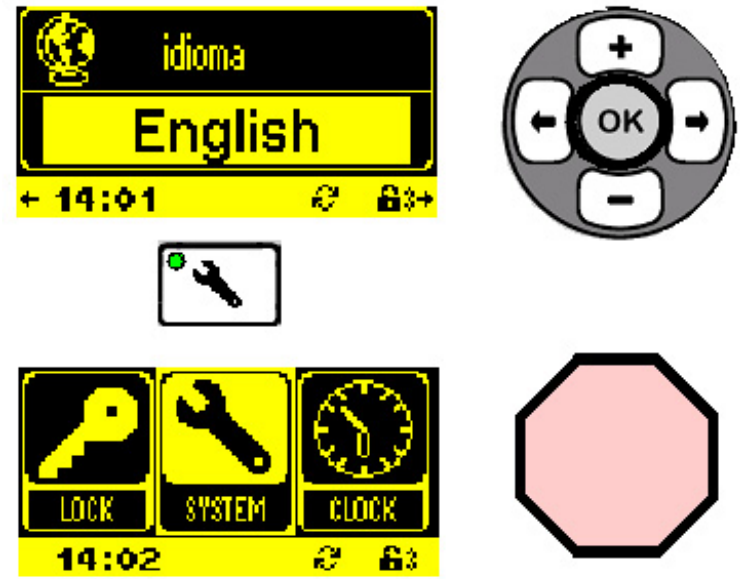
Passwords are required to prevent unauthorized access to unit programming. Please see *Appendix A - Password Levels* for more information. To enter a password:



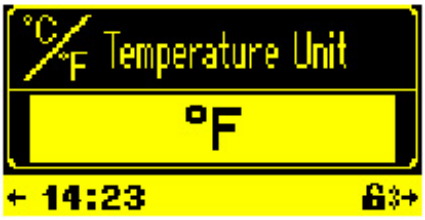
Set Language

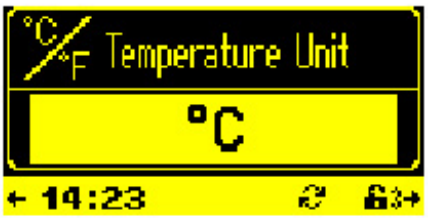
CONTINUED NEXT PAGE

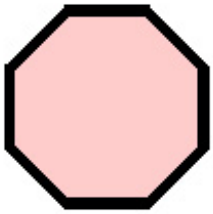
Set Language - Continued



Set Temperature Units

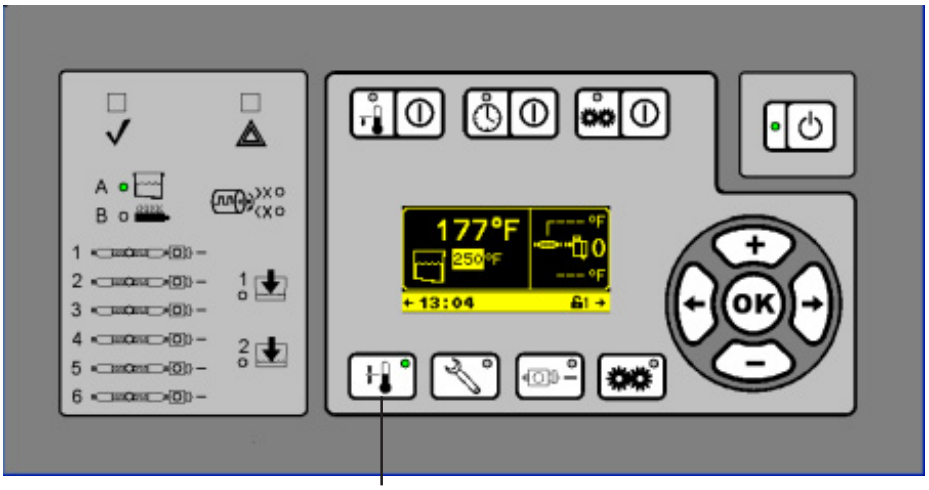






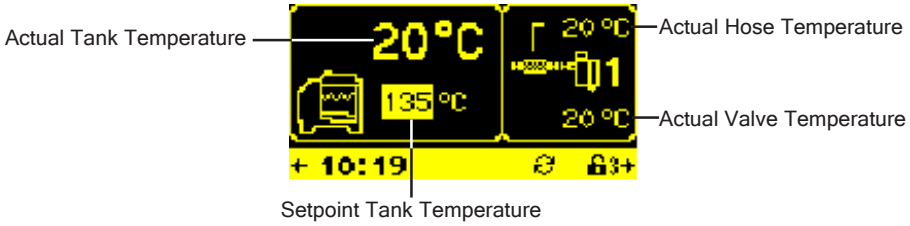
Programming Temperatures

Press the Temperature Button (if the Temperature LED is not illuminated green) to show the first temperature screen.

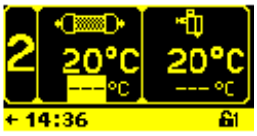


Temperature Screens

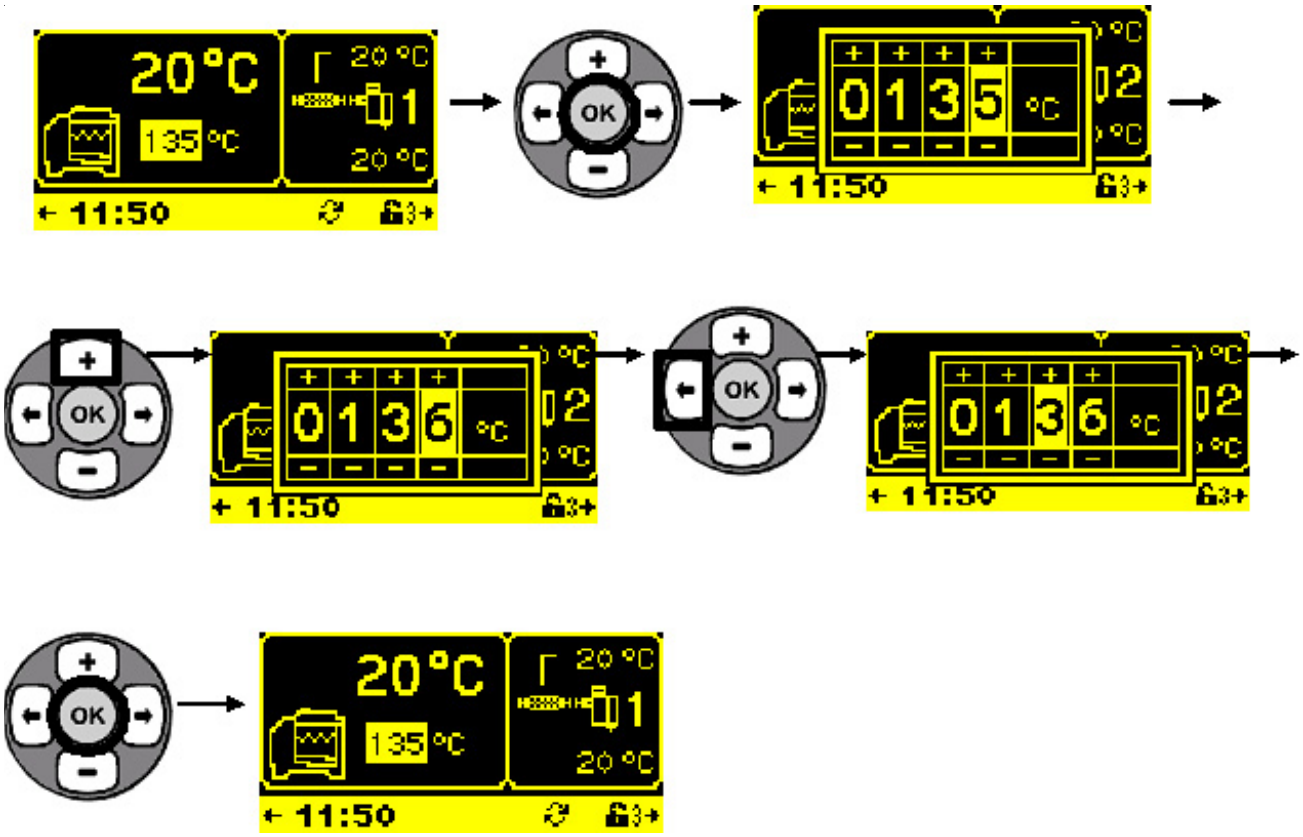
The tank temperature screen shows the actual tank temperature and the tank temperature setpoint. For operator convenience, the right side of this screen scrolls through enabled hose / gun zones and displays the actual temperatures as shown.



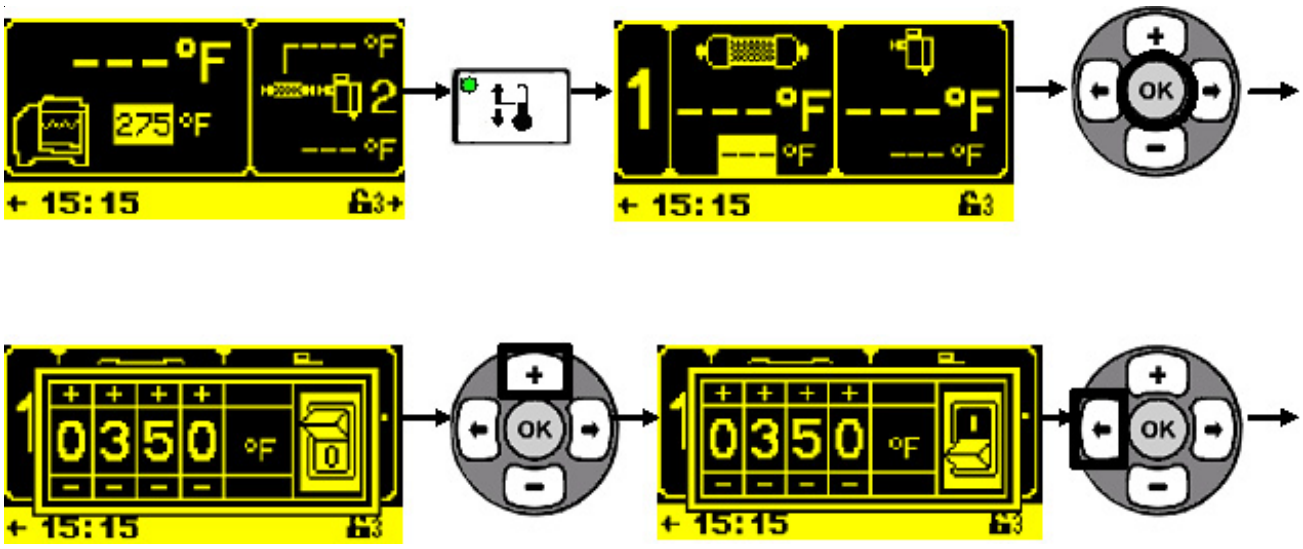
Press the Temperature Button repeatedly (or use the navigation keys) to cycle through the temperature screens until you reach the desired screen.



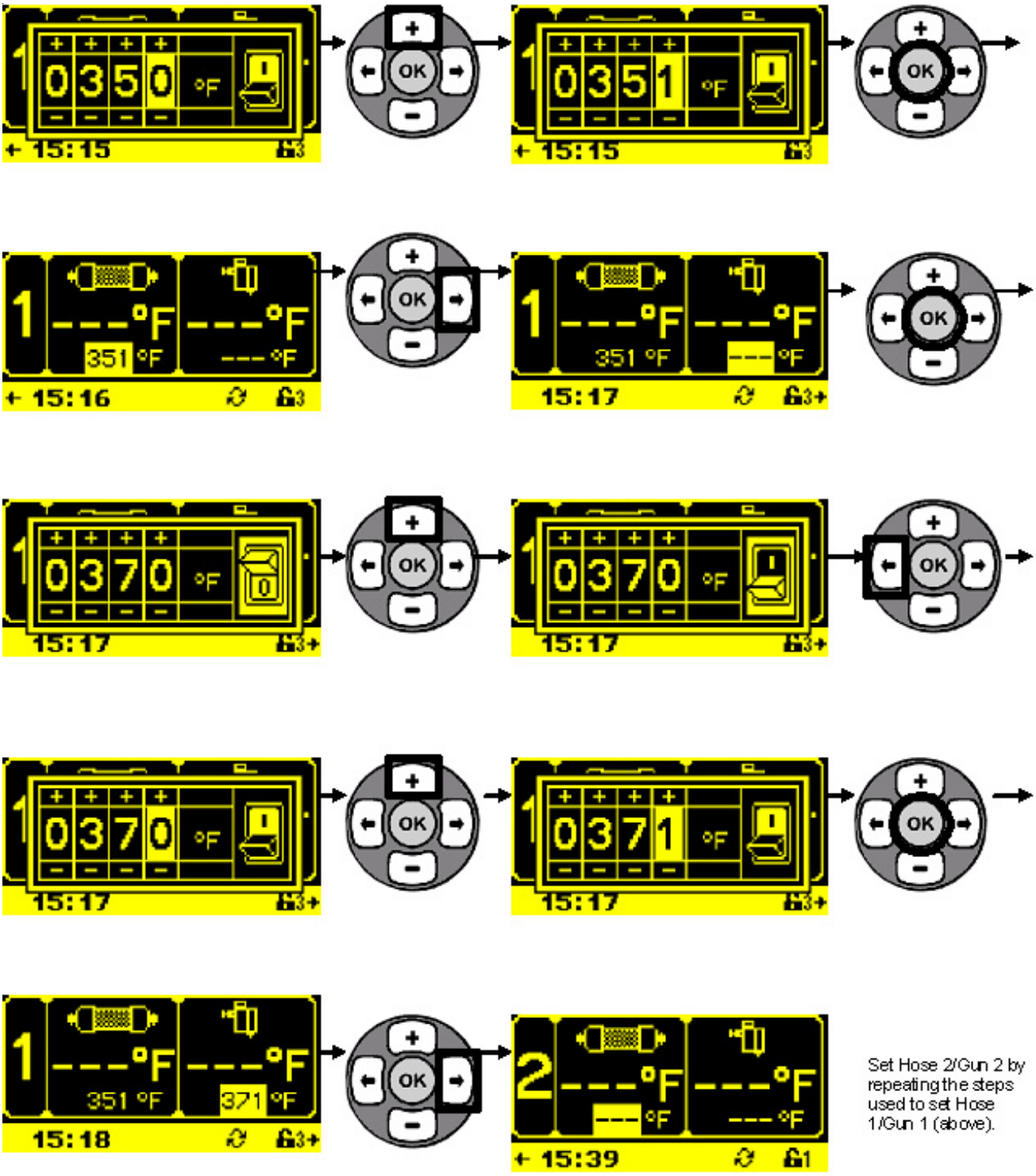
Tank Temperature



Hose/Valve Temperature



Hose/Valve Temperature Continued



Set Hose 2/Gun 2 by repeating the steps used to set Hose 1/Gun 1 (above).

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.

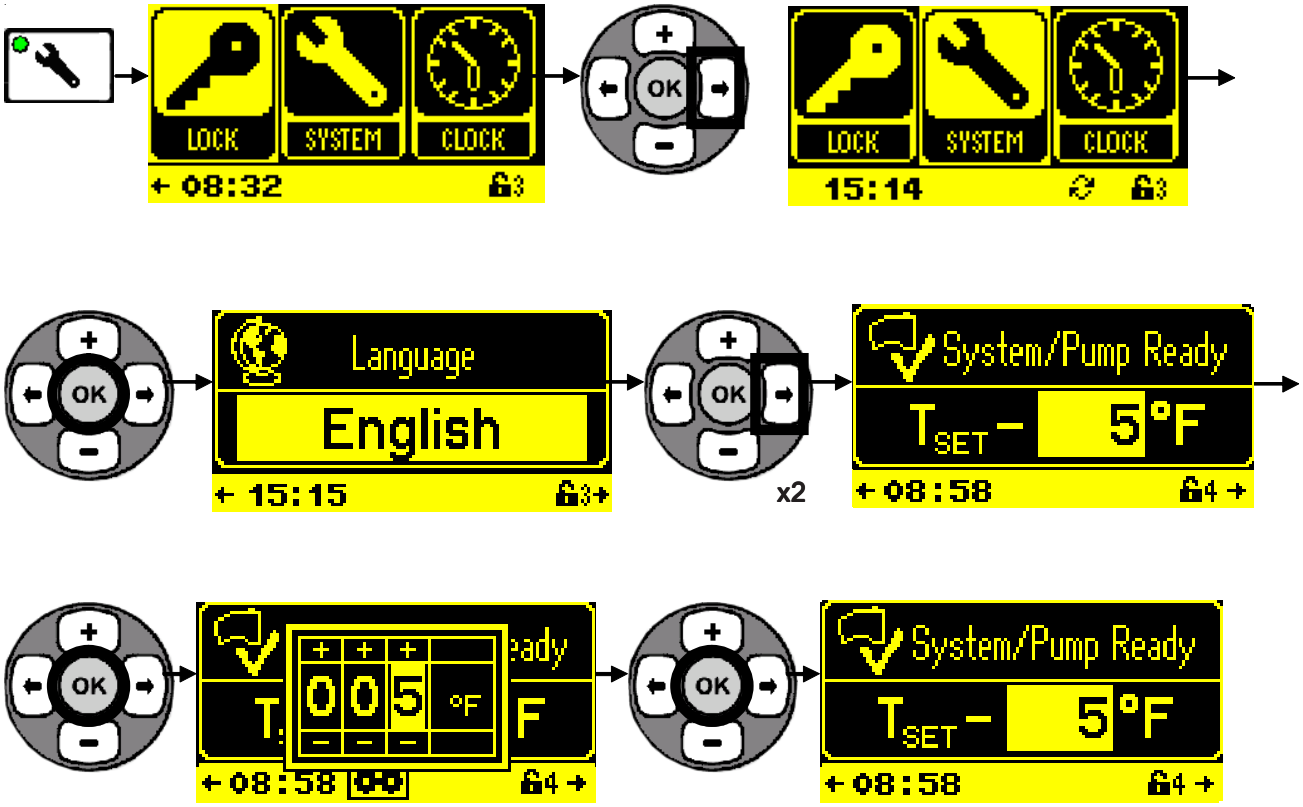
The system ready signal enables the pump motor. This prevents the pump motor from being activated before the adhesive in the pump has softened.

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 (see *Appendix A - Password Levels*).



Ready Delay Time

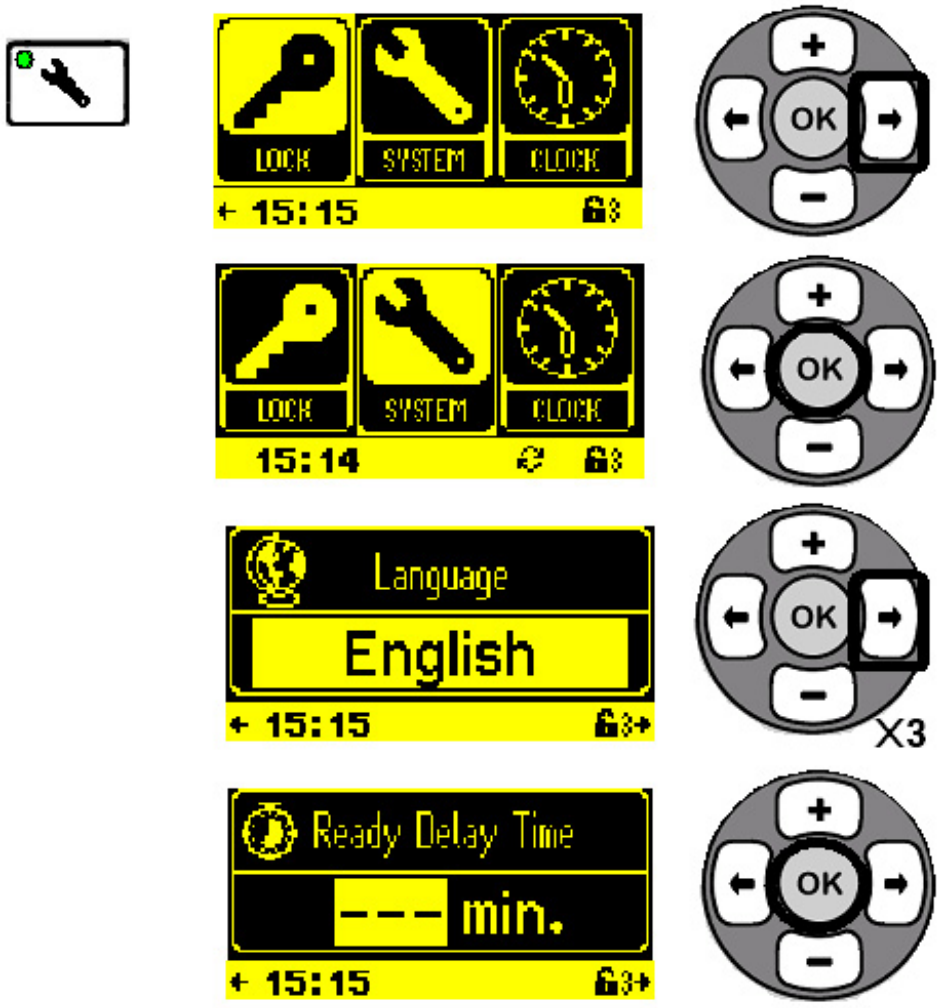
When the Ready Delay Time is used, the System Ready LED will illuminate a preset time after all of the zones reach their respective temperature setpoints minus the System Ready Temperature Offset. This feature allows the adhesive in the system to heat for an additional period of time before the pump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

To prolong the life of the seal in the pump, this default time of 15 minutes should not be reduced.

This parameter can be accessed in Password Level 2 or higher (see *Appendix A - Password Levels*).



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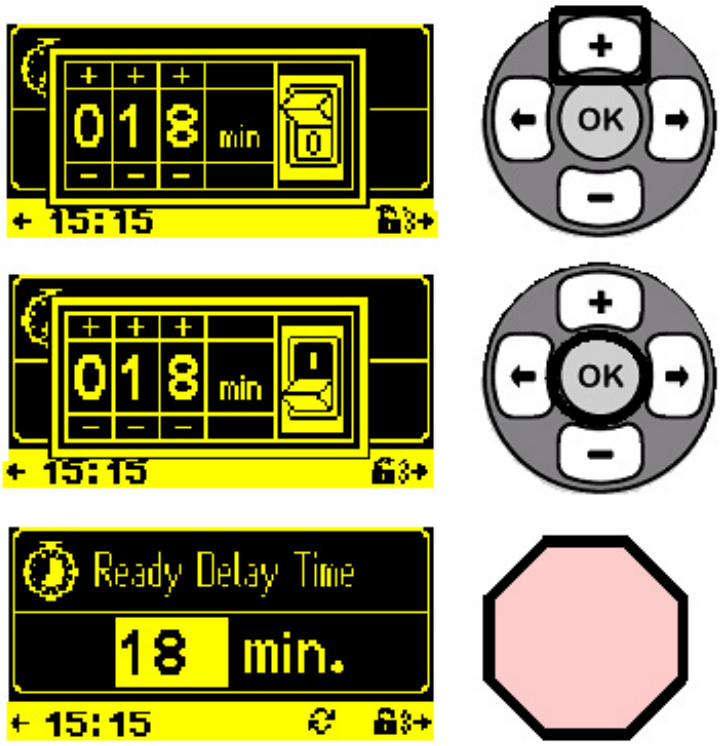
Ready Delay Time-Continued



Over Temperature Alarm

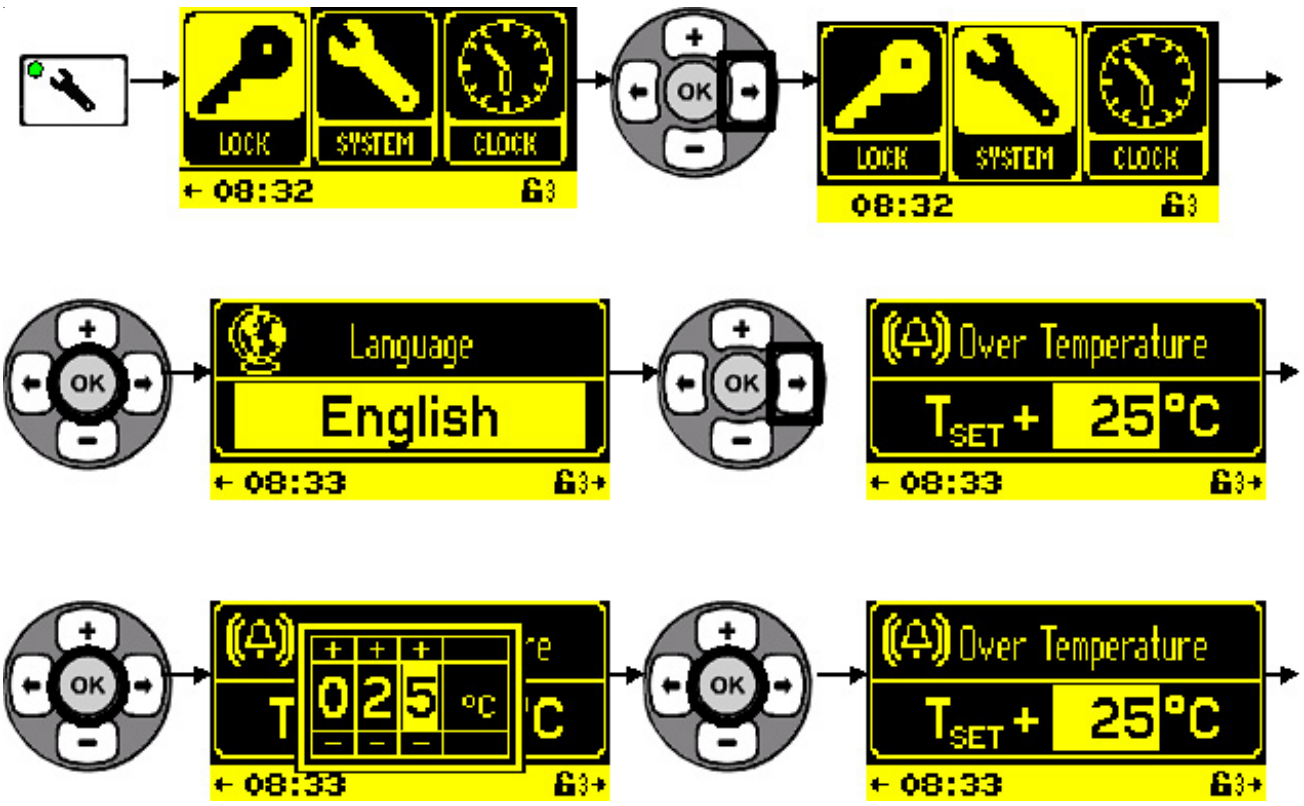
The Over Temperature Alarm setting pertains to all active zones.

The number entered on this screen, is the amount of degrees ABOVE each zone's set temperature that a zone can heat to before activating the Over Temperature Alarm.

If any zone goes into Over Temperature Alarm, the heaters of the affected zone are automatically shut off. If the Over Temperature Alarm message appears, it can be cleared by pressing the 'OK' key.

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 (see *Appendix A - Password Levels*).



Under Temperature Alarm

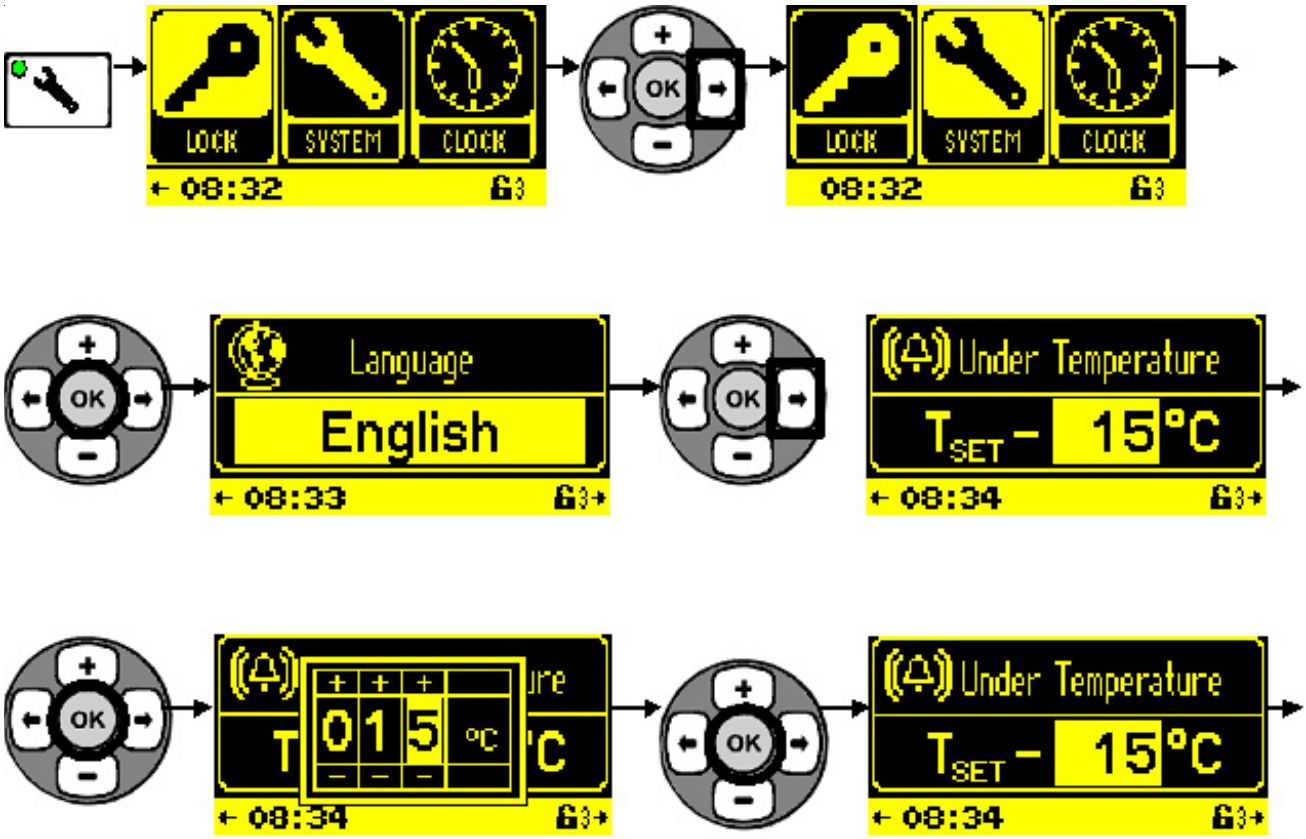
The Under Temperature Alarm setting pertains to all active zones.

The number entered on this screen, is the amount of degrees BELOW each zone's set temperature that a zone can cool to before activating the 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. If the Under Temperature Alarm message appears, it can be cleared by pressing the 'OK' key.

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 (see *Appendix A - Password Levels*).



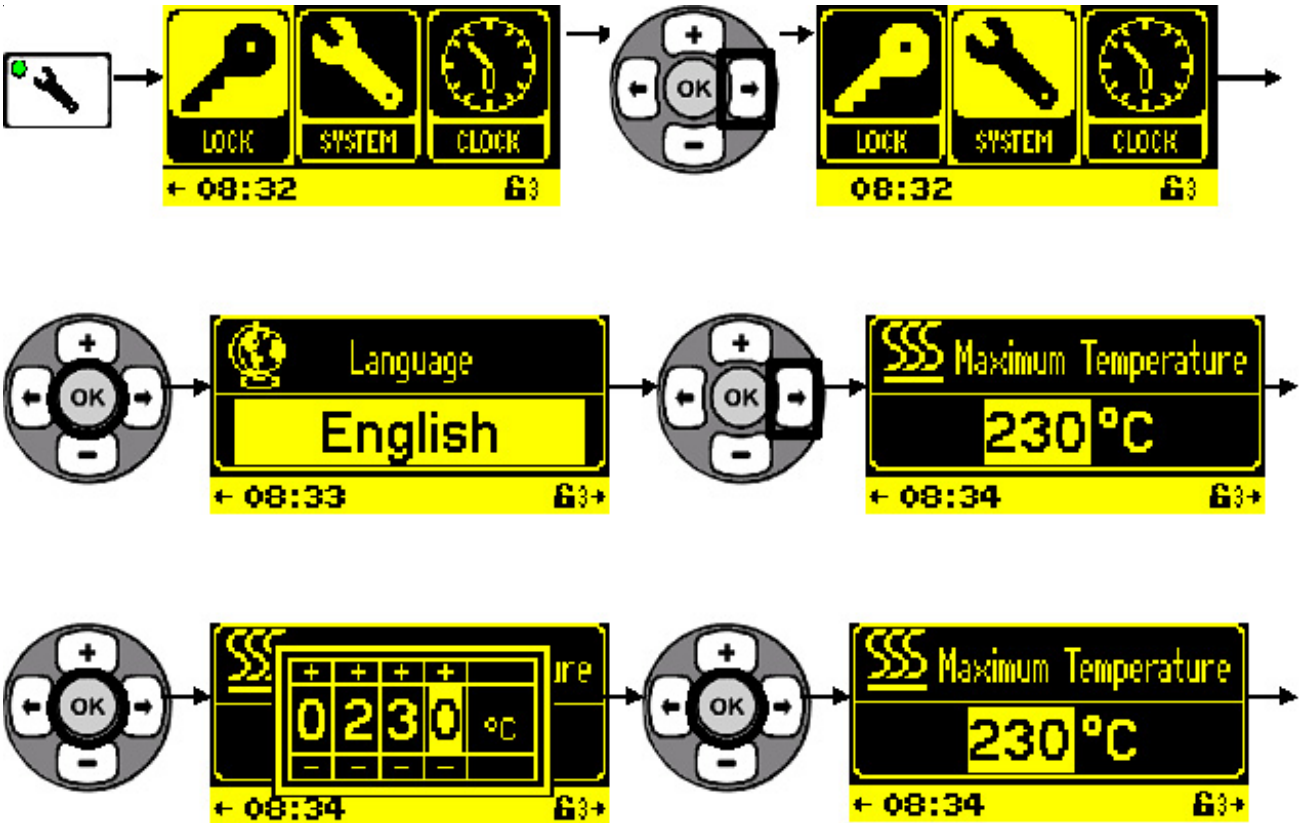
Maximum Temperature

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 .



Beacon/Alarm Setup

The Beacon/Alarm Setup allows a specific Beacon, designated by number, to be set to indicate one of four conditions:

Pump On

Ready

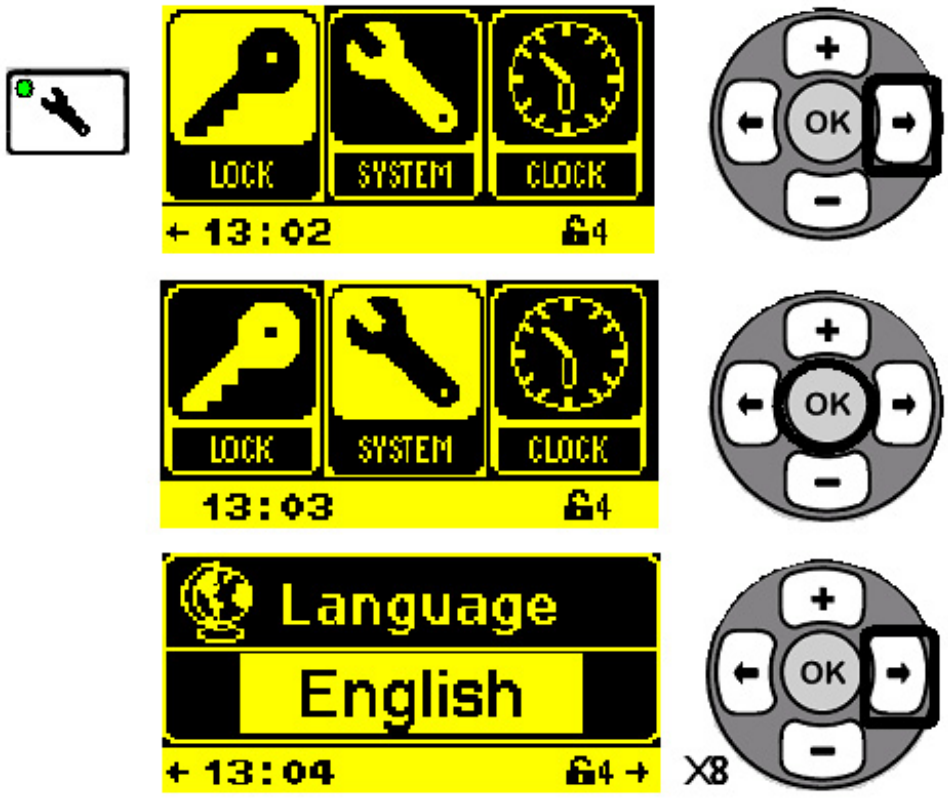
Zone Fault

Low Level

The alarm may also be set to “Disabled,” which is the factory default setting.

J30, on the New CPU, provides a +24VDC - GND connection for each beacon/alarm desired. This output is +24VDC, 0.5A.

This parameter can be accessed in Password Level 2 or higher (see Appendix A - Password Levels).



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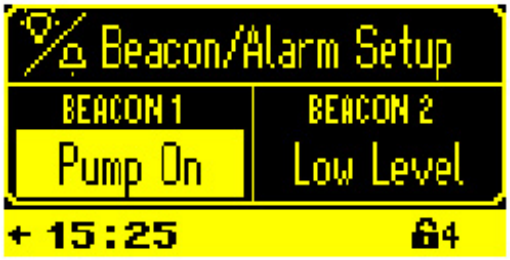
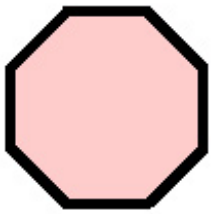
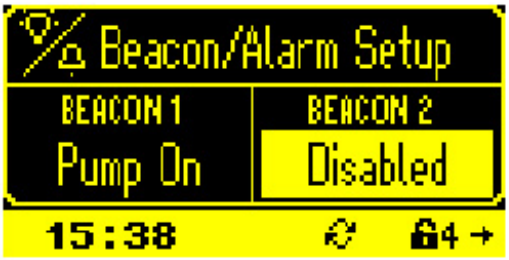
Beacon/Alarm Setup - Continued

To desired condition

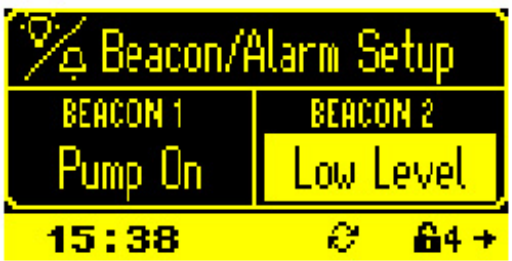


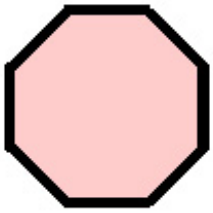


Beacon 2



To desired condition





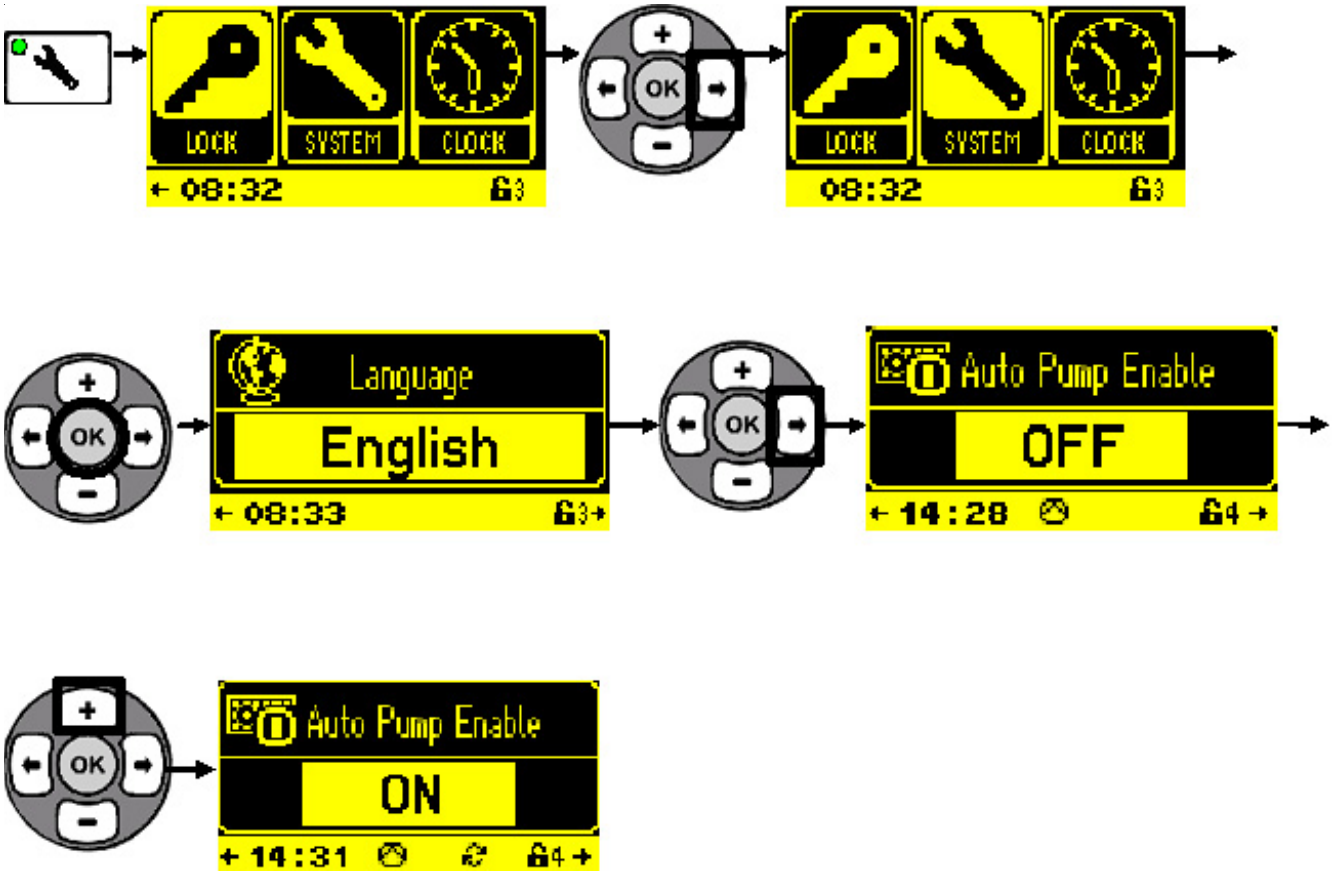
Automatic Pump Mode

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.



Pot Fill Mode

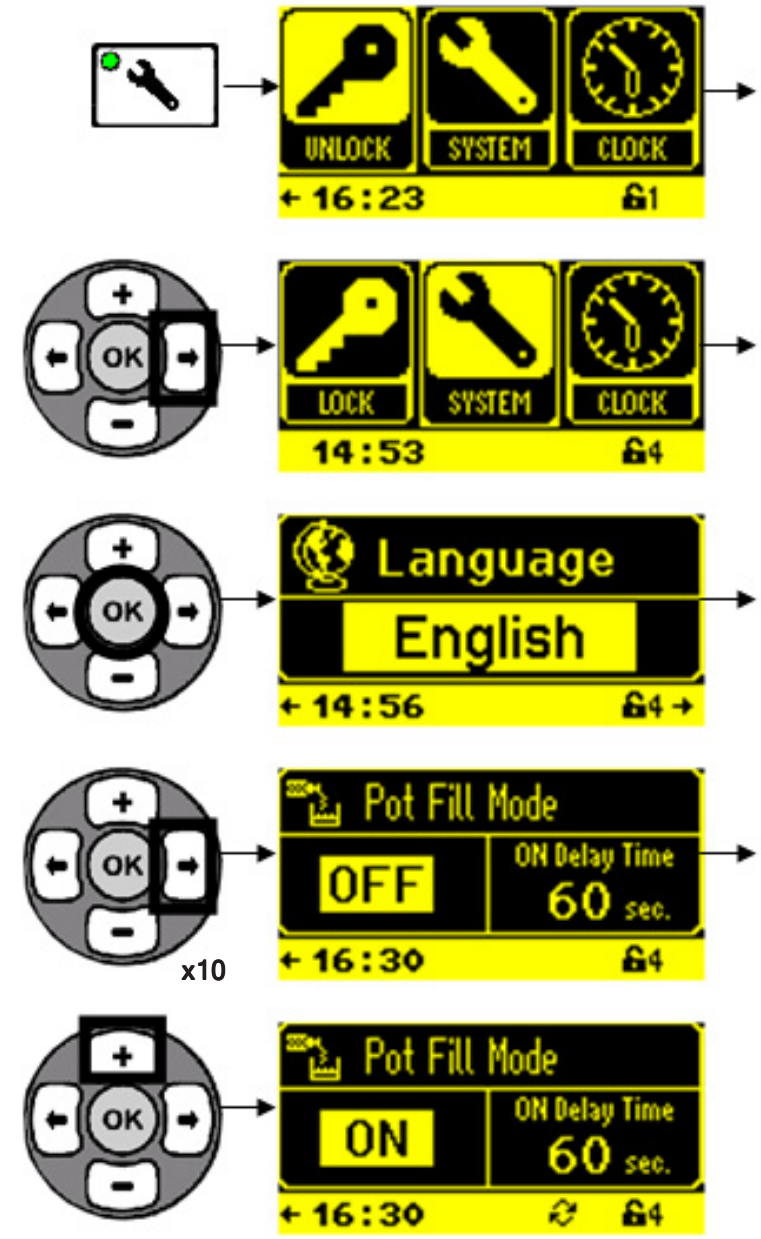
In this mode of operation, melted glue is pumped into an external pot when the external lever control falls below a set level. The external level control is wired to the external level input on the CPU, J6.

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 todelay 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.

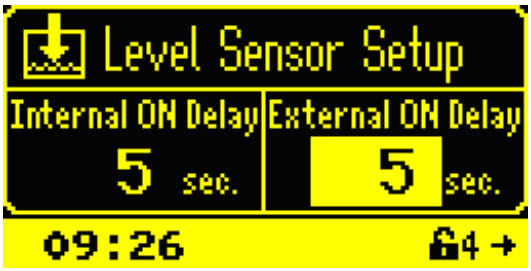
This parameter can be accessed in Password Level 2 or higher (see *Appendix A - Password Levels*).



Level Sensor Setup

Internal Level
External Level

There are two types of level control typically used with the D-Series Units, an internal level sensor and an external level sensor. The internal level sensor can be used inside the tank of the unit to trigger an auto-fill device (see hopper feeder below), or an alarm state. The external level sensor is used for pot fill mode (see Pot Fill Mode – Section 5). The delay for these sensors to activate can be set in this screen.



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.

The internal low level sensor is mounted in the hot melt control tank so that when the adhesive drops below the sensor, a feeder valve is energized to feed glue into the tank to be melted. This feature has a safety door switch that will disable the feeder if the tank door is opened. The door switch, internal level sensor and feeder valve need to be connected to the CPU board, to operate properly.

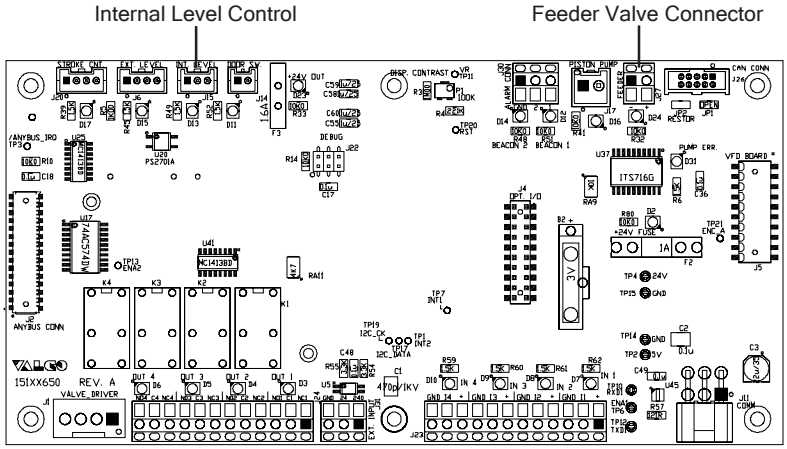
The internal low level sensor plugs into J15 on the CPU board. This feature does not need to be set up in the software. If the Hopper Feeder and it's components are connected as described above, the valve will energize when the door switch is closed and the sensor calls for glue.

Door Switch

The tank lid door switch will be wired to J14 on the CPU. The switch must be in the closed position for the feeder valve to energize and add adhesive to the tank. When the tank lid is opened, the feeder valve will turn off.

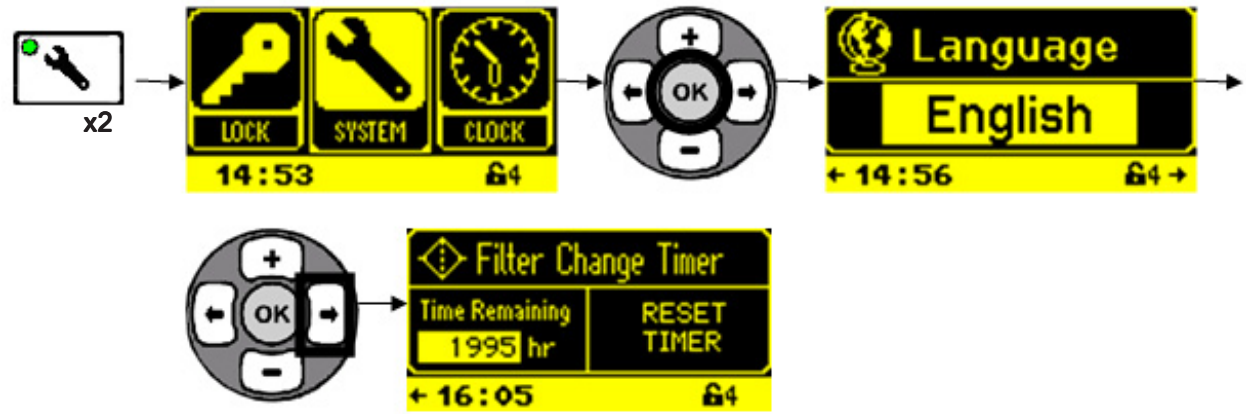
Feeder Valve Operation

The feeder valve is a dedicated +24VDC @ 0.5A output that will energize when the internal low level sensor calls for glue and the door switch is closed. This is J17 on the CPU board; pin 1 is +24V, pin 2 is ground.



