

THERM-O-FLOW® Hot Melt Tank T5

309831 Rev.D

For melting and pumping non flammable hot melt thermoplastic adhesives.

Model 234239

115 VAC

Model 234250

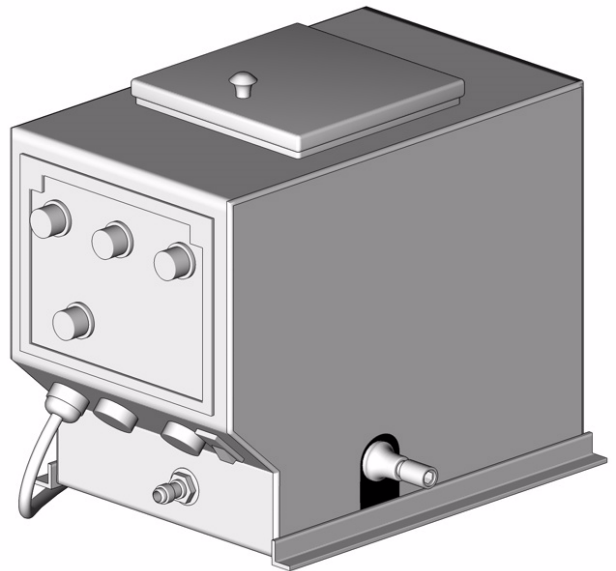
230 VAC

300 psi (2.0 MPa, 20.6 bar) Maximum Working Pressure



Important Safety Instructions

Read all warnings and instructions in this manual.
Save these instructions.




PROVEN QUALITY. LEADING TECHNOLOGY