Operation

Warm Melt Supply System

3A5354E

EN

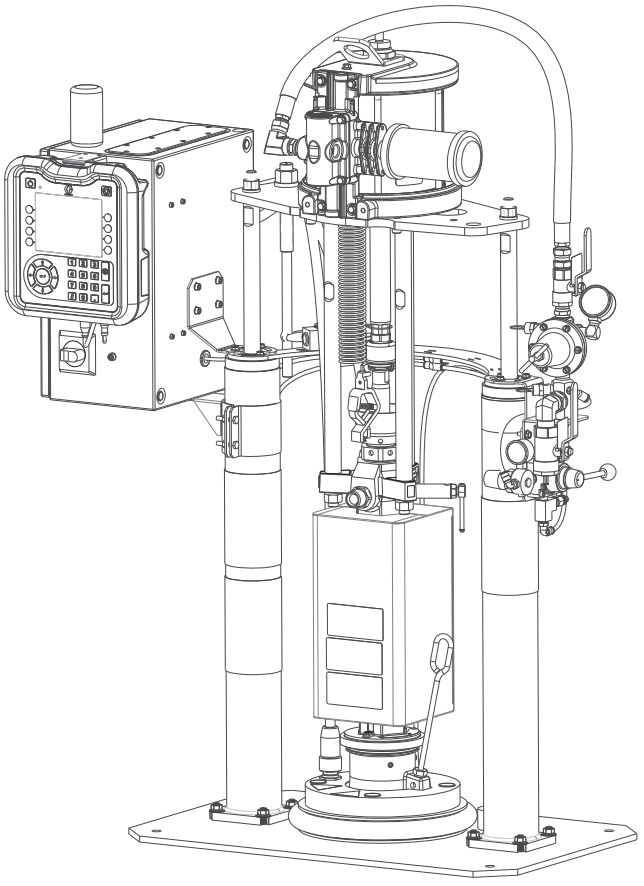
For use with heated bulk supply of medium to high viscosity sealant and adhesive materials. Intended for indoor use only. For professional use only.

Not for use in hazardous locations or explosive atmospheres.

25D117
26C258
D20 3 inch dual post

100 psi (0.7 MPa, 7 bar) Maximum Air Inlet Pressure for Air cylinder.
60 psi (0.4 MPa, 4 bar) Maximum Air Inlet Pressure for Air motor.

Important Safety Instructions
Read all warnings and instructions in this manual. Save these instructions.



The Graco Control Architecture Electric Components are listed in Intertek's Directory of Listed Products.

Contents

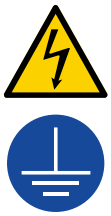
Related Manuals

Manuals	
334221	General Industry Supply Systems Operation - Parts
334784	InvisiPac® Pattern Controller Operation, Repair and Parts
334222	General Industry Supply Systems - Accessory Kits
3A1211	Saniforce® Air Motors Instructions - Parts
312375	Check-Mate® Displacement Pumps Instructions-Parts
312376	Check-Mate® Pump Packages Instruction-Parts
312467	Repair Parts for Check-Mate 100cc Displacement Pumps, Repair Kit
312468	200 cc Check-Mate Displacement Pump Repair Parts
312491	Pump Fluid Purge Kit Instructions
3A3427	Hot Melt/Warm Melt Heated Hose Instructions
3A1244	Graco Control Architecture™ Module Programming

Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

⚠ WARNING



ELECTRIC SHOCK HAZARD

This equipment must be grounded. Improper grounding, setup, or usage of the system can cause electric shock.

- Turn off and disconnect power at main switch before disconnecting any cables and before servicing or installing equipment.
- Connect only to grounded power source.
- All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. Paint or solvent flowing through the equipment can cause static sparking. To help prevent fire and explosion:

- Use equipment only in well-ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static sparking).
- Ground all equipment in the work area. See **Grounding** instructions.
- Never spray or flush solvent at high pressure.
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are anti-static or conductive.
- Stop operation immediately if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.

⚠ WARNING

SKIN INJECTION HAZARD

High-pressure fluid from dispensing device, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate surgical treatment.

- Do not point dispensing device at anyone or at any part of the body.
- Do not put your hand over the fluid outlet.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Follow the **Pressure Relief Procedure** when you stop dispensing and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses and couplings daily. Replace worn or damaged parts immediately.

MOVING PARTS HAZARD

Moving parts can pinch, cut or amputate fingers and other body parts.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the Pressure Relief Procedure and disconnect all power sources.

SPLATTER HAZARD

Hot or toxic fluid can cause serious injury if splashed in the eyes or on skin. During blow off of platen, splatter may occur.

- Use minimum air pressure when removing platen from drum.

TOXIC FLUID OR FUMES HAZARD

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

- Read Safety Data Sheets (SDSs) to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

BURN HAZARD

Equipment surfaces and fluid that is heated can become very hot during operation. To avoid severe burns:

- Do not touch hot fluid or equipment.

⚠ WARNING

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Specifications** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Specifications** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheets (SDSs) from distributor or retailer.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call you distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Overview

System Description

Warm melt supply systems are used for melting and pumping warm melt adhesives and high viscosity sealants.

The system consists of an air-powered ram that drives a Check-Mate pump and a heated platen into a drum of material. The heated platen heats the material and the pump removes it from the drum. The material is then pushed through a supply hose to the applicator.

All features of the warm melt supply system are controlled by Graco Control Architecture components: Temperature Control Modules (TCM) and the display module. The TCMs control the heaters, and the display module provides the user interface for the entire warm melt supply system.

Power Requirements

A 30A (minimum) - 40A (maximum) circuit breaker (not provided) must be installed on the incoming power supply. See TABLE 1 and **Technical Specifications**, page 51, for more information regarding electrical requirements.

Table 1: Electrical Requirements

AC Panel Voltage	HZ	Phase	Full Load Amps
220~240	50/60	1	44
220~240	50/60	3	18

Heat Control Zone Selection

Warm melt supply systems have six heat zones (see FIG. 1).

- Zones 1 and 2 are always used for the heated platen and the heated pump respectively.
- Zones 3, 4, 5, and 6 are used for the heated hose and gun, or a heated regulator. Zones 3 and 4 are integrated into one receptacle, and zones 5 and 6 are integrated into another. These zones are rated for 2000 watts at 220 volts.

There are four receptacles with a 12-pin connector on the control board inside. Heated hoses also have a 12-pin connector on the inlet end cable, and an 8-pin connector on the outlet end cable. All heated valves, manifolds and heaters are equipped with a 12-pin connector.

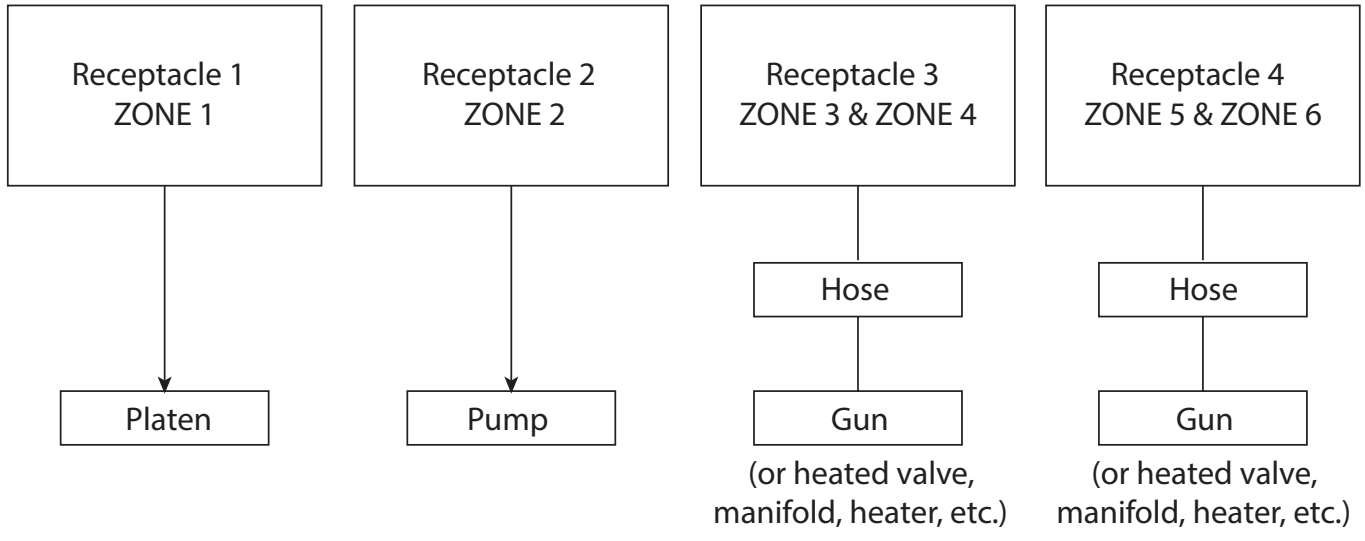


FIG. 1: Heat Control Zone Selection

Component Identification

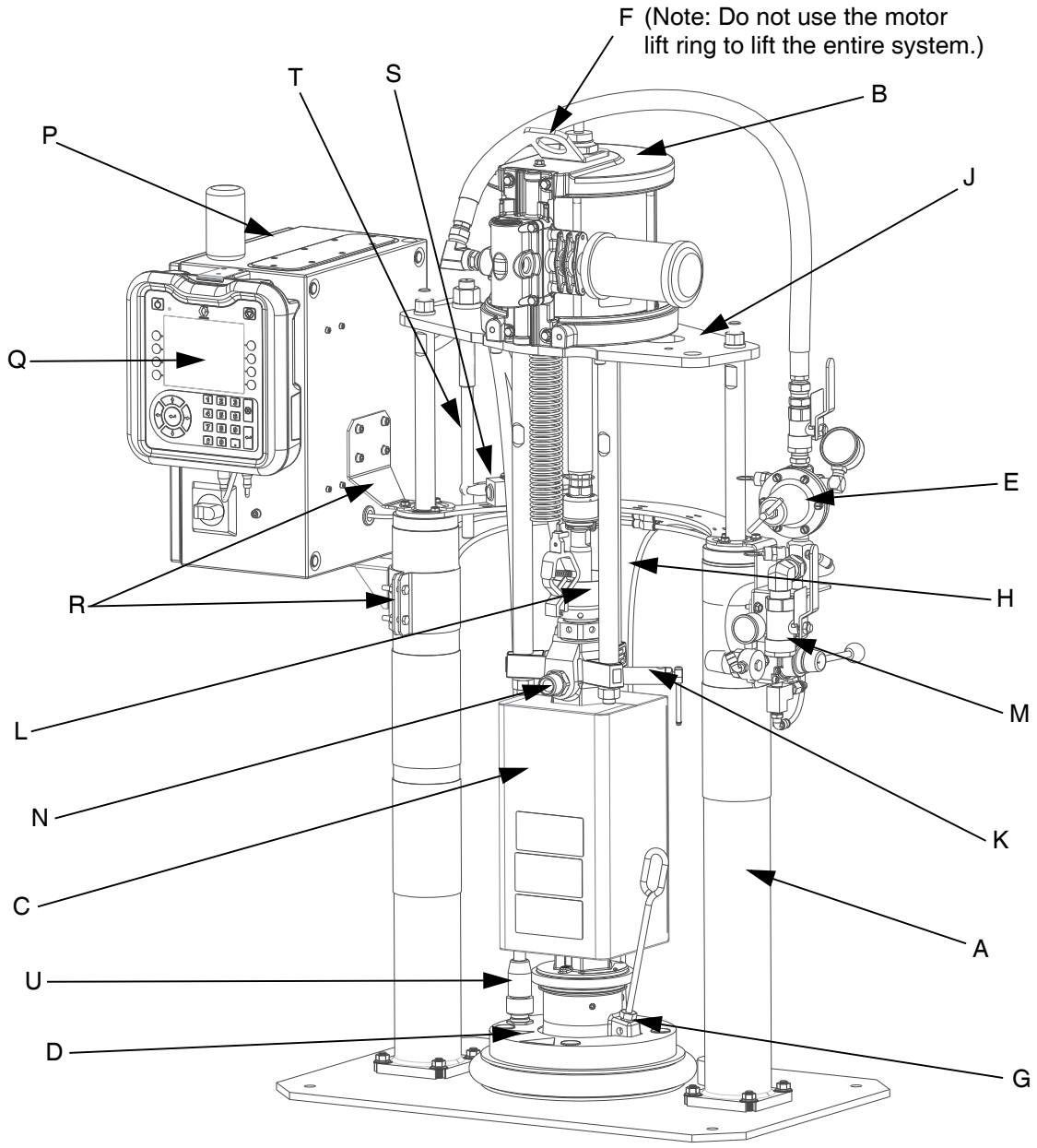


FIG. 2: System Components

Key:

A Ram Assembly
B Air Motor
C Heated Displacement Lower
D Heated Platen
E Air Controls (See FIG. 3)
F Air Motor Lift Ring
G Platen Bleed Port
H Blow off Air Supply Line
J Air Motor Bracket
K Pump Bleed Valve
L Wet Cup
M System Air Inlet
N Material Outlet
P Electrical Enclosure
Q ADM Display Module
R Electrical Enclosure Bracket
S Low Level Switch
T Low Level Switch Bar
U Power Cable

Air Controls

- **Main air ball valve (BA):** turns air on and off to the system. When closed, the valve relieves pressure downstream.
- **Ram air regulator (BB):** controls ram up and down pressure and blow off pressure.
- **Ram director valve (BC):** controls ram direction.
- **Air motor regulator (BE):** controls air pressure to the motor.
- **Air motor ball valve (BF):** turns air on and off to the air motor. When closed, the valve relieves air trapped between it and the air motor.
- **Blow off button (BG):** turns air on and off to push the platen out of an empty drum.
- **Safety Valve (BH):** relieves air pressure if the air motor pressure exceeds 60 psi (0.4 MPa, 4 bar).
- **Safety Valve (BJ):** relieves air pressure if the inlet air pressure exceeds 100 psi (0.7 MPa, 7 bar).

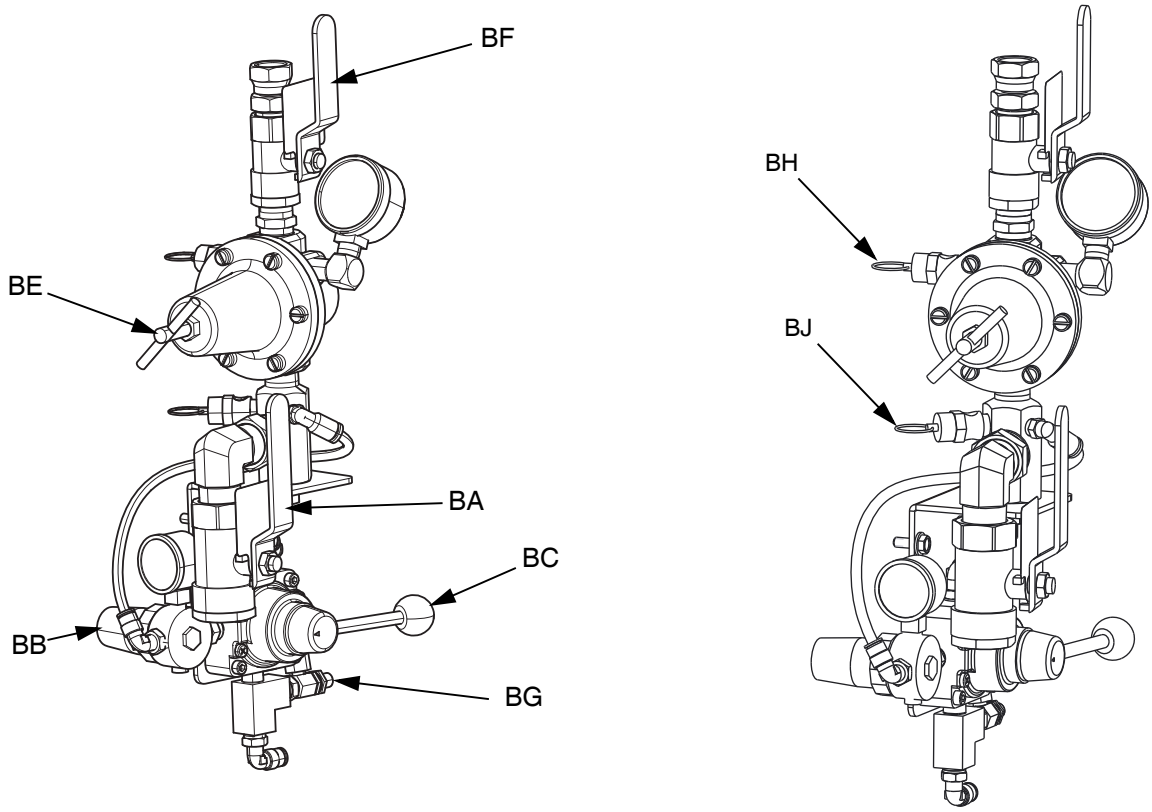
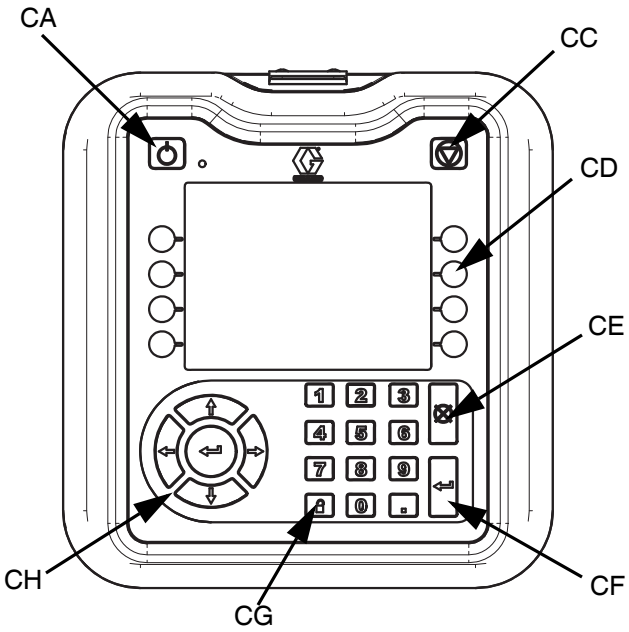


FIG. 3. Integrated Air Controls

User Interface



Key	Function
CA	Controller enable/disable
CC	Stop all system processes
CD	Defined by icon next to soft key
CE	Abort current operation
CF	Accept change, acknowledge error, select item, toggle selected item
CG	Toggle between run and setup screens
CH	Navigate within a screen or to a new screen

NOTICE

To prevent damage to soft key buttons, do not press the buttons with sharp objects such as pens, plastic cards, or fingernails.

User Interface Display

Display Screen Components

FIG. 4 calls out the components shown on each display screen, including navigation (1), status (2), and general informational (3).

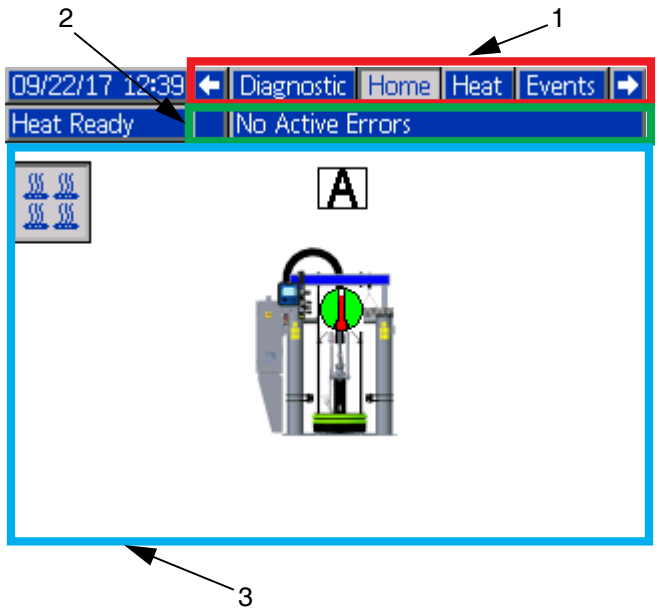


FIG. 4: Display Screen Components

Installation

All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

The lifting tool can pinch or amputate fingers. When raising and lowering the system, keep fingers and hands away from the lifting location.