Filter Change Timer

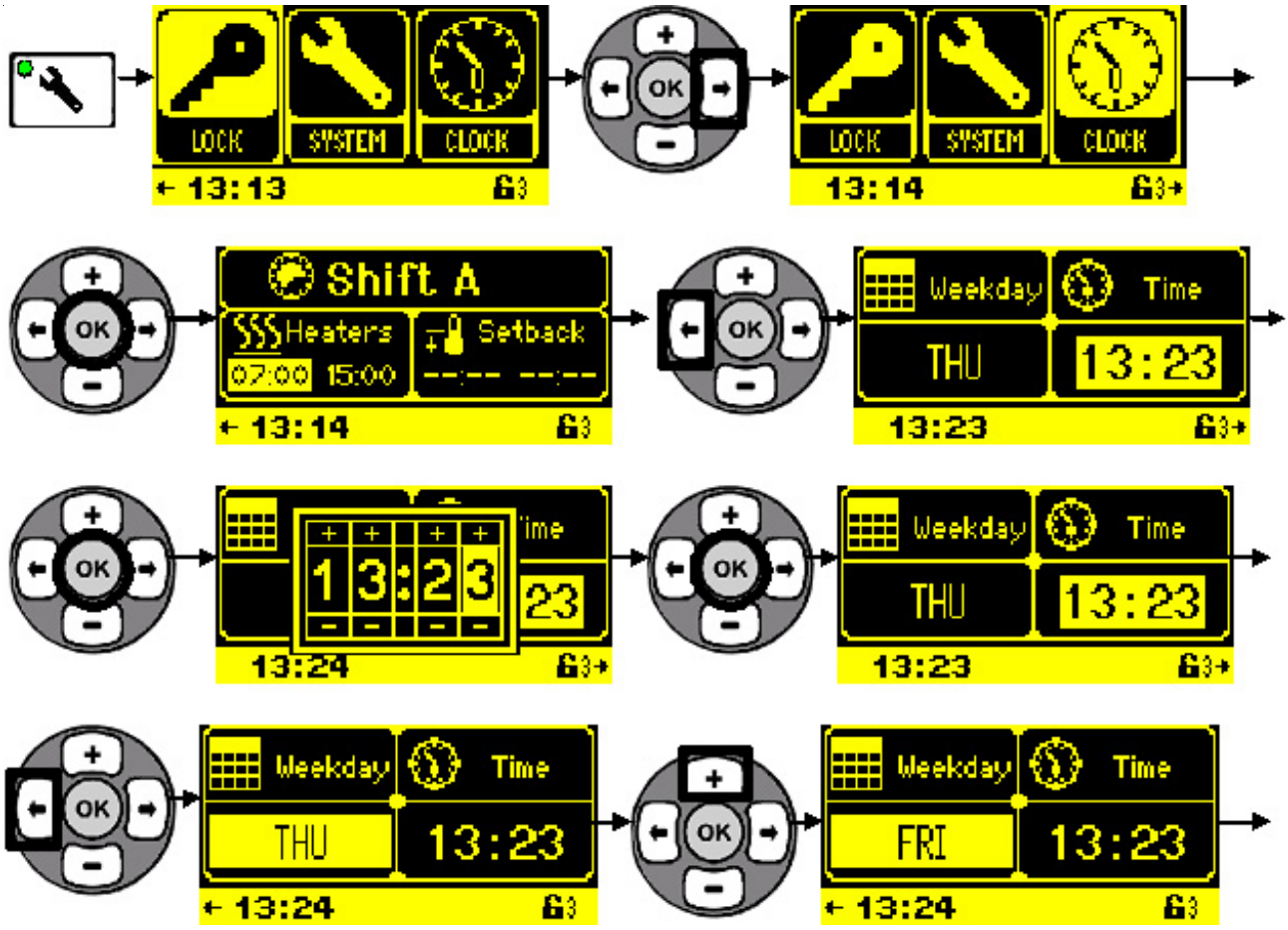
The Filter Change Timer Screen is a count down timer that shows the time remaining on the currently installed glue filter. When the counter gets down to zero (0), an alarm can be sounded and the filter needs to be changed or cleaned. Once the filter has been serviced, the timer can be reset for a user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



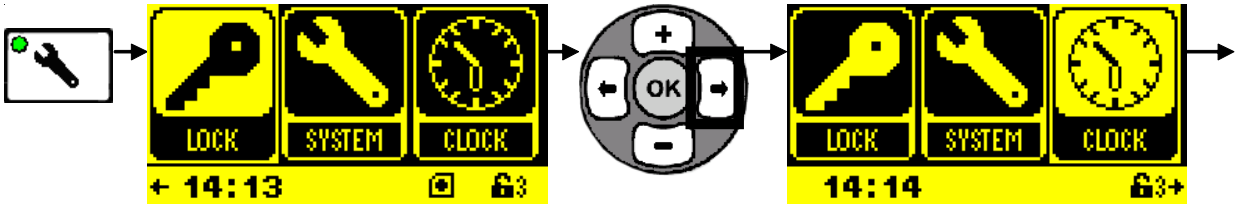
Clock and 7-Day Timer

Set Day and Time

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.



Shift Times/Setback 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.

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.)

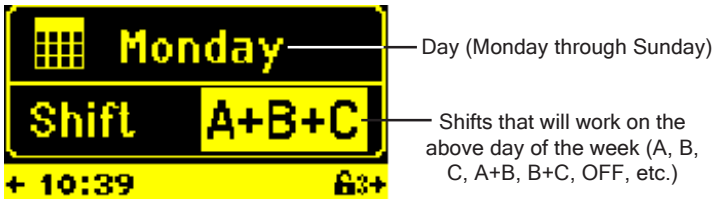
Set the start, stop, and setback times for all shifts. Leave the unused shifts/times blank (– –).

This screen states that for Shift A, heaters will turn on at 7:00 AM to the setpoint temperatures (set on the Temperature Screens, previously shown) and off at 3:00 PM, with all heaters going to the setback temperatures from 11:30 AM to 12:00 PM.

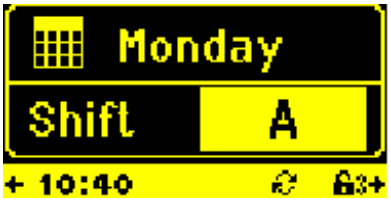
Programming Shifts - C0ntinued

This screen states that for Shift C, nothing will be on, since there is no Shift C working.

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.



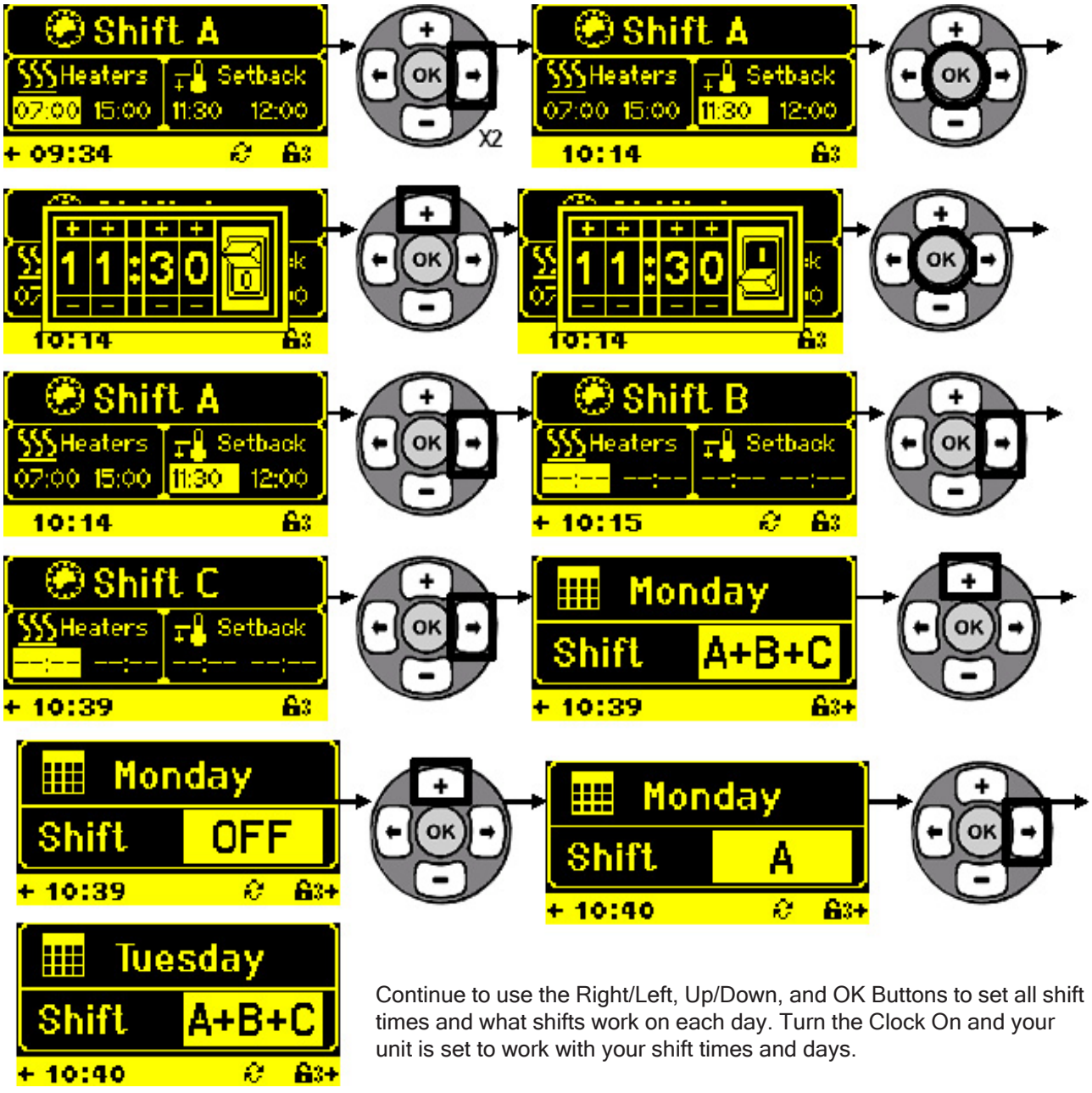
This screen states that on Mondays all three shifts (A, B, and C) will be working.



This screen states that on Mondays only Shift A will be working.

After setting all shift times (previous page) and programming the shifts that will be working for each day of the week (this page), be sure the Clock Function is On and is set properly.

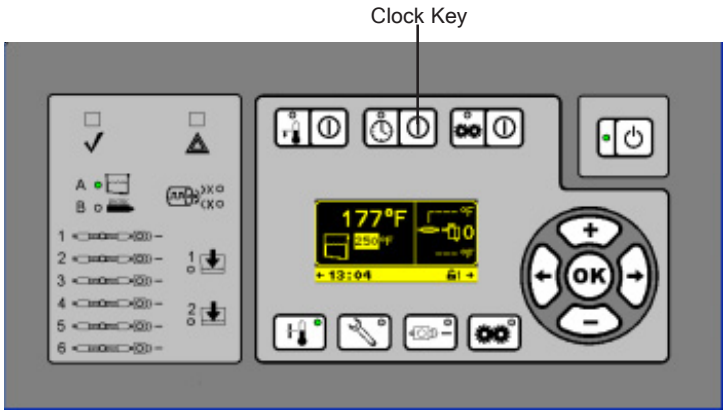
Moving Through the Shift Time/Day Screens



Continue to use the Right/Left, Up/Down, and OK Buttons to set all shift times and what shifts work on each day. Turn the Clock On and your unit is set to work with your shift times and days.

Moving Through the Shift Time/ Day Screens - Continued

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

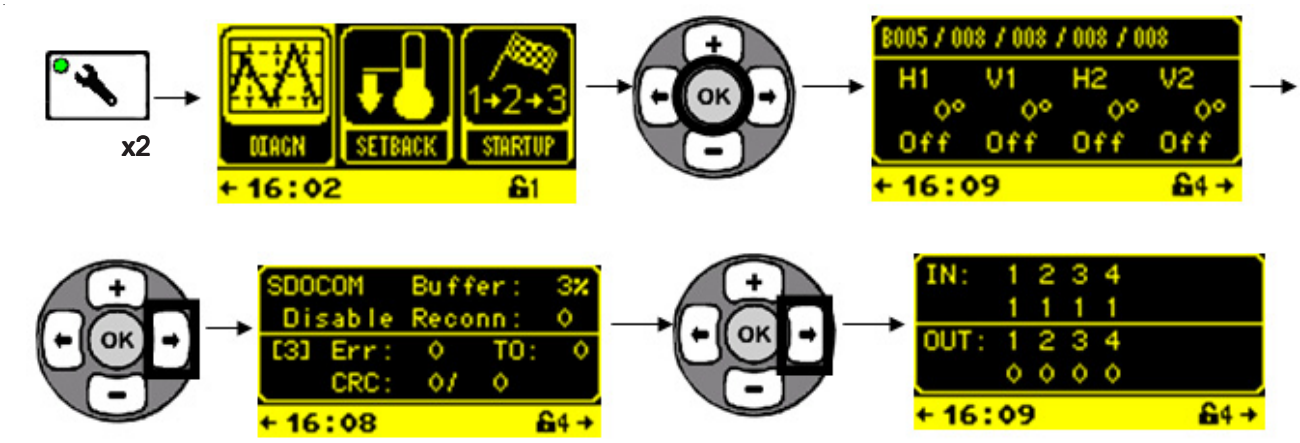


Do not turn off the main power to the control. The clock/timer will not operate if the power is off.

If the unit is set to ‘Standby’, the clock/ timer will operate properly. In Standby, the display will show the status bar with the correct time of day.

Diagnostics

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



Setback

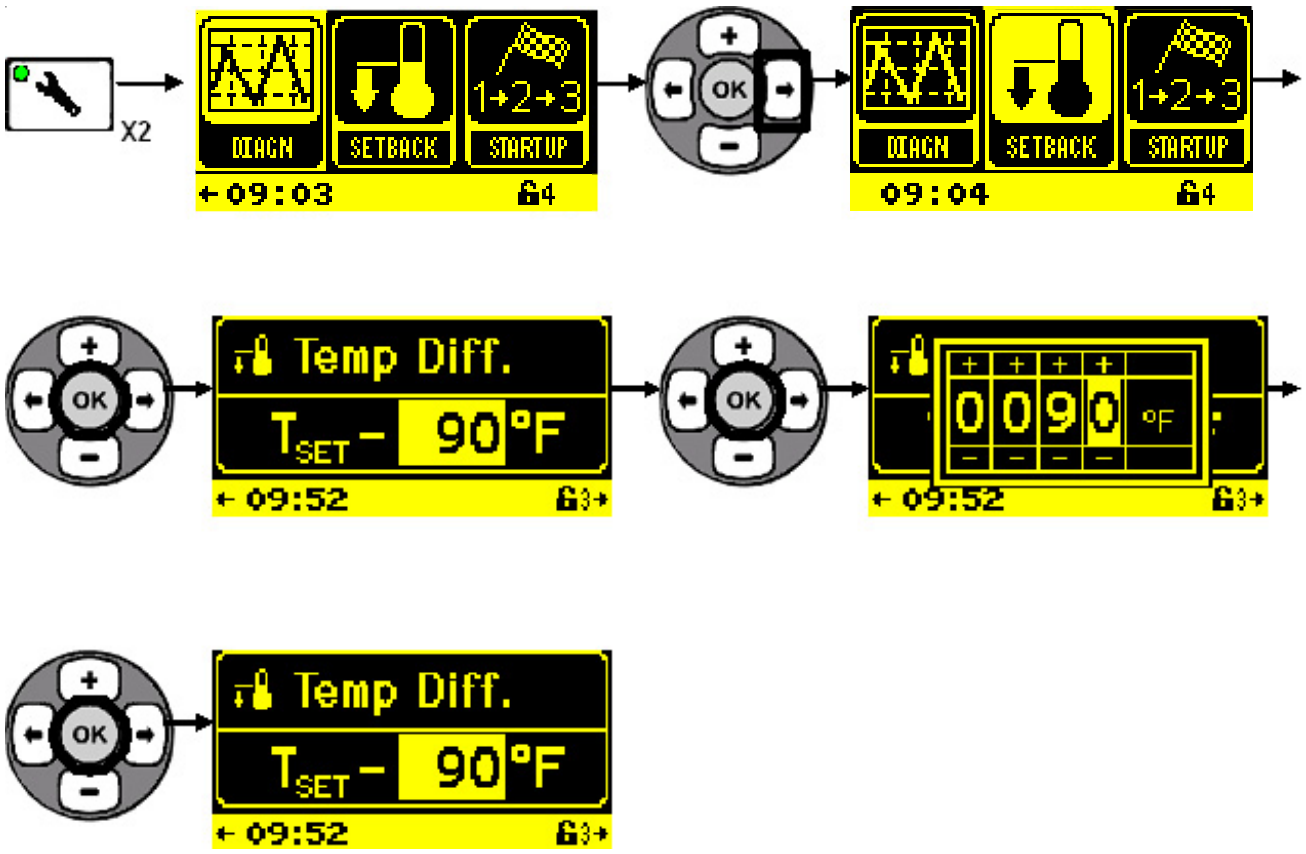
Setback Temperature

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.



Automatic Setback Timeout

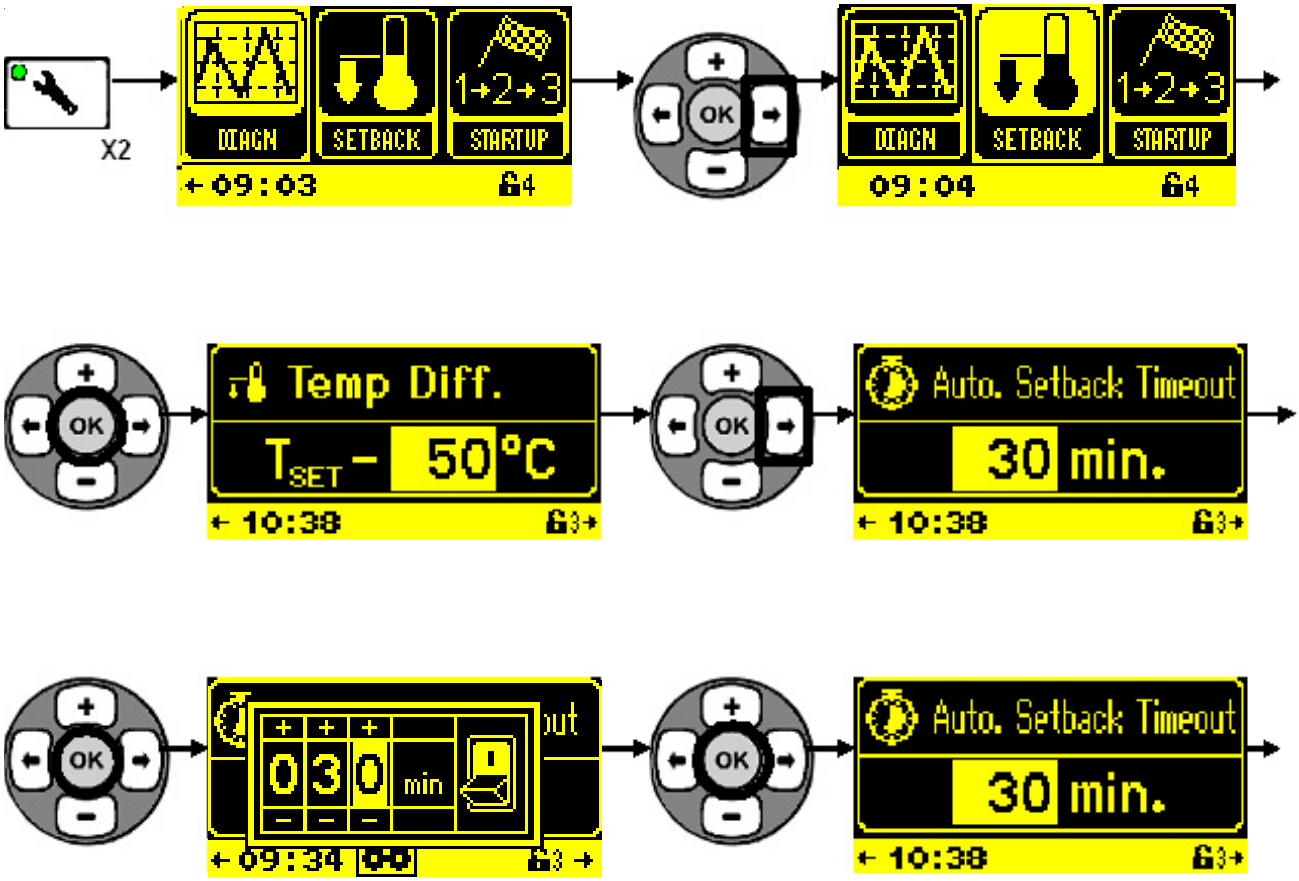
If the Automatic Setback Timeout input is enabled and the unit does not see an external input within the automatic setback timeout period, the unit will automatically go into setback.

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.

When the Automatic Setback is enabled, the Auto Setback symbol will start to flash in the status bar 2 minutes prior to going into setback. This will be the signal to the operator that the unit will go into setback if an external signal is not applied to the control that resets this feature.

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



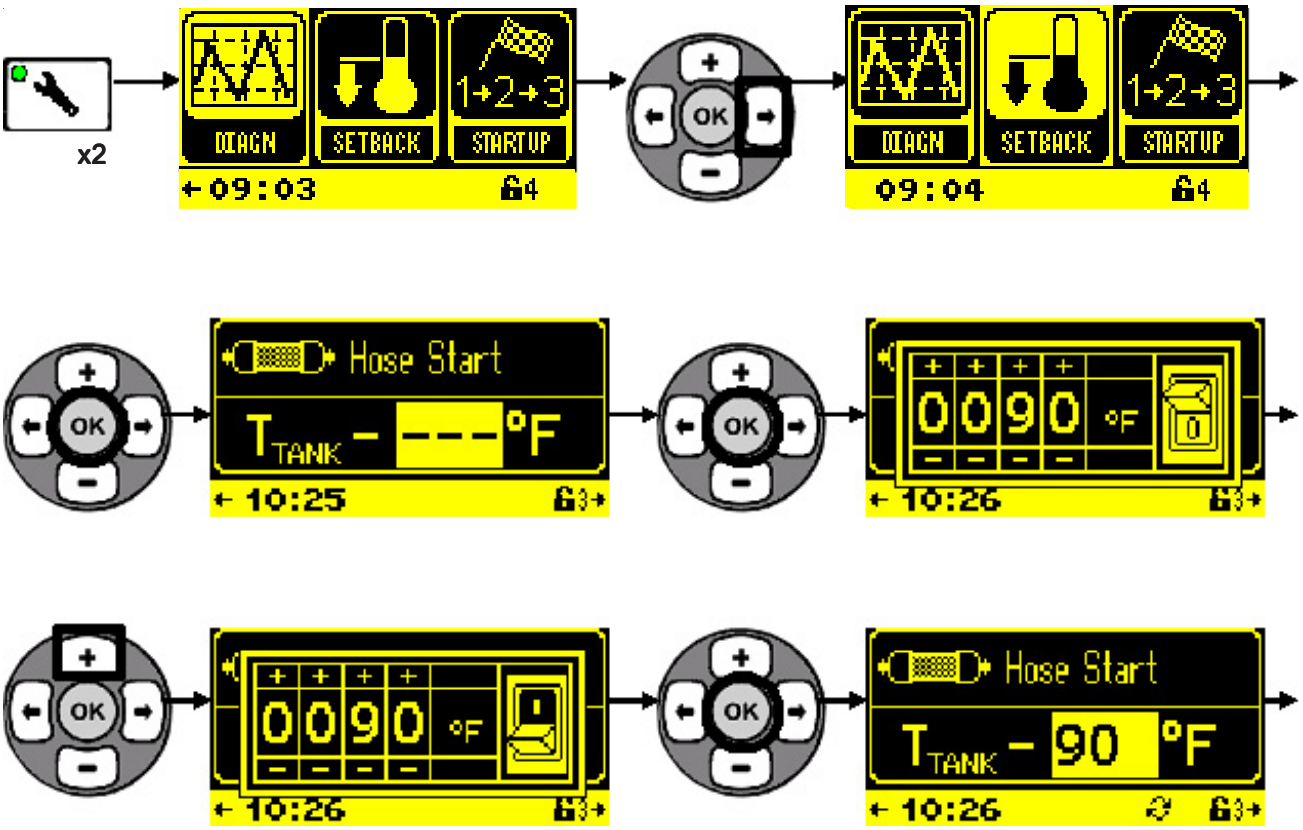
Startup Setup

Sequential Start – Hose

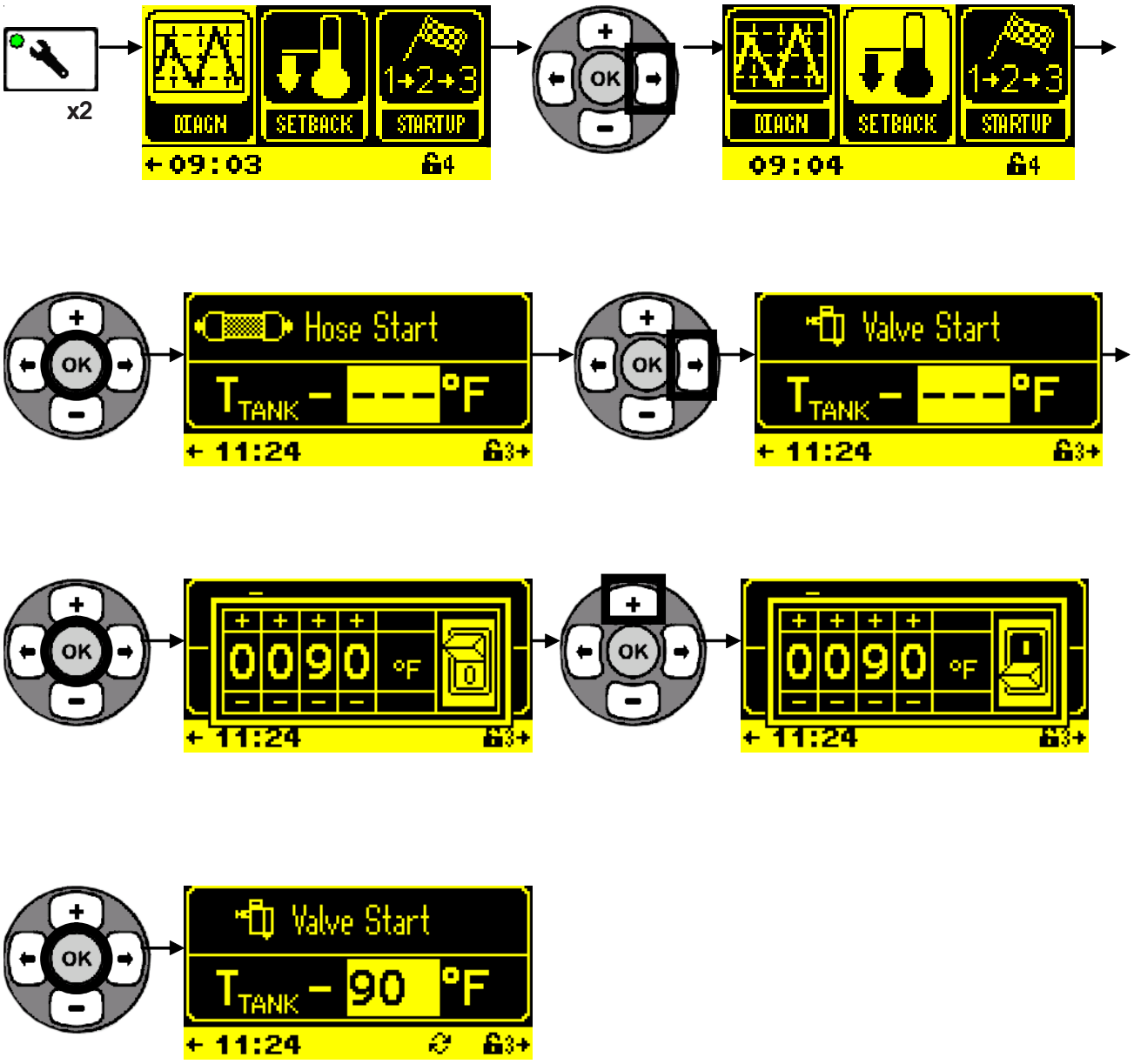
The Sequential Start function allows the hoses and the valves (guns) to begin heating after the tank reaches a specified temperature offset below the setpoint temperature. This feature is used to reduce adhesive degradation caused from heating adhesive in the hoses and valves for long periods while waiting 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.



Sequential Start – Valve

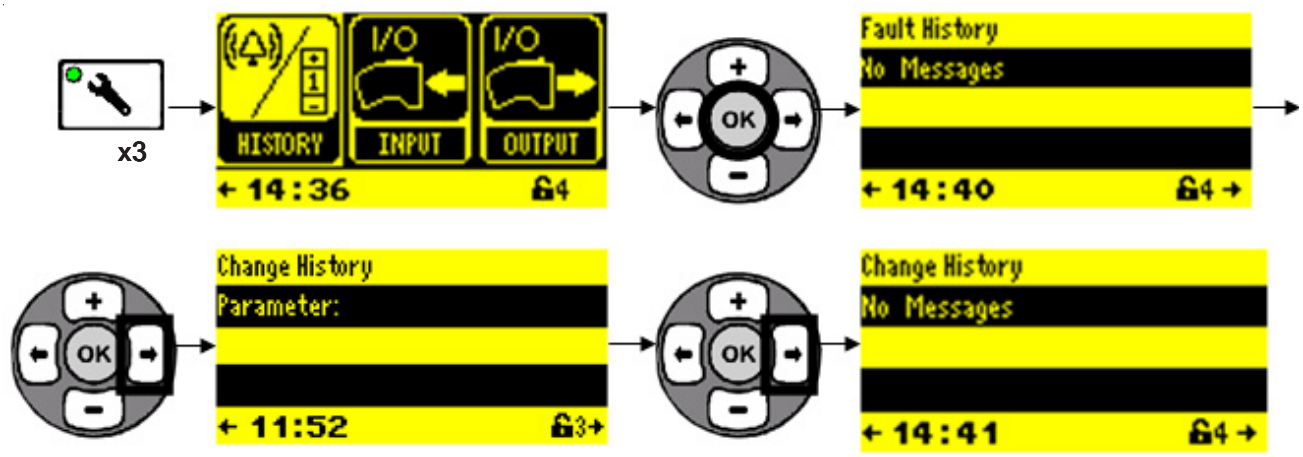


History

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.



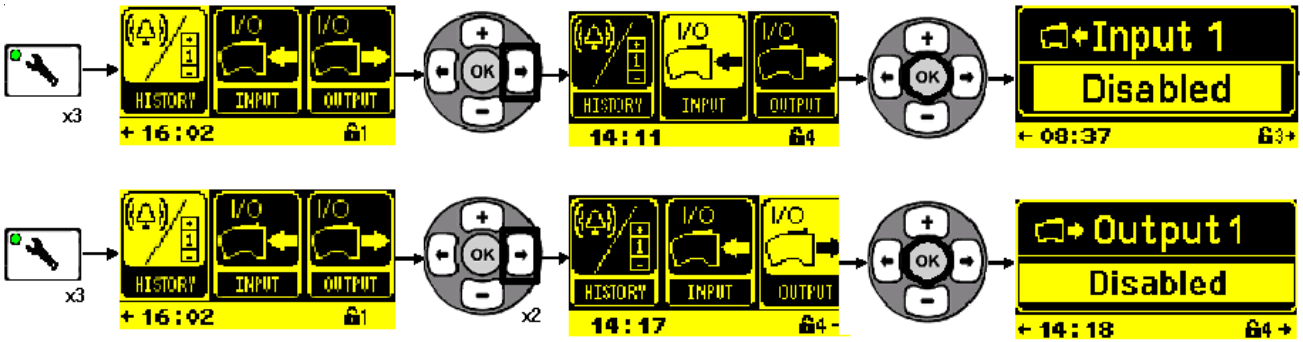
User Inputs and Outputs

There are 4 individual outputs that can be configured to control remote devices as set up by the user. An output relay will turn on when the conditions of the selected feature are met. For example, if Output #1 is programmed for “System Ready”, the output relay will energize when the control reaches temperature and is ready to glue. See the chart below for user selectable output features.

There are also 4 individual inputs that can be configured to control something on the hot melt control when the control receives an dry contact input. For example, if Input #3 is programmed for “Pump On/Off”, the pump will remain off until input #3 receives a signal for it to turn on. This can be used to remotely control the glue pump.

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

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



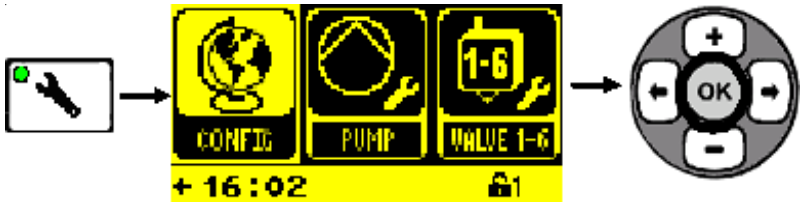
Inputs 1-4	Result when Input is ON	Result when Input is OFF
Disabled	None	None
Setback	Puts the control into Setback mode	Takes the control out of Setback mode
Auto Setback/Standby	Resets the Auto Setback/Standby Timeout timer	Allows the unit to enter Setback/Standby mode if Timeout timer is exceeded
Control Power Off	Puts the control in Standby mode	Takes the control out of Standby mode
Pump On/Off	Enables the pump (pump must also be enabled using the Pump On/Off key, or by setting Automatic Pump Mode to ON)	Disables the pump
All Heaters On/Off	Enables heaters for all zones	Disables heaters for all zones
Hose & Gun #1 On/Off	Enables the heaters for Hose & Gun #1	Disables the heaters for Hose & Gun #1
Hose & Gun #2 On/Off	Enables the heaters for Hose & Gun #2	Disables the heaters for Hose & Gun #2
Hose & Gun #3 On/Off	Enables the heaters for Hose & Gun #3	Disables the heaters for Hose & Gun #3
Hose & Gun #4 On/Off	Enables the heaters for Hose & Gun #4	Disables the heaters for Hose & Gun #4
Hose & Gun #5 On/Off	Enables the heaters for Hose & Gun #5	Disables the heaters for Hose & Gun #5
Hose & Gun #6 On/Off	Enables the heaters for Hose & Gun #6	Disables the heaters for Hose & Gun #6

User Inputs and Outputs - Continued

Outputs 1-4	Conditions to Turn Output ON
Disabled	None
System Ready	All zones have reached their respective temperature setpoints minus the System Ready Temperature Offset AND the Ready Delay Time has elapsed.
System Ready & Pump On	All zones have reached their respective temperature setpoints minus the System Ready Temperature Offset, the Ready Delay Time has elapsed AND the pump is ON.
Alarm	High Temperature Alarm OR, Low Temperature Alarm OR, RTD Disconnected Alarm OR, Drive Fault (if equipped) OR, Filter Alarm (if equipped) OR, Communication Fault
Power On	Control power is ON
Setback On	Control is in Setback mode
Low Level	Material is below the Low Level Sensor (if equipped) OR, Hopper Feeder runs for more than 200 seconds without satisfying Level Sensor (if equipped)
External Level	Material is below the External Level Sensor (if equipped)
Fault/Stop	The tank over-temperature thermostat is open OR, Any zone temperature has increased above the Maximum Temperature Setting OR, The High Temperature Alarm or RTD Disconnected Alarm persists for more than 150 seconds Note: Any of these conditions will cause the control to deactivate the master control relay
Alarm/Level	High Temp Alarm OR, Low Temp Alarm OR, RTD Disconnected Alarm OR, Drive Fault (if equipped) OR, Filter Alarm (if equipped) OR, Communication Fault OR, Material is below the Low Level Sensor (if equipped) OR, Hopper Feeder runs for more than 200 seconds without satisfying Level Sensor (if equipped)

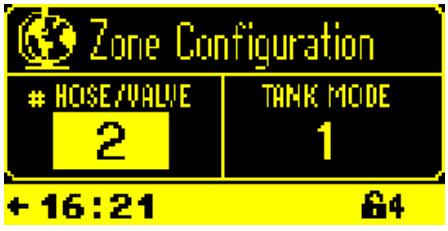
Configuration

The Configuration Menu of screens allows the user to set up global parameters for the hot melt control. These configurations are shown below.



Zone Configuration

The Zone Configuration is used to set the control for how many hose/gun pairs are being used by the operator and if 1 or 2 tank zones will be enabled. This screen will need to be modified if the user purchases the 5/6 Zone Board Option to enable Hose/Valves 5 & 6.



Auxiliary Zones

If so equipped with the full 12 Zone Power Board, there will be circuitry for Zones 15 &16. These are the Auxiliary Zones and need to be enabled on this screen to read and control temperatures. Details and instructions on how to set this up will be included in the documentation with the Hot Melt Control.

Auxiliary I/O

When the Auxiliary I/O is set to “Enabled,” auxiliary I/O devices will be activated.

When the Auxiliary I/O is set to “Disabled,” auxiliary I/O devices will be deactivated.

The factory default setting is “Disabled.”

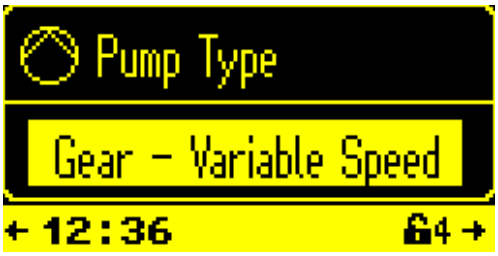
An Auxiliary I/O Board (151xx661) can be ordered separately as an option to allow the operator four more user inputs and four more outputs. Once the board is installed, the Auxiliary I/O must be enabled.

See Installation, 4-19 for Auxiliary I/ O Board Connector, J4.

This parameter can be accessed in Password Level 2 or higher (see Appendix A Password Levels).

Pump Type

For pump type selection, this unit will be configured for Variable Speed Gear Pump or Fixed Speed Gear Pump. Variable Speed can only be chosen if the unit is equipped with a Motor Speed Board, a VFD, and a 3 phase motor. This setting will be set at the factory before shipment.

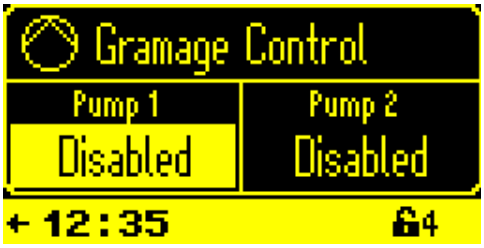


Pattern Control

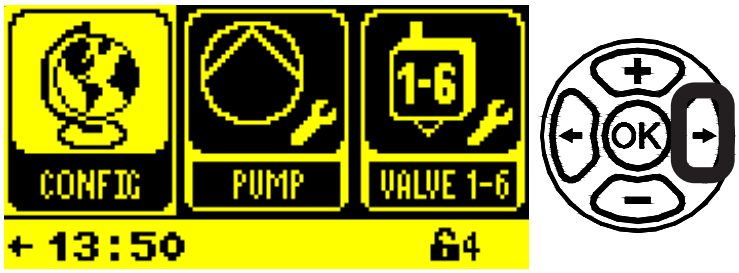
The Pattern Control configuration screen is used to enable or disable the pattern controller option that can be added to the hot melt control. If this option is in the hot melt control, or it is added at a later date, this option needs to be "Enabled". All supporting documentation for set up and operation of the Valve Driver pattern control will be included with the Valve Driver Option Kit.

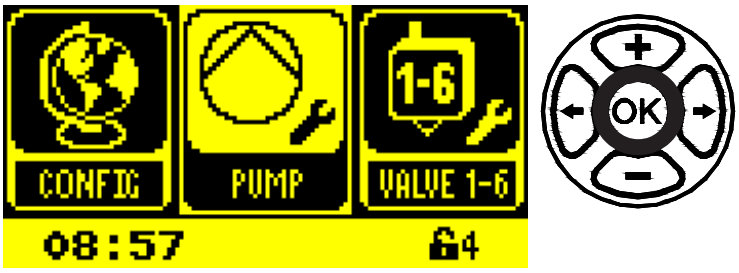
Gramage Enable

Gramage is ONLY enabled in coating applications where the user wants the unit automatically calculate the pump speed to achieve a desired coat weight. It requires the user to enter the Pump Displacement (cc), Adhesive Density (gram/cc), speed reference values if tach mode is used, coating width (mm), and the desired coating weight (gram/square meter). See *Gramage Setup*, in this section, for more information.

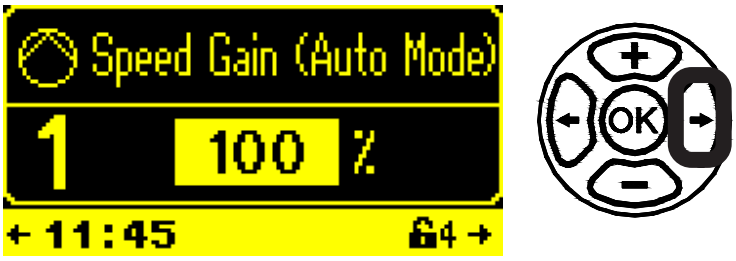


Pump Setup Menu

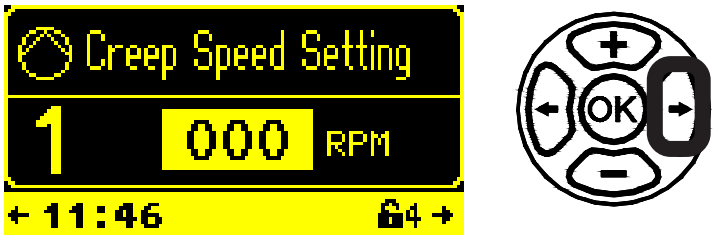




Available with Variable Speed units only. The Speed Gain value is adjustable from 0-200%. It scales the pump speed when using Automatic Pump Mode, when the pump speed is determined by the Auto Speed Input.



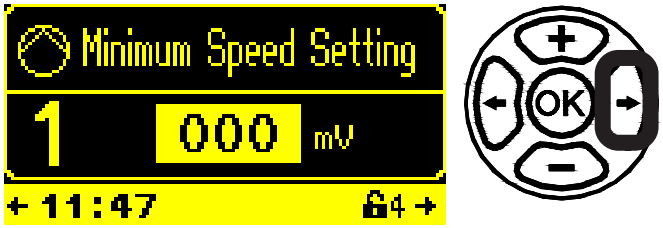
Available with Variable Speed units only. The Creep Speed Setting is the speed that the pump will run when the Auto Speed Input is below the Minimum Speed Setting. This setting is generally used to maintain pressure while the production line is stopped.



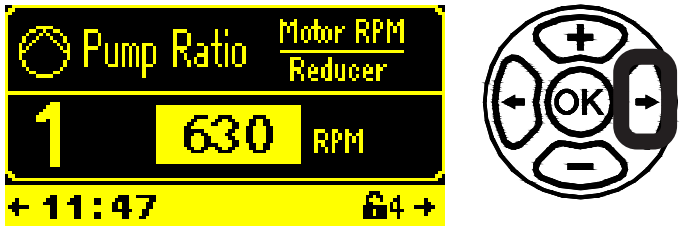
Continued on Next Page

Pump Setup Menu - Continued

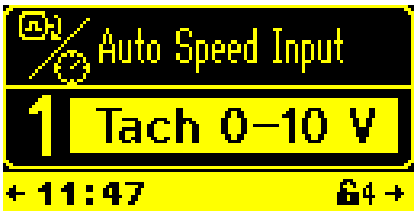
Available with Variable Speed units only. The Minimum Speed Setting determines the minimum line speed input that you want the pump to stop turning or turn the creep speed setting. The units are in either milli-volts or ft/min depending on the Auto Speed Input type (Tach or Encoder).



The Pump Ratio is generally set at the factory. It is the motor RPM divided by the reducer size (pump rate when the motor runs at 100%). It is used to calculate and display the actual speed of the pump on the Pump Status Screens.

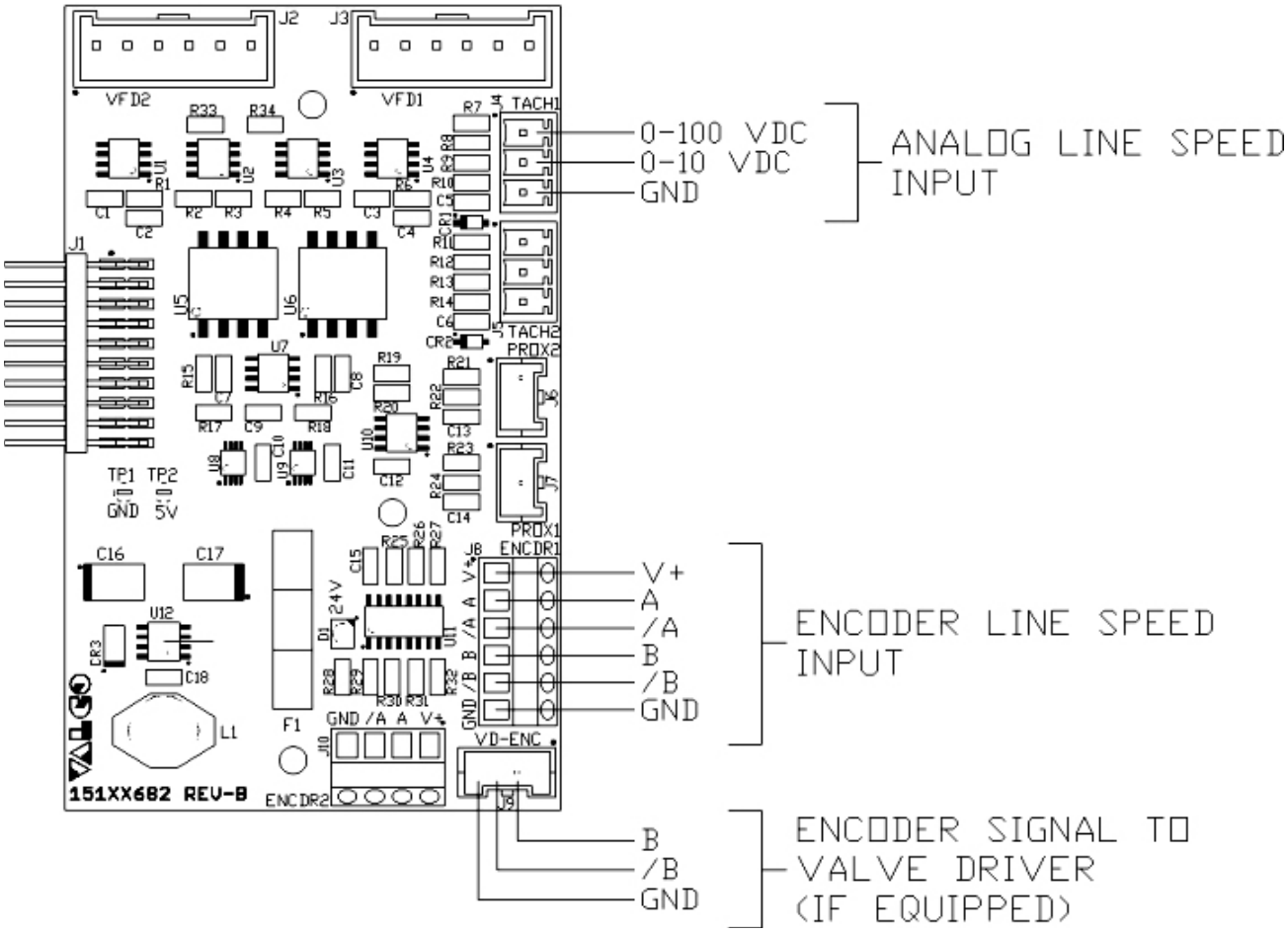


Available with Variable Speed units only. The Auto Speed Input setting is the type of line speed input used to adjust the pump speed. See the Motor Speed Board connections (Section 4) to find the input connectors for the Auto Speed Input. Allowable settings and their corresponding connections are listed in the table, below.



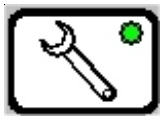
Setting	Board Connection
0-2.8	0-10, DC COM.
0-10	0-10, DC COM.
0-100	0-100, DC COM.
Encoder	V+, A, 1A, B, 1B, DC COM.

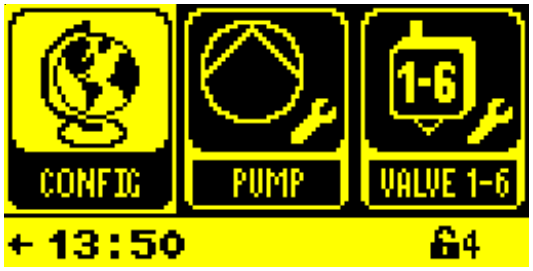
Pump Setup Menu - Continued

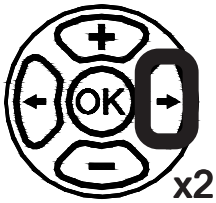


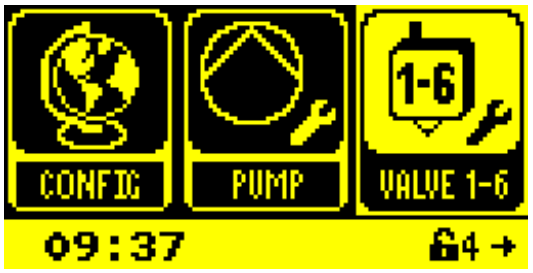
VFD Board

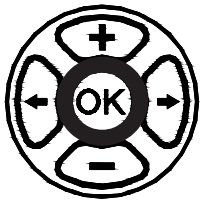
Valve Setup Menu (pattern control only)

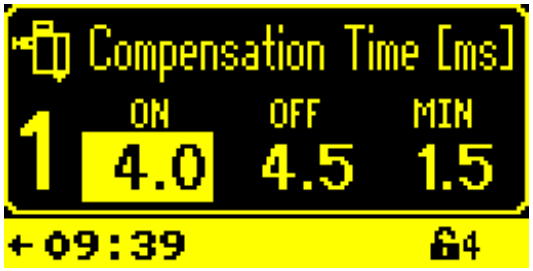












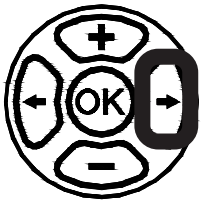
1. Set up the Valve Compensation Times: Ton, Toff and Tmin.
   a. Use left/right keys to select time.
   b. Use up/down keys to change values.

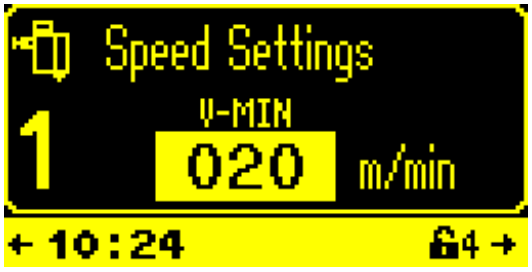
Increasing the “ON” Compensation Time will move the pattern start forward.

Increasing the “OFF” Compensation Time will make the glue line shorter.

Tmin is the Minimum Valve Activation Time.

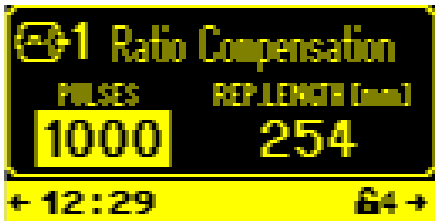
Scroll right to set the Minimum Product Speed; Vmin; the minimum speed for this valve to operate.



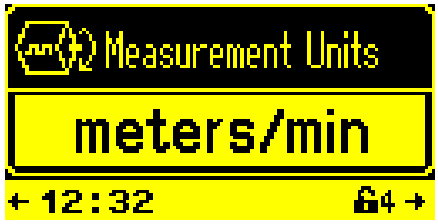


Encoder Setup Menu

If an Encoder is used for the Auto Speed Input, then the Encoder parameters need to be set in this menu. Enter the Pulses per Revolution of the encoder and the encoder when circumference in this screen.

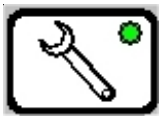


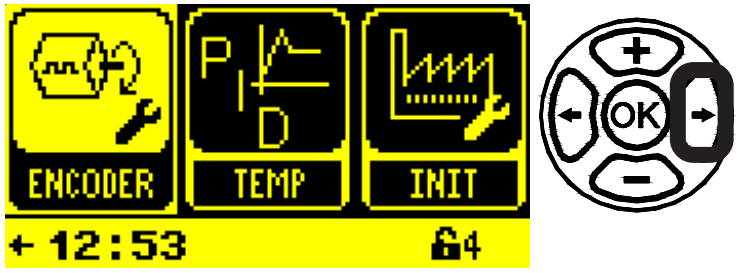
The measurement units for the encoder are selected in this screen. This is only available when the encoder is used.

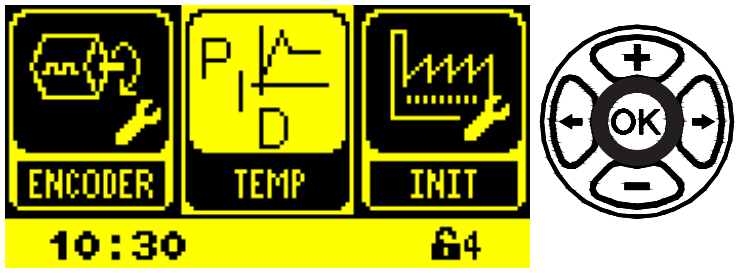


PID Setup Menu

PID Settings







PID Settings - Continued

The PID settings are factory set for each zone. The factory PID settings complement Valco Melton's Tank, Hose, and Gun watt densities (Tank 1 screen shown. Use left/right keys to access other screens).

CAUTION!

Changing these settings is not recommended. Changes should be made only by authorized ValcoMelton personnel.

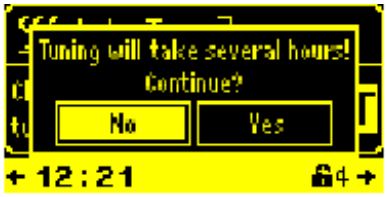
In the case where a special temperature zone is used (example: coating head) and its temperature does not regulate properly, the Auto Tune function can be used to set the PID settings.

Default PID Settings					
Zone Type	**P**	**I**	**D**	**S**	**R**
Tank	80	3	10	10	9
Hose	80	5	10	10	9
Gun	80	5	10	10	9

AutoTune Feature

The Auto Tune feature will optimize the PID settings for each zone that is enabled when the Auto Tune is started. The Auto Tune feature can take up to eight hours to complete and the power must not be turned off during this process. It is recommended to only enable zones that need their PID values adjusted to reduce the time taken for tuning.

The AutoTune Feature is located in the PID Screen and can ONLY be accomplished under the password Level 3!



Changing out gun/hose pairs or moving a gun or hose from it's original AutoTune position, will require that AutoTune be run again to optimize the PID settings again.

Initialize Screen

The Init or Initialize Screen is used to reset ALL of the control parameters back to the factory settings. When “OK” is selected to Initialize ALL Data, the set up wizard will take the user through the control initialization to reconfigure the hot melt control as if it were a brand new installation. From this point, the user will be able to select number of hose / gun pairs, piston or gear pump, etc.

Restoring Factory Default Settings

To restore the factory default settings, follow these steps:

CAUTION!

Restoring the factory default settings will permanently erase changes made to any parameter or setting!

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.

Adjusting the Pressure Control Valve

Adjusting the Single-Stage Relief Valve

The D10/D16 unit contains a single-stage relief valve (see figure below). Additionally, the D10/D16 unit can use an optional pneumatic relief valve (707xx212).

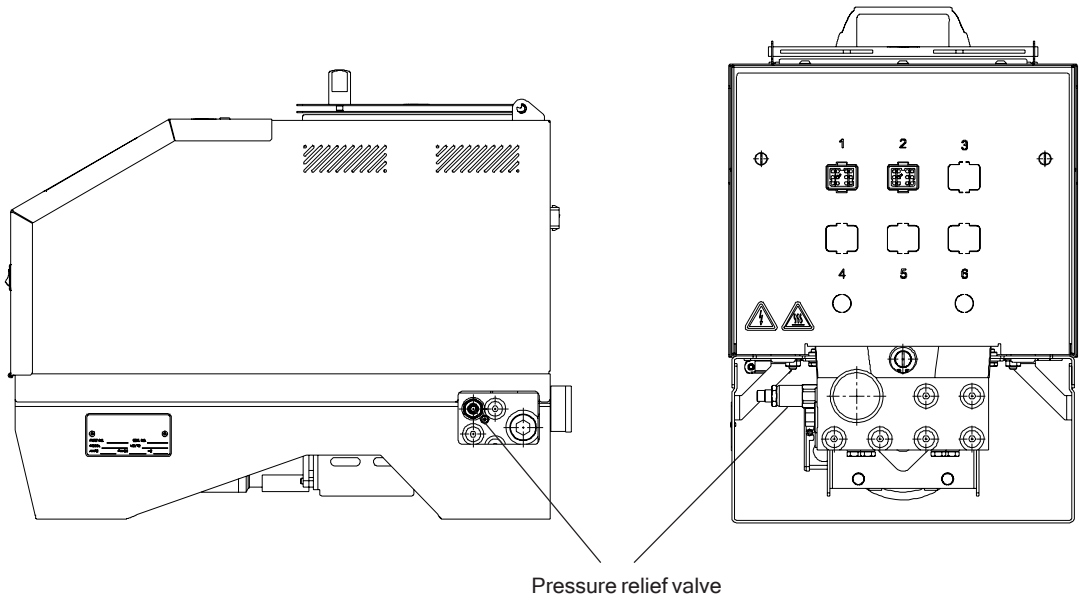
The single-stage relief valve is a simple safety device which protects the system from excessive pressure. The single-stage relief valve is commonly used for systems that are applying adhesive continuously (laminating).

To adjust the single-stage relief valve, follow these steps:

CAUTION!

Do not overtighten adjusting screw. Failure to comply could result in damage to the equipment.

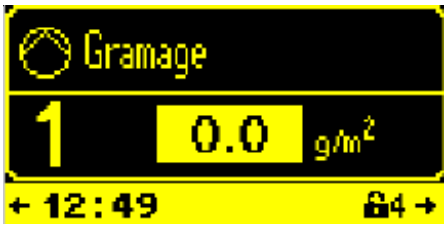
1. Turn off pump motor.
2. Loosen the locknut on the pressure relief valve.
3. Turn adjustment screw clockwise to increase pressure, counterclockwise to decrease pressure.
4. Tighten the locknut on the pressure relief valve.
5. Turn on pump motor and resume operation.



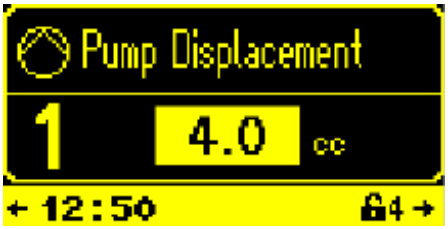
Gramage Feature

The Gramage Feature is ONLY enabled in coating applications where the user wants the unit automatically calculate the pump speed to achieve a desired coat weight. If this feature is used then the following parameters must be set.

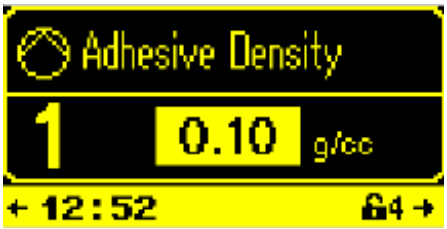
The width of the coating application in millimeters. Press the Pump Status Key and scroll right to get to this setting.



The desired Application Weight (Gramage) in grams per square meter for the application. Press the Pump Status Key and scroll right to get to this setting.

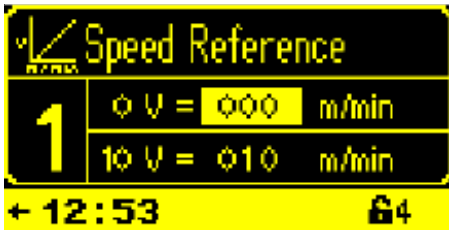


The Pump Displacement in cubic centimeters. Enter the Pump Setup Menu from the Tools Key, then scroll right to access this screen.



The Adhesive Density in grams per cubic centimeter. Enter the Pump Setup Menu from the Tools Key, then scroll right to access this screen.

Gramage Feature-Continued



If tach mode is used as the auto speed input for gramage mode, then these speed reference values must be entered for the control to know how the 0-10V input translates to an actual speed in meters per minute. Enter the Pump Setup Menu from the Tools Key, then scroll right to access this screen.

D Series Variable Frequency Drive Configuration (If Equipped)

1. Press ‘DSP’ to display ‘F’ number; use arrow keys to reach function to change.
2. Press ‘Data Ent’ to display current value, use arrow keys to change value.
3. Press ‘Data Ent’ to save new function value.
4. Press ‘DSP’ key to exit or arrow keys to go to the next function number.

	Valco Setting	Factory Default	Function	Range
F01	03.0	05.0	Acceleration Time	00.1 – 999 Seconds
F02	05.0	05.0	Deceleration Time	00.1 – 999 Seconds
F03	000	000	External Operation Mode	000: Fwd/Stop, Rev/Stop 001: Run/Stop, Fwd/Rev
F04	000	000	Direction Selection	000: Forward 001: Reverse
F05	004	004	V/F Pattern Setting	001: 50 Hz General Application 002: 50 Hz High Starting Torque 003: 50 Hz Variable Torque 004: 60 Hz General Application 005: 60 Hz High Starting Torque 006: 60 Hz Variable Torque
F06	63.2	60	Maximum Frequency	01.0 – 120 Hertz
F07	10.0	00.0	Minimum Frequency	00.0 – 120 Hertz
F08	10.0	10.0	Preset Speed 1 (SP1)	01.0 – 120 Hertz
F09	06.0	06.0	Jog Frequency	01.0 – 10 Hertz
F10	001	000	Operation Control Method	000: Keypad 001: External Terminal
F11	001	000	Speed Control Method	000: Keypad 001: External Signal (0~10v/0~20mA) 002: External Signal (4~20mA)
F12	005	005	Switching Frequency	001: 4 kHz 002: 5 kHz 003: 6 kHz 004: 7.2 kHz 005: 8 kHz
F13	00.0	00.0	Torque Boost Adjustment	00.0 – 10.0%
F14	001	000	Stopping Method	000: Decelerate Stop 001: Free Run Stop
F15	00.5	00.5	Braking Time	00.0 – 25.5 Seconds
F16	01.5	01.5	Braking Start Frequency	01.0 – 10.0 Hertz
F17	08.0	08.0	Braking Level	00.0 – 20.0%
F18	83	100	Current Limit	000 – 100%
F19	002	002	Input Terminal 6 Function	001: Jog 002: SP1 003: Emergency Stop 004: External Base Block 005: Reset
F20	005	005	Input Terminal 7 Function	001: Jog 002: SP1 003: Emergency Stop 004: External Base Block 005: Reset
F21	003	003	Output Terminal Function	001: Operating 002: Frequency Reached 003: Fault
F22	001	000	Reverse Enable	000: Rev Command Enabled 001: Rev Command Disabled
F23	000	000	Auto Restart Enable	000: Auto Restart Enabled 001: Auto Restart Disabled
F24	005	000	Auto Restart Times	000 – 005 Times
F25	000	000	Restore Factory Settings	010: Restore to 50 Hz Settings 020: Restore to 60 Hz Settings

SECTION 6 - OPERATION

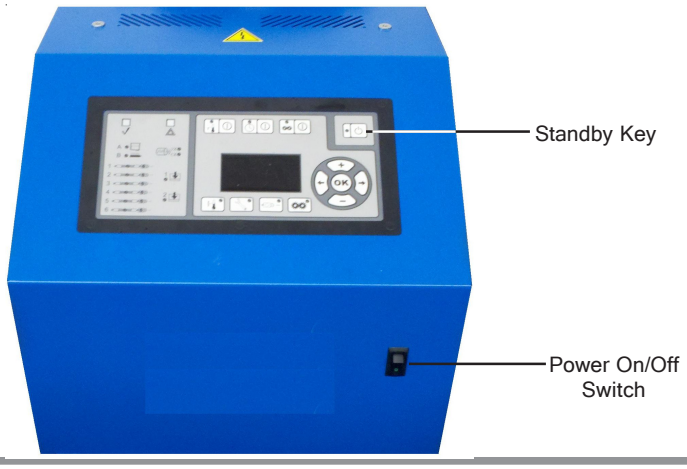
Warning!

It is recommended that *Section 5 - Setup* 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.

Start the Unit

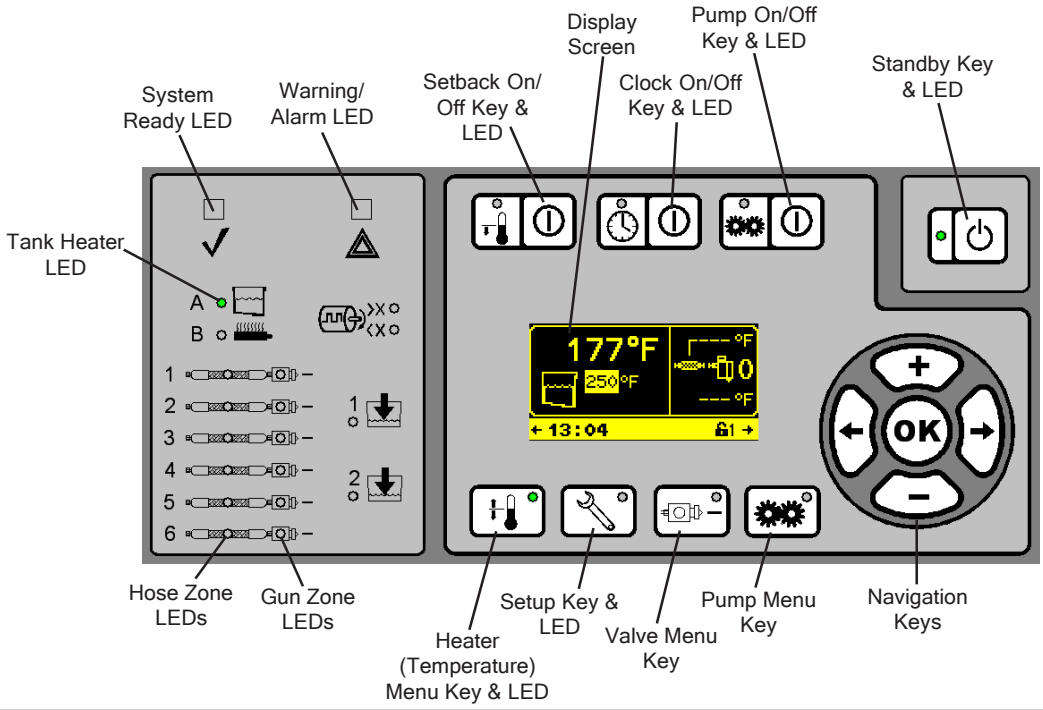
To start the unit, do the following:

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



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.

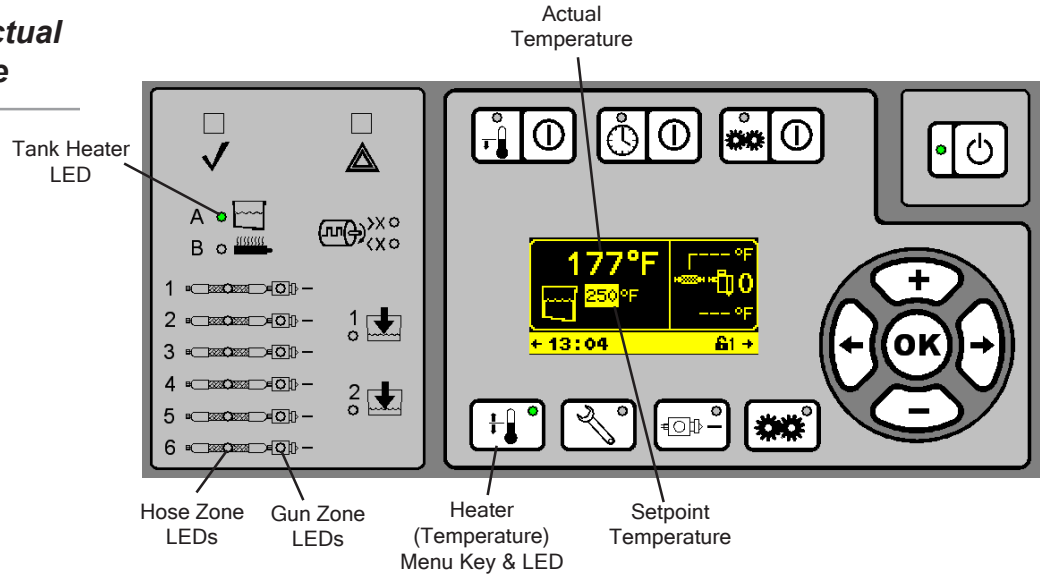
Once the unit has completed its start-up sequence, it will turn on the heaters in the tank and all active hoses and guns. The heater’s corresponding Zone LED will illuminate green when the heater is on.



Temperature

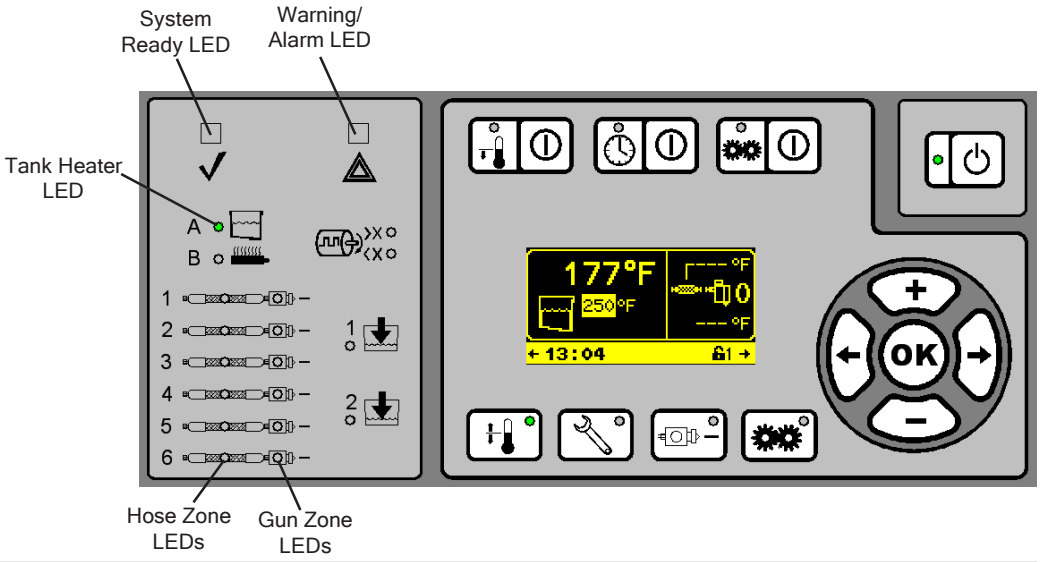
The tank temperature screen will show the actual tank temperature and the tank temperature setpoint. For operator convenience, the right side of the display screen alternately displays the Hose & Gun temperatures (see *Section 5 - Setup*, for setting zone temperatures). Press the Heater Key (or use the Navigation Buttons) to cycle through the temperature screens until you reach the desired screen.

Setpoint and Actual Temperature



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 *Section 5 - Setup*, “Over Temperature Alarm” and “Under Temperature Alarm” for details).



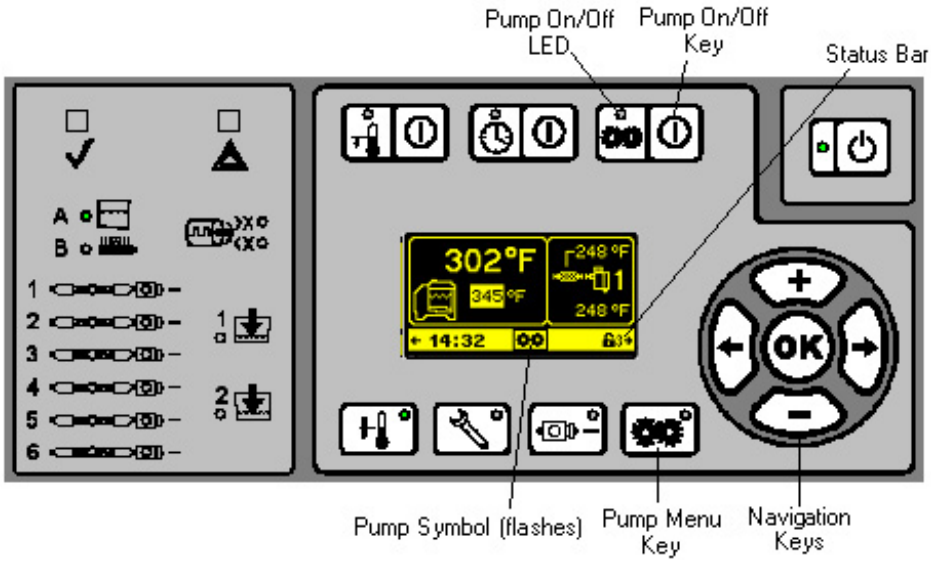
Temperature Status LEDs - Continued

If the temperature set points are not correct or need to be adjusted, select the appropriate zone and adjust the temperature setting (see *Section 5 – Setup* 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.

Pump Operation



When the pump is enabled but waiting on the System Ready LED to illuminate green, the pump symbol flashes in the status bar.

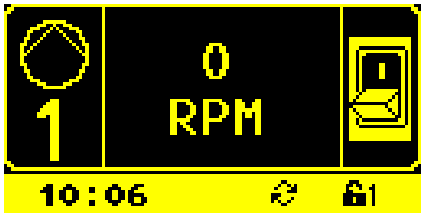
Pump On/Off Key

The Pump On/Off Key is the master enable for the Pump(s). It can be set to come on automatically when the unit is ready (see Section 5 - Setup, "Auto Pump Enable"). Note that all temperatures must reach the system ready temperature and the Ready LED must be illuminated green for the pump to operate.

Pump Status Key

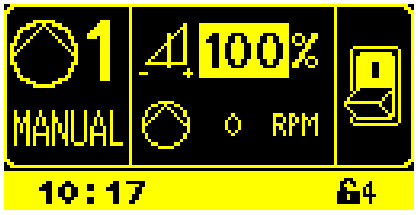
Fixed Speed Unit

The Pump Menu Key will give you access to this screen where the Pump RPM is shown and the individual pump can be enabled.



Variable Speed Unit

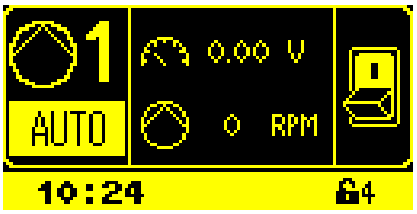
In a Variable Speed Unit the Pump Menu Key allows you to choose the pumps operating mode, manual or automatic. You can also see the pump's speed input value, the pump RPM, and the individual pump enable.



Pump Operation - Continued

In Manual Mode you can change the Pump speed from 0 – 100%. You can also view the Pumps RPM and enable the individual pump.

In Automatic Mode you can view the Automatic Speed Input. These units will be in Volts or in ft/min depending on the Auto Speed Input Type setting (Tach or Encoder).

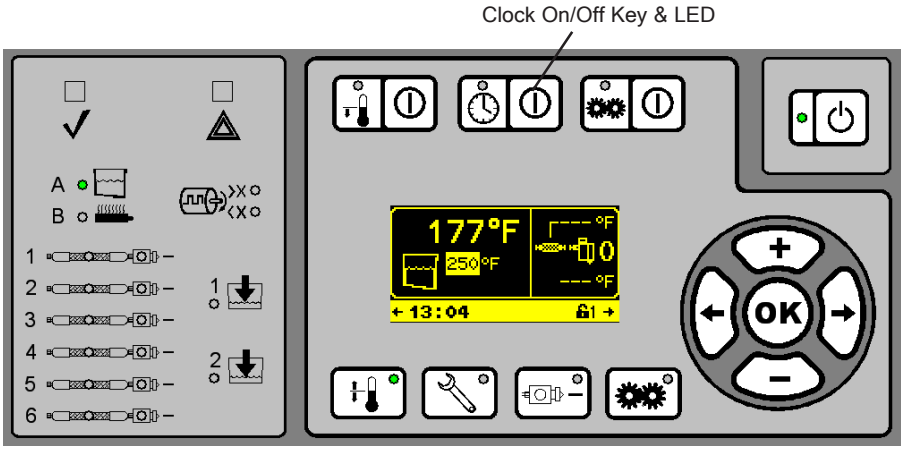


You can also view the Pumps RPM, and enable the individual pump.

Clock On/Off

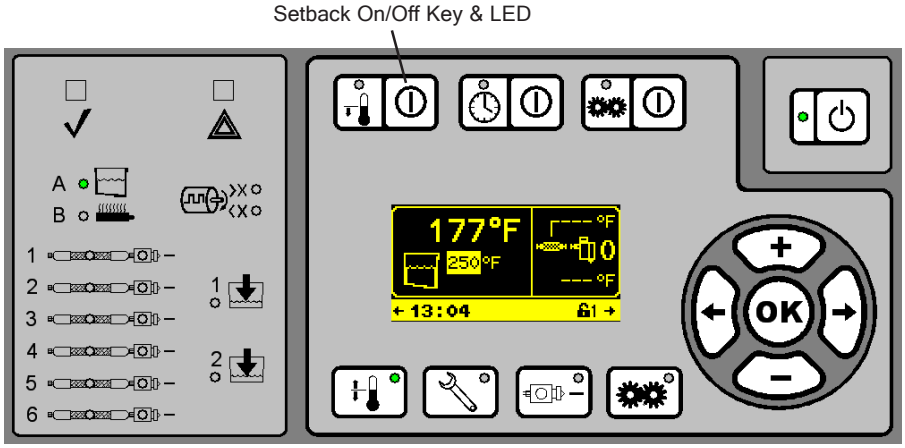
The Clock must be On (Clock LED illuminated green) for all of the programmed scheduled shifts to run, unless the unit will be operated manually (no pre-programming).

To turn the clock on or off, press the Clock On/Off Button. When the clock is on, the Clock LED illuminates green. See *Section 5 - Setup* for detailed information on setting the clock.



Setback

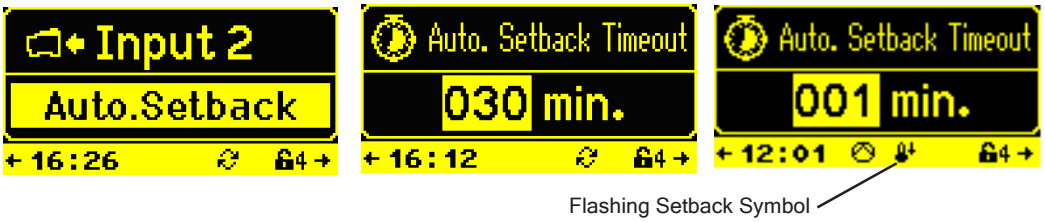
The Setback Temperatures are pre-programmed (see “Setback Temperatures”, *Section 5 - Setup*). When setback times are set (See “Clock - Shift Times/Setback Times,” *Section 5 - Setup*) and the clock is on, the unit automatically enters setback during each shift as programmed. If, however, an unscheduled 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 *Section 5 - Setup*).



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.



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 5.

Hopper Feeder – Internal Low Level Detection

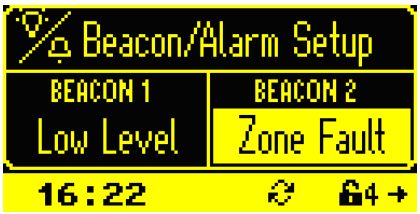
The Hopper Feeder option is used to refill the hot melt control's tank with fresh adhesive when the tank level drops below the set level sensor. This eliminates the need for the operator to manually open the tank lid and add adhesive to the tank.

For setup details, refer to Section 5.

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).



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 5 – Setup* for this connector location).

Filling the Tank

Warning!

Do not overfill the tank. The adhesive could leak out and damage equipment and cause extensive burns to persons. DAMAGE TO EQUIPMENT AND DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!

Always wear insulated gloves, clothing, and proper eye protection when working around hot melt equipment. A protective screen around the face is also recommended. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Caution!

Always use the same adhesive type in the unit. If it is necessary to change the adhesive type, completely flush the system by following all instructions in the Maintenance Section (or call Valco Cincinnati for full instructions). OTHERWISE, DAMAGE TO EQUIPMENT COULD OCCUR.

To fill the tank, do the following:

Warning!

Use caution when opening the tank lid and filling the tank. Wear gloves and eye protection. Burns and splashing of molten adhesive may occur. DEATH OR PERSONAL INJURY COULD OCCUR FROM BURNS.

1. Open the tank lid.

2. Fill the tank with the proper type of hot melt. Use a small scoop and fill the tank slowly to avoid splashing hot melt adhesive or overfilling the tank.

   The tank should be kept 3/4 full at all times to avoid build-up of char on the sides of the tank.

3. Close the tank lid slowly and carefully to avoid splashing hot melt adhesive.

   The tank lid should be kept closed to minimize heat loss, reduce vapors, and prevent debris from contaminating the tank and the adhesive.

SECTION 7 – MAINTENANCE

This section contains guidelines and procedures for maintaining the D10/D16 hot melt unit. Your hot melt system will run longer and more consistently if a preventative maintenance program is used. Daily attention to the maintenance of your system is recommended.

General

ValcoMelton recommends the following general maintenance procedures:

- Keep the tank as full of adhesive as possible. This reduces the formation of charred adhesive on the interior side walls of the tank.
- Keep the tank lid closed. (Any contamination in the tank will increase the chance of poor performance. Moisture, dirt, and charred adhesive are the major causes of clogged nozzles.)

  In order to prevent pressure buildup in the tank, the tank lid does not have a seal.

- Remove adhesive spills immediately. (Use a putty knife while the material is still soft.)
- While the unit is still hot, **but not operating**, use cheesecloth to remove material leaking from the pump seal and other connectors. External leakage indicates that service is required.
- Shut down the system once a week and remove and clean the manifold filter. Replace the filter if it cannot be thoroughly cleaned.
- Completely drain and clean the system when clogging due to charred adhesive or dirt becomes frequent.
- Periodically clean the exterior of the D10/D16 hot melt unit.

Cleaning the Exterior of the Unit

To clean the exterior of the D10/D16 hot melt unit, follow these steps:

Caution!

Never hose or steam-clean the unit. If the surrounding area is cleaned in this manner, protect the unit by covering it with plastic or other waterproof material. Failure to comply could result in damage to the equipment

1. Turn off the main power.
2. Using a damp cloth, clean the cabinet with a mild soap-and-water solution.

Changing the Adhesive

Caution!

When changing adhesives, always consult adhesive suppliers to check compatibility between adhesives. Failure to comply could result in damage to the equipment.

To change the adhesive, follow these steps:

1. If the old adhesive and the new adhesive are compatible, pump enough of the new adhesive through the system to ensure that all of the old adhesive has been cleared out (generally 3 to 5 lbs. or 1.1 to 1.9 kg).
2. If the two materials are not compatible, flush the system (see “Flushing the System” below).

Flushing the System

The system needs to be flushed under the following circumstances:

- When changing to an adhesive that is not compatible with the previously used adhesive
- When loose particles of charred adhesive are causing frequent clogging of screens and nozzles

Flushing the System - Continued

ValcoMelton recommends using paraffin wax to flush the unit.

Caution!

If a cleaning solution is to be flushed through the hot melt system, it must be compatible with silicone, Viton,Teflon, carbon graphite, and aluminum. Consult the adhesive manufacturer to find out which cleaning solutions are recommended for the adhesive you are using. Failure to comply could result in damage to the equipment.

To flush the system, follow these steps:

1. Place an adequate supply of either paraffin wax or suitable cleaning solution into the unit.

> Reduce the temperature control setting to 300°F (148°C) for paraffin wax. Consult your supplier for proper temperature setting if cleaning solution is being used.

Warning!

If the system is hot, wear insulated gloves and eye protection when disconnecting hoses. Trapped air pockets may cause adhesive spray and result in personal injury (burns) or death.

2. Make sure that the pump is turned off.
3. Manually activate the applicators to relieve any system pressure buildup if the system is hot.
4. Disconnect glue hoses from applicators and collect purged material with appropriate container.
5. Turn the D10/D16 hot melt unit on and allow 20-30 minutes for hoses and guns to reach temperature.
6. Turn the pump on.
7. Pump 5-6 lbs. (2 kg) of material through the unit and glue hoses.

> If particles are still present in the discharged material, additional material may be needed to flush the unit completely free of charred adhesive.

Flushing the System - Continued

8. Turn the pump off.
9. Reconnect the glue hoses to the applicators.
10. Turn the gear pump back on and activate the applicators to purge remaining adhesive through the valve(s).
11. Reset the temperature control to the correct setting for the material you are using.

> The new material can now be pumped through the system.

Parts Replacement

Warning!

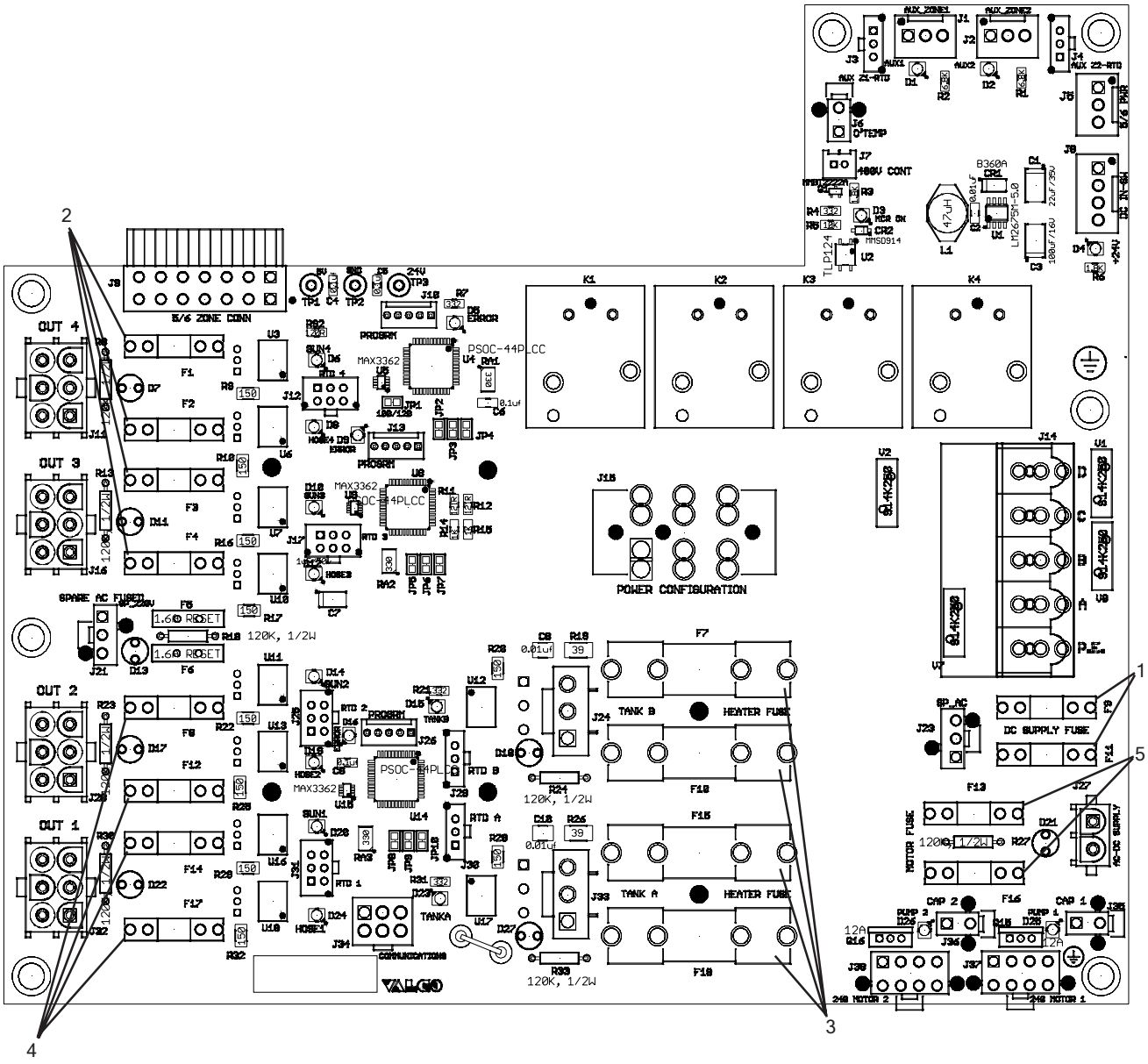
If the system is hot, wear insulated gloves and eye protection when disconnecting hoses. Failure to observe could result in personal injury, death, or damage to equipment.

Occasionally, parts may need to be repaired or replaced. The following paragraphs contain instructions for removing parts from the hot melt unit. For drawings and a complete list of part numbers, see *Section 10 – Part Number List.*

Changing Fuses

In the event that a fuse must be replaced, simply remove one of the spare fuses from the included installation kit and insert the fuse in the appropriate socket on the 12-zone board (see the following Figure).

Changing Fuses - Continued



151xx680 240V			
Item	**Fuse Description**	**Part #**	**Quantity**
1	Fuse, 2A, 5 x 20 mm	085xx220	2
2	Fuse, 6.3A, 5 x 20 mm	085xx271	4
3	Fuse, 20A, Class G	085xx273	4
4	Fuse, 8A, 5 x 20 mm	085xx272	4
5	Fuse, 6.3A, 5 x 20 mm	085xx221	2

Changing the Filter

To change the filter, do the following:

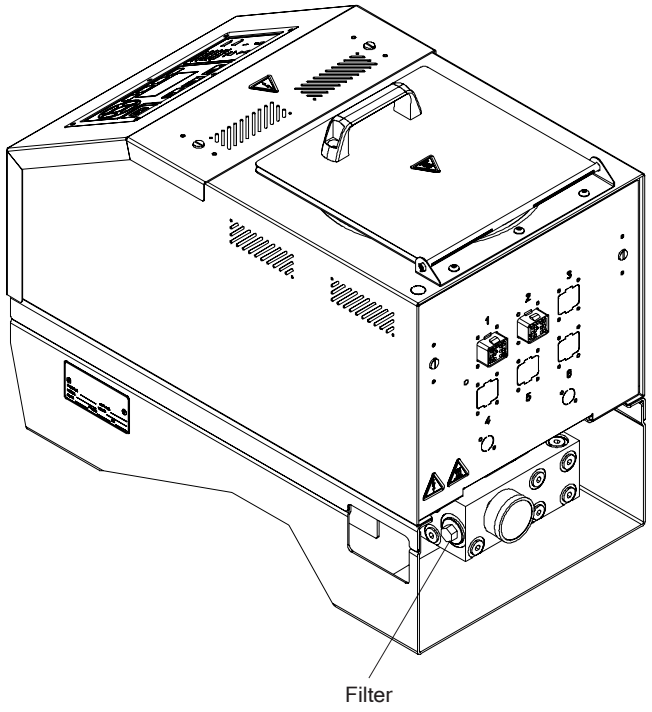
Warning!

If the system is hot, wear insulated gloves and eye protection when disconnecting hoses. Trapped air pockets may cause adhesive spray and result in personal injury (burns) or death.

1. Make sure that the pump is turned off.
2. Manually activate the applicators to relieve any system pressure.
3. Unscrew the filter assembly from the manifold and discard.

> Debris is collected on the inside of the filter, so the filter should not be reused.

4. Thread a new filter assembly into the manifold. See Section 10Part Number List for more information.



SECTION 8 - TROUBLESHOOTING

Problem	Possible Cause	Possible Solution
1. Material in reservoir will not melt	1a. Temperature control malfunction or adjustment	1a. Check indicator lights. Reset adjustments.
	1b. Loose, broken or shorted connectors (heater, wiring harness)	1b. Tighten loose connectors. Repair broken connectors or shorted connectors.
	1c. Circuit breaker tripped	1c. Check fuses. Replace if necessary.
2. No adhesive output	2a. Adhesive not hot enough	2a. Check temperature setting is correct. Ensure that reservoir heater has power. Check fuses.
	2b. Pump not moving	2b. Check for system ready condition. Check for blown fuse.
	2c. Cold glue hose or damaged hose	2c. Replace hose.
	2d. Cold applicator	2d. Check for blown fuse and/or defective heater.
	2e. Applicator clogged	2e. Service applicator system.
	2f. Clogged filter	2f. Remove old filter and replace with new filter.
	2g. Temperature control malfunction	2g. Replace temperature control.
3. Charring or gelling of adhesive in the reservoir	3a. Reservoir temperature too high	3a. Lower reservoir temperature in accord with adhesive manufacturer's specifications.
	3b. Surface oxidation of the adhesive in the reservoir	3b. Keep reservoir closed.
	3c. Poor adhesive heat stability	3c. Change adhesive. If not possible, hold the reservoir temperature at a minimum.
	3d. Low reservoir level	3d. Keep reservoir full.
	3e. Temperature control malfunction	3e. Replace temperature control.
4. Fuming or smoking of adhesive in the reservoir	4a. Operating temperature exceeds adhesives' recommended temperature	4a. Keep setpoint within recommended range. Keep reservoir covered. Consider another adhesive. Keep reservoir covered.

Problem	Possible Cause	Possible Solution
5. Uneven flow of adhesive to applicators	5a. Material viscosity too high	5a.
	-Reservoir temperature too low	-Raise reservoir temperature in accordance with adhesive manufacturer's specifications.
	-Wrong adhesive	-Seek adhesive manufacturer's recommendations.
	5b. Adhesive overheated	5b. Reduce reservoir temperature in accordance with adhesive manufacturer's specifications.
	5c. Glue hoses not at the same temperature	5c. Reset temperature controllers.
	5d. Different pressure drop through each hose	5d.
	-Hoses not the same length	-Use same length hoses.
	-Crimped hose(s)	-Replace hose(s)
	-Leaking hose(s)	-Replace hose(s)
	5e. Adhesive supply low	5e. If sides of tank are charred, drain, clean, flush, and refill system.
	5f. Manifold partially clogged	5f. Drain, clean, flush and refill.
	5g. Nozzles partially clogged	5g. Inspect system for charred adhesive and foreign matter. Drain, clean, flush and refill system.

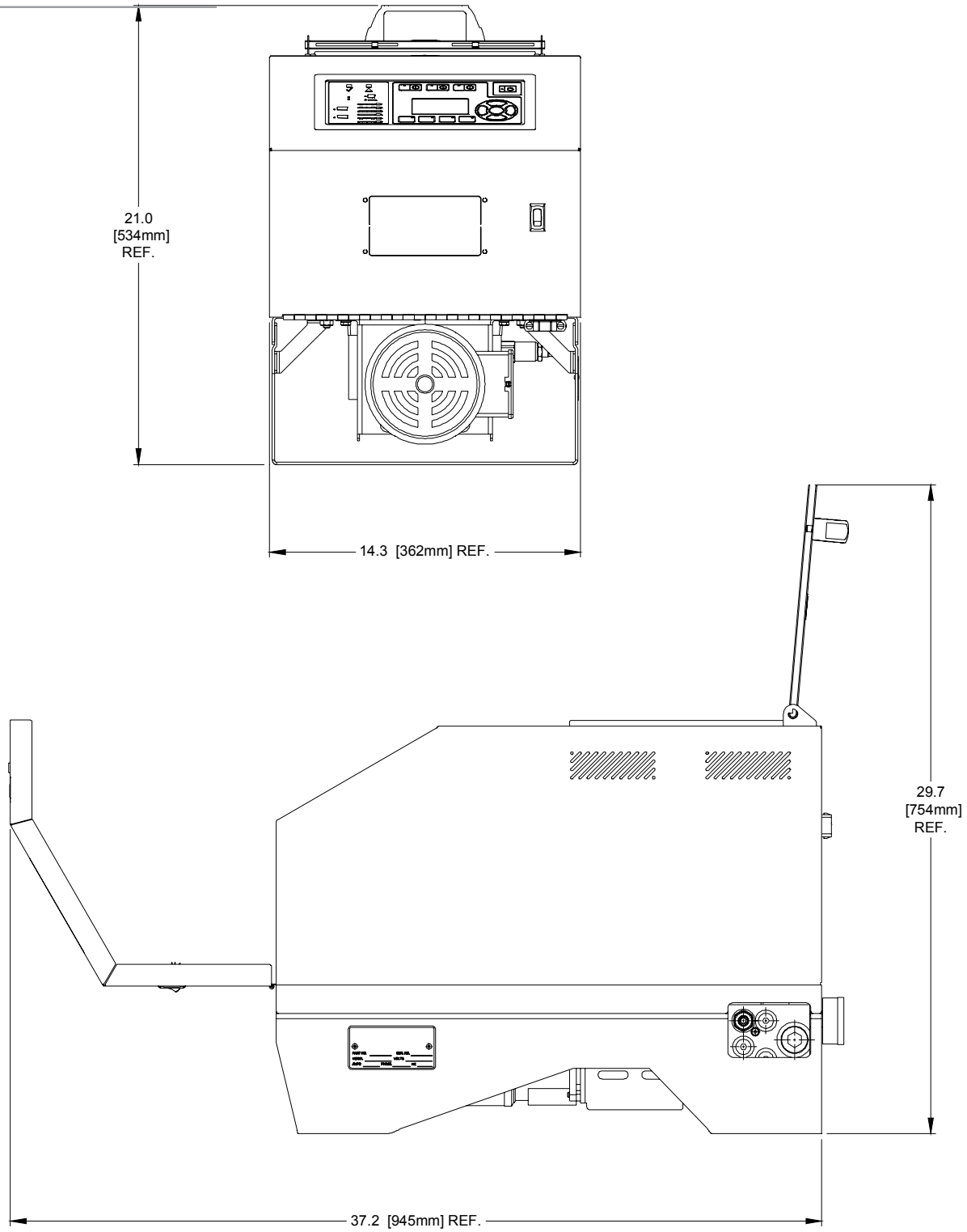
SECTION 9 - SPECIFICATIONS

General

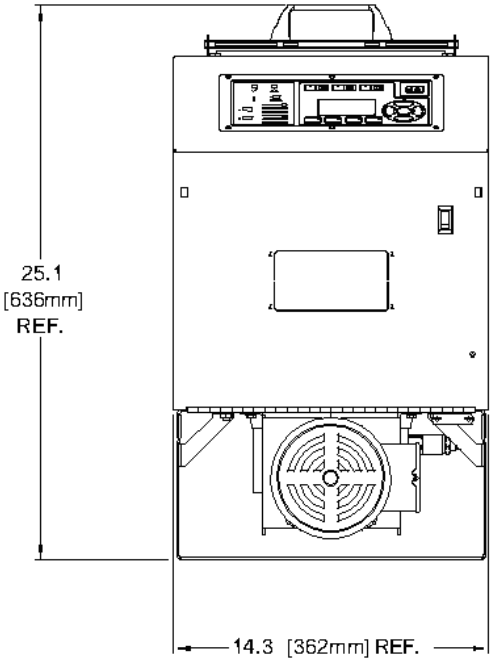
It is the purchaser's responsibility to ensure that all local, county, state, and national codes, regulations, rules, and laws relating to safety and safe operating conditions are met and followed.

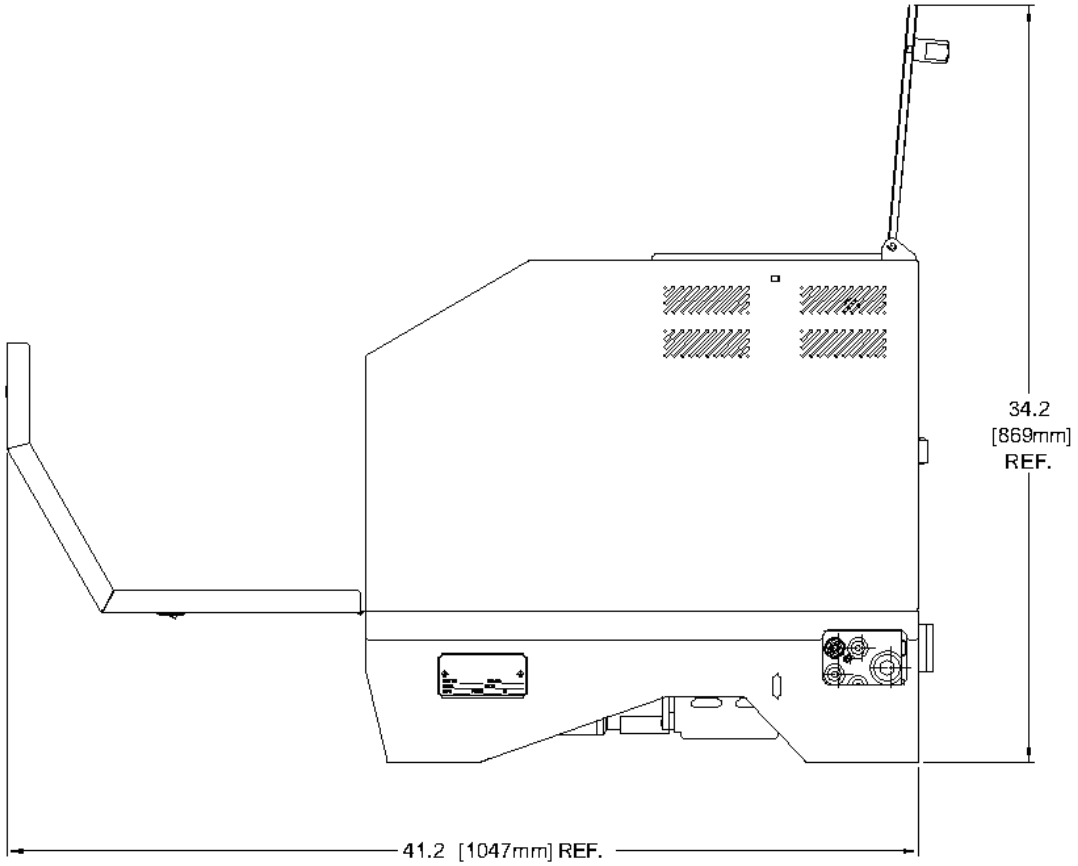
Specifications								
	D10				D16			
Tank Capacity	11 24.2	L lbs	671 11.0	in^3 kg	17 37.5	L lbs	1039 17.0	in^3 kg
Width (W)	362	mm	14.3	in	362	mm	14.3	in
Height (H)	534	mm	21	in	638	mm	25.1	in
Depth (D)	635	mm	25	in	635	mm	25	in
Melt Rate*	60	lbs/hr	27	kg/hr	60	lbs/hr	27	kg/hr
Melt Rate with Double-Width Pump*	n/a	lbs/hr	n/a	kg/hr	78	lbs/hr	35	kg/hr
Pump Rate	60	lbs/hr	27	kg/hr	60	lbs/hr	27	kg/hr
Gear Pump Control	Fixed speed or optional variable speed with line tracking feature							
Pressure Relief	Single stage or optional pneumatic relief							
Number of Hoses/Guns	1-6							
Temperature Control	Microprocessor self-tuning PID control							
Voltage	200-240 VAC, 1/3PH, 50/60 Hz							
Full-Load Amps	See Dataplate							
Spray Kit	Optional							
Level Alarm	Optional 2-channel level sensing							
Applications	Packaging, non-wovens, specialty converting applications							
* Test run with standard packaging grade adhesive.								