Location Requirements

- Refer to **Dimensions** on page 49 for ram mounting and clearance dimensions.
- Install indoors only, and do not install near water or any other liquid that is sprayed.

Location

NOTICE

Always lift the supply system at the proper lift locations shown in FIG. 5. Do **not** lift in any other way. Lifting the system at any other location could result in damage to the air motor.

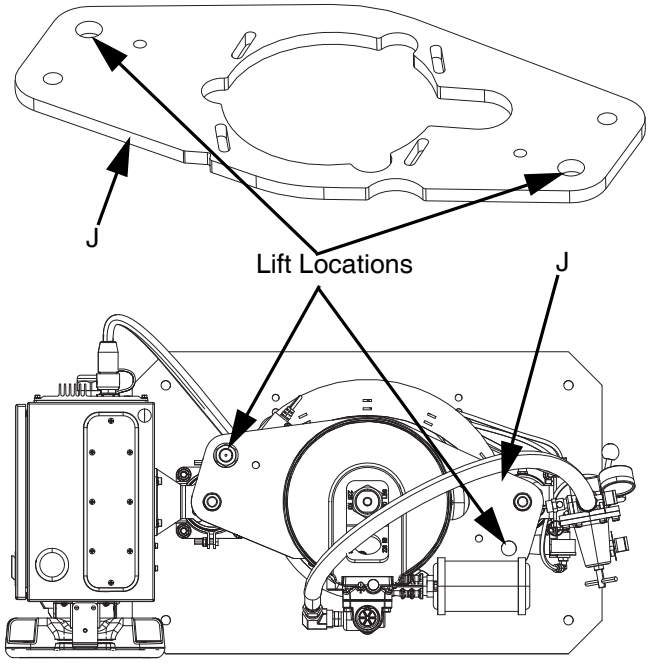
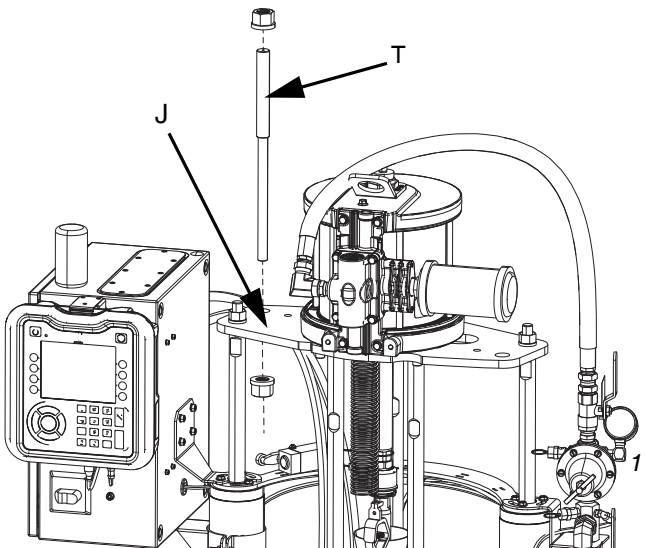


FIG. 5: Lift Locations

The system should be lifted by the holes located on the air motor bracket (J). Perform the following steps to lift the supply system:

1. Remove the low level switch bar (T) from the left lift hole on the air motor bracket (J)



Grounding

Ground the supply system as instructed here and in the individual component manuals.

The power source conduit is not an adequate ground for the system. The unit must be bonded to either the building ground or a true earth ground. To reduce the risk of static sparking and electric shock, ground the pump, the object being dispensed to, and all other dispensing equipment used or located in the dispensing area. All electrical wiring must be done by a qualified electrician and comply with local codes and regulations.

Pump: use a ground wire and clamp. Loosen the grounding lug locknut and washer. Insert one end of the supplied ground wire into the slot in the lug and tighten the locknut securely. Connect the other end of the wire to a true earth ground. See FIG. 7.

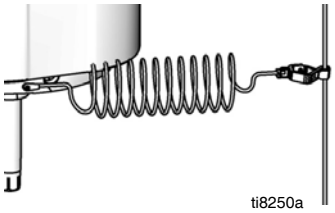


FIG. 7: Ground

Air and fluid hoses: use only electrically conductive hoses.

Air compressor: follow the manufacturer's recommendations.

Dispense valve: ground through the connection to a properly grounded fluid hose and pump.

Fluid supply container: follow the local code.

Solvent pails used when flushing: follow the local code. Use only conductive metal pails, placed on a grounded surface. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts grounding continuity.

To maintain grounding continuity when flushing or relieving pressure: hold the metal part of the dispense valve firmly to the side of a grounded metal pail, then trigger the valve.

Connect Power Source

The electrical enclosure comes already attached and wired to the ram; however, before the supply system becomes functional you must connect the electrical enclosure to a power source.

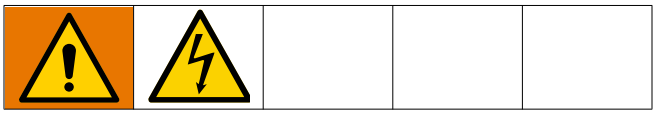
Have a qualified electrician connect power according to national, state, and local safety and fire codes. Failure to do so may result in static spark or electric shock.

NOTE: Required voltage and amperage is noted on the electrical enclosure label. Also see Table 1. Before running power to the unit, make sure the plant electrical service meets the supply system's electrical requirements.

NOTE: See **Power Requirements**, page 5, for circuit protection requirements.

1. Open the electrical enclosure door (ED).
2. Have a qualified electrician perform the following steps:
   a. Connect your plant power to the electrical enclosure power line filter according to local codes. A 1-3/8 in. (35 mm) diameter opening is provided on the side of the enclosure adjacent to the label. This opening is suitable for a 1 in. npt conduit or strain relief fitting (supplied).
   b. Connect a power protective ground (DB) to the center post on the line end of the power line filter.

Connect Electrical Cord



NOTE: The installed strain relief bushing (SR) fits a 0.71-0.98 in. (18-25 mm) OD electrical cord.

1. Turn the main power switch (MP) OFF.

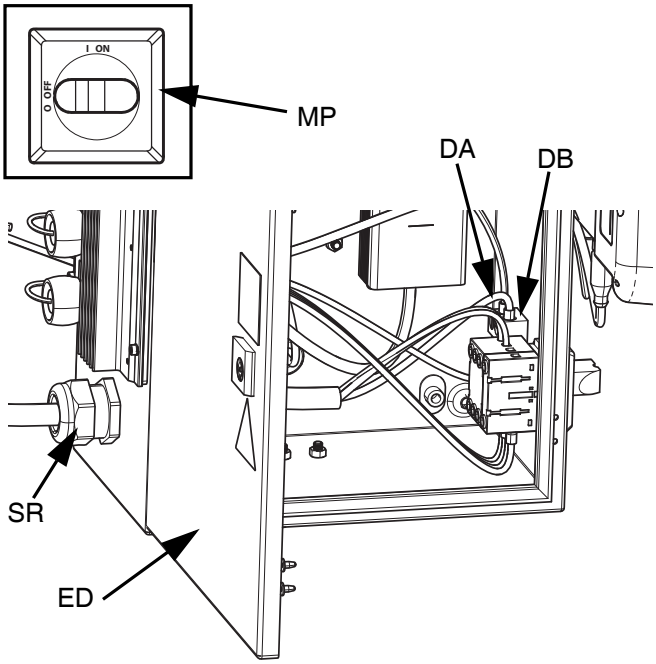
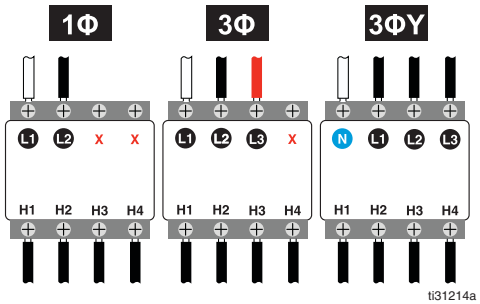


FIG. 8

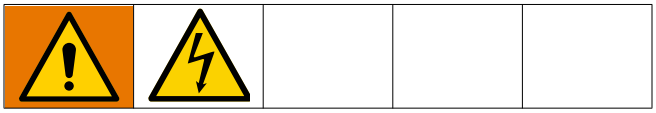
2. Open the electrical enclosure door (ED).
3. Insert the electrical cord through the electrical enclosure strain relief bushing (SR).
4. Attach insulated ferrules to the end of each wire.
5. Connect the ground wire (DA) to the chassis ground (DB).
6. Connect power wires to the main power switch (MP) as shown below.



NOTE: Use a flat-head or Pozidriv screwdriver to tighten the terminals to 7-10 in-lb (0.8-1.1 N•m).

7. Tighten the strain relief bushing (SR) around the electrical cord.
8. Close the electrical enclosure door (ED).

Install/Adjust Drum Low Level Switch



1. Verify the power is off.
2. Install the low level switch (S) onto the air motor bracket (J) with two M5 washers and screws (MS).
3. Install the position bar (T) onto the air motor bracket with two M20 nuts (M20).
4. Use a cable (CBL) to connect the low level switch onto the control board (J4 connector).
5. Turn the main power switch (MP) to the ON position, then press the power button to turn on the ADM.
6. Adjust the position bar height by threading at the desired level (low or empty).
7. Check the low level switch function by lowering the ram and letting the position bar hit the switch. Check to make sure the light tower signal is red for the low level alarm.

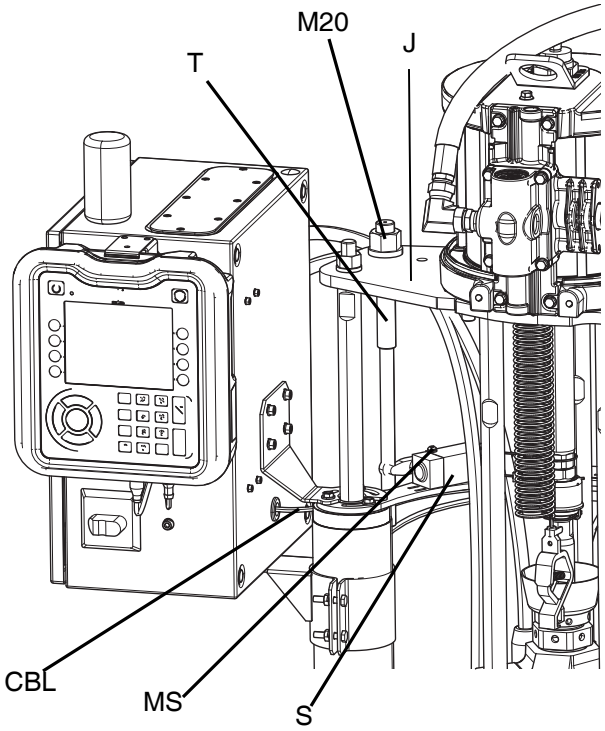


FIG. 9

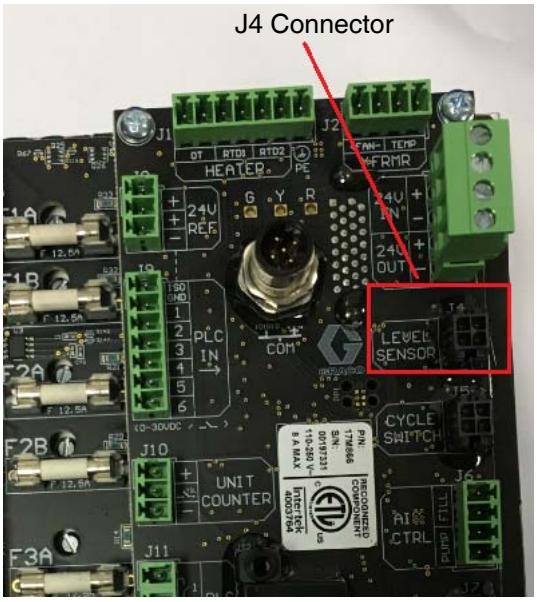


FIG. 10: J4 Connector

Light Tower Accessory

If the light tower kit (25C662) flashes red, there is a low level alarm.

Check Resistance

Check the Resistance Between the Supply System and the True Earth Ground

To reduce the risk of electric shock, the resistance between the supply system components and true earth ground must be less than 0.3 ohms. If the resistance exceeds 0.3 ohms, perform the following steps:

- Verify the grounding stud is correctly in place in the electrical enclosure (see FIG. 11).
- Check the supply system resistance between each supply system component and the grounding stud.
- If the resistance exceeds 0.3 ohms after following the previous steps, contact Graco technical support. Do not operate the system until the problem is corrected.

Have a qualified electrician check the resistance between each supply system component and the true earth ground. The resistance must be less than 0.3 ohms. If the resistance is greater than 0.3 ohms, a different ground site may be required.

NOTE: Use a meter that is capable of measuring resistance at this level.

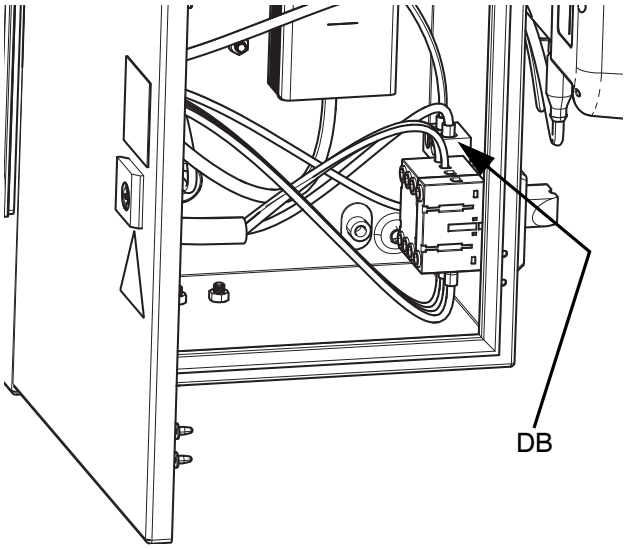


FIG. 11: Grounding Stud

Sensor Resistance Checks

To reduce the risk of electric shock, conduct electrical checks with the main power switch (MP) OFF.

NOTE: For dispense valve and hose sensor resistance checks, refer to your dispense valve manual or hose manual.

The supply system includes a heat sensor and controller for each of the six heated zones. To check the sensor resistance:

1. Make sure the power is off and the main power switch (MP) is in the OFF position.
2. Make electrical resistance checks for the components.
3. Replace any parts that have resistance readings that do not comply with the ranges listed in Table 2.

NOTE: Check the resistance at ambient room temperature (63°– 77°F [17°– 25°C]).

Table 2: RTD Sensor Resistance

Zone	Component	Connector Pin	Range (ohms)
1	Platen	Pin K and M	1050-1100 Ω
2	Fluid Pump	Pin K and M	1050-1100 Ω

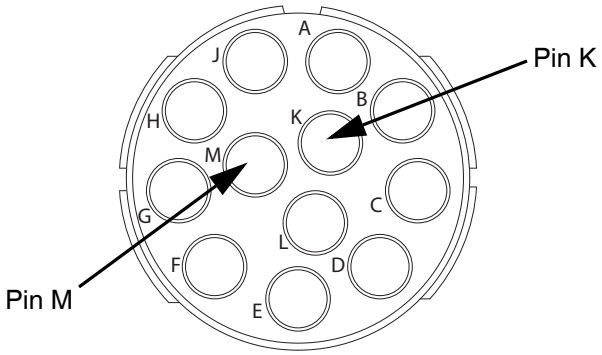


FIG. 12: RTD Connector Pins

Heater Resistance Checks

To reduce the risk of electric shock, conduct electrical checks with the main power switch (MP) OFF.

NOTE: For dispense valve and hose sensor resistance checks, refer to your dispense valve manual or hose manual.

To check the heater resistance:

1. Make sure the power is off and the main power switch (MP) is in the OFF position.
2. Make electrical resistance checks for the components. Refer to TABLE 3.
3. Replace any parts whose resistance readings do not comply with the ranges listed in TABLE 3.

NOTE: Check the resistance at ambient room temperature (63°– 77°F [17°– 25°C]).

Table 3: Resistance Chart of All Heaters

Zone	Component	Between Terminals	Unit Voltage	Range (ohms)
2	Platen	C and D	220	80 +10/-10
3	Pump	C and D	220	37 +5/-5

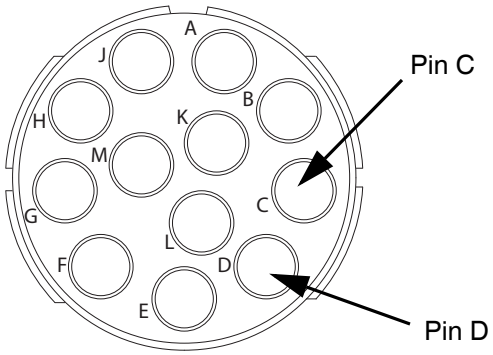


FIG. 13: Heater Terminal Pins

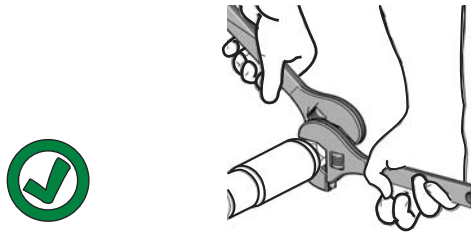
Hose Installation and Care

NOTE: The warm melt supply system requires Graco single-circuit material hoses rated at a maximum of 2000 Watts.

Hose Installation

1. Connect the heated hose to the pump outlet. Connect with an adapter if the pump outlet and hose end have different thread sizes.

2. Use two wrenches to tighten. Torque to 470-550 in-lbs (53.1-62.1 N•m).



3. Wrap the exposed fittings on the pump outlet with heat-resistant insulation, and secure the insulation using fiberglass tape.

4. Connect the hose electric connector onto the receptacle of the control board. See FIG. 14.

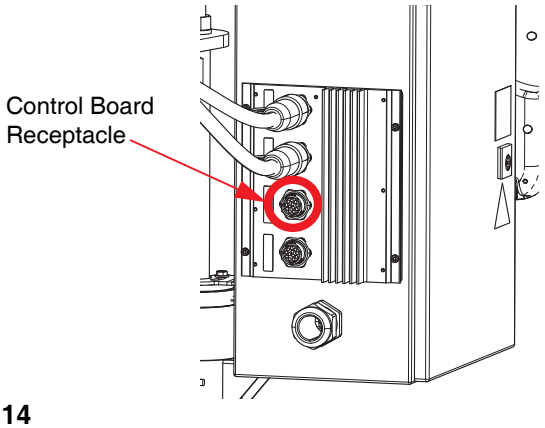


FIG. 14

5. Securely tighten the 12-pin electrical connectors on the long heated hose leads into the 12-socket receptacles on the end of the hose adapter.

6. Securely tighten the 8-socket electrical connectors on the short heated hose leads into the 8-pin receptacle located on the dispense valves or heat gun.

Hose Care Guidelines

Refer to your Hot Melt/Warm Melt Heated Hose Instructions manual for details regarding hose care guidelines.