Dimensions - D10



Dimensions - D16





SECTION 10 - PART NUMBER LIST

How to Order Parts

To order parts, please contact your closest Valco office by mail, phone, or Email:

USA:

Valco Cincinnati, Inc.
411 Circle Freeway Drive
Cincinnati, OH 45246
TEL: (513) 874-6550
FAX: (513) 874-3612
Email: sales@valcomelton.com
Web: http://www.valcomelton.com

England:

Valco Cincinnati Limited
Hortonwood 32
Telford, TFI 7YN, England
TEL: (+44) 1952-677911
FAX: (+44) 1952-677945
Email: sales@valco.co.uk
Web: http://www.valco.co.uk

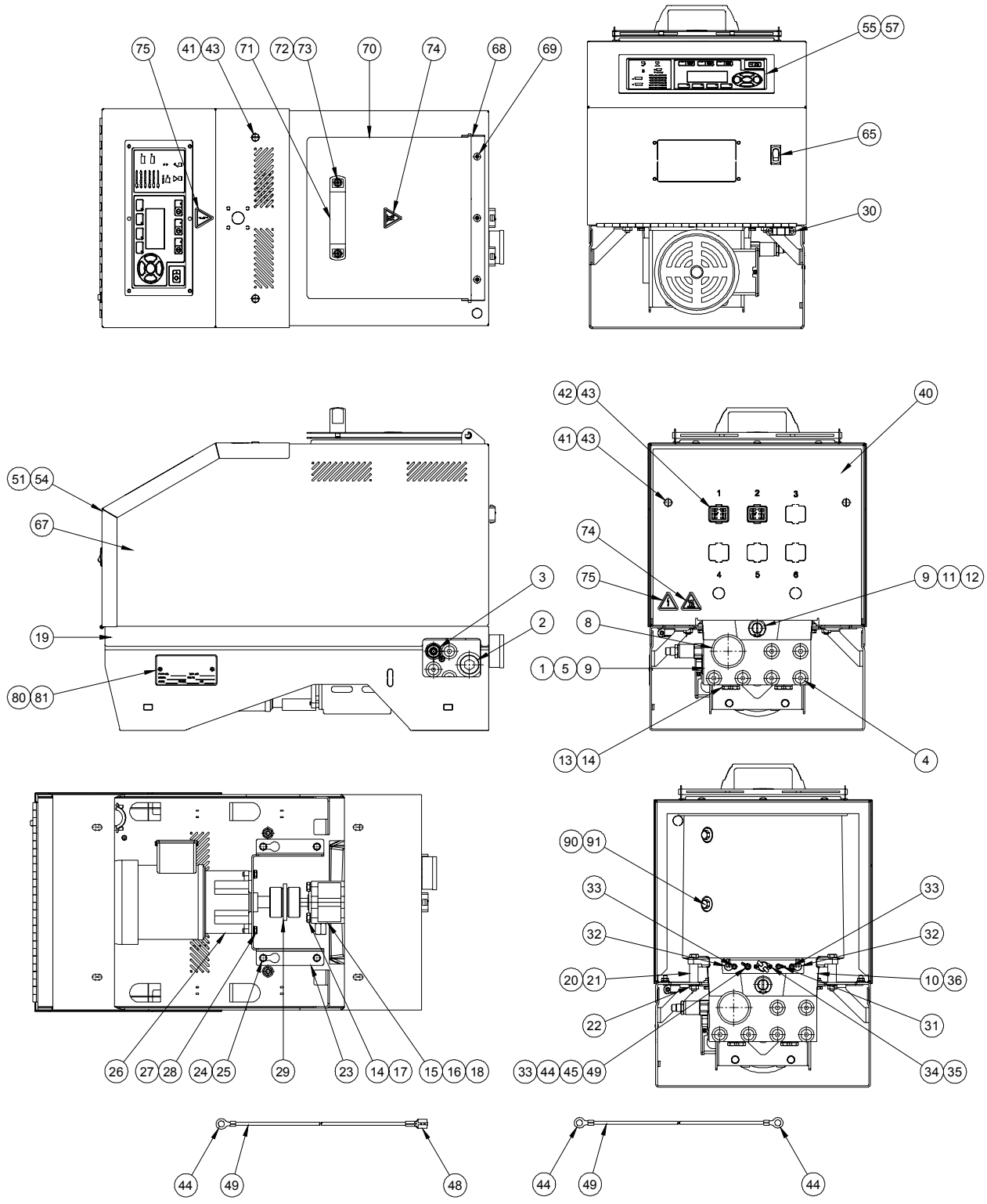
Germany:

Valco Cincinnati GmbH
Storkower Strasse 6
D-15749 Gallun, Germany
TEL: (+49) 337 648 700
FAX: (+49) 337 648 7070
Email: info@valcogmbh.de

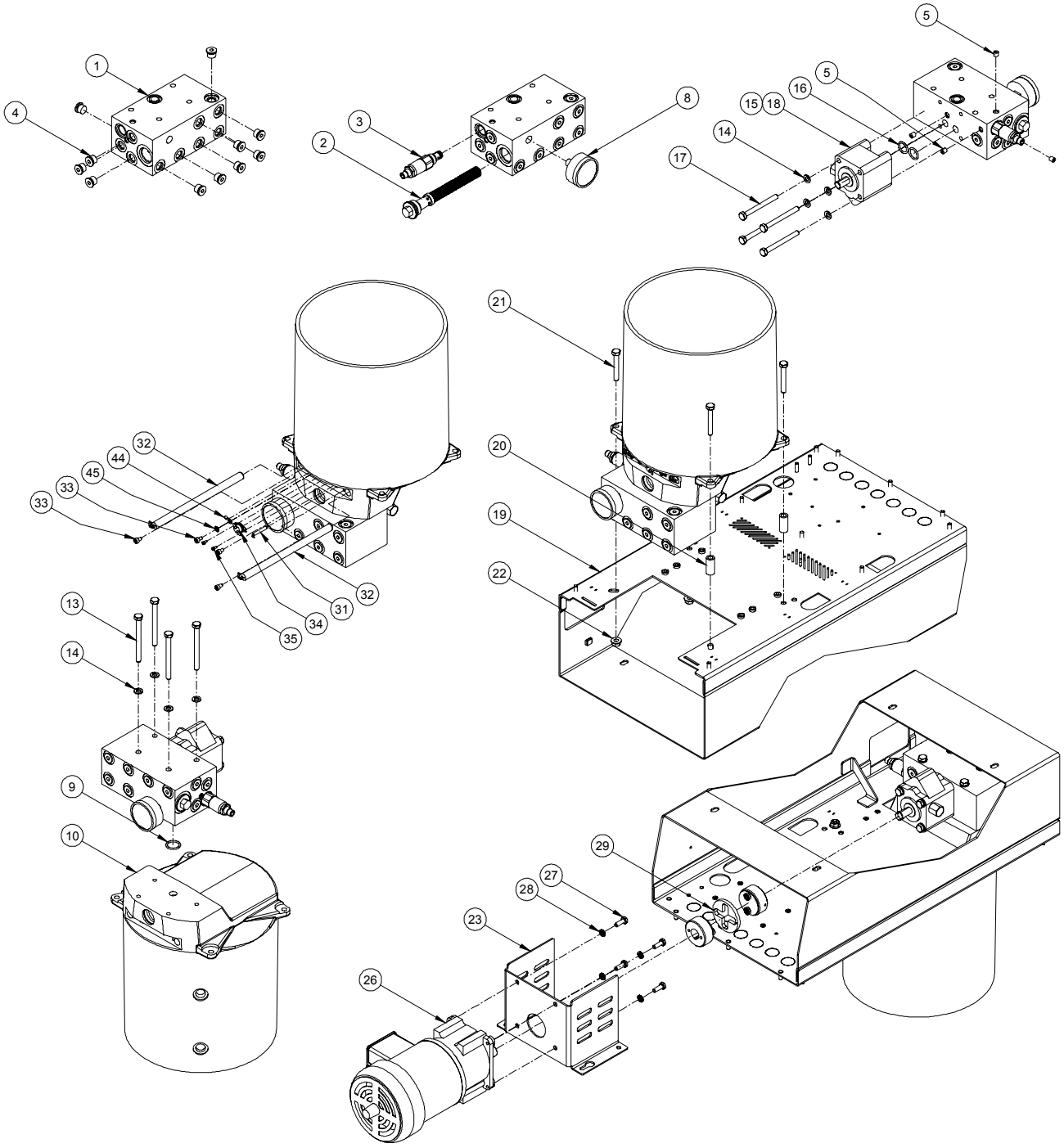
Spain:

Melton S.L.U.
Pol. Industrial Agustinos
calle G, n. 34
31160 Orcoyen, Navarra, Spain
TEL: (34) 948-321-580
FAX: (34) 948-326-584

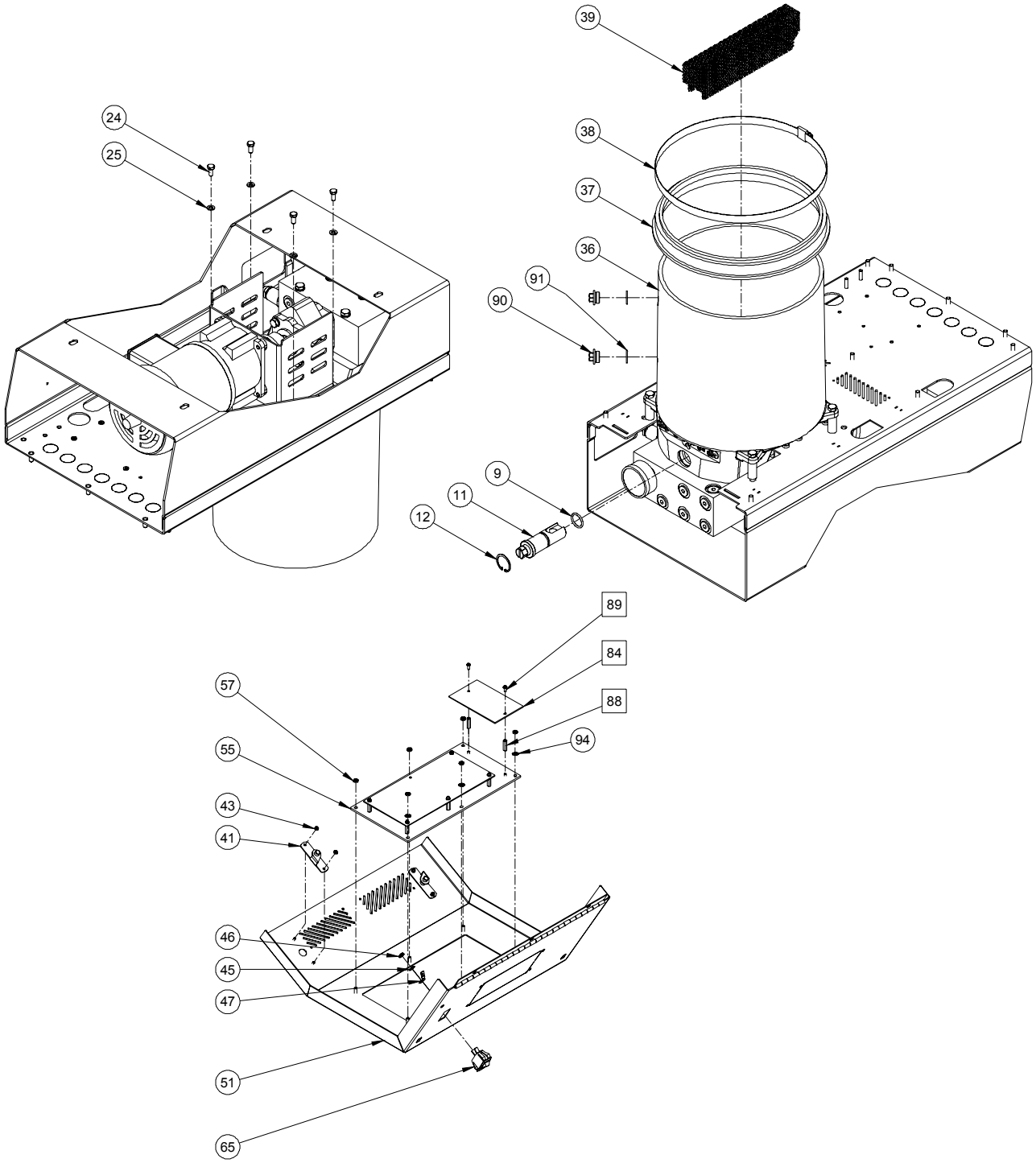
D10 Unit, Fixed Speed (776xx853)



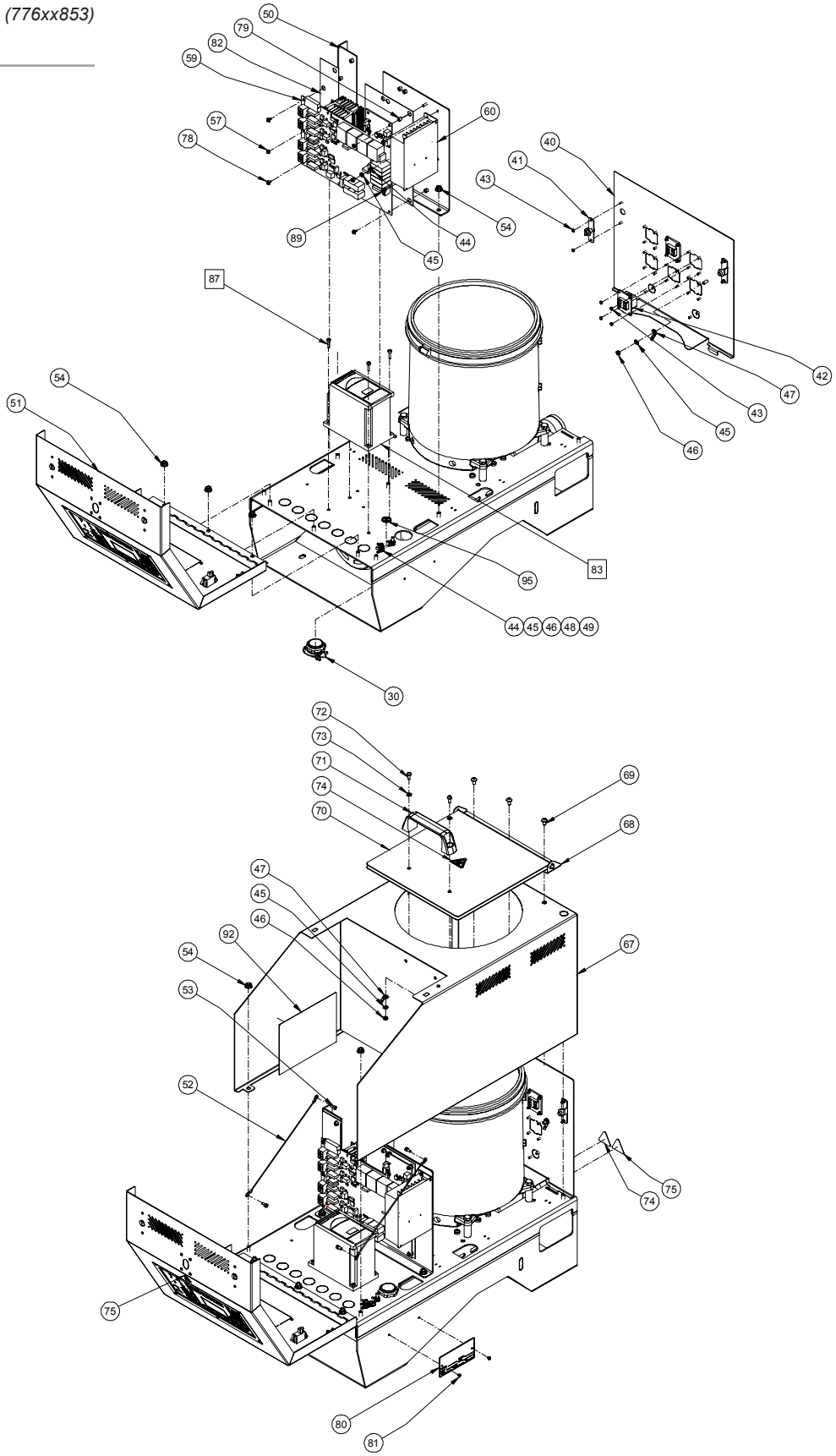
D10 Unit, Fixed speed (776xx853) - Continued



D10 Unit, Fixed speed (776xx853) - Continued



D10 Unit, Fixed speed (776xx853) - Continued



D10 Unit, Fixed speed (776xx853) - Continued

ITEM	PART NO.	DESCRIPTION	QTY.
1	776XX111	MANIFOLD	1
2	593XX499	FILTER ASSY	1
3	707XX222	VALVE,PRESSURE RELIEF	1
4	799XX127	HEX PLUG	11
5	799XX548	PLUG,PIPE,SOCKET	4
8	786XX122	PRESS. GAUGE, 1000 PSI/KG	1
9	745XX150	O-RING	2
10	776XX114	RESERVOIR	1
11	776XX112	VALVE; RESERVOIR SHUTOFF	1
12	783XX277	RING; RETAINING, INTERNAL	1
13	884XX003	SCREW	4
14	784XX476	WASHER	8
15	560XX743	GEAR PUMP, STANDARD WIDTH	1
16	745XX035	O-RING	2
17	784XX676	SCREW	4
18	776XX061	BLANKET, PUMP INSULATION	1
19	776XX117	CHASSIS	1
20	776XX108	STANDOFF; RESERVOIR	4
21	884XX244	SCREW	4
22	884XX243	NUT FLANGE	4
23	775XX856	BRACKET,MOTOR	1
24	884XX223	SCREW	4
25	798XX593	WASHER	4
26	110XX357	GEARMOTOR ASSY	1
27	884XX004	SCREW	4
28	798XX735	LOCK WASHER	4
29	783XX212	COUPLING ASSY	1
30	066XX202	CABLE CLAMP	1
31	029XX549	CABLE ASSY; RESERVOIR RTD	1
32	029XX550	CABLE ASSY; RESERVOIR HEATER	1
33	784XX496	SCREW	4
34	029XX548	CABLE ASSY; THERMOSTAT	1
35	784XX049	SCREW	2
36	782XX309	BLANKET	1
37	782XX310	GASKET; RESERVOIR	1
38	782XX312	CLAMP; HOSE	1
39	776XX113	SCREEN; RESERVOIR	1
40	776XX120	PANEL; HOSE RECEPTACLE	1
41	781XX892	LATCH,SPRING CAM	4

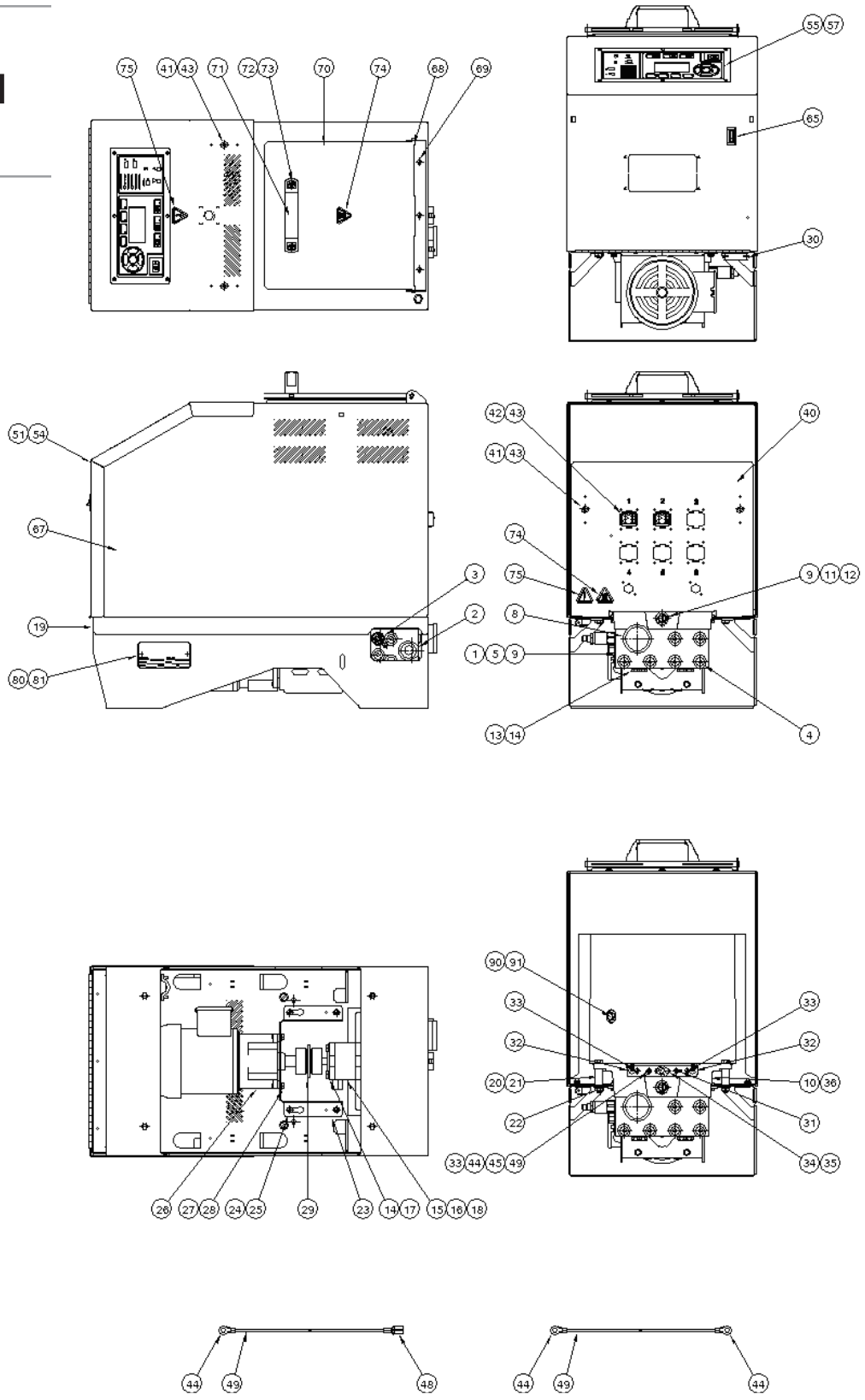
D10 Unit, Fixed speed (776xx853) - Continued

ITEM	PART NO.	DESCRIPTION	QTY.
42	029XX546	CABLE ASSY; HOSE/GUN	2
43	798XX489	NUT,HEX	16
44	075XX179	WIRE TERMINAL; RING	7
45	784XX352	LOCK WASHER	10
46	784XX349	HEX NUT	8
47	091XX609	TERMINAL,TAB	3
48	075XX332	WIRE TERMINAL	3
49	540XX149	WIRE PTFE	6
50	776XX107	PANEL, ELECTRICAL	1
51	776XX119	PANEL; OPERATOR	1
52	782XX311	LANYARD	2
53	798XX188	SCREW	4
54	784XX677	NUT FLANGE	10
55	137XX017	OVERLAY ASSY	1
57	798XX488	NUT,HEX	8
58	029XX551	CABLE ASSY	1
59	151XX680	PCB ASSY	1
60	148XX076	POWER SUPPLY	1
62	029XX565	CABLE ASSY; SW TO DC SUPPLY	1
63	029XX569	CABLE ASSY; 12 ZONE TO SWITCH	1
64	029XX568	CABLE ASSY; DC SUPPLY TO 12 Z	1
65	480XX246	SWITCH; ROCKER	1
66	067XX154	TY-RAP	6
67	776XX118	CASE	1
68	776XX110	BRACKET; RESERVOIR LID	1
69	784XX491	SCREW	3
70	776XX109	LID, RESERVOIR	1
71	104XX135	HANDLE, PULL	1
72	784XX300	SCREW	2
73	784XX568	FLAT WASHER	2
74	781XX629	LABEL,WARNING-HOT SURFACE	2
75	781XX630	LABEL, WARNING-ELEC.HAZARD	2
76	776XX116	CLEANING TOOL	1
78	798XX428	SCREW	5
79	091XX659	SPACER, CLEARANCE	2
80	781XX566	NAMEPLATE, SHURE-GLUE SYSTEMS	1
81	091XX517	RIVET, BLIND	2
82	782XX314	INSULATOR; FISH PAPER	1

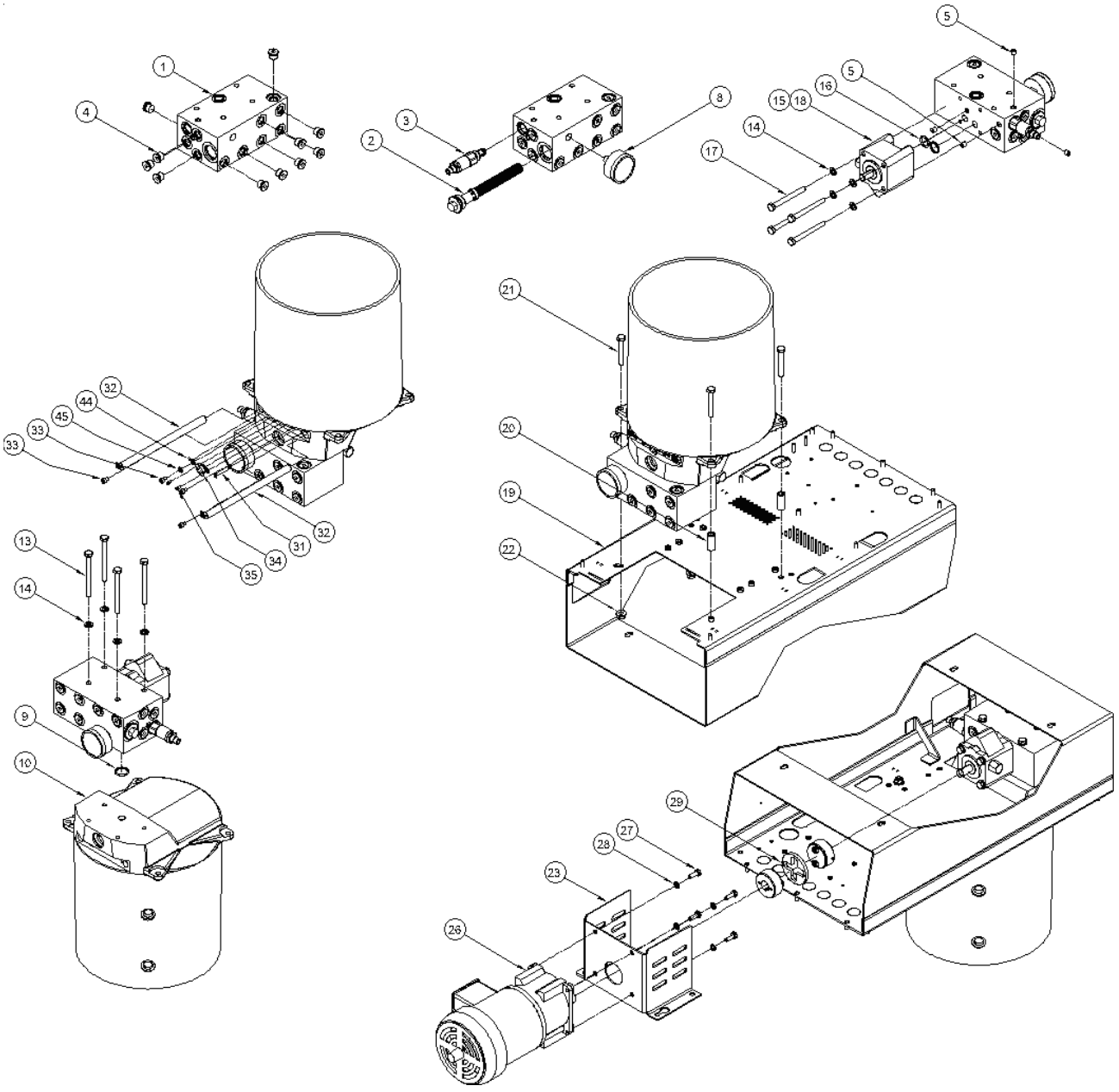
D10 Unit, Fixed speed (776xx853) - Continued

ITEM	PART NO.	DESCRIPTION	QTY.
89	784XX259	SCREW	2
90	776XX125	PLUG, RESERVOIR	2
91	745XX023	O` RING	1
92	917XX811	ELECTRICAL CONNECTIONS STICKER	1
93	091XX664	INSTALLATION KIT	1
94	798XX776	LOCK WASHER	3
95	781XX110	LABEL, GROUND SYMBOL	1
100	998IS708	ILLUSTRATION DWG, WIRING DIA.	1

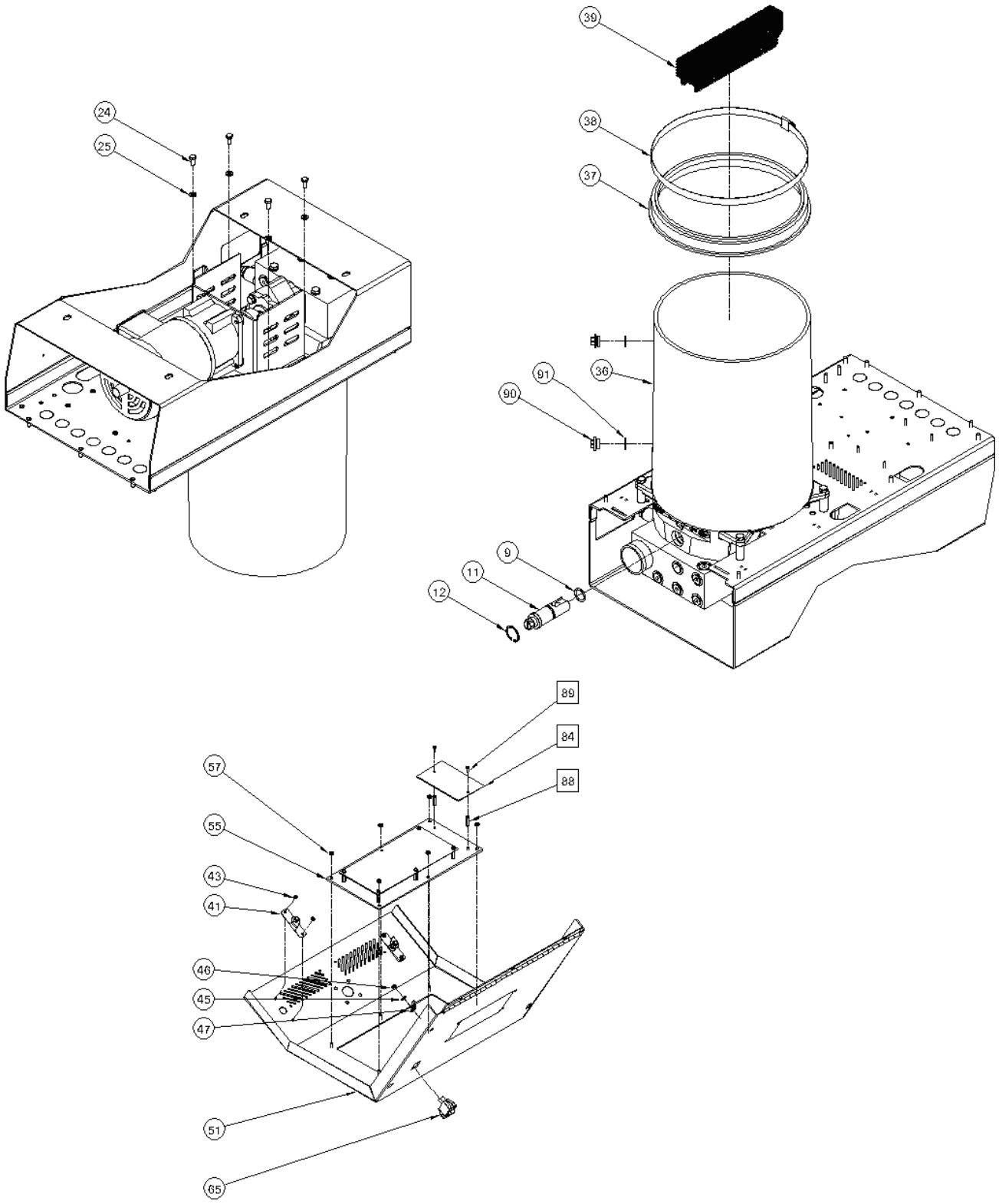
D16 Unit, Fixed Speed (776xx864)



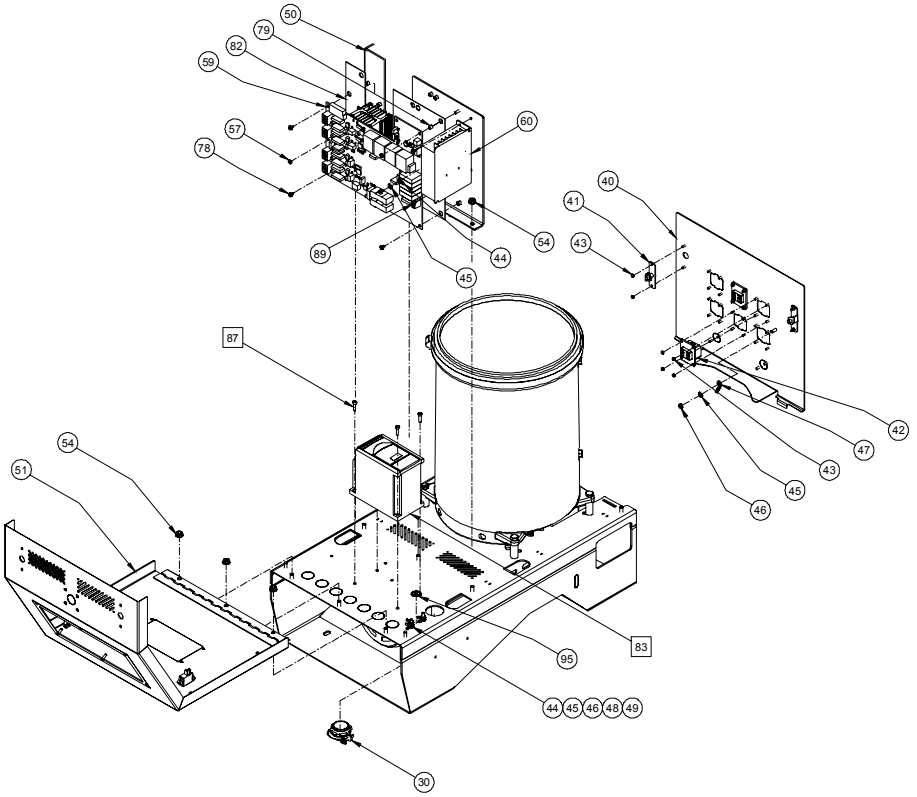
D16 Unit, Fixed Speed
(776xx864) - Continued

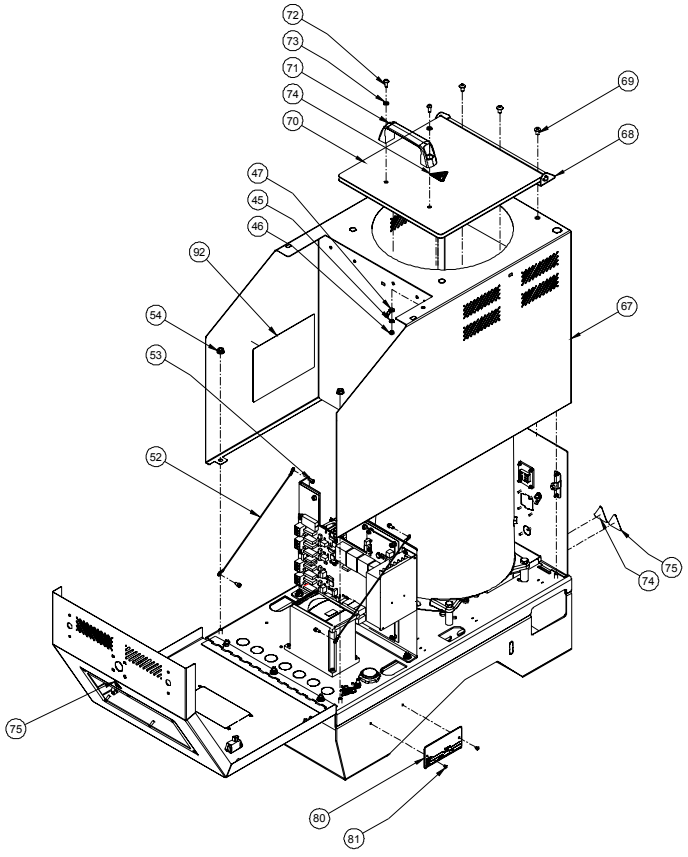


D16 Unit, Fixed Speed
(776xx864) - Continued



D16 Unit, Fixed Speed (776xx864) - Continued





D16 Unit, Fixed Speed (776xx864) - Continued

ITEM	PART NO.	DESCRIPTION	QTY.
1	776XX111	MANIFOLD	1
2	593XX499	FILTER ASSY	1
3	707XX222	VALVE,PRESSURE RELIEF	1
4	799XX127	HEX PLUG	11
5	799XX548	PLUG,PIPE	4
8	786XX122	PRESS. GAUGE, 1000 PSI/KG	1
9	745XX150	O-RING	2
10	776XX146	RESERVOIR	1
11	776XX112	VALVE; RESERVOIR SHUTOFF	1
12	783XX277	RING; RETAINING, INTERNAL	1
13	884XX003	SCREW	4
14	784XX476	WASHER	8
15	560XX743	GEAR PUMP, STANDARD WIDTH	1
16	745XX035	O-RING	2
17	784XX676	SCREW	4
18	776XX061	BLANKET, PUMP INSULATION	1
19	776XX117	CHASSIS	1
20	776XX108	STANDOFF; RESERVOIR	4
21	884XX244	SCREW	4
22	884XX243	NUT FLANGE	4
23	775XX856	BRACKET,MOTOR	1
24	884XX223	SCREW	4
25	798XX593	WASHER	4
26	110XX357	GEARMOTOR ASSY	1
27	884XX004	SCREW	4
28	798XX735	LOCK WASHER	4
29	783XX212	COUPLING ASSY	1
30	066XX202	CABLE CLAMP	1
31	029XX549	CABLE ASSY; RESERVOIR RTD	1
32	029XX582	CABLE ASSY; RESERVOIR HEATER	1
33	784XX496	SCREW	4
34	029XX548	CABLE ASSY; THERMOSTAT	1
35	784XX049	SCREW	2
36	782XX345	BLANKET; RESERVOIR INSULATION	1
37	782XX342	GASKET; RESERVOIR	1
38	782XX312	CLAMP; HOSE	1
39	776XX152	SCREEN, RESERVOIR	1
40	776XX120	PANEL; HOSE RECEPTACLE	1
41	781XX892	LATCH,SPRING CAM	4
42	029XX546	CABLE ASSY; HOSE/GUN	2

D16 Unit, Fixed Speed (776xx864) - Continued

ITEM	PART NO.	DESCRIPTION	QTY.
43	798XX489	NUT,HEX	16
44	075XX179	WIRE TERMINAL; RING	7
45	784XX352	LOCK WASHER	10
46	784XX349	HEX NUT	8
47	091XX609	TERMINAL,TAB	3
48	075XX332	WIRE TERMINAL	3
49	540XX149	WIRE PTFE	6.67
50	776XX107	PANEL, ELECTRICAL	1
51	776XX156	PANEL; OPERATOR	1
52	782XX346	LANYARD	2
53	798XX188	SCREW	4
54	784XX677	NUT FLANGE	10
55	137XX017	OVERLAY ASSY, HM CTRL, D-SERIE	1
57	798XX488	NUT, HEX	8
58	029XX608	CABLE ASSY	1
59	151XX680	PCB ASSY, 12 ZONE GEAR NI-120	1
60	148XX076	POWER SUPPLY	1
62	029XX565	CABLE ASSY; SW TO DC SUPPLY	1
63	029XX569	CABLE ASSY; 12 ZONE TO SWITCH	1
64	029XX568	CABLE ASSY; DC SUPPLY TO 12 Z	1
65	480XX246	SWITCH; ROCKER	1
66	067XX154	TY-RAP	6
67	776XX155	CASE	1
68	776XX153	BRACKET; RESERVOIR LID	1
69	784XX491	SCREW	3
70	776XX154	LID; RESERVOIR	1
71	104XX135	HANDLE, PULL	1
72	784XX300	SCREW	2
73	784XX568	FLAT WASHER	2
74	781XX629	LABEL,WARNING-HOT SURFACE	2
75	781XX630	LABEL, WARNING-ELEC.HAZARD	2
76	776XX116	CLEANING TOOL	1
78	798XX428	SCREW	5
79	091XX659	SPACER, CLEARANCE	2
80	781XX566	NAMEPLATE, SHURE-GLUE SYSTEMS	1
81	091XX517	RIVET, BLIND	2
82	782XX314	INSULATOR; FISH PAPER	1
89	784XX259	SCREW	2
90	776XX125	PLUG, RESERVOIR	2
91	745XX023	O` RING	2

D16 Unit, Fixed Speed (776xx864) - Continued

ITEM	PART NO.	DESCRIPTION	QTY.
92	917XX811	ELECTRICAL CONNECTIONS STICKER	1
93	091XX664	INSTALLATION KIT	1
94	798XX776	LOCK WASHER	3
95	781XX110	LABEL, GROUND SYMBOL	1
100	998IS708	ILLUSTRATION DWG, WIRING DIA.	1

Installation Kit (091xx664)

ITEM	PART NO.	DESCRIPTION	QTY.
1	085XX220	FUSE	2
2	085XX271	FUSE	2
3	085XX273	FUSE	2
4	085XX272	FUSE; TIME LAG	2
5	MM113-CD	D10/D16 HOT MELT UNIT MANUAL - CD	1
6	730XX015	BOX,TRAY	1
7	999XA774-157	WARRANTY CARD; VALCOMELTON LOGO	1

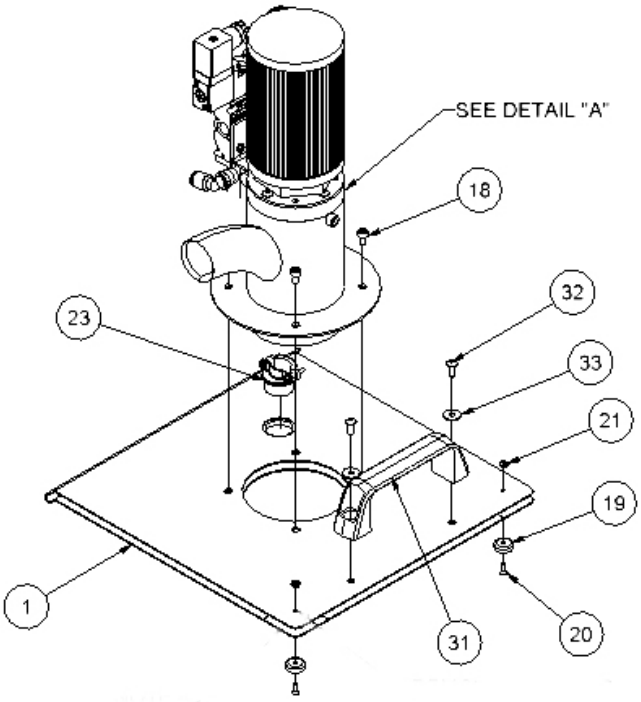
Option Kits

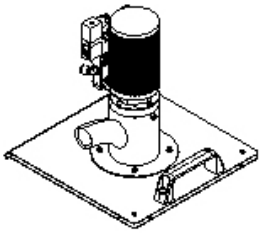
AutoFeed

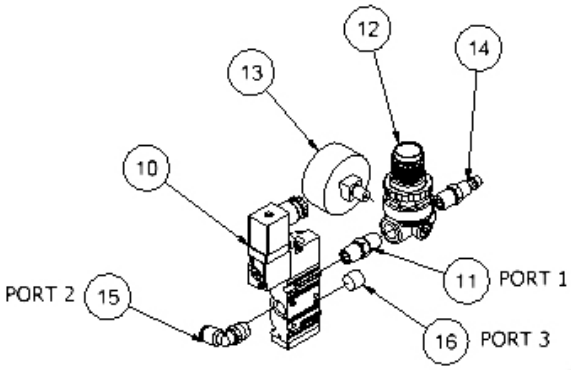
Vacuum Feeder Assembly
D10 - 776xx157
D16 - 776xx789

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0231**

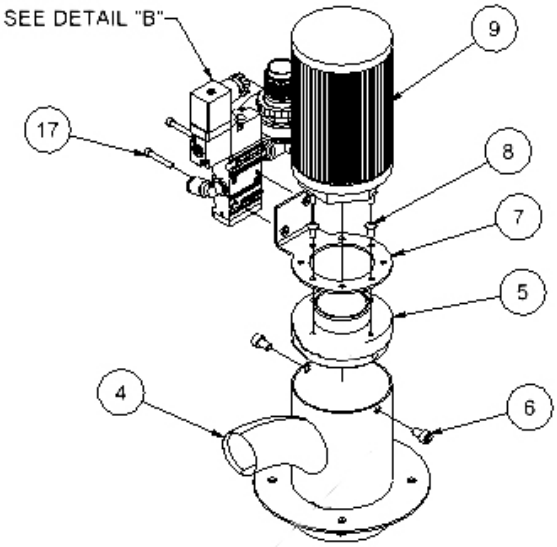
The D10/D16 can support a maximum of two level sensors; only two of the following sensors may be selected:
- Autofeed
- Internal Low-Level
- Internal High-Level
- External Pot Fill







DETAIL "B"



DETAIL "A"

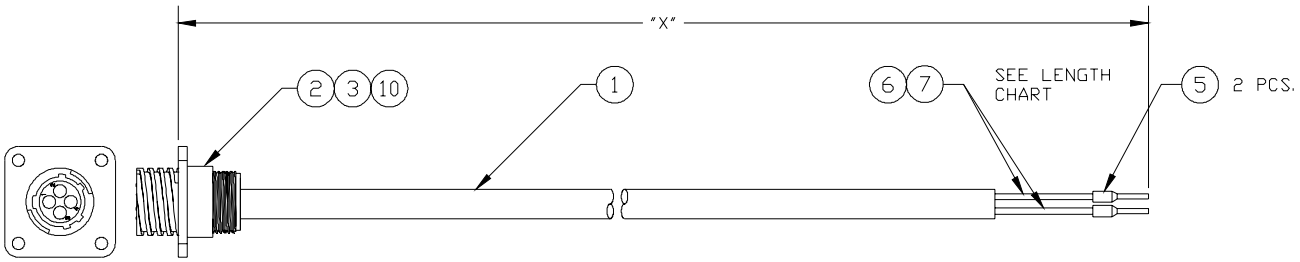
Vacuum Feeder Assembly
D10 - 776xx157
D16 - 776xx789 - Continued

ITEM	PART NO.	DESCRIPTION	QTY.
1	776XX159	LID RESERVOIR	1
2	776XX158	BRACKET RESERVOIR LID D10	1
3	784XX491	BHCS,M6 X 10.0 LG,S.S.	3
4	D050170100	FEEDER TUBE	1
5	776XX102	THREADED FEEDER TUBE	1
6	784XX008	SHCS M6 X 10 BO	2
7	776XX160	VALVE MOUNTING BRACKET	1
8	784XX374	BHCS M5 X 10 SS	4
9	910XX465	VACUUM FEEDING FILTER, 10465	1
10	411XX863	3-WAY SOLENOID,NDSN,1/4" PRT	1
11	797XX080	HEX NIPPLE M-M 1/4	1
12	707XX574	CONTROL, FLOW	1
14	752XX004	MALE QUICK DISCONNECT	1
15	799XX662	MALE CONNECTOR,STRAIGHT	1
16	411XX601	EXHAUST MUFFLER EM2	1
17	784XX050	SHCS M4 X 25 SS	2
18	784XX496	SHCS,M5 X 8.0 LNG,B.O.	4
19	783XX310	MAGNET	2
20	884XX276	FHMS #4-40 X 3/8 BO	2
21	884XX280	NUT ACORN #4-40 ZINC	2
22	098XX110	LEVEL SENSOR ASSY	1
23	066XX205	CABLE CLAMP	1
24	066XX206	BUSHING	2
25	K051701002	ASSEMBLY,FEEDER TUBE	1
26	029XX583	REED SENSOR CABLE ASSY (D10)	1
	029XX607	REED SENSOR CABLE ASSY (D16)	
27	029XX584	JUMPER CABLE ASSY	1
28	784XX352	LOCK WASHER M5	2
29	784XX349	HEX NUT M5 0,8 ZINC	2
30	067XX154	TY-RAP .14" X 5.5"L,HIGH TEM	2
31	104XX135	HANDLE, PULL	1
32	784XX300	BHCS, M5 X 0,8 X 12MM LG, BO	2
33	784XX568	FLAT WASHER M5	2
34	075XX392	CONNECTOR; 4 PIN TERMINAL	1
35	798XX099	SHCS M3 X 16 SS	2
36	IS0231	IS; VACUUM FEEDER	1

Pump Control

Cable Assembly Handgun Pump Control (029xx553)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0161**



WIRING CHART	
ITEM #2 PIN	WIRE COLOR
1	ORANGE
2	N.C.
3	N.C.
4	YELLOW

CABLE LENGTH CHART	
PART NUMBER	"X"
029XX552	3 FT
029XX553	4.5 FT
029XX554	6 FT
029XX555	10 FT

ITEM	PART NO.	DESCRIPTION	QTY.
1	755XX077	SLEEVING;FIBERGLASS,#6,BLACK	52
2	061XX033	CONN;SHELL,4P,RECEPT,SIZE11	1
3	061XX448	SOCKET; GOLD (15), 20-24 AWG	2
5	075XX302	FERRULE;INS,22AWG,TURQ,8MM	2
6	540XX162	WIRE PTFE 22 AWG ORG C50106	4.5
7	540XX159	WIRE PTFE 22 AWG YEL C501094	4.5
9	IS0161	INSTRUCTION SHEET;PUMP CNTRL	1
10	067XX154	TY-RAP .14" X 5.5"L,HIGH TEM	1
12	798XX489	NUT,HEX M3 ZINC	4

Pump Type

Pump Kit, Standard Width (560xx886)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0212**

ITEM	PART NO.	DESCRIPTION	QTY.
1	560XX743	GEAR PUMP, STANDARD WIDTH	1
2	798XX173	SHCS 5/16-18 X 3 1/2	4
3	745XX035	O-RING	2
4	782XX085	TAG,PUMP INFORMATION	1
5	784XX341	SHCS M8 X 90	4
6	998IS696	INFORMATION SHEET, PUMPS	1
7	IS0212	D & S SERIES PUMP CHANGE PROCEDURE	1

Pump Kit, Standard Width (561xx216)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0212**

ITEM	PART NO.	DESCRIPTION	QTY.
1	561XX203	GEAR PUMP, STANDARD WIDTH	1
2	798XX173	SHCS 5/16-18 X 3 1/2	4
3	745XX035	O-RING	2
4	782XX085	TAG,PUMP INFORMATION	1
5	784XX341	SHCS M8 X 90	4
6	998IS696	INFORMATION SHEET, PUMPS	1
7	IS0212	D & S SERIES PUMP CHANGE PROCEDURE	1

Pump Kit, Double Width (560xx887)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0212**

ITEM	PART NO.	DESCRIPTION	QTY.
1	560XX742	GEAR PUMP, DOUBLE WIDTH	1
2	798XX175	SHCS 5/16-18 X 3 3/4	4
3	745XX035	O-RING	2
4	782XX085	TAG,PUMP INFORMATION	1
5	784XX381	SHCS M8 X 100 BLACK	4
6	998IS696	INFORMATION SHEET, PUMPS	1
7	IS0212	D & S SERIES PUMP CHANGE PROCEDURE	1

Pump Kit, Double Width (561xx221)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0212**

ITEM	PART NO.	DESCRIPTION	QTY.
1	561XX218	GEAR PUMP, DOUBLE WIDTH	1
2	798XX175	SHCS 5/16-18 X 3 3/4	4
3	745XX035	O-RING	2
4	782XX085	TAG,PUMP INFORMATION	1
5	784XX381	SHCS M8 X 100 BLACK	4
6	998IS696	INFORMATION SHEET, PUMPS	1
7	IS0212	D & S SERIES PUMP CHANGE PROCEDURE	1

Pattern Control

Valve Driver Kit, PCM-6 (776xx733)

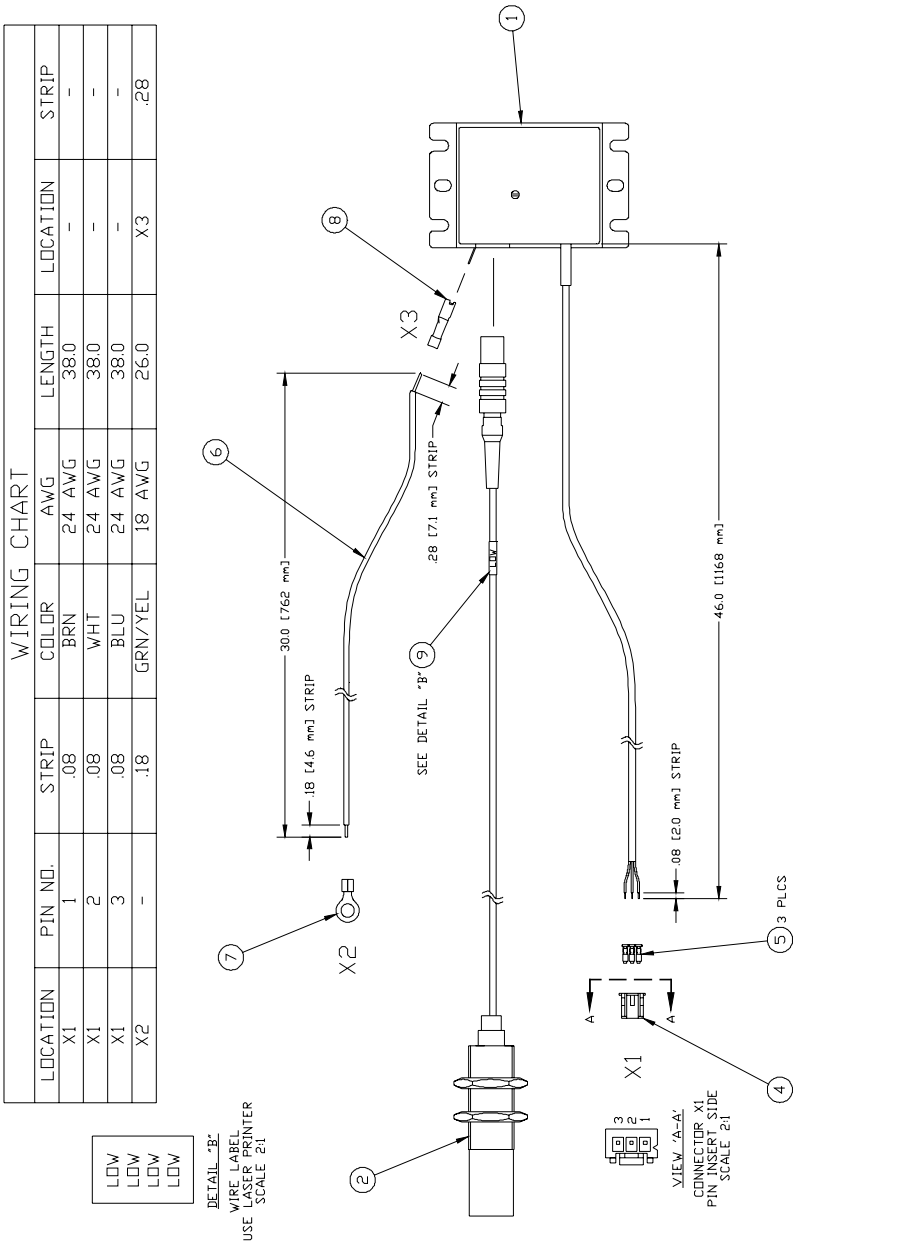
Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0230**

ITEM	PART NO.	DESCRIPTION	QTY.
1	098XX109	PCM-6, VALVE DRIVER ASSEMBLY	1
2	776XX734	BEZEL, OPERATOR PANEL	1
3	798XX488	NUT,HEX M4 ZINC	4
4	784XX308	LOCK WASHER M4 ZINC	4
5	029XX570	CABLE ASSY; PCM-6 VALVE DRIVER	1
6	148XX077	POWER SUPPLY, 24VDC, 150W	1
7	784XX968	SCREW PAN HEAD M3 X 8MM,S.S.	2
8	066XX155	CORD GRIP	4
9	067XX154	TY-RAP .14" X 5.5"L,HIGH TEM	3
10	067XX002	HARNESS ANCHOR .75 INCH	2
11	MC089	MANUAL, PCM-6 CONTROL UNIT	1
12	IS0230	IS; PATTERN CONTROL	1

Internal Level Sensors

Internal Low-Level Sensor Kit (776xx745)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0232**



ITEM	PART NO.	DESCRIPTION	QTY.
1	098XX106	AMPLIFIER, LEVEL SENSOR, PNP	1
2	098XX107	LEVEL SENSOR, HIGH TEMPERATURE	1
3	784XX359	SHCS M4 X 10 ZINC	2
4	070XX662	CONNECTOR, 3 POS 3A, .098" XA	1
5	061XX424	CONTACT, FEM. SOCKET, 3A XA	3
6	540XX061	WIRE PTFE 18 AWG GRN/YEL	2.5
7	075XX179	WIRE TERMINAL; RING	1
8	075XX393	WIRE TERMINAL; RECP, .110, INS	1
9	075XX358	WIRE TERMINAL,90 DEG,FEMALE	1
10	IS0232	IS: INTERNAL LEVEL SENSOR	1
11	784XX352	LOCK WASHER M5	1
12	784XX349	HEX NUT M5 0,8 ZINC	1

Internal Low-Level Sensor Kit w/Beacon (776xx746)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0232**

ITEM	PART NO.	DESCRIPTION	QTY.
1	776XX745	INTERNAL LEVEL SENSOR KIT	1
2	782XX347	ALARM BEACON ASSY 24V	1

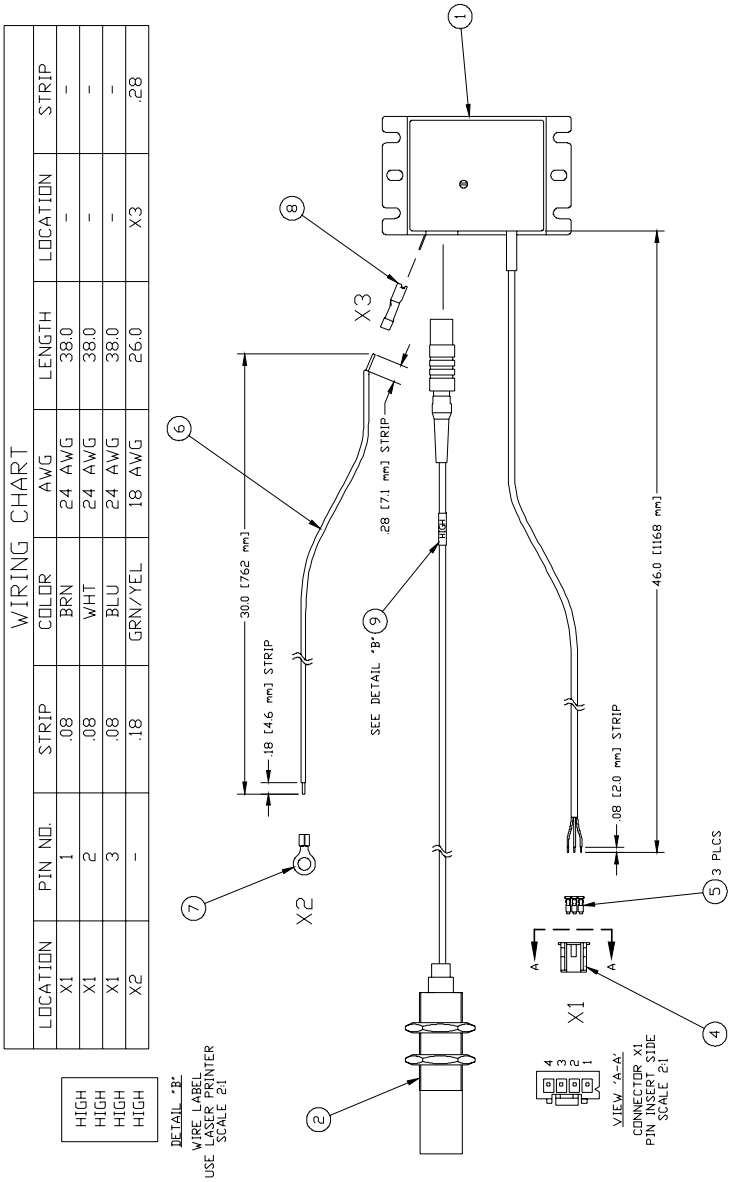
Internal Low-Level Sensor Kit w/Beacon & Siren (776xx747)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0232**

ITEM	PART NO.	DESCRIPTION	QTY.
1	776XX745	INTERNAL LEVEL SENSOR KIT	1
2	782XX347	ALARM BEACON ASSY 24V	1
3	105XX054	BEACON, SIREN ELEMENT	1

Internal High-Level Sensor Kit (776xx748)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0232**



Internal High-Level Sensor Kit (776xx748) - Continued

ITEM	PART NO.	DESCRIPTION	QTY.
1	098XX106	AMPLIFIER, LEVEL SENSOR, PNP	1
2	098XX107	LEVEL SENSOR, HIGH TEMPERATURE	1
3	784XX359	SHCS M4 X 10 ZINC	2
4	070XX707	CONNECTOR; 4 POSITION	1
5	061XX424	CONTACT, FEM. SOCKET, 3A XA	3
6	540XX061	WIRE PTFE 18 AWG GRN/YEL	2.5
7	075XX179	WIRE TERMINAL; RING	1
8	075XX393	WIRE TERMINAL; RECP, .110, INS	1
9	075XX358	WIRE TERMINAL,90 DEG,FEMALE	1
10	IS0232	IS: INTERNAL LEVEL SENSOR	1
11	784XX352	LOCK WASHER M5	1
12	784XX349	HEX NUT M5 0,8 ZINC	1

Internal Low-Level Sensor Kit w/Beacon (776xx749)

ITEM	PART NO.	DESCRIPTION	QTY.
1	776XX748	INTERNAL LEVEL SENSOR KIT	1
2	782XX347	ALARM BEACON ASSY 24V	1

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0232**

Internal Low-Level Sensor Kit w/Beacon & Siren (776xx750)

ITEM	PART NO.	DESCRIPTION	QTY.
1	776XX748	INTERNAL LEVEL SENSOR KIT	1
2	782XX347	ALARM BEACON ASSY 24V	1
3	105XX054	BEACON, SIREN ELEMENT	1

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0232**

Internal Low & High-Level Sensor Kit (776xx751)

ITEM	PART NO.	DESCRIPTION	QTY.
1	776XX745	INTERNAL LEVEL SENSOR KIT	1
2	776XX748	INTERNAL LEVEL SENSOR KIT	1

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0232**

Internal Low & High-Level Sensor Kit w/ Beacon (776xx752)

ITEM	PART NO.	DESCRIPTION	QTY.
1	776XX745	INTERNAL LEVEL SENSOR KIT	1
2	776XX748	INTERNAL LEVEL SENSOR KIT	1
3	782XX347	ALARM BEACON ASSY 24V	1

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0232**

Internal Low & High-Level Sensor Kit w/ Beacon & Siren (776xx753)

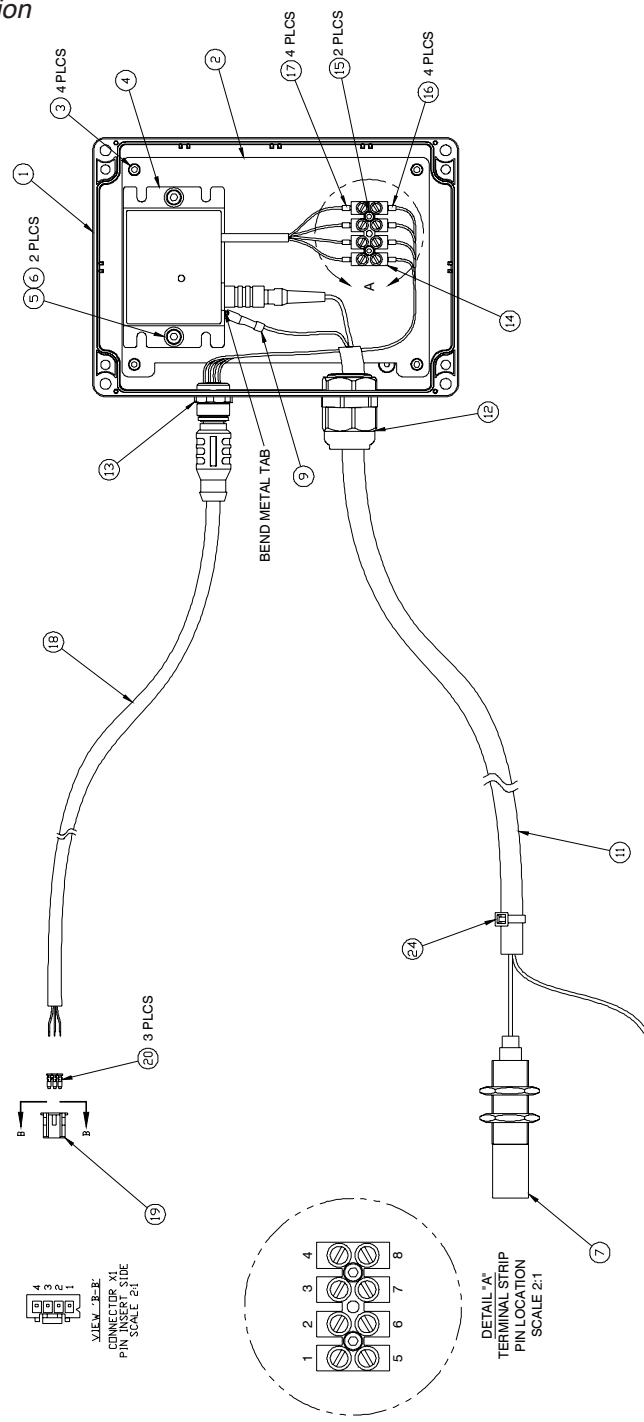
ITEM	PART NO.	DESCRIPTION	QTY.
1	776XX745	INTERNAL LEVEL SENSOR KIT	1
2	776XX748	INTERNAL LEVEL SENSOR KIT	1
3	782XX347	ALARM BEACON ASSY 24V	1
4	105XX054	BEACON, SIREN ELEMENT	1

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0232**

External Pot Fill

External Pot Fill Kit (776xx757)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0234**



WIRING CHART

COLOR	GAUGE	LENGTH	LOCATION	PIN #	STRIP	LOCATION	STRIP
BRN	20 AWG	3.0	TERMINAL STRIP	5	.20	MALE TURCK CONNECTOR	-
BLK	20 AWG	3.0	TERMINAL STRIP	6	.20	MALE TURCK CONNECTOR	-
BLU	20 AWG	3.0	TERMINAL STRIP	7	.20	MALE TURCK CONNECTOR	-
WHT	20 AWG	3.0	TERMINAL STRIP	8	.20	MALE TURCK CONNECTOR	-
BRN	24 AWG	3.0	TERMINAL STRIP	1	.20	AMPLIFIER BOX	-
BLK	24 AWG	3.0	TERMINAL STRIP	2	.20	AMPLIFIER BOX	-
BLU	24 AWG	3.0	TERMINAL STRIP	3	.20	AMPLIFIER BOX	-
WHT	24 AWG	3.0	TERMINAL STRIP	4	.20	AMPLIFIER BOX	-
BRN	22 AWG	3.0	JST CONNECTOR	1	.08	FEMALE TURCK CONNECTOR	-
BLK	22 AWG	393.7	JST CONNECTOR	2	.08	FEMALE TURCK CONNECTOR	-
BLU	22 AWG	393.7	JST CONNECTOR	3	.08	FEMALE TURCK CONNECTOR	-
GRN/YEL	18 AWG	78.0	GROUND RING TERMINAL	-	.18	GROUND INSULATED FASTON	.28

WIRE LENGTHS TO BE ±0.50 [12.7 MM] UNLESS OTHERWISE SPECIFIED.

External Pot Fill Kit (776xx757) - Continued

ITEM	PART NO.	DESCRIPTION	QTY.
1	026XX317	ENCLOSURE, MODIFICATION	1
2	026XX318	MOUNTING PLATE, INTERNAL	1
3	784XX945	SHCS,M3 X 5MM LONG,S.S.	4
4	098XX106	AMPLIFIER, LEVEL SENSOR, PNP	1
5	798XX188	SHCS - M4 X 8MM, S.S.	2
6	784XX435	FLAT WASHER M4 SS	2
7	098XX107	LEVEL SENSOR, HIGH TEMPERATURE	1
8	540XX061	WIRE PTFE 18 AWG GRN/YEL	6.5
9	075XX393	WIRE TERMINAL; RECP, .110, INS	1
10	075XX179	WIRE TERMINAL; RING	1
11	755XX679	SLEEVING; FIBERGLASS 3/8 BLAK	60
12	066XX138	CORD GRIP; BLACK PG 13.5	1
13	061XX211	CONNECTOR,M12,5PIN, MALE	1
14	075XX387	CONNECTOR; 4 PIN TERMINAL	1
15	884XX269	SHCS M2.5 X 12 SS	2
16	075XX303	FERRULE;INS,20AWG,WHITE,8MM	4
17	075XX301	FERRULE;INS,24AWG,LT-BLU,8MM	4
18	030XX596	CABLE ASSY; M12 FEM., 10M	1
19	070XX662	CONNECTOR, 3 POS 3A, .098" XA	1
20	061XX424	CONTACT, FEM. SOCKET, 3A XA	3
21	583XX286	SENSOR MOUNTING PLATE	1
22	799XX368	ELBOW-90; 1/2JIC X 3/4NPT-M	1
23	066XX155	CORD GRIP	1
24	067XX154	TY-RAP .14" X 5.5"L,HIGH TEM	2
25	067XX002	HARNESS ANCHOR .75 INCH	2
26	999XA583-13	FITTING SELECTION GUIDE	1
27	IS0234	IS; EXTERNAL POT FILL	1
28	784XX352	LOCK WASHER M5	1
29	784XX349	HEX NUT M5 0,8 ZINC	1

External Pot Fill w/ Beacon Kit (776xx758)

ITEM	PART NO.	DESCRIPTION	QTY.
1	776XX757	EXTERNAL POT FILL KIT	1
2	782XX347	ALARM BEACON ASSY 24V	1

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0234**

External Pot Fill w/ Beacon & Siren Kit (776xx759)

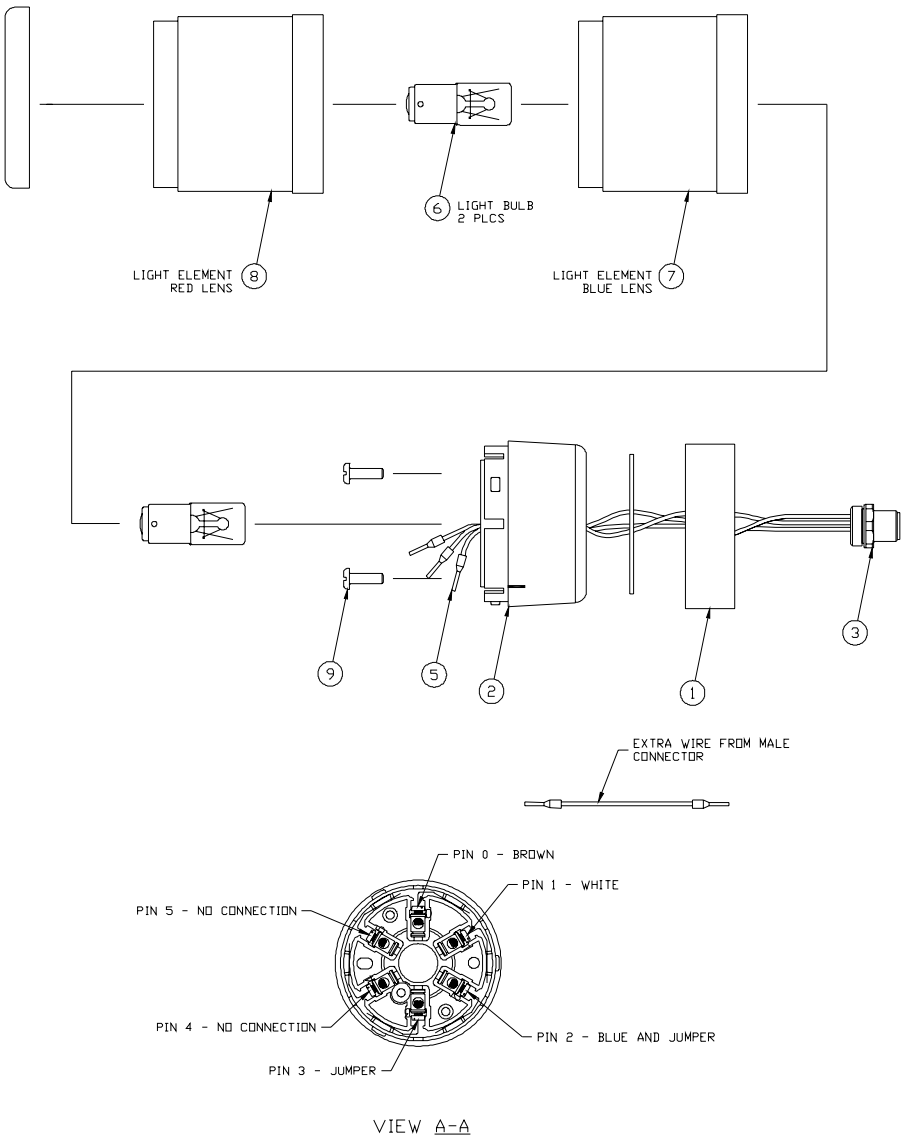
ITEM	PART NO.	DESCRIPTION	QTY.
1	776XX757	EXTERNAL POT FILL KIT	1
2	782XX347	ALARM BEACON ASSY 24V	1
3	105XX054	BEACON, SIREN ELEMENT	1

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0234**

Alarm Beacon

Alarm Beacon Assembly, 24V (782xx347)

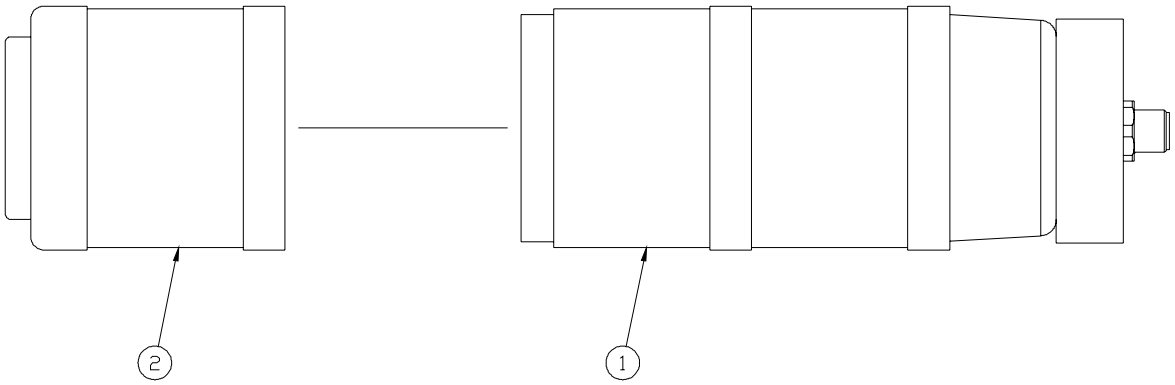
Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0233**



ITEM	PART NO.	DESCRIPTION	QTY.
1	583XX287	BEACON MOUNTING BRACKET	1
2	105XX055	BEACON, COVER & BASE	1
3	061XX211	CONNECTOR,M12,5PIN, MALE	1
4	030XX629	CABLE ASSY; M12 FEMALE, 0.5M	1
5	075XX302	FERRULE;INS,22AWG,TURQ,8MM	8
6	105XX050	BULB, 24V, 5W	2
7	105XX051	BEACON, LIGHT ELEMENT, BLUE	1
8	105XX053	BEACON, LIGHT ELEMENT, RED	1
9	784XX313	PHS M4 X 12 ZINC	2
10	884XX043	SCREW;SOCKET HEAD CAP,M5 X 8	4
11	782XX348	LABELS; LENS	1
12	IS0233	IS; ALARM BEACON ASSY	1

Alarm Beacon Assembly, 24V, w/siren element beacon (782xx349)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: IS0233



ITEM	PART NO.	DESCRIPTION	QTY.
1	782XX347	ALARM BEACON ASSY 24V	1
2	105XX054	BEACON, SIREN ELEMENT	1

Alarm Beacon Replacement Bulb

105XX050, 24V, 5W

Siren Element Kit (776xx762)

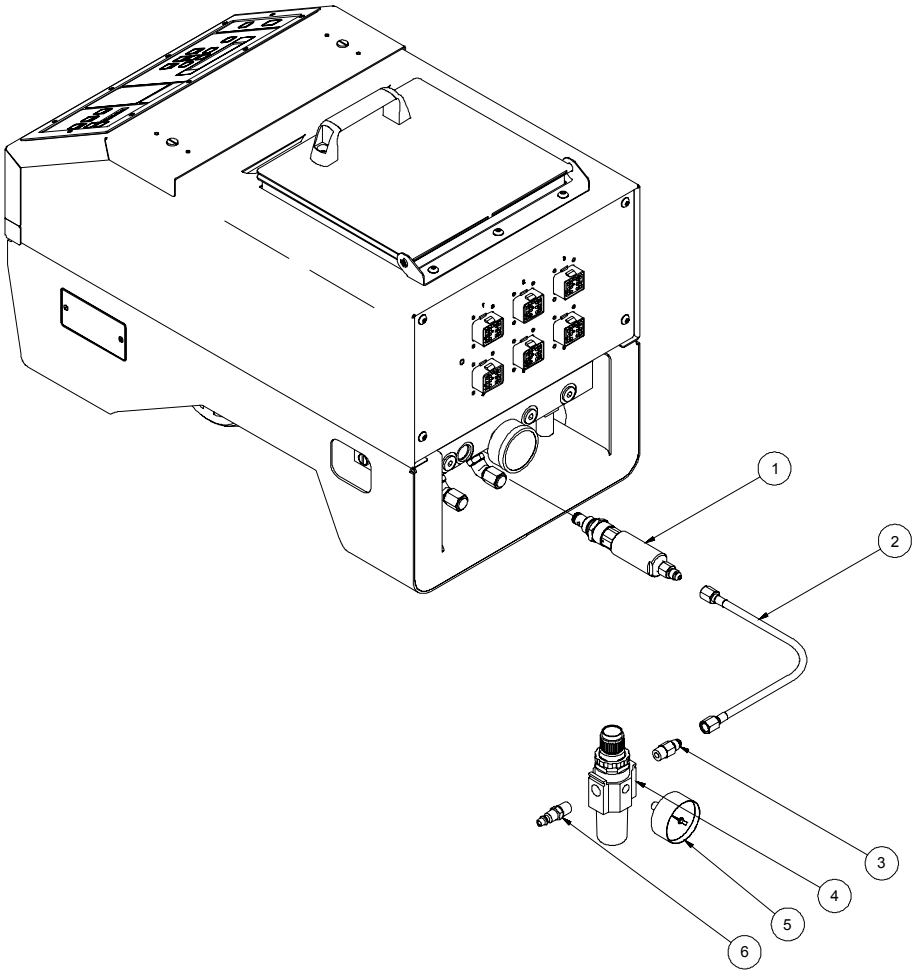
ITEM	PART NO.	DESCRIPTION	QTY.
1	105XX054	BEACON, SIREN ELEMENT	1
2	IS0233	IS; ALARM BEACON ASSY	1

Refer also to *Appendix B - Instruction Sheets for Option Kits*: IS0233

Pressure Relief

Pneumatic Pressure Relief Kit (707xx212)

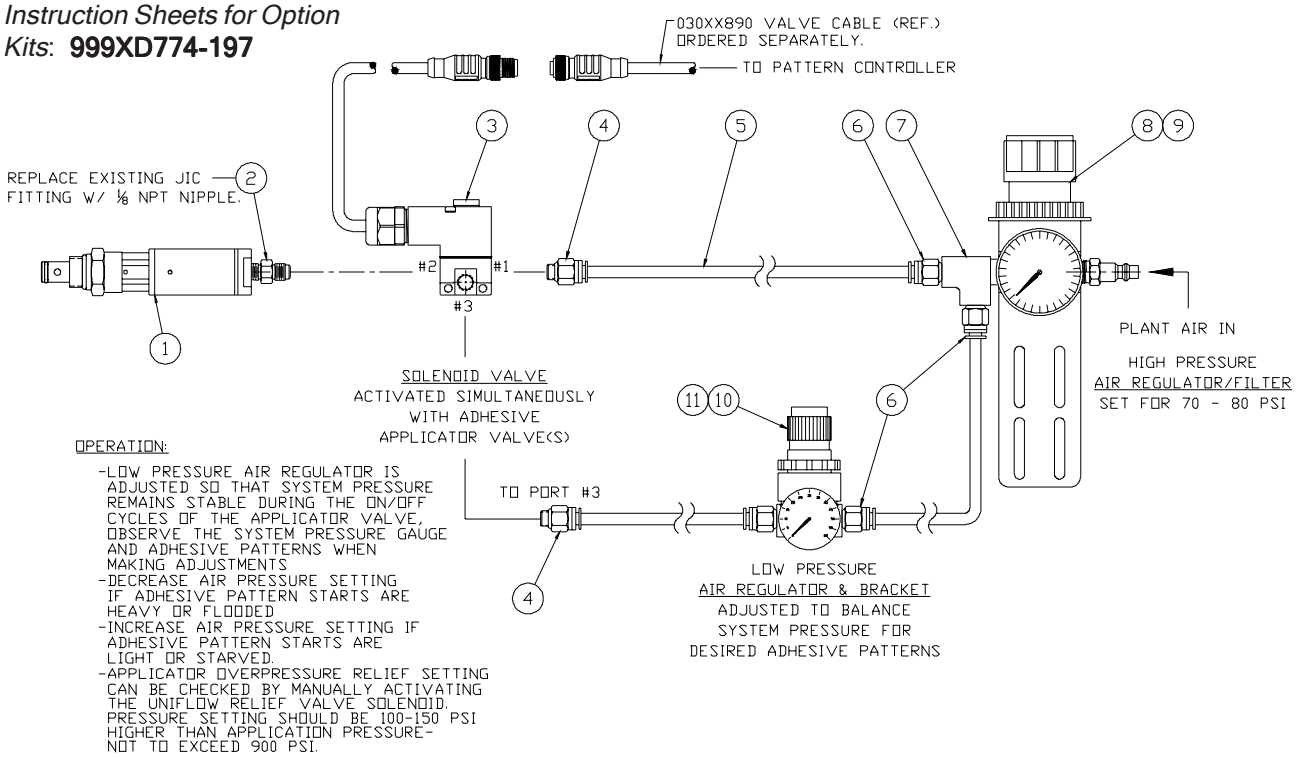
Refer also to *Appendix B - Instruction Sheets for Option Kits*: **999XD707-002**



ITEM	PART NO.	DESCRIPTION	QTY.
1	707XX211	VALVE ASSY,PRESSURE RELIEF	1
2	755XX054	AIR LINE, 203051	1
3	797XX827	MALE CONNECTOR,94929026	1
4	594XX160	FILTER REGULATOR-AIR,5-125PSI	1
5	786XX001	GAUGE 960LP	1
6	752XX004	MALE QUICK DISCONNECT	1
7	999XD707-002	ILLUSTRATION DRAWING	1

Relief Valve Assembly (594xx189)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **999XD774-197**



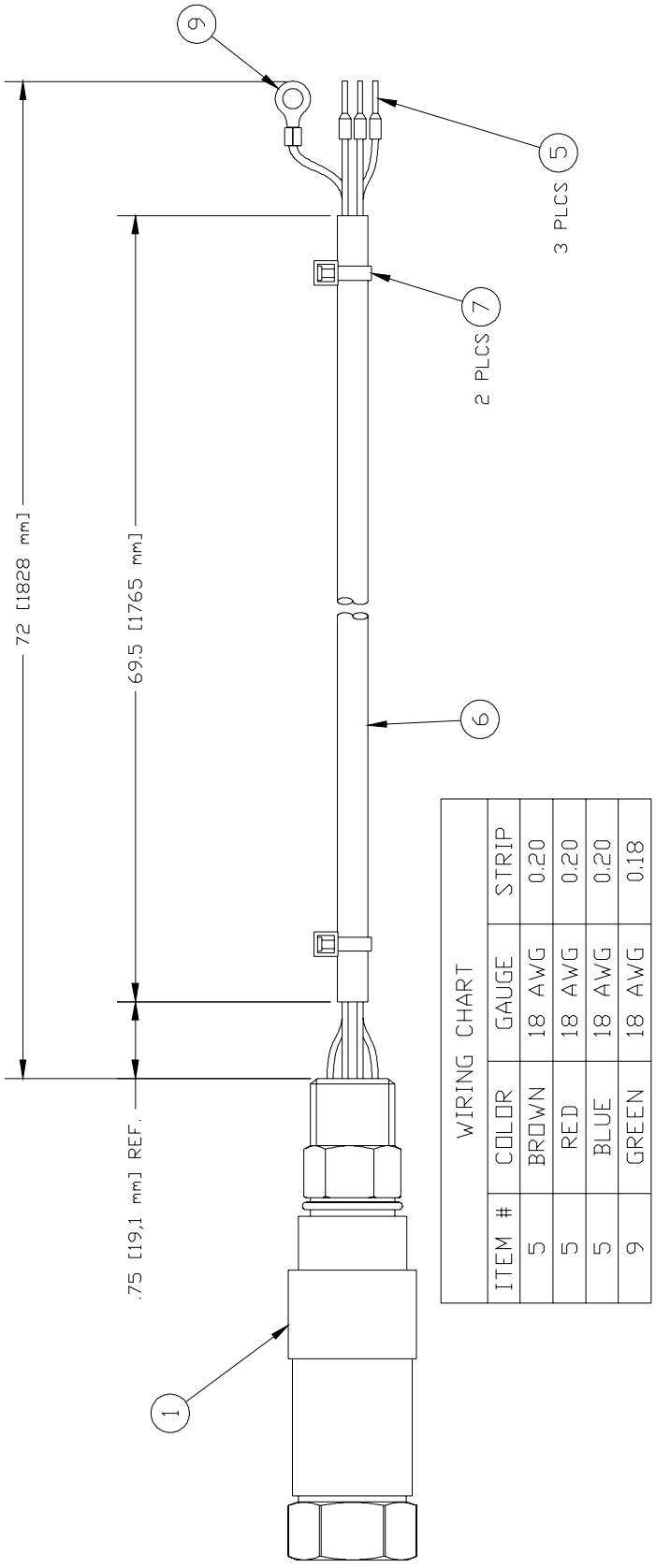
Unit	Description	Part #	QTY
1	707XX211	VALVE ASSY,PRESSURE RELIEF	1
2	797XX079	HEX NIPPLE M-M 1/8	1
3	411XX118	VALVE ASSY, 3-WAY W/M12 24V	1
4	799XX582	CONNECTOR,MALE: 8MM X 1/8 NPT	2
5	755XX575	TUBING,NYLON,8MM O.D.	360
6	797XX395	FITTING, MALE: 5/16I X 1/4NPT	4
7	797XX019	STREET TEE F-F-M 1/4	1
8	594XX033	FILTER REGULATOR ASSY.	1
9	582XX300	BRACKET-REGULATOR	1
10	594XX004	AIR REGULATOR M750LPG	1
11	580XX861	BRACKET	1
12	999XD774-197	ILLUST. DWG.: UNIFLOW REL. VA	1

Pressure Monitoring

Pressure Switch Kit, 50-130 PSI (481xx050)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0213**

ITEM	PART NO.	DESCRIPTION	QTY.
1	485XX105	SWITCH; PRESSURE	1
2	792XX340	FITTING ADAPTER	1
3	797XX073	REDUCER M-M 1/2 X 1/4	1
4	IS0213	IS, UE PRESSURE SWITCHES	1
5	075XX304	FERRULE;INS,18AWG,RED,8MM	4
6	755XX087	SLEEVING;FIBERGLASS,#4,BLACK	69.5
7	067XX154	TY-RAP .14" X 5.5"L,HIGH TEM	4
8	067XX002	HARNESS ANCHOR .75 INCH	2
9	075XX179	WIRE TERMINAL; RING	1
10	784XX352	LOCK WASHER M5	1
11	784XX349	HEX NUT M5 0,8 ZINC	1



Pressure Switch Kit, 160-400 PSI (481xx051)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: IS0213

ITEM	PART NO.	DESCRIPTION	QTY.
1	485XX107	SWITCH; PRESSURE	1
2	792XX340	FITTING ADAPTER	1
3	797XX073	REDUCER M-M 1/2 X 1/4	1
4	IS0213	IS, UE PRESSURE SWITCHES	1
5	075XX304	FERRULE;INS,18AWG,RED,8MM	4
6	755XX087	SLEEVING;FIBERGLASS,#4,BLACK	69.5
7	067XX154	TY-RAP .14" X 5.5"L,HIGH TEM	4
8	067XX002	HARNESS ANCHOR .75 INCH	2
9	075XX179	WIRE TERMINAL; RING	1
10	784XX352	LOCK WASHER M5	1
11	784XX349	HEX NUT M5 0,8 ZINC	1

Pressure Switch Kit, 275-850 PSI (481xx052)

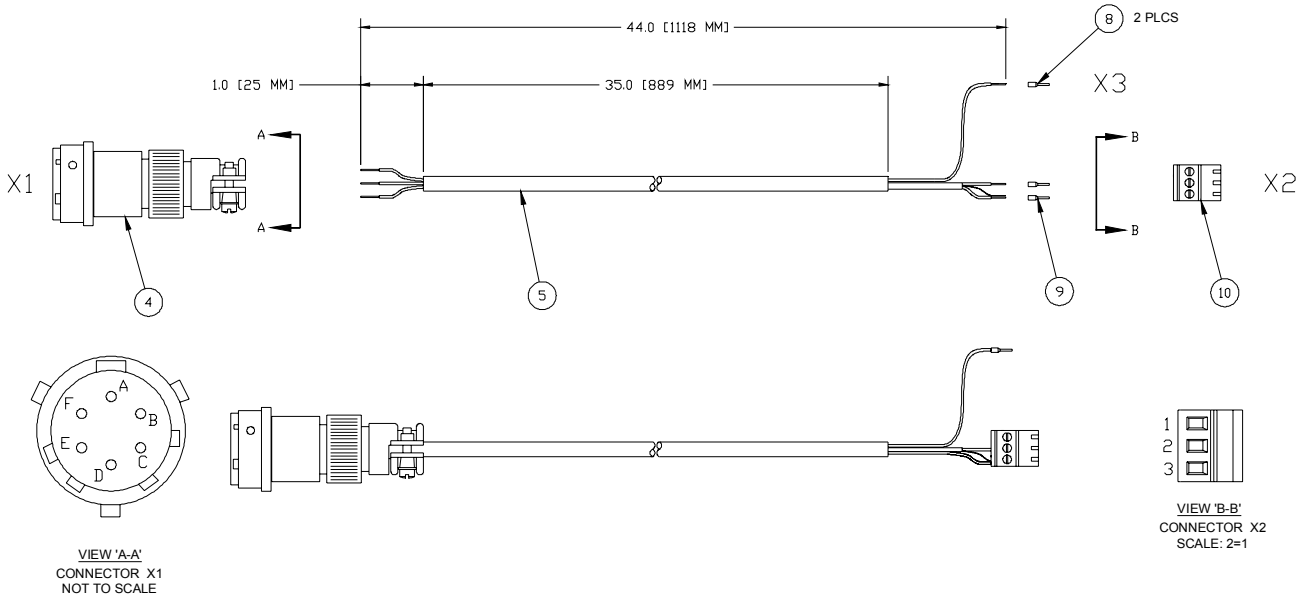
Refer also to *Appendix B - Instruction Sheets for Option Kits*: IS0213

ITEM	PART NO.	DESCRIPTION	QTY.
1	485XX106	SWITCH; PRESSURE	1
2	792XX340	FITTING ADAPTER	1
3	797XX073	REDUCER M-M 1/2 X 1/4	1
4	IS0213	IS, UE PRESSURE SWITCHES	1
5	075XX304	FERRULE;INS,18AWG,RED,8MM	4
6	755XX087	SLEEVING;FIBERGLASS,#4,BLACK	69.5
7	067XX154	TY-RAP .14" X 5.5"L,HIGH TEM	4
8	067XX002	HARNESS ANCHOR .75 INCH	2
9	075XX179	WIRE TERMINAL; RING	1
10	784XX352	LOCK WASHER M5	1
11	784XX349	HEX NUT M5 0,8 ZINC	1

Pressure Transducer Assembly (521xx016)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0235**

WIRING CHART					
COLOR	LENGTH	LOCATION	PIN #	LOCATION	PIN #
RED	44.0	X1	A	X2	2
BLACK	44.0	X1	D	X2	3
WHITE	44.0	X1	C	X3	-



ITEM	PART NO.	DESCRIPTION	QTY.
1	521XX015	TRANSDUCER, 0-10 VDC, 1450 PSI	1
2	799XX751	MOUNTING ASDAPTER, TRANSDUCER	1
3	745XX105	O-RING	1
4	066XX204	CONNECTOR, 6 PIN	1
5	029XX527	CABLE, 3 PR SHIELDED, 20 AWG	8
6	799XX752	ELBOW, 90, 3/8 STRT X 3/8 STRT	1
7	799XX772	UNION M-F 9/16-18 THREAD	1
8	075XX303	FERRULE;INS,20AWG,WHITE,8MM	2
9	075XX304	FERRULE;INS,18AWG,RED,8MM	1
10	070XX590	PLUG;3 PIN,90 DEG,MC1.5	1
11	067XX154	TY-RAP .14" X 5.5"L,HIGH TEM	1
12	067XX002	HARNESS ANCHOR .75 INCH	1
13	IS0235	IS; PRESSURE TRANSDUCER	1

Auxiliary I/O

Optional I/O HMU PCB Assembly (151xx661)

Refer also to *Appendix B - Instruction Sheets for Option Kits*: **IS0236**

ITEM	PART NO.	DESCRIPTION	QTY.
1	150XX661	PCB, BARE, OPTIONAL I/O MELTON	1
2	049XX005	CAPACITOR;CER,0.1U,50V,1206	4
3	112XX001	LED;RND,2.4MM,GRN,2MA,PLCC-2	9
4	086XX057	FUSE CLIP FOR 5MM DIA PCB	2
5	070XX712	CONN;TERMINAL,6P,1R,3.81,PCB	4
6	160XX210	RELAY;24VDC,NC+NO,5A,PCB	4
7	275XX008	RESISTOR,10K0,1%,1/4W,1206	5
8	275XX007	RESISTOR,1K00,1%,1/4W,1206	12
9	261XX005	RES-NET;ISO,8P,4R,1K0,SMD	1
10	126XX001	OPTO;TRANSISTOR,1CH,SO4/2.54	4
11	315XX035	TRANS ARRAY,7-NPN DARL,SO16	1
12	085XX239	FUSE;GLASS,1A,250V,T/D,5X20MM	1
13	091XX644	SPACER, PCB 14MM SNAP IN	2
14	999XB151-361	SCHEMATIC, OPTIONAL I/O, HMU	0
15	073XX020	HEADER, 20 PIN VERT FEM SHRD	1
16	IS0236	IS: AUXILLIARY I/O BOARD	1

SECTION 11 - WARRANTY

Warranty Information

Valco Cincinnati, Inc. warrants its equipment worldwide against defects in material and workmanship as outlined in this section.

Liability of the company is limited to repair of the product, or replacement of any part shown to be defective, and does not extend to defects caused by accidents, misuse, abuse, neglect, tampering or deterioration by corrosion. This warranty does not cover those items determined by Valco Cincinnati, Inc. to be normal wear items such as seals, O-rings, diaphragms, springs, etc.

Reconditioned equipment, unless specified otherwise at the time of purchase, will be warranted as described above for a period of ninety (90) days from the date of shipment by Valco Cincinnati.

Components purchased by Valco Cincinnati, Inc. from others for inclusion in its products are warranted only to the extent of the original manufacturer's warranty. In no event shall Valco Cincinnati, Inc. be liable for indirect or consequential damages arising out of the use of Valco Cincinnati products.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to Valco Cincinnati, Inc. for examination and verification. If claimed defect is verified, repairs or replacements will be made F.O.B. Cincinnati, Ohio, U.S.A. or ex-works Telford, U.K. If the inspection of the equipment does ***not*** disclose any defect of workmanship or material, any necessary repairs will be made at a reasonable charge and return transportation will be charged.

This is the only authorized Valco Cincinnati, Inc. warranty and is in lieu of all other expressed or implied warranties, representations or any other obligations on the part of Valco Cincinnati, Inc.

Cold Glue Equipment and Electronic Controls

The warranty for cold glue equipment and electronic controls for a period of one (1) year from the date of shipment by Valco Cincinnati, Inc.

Hot Melt Units, Hoses, Valves, Guns, and Related Equipment

All hot melt components except cast-in heating elements are warranted for a period of six (6) months from the date of shipment by Valco Cincinnati. Cast-in heaters carry an additional, pro-rated warranty not to exceed three (3) years from the date of shipment by ValcoMelton, a Valco Cincinnati, Inc. company.

SECTION 12 - SERVICE

If a problem with your system persists, contact a ValcoMelton Technical Support representative. If your need is urgent, we encourage you to contact our corporate office in Cincinnati, Ohio, U.S.A. at (513) 874-6550. If the problem cannot be resolved, Valco Cincinnati, Inc. will promptly arrange to have a technical representative visit your facility. Any charges for a service call will be quoted at that time. Any part that fails during the warranty period shall be returned prepaid to Valco Cincinnati, Inc. by the customer for disposition.

Upon request, ValcoMelton personnel are available to repair or replace such parts at the customer's facility. Charges for this service include travel time and expenses.

If an equipment problem is the result of customer abuse, improper installation or operation, all travel time, labor, parts, and expenses will be charged to the customer.

If the responsibility for a problem cannot be absolutely determined, the customer will be charged for travel time and expenses only. No charge will be made for parts and labor.

APPENDIX A - PASSWORD LEVELS

The Unit has multiple security levels to protect important information against unauthorized access. The levels are enabled with different PIN codes when entering the 'Setup menu'. The following list includes the PIN codes for the different levels and describes the difference between them.

Level 1- Operator (no password required - default level)

- Can view most information with only basic editing available
- Can adjust temperature setpoints
- Can turn zones on and off

Level 2 - Advanced Operator (PIN Code: 1234)

- Can access all Level 1 features
- Can access most system setup parameters
- Can access all Clock, Setback, Startup, History, and Diagnostics menu groups

Level 3 - Supervisor (PIN Code: 6550)

- Can access all Level 1 and 2 features
- Can access Maximum Temperature parameter in System Setup menu
- Can access Peripherals (Inputs/Outputs) and Temperature Control (PID) menu groups

Level 0 - Protected (no password required)

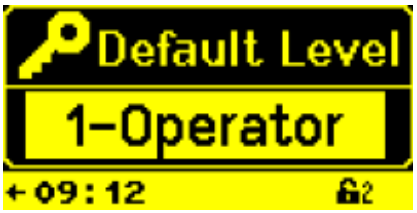
Level 0 is an alternate default level that locks out ALL edits, for applications where the plant wishes to prevent any and all changes, including temperature changes.

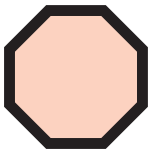
The Password Pin input function is still accessible.

To set the unit to Level 0 as the default level (from Level 2 or higher):

Continued Next Page

Setting Level 0 as Default - Continued





APPENDIX B - INSTRUCTION SHEETS FOR OPTION KITS

The attached Instruction Sheets apply to the Option Kits listed in the table below.

Some of the Instruction Sheets associated with this system also contain information for other systems. When using any of these Instruction Sheets, refer only to the sections that apply to your system and disregard those that do not apply.

Option Kits for D10/D16			
Feature #	**Description**	**Option Kit**	**Instruction Sheet**
1	N/A		
2	Autofeed	776XX157 (D10)	IS0231
		776XX789 (D16)	
3	Pump Control	029XX553	IS0161
4	Pump Type	560XX886	IS0212
		561XX216	
		560XX887	
		561XX221	
5	Hoses	Multiple	999XA780-02
6	Handguns	Multiple	
7	Pattern Control	776XX733	IS0230
8	Internal Level Sensors	776XX745	IS0232
		776XX746	
		776XX747	
		776XX748	
		776XX749	
		776XX750	
		776XX751	
		776XX752	
		776XX753	
	External Pot Fill	776xx757	IS0234
		776xx758	
		776xx759	
	Alarm/Beacon	782XX347	IS0233
		782XX349	
		776XX762	
9	Pressure Relief	707XX212	999XD707-002
		594XX189	999XD774-197
10	Pressure Monitoring	481XX050	IS0213
		481XX051	
		481XX052	
		521XX016	IS0235
11	Aux. I/O	151XX661	IS0236
12	N/A		

Zone Upgrade Kits		
Part Number	**Description**	**Instruction Sheet**
776XX140	2-4	IS0227
776XX141	2-6	
776XX142	4-6	

VACUUM FEEDER ASSEMBLY INSTRUCTIONS

Important Information

WARNING!

Read and follow all instructions, warnings, tags, and labels before operating the equipment. Only qualified personnel should perform this procedure. USE OF THIS EQUIPMENT IN A MANNER OTHER THAN DESCRIBED IN THIS INSTRUCTION SHEET, AND FAILING TO FOLLOW ALL INSTRUCTIONS, COULD RESULT IN PERSONAL INJURY, DEATH, OR DAMAGE TO EQUIPMENT.

All equipment is to be installed and all connections made only by qualified personnel. Components and accessories are to be installed in accordance with the instructions provided and the applicable codes for the region installed. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A PERSONAL INJURY, DEATH, OR DAMAGE TO EQUIPMENT.

WARNING!

The equipment may still be energized even after the circuit breaker or main power switch is off.

All equipment must be properly grounded and fused in accordance with rate current consumption (refer to the equipment identification plate)

Gauge and insulation for the power supply must be adequate to handle rated current consumption.

Description

This installation sheet covers how to install a vacuum feeding system onto a D10 hot melt unit with a universal temperature control.

Installation

To install a vacuum feed system:

1. Disconnect the power.
2. Open the back hose and front operator panels.
3. Remove the two (2) M4 x 12 socket head cap screws holding the lanyards to the top of the case.
4. Remove the quick-disconnect ground wire from the top of the case.

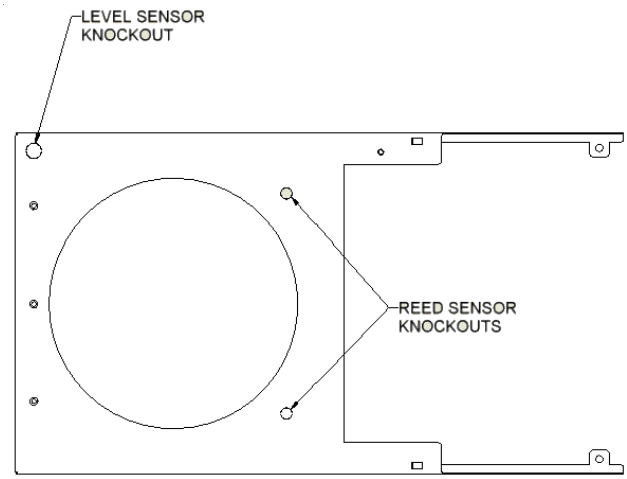
Installation - Continued

5. Remove the four (4) M5 flange nuts from the bottom corners of the case.

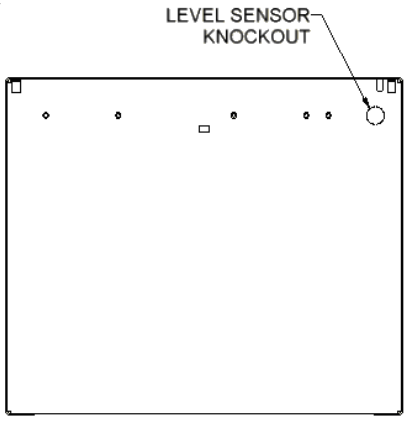
6. Remove any other connections that are holding the case to the chassis.