Mechanical Setup

1. Fill displacement lower wet cup 2/3 full with Graco Throat Seal Liquid (TSL).

2. Turn all air regulators to their full counterclockwise position.

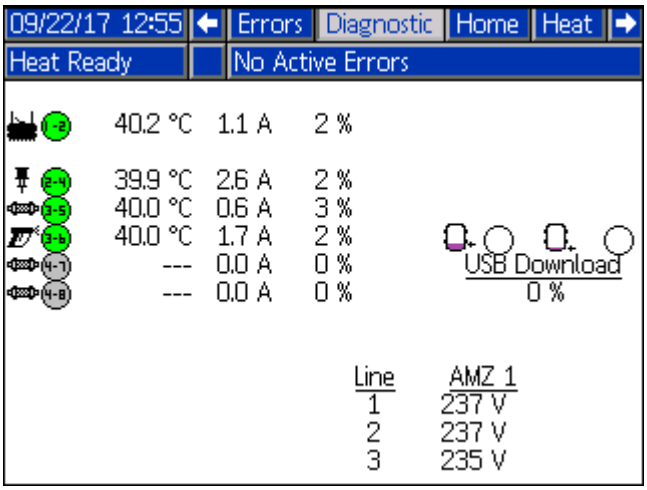
3. Connect a 3/4 in. (19 mm) air line from an air source to the system air inlet. Refer to the pump performance curves in the Check-Mate Pump Packages Instruction-Parts manual to determine your air supply flow requirements.

NOTE: Quick disconnects restrict the flow for large air motors.

Overview of Temperature Control Settings

Temperature controls are set in Setup mode.

Press the left horizontal arrow  to go into the Diagnostic screen. Information on temperatures for each zone can be seen here.



Setup

The pump was tested with lightweight oil, which is left in the fluid passages to protect parts. To avoid contaminating the fluid with oil, flush the pump with a compatible solvent before use. See **Purge System**, step 2.

Purge System

Purging the system before initial use can prevent material contamination, which may cause the material to fail or perform poorly.

NOTICE

Purge the system before performing the initial **material loading procedure.** The system was factory-tested using a light soluble oil, a soybean oil, or some other oil as tagged. Flush the system to avoid contaminating the material that has been designated for initial material loading.

Perform the following procedure to purge the system:

1. Select the material for the initial material load.
2. Verify whether the factory-test oil and the initial material load are compatible:
   a. If the two substances are compatible, omit the remaining steps in this procedure and refer to the operation instructions.
   b. If the two substances are incompatible, perform the remaining steps in this procedure to flush the system at ambient temperature.

To avoid fire and explosion, always use fluids that are chemically compatible with the equipment wetted parts. See the Technical Data sections in the equipment manuals.

NOTICE

This equipment should not be used with more than one type of fluid due to potential compatibility issues that could result in an unpredictable reaction. To prevent equipment corrosion, Graco recommends using new hoses when chemicals are changed, or care must be taken to assure that all traces of one chemical are removed before introducing a second chemical.

3. Select a container of solvent that can eliminate the factory-test oil from the system. If necessary, check with Graco or the material supplier for a recommended solvent.
4. Before purging, ensure the entire system and waste container are properly grounded.

NOTE: Remove any dispense valve orifices before purging. Reinstall after purging has been completed.

5. Purge the material through the system for approximately 1 to 2 minutes. See the Pump Fluid Purge Kit Instructions manual for further instructions.
6. Remove the container if purge solvent was used.

Low Level Adjustment

Adjust the nut position along the low level switch bar (T) as shown in FIG. 15.

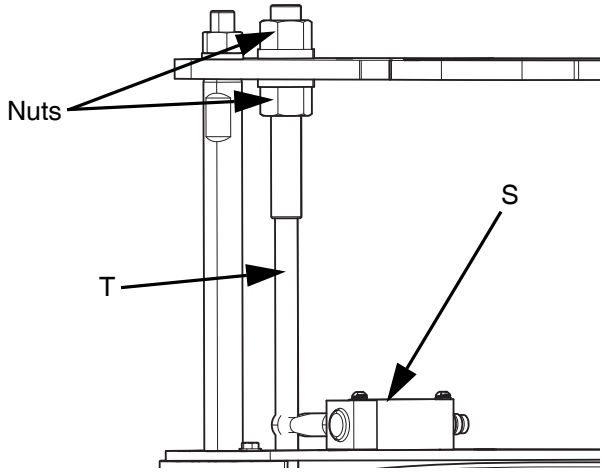


FIG. 15: Low Level Machinery

Load Material

NOTICE

Do not use a drum of material that has been dented or otherwise damaged; damage to the platen wiper can result.

Moving parts can pinch or amputate fingers. When the pump is operating and when raising or lowering the ram, keep fingers and hands away from the pump intake, platen, and lip of the drum.

NOTE: Before loading material, ensure that there is a minimum overhead clearance of 20 in. (51 cm) and all air regulators are backed off to their full counterclockwise position.

1. Close all air regulators and air valves. See FIG. 3 on page 7.
2. Open the main air ball valve (BA) and set the ram air regulator (BB) to 40 psi (0.28 MPa, 2.8 bar). Set the director valve handle (BC) to the UP position and let the ram rise to its full height.
3. Lubricate the platen seals with grease or other lubricant compatible with the fluid you will pump.
4. Remove the drum cover and smooth the surface of the fluid with a straightedge.
5. Put a full drum of fluid on the ram base, slide it back against the drum stops, and center it under the platen.
6. Remove the bleed stick (DE) from the platen bleed port. See FIG. 16.
7. If the drum has a plastic liner, pull it over the edge of the drum. Secure the liner with tape wrapped around the circumference of the drum.

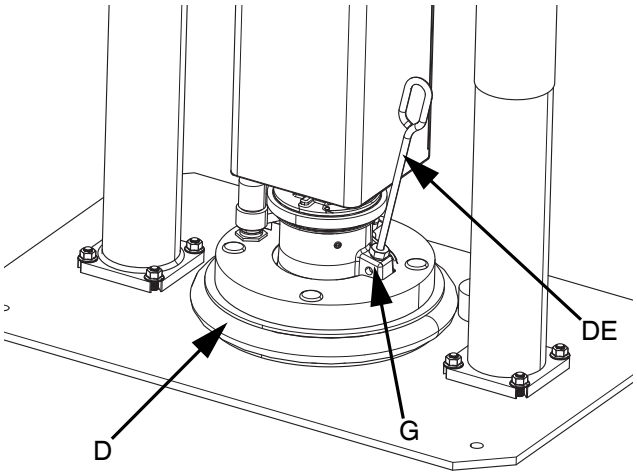


FIG. 16: Heated Platen

8. Set the director valve (BC) to the DOWN position and lower the ram until fluid appears at the top of the platen bleed port. Adjust the ram air regulator (BB) as needed. Set the director valve (BC) to neutral and close the platen bleed port (G).

System Heat Up

To prevent skin injection and splashing fluid from a burst hose, never pressurize the system while using warm melt materials before turning on heat.

Many warm melt materials tend to expand when heating and may cause a heated hose to burst. Avoid the potential of bursting a hose by opening the dispense valve during system heat up and locking the dispense valve trigger open every time you shut the system down.

NOTE: Operate at the lowest temperature and pressure necessary for your application.

1. Turn the main power switch (MP) on the electrical control panel door to the ON position. See FIG. 17.

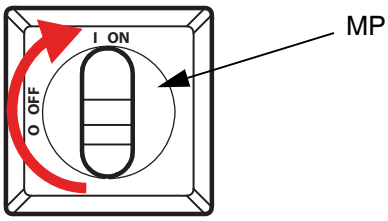
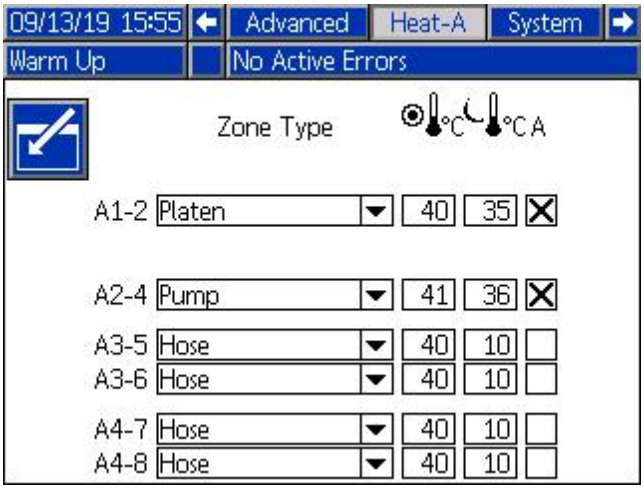


FIG. 17: Power Switch ON

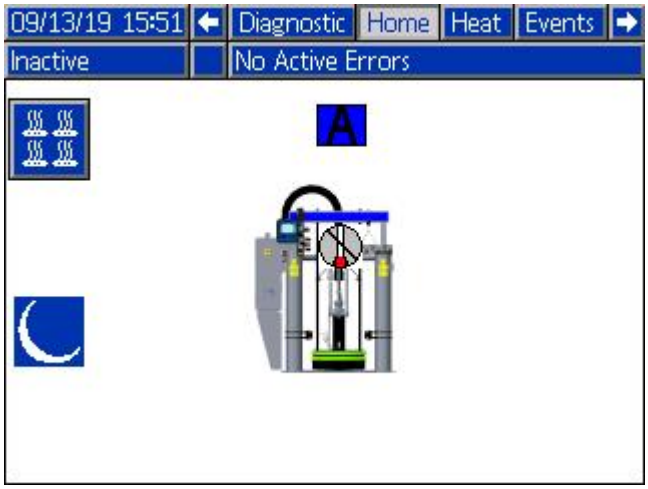
2. Press on the ADM to set up the zones and enter the temperature settings. Press to enter the screen and alter these settings.



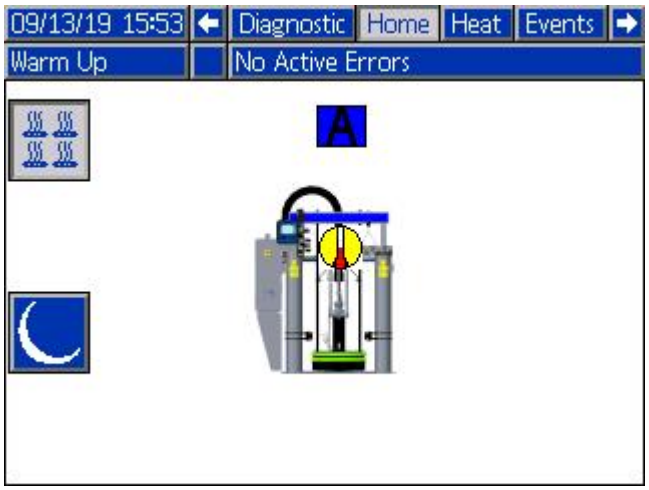
3. Enter the desired temperature for both normal operation (column) and setback operation (column). The setback feature allows the user to keep the material at a lower temperature and save power.

4. After all the set temperatures, zone types and zones have been enabled (using the ☒ option), exit the screen by pressing .

5. Return to the main home run screen by pressing the “X” key, or the key.

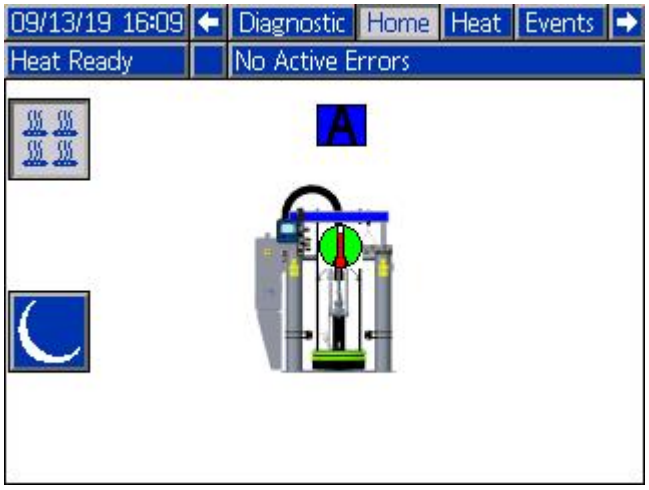


6. Turn on the warm melt by pressing the key, or the soft key. After this occurs, the LED next to the key will change from orange to green. The main run screen will also change from the Inactive state to the Warm Up state.

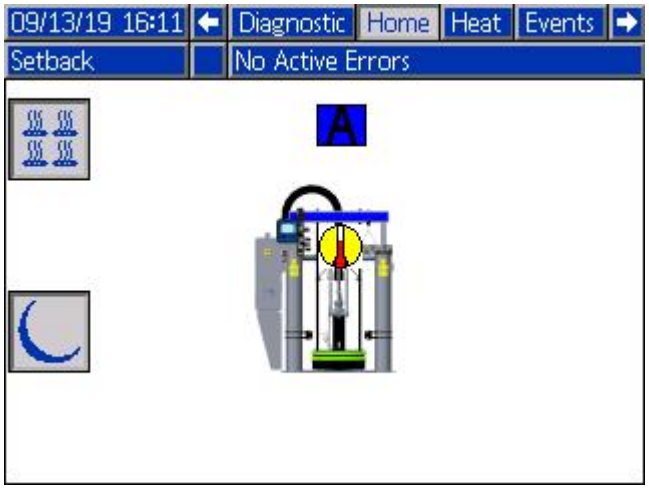


7. When the warm melt is in a warm up state, the green light on the light tower will flash ON and OFF, and the Off/ Ready/ Warm Up/ Setback PLC indication (described in the **PLC Control and Indication Cable Details (Optional)** section on page 44) will cycle ON and OFF.

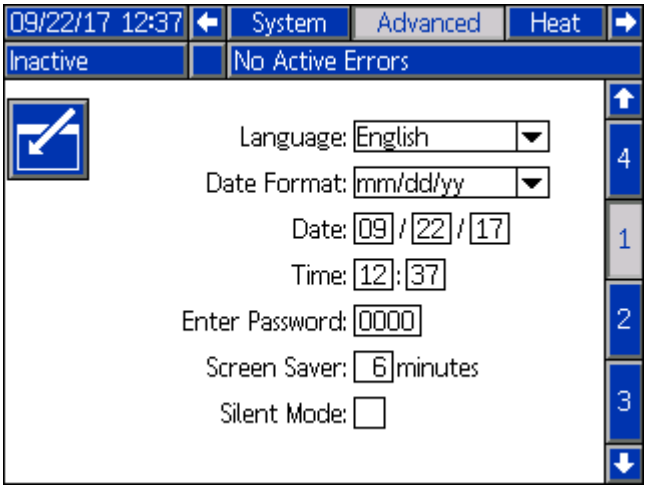
8. After all heat zones have reached the selected temperature settings, the warm melt will reach the heat ready state and the main run screen will appear as shown below. When the warm melt is in the heat ready state, the green light on the light tower will be continuously ON. The Off/ Ready/ Warm Up/ Setback PLC indication will also be continuously ON.

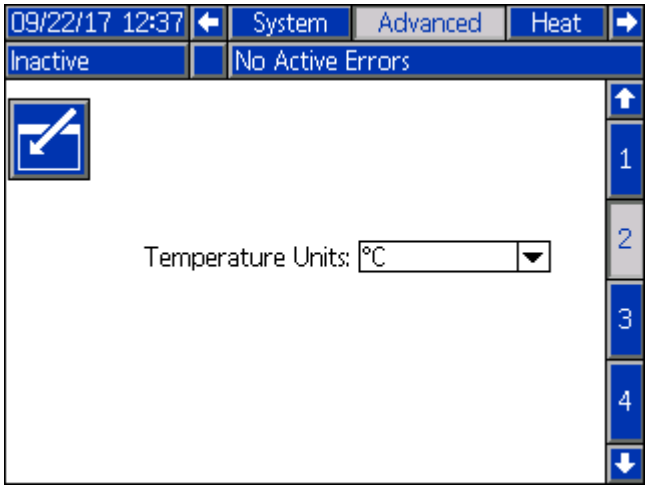


9. After operation, the warm melt will remain idle for a period of time, and the material can be set to lower temperatures to conserve power. To activate this feature, press the setback soft key  . After activation, the green light on the light tower will flash ON and OFF, and the Off/ Ready/ Warm Up/ Setback PLC indication will cycle ON and OFF.



NOTE: Users can set up the language, temperature unit and weight unit, etc. before testing.





PLC Control and Indications

The warm melt system has the ability to control and monitor the system using simple digital input and output signals. Typically a Programmable Logic Controller or PLC is used for this purpose.

A schematic for the interface is illustrated on the **PLC Control and Indication Cable Details (Optional)** sheet on page 44.

PLC Control or Command Signals

To activate or turn ON a control or command signal, the controlling PLC must source a current from a voltage source greater than 3.0 Volts DC. The PLC output line must be capable of sourcing 5 milliAmps.

The following control signals are available for the warm melt system.

PLC Has Control Request: If ON, the PLC can control the warm melt system and disable the corresponding soft keys on the ADM.

If the user attempts to press the disabled heat off  or standby  soft keys while the warm melt is in PLC control, the key press will be rejected.

Turning OFF this command from an ON state will enable the ADM to control the warm melt system. The warm melt will be commanded to an inactive or OFF state.

Heat On Request: Turning ON this command is the same as pressing the heat ON key  when the warm melt ADM is in control. This request will be ignored if the PLC Has Control Request line is OFF.

Set Back On Request: Turning ON this command is the same as pressing the heat ON key  when the warm melt ADM is in control. This request will be ignored if the PLC Has Control Request line is OFF.

PLC Indication Signals

There are two indication signals provided to the PLC to enable it to monitor the status of the warm melt system. Both indications consist of a contact closure, which is closed (short circuited) when active or ON, and open when inactive or OFF. Both indications are provided regardless of the PLC Has Control Request line state.

The following indications are provided.

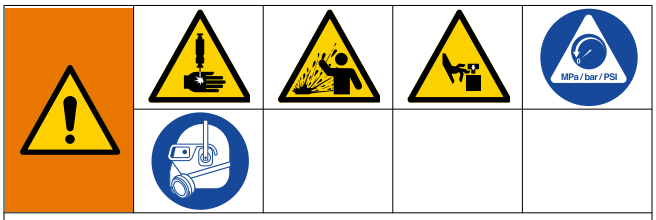
Off/ Ready/ Warm up/ Setback Indication – This signal will be open or OFF when the system is turned OFF or in the inactive state. When the system is in the warm up or setback state, this output will toggle between two seconds ON and two seconds OFF. When the system reaches a heat ready state and no alarms are active, this output will be continuously ON.

Alarm/ Deviation Indication – This output will be OFF (open circuit) if there are no active alarms or deviations present. If there is an active alarm condition, this output will be continuously ON. If there is an active deviation present (with NO active alarm), this output will toggle between two seconds ON and two seconds OFF.

Operation

Pressure Relief Procedure

Follow the Pressure Relief Procedure whenever you see this symbol.



This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

This procedure describes how to relieve pressure for the supply system. Use this procedure whenever you shut off the system and before checking or adjusting any part of the system.