7. Remove the case.

8. Carefully remove the three (3) circular knockouts from the top of the case.



9. Carefully remove the circular knockout on the center bulkhead in the case.

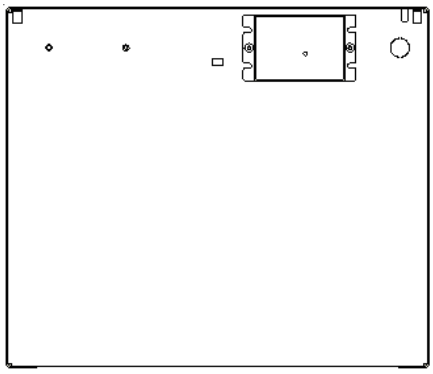


Installation - Continued

10. File down any sharp metal edges that occur as a result of removing the knockouts.

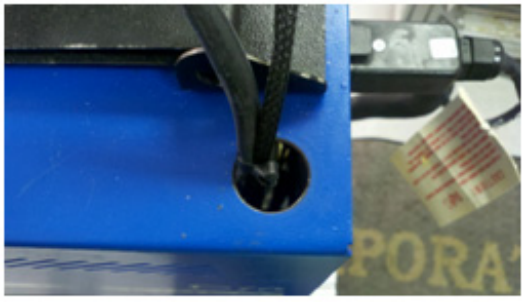
11. Turn the case on its side.

12. Install the level sensor amplifier box to the center bulkhead, using the two (2) M4 socket head cap screws.



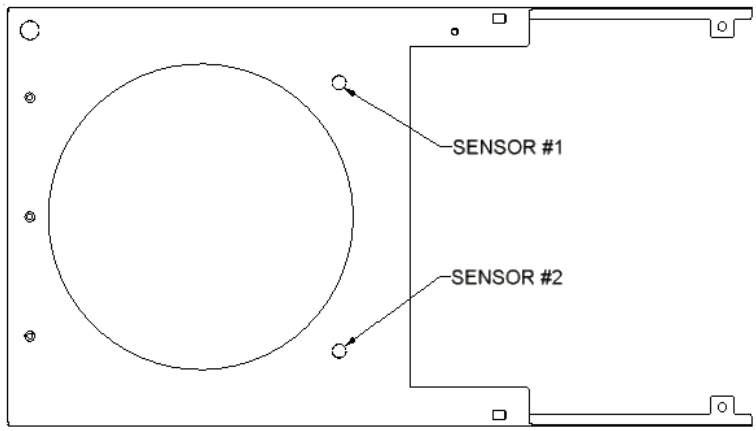
13. Attach the terminal ring from the amplifier box to the grounding stud on the top of the case.

14. Route the sensor through the knockout in the center bulkhead, and then through the knockout on the top of the case.



15. Install the reed sensors into the appropriate knockout on the top of the case. The reed sensor number is indicated by a label on one of the lead wires. The top of the sensors need to be .218" -.060" +.100" from the top of the case.

Installation - Continued



16. Route the side of the cable assembly with the terminal ring through the center bulkhead.

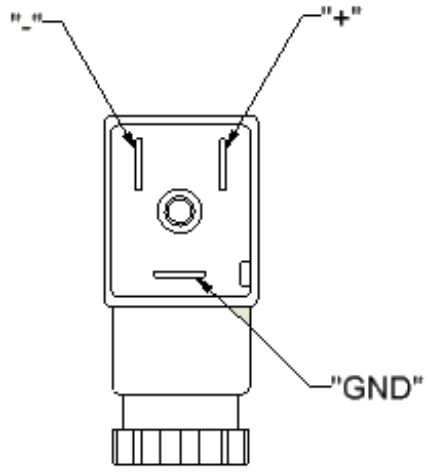
17. Route the other end of the cable assembly through the open knockout on the top of the case.

18. Remove the rectangular connector from the top of the air valve.

19. Remove wiring insert, using a small, flat-head screwdriver.

20. Route the cable assembly through the bottom of the connector.

21. Attach the three (3) ferrules to the connector by following the labels on the wire ends.

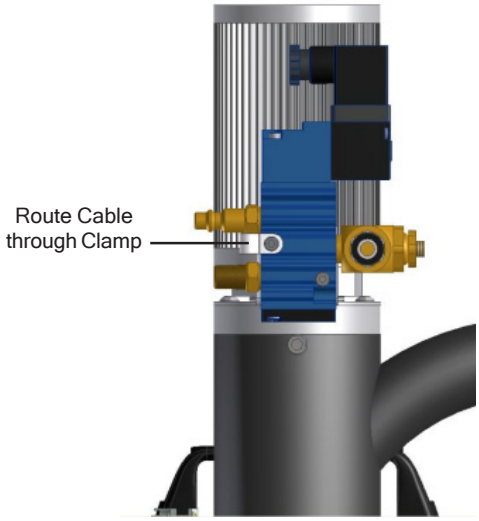


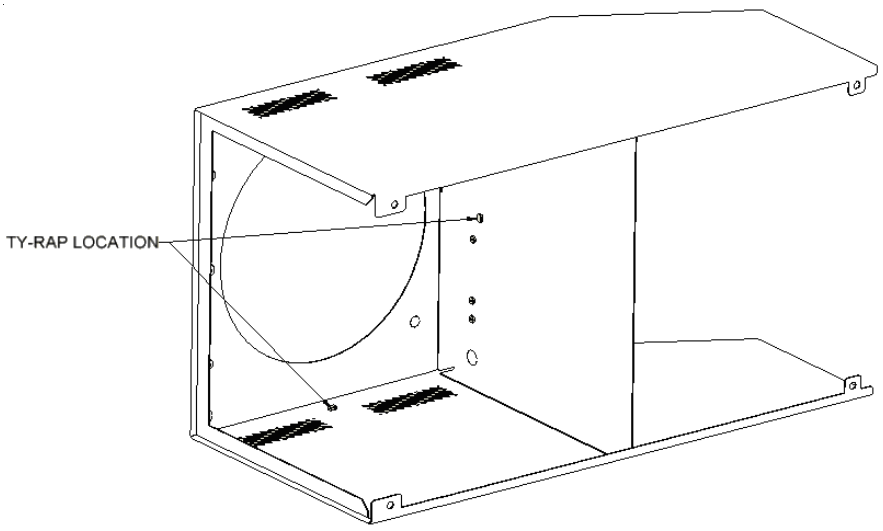
22. Replace the wiring insert back into the connector. Make sure the fiberglass sleeving is held by the strain relief in the bottom of the connector.

23. Route the cable assembly through the cable clamp on the back of the valve.

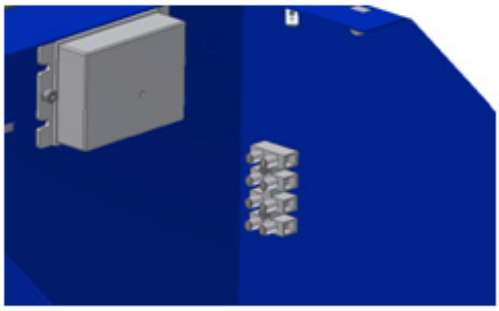
Installation - Continued

24. Using the two (2) ty-raps included in the kit, attach the cable to the case walls. This will ensure that the tank does not crush the wires when the case is reinstalled.



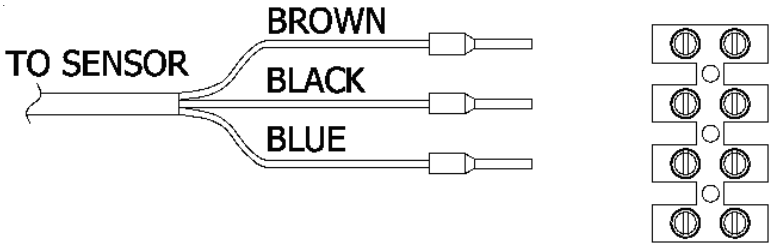


24. Attach the terminal strip to the side of the case using two (2) M3 x 16 socket-head cap screws.

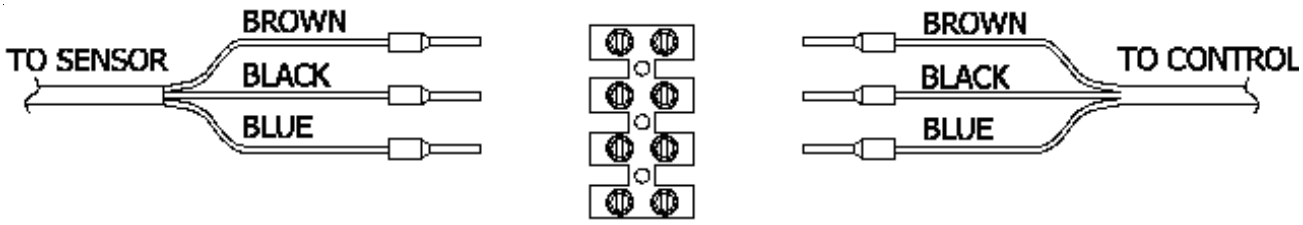


Installation - Continued

25. Attach the three (3) flying leads from the amplifier box to the terminal block.



26. Attach the three (3) flying leads from the included cable assembly to the other side of the terminal block.



27. Replace the case carefully, being sure NOT to crush any of the wires.

28. Reattach the case to the chassis by reversing steps 2-6. Do not close the front operator panel.

29. Remove the current lid and bracket from the unit.

30. Attach the new lid bracket to the unit using three (3) M6 button-head cap screws.

31. Attach the new lid-with-vacuum-feeder to the bracket.

32. Reattach the rectangular connector to the air valve.

33. Remove the yellow cap from the end of the feeder tube.

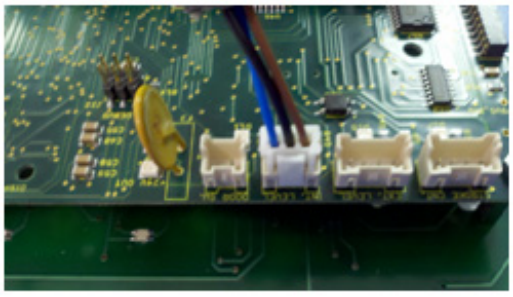
34. Attach the hose to the feeder inlet, using a Phillips-head screwdriver to tighten the hose clamp.

Installation - Continued

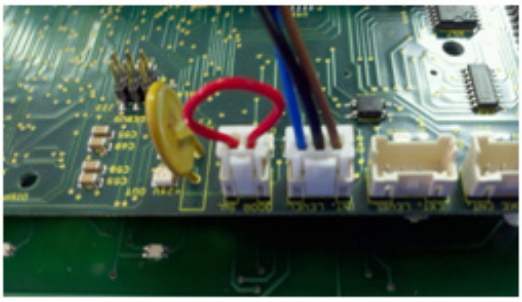
35. Attach the 10 mm tubing to the push-in 90° swivel fitting on the air valve.

36. Slide the level probe through the cable clamp on the top of the lid. Use a Phillips-head screwdriver to tighten the probe to the clamp. The top of the sensor should be about .25" above the top of the clamp.

37. Connect the three (3) pin, white JST connector from the amplifier box to the temperature control board.



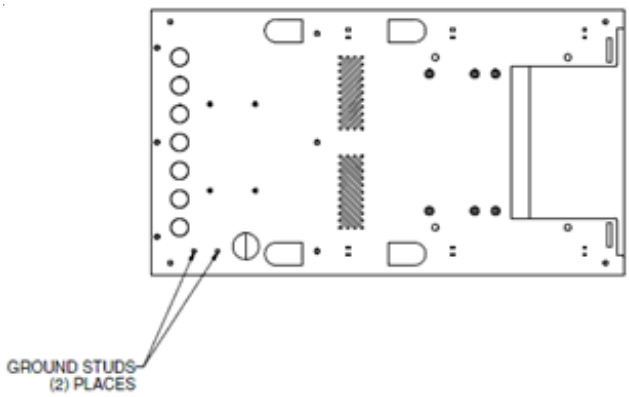
38. Install the red jumper cable to the door switch location on the temperature control board.



39. Connect the flying leads, with the white ferrules, to the feeder location on the temperature control board.

40. Attach the flying terminal ring from the cable assembly to one of the grounding studs on the base of the chassis.

Installation - Continued



41. Snap one of the black plastic clips around the level sensor wire and the cable assembly, and insert the clip into the knockout on the center bulkhead.

42. Repeat step 41, except for the knockout on the top of the case.

To calibrate the sensor:

43. Reconnect the power and turn the unit on.

44. Connect air to the air valve, using the quick-disconnect provided.

45. Activate the vacuum feeder by closing the lid and adjusting the pressure gauge on the vacuum feeder lid. Let the tank fill with adhesive.

46. If the vacuum feeder does not turn on, check that the feeder LED is on. If the feeder LED is not on, check that the jumper cable and level sensor cable are in the correct locations. If the feeder LED is on, the height of the reed sensors needs to be readjusted.

47. Once the vacuum feeder has stopped, open the lid, and make sure the unit is filled and the adhesive level is about 1.5"±0.25" from the top of the tank.

Installation - Continued

CAUTION!

The adhesive pile will be uneven; measure from the top of the pile to the top of the tank.

48. If the unit does not fill to the appropriate level, check to ensure the top of the level probe is 0.25" above the clamp. If the unit does fill to the appropriate level, proceed to step 49.

49. Remove the protective screw on the amplifier box.

50. Adjust the sensor calibration, using a small, flat-head screwdriver to adjust the calibration screw on the amplifier box.

    a. Turn the screw counter clockwise to raise the adhesive level.

    b. Turn the screw clockwise to lower the adhesive level.

    c. If the adhesive is at the appropriate level and the light is red carefully turn the screw clockwise until the light changes to intermittent red-yellow.

    d. After 3 seconds it should change to green.

    e. If the adhesive is at the appropriate level and the light is green, turn the screw, carefully, counter clockwise until the light changes to intermittent red-yellow.

    f. After 3 seconds it should change back to green.

51. Remove half of the adhesive and close the lid. Be sure that the light on the amplifier box turns red.

52. Allow the unit to refill. Make sure the light is green and the adhesive is at the appropriate level.

    a. If the adhesive is not at the appropriate level, repeat step 50.

CAUTION!

Check the adhesive level periodically to confirm the sensor is working properly.

53. Reinsert the protective screw into the amplifier box.

54. Close the front operator panel.

To adjust the sensor delay time:

Installation - Continued

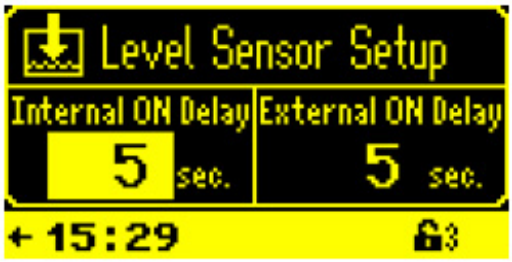
55. Access the setting screen by pressing .

56. Unlock the control by using the level 3 password: “6550”.

57. Access the setting screen by pressing again.

58. Access the “System” screen.

59. Select Internal ON Delay, based on the desired sensor, and adjust the time for your application. The default time for the sensor is 5 seconds.



HANDGUN SWITCH KIT INSTALLATION AND OPERATION

7/12 IS0161

Hot Melt Unit with Universal Control

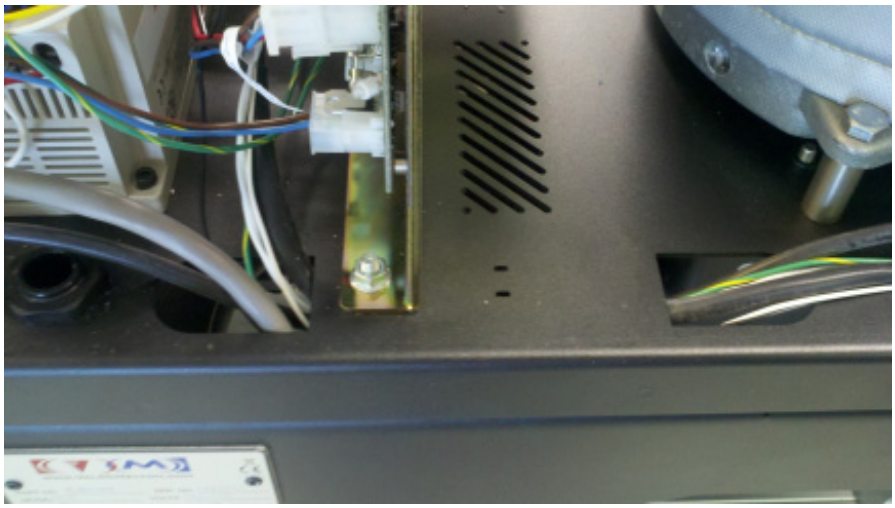
Cable Connections

1. Turn off power to unit and open lid to electronics cabinet.

2. Locate Control Board (151xx650) on the back of the Keypad. See figure below.

3. Run flying lead end of the included Handgun Switch Cable Assembly up to the Control Board. If your Handgun Switch Cable Assembly has a flange mounted connector, install it in place of the knockouts provided in the back panel of the unit. Use hardware provided with kit.

4. If the cable assembly has a flange-mounted connector, route the cable assembly along the inside of the unit, as shown.



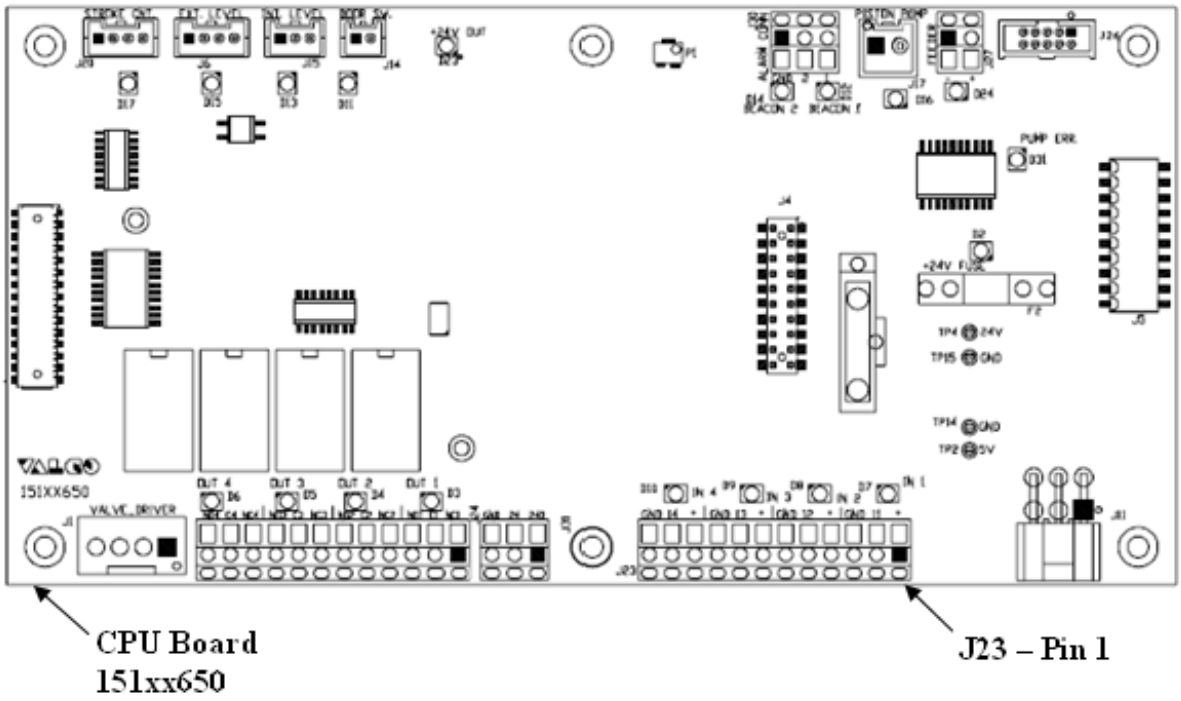
5. Choose which of the four inputs that you want to connect to. Then connect the Yellow and Orange wires from the Cable Assembly to the programmable inputs connector J23 on the Control Board as follows.

Input 1	Input 2	Input 3	Input 4
Pin 2 (I1): Orange	Pin 5 (I2): Orange	Pin 8 (I3): Orange	Pin 11 (I4): Orange
Pin 3 (GND): Yellow	Pin 6 (GND): Yellow	Pin 9 (GND): Yellow	Pin 12 (GND): Yellow

6. Discard the jumper wires included with the kit..

If you use two Handguns and want both to activate an input, install the yellow and orange wires from each cable in parallel.
If you want to use one Handgun Switch for two different functions (ie Pump On/Off and Auto Setback), then connect to one of the inputs as shown in step 4; then run a jumper wire from where the Orange wire is landed to the other input you want to use (I1-Pin 2, I2-Pin 5, I3-Pin 8, or I4-Pin 11).

Cable Connections - Continued



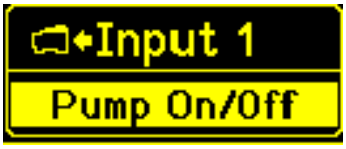
Input Setup

1. Connect the power and turn the unit ON.

2. Press the Setup Button and unlock the system using password “6550.”

3. Once the system is unlocked, press the Setup Button again and scroll right to “INPUT,” press OK Key.

4. Scroll to whichever Input that you have the Handgun Switch Cable connected to.



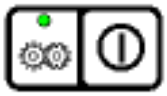
5. Choose the function that you want the Handgun Switch to control using the up and down arrow keys.

a. ‘Pump On/Off’ will activate the pump when the handgun trigger is pulled.

b. ‘Auto Setback’ resets the Auto Setback Timer when the trigger is pulled. If Auto Setback is enabled (see manual), when the Auto Setback Timer expires, the unit goes into setback due to inactivity.

6. Setup is complete.

Testing

1. Connect the hose/handgun to the Hot Melt Unit.
2. Connect the 4-pin circular connector from the Handgun Switch Cable installed, to the mating connector from the hose.
3. Turn ON the unit and wait for all zones to reach temperature and for the System Ready light to come on.
4. Enable the Pump by pressing the Pump On/Off Key  on the Keypad.
5. Pull the handgun trigger to activate the pump. Testing is successful when the pump is enabled during the time the trigger is held.

> To tell if the pump is enabled when the trigger is held, listen for the sound of the pump activating. Also, if there is glue in the system, the handgun will dispense glue.

D4-E Unit with Old Control (Serial # prior to 1002-035)

Cable Connections

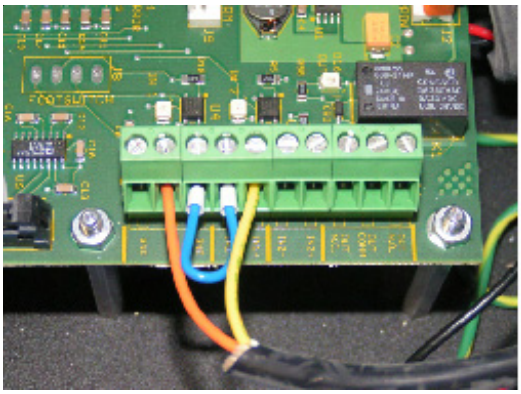
1. Turn off power to unit and open lid to electronics cabinet.

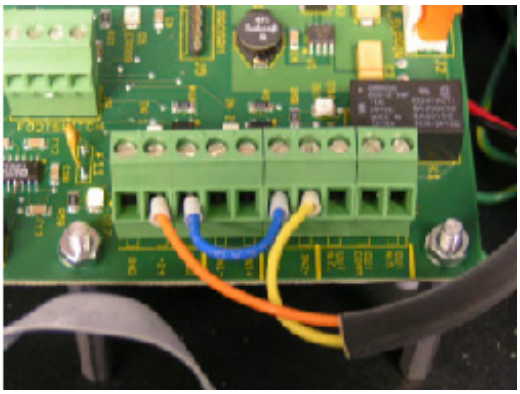
2. Locate Power Board (151xx606/151xx616), mounted in the base of the cabinet.

3. From underneath the D4-E unit, run the flying lead end of the Handgun Switch Cable assembly through an available cord grip into the electronics cabinet of the unit.

4. Choose whether you want to connect to Input 1 or Input 2. Then connect the Yellow and Orange wires from the cable and jumper wire to the Customer connector J6 as follows.

Input 1	Input 2
Pin 2 (+24): Orange	Pin 2 (+24): Orange
Pin 3 (GND): Blue Jumper Wire	Pin 3 (GND): Blue Jumper Wire
Pin 4 (IN1-): Blue Jumper Wire	Pin 6 (IN2-): Blue Jumper Wire
Pin 5 (IN1+): Yellow	Pin 7 (IN2+): Yellow

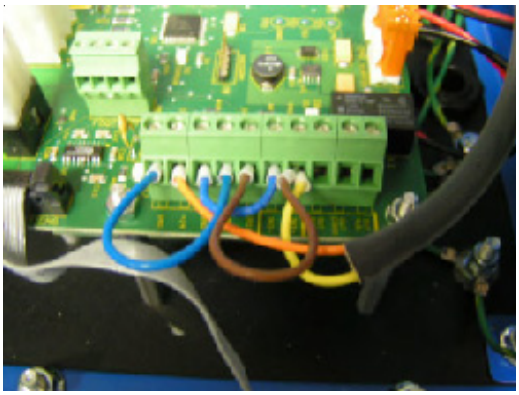




If you use two handguns and want both to activate an input, install the yellow and orange wires from each cable in parallel.
If you want to use one handgun switch for two different functions (ie Pump On/ Off and Auto Setback), then you can connect the cable as follows.

Cable Connections - Continued

Two Inputs using one Handgun
Pin 1 (GND): Blue Jumper #1
Pin 2 (+24): Orange
Pin 3 (GND): Blue Jumper #2
Pin 4 (IN1-): Blue Jumper #1
Pin 5 (IN1+): Brown Jumper
Pin 6 (IN2-): Blue Jumper #2
Pin 7 (IN2+): Brown Jumper and Yellow



Input Setup

1. Connect the power and turn the D4-E unit ON.

2. Press the Setup Button and unlock the system using password “6550.”

3. Once the system is unlocked, scroll right to “PERIPH.,” press OK Key.

4. Scroll to the Input that you have the Handgun Switch Cable connected to.

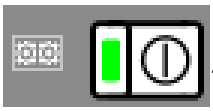
5. Choose the function that you want the Handgun Switch to control using the up and down arrow keys.

   a. ‘Pump On/Off’ will activate the pump when the handgun trigger is pulled.

   b. ‘Auto. Setback’ resets the Auto Setback Timer when the trigger is pulled. If Auto Setback is enabled (see manual), when the Auto Setback Timer expires, the unit goes into setback due to inactivity.

6. Setup is complete.

Testing

1. Connect the hose/handgun to the D4- E Unit.
2. Connect the 4-pin circular connector from the Handgun Switch Cable installed, to the mating connector from the hose.
3. Turn ON the unit and wait for all zones to reach temperature and for the System Ready light to come on.
4. Enable the Pump by pressing the Pump On/Off Key on the Keypad  .
5. Pull the handgun trigger to activate the pump. Testing is successful when the pump is enabled during the time the trigger is held.

> To tell if the pump is enabled when the trigger is held, listen for the sound of the pump activating. Also, if there is glue in the system, the handgun will dispense glue.

D Series w/ Old Control (Using Power Board 151xx614)

Cable Connections

1. Turn off power to unit and open lid to electronics cabinet.

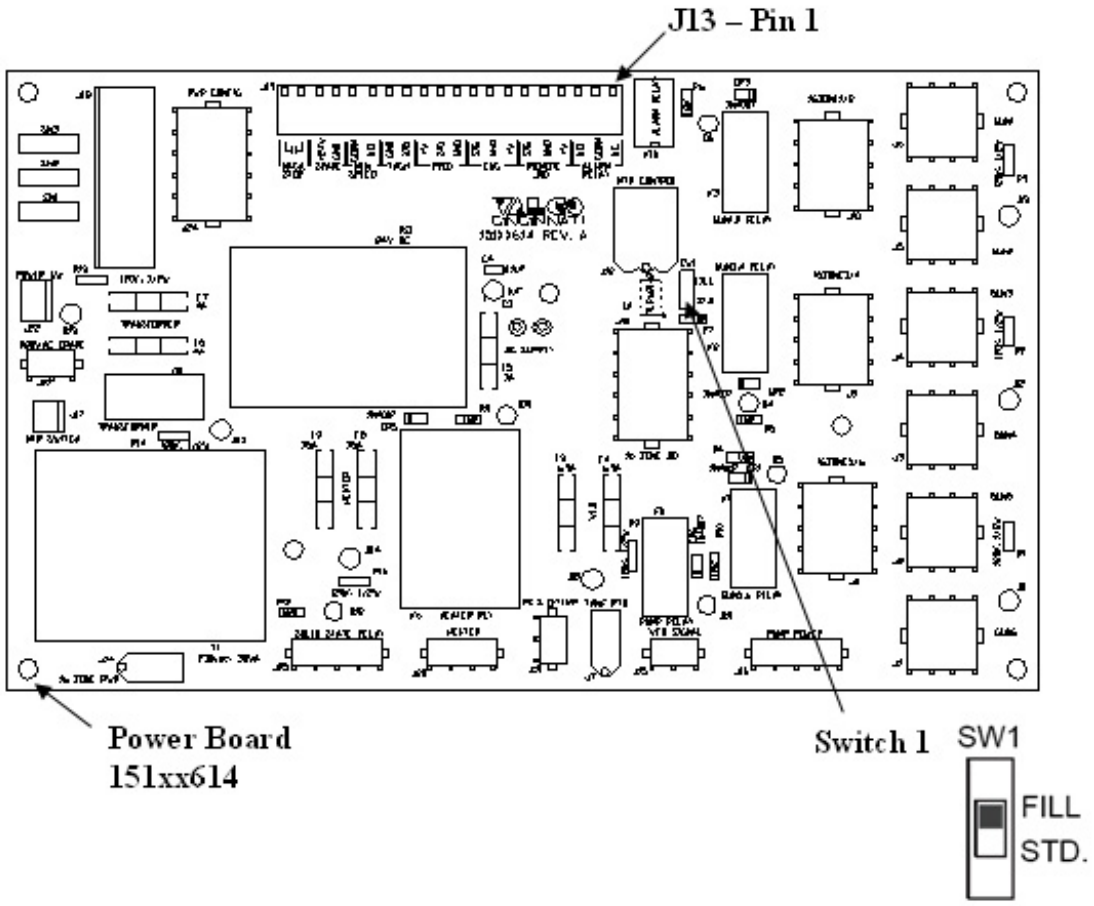
2. Locate the 151xx614 Power Board, mounted vertically on the back wall in the cabinet. See figure below.

3. From underneath unit, run the flying lead end of the Handgun Switch Cable assembly through an available cord grip into the electronics cabinet of the unit.

4. Connect the Yellow and Orange wires from the included cable assembly to the customer connector J13 on the Power Board as follows.

On J13 Customer Connector
Pin 5 (Remove Box GND): Orange
Pin 6 (Remote Box Sig): Yellow

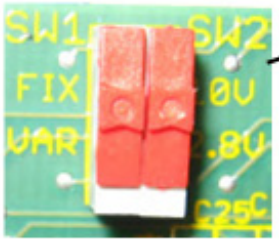
If you use two handguns and want both to activate an input, install the yellow and orange wires from each cable in parallel.

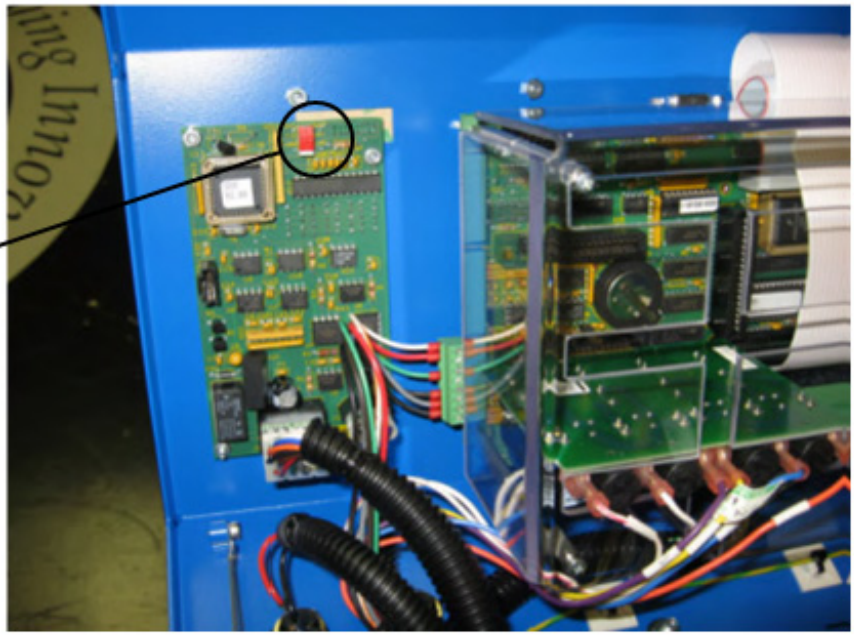


Input Setup

For Fixed Speed Units, skip step 2 and proceed to step 3.

1. On the Power Board (151xx614), set “Switch 1” UP to the FILL position. See Figure above.
2. For Variable Speed Units (with a VFD) only: Locate the Motor Control Board on the back side of the keypad and make sure SW1 is in the FIX position. See figure below.





3. Setup is complete.

Testing

1. Connect the hose/handgun to the D10 Unit.
2. Connect the 4-pin circular connector from the Handgun Switch Cable installed, to the mating connector from the hose.
3. Turn ON the unit and wait for all zones to reach temperature and for the System Ready light to come on.
4. Enable the Pump by pressing the Manual Pump On/Off on the Keypad.

5. Pull the handgun trigger to activate the pump. Testing is successful when the pump is enabled during the time the trigger is held.

To tell if the pump is enabled when the trigger is held, listen for the sound of the pump activating. Also, if there is glue in the system, the handgun will dispense glue.

D AND S SERIES PUMP CHANGE PROCEDURE

Important Information: Read Before Use

Warning!

Read and follow all instructions, warnings, tags, and labels before operating the equipment. Only qualified personnel should perform this procedure. USE OF THIS EQUIPMENT IN A MANNER OTHER THAN DESCRIBED IN THIS INSTRUCTION SHEET AND FAILING TO FOLLOW ALL INSTRUCTIONS COULD RESULT IN PERSONAL INJURY, DEATH, OR DAMAGE TO EQUIPMENT.

Warning!

All equipment is to be installed and all connections are to be made ONLY by qualified personnel. Components and accessories are to be installed in accordance with the instructions provided and applicable codes for the region installed. Failure TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN PERSONAL INJURY, DEATH, OR DAMAGE TO EQUIPMENT.

Caution!

The instructions and guidelines in this instruction sheet are general guidelines. Always follow the manufacturer's documentation and instructions for each part of the system such as the valve, the solenoid, the application mechanism, etc. Failure TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN DAMAGE TO EQUIPMENT.

Before Replacing the Pump

If changing the pump in a D4 Unit, the tank must be drained before proceeding, to prevent glue leakage.

If changing the pump in a D10 or D16 Unit, it is not necessary to drain the tank. These units include a tank-connection shut-off plug that can be opened or closed, using a screwdriver (see below). Turn the plug to CLOSED (slot to horizontal position).

Plug slot vertical (as shown): Tank valve is OPEN.

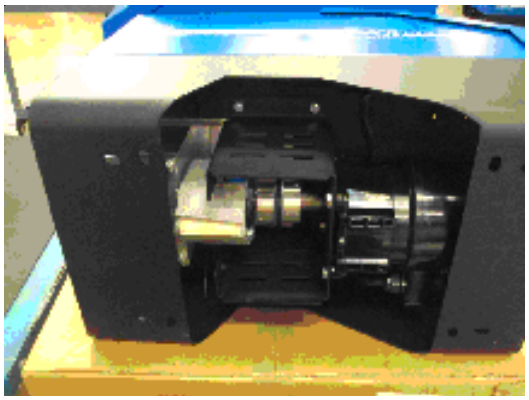
Plug slot horizontal: Tank valve is CLOSED.

Replacing the D Series Unit Pump

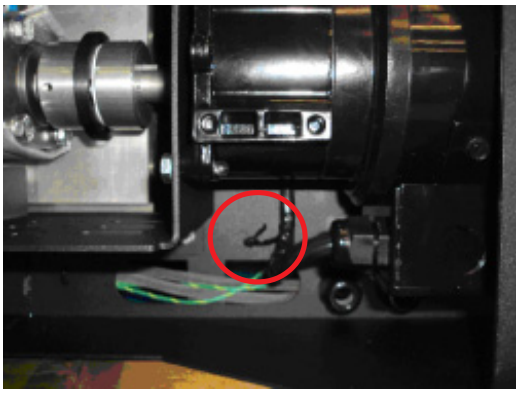
1. Locate the unit in which the pump needs to be changed.

Warning! Make sure that the unit is at room temperature.

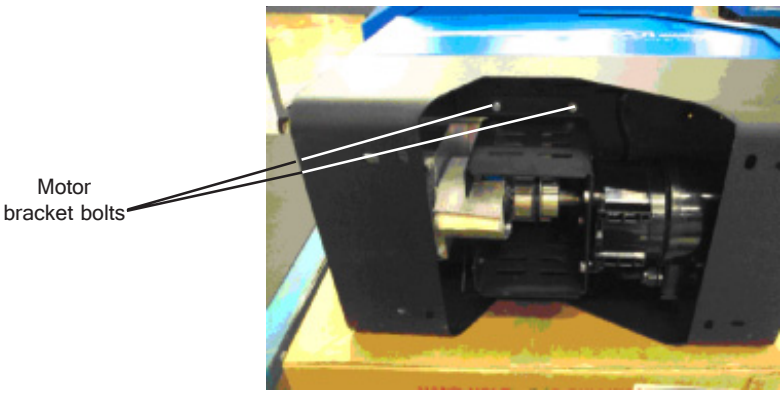
2. Turn the unit on its side.



3. Cut the tie wrap as shown in the figure, below.



4. Remove motor bracket bolts

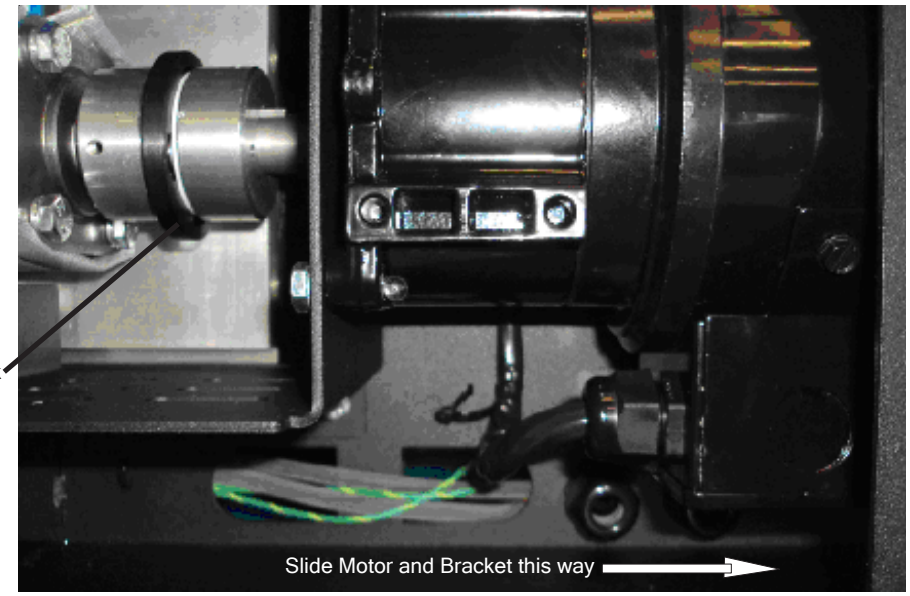


5. Slide the motor forward out of the way.

   a. The coupling will come apart easily.

Replacing the D Series Unit Pump - Continued

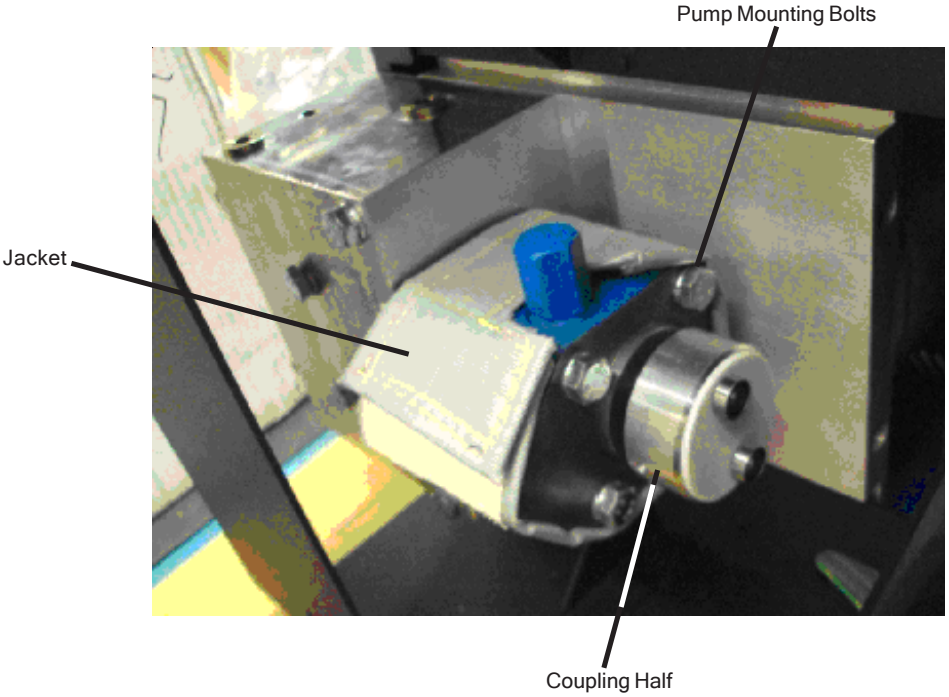
6. Place the center disk aside for now.



7. Remove the coupling half from the pump.

8. Remove the pump jacket (if installed).

9. Remove the 4 pump mounting bolts.



10. Remove the pump.

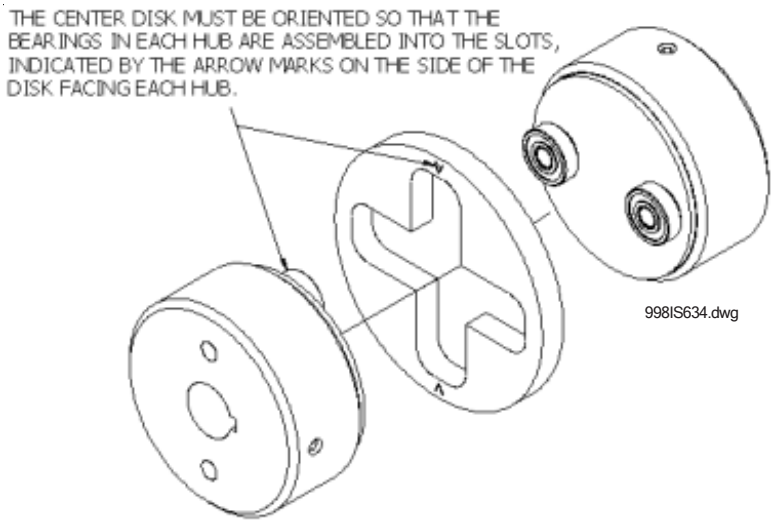
Replacing the D Series Unit Pump - Continued

11. Install the new pump by reversing the above procedures.

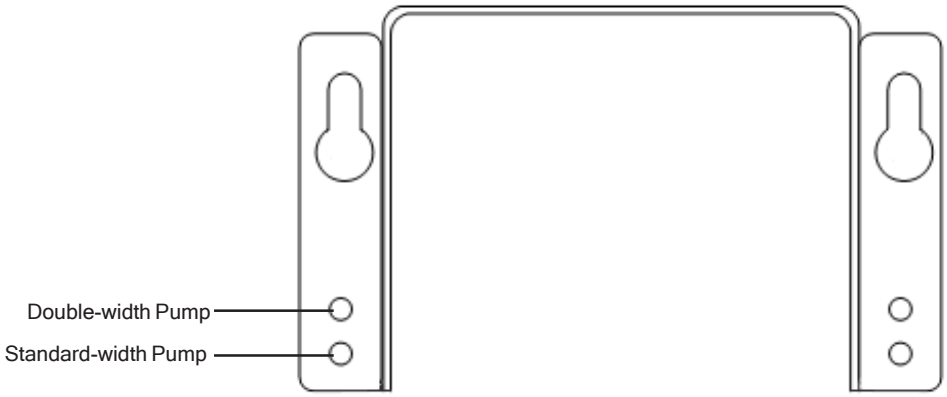
> Install new O-rings on the new pump before installing.

Caution!

Make sure the coupling orientation is correct (see the figure, below). The arrows on the face should point to the bearing placement on the center disk.



See the figure below for the correct motor bracket mounting hole (D Series units).



Caution!

Install by cross-tightening the four (4) mb x 90 socket-head cap screws. This will ensure the pump has a uniform seal with the manifold, and will not leak.

To Replace an S Series Unit Pump

1. Remove the right-side and lower-front panels from the unit by turning the latch and lifting up on the handle.

Warning!

Make sure the unit is at room temperature.

2. Loosen, but do not remove, the set screw on the love joy coupling closest to the pump.
3. Loosen, but do not remove, one of the screws on each of the shaft collars, and on both sides of the motor.
4. Slide the shaft away from the pump until the coupling is no longer on the shaft.
5. Remove the four (4) m8 x 90 socket-head cap screws from the pump.
6. Remove the pump and O-rings.
7. Install the new pump by reversing the above procedures.

Caution!

Install by cross-tightening the four (4) mb x 90 socket-head cap screws. This will ensure the pump has a uniform seal with the manifold, and will not leak.

Make sure the Spur Gear is under the sensor, otherwise the unit will not function properly. If the spur gear is not under the sensor, loosen the set screw and move the spur gear to the correct position.

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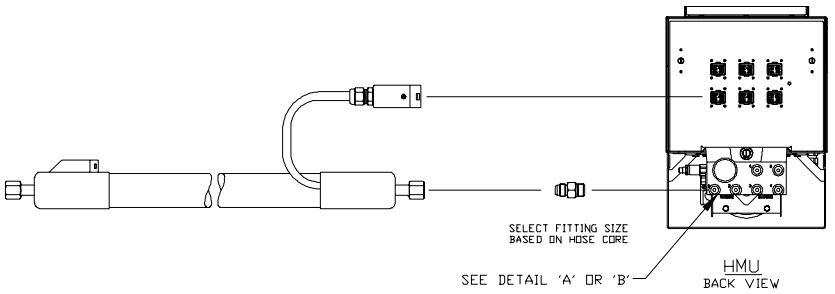
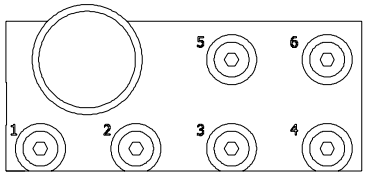
FITTING SELECTION CHART

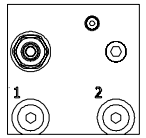
HOSE CORE #	JIC THREAD SIZE[2]	STRAIGHT FITTING	45° FITTING	90° FITTING
4	7/16-20 JIC	799XX696	799XX697	799XX695
6	9/16-18 JIC	799XX303 [1]	799XX697	799XX618
8	3/4-16 JIC	799XX610	799XX646	799XX428



HMU
BACK VIEW



DETAIL 'A'
FOR D10, D10-E OR D16
HOT MELT UNITS



DETAIL 'B'
FOR THE D4-E
HOT MELT UNIT
(NOT SHOWN)

NOTES:
1) 799XX303 IS THE FITTING THAT IS PROVIDED WITH THE HOSE KIT. IF ANOTHER FITTING IS DESIRED IT NEEDS TO BE PURCHASED SEPERATELY.
2) ALL FITTING HAVE A STRAIGHT 9/16-18 UNF THREAD WITH AN O'RING ON ONE SIDE TO SCREW INTO THE MANIFOLD PORT.
3) INSTALL THE HOSE AND FITTING INTO THE CORRECT PORT IN NUMERICAL ORDER AS SEEN ON THE MANIFOLD.

USED ON:

MTL: –

FINISH: –

REV.: A ADDED UNIT NOTE 01NOV11 KJC
ADDED D4-E MFD 05DEC11 DJD

THREAD LENGTH DIMENSIONS ARE FULL THREAD HOLES TO BE CHAMFERED ONE THREAD DEPTH MAX UNLESS OTHERWISE SPECIFIED

BREAK ALL SHARP EDGES & CORNERS (DEBURR) UNLESS OTHERWISE SPECIFIED (.015 MAX)

VALCO CINCINNATI

PROPERTY CONTAINING PROPRIETARY INFORMATION WHICH MUST NOT BE REPRODUCED OR DISCLOSED WITHOUT WRITTEN PERMISSION AND MUST BE RETURNED UPON DEMAND.

TOLERANCES - EXCEPT AS NOTED

MACHINED SURFACES 125

ANGULAR ± 1/2 DEG.

INCHES		MILLIMETERS	
DECIMAL .X	± .030	DECIMAL X,	± ,76
DECIMAL .XX	± .010	DECIMAL X,X	± ,25
DECIMAL .XXX	± .005	DECIMAL X,XX	± ,13

DRAWN BY KJC

CHECKED AJK

APPROVED AJK

TITLE FITTING SELECTION GUIDE FOR VARIOUS HOSE SIZES 9/16-18 UNF MANIFOLD PORTS

DATE 13MAY11

SCALE NTS

SHEET 1 OF 1

DRAWING NUMBER 999XA780-02

SUPERSEDES KJC0171

SUPERSEDED BY

PATTERN CONTROLLER INSTRUCTIONS

DATE [1/12]

IS0230

Important Information

WARNING!

Read and follow all instructions, warnings, tag, and label before operating the equipment. Only qualified personnel should perform this procedure. USE OF THIS EQUIPMENT IN A MANNER OTHER THAN DESCRIBED IN THIS INSTRUCTION SHEET AND FAILING TO FOLLOW ALL INSTRUCTIONS COULD RESULT IN PERSONAL INJURY, DEATH, OR DAMAGE TO EQUIPMENT.

WARNING!

All equipment is to be installed and all connections are to be made only by qualified personnel. Components and accessories are to be installed in accordance with the instructions provided and applicable codes for the region installed. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A PERSONAL INJURY, DEATH, OR DAMAGE TO EQUIPMENT.

WARNING!

The equipment may still be energized even after the circuit breaker or main power switch is off.

- All equipment must be properly grounded and fused in accordance with rate current consumption (refer to the equipment identification plate)
- Gauge and insulation for power supply must be adequate to handle rated current consumption.

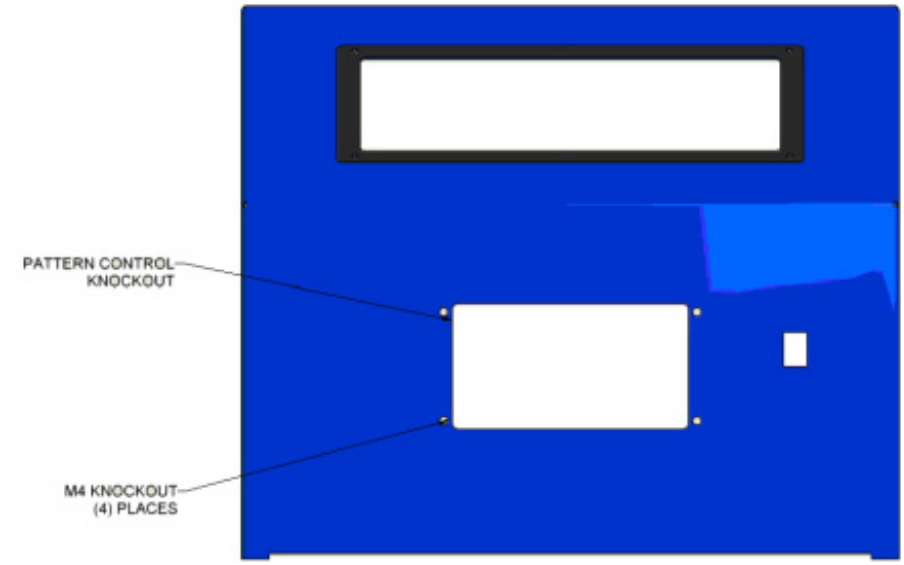
Description

This installation sheet will cover how to install a pattern control into a D series hot melt unit as well as an EC series unit. This sheet will also show how to enable the control and set it for either time or speed based. The default setting for the pattern control is encoder based in millimeters.

Installation

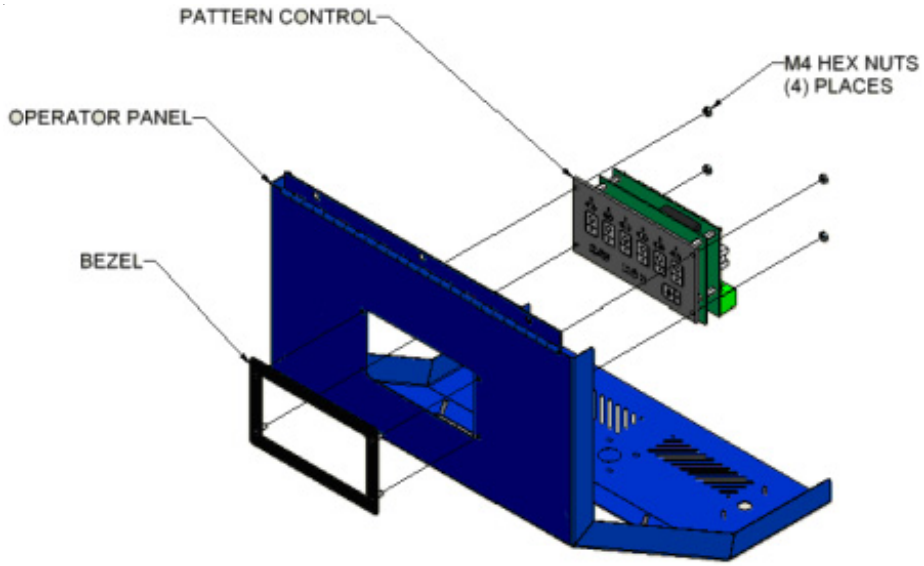
To install a pattern control in a D series unit:

1. Disconnect the power.
2. Carefully remove the five (5) knockouts from the front of the operator panel.
3. File down any sharp metal edges that occur as a result of removing the knockouts.



4. Open the front operator panel.

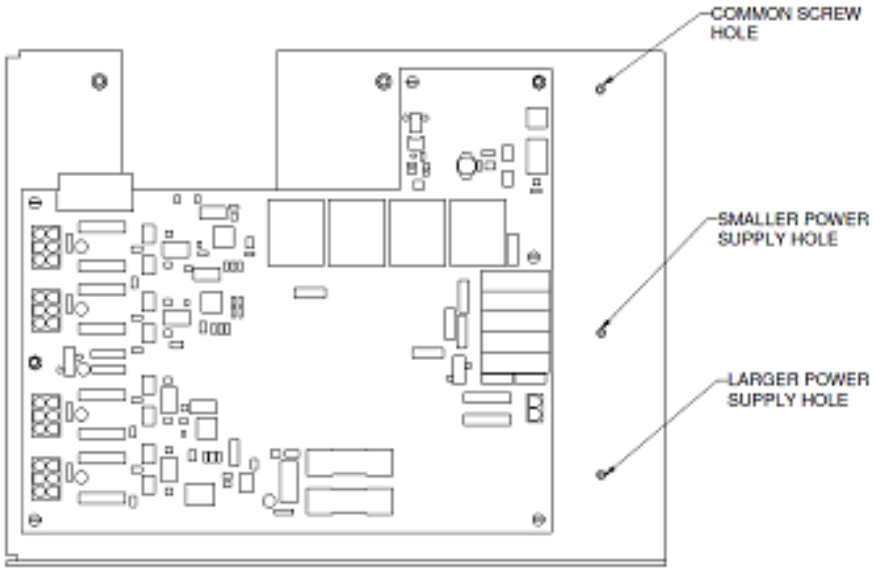
5. Attach the pattern control using the bezel and four (4) M4 hex nuts as shown below.



6. Disconnect the spades on the top of the power supply.

7. Remove the current power supply (148xx076) by removing the two (2) M3 X 8 socket head cap screws on the top and bottom of the power supply. If the power supply is replaced at the factory, write this power supply into stock as 148xx076.

8. Screw one of the M3 X 8 screws half way into the bottom hole.

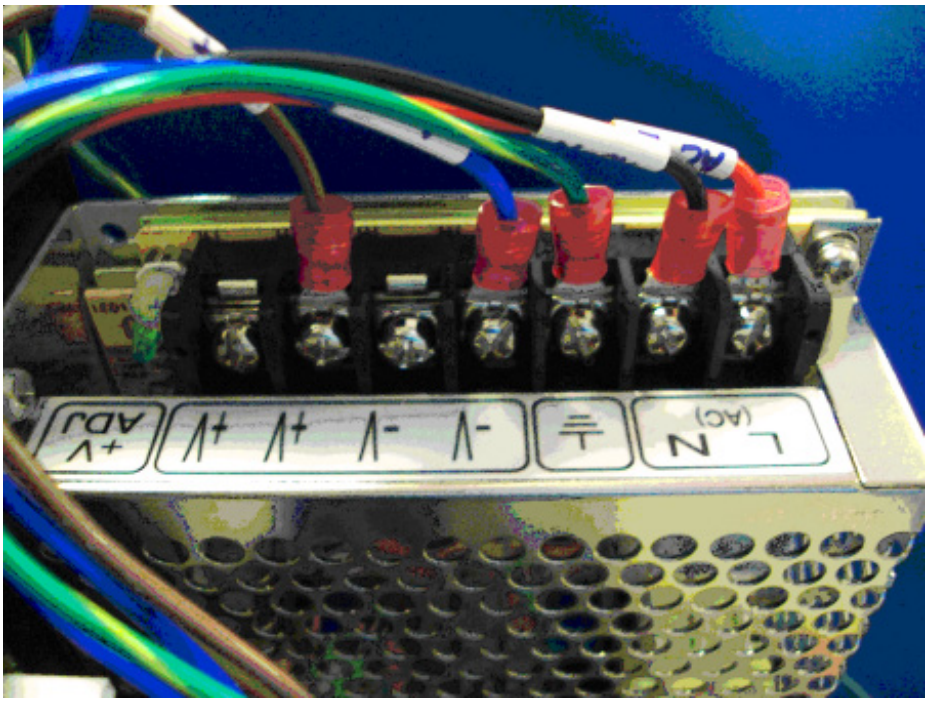


9. Place the new power supply onto the bottom screw.

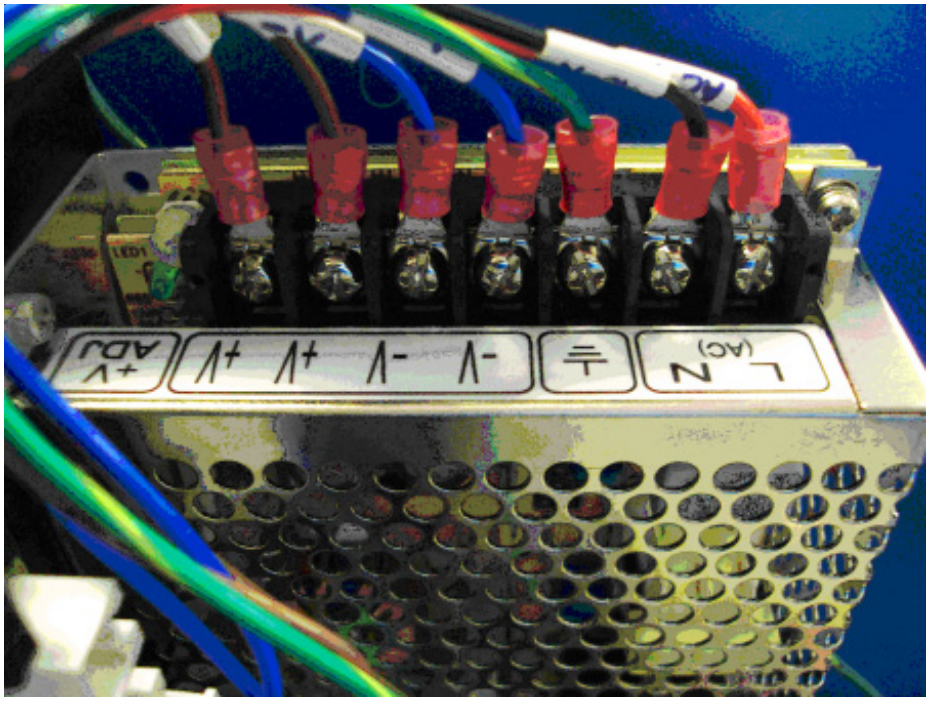
10. Insert the other M3 X 8 screw into the top hole for the power supply.

11. Tighten the bottom screw on the power supply.

12. Reconnect the spades to the new power supply by following the labels on the wires.



13. Attach the spades on the cable assembly that was included to the remaining slots on the top of the power supply by following the labels on the wires.



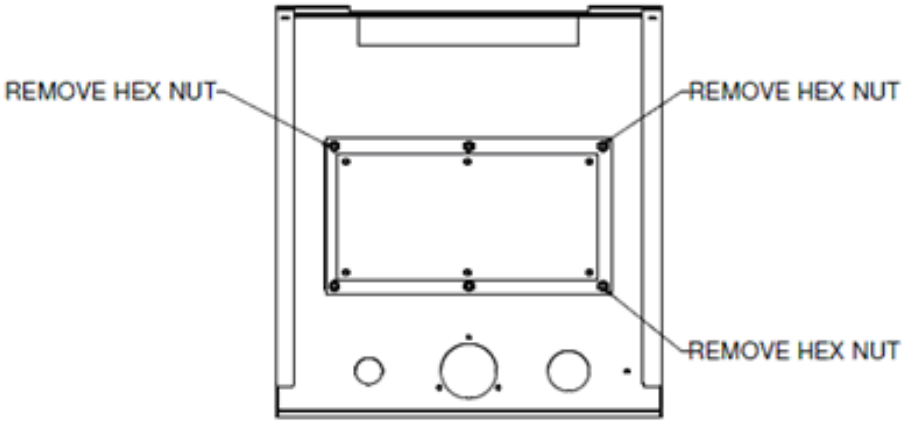
14. Proceed to step 31.

To install a pattern control in an EC series unit:

15. Disconnect the power.

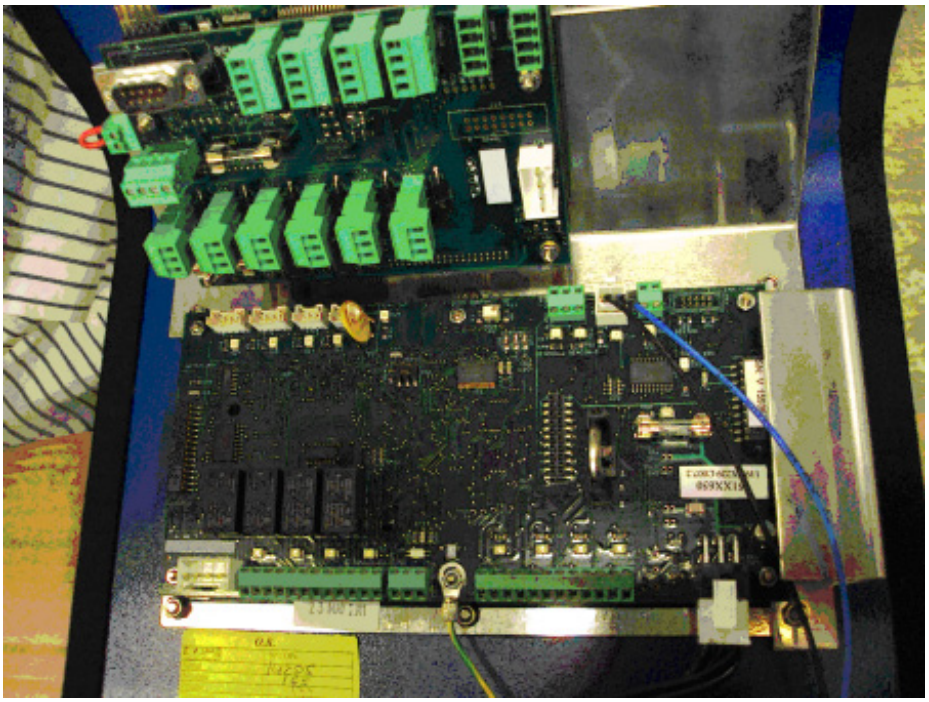
16. Open the front operator panel.

17. Remove the three (3) M4 hex nuts and three (3) M4 lock washers from the control board shown in the picture below.



18. Discard the three (3) M4 lock washers from the previous step.

19. Place the pattern control assembly onto the open studs.



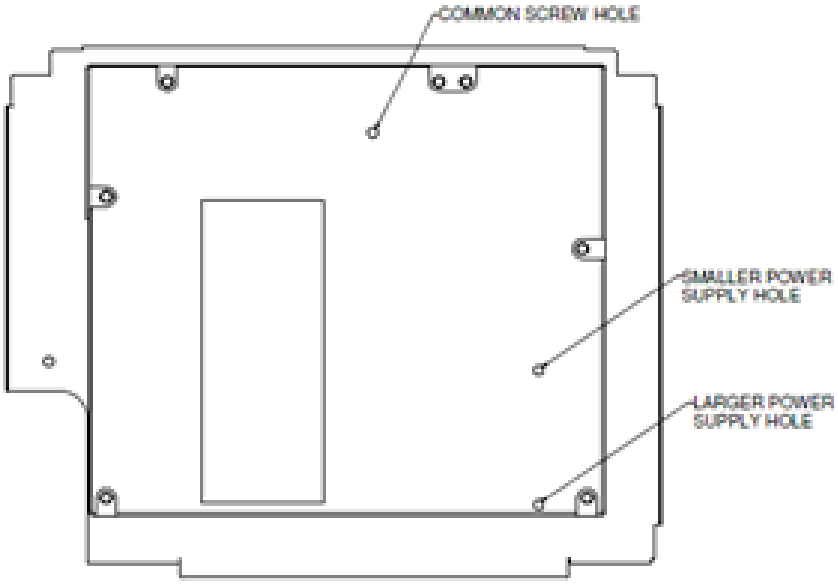
20. Reattach the three (3) M4 hex nuts that were removed in step 17.

21. Remove the main power board and, if present, the 5/6 Zone board or cover plate.

22. Disconnect the spades on the top of the power supply.

23. Remove the current power supply by removing the two (2) M3 socket head cap screws on the top and bottom of the power supply.

24. Screw one of the M3 socket head cap screws half way into the bottom hole.



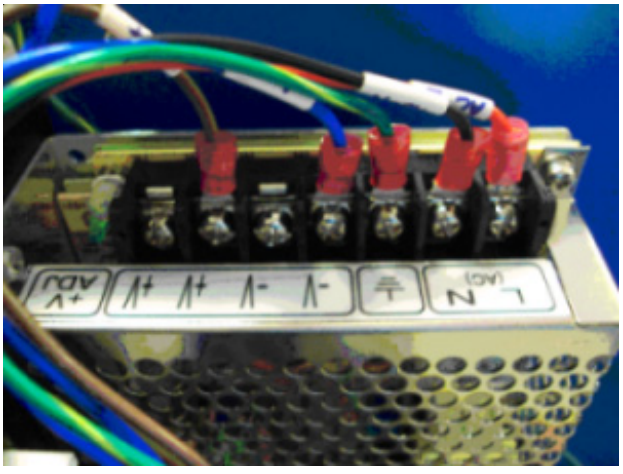
25. Place the new power supply onto the bottom screw.

26. Insert the other M3 socket head cap screw into the top hole for the power supply.

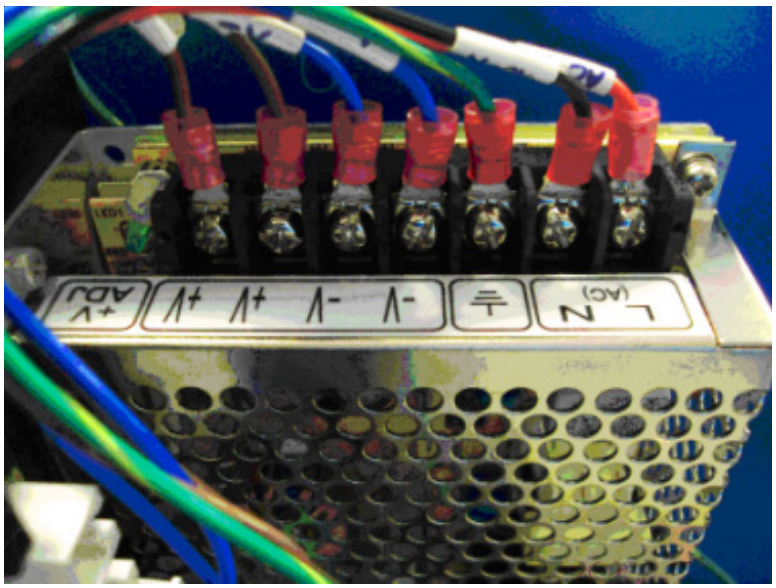
27. Tighten the bottom screw on the power supply.

28. Reconnect the spades to the new power supply by following the ltable, below.

Melton Wire Number	Power Supply Terminal
120A	L (AC)
121A	N (AC)
100	V+
101	V-



29. Attach the spades on the cable assembly that was included to the remaining slots on the top of the power supply by following the labels on the wires.

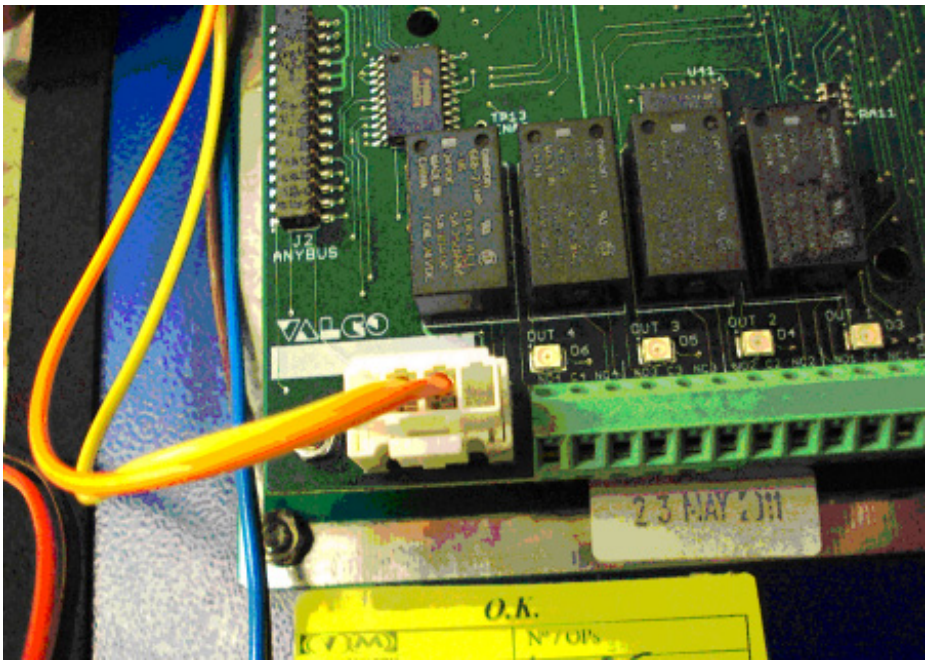


30. Reattach the main power board and, if present, the 5/6 Zone board or cover plate that was removed in step 21.

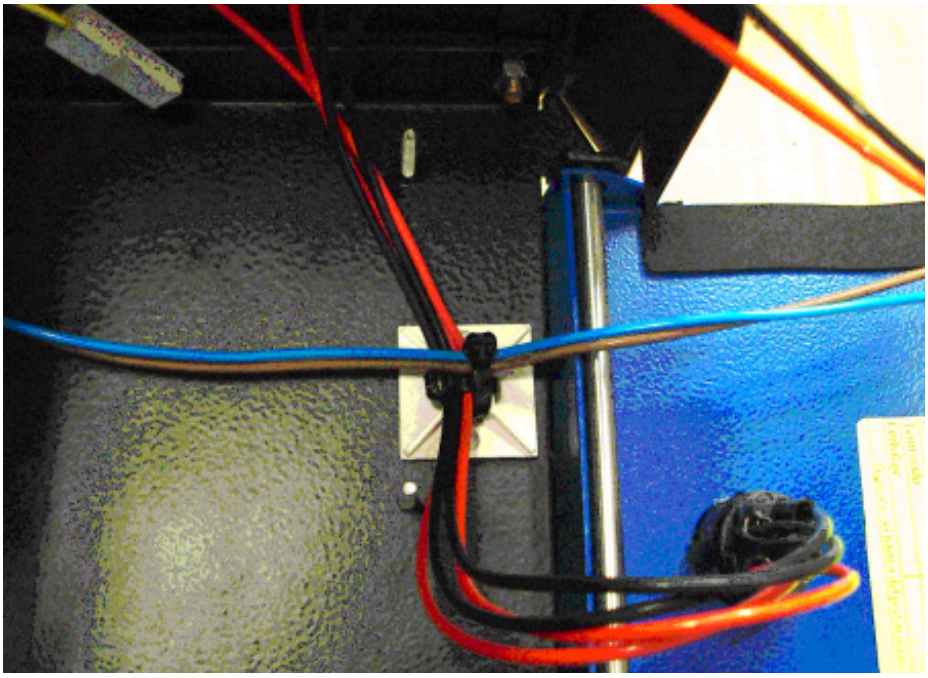
To enable the pattern control:

31. Attach the fully populated 4 pin JST connector to the pattern control board.

32. Attach the other 4 pin JST connector to the universal temperature control board.



33. Route the wires to the side panel using the ty-raps and wire harnesses that were included with the assembly. DO NOT route the wires from the pattern control parallel with the wires from the switch. This may cause noise in the system.



34. Close the operator panel.

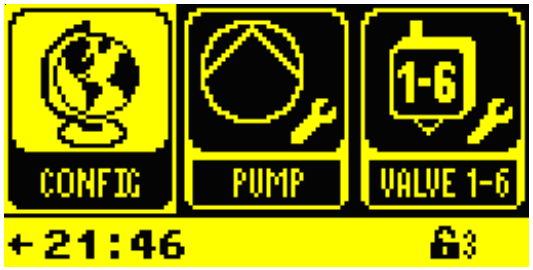
35. Reconnect the power and turn on the unit.

36. Go to the setting screen by pressing .

37. Unlock the control by using the level 3 password “6550”.

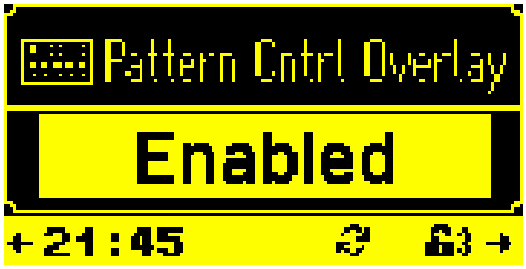
38. Go to the setting screen by pressing again.

39. Go the “Config” screen.



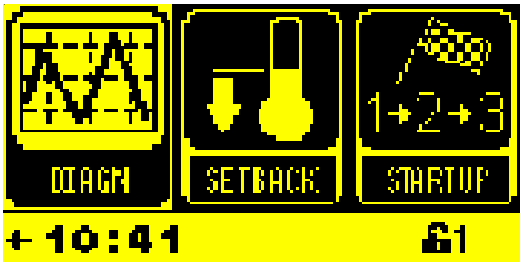
40. Select “Pattern Control” and press the up arrow to enable it.

41. Go over one more screen to the right and select “Pattern Control Overlay”. Press the up arrow to enable it. DO NOT enable the overlay if it is an EC series unit.

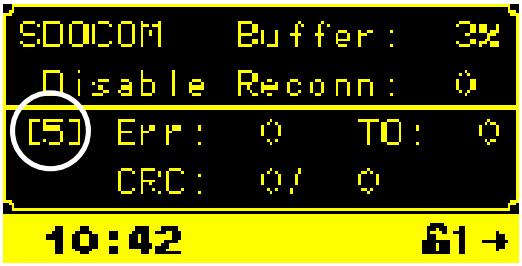


42. Go to the setting screen by pressing .

43. Go to the “DIAGN” screen.



44. Press the right arrow key and wait for device #5 to appear.



45. Verify the pattern control is communicating properly by checking if both “Err” and “TO” are equal to zero proceed to step 52. If “Err” and “TO” are not equal to zero proceed to the next step.

46. Turn off the unit.

47. Unplug the two JST connectors.

48. Check the cable connections by verifying the connectors are not damaged.

49. Reinsert the two (2) JST connectors into the appropriate locations.

50. Turn on the unit.

51. Repeat step 42-45, if the problem continues please contact Technical Service.

To change the pattern control to speed or time based:

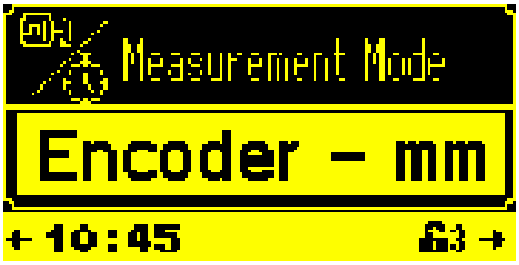
52. Go to the setting screen by pressing .

53. Unlock the control by using the level 3 password “6550”.

54. Go to the setting screen by pressing again.

55. Go the “System” screen.

56. Select “Measurement Mode”.



57. To change the measurement mode select the desired methods from the list below:

Measurement Mode
Encoder - mm
Encoder - in
Timer - msec
Timer - sec

INTERNAL LEVEL SENSOR INSTRUCTIONS

DATE [5/12]

IS0232

Important Information

WARNING!

Read and follow all instructions, warnings, tag, and label before operating the equipment. Only qualified personnel should perform this procedure.

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USE OF THIS EQUIPMENT IN A MANNER OTHER THAN DESCRIBED IN THIS INSTRUCTION SHEET AND FAILING TO FOLLOW ALL INSTRUCTIONS COULD RESULT IN PERSONAL INJURY, DEATH, OR DAMAGE TO EQUIPMENT.

WARNING!

The equipment may still be energized even after the circuit breaker or main power switch is off.

All equipment must be properly grounded and fused in accordance with rate current consumption (refer to the equipment identification plate).

Gauge and insulation for power supply must be adequate to handle rated current consumption.

FAILING TO FOLLOW ALL INSTRUCTIONS COULD RESULT IN PERSONAL INJURY, DEATH, OR DAMAGE TO EQUIPMENT.

Description

This instruction sheet will cover how to install an internal level sensor in either the low or high position. The sensor should be installed based on the assembly part number.

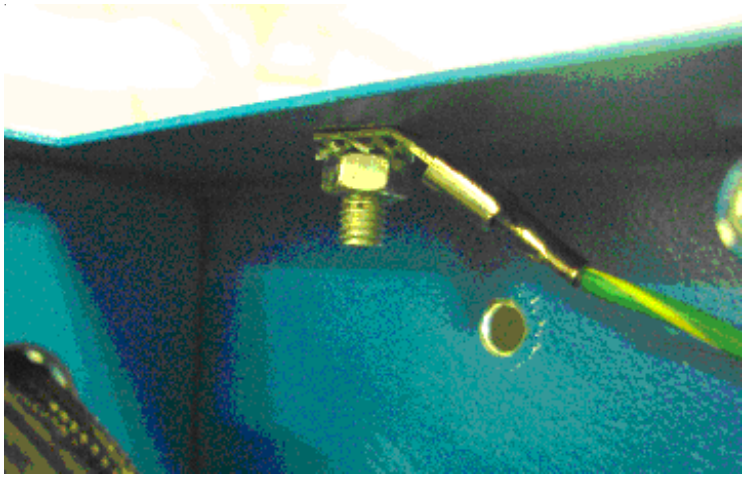
Part Number	Position
776xx745	Low
776xx748	High
776xx751	Both

Installation

1. Turn off the unit and disconnect the power.
2. Open the back hose and front operator panels.
3. Remove the two (2) M4 X 12 socket head cap screws holding the lanyards to the top of the case.

Installation - Continued

4. Remove the quick disconnect ground wire from the top of the case.

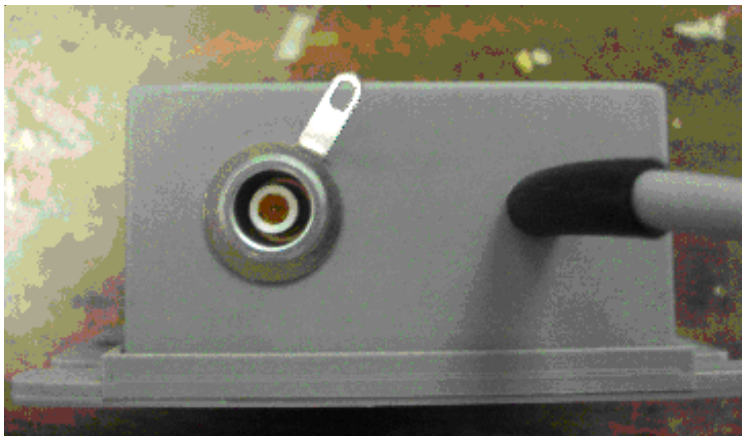


5. Remove the four (4) M5 flange nuts from the bottom corners of the case.

6. Remove any other connections that are holding the case to the chassis.

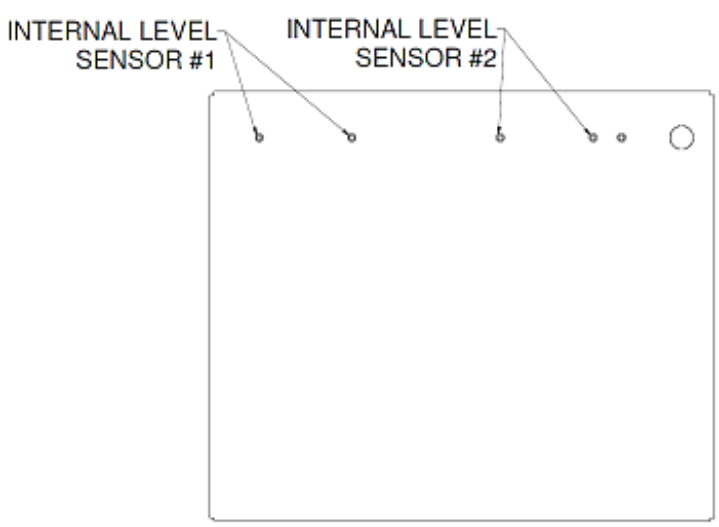
7. Remove the case exposing the tank.

8. Rotate the metal tab on the amplifier box by the Lemo connector away from the base of the amplifier box to be able to access the tab while the case is on.



9. Attach the amplifier box to the appropriate mounting location on the center bulkhead using two (2) M4 X 8 socket head cap screws as shown below.

Installation - Continued

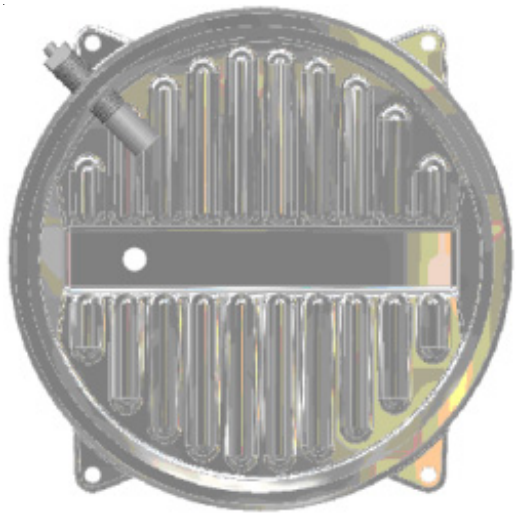


10. Remove the two (2) jam nuts from the level sensor.

11. Remove the plug on the side of the tank for the desired mounting location and discard.

12. Apply high-temperature silicone (RTV) to the sensor threads.

13. Thread the sensor into the tank so that the tip of the sensor is 1.5 inches from the wall of the tank.

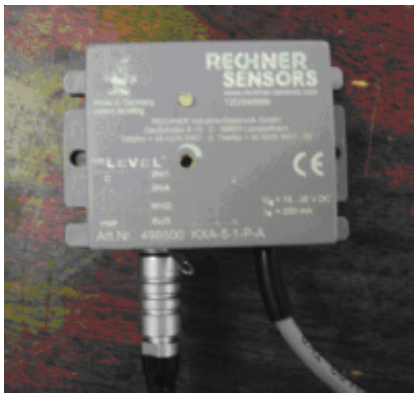


14. Feed the cable with the Lemo connector through the holes in the chassis, as shown below.

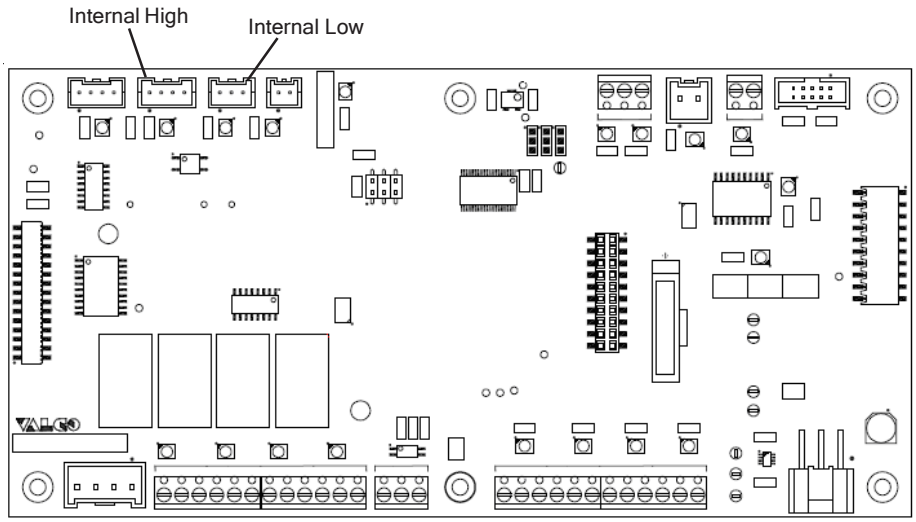
Installation - Continued

14. Reattach the case to the chassis by reversing steps 2-6.

15. Attach the Lemo connector to the bottom of the appropriate Rechner amplifier box.



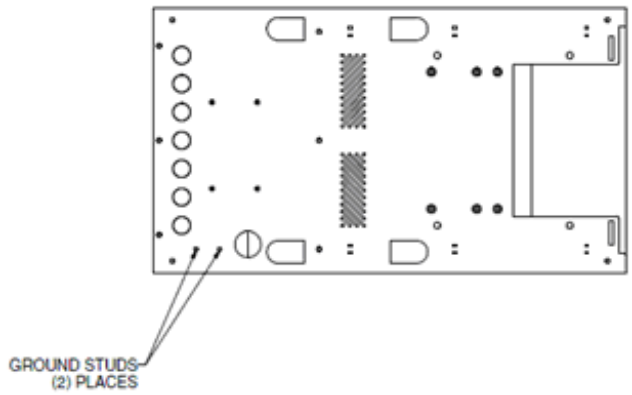
16. Attach the JST connector from the assembly to the appropriate position as shown below.



Installation - Continued

17. Attach the ground faston to the metal tab on the amplifier box near the Lemo connector.

18. Attach the ring terminal on the ground wire to one of the ground studs on the chassis.



19. Close the back hose panel.

CAUTION!

Periodically check the level of adhesive to ensure the sensor is working properly.

Calibrating the Sensor

1. Remove the protective screw on the amplifier box.
2. Reconnect the power and turn on the unit.
3. Fill the tank with adhesive until the adhesive level is in the center of the desired sensor.
4. On the amplifier box, if the sensor light is green, carefully turn the screw clockwise until the light changes to amber.

Calibrating the Sensor

5. On the amplifier box, if the sensor light is amber, carefully turn the screw counter clockwise until the light changes to green and subsequently back to amber.

6. Remove some adhesive so that the adhesive level is below the sensor and ensure that the sensor light changes to green.

CAUTION!

Periodically check the level of adhesive to ensure the sensor is working properly.

7. Reinsert the protective screw back into the amplifier box.

8. Close the front operator panel.

Adjusting the Sensor Time Delay

1. Go to the setting screen by pressing .

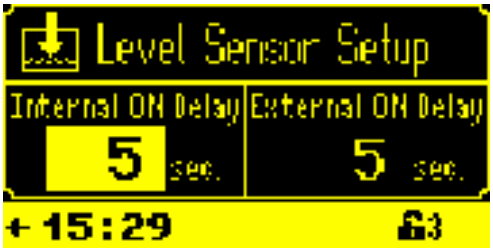
2. Unlock the control by using the level 3 password “6550”.

3. Go to the setting screen by pressing again.

4. Go to the “System” screen.

Adjusting the Sensor Time Delay - Continued

5. Select Internal (low) or External (high) ON Delay based on the desired sensor and adjust the time depending on your application. The default time for either sensor is 5 seconds.



EXTERNAL POT FILL INSTRUCTIONS

Important Information

WARNING!

Read and follow all instructions, warnings, tags, and labels before operating the equipment. Only qualified personnel should perform this procedure. USE OF THIS EQUIPMENT IN A MANNER OTHER THAN DESCRIBED IN THIS INSTRUCTION SHEET, AND FAILING TO FOLLOW ALL INSTRUCTIONS, COULD RESULT IN PERSONAL INJURY, DEATH, OR EQUIPMENT DAMAGE.

WARNING!

All equipment is to be installed, and all connections made, only by qualified personnel. Components and accessories are to be installed in accordance with the instructions provided, and applicable codes for the region installed. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A PERSONAL INJURY, DEATH, OR EQUIPMENT DAMAGE.

WARNING!

The equipment may still be energized, even after the circuit breaker or main power switch is off.

- All equipment must be properly grounded and fused in accordance with rate current consumption (refer to the equipment identification plate)
- Gauge and insulation for the power supply must be adequate to handle rated current consumption.

Description

This instruction sheet will cover how to install an external pot fill system. This system can be installed with any parent machine that has the universal temperature control.

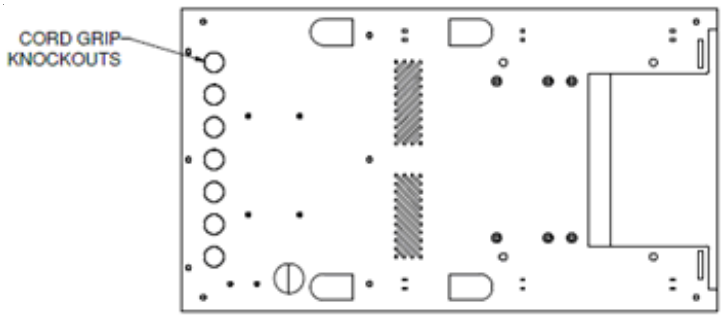
Installation

1. Open the front operator panel on the parent machine.

To install the cord grip in a D-series parent machine, proceed to the next step. If the parent machine is not a D-series, proceed to step 5:

2. Remove one of the knockouts from the front of the chassis.
3. File down any remaining metal chips from the knockout hole.
4. Attach the provided cord grip to the new mounting hole.

Installation - Continued



To install cord grip in an alternate location proceed to the next step. If the cord grip is not going to be used, proceed to step 2 of "Installing to the External Pot Fill System," below.

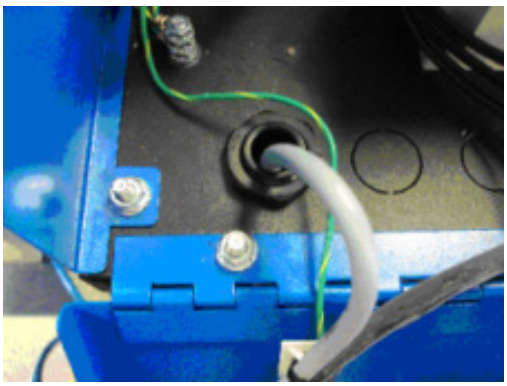
5. Drill a 0.80" diameter hole in the desired location.

6. File down any remaining metal chips in the hole.

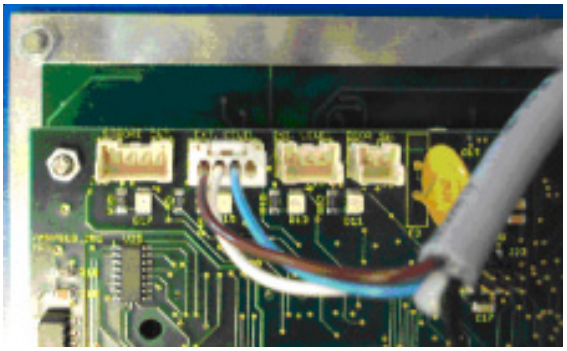
7. Attach the provided cord grip to the new mounting hole.

Installing to the External Pot Fill System

1. If the cord grip was installed earlier, feed the female Turck cable through so that the JST connector is inside the parent machine's electrical enclosure. If the cord grip was not installed, route the cable into the parent machine's electrical enclosure so that the JST connector is inside.



2. Attach the four-pin JST connector to the universal control on the parent machine.



Installing to the External Pot Fill System - Continued

3. Tighten the cord grip until the cable is secure, if the cord grip was installed earlier.

4. Attach the sensor bracket to the top of the lid of the unit being filled.

5. Adjust the hose fitting to the correct orientation, if needed.

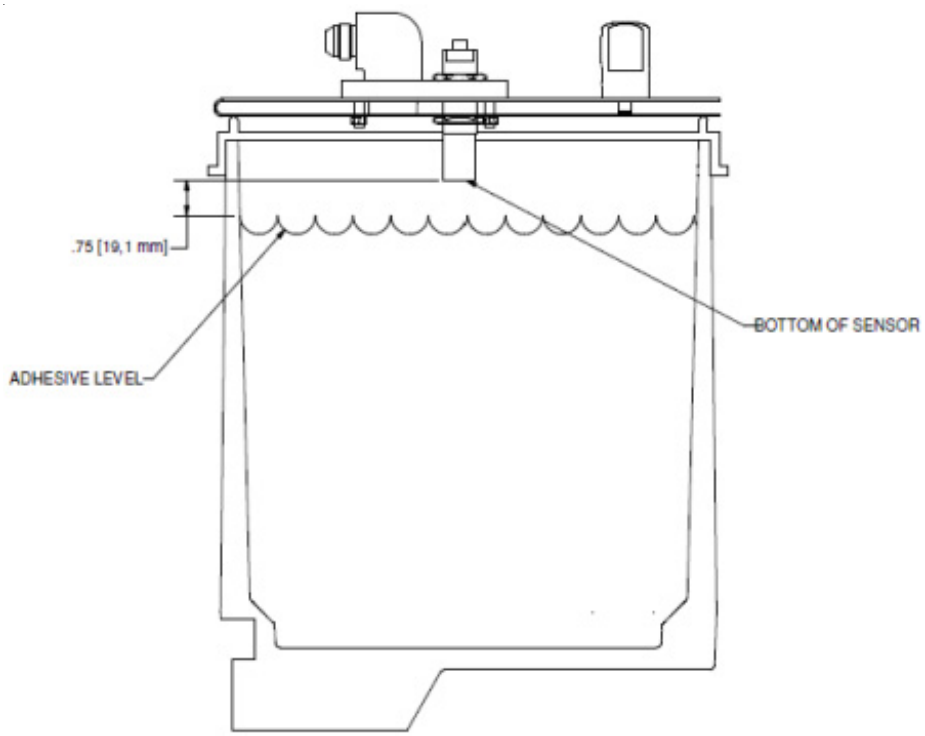
6. Attach the hose to the fitting.

> A #8 core hose fitting is included with the assembly. Additional sizes can be purchased separately. For part numbers, please refer to the illustration drawing included with the assembly.

7. Remove the two (2) jam nuts from the sensor.

8. Insert the sensor into the mounting bracket, using the two (2) jam nuts from the previous step. The bottom of the sensor should be about 0.75" above the desired adhesive level.

> The minimum sensing distance for this sensor is 2mm, and the maximum is 50mm.



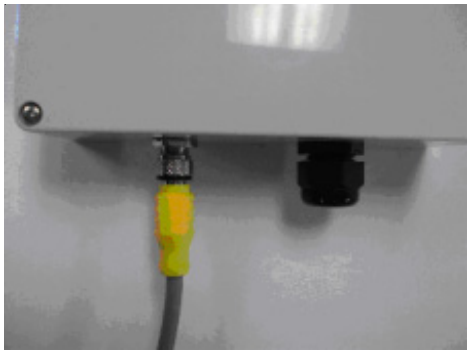
Installing to the External Pot Fill System - Continued

9. Attach the flying ground wire with the terminal ring to the base of the unit being filled.

10. Remove the lid from the enclosure box.

11. Mount the enclosure box to the desired location.

12. Attach the female Turck connector to the enclosure box.



13. Turn the parent machine on.

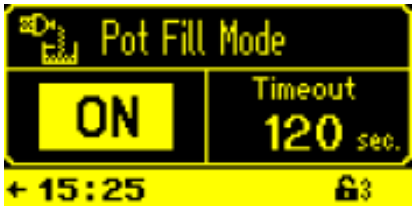
14. Access the setting screen by pressing .

15. Unlock the control by using the level-3 password, “6550”.

16. Return to the setting screen by pressing again.

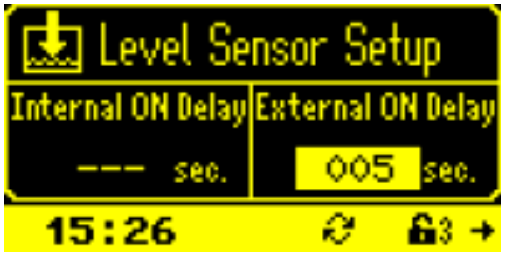
17. Access the “System” screen.

18. Select “Pot Fill Mode,” and press the up arrow to enable it.



19. Enable the “External On Delay.”

Installing to the External Pot Fill System - Continued



20. Close the front operator Panel on the parent machine.

Calibrating the Sensor

1. Remove the protective screw from the amplifier box.
2. Fill the tank with molten adhesive until it is at the desired shutoff level.
3. If the sensor light is orange, turn the screw on the amplifier box counter-clockwise, carefully, until the light changes to green, and then turn slowly clockwise until it chnges to orange.

> Make sure the light changes to green after 3 seconds.

4. If the sensor light is green, turn the screw on the amplifier box clockwise, carefully, until the light changes to orange.
5. Close the lid.
6. Remove some adhesive, so that the adhesive level is below the sensor. Make sure the sensor light changes to red, and that the parent machine begins to pump adhesive.
7. Verify that the pump on the parent machine turns off after the unit is filled to the desired level.

CAUTION!

Check the level of adhesive periodically to ensure the sensor is working properly.

Calibrating the Sensor - Continued

8. Reinsert the protective screw into the amplifier box.

9. If the desired adhesive level was not reached, adjust the sensor and repeat steps 18-19 of “Installing to the External Pot Fill System” and 1-2 of “Calibrating the Sensor.” If the desired adhesive level was reached, reattach the lid to the enclosure box.

Adjusting the Sensor Delay Time

10. Access the setting screen by pressing .

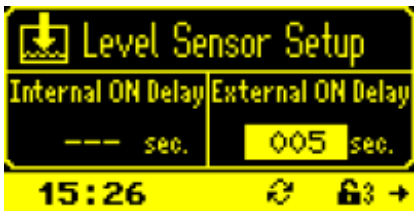
11. Unlock the control, using the level-3 password, “6550”.

12. Return to the setting screen by pressing again.

13. Access the “System” screen.

14. Select External ON Delay, based on the desired sensor, and adjust the time, dependent on the application.

> The default time for either sensor is five seconds.



BEACON ASSEMBLY INSTRUCTIONS

Important Information

WARNING!

Read and follow all instructions, warnings, tags, and labels before operating the equipment. Only qualified personnel should perform this procedure. USE OF THIS EQUIPMENT IN A MANNER OTHER THAN DESCRIBED IN THIS INSTRUCTION SHEET, AND FAILING TO FOLLOW ALL INSTRUCTIONS, COULD RESULT IN PERSONAL INJURY, DEATH, OR EQUIPMENT DAMAGE.

WARNING!

All equipment is to be installed, and all connections made, by only qualified personnel. Components and accessories are to be installed in accordance with the instructions provided, and applicable codes for the region installed. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A PERSONAL INJURY, DEATH, OR EQUIPMENT DAMAGE.

WARNING!

The equipment may still be energized even after the circuit breaker or main power switch is off.

- All equipment must be properly grounded and fused in accordance with rate current consumption (refer to the equipment identification plate)
- Gauge and insulation for the power supply must be adequate to handle rated current consumption

Description

This beacon assembly is for D series hot-melt units with the universal control. The beacon assembly is limited to two lights. It is also available with an optional siren.

Parts Included with Kit		
P/N	2 Lights	Siren
782xx347	X	
782xx349	X	X
776xx762		X

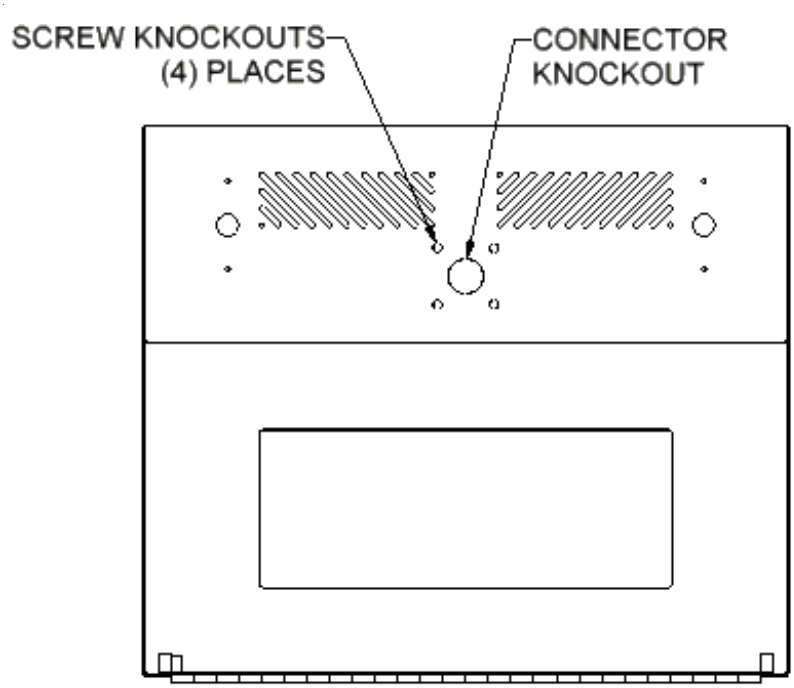
This instruction sheet will cover how to install the beacon assembly to the top of a D series hot-melt unit. It will also cover how to set up the beacon assembly using the universal control.

The beacon does not need to be installed to the top of the unit. If the beacon is installed on an alternative surface, a new female five-pin Turck cable will need to be purchased separately.

Installation

Installing the beacon to the top of the unit

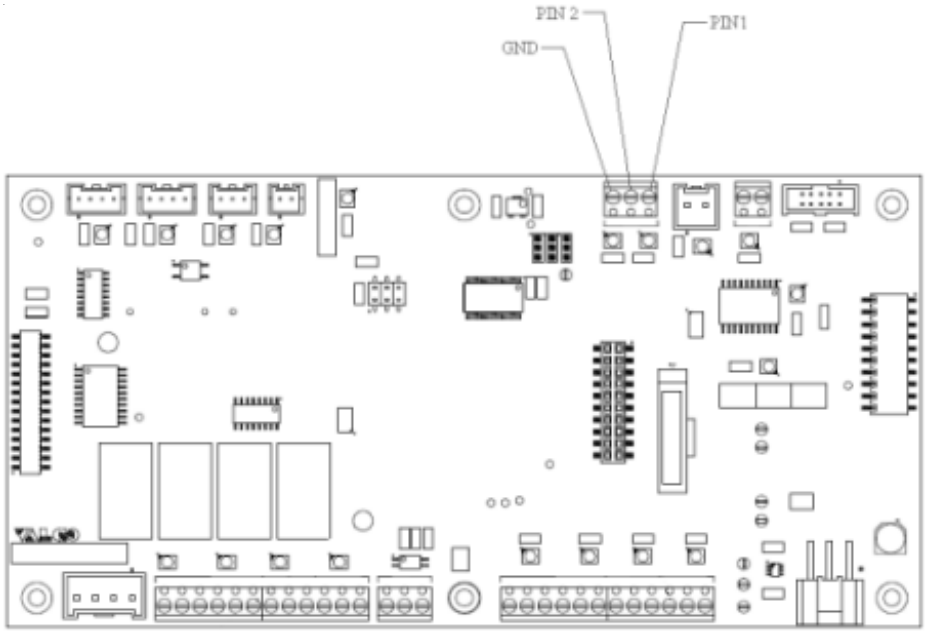
1. Open the front operator panel.
2. Remove the five (5) knockouts at the top of the operator panel.