1. Lock the gun/dispense valve trigger.
2. Turn the ADM off by pressing the On/Off key .

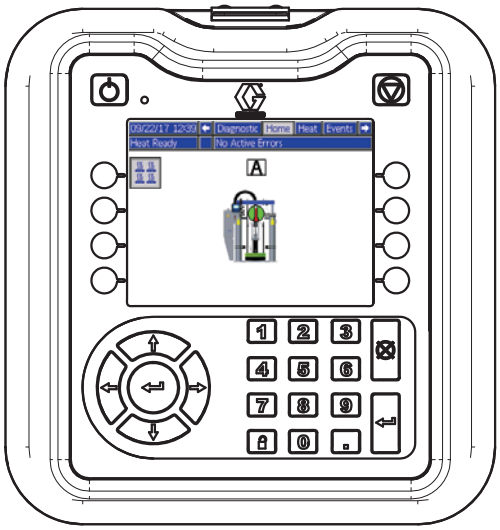


FIG. 18: Advanced Display Module

3. Close the air motor ball valve (BF) and the main air ball valve (BA) on the ram(s).
4. Set the ram director valve (BC) to the DOWN position. The ram will slowly drop.
5. After the ram reaches the bottom, jog the director valve (BC) up and down to bleed air from the ram cylinders.
6. Unlock the gun/dispense valve trigger.
7. Hold a metal part of the dispense valve firmly to the side of a grounded metal pail, and trigger the gun/dispense valve to relieve pressure.
8. Lock the gun/dispense valve trigger.
9. Open the bleed valve (K). Have a container ready to catch the drainage. Leave the bleed valve open until ready to dispense again.

If you suspect the dispense tip/nozzle or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, very slowly loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually, then loosen completely. Then clear the tip/nozzle or hose.

Trigger Lock

Always engage the trigger lock when you stop dispensing to prevent the gun from being triggered accidentally by hand or if dropped or bumped.

Start and Adjust Ram

Moving parts can pinch or amputate fingers. When the pump is operating and when raising or lowering the ram, keep fingers and hands away from the pump intake, platen, and lip of the drum.

To start and adjust the ram(s), follow the **Load Material** procedure on page 17.

Start and Adjust Pump

1. Connect the pump outlet fittings and hose (not supplied).

NOTE: Be sure all components are adequately sized and pressure rated to meet the system's requirements.

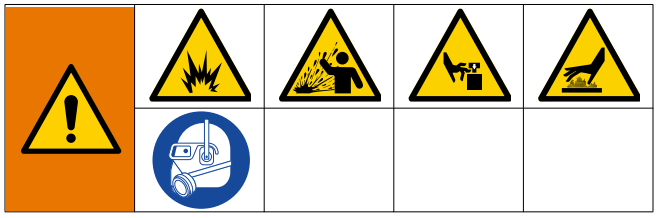
2. Be sure the air motor ball valve (BF) is closed. Then set the ram air regulator to about 40 psi (0.28 MPa, 2.8 bar). Set the ram director valve (BC) to DOWN. **Remote Data Trak:** If the system has this feature, press the prime/flush key.

3. Start the pump as explained in the separate pump instruction manual.

4. Keep the ram director valve (BC) set to DOWN while the pump is operating.

NOTE: Increase air pressure to the ram if the pump does not prime properly with heavier fluids. Decrease air pressure if fluid is forced out around the top seal or platen.

Change Drums



NOTE: Follow this procedure to change the drum on a fully heated warm melt supply system.

NOTICE
Do not use a drum of material that has been dented or otherwise damaged; damage to the platen wiper can result.

If the light tower flashes red and is accompanied by alarms sounding, it means the drum is empty and should be replaced.

1. Close the air motor ball valve (BF) by turning it clockwise to stop the pump. See FIG. 3.

2. Set the ram director valve (BC) to UP to raise the platen, and immediately press and hold the blow off air button (BG) until the platen is completely out of the drum. Use the minimum amount of air pressure necessary to push the platen out of the drum.

Excessive air pressure in the material drum could cause the drum to rupture, causing serious injury. The platen must be free to move out of the drum. Never use the drum blow off air with a damaged drum.

3. Once the platen clears the drum, release the blow-off air button (BG) and allow the ram to rise to its full height.

4. Remove the empty drum.

5. Press  to eliminate the empty alarm.

6. Inspect the platen and, if necessary, remove any remaining material or material build–up.

7. Place the full drum on the ram base.

8. Lower the ram and adjust the position of the drum relative to the platen. Follow the **Load Material** procedure steps 5 - 8 of on page 17.

Shutdown

Turning the system OFF relieves pressure from the pump motor. As the main ball valve is closed, the motor pressure is relieved through the hole on the ball valve shown in FIG. 19. However, this does not depressurize the fluid pressure. To help prevent serious injury from pressurized fluid, such as skin injection and splashing fluid, follow the **Pressure Relief Procedure** on page 21.

Follow the procedure below for normal system shut down, such as at the end of the work day.

1. Set the ram director valve (BC) to DOWN.
2. Follow the **Pressure Relief Procedure** on page 21.
3. Close the air motor ball valve (BF) to relieve the air motor pressure, then close the main air ball valve (BA) to relieve the system pressure.

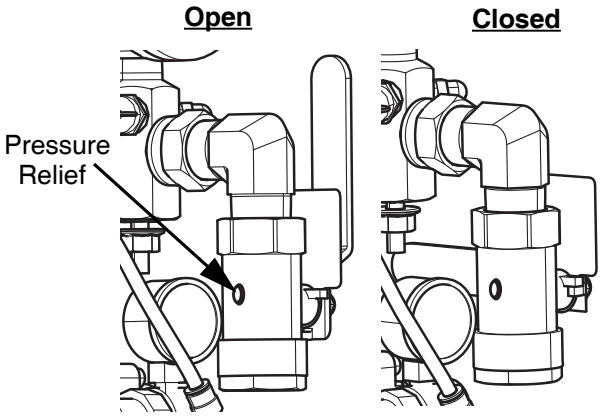


FIG. 19: Main Air Ball Valve

4. Press the on/off key , then turn off the main power switch (MP) on the control box.

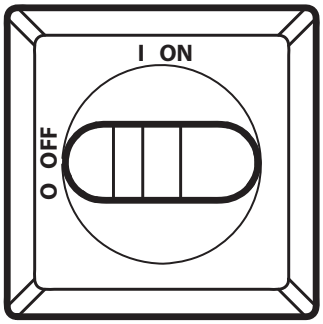
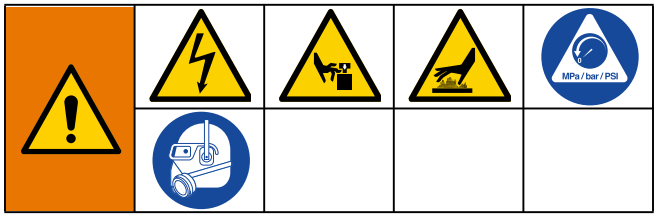


FIG. 20: Power Switch

Many warm melt materials tend to expand when heating and may cause a heated hose to burst. To avoid serious injury from a bursting hose, open the dispense valve during system heat up and lock the dispense valve trigger open every time you shut the system down.

Maintenance



Replace Throat Seals

Quick Coupler

Remove the wet cup (L) from the displacement lower (C) while attached to the ram (A) to replace the throat seals.

1. Ensure the displacement lower is at the bottom of the stroke.
2. Follow the **Pressure Relief Procedure** on page 21.
3. Remove Quick Coupler:
   Remove the clip (GC), and slide the coupling cover (GB) up to remove the coupling (GA).

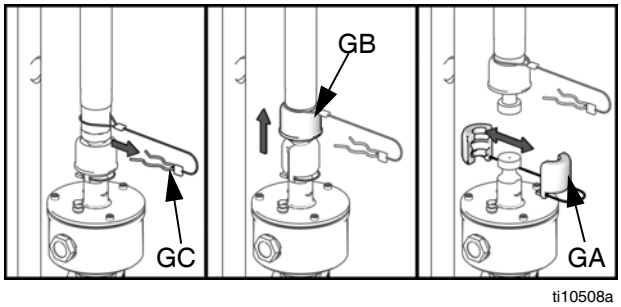
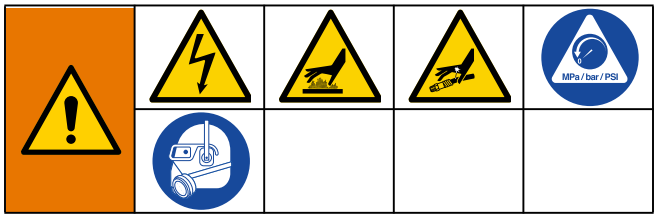


FIG. 21: Remove Quick Coupler

4. Lift the air motor rod to bring the rod to top of the stroke.
5. Remove the wet cup and packing cartridge according to the instructions in the displacement lower manual(s).

Platen Maintenance



If the platen does not come out of the pail easily when the pump is being raised, the blow off tube or check valve may be plugged. A plugged valve prevents air from reaching the underside of the plate to assist in raising it from the pail.

1. Lower the platen completely.
2. Turn the main power switch (MP) OFF.
3. Disassemble the electric cable from the receptacle of the platen.
4. Perform the **Pressure Relief Procedure** on page 21 and follow the Pressure Relief Procedure in your pump manual.
5. Disassemble the blow off tube (H) from the blow off valve.
6. Loosen the set screw (Z), see FIG. 23.
7. Jog the director valve (BC) up to separate the platen from the pump.

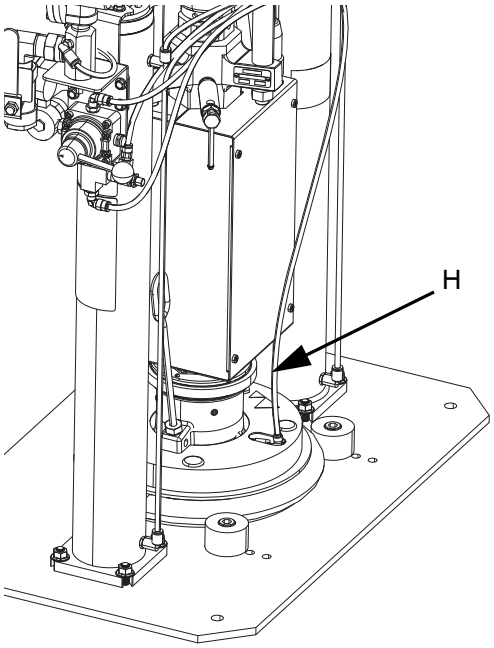


FIG. 22: Blow Off Tube

8. Clear the blow off tube in the platen. Clean all parts of the valve and reassemble.
9. Remove the bleed stick (DE) from the platen. Push the bleed stick through the bleed relieve port (G) to remove material residue. See FIG. 23.
10. Remove the platen covers. See FIG. 23.
    a. Remove the platen cover fasteners and nuts (V).
11. Disconnect the heater block (X) from the platen. Remove the screws (W) from the upper heater plate (X). Remove the upper heater plate.
12. Remove any excess fluid. Use a soft wire brush on the heater (Y). See FIG. 23.
13. Inspect the platen heater blocks (X) and heater (Y) for burn or melt spots. Replace the platen heater blocks or heater if necessary. See FIG. 23.
14. Check for loose connections and damaged wires.
15. Follow these steps in reverse order to reassemble the platen.

NOTE: Torque the nuts (V) to 45 +/- 5 in-lbs (5.1 +/- 0.6 N•m) for smaller platens.

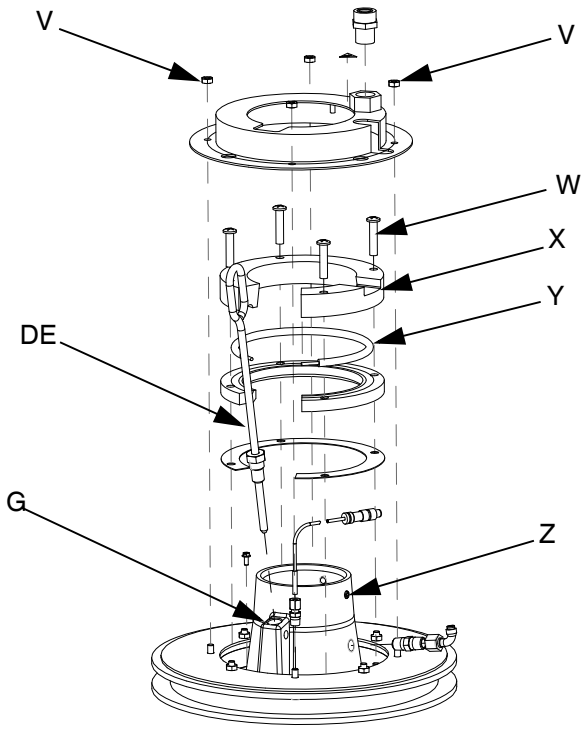


FIG. 23: Remove Platen Covers and Heaters

Pump Heaters

NOTE: Wait for the heaters (PH) to cool before performing maintenance on the pump heaters.

1. Turn the main power switch (MP) on the electrical control board door to the OFF position to disconnect the power.
2. Disconnect the cable connector (UB) from the pump receptacle (UA) on the pump shroud.

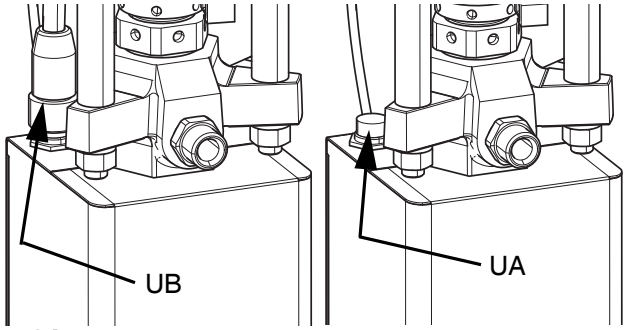


FIG. 24

3. Remove the four screws (ZA) from the back pump shroud.

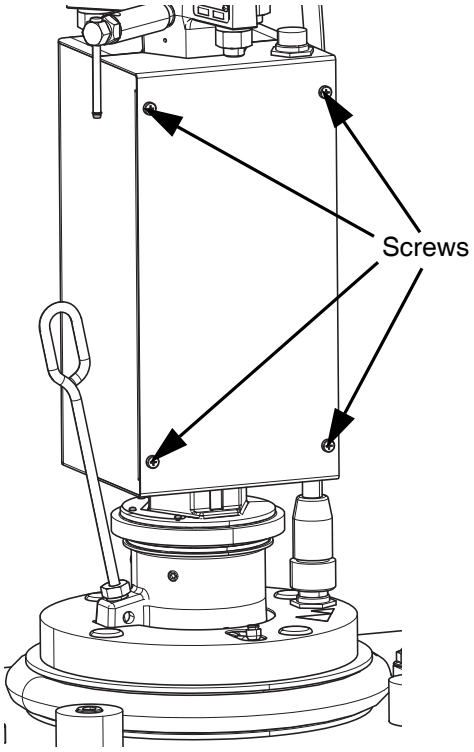


FIG. 25: Remove Pump Shroud

4. Remove the pump heater front shroud.
5. Check for damaged wires and connections.

6. Follow these steps in reverse order to reassemble the pump heaters (PH). Ensure the heaters are secure so they cannot rotate on the pump.

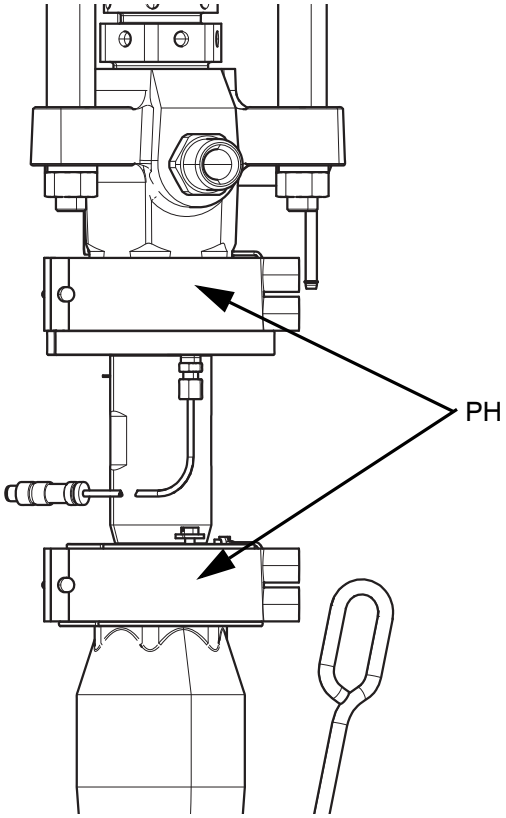


FIG. 26: Pump Heaters

Electrical Enclosure

1. Turn the main power switch (MP) on the electrical control panel door to the OFF position to disconnect the power.

2. Open the door of the electrical enclosure.

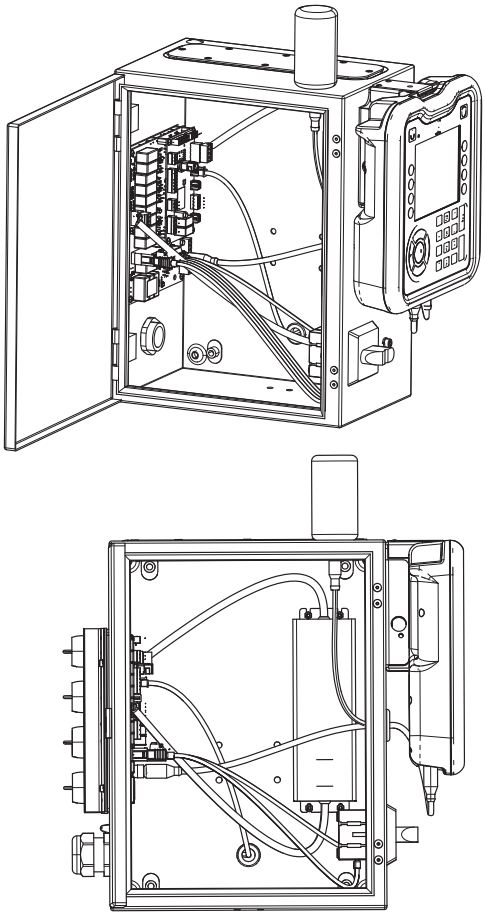
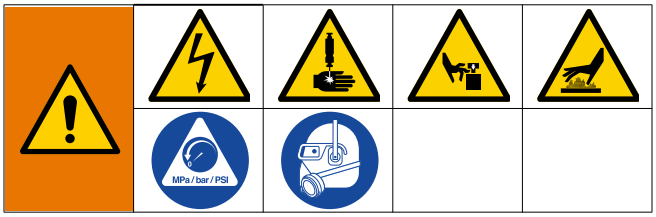


FIG. 27: Inside View of Electrical Enclosure

3. Check for damaged or loose wires. Check the connections from the cable track.

4. Check for a damaged fuse on the control board.

Troubleshooting



NOTE: Troubleshooting covered in this manual is specific to warm melt heat functions. Refer to the General Industry Sypply Systems - Accessory Kits manual for ram troubleshooting. Refer to the Check-Mate Pump Packages in the Check-Mate Pump Packages Instructions-Parts manual for pump troubleshooting.

1. Follow the **Pressure Relief Procedure** on page 21 before disassembling any part of the warm melt supply system.
2. Disconnect all power to the warm melt supply system before repairing.
3. Check all possible problems and causes before disassembling any part of the warm melt supply system.

Error Codes

There are three types of errors that can occur. Errors are indicated on the display as well as by the light tower.

Alarms are indicated by . This condition indicates a parameter critical to the process has reached a level requiring the system to stop. The alarm needs to be addressed immediately.

Deviations are indicated by . This condition indicates a parameter critical to the process has reached a level requiring attention, but not significant enough to stop the system at this time.

Advisories are indicated by . This condition indicates a parameter that is not immediately critical to the process. The advisory needs attention to prevent more serious issues in the future.

To acknowledge the error, press .

The third digit, or sometimes the last digit of the error code, indicates which unit the error is active on. The “★” (star) character indicates the code applies to multiple system components.

Third or Last Digit “★”	Code Relates To:
A	Unit A

The last digit of the error code indicates to which system component the error applies. The “#” (pound) character indicates the code applies to multiple system components.