3. Attach the beacon assembly to the operator panel using the four (4) M5 X 8 socket head cap screws.
4. Attach the female connector, included in the bag, to the beacon assembly.
5. Attach the three (3) flying leads to the universal control, as shown below.

Wire Locations		
Pin 1	**Pin 2**	**GND**
White	Blue	Brown

Installing the beacon to the top of the unit - Continued



Universal Control

6. Check the electrical cabinet to ensure everything is connected, and the power is hooked up correctly.

7. Close the front operator panel.

Enabling the Beacon

1. Turn the unit on.

2. Access the setting screen by pressing .

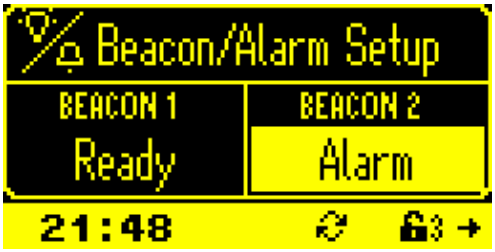
3. Unlock the control using the level-3 password, “6550”.

4. Return to the setting screen by pressing again.

5. Access the “System” screen.

Enabling the Beacon - Continued

6. Select “Beacon/Alarm Setup”.



7. To enable any of the alarms, select the desired function from the list below:

Alarms
Low Level
Alarm
Ready
Pump On
Setback On

8. Stick the correct labels onto each of the lights, based on the functions selected above.

Installing the Alarm Siren Element to an Existing Beacon Assembly

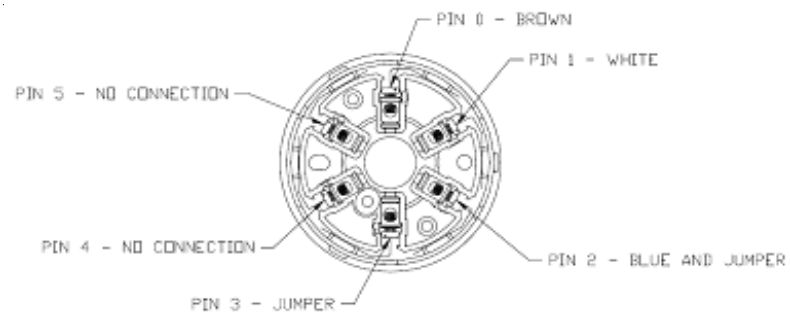
1 Turn the unit off.

2. Remove the cap from the top of the existing beacon assembly.

3. Line up the white lines on the top of the light and on the bottom of the siren.

4. Twist the siren element clockwise until it locks.

5. Remove the beacon assembly and verify the black jumper wire is still connected to pins 2 and 3.

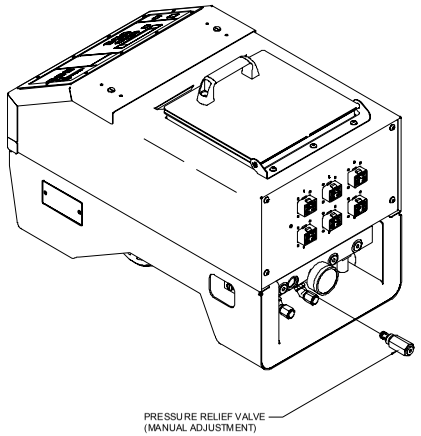


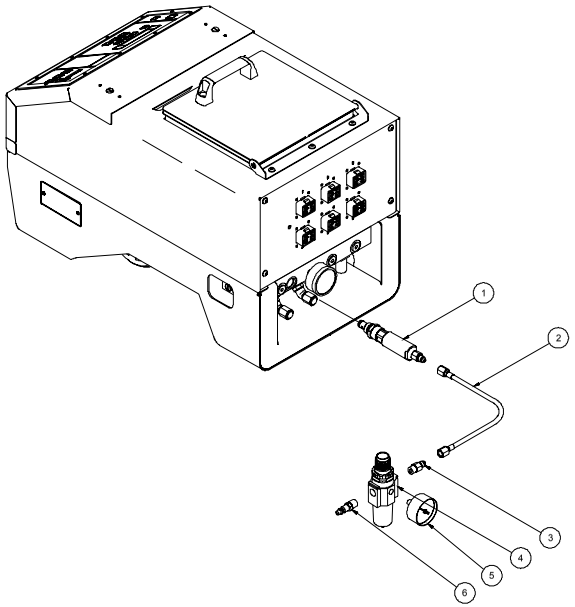
6. If the jumper is still connected, reattach the beacon assembly. If the jumper is missing, install a new jumper.

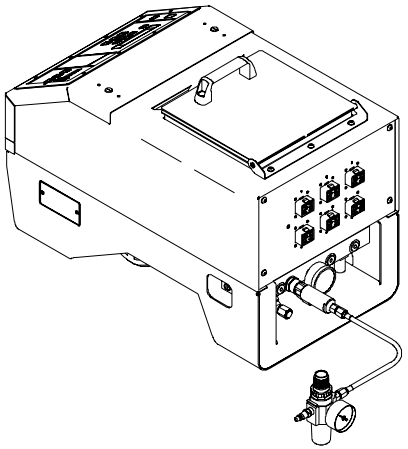
7. Verify that the beacon is working. The siren will start when the second beacon light is on.

PNEUMATIC RELIEF VALVE INSTALLATION PROCEDURE:

1) ALLOW UNIT TO HEAT TO OPERATING TEMPERATURE.
2) REMOVE JIC CAP FROM HOSE OUTLET FITTING.
3) DRAIN RESERVOIR BY PUMPING ADHESIVE INTO SUITABLE CONTAINER.
4) MAKE SURE PUMP IS TURNED **OFF** AND JIC CAP IS REMOVED.
5) REMOVE STANDARD PRESSURE RELIEF VALVE FROM MANIFOLD.
6) THREAD PNEUMATIC PRESSURE RELIEF VALVE INTO MANIFOLD.
7) CONNECT AIR LINE, FITTINGS, REGULATOR, AND GAUGE AS SHOWN.
   - ENSURE THAT EMBOSSED ARROW ON REGULATOR POINTS IN DIRECTION OF AIRFLOW.
   - DO NOT USE TEFLON TAPE ON FITTINGS THAT THREAD INTO AIR LINE.
   - USE TEFLON TAPE ON ALL OTHER CONNECTIONS.
8) REINSTALL JIC CAP ONTO HOSE OUTLET FITTING.
9) ATTACH AIR SUPPLY TO AIR FILTER/REGULATOR AND ADJUST AIR PRESSURE TO 0 PSI.
10) TURN ON PUMP AND ADJUST AIR FILTER/REGULATOR TO OBTAIN DESIRED ADHESIVE PRESSURE.
11) CHECK FOR LEAKS AND PROPER OPERATION OF RELIEF VALVE.







PARTS LIST			
ITEM	PART NO.	QTY	DESCRIPTION
1	707XX211	1	PRESSURE RELIEF VALVE ASSY
2	755XX054	1	AIR LINE
3	797XX827	1	FITTING, STRAIGHT, JIC, 1/4I X 1/4 NPT ⚠
4	594XX160	1	AIR FILTER/REGULATOR
5	786XX001	1	AIR PRESSURE GAUGE
6	752XX004	1	MALE QUICK DISCONNECT
7	999XD707-002	1	ILLUSTRATION DRAWING

USED ON:
MTL: SEE P/L
FINISH:
REV.: ⚠ WAS 785XX088 16JUN05 0100 16JUN05 DJD

DRAWN: DJD
CHKD:
APPROVED: DJD

VALCO CINCINNATI

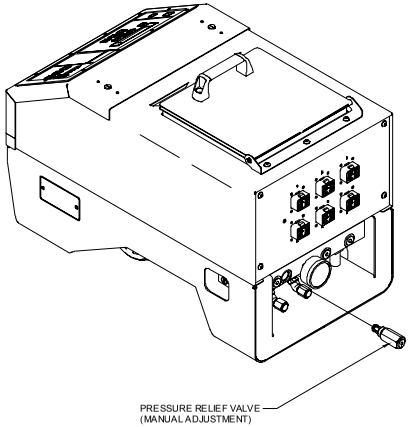
TOLERANCES
UNLESS OTHERWISE SPECIFIED
INCHES
DECIMAL .X ± .030
DECIMAL .XX ± .010
DECIMAL .XXX ± .005
MILLIMETERS
DECIMAL X ± .75
DECIMAL XX ± .25
DECIMAL XXX ± .13

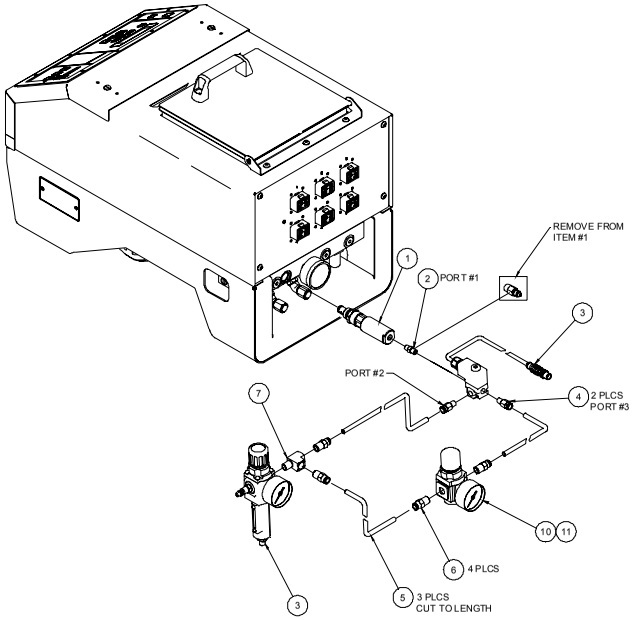
ILLUSTRATION DRAWING
PNEUMATIC PRESSURE RELIEF INSTALLATION

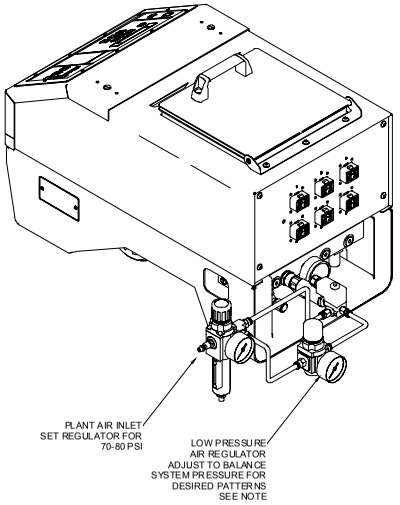
DATE 07APR05
DRAWING NUMBER 999XD707-002
SCALE 1=4
SHEET 1 OF 1
SUPERSEDES DJD1427
SUPERSEDED BY

UNIFLOW RELIEF VALVE INSTALLATION PROCEDURE:

1. LOW PRESSURE AIR REGULATOR IS ADJUSTED SO THAT THE SYSTEM PRESSURE REMAINS STABLE DURING THE ON/OFF CYCLES OF THE APPLICATOR VALVE. OBSERVE THE SYSTEM PRESSURE GAUGE AND THE ADHESIVE PATTERNS WHEN MAKING ADJUSTMENTS.
2. DECREASE THE LOW PRESSURE SETTING IF THE START OF THE ADHESIVE PATTERN IS HEAVY OR FLOODED.
3. INCREASE THE LOW PRESSURE SETTING IF THE START OF THE ADHESIVE PATTERN IS LIGHT OR STARVED.
4. APPLICATOR OVER PRESSURE RELIEF SETTING CAN BE CHECKED BY MANUALLY ACTIVATING THE UNIFLOW RELIEF SOLENOID VALVE. PRESSURE SETTING SHOULD BE 100-150 PSI. FOR HIGHER APPLICATION PRESSURE THE SETTING SHOULD NOT EXCEED 900 PSI.
5. PATTERN CONTROL CABLE MAY BE PURCHASED SEPERATELY (030XX890).
6. ALL CABLES AND TUBING ARE NOT DRAWN TO SCALE.







PARTS LIST			
ITEM	P/N	QTY	DESCRIPTION
1	707XX211	1	VALVE ASSY
2	797XX079	1	HEX NIPPLE 1/8 NPT
3	411XX118	1	VALVE ASSY 3 WAY 24V
4	799XX582	2	CONNECTOR, MALE 8MM X 1/8 NPT
5	755XX575	360	TUBING, NYLON, 8MM
6	797XX395	4	FITTING, MALE 5/16" X 1/4 NPT
7	797XX019	1	STREET TEE F-F-M 1/4 NPT
8	594XX033	1	FILTER REGULATOR ASSY
9	582XX300	1	BRACKET
10	594XX004	1	AIR REGULATOR M750LPG
11	580XX861	1	BRACKET

USED ON:
MTL.: SEE P/L
FINISH: NONE
REV.:

VALCO CINCINNATI

TOLERANCES
FRACTIONAL ±1/32
ANGULAR ±1/2 DEG.
DECIMAL
INCHES
MILLIMETERS
.X ±.030 .X ±.76
.XX ±.010 .XX ±.25
.XXX ±.005 .XXX ±.13

DRAWN KJC
CHECKED AJK
APPROVED AJK

ILLUSTRATION DRAWING
UNIFLOW PRESSURE RELIEF
INSTALLATION

DATE 08JUL11
DRAWING NUMBER
999XD774-197
SCALE 1=4
SHEET 1 OF 1
SUPERSEDES KJC0272

PRESSURE SWITCH INSTALLATION INSTRUCTIONS

Important Information

Warning!

Read and follow all instructions, warnings, tags, and labels before operating the equipment. Only qualified personnel should perform this procedure. USE OF THIS EQUIPMENT IN A MANNER OTHER THAN DESCRIBED IN THIS INSTRUCTION SHEET AND FAILING TO FOLLOW ALL INSTRUCTIONS COULD RESULT IN PERSONAL INJURY, DEATH, OR DAMAGE TO EQUIPMENT.

Warning!

All equipment is to be installed and all connections are to be made ONLY by qualified personnel. Components and accessories are to be installed in accordance with the instructions provided and applicable codes for the region installed. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN PERSONAL INJURY, DEATH, OR DAMAGE TO EQUIPMENT.

WARNING!

The equipment may still be energized even after the circuit breaker or main power switch is off.

- All equipment must be properly grounded and fused in accordance with rate current consumption (refer to the equipment identification plate)
- Gauge and insulation for power supply must be adequate to handle rated current consumption.

Description

The pressure switch has a 316 stainless steel housing and are hermetically sealed. The pressure switches have a set operating range and are provided below:

Part Number	Operating Range (psi)
481XX050	50-130
481XX051	160-400
481XX052	275-850

These pressure switches are to be installed into the back or side of hot-melt units. The fittings included with this kit are for 9/16" hose ports and 1/4" NPT gauge ports.

Installation

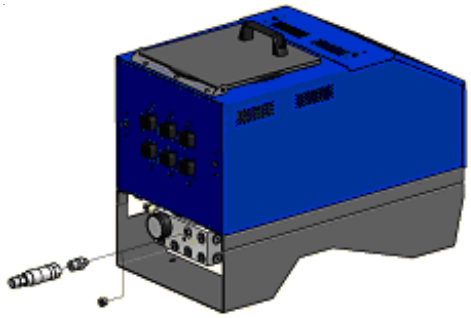
1. Disconnect the power to the unit.
2. Coat the adapter fitting (792XX340) threads with anti-seize compound.

WARNING!

Be sure the unit is off and power is disconnected and locked out before starting the replacement/installation procedure. FAILURE TO TURN OFF AND DISCONNECT/LOCK OUT ALL POWER CAN RESULT IN PERSONAL INJURY OR DEATH.

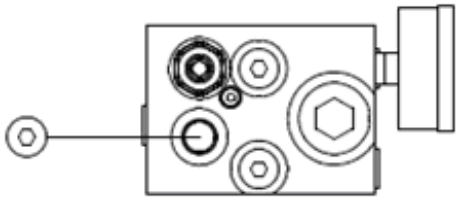
To install into a hose port or gauge port proceed to the next step. If the pressure switch is to be installed into the side of the manifold proceed to "Installing the Pressure Switch into the Side of a Manifold," step 1.

3. Remove the hex plug from the desired hose ports.
4. Attach the adapter fitting to the open port on the back of the manifold.
5. Connect the desired pressure switch to the adapter fitting.



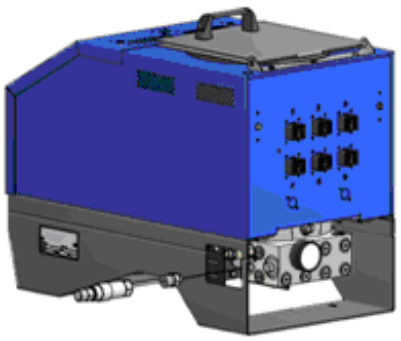
Installing the Pressure Switch into the Side of a Manifold

1. Remove the hex plug from side of the manifold as shown below.



2. Attach the adapter fitting to the open port on the side of the manifold.
3. Connect the desired pressure switch to the adapter fitting.

Installing the Pressure Switch into the Side of a Manifold - Continued



Calibrating the Pressure Switch

1. Route and secure the cable, to ensure that it will not be caught in the motor, using two (2) ty-raps and two (2) wire harnesses.

2. If the pressure switch is being hooked into the unit's universal control, route the cables through either the cord grip or the slot into the electrical cabinet.

3. Bundle any remaining wire.

4. Open the front operator panel.

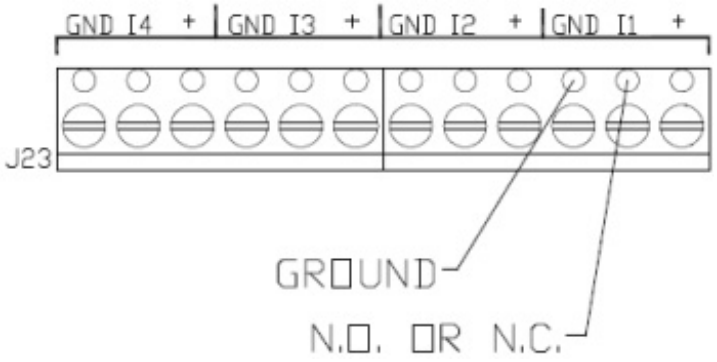
5. Connect the flying leads from the pressure switch to the universal control, as detailed below.

Wire Color	Function
Brown	Common
Red	N.C.
Blue	N.O.
Green	PE

6. Connect the brown wire into "GND" for the desired input.

   a. If a pressure rise is desired, connect the blue wire to the center pin.

   b. If a pressure drop is desired, connect the red wire to the center pin.



Calibrating the Pressure Switch - Continued

7. Connect the ring terminal to the chassis, using one of the ground studs.
8. Turn the unit on and allow the adhesive to become molten.
9. Adjust the pressure relief to the desired switch pressure.
10. Slide the adjustment cover forward, carefully, away from the manifold.

Warning! The pressure switch will be hot!

11. Use a 3/16" flathead screwdriver, or a 1/4" wide blade, to adjust the castle nut.
    a. Insert the screwdriver or blade and turn clockwise to increase the set point, or counter-clockwise to decrease the set point. Adjust the nut accordingly until the switch clicks.
12. Adjust the adhesive pressure to be below, and above, the set point while verifying that the led on the control board for that input is turning on and off.
    a. If the switch does not turn on and off as expected, repeat step 11.
13. Slide the adjustment cover closed carefully.

Warning! The pressure switch will be hot!

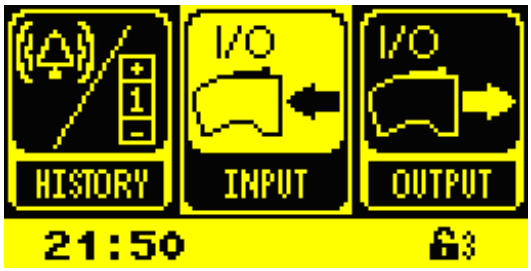
14. Close the front operator panel.

Enabling Pressure Switch Input

1. Close the front operator panel.
2. Turn the unit on, if it is not already.
3. Go to the setting screen by pressing .
4. Unlock the control, using the level-3 password, “6550”.

5. Return to the setting screen by pressing again.

6. Select the “Input” screen.



7. To enable any of the inputs, select the desired function from the list below.

Input
Disabled
Hose On/Off
All Heaters On/Off
Pump On/Off
Auto Setback
Setback
Pressure Fault

The pressure switch can also be hooked into another controller. If another controller is used, follow the wiring chart provided in “Calibrating the Pressure Switch,” step 5, and verify the pin location for that controller.

The pressure fault setting can be used with a beacon, to give a visual/audible signal, by setting the beacon to “Alarm”.

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D SERIES PRESSURE TRANSDUCER INSTRUCTIONS

Important Information

WARNING!

Read and follow all instructions, warnings, tags, and labels before operating the equipment. Only qualified personnel should perform this procedure. USE OF THIS EQUIPMENT IN A MANNER OTHER THAN DESCRIBED IN THIS INSTRUCTION SHEET, AND FAILING TO FOLLOW ALL INSTRUCTIONS, COULD RESULT IN PERSONAL INJURY, DEATH, OR EQUIPMENT DAMAGE.

WARNING!

All equipment is to be installed, and all connections made, only by qualified personnel. Components and accessories are to be installed in accordance with the instructions provided, and applicable codes for the region installed. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A PERSONAL INJURY, DEATH, OR EQUIPMENT DAMAGE.

WARNING!

The equipment may still be energized, even after the circuit breaker or main power switch is off.

- All equipment must be properly grounded and fused in accordance with rate current consumption (refer to the equipment identification plate)
- Gauge and insulation for the power supply must be adequate to handle rated current consumption.

WARNING!

This equipment contains a small amount of mercury (Hg). If damaged, mercury may be released. If inhaled or swallowed, seek medical attention immediately.

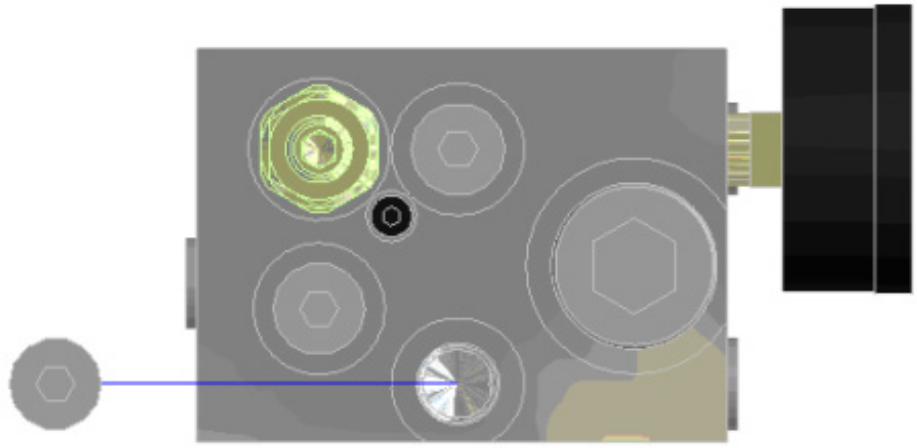
WARNING!

This product is an electrostatic-discharge-sensitive component. Take the necessary precautions while installing.

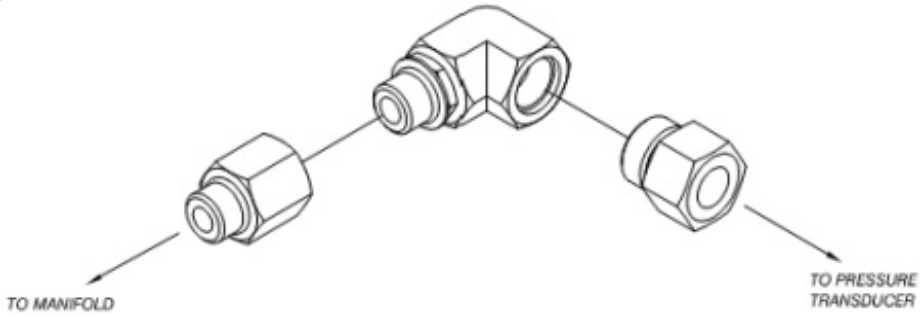
- All equipment must be properly grounded and fused in accordance with rate current consumption (refer to the equipment identification plate)
- Gauge and insulation for power supply must be adequate to handle rated current consumption.

Installation

1. Disconnect the power to the unit.
2. Remove the hex plug from the port, shown below.

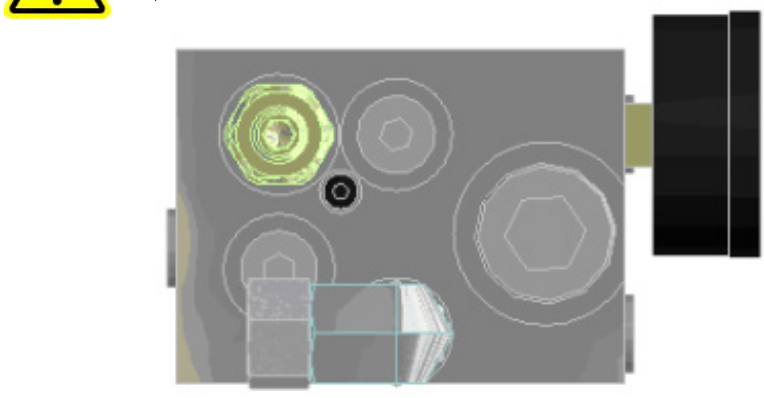


3. Attach the three (3) fittings, included with the assembly, in the order shown below.



4. Attach the fitting to the open port from step 2.
5. Loosen the 90° fitting until it faces the front of the unit.

CAUTION! DO NOT loosen the straight fittings.

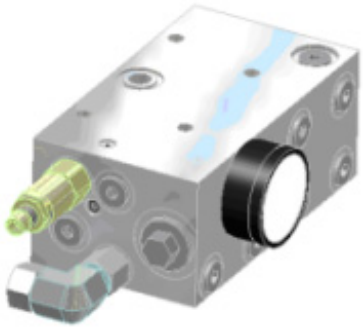


Installation - Continued

6. Tighten the nut on the 90° fitting.

7. Attach the pressure transducer to the fitting assembly, using the hex on the stem.

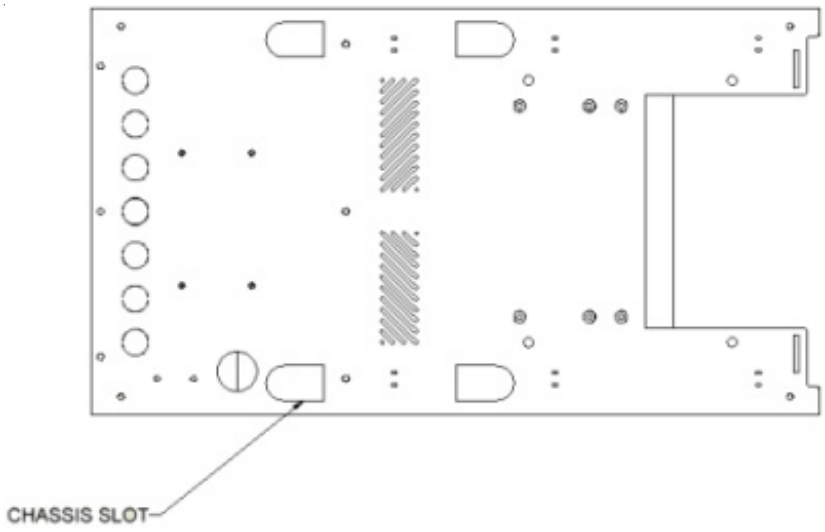
CAUTION! DO NOT exceed 442 lbf-in. (50 Nm) of torque while installing the pressure transducer.



8. Attach the six-pin connector to the back of the transducer.

9. Open the front operator panel.

10. Route the cable through the slot in the chassis.

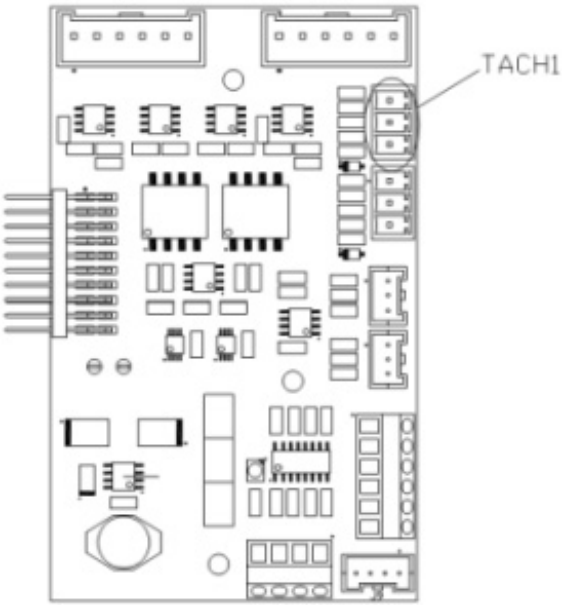


11. Route the cables along the bottom of the chassis in front of the board.

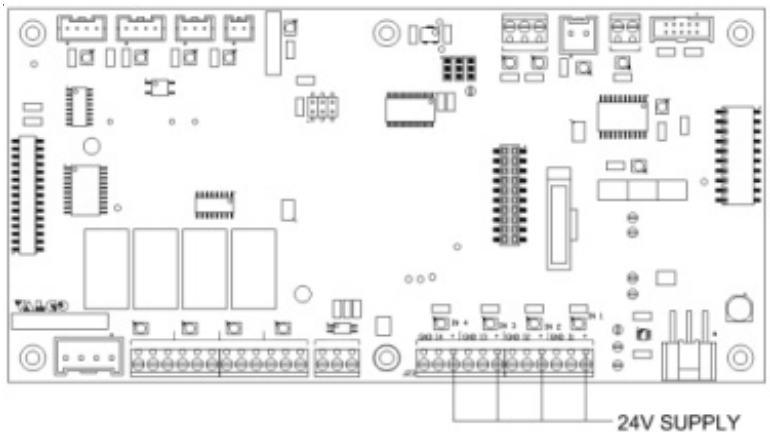
12. Then route the cable along the side of the unit to the operator panel.

13. Connect the Phoenix connect into “TACH 1” on the motor control board.

Installation - Continued



14. Connect the other flying lead to one of the inputs on the universal control, as shown below.



15. Use the ty-rap and wire harness to hold the wire to the operator panel.

16. Access the setting screen by pressing .

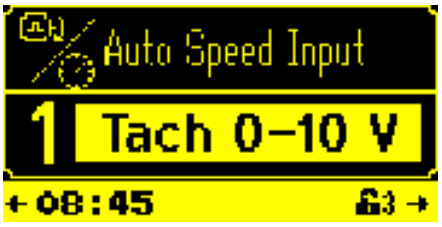
17. Unlock the control, using the level-3 password, “6550”.

18. Return to the setting screen by pressing again.

19. Access the “Pump” screen.

Installation - Continued

20. Access the “Auto Speed Input” screen by clicking the right arrow. Verify that it is set to “Tach 0-10 V.”



21. Access the pump setting screen by pressing .

22. Click the up arrow key to change the pump speed from manual to automatic.

The pressure transducer is pre-calibrated to 80% of the maximum pressure (1450 psi).

AUXILIARY I/O BOARD INSTRUCTIONS

Important Information

WARNING!

Read and follow all instructions, warnings, tags, and labels before operating the equipment. Only qualified personnel should perform this procedure. USE OF THIS EQUIPMENT IN A MANNER OTHER THAN DESCRIBED IN THIS INSTRUCTION SHEET, AND FAILING TO FOLLOW ALL INSTRUCTIONS, COULD RESULT IN PERSONAL INJURY, DEATH, OR EQUIPMENT DAMAGE.

WARNING!

All equipment is to be installed, and all connections made, only by qualified personnel. Components and accessories are to be installed in accordance with the instructions provided, and applicable codes for the region installed. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A PERSONAL INJURY, DEATH, OR EQUIPMENT DAMAGE.

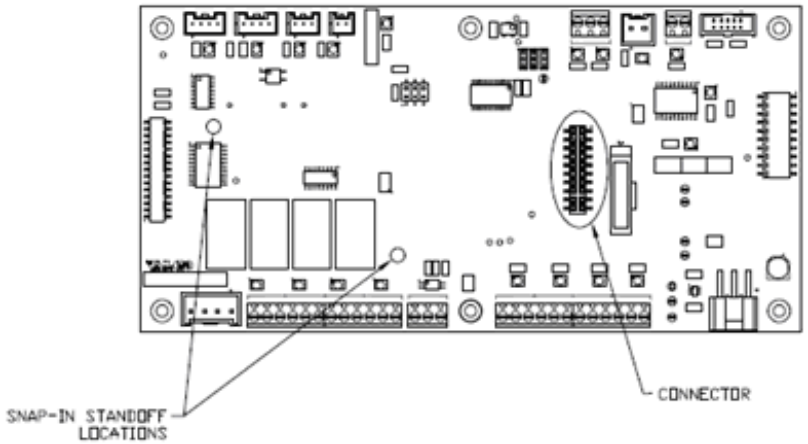
WARNING!

The equipment may still be energized, even after the circuit breaker or main power switch is off.

- All equipment must be properly grounded and fused in accordance with rate current consumption (refer to the equipment identification plate)
- Gauge and insulation for the power supply must be adequate to handle rated current consumption.

Installation

1. Open the front operator panel.
2. Attach the auxiliary I/O board to the universal control, using the connector and two (2) plastic snap-in standoffs.



Installation - Continued

3. Check the electrical cabinet to make sure everything is connected, and the power is hooked up correctly.

4. Close the front operator panel.

5. Turn the unit on.

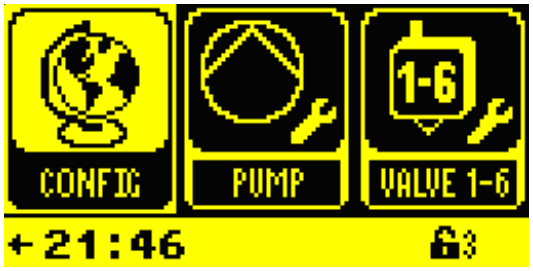
6. Verify the auxiliary I/O board is receiving power by checking that the “24V” led is on.

7. Access the setting screen by pressing .

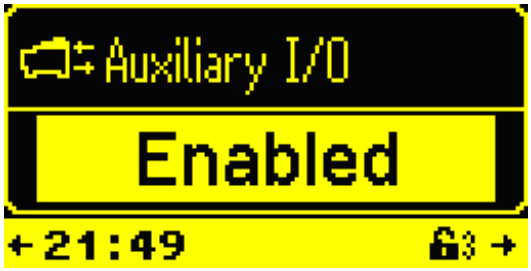
8. Unlock the control, using the level-3 password, “6550”.

9. Return to the setting screen by pressing again.

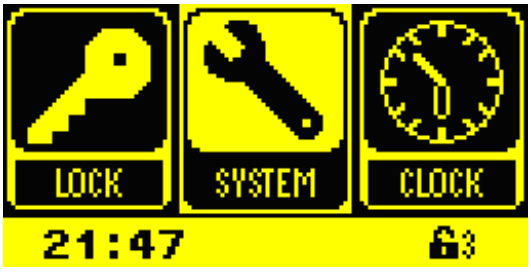
10. Access the Configuration screen.



11. Select Auxiliary I/O and press the ‘up’ arrow to enable it.

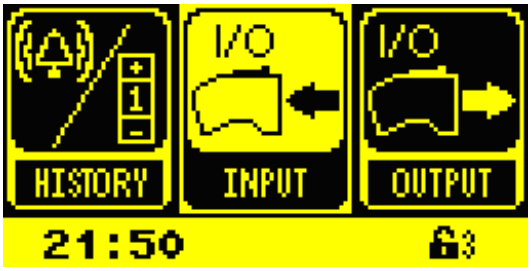


12. Return to the setting screen by pressing again.



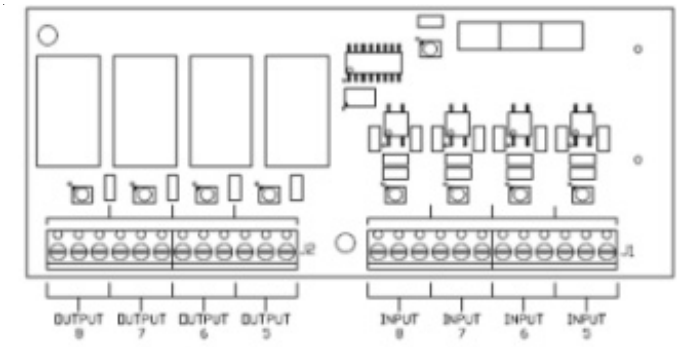
Installation - Continued

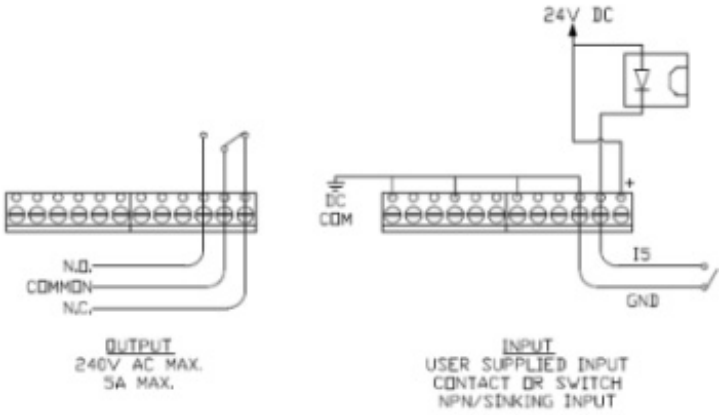
13. Select input or output, depending on your application.



14. To enable any of the inputs or outputs, select the desired function from the lists below. Use the diagram below to hook up an input or output.

Input	Output
Disabled	Disabled
Hose On/Off	External Level
All Heaters On/Off	Internal Level
Pump On/Off	Setback On
Auto Setback	Power On
Setback	Alarm
Pressure Fault	Ready & Pump On
	System Ready





D SERIES HOSE/GUN CABLE ASSEMBLY INSTRUCTIONS

DATE [7/28/11]

IS0227

Important Information

WARNING!

Read and follow all instructions, warnings, tag, and label before operating the equipment. Only qualified personnel should perform this procedure. USE OF THIS EQUIPMENT IN A MANNER OTHER THAN DESCRIBED IN THIS INSTRUCTION SHEET AND FAILING TO FOLLOW ALL INSTRUCTIONS COULD RESULT IN PERSONAL INJURY, DEATH, OR DAMAGE TO EQUIPMENT.

All equipment is to be installed and all connections are to be made only by qualified personnel. Components and accessories are to be installed in accordance with the instructions provided and applicable codes for the region installed. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A PERSONAL INJURY, DEATH, OR DAMAGE TO EQUIPMENT.

WARNING!

The equipment may still be energized even after the circuit breaker or main power switch is off.

- All equipment must be properly grounded and fused in accordance with rate current consumption (refer to the equipment identification plate)
- Gauge and insulation for power supply must be adequate to handle rated current consumption.
- Protective clothing and gear should be worn at all times when performing hot-melt tasks.

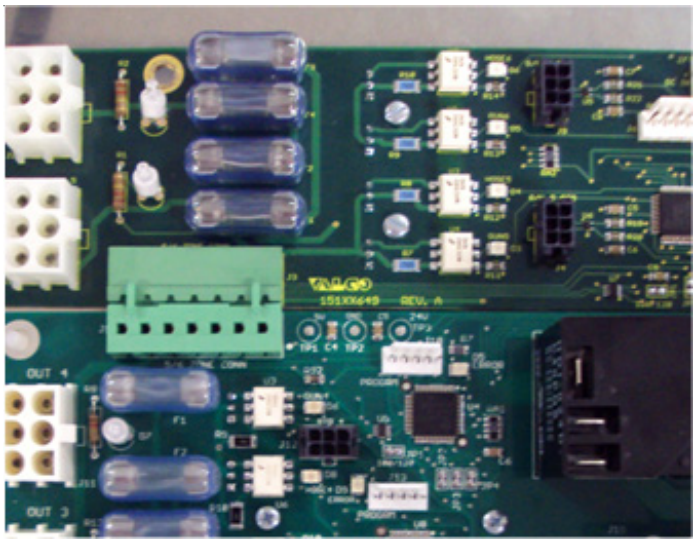
Installation

1. Disconnect and lockout electrical power to the unit.

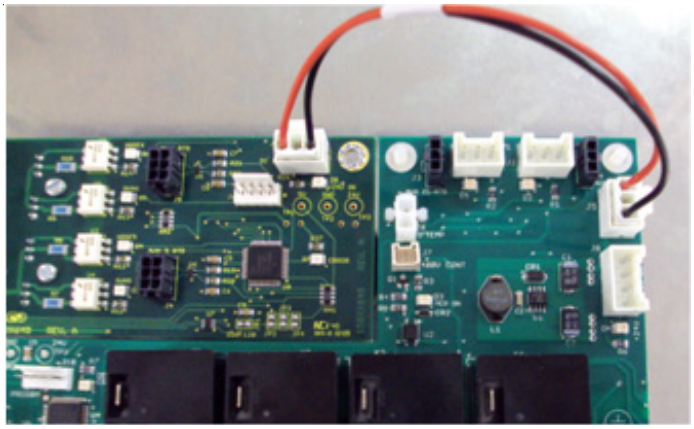
If hoses 5 and 6 are not being used proceed to the next section.

To install the 5/6 zone power board, do the following:

2. Open the front operator panel.
3. Remove the 5/6 zone board from the static bag.
4. Connect the green Phoenix connector on the 5/6 zone board to the main power board.



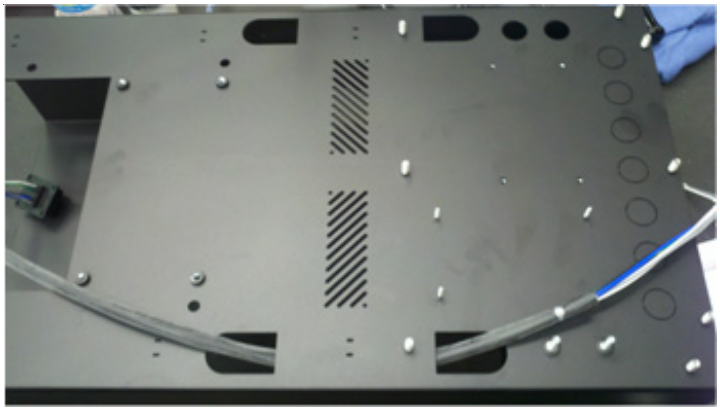
5. Fix the board to the electrical panel using two (2) M4 X 6 pan head machine screws.
6. Connect the 5/6 zone power cable to both of the boards.



Installation - Continued

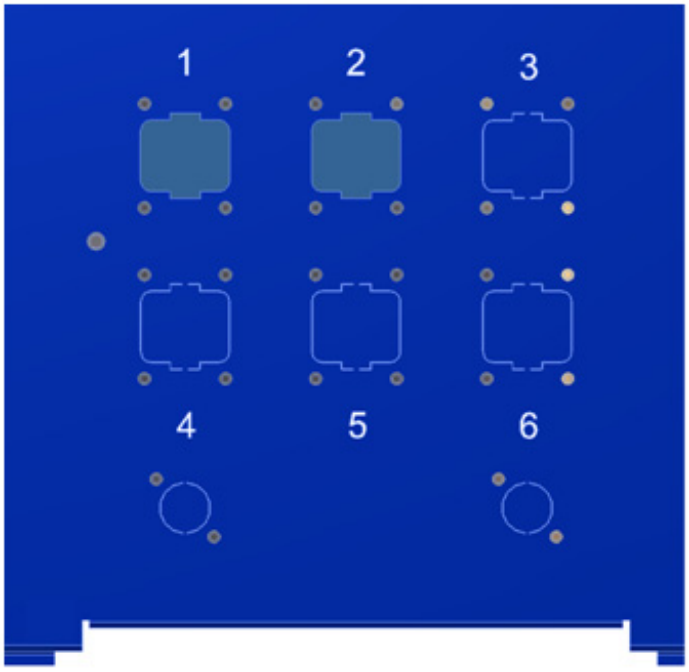
7. Open the back hose panel.

8. Feed the hose/gun cable assembly through the back of the unit in down through the slot on the right side of the tank. The connector with the flange should be in the back of the unit.



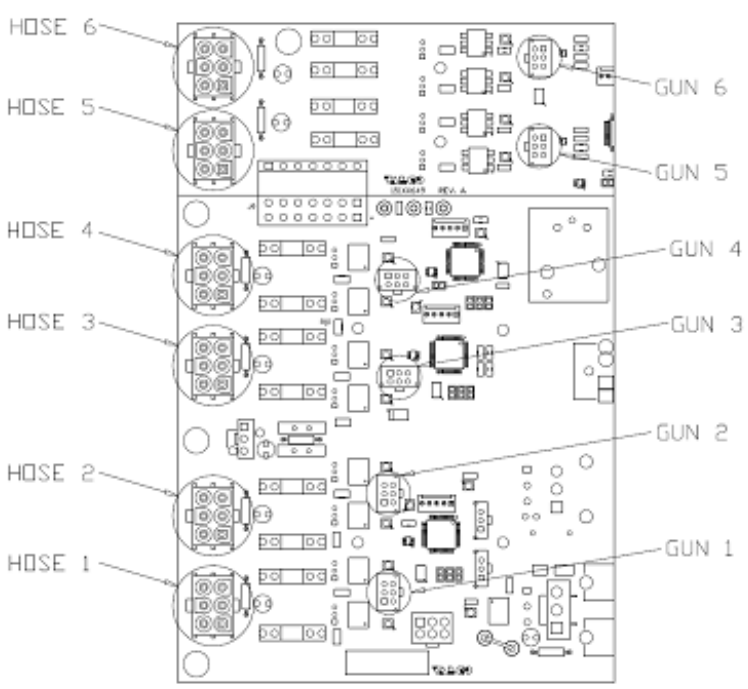
9. Remove the knockout on the back hose panel for the appropriate slot if necessary.

10. Attach the flanged connector to the inside of the hose panel using four (4) M3 lock washers and four (4) M3 hex nuts into the appropriate numbered slot.



11. Attach the flying connectors in the operator panel to the appropriate position on the board.

Installation - Continued



12. Repeat steps 8, 9, 10 and 11 for the additional hose/gun cable assemblies.

13. Close the back hose panel.

14. Check the electrical cabinet to ensure everything is connected and the power is hooked up correctly.

15. Close the front operator panel.

16. Turn on the unit.

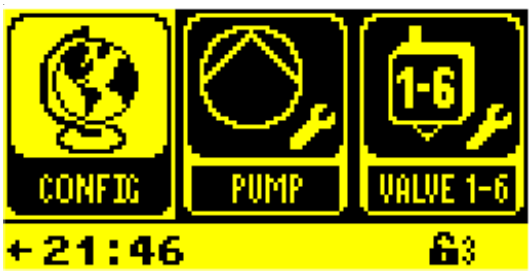
17. Go to the setting screen by pressing .

18. Unlock the control by using the level 3 password “6550”.

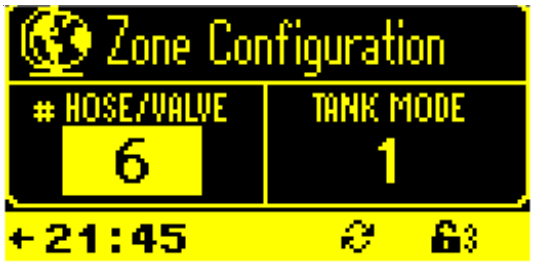
19. Go to the setting screen by pressing again.

20. Go the “Config” screen.

Installation - Continued

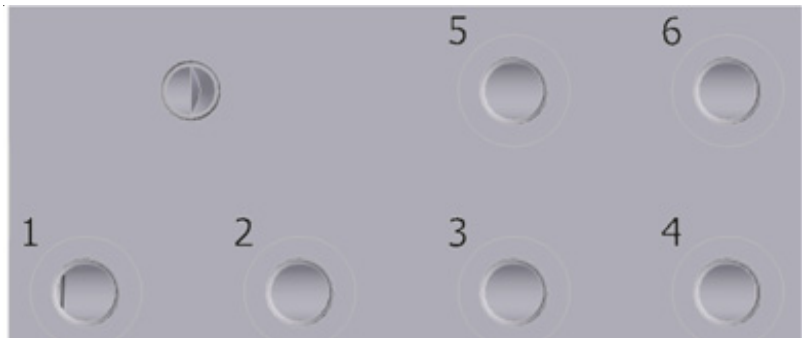


21. Select “Zone Configuration” and adjust the number of hoses.



To test the new hoses and zones, do the following:

22. Attach the new hose(s) to the manifold and back hose panel.



23. Turn on the new hose and gun and set to the desired temperature.

24. Verify that the hose and gun heat up and maintain temperature.

APPENDIX C - POWER REQUIREMENTS

System Power Requirement Calculation - D Series Units

Warning!

Calculate all power requirements, as stated below, before hooking up power. OTHERWISE, DEATH OR SEVERE INJURY AND DAMAGE TO EQUIPMENT AND/OR THE CIRCUIT COULD OCCUR.

Power requirements for the D10/D16 System (unit, hoses and guns) must be calculated before hooking up power, to verify that the hoses and guns do not exceed the power rating for the D Series unit. Personnel injury, as well as serious equipment damage, can result from overloading the system.

This calculation will depend on the following two factors:

- The wattage for any hose/gun pair
- The total wattage for all hoses and guns

Perform the system power requirement calculation for the D Series unit as follows, referring to Table 1, below:

Table 1. Maximum Allowable Wattage for the D Series Unit

Line	Description	Maximum Wattage (W)	
		D10	D16
1	Total for hose/gun 1 pair	1800	
2	Total for hose/gun 2 pair	1800	
3	Total for hose/gun 3 pair	1400	
4	Total for hose/gun 4 pair	1400	
5	Total for hose/gun 5 pair	1400	
6	Total for hose/gun 6 pair	1400	
7	Total for all hoses and guns	6600	5100

1. Add the power requirements of hose #1 and gun #1. Compare this value to the maximum wattage given in Line 1 of Table 1.

2. Add the power requirements of hose #2 and gun #2. Compare this value to the maximum wattage given in Line 2 of Table 1.

3. Add the power requirements of hose #3 and gun #3. Compare this value to the maximum wattage given in Line 3 of Table 1.

4. Add the power requirements of hose #4 and gun #4. Compare this value to the maximum wattage given in Line 4 of Table 1.

5. Add the power requirements of hose #5 and gun #5. Compare this value to the maximum wattage given in Line 5 of Table 1.

6. Add the power requirements of hose #6 and gun #6. Compare this value to the maximum wattage given in Line 6 of Table 1.

System Power Requirement Calculation - D Series Units - Continued

7. Add the power requirements of all hoses and all guns. Compare this value to the maximum wattage for all hoses and guns given in Line 7 of Table 1.

8. If any of the power requirements calculated in steps 1-7 exceed any of the maximum allowable wattages given in Table 1, the hose length or gun configuration must be changed, to reduce all power requirements to below maximum-allowable wattages. If each of the power requirements calculated in steps 1-7 is below the maximum allowable wattages given in Table 1, the system power requirement is within allowable limits.