Last Digit “#”	Code Relates To System Component:
1	AMZ 1
X	Daughter Board Unit A

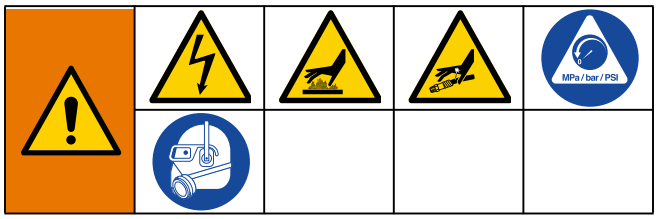
The last digit of the error code indicates to which heat zone the error applies. The “_” (underscore) character indicates the code applies to multiple system components.

Last Digit “_”	Code Relates To Heat Zone:
1	Zone 1
2	Zone 2
3	Zone 3
4	Zone 4
5	Zone 5
6	Zone 6

Code	Description	Type	Cause	Solution
A4 _	High Current Unit _ Zone _	Alarm	Defective or shorted to ground on zone	Verify the accessory is rated for 220 VAC.
				Verify the heater resistance and check for shorts to the ground. Replace as necessary.
A7 _	Unexp. Curr. Unit _ Zone _	Alarm	Unexpected current flow to zone	Faulty accessory heater. Measure the resistance to the ground between heater leads.
A8 _	No Current Unit _ Zone _	Alarm	No Current Flow to the Zone	Check for loose or disconnected wires or plugs.
				Check for blown fuses on the AMZ.
				Check the heater resistance for the open circuit.
				Check for shorts between the heater and ground.
				Verify the cable is plugged into zones 3-4. Replace the heater if necessary.
CAC#	Comm Error AMZ _	Alarm	System not responding to ADM	The system is not properly loaded with the correct Software.
				The dial is not set correct on the AMZ. Duplicate AMZ dial positions (i.e. 1 to 1, 2 to 2, ect).
				Check all CAN connections between the ADM and missing AMZ.
				Check if hardware exists on the network.
				Replace the AMZ if necessary.
CACX	DB Not Present Unit A	Alarm	Daughter Board not responding	Ensure the connections between the ADM and hardware are secure.
				Replace the Daughter Board.
L2 X	Material Level Empty	Alarm	Material drum is empty	Replace the material container. If more material is leftover, lower the empty level sensor.
L3 X	Material Level Low	Deviation	Material level is low	Replace at appropriate time.
MMUX	USB Log Full	Advisory	USB logs full. Data loss will occur if not downloaded.	Download USB data or disable the USB log errors on the Advanced screen 3.
T1 _	Low Temp. Unit _ Zone _	Alarm	Zone temperature too low	Reduce the flow rate.
				Increase the temperature of the accessory upstream.
				Faulty accessory heater measure resistance between heater leads.
				Replace the accessory.
T2 _	Low Temp. Unit _ Zone _	Deviation	Zone temperature too low	Reduce the flow rate.
				Add the zone (temperature) upstream.

Code	Description	Type	Cause	Solution
T3 _	High Temp. Unit _ Zone _	Deviation	Temperature reading has risen too high	Verify the setpoint upstream is not hotter than this zone's setpoint.
T4 _	High Temp. Unit _ Zone _	Alarm	Temperature reading has risen too high	Verify the setpoint upstream is not hotter than this zone's setpoint.
T6 _	Sensor Err. Unit _ Zone _	Alarm	Bad RTD Reading	Check the RTD wiring and harness/connector integrity.
				Replace the RTD.
T8V_	No Temp. Rise Unit _ Zone _	Alarm	Temperature reading does not change.	Check the fuses on the AMZ connected to that Zone.
				Check the wiring to the device.
				Check the heater resistance on the device.
V1M#	Low Voltage Line AMZ _	Deviation	The voltage to the AWB is below threshold	Verify the incoming voltage is correct.
V6M#	Wiring Error Line AMZ _	Alarm	Incoming power is wired incorrectly	Correct the Wiring.
V8M#	No Line Voltage AMZ _	Alarm	Incoming line voltage is less than 100 VAC.	Measure the incoming power with the system unplugged. If the line voltage is less than 100 VAC, contact a qualified electrician to correct the low voltage.
V4M#	AMZ High Line Voltage	Alarm	Incoming voltage is too high	Check the incoming voltage is correct for the configuration.
WSUX	Configuration Error USB	Advisory	USB configuration is not loaded	Install software.

Repair



Air Motor

Remove Air Motor

1. Turn the main power switch (MP) OFF.
2. Perform the **Pressure Relief Procedure** on page 21 and follow the Pressure Relief Procedure in your pump manual.
3. Perform the Disconnect Displacement Pump procedure in the Check-Mate Pump Packages, Instructions-Parts manual.
4. Disconnect the air hose from the air motor (B).
5. Remove Quick Coupler: Remove the clip (GC), and slide the coupling cover (GB) up to remove the coupling (GA).

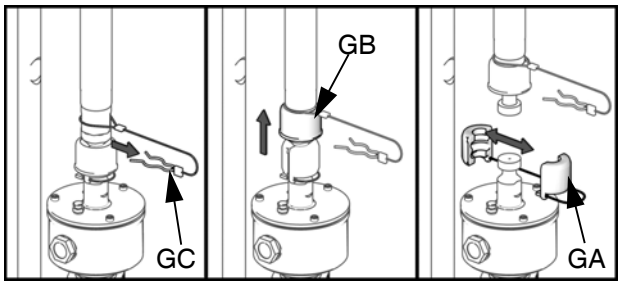


FIG. 28: Remove Quick Coupler

6. Disconnect air motor: Remove the screws and washers securing the motor (B) to the mounting bracket (J). See FIG. 29.

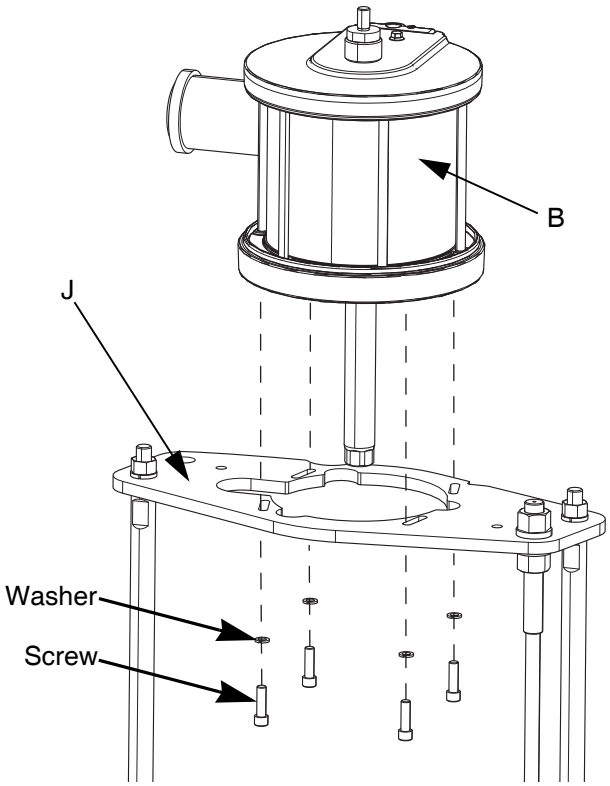


FIG. 29: Air Motor Disconnection

Install Air Motor

20 liter (5 gallon) platen:

1. Attach the motor (B) to the mounting bracket (J) with screws and washers. Tighten the screws until they are flat against the lock washers. See FIG. 29.
2. Connect the air hose to the motor (B).

Displacement Lower

Remove Displacement Lower

This procedure must be done while the system is still warm. The material and equipment may still be hot. To prevent injury from burns, use proper personal protection equipment.

Refer to your Check-Mate Displacement Pump manual to repair the displacement lower.

If the air motor does not require servicing, leave it attached to its mounting. If the air motor does need to be removed, see **Remove Air Motor**, page 31.

1. Perform the **Pressure Relief Procedure** on page 21 and follow the Pressure Relief Procedure in your pump manual.
2. Disconnect the blow off tube from the blow off valve.
3. Disconnect the cable connector (DH) from the platen receptacle (DG) and lower shroud receptacle.
4. To remove shrouds and lower heater components, follow steps 1-4 on page 26.

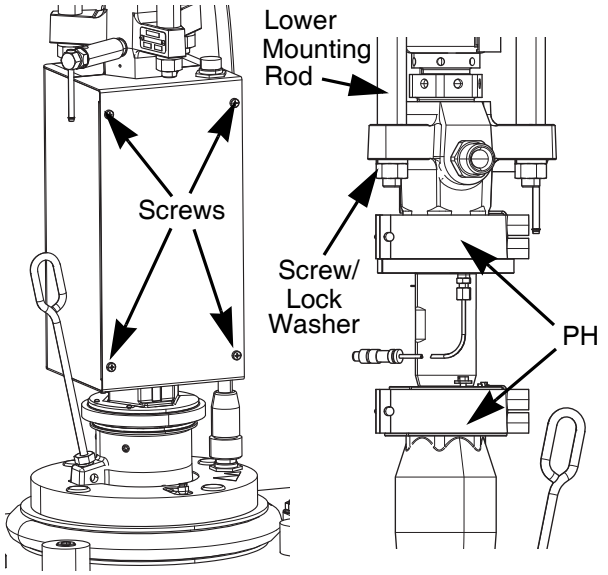


FIG. 30

5. Remove the screws and lock washers on the lower mounting rods. See FIG. 30.
6. Remove the quick coupler.
7. Open the main air ball valve (BA), then jog the direction valve UP to separate the lower and the air motor. Lift the air motor to the highest position, and move the lower with the platen down from the ram base.
8. Loosen the set screw (Z).
9. Use two people to carefully lift out the displacement lower. Service the displacement lower as needed. See the Check-Mate Displacement Pump manual for instructions.

Install Displacement Lower

1. Use two people to carefully insert the replaced lower into the platen, then tighten the set screw (Z).
2. Connect the air inlet to the main air ball valve, then slightly lift the air cylinders with the air motor.
3. Move the lower with the platen onto the ram base and align it with the lower mounting rods.
4. Jog the direction valve DOWN to slowly drop the lower mounting rods into the lower.
5. Install the lock washers and screws and tighten the screws until they are flat against the lock washers.
6. Jog the direction valve UP to lift the platen slightly. Loosen the platen set screw to rotate it for adjustment.
7. Reinstall the pump heater components, sensor components and O/T device.
8. Reinstall the pump heater shrouds (see page 35). Secure with screws.
9. See Reconnect Displacement Pump in the Check-Mate Pump Packages manual.
10. Reconnect the air hose and ground wire (DA) to the air motor.

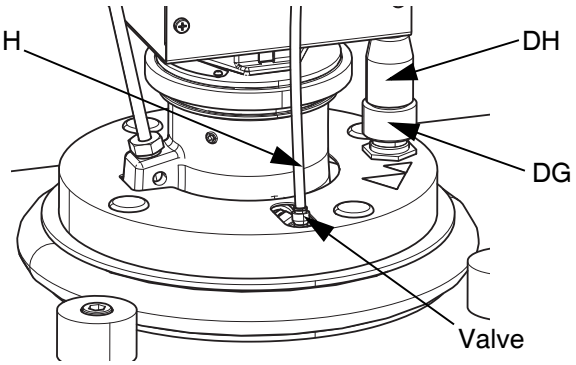


FIG. 31

Disconnect Platen from Pump

NOTE: Allow the platen to cool before disconnecting from the pump.

1. Turn the main power switch (MP) OFF.
2. Perform the **Pressure Relief Procedure** on page 21.
3. Disconnect the blow off tube (H) from the blow off valve.
4. Disconnect the cable connector (DH) from the platen receptacle (DG).

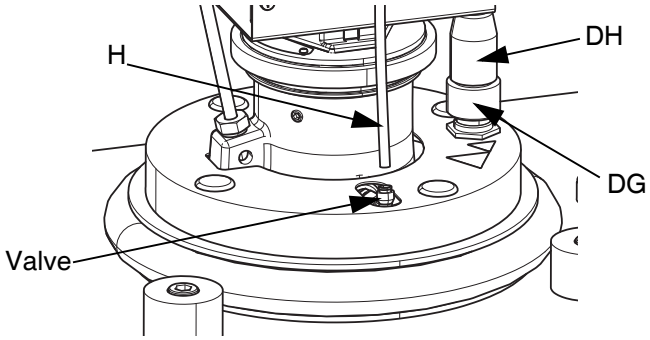


FIG. 32: Blow Off Tube Disconnected

5. Remove the two set screws (Z) from the platen. See FIG. 23 on page 25.
6. Open the main ball valve (BA), then raise the ram up and separate the platen from the pump.

Connect Platen to Pump

1. Raise the ram up, leaving enough space to put the platen onto the base plate.
2. Put the platen under the lower and align it. Ensure the seal ring is installed onto the lower.
3. Drop the lower into the platen until it reaches the bottom. Adjust the handle's position to ensure the bleed stick is on the correct side.
4. Tighten the two set screws (Z) on the platen.
5. Connect the blow off tube (H) onto the valve.
6. Connect the cable connector (DH) onto the platen receptacle.

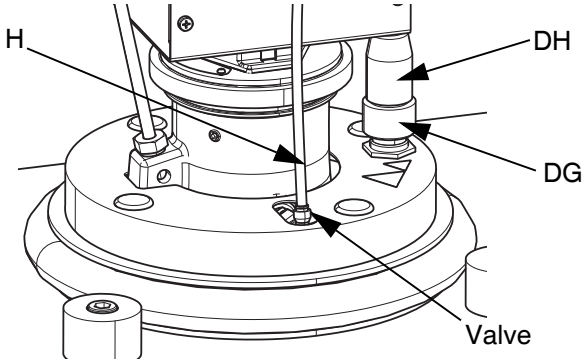


FIG. 33: Blow Off Tube Connected

Replace Platen Heaters and Sensor O/T Device

1. Turn the main power switch (MP) OFF.
2. Follow the steps to **Disconnect Platen from Pump** on page 33.
3. Remove the bleed stick (DE).
4. Remove all four plugs (DA) on the guard (DC), then remove the nuts (DB) to disassemble the guard.
5. Disconnect the platen receptacle (DG) from the guard. Disconnect the pin from the platen receptacle (DG) with the needle withdrawal tool shown in FIG. 35.
6. Replace the heater (PH), sensor (SE), or over temperature device (OT).
7. Install the pin onto the heater wire and sensor wire with the special crimping tool shown in FIG. 36. Install the pins into the relative terminals. Refer to FIG. 34 and TABLE 4:.

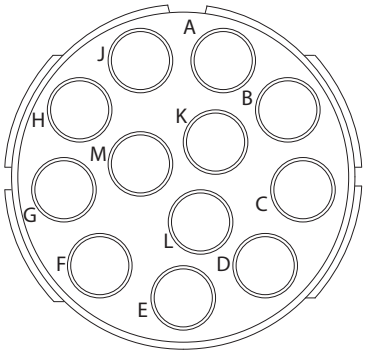


FIG. 34: Pin Terminals

Table 4: Pin Installation

Wire Type	Pin Type	Pin Terminal
Heater Wire	RC16M23K	C/D
O/T	RC16M23K	E/H
Sensor Wire	RC20M13K	K/M
Grounding	RM16M23GE1K	B

FIG. 35: Needle Withdrawal Tool

FIG. 36: Crimping Tool

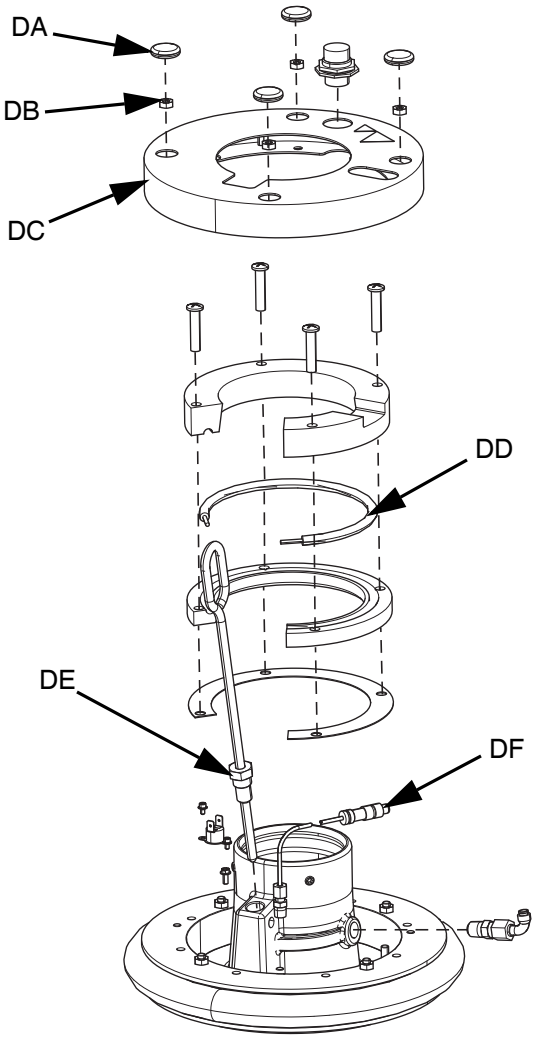


FIG. 37: Reinstall Platen

8. Reinstall the platen as shown in FIG. 37.

Replace Pump Heaters and Sensor O/T Device

1. Turn the main power switch (MP) OFF.
2. Disconnect the cable connector (UB) from the pump receptacle (UA) on the pump shroud (UC).

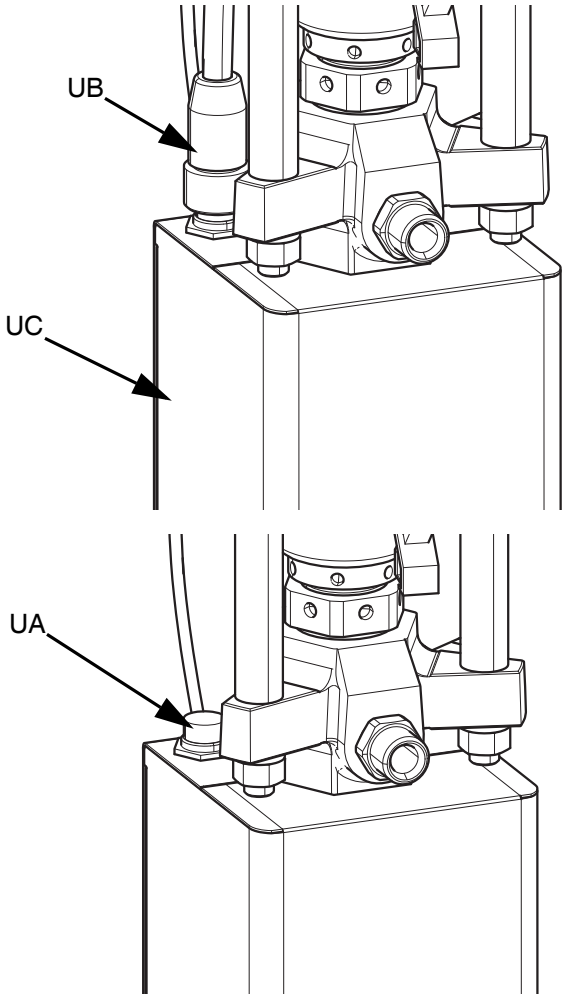


FIG. 38

3. Remove the four screws from the back pump shroud.

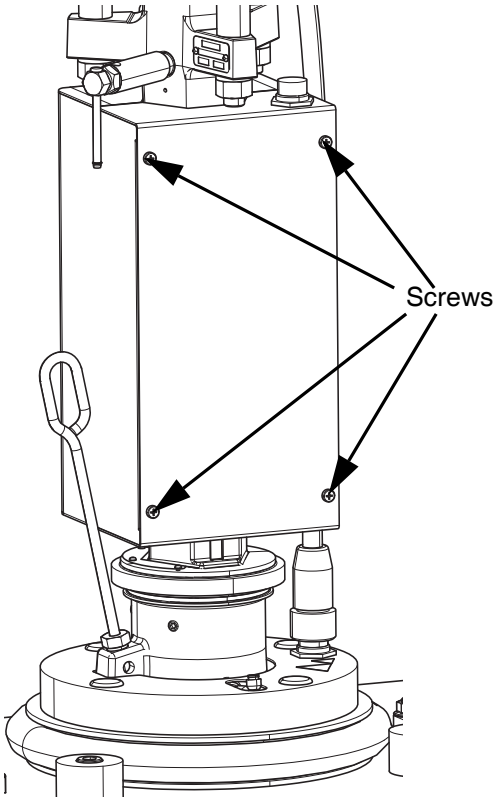


FIG. 39

4. Disconnect the pump receptacle (UA) from the enclosure.

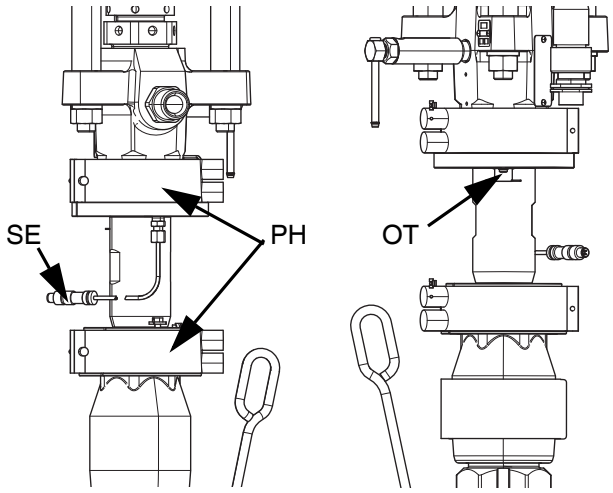


FIG. 40: Pump Heaters

5. Replace the heater (PH), sensor (SE), or over temperature device (OT).

6. Install the pin onto the heater wire and sensor wire with the special crimping tool shown in FIG. 36. Install the pins into the relative terminals. Refer to FIG. 41 and TABLE 5:

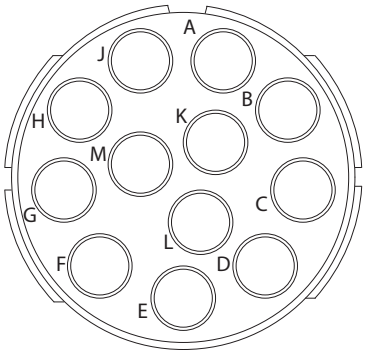
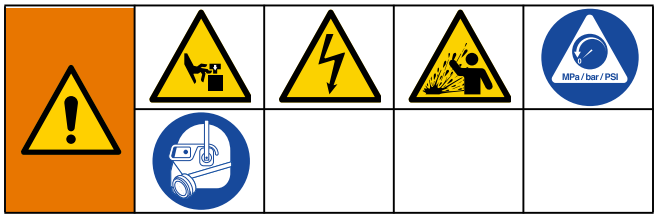


FIG. 41: Pin Terminals

Table 5: Pin Installation

Wire Type	Pin Type	Pin Terminal
Heater Wire	RC16M23K	C/D
O/T	RC16M23K	E/H
Sensor Wire	RC20M13K	K/M
Grounding	RM16M23GE1K	B

Replace Ram Piston Rod Seals



1. Turn the main power switch (MP) OFF.

2. Perform the **Pressure Relief Procedure** on page 21.

3. Support the electrical enclosure (P) using a loop and a hoist.

4. Remove the screws from the bracket (R) connecting the electrical enclosure (P) to the ram piston rod and cable track (if applicable).

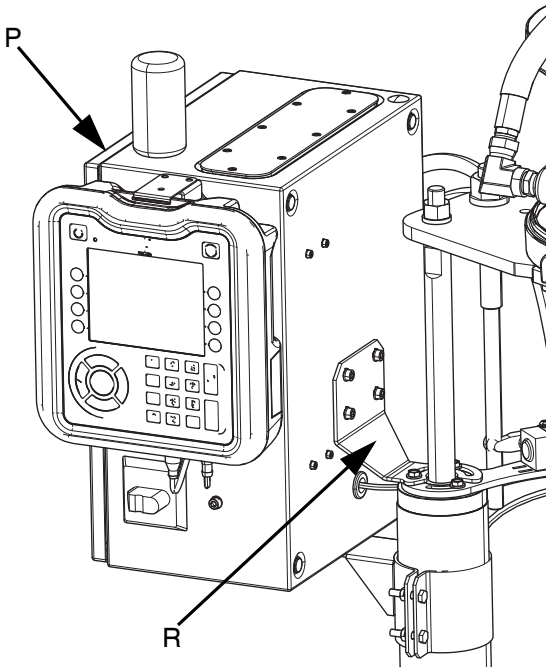


FIG. 42: Replace Rod Seals

5. Remove the bracket (R) from the ram post.

6. See the General Industry Supply Systems Operation - Parts manual for replacement instructions.

7. Follow these steps in reverse order to reinstall the bracket, cable track (if applicable), and electrical enclosure.

Electrical Enclosure

Power is still connected even after the main power switch (MP) is off. To avoid electric shock, avoid contact with the power line filter to reduce the risk of electric shock.

Prior to repairing any component of the electrical enclosure, turn the main power switch (MP) on the electrical control panel door to the OFF position to disconnect power.

Replace Electrical Enclosure

1. Ensure power to the electrical enclosure is disconnected. Pull up the receptacle of the power cable.
2. Remove the platen and lower power cable connector (FA) from the control board receptacle (FB). See FIG. 43.
3. Disconnect the low level switch cable (FC) from the control board. See FIG. 43.

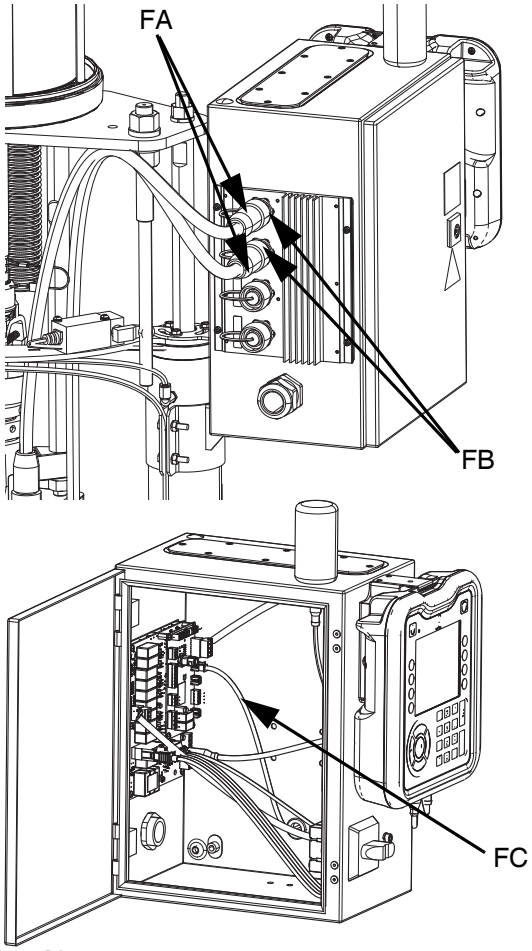


FIG. 43

4. Remove the screws and nuts from the bottom bracket and side bracket of the enclosure. See FIG. 44.

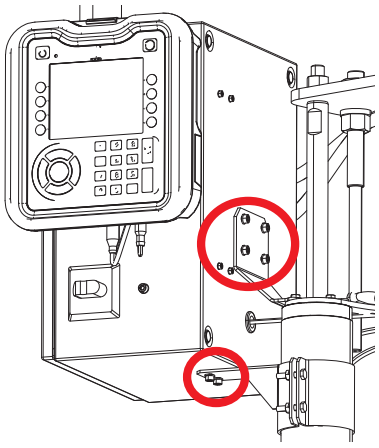


FIG. 44

5. Lift the enclosure off and replace it with the new enclosure.

6. Secure the new electrical enclosure to the bottom and side brackets with screws and washers.
7. Reconnect the low level switch cable (FC) onto the control board.
8. Reconnect the platen and lower power cable connector (FA) onto the control board receptacle (FB).

All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

Replace the Control Board

1. Disconnect all cables on the control board.

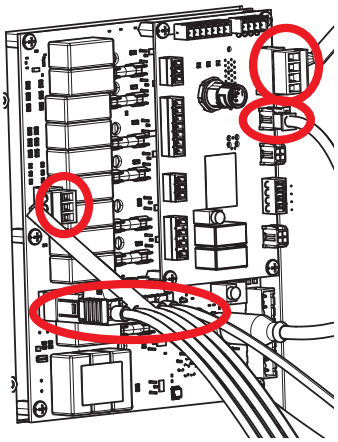


FIG. 45

2. Remove the four screws and nuts from the control board.

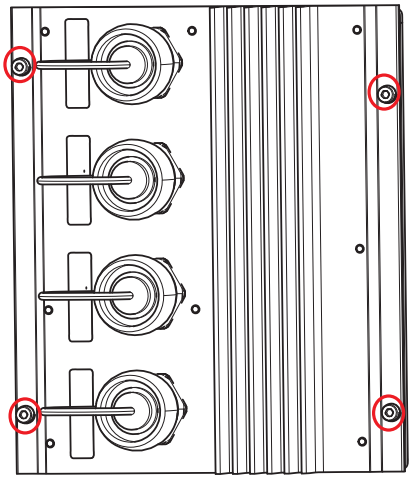


FIG. 46

NOTICE

To avoid damaging the circuit board, wear a grounding strap.

3. Remove the control board and replace it with a new one, re-tightening the screws and nuts taken out in step 2.
4. Connect the cables into the new control board.

Replace the Power Supply

1. Disconnect both ends of the power supply (PS).

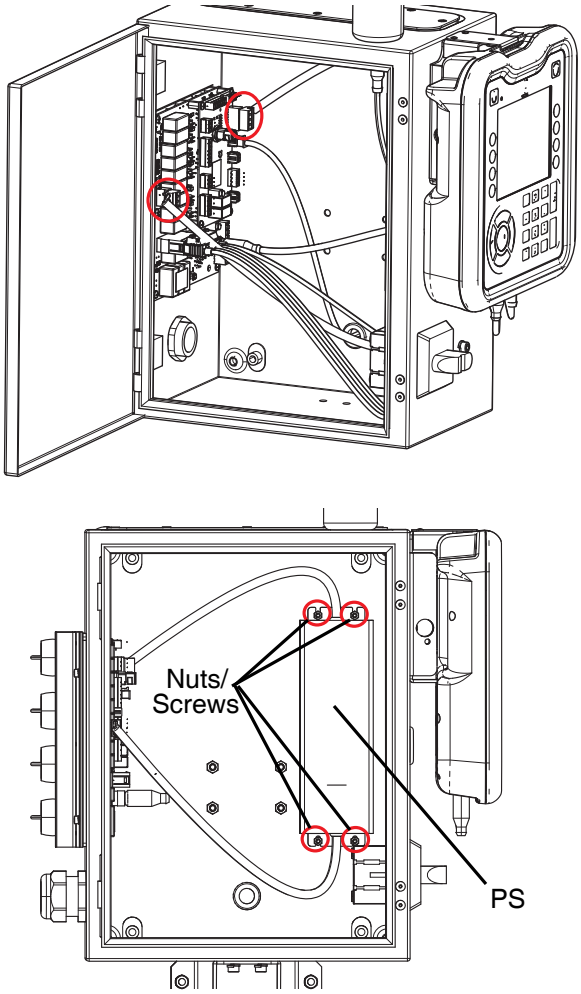


FIG. 47

2. Remove the four screws and nuts from the power supply (PS).

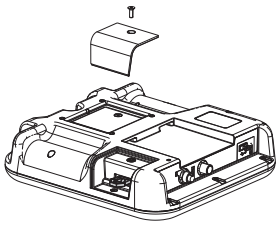
3. Remove the power supply and replace it with a new one, screwing it into place.

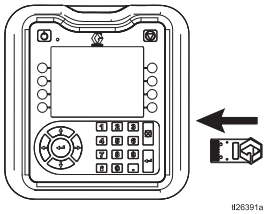
Display/User Interface

Upgrade Display Software

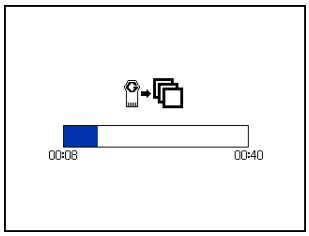
NOTE: Order kit 17V779 for an upgrade token. See the Graco Control Architecture™ Module Programming manual for instructions. Software token 17V779 is required to install the software before use.

1. Disconnect the power.
2. Disconnect the data cable and light tower cable from the ADM.
3. Remove the ADM module from the bracket.
4. Use a socket wrench to remove the screw from the USB cover, then remove the cover.
5. Insert the upgrade token into the ADM USB slot.





6. Put the ADM back into the bracket.
7. Turn the main power switch (MP) on the electrical control panel door to the ON position. The ADM software will be upgraded automatically.



8. Press the button on the ADM shown in FIG. 48 and pull the token out. The ADM will restart automatically.

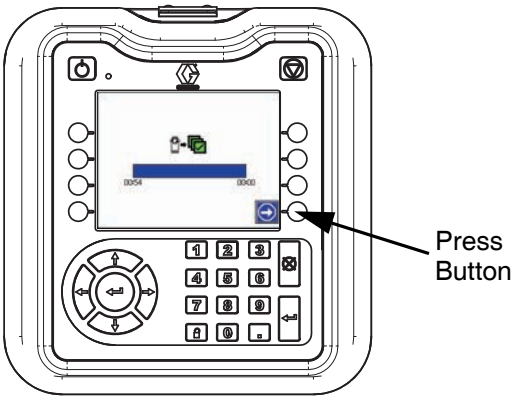


FIG. 48: Advanced Display Module

9. Make sure the software being used is the latest version.
   a. Press  to enter the setup section.
   b. Press the right horizontal arrow  to go into the Advanced screen and check the software version.

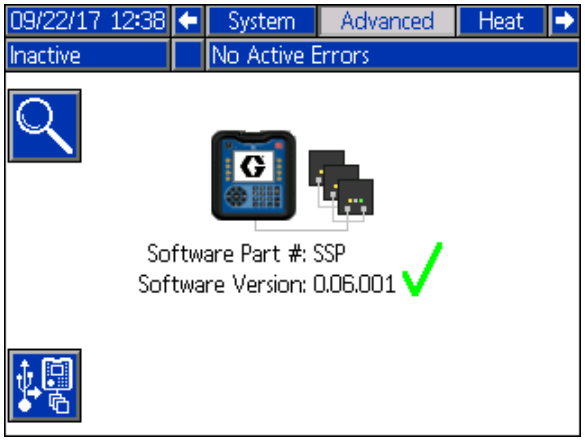


FIG. 49: Advanced Screen

NOTE: The software version shown in FIG. 49 is for reference only.

10. Reinstall the USB cover after the software upgrade is complete.

Replace Display

NOTE: Order Kit 24E451 for replacement. Software token 16C027 is required to install software before use.

NOTICE
To avoid damaging the circuit board, wear a grounding strap.

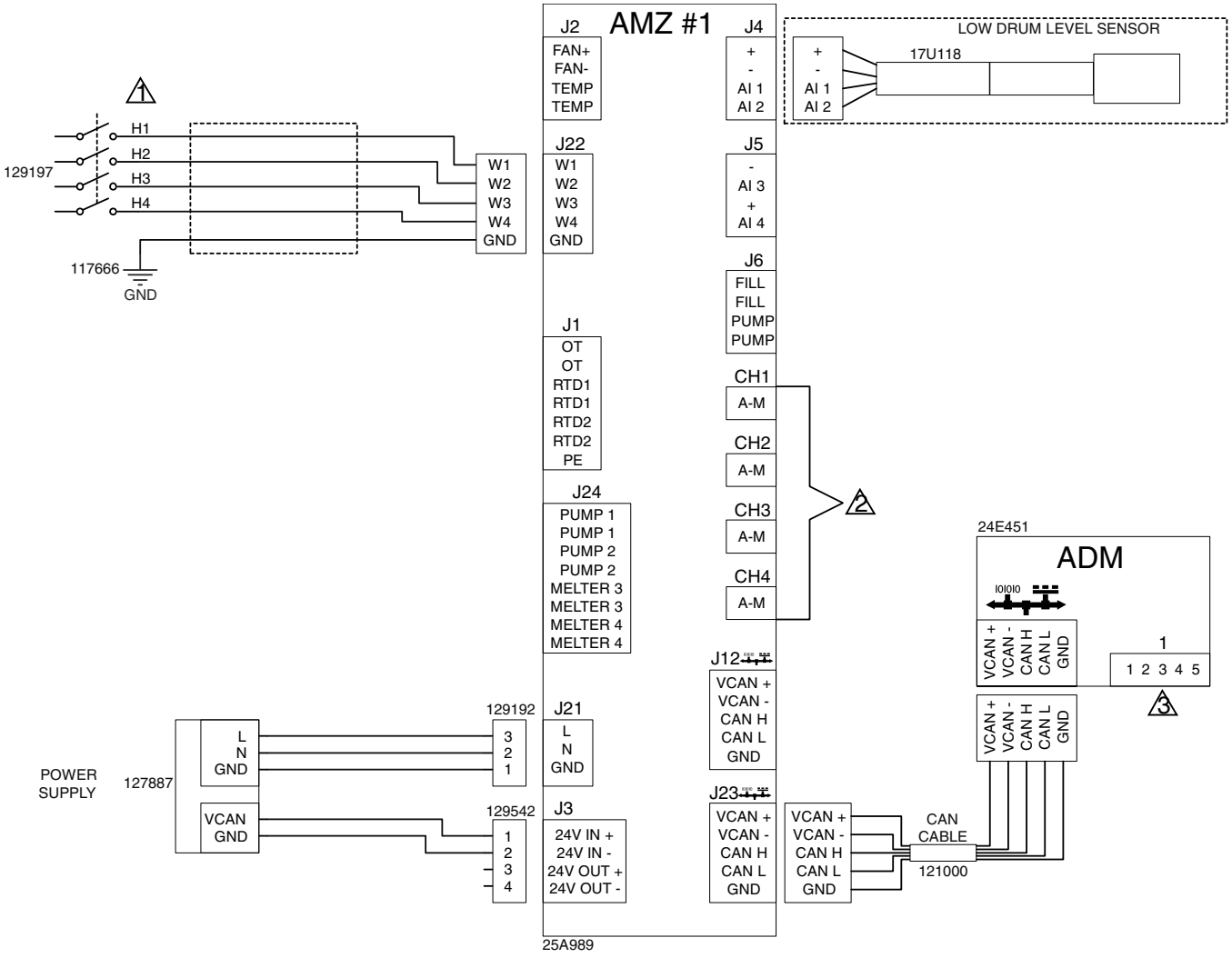
1. Disconnect power.
2. Pull the display out of the bracket clips to remove it.
3. Disconnect the CAN cable(s) from the display.
4. Replace with the new display. Reconnect the CAN cable(s).
5. Load the correct display software for the system. Follow the steps in the **Upgrade Display Software** section on page 39.

NOTE: The token is not included with the display and must be ordered separately.

Electrical Schematics

All electrical wiring must be done by a qualified electrician.

Electrical Enclosure Schematic

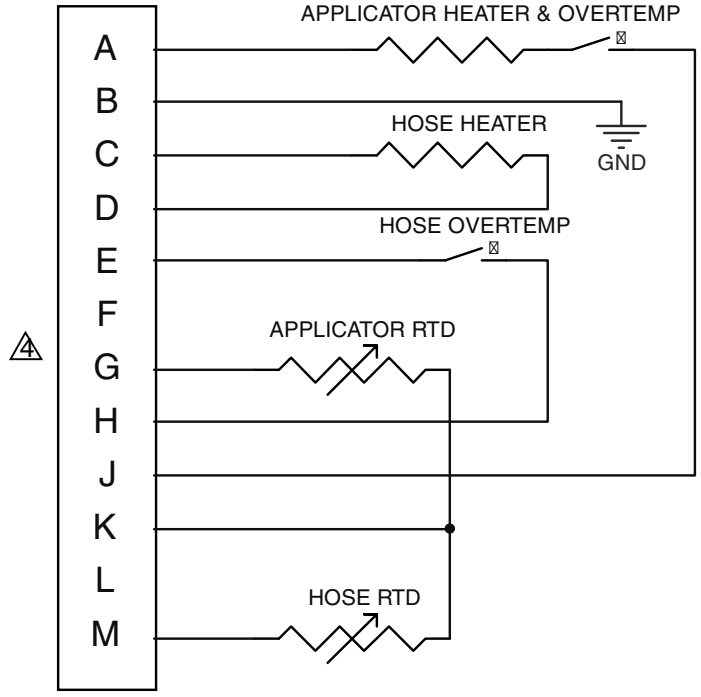


1 See Incoming Power Schematic on page 42.

2 See Typical Hose/Applicator Wiring Schematic on page 42.

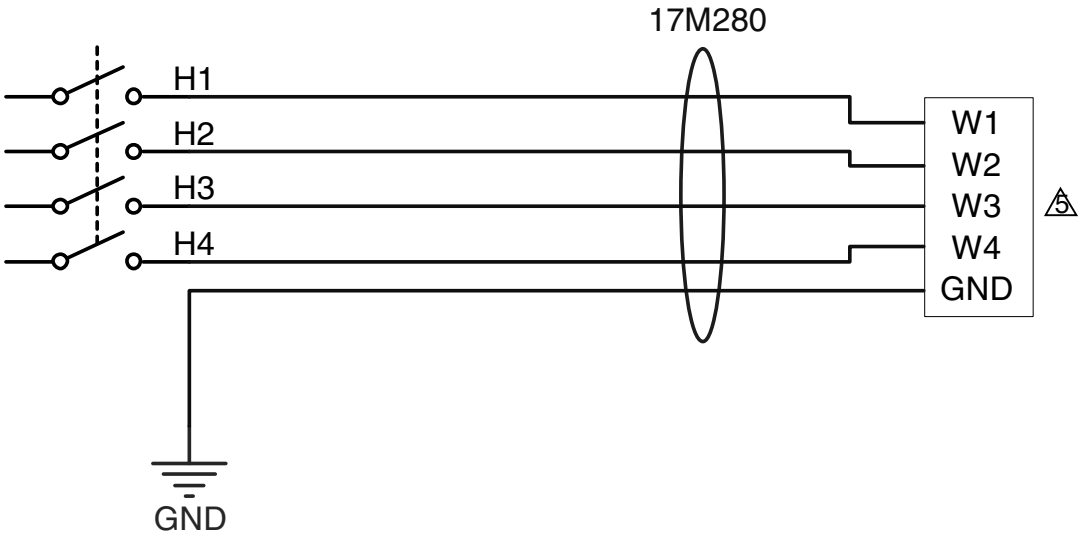
3 Optional Light Tower Accessory

Typical Hose/Applicator Wiring



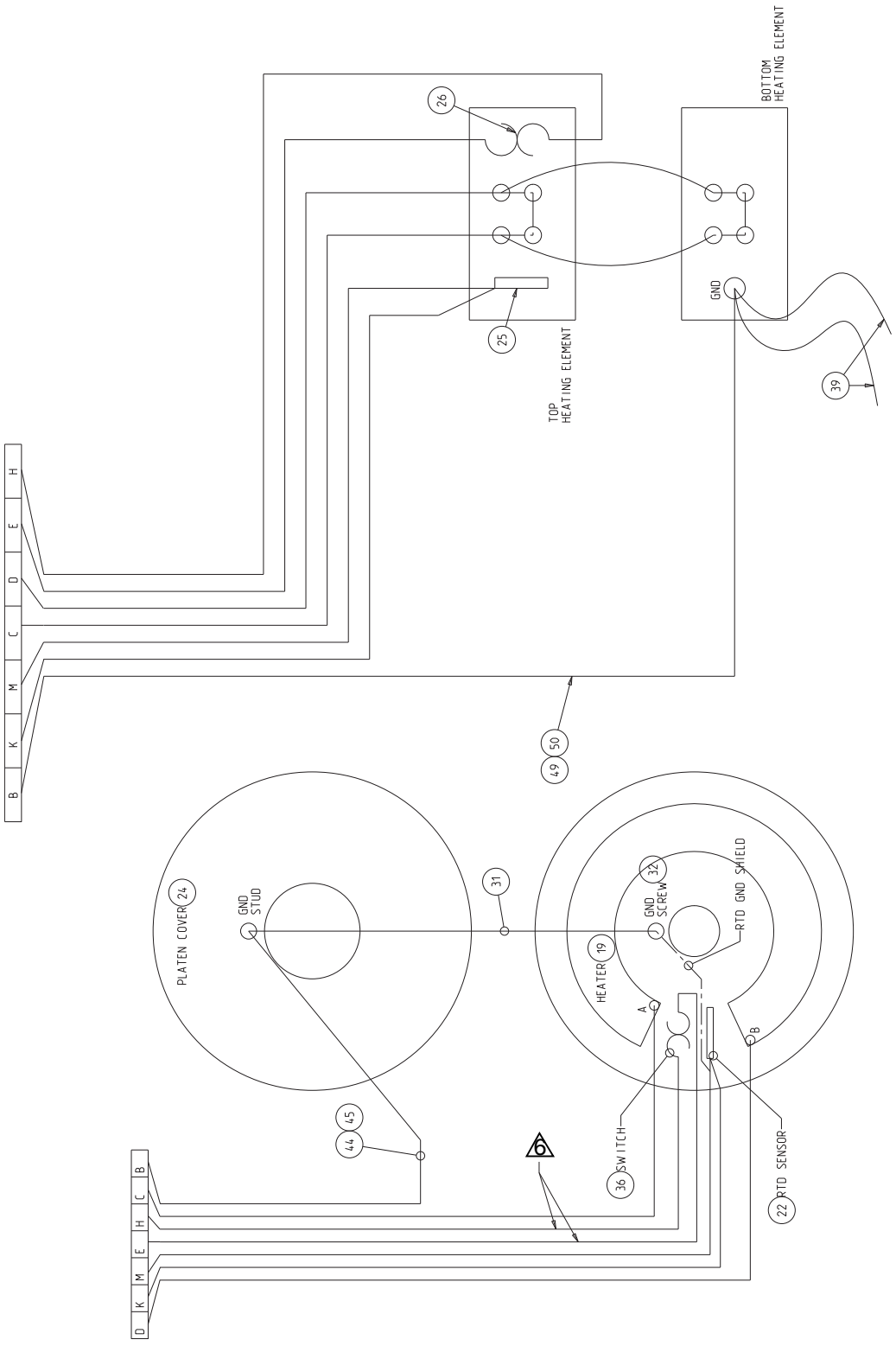
4 Connects to CH1-4 on AMZ #1.

Incoming Power



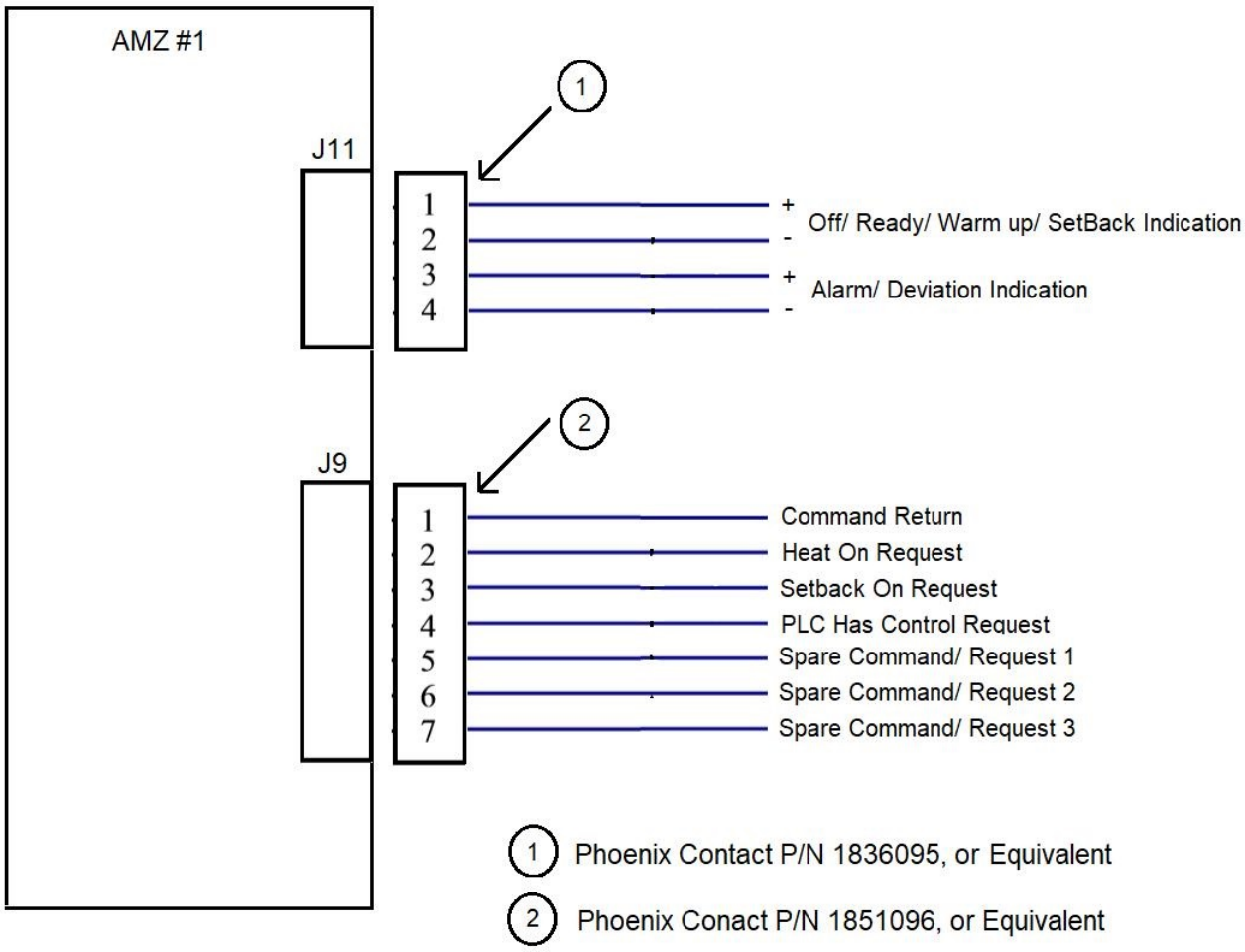
5 Connects to AMZ #1-J2

Pump and Platen Schematic



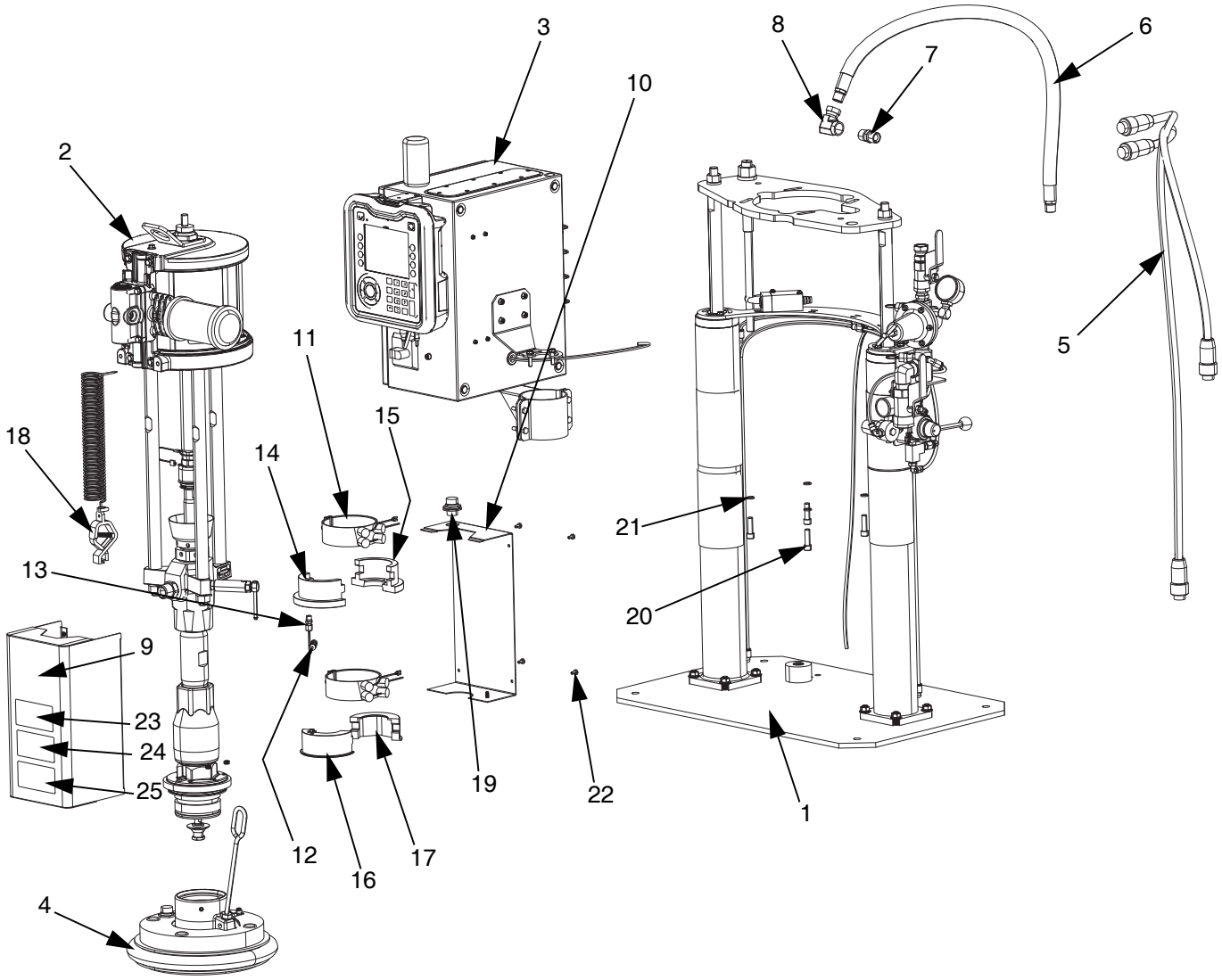
6 Cable from switch (36) included with heater (19).

PLC Control and Indication Cable Details (Optional)



Parts

System and Supply Unit 25D117 and 26C258

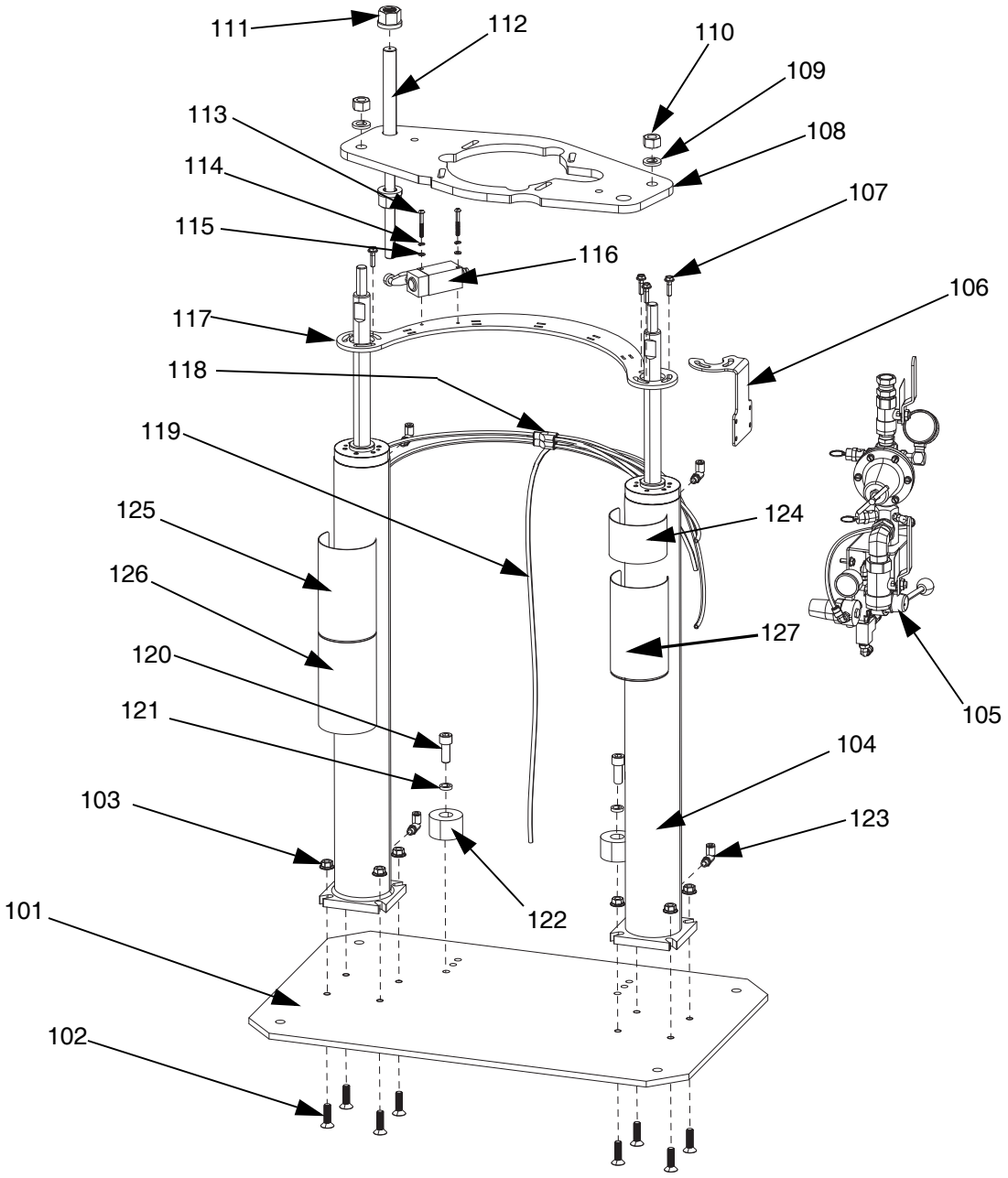


NOTE: See **Component Identification** on page 6 to identify the components included in your Warm Melt supply system.

Ref.	Part	Description	Qty.
1	25D092	RAM, DP, assem	1
2	24V623	PUMP, assy, 61:1, 100 cc, ms	1
3	25D113	CONTROL BOX (model 25D117 only)	1
	26C257	CONTROL BOX (model 26C258 only)	1
4	25D085	PLATEN, heat, 20 l	1
5	17T868	CABLE, heated ram, gi	2
6	25C547	HOSE, 1/2 id x 6 ft	1
7	157416	FITTING, nipple	1
8	158491	FITTING, swivel, union, 92 deg	1
9	17T376	ENCLOSURE, pump, front	1
10	17T377	ENCLOSURE, pump, back	1
11	121980	HEATER, pump, 725 watt	2
12	17W858	SENSOR, rtd, 1k ohm, shielded	1
13	123726	FITTING, compression, 1/8" npt, brass	1
14	17T372	SPACING, heater, top, male	1
15	17T373	SPACING, heater, top, female	1
16	17T374	SPACING, heater, bottom, male	1
17	17T375	SPACING, heater, bottom, female	1
18	238909	WIRE, gounding assembly	1
19	17T623	SOCKET, jam nut	1
20	C19839	SCREW, cap, socket, hd	4
21	100133	WASHER, lock, 3/8	4
22	110637	SCREW, mach, pnhd	4
23	15H668▲	LABEL, safety	1
24	15J075▲	LABEL, safety, hot surface & energized	1
25	17V667▲	LABEL, safety, warning, amputation	1

▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

Ram Kit 25D092



Ref.	Part	Description	Qty.
101	17K572	BASE, ram, dp	1
102	127669	SCREW, cap, flathead, M10X35	8
103	127076	NUT, hex, flange, serrated, M10	8
104	25A626	RAM, assy, air cylinder, 3.0 id	2
105	25D109	REGULATOR, control, ram	1
106	17K571	BRACKET, air kit	1
107	127618	SCREW, mach, hex flange	6
108	25A391	BRACKET, noto, ram, 3.0", sgal	1
109	100128	WASHER, lock	2
110	100127	NUT, mscr, hex	2
111	17T626	NUT, flange, M20X2.5	2
112	17T625	BAR, limit, switch	1
113	120902	SCREW, bhcs, M5X40MM	2
114	117017	WASHER	2
115	112903	WASHER, lock, spring	2
116	17T640	SWITCH, limit	1

Ref.	Part	Description	Qty.
117	17T627	BRACKET, tiebar, ram, 3.0", silver	1
118	115287	TUBE, y, 1/4"	2
119	C12509	TUBE, nylon, rnd	21.5
120	C19853	SCREW, cap, socket, hd	2
121	C38185	WASHER, lock	2
122	17R803	STOP, drum	2
123	128863	FITTING, elbow	2
124	15J074▲	LABEL, safety, crush & pinch	1
125	15F674▲	LABEL, safety, motor	1
126	17L712▲	LABEL, safety, warning, multiple	1
127	17V712▲	LABLE, air control	1

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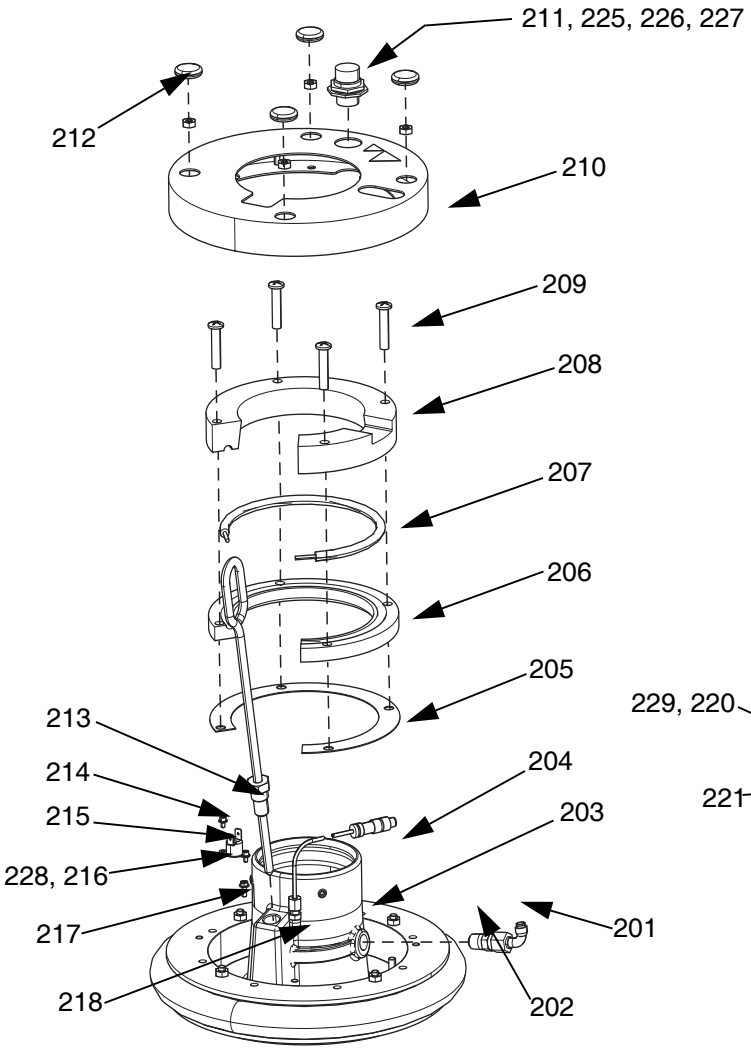
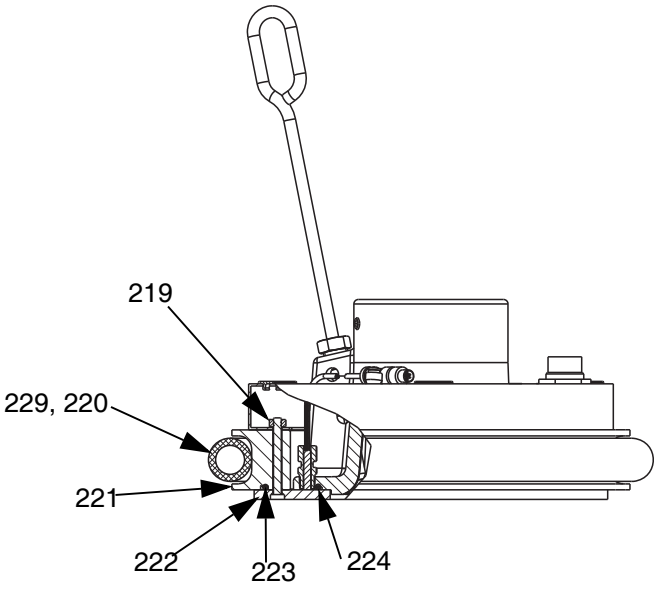
Heated Platen 25D085



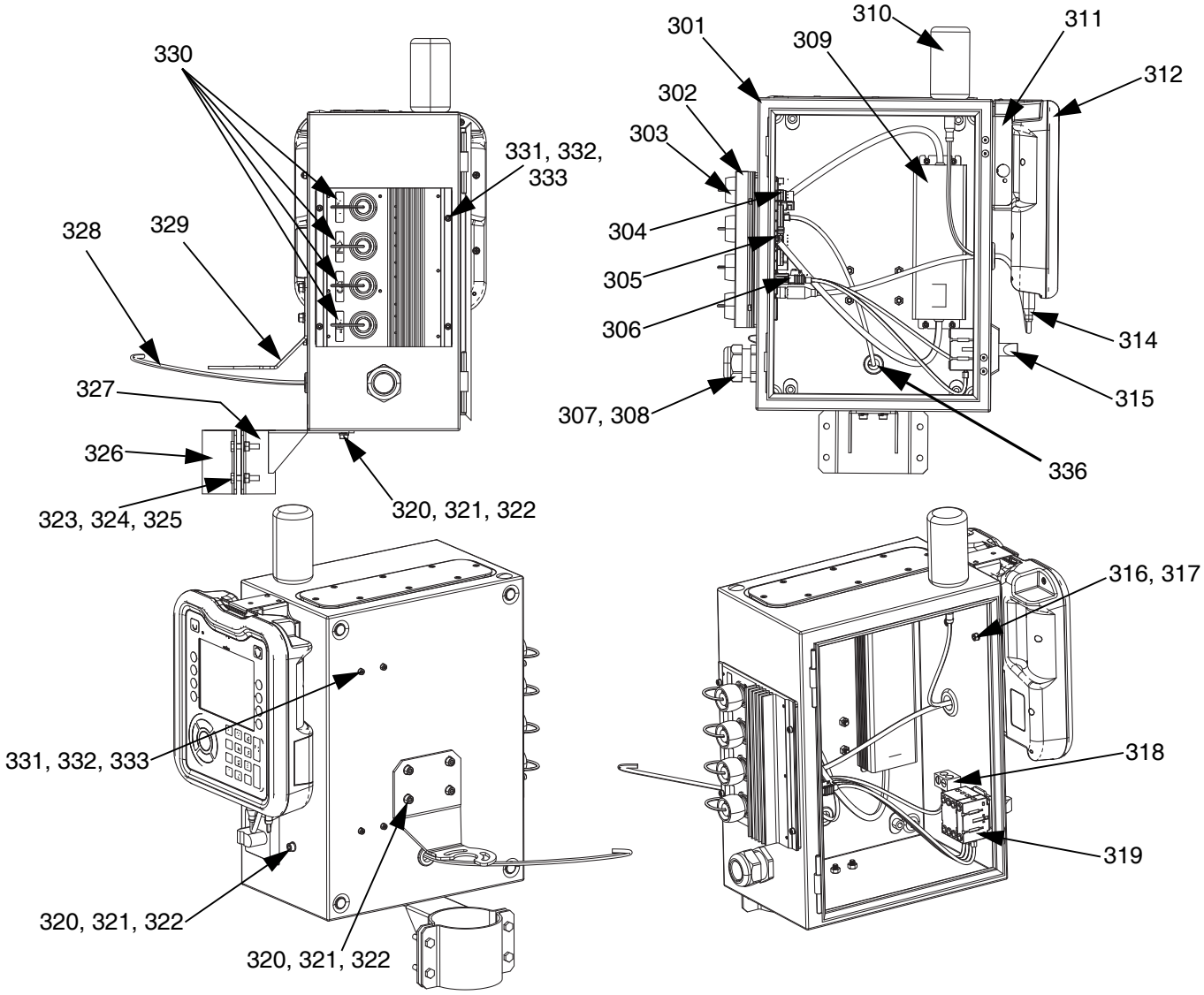


Ref.	Part	Description	Qty.
201	17E556	FITTING, elbow 90 deg	1
202	122056	VALVE, check	1
203	16N922	BASE, platen, 20-60 l, wm	1
204	17W858	SENSOR, rtd, 1k ohm, shielded	1
205	16C499	GASKET, heat transfer, D60, warmmelt	1
206	16C413	PLATE, heater, bottom D60, warmmelt	1
207	16A706	HEATER, 20-60 l platen, D60, warmmelt	1
208	16C414	PLATE, heater, upper, D60, warmmelt	1
209	123744	NUT, barrel, binding screw	4
210	17T622	GUARD, heat shield, gi-ram w hc, painted	1
211	17T623	SOCKET, jam nut	1
212	17U137	PLUG, push in, for 3/4 id panel	4
213	15W035	HANDLE, bleed, assy, sst	1
214	104714	SCREW, phms, 6-32 unc-2a	2
215	103181	WASHER, lock, ext	2
216	15B137	SWITCH, over temp.	1
217	111593	SCREW, grounding	1
218	123726	FITTING, compression, 1/8" npt, brass	1
219	113504	NUT, keps, hex hd	12
220	15W597	HOSE, follower, lower	1
221	17T370	PLATE, follower	1
222	24D153	PLATE, bottom, 20/30 l platen, warmmelt	1
223	17T371	SEAL, DIA3.53XID215.5	1
224	121829	PACKING, o-ring, -162	1
225	17T629*	CONTACT, crimp	1
226	17T630*	CONTACT, crimp	4
227	17T631*	CONTACT, crimp	2
228	17U120*	TERMINAL, quick connect	2
229	C31154*	CLAMP, worm gear	2
230	C38163*	WASHER, lock, ext. tooth	1
231	100166*	NUT, full, hex	1
232	17U570*	GROUNDING WIRE #16	0.1
233	17U119*	TERMINAL, ring, M5	1
234	16H441*	WIRE, ground	1
235	16D646*▲	LABEL, caution, hot surface	1
236	196548*▲	LABEL, caution, electrical shock	1

* *Not Shown*

▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

Electrical Enclosure 25D113 and 26C257



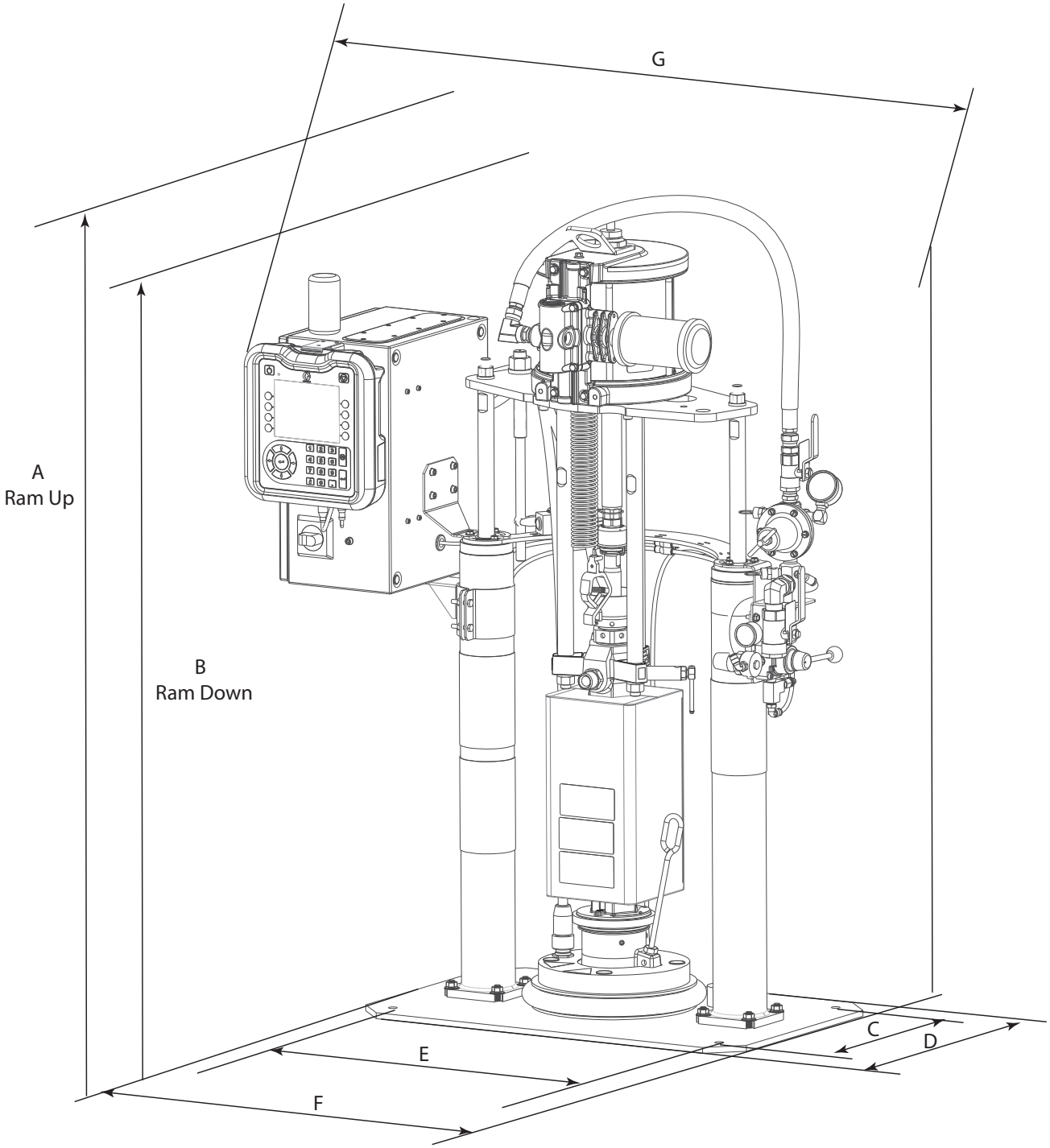
Ref.	Part	Description	Qty.
301	25D112	ENCLOSURE, 300x400x210 (26C257 only)	1
	17V515	ENCLOSURE, 300x400x210 (25D113 only)	1
302	25M525	AMZ heat control board	1
303	16T440	CONNECTOR CAP, souriau	4
304	129542	4 POSITION PLUG	1
305	129192	3 POSITION PLUG	1
306	17M280	DISCONNECT HARNESS	1
307	126881	STRAIN RELIEF BUSHING	1
308	126891	NUT, for strain relief bushing	1
309	127887	POWER SUPPLY, 150w	1
310	25C662	KIT, light tower	1
311	24A326	ADM MOUNTING BRACKET	1
312	24E451	ADM DISPLAY	1
313	17U121*	CABEL, grounding	1
314	121000	CAN CABLE, 0.5m	1
315	123967	DISCONNECT KNOB	1
316	115266	SCREW, M5	2
617	112903	WASHER, lock, spring, M5	2
618	117666	GROUND TERMINAL	1
319	129197	DISCONNECT SWITCH	1

Ref.	Part	Description	Qty.
320	117028	SCREW, M6	7
321	115226	WASHER, lock, spring, M6	7
322	114816	NUT, hex, M6	7
323	100014	SCREW, cap, hex hd	4
324	100015	NUT, hex mscr	4
325	100016	WASHER, lock	4
326	16A566	BRACKET	1
327	15W703	‘BRACKET	1
328	17U118	CABLE, low level switch	1
329	17T628	BRACKET	1
330	15Y522	LABEL, sticker, junction box	1
331	116475	SCREW, shcs, M4X12	8
332	111637	SCREW, shcs, M4X12	8
333	105689	NUT, machine hex, M4	8
334	15J076*▲	LABEL	1
335	196548*▲	LABEL, caution, electrical shock	1
336	129598	GRIP, cord, snap-in	1

* *Not Shown*

▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

Dimensions



Ram Model	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	F in. (mm)	G in. (mm)
25D117	73 (1854)	52 (1320)	14 (356)	18 (457)	24 (610)	28 (711)	37 (940)
26C258	73 (1854)	52 (1320)	14 (356)	18 (457)	24 (610)	28 (711)	37 (940)

Technical Specifications

Warm Melt Supply System		
	US	**Metric**
Air Pressure and Fluid Pressure		
Air Pressure Operating Range (Air Cylinder)	100 psi	0.7 MPa, 7, bar
Air Pressure Operating Range (Air Motor)	60 psi	0.4 MPa, 4 bar
Maximum Fluid Operating Temperature	158° F	70° C
Maximum Fluid Working Pressure	3600 psi	23.4 MPa, 234 bar
Noise (dBa)		
Maximum Sound Pressure	See separate air motor manual	
Inlet/Outlet Sizes		
Air Inlet Size	3/4 in. npt(f)	
Materials of Construction		
20L (5 gal) Platen	Electroless nickel, polyurethane, nitrile, carbon steel, polyethylene, zinc plated carbon steel, buna, 316 sst, 17-4PH sst	
Pump Lower	See manual Check-Mate Displacement Pumps, Instructions-Parts manual	
Power Supply		
AC Power Units	220~240 Vac, 50/60 Hz, Single phase, 44 amp full load current	
	220~240 Vac, 50/60 Hz, Triple phase, 18 amp full load current	
Weight		
All models	302 lb	137 kg

California Proposition 65

CALIFORNIA RESIDENTS

⚠ **WARNING:** Cancer and reproductive harm – www.P65warnings.ca.gov.

Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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Original instructions. This manual contains English. MM 3A5295
Graco Headquarters: Minneapolis
International Offices: Belgium, China, Japan, Korea

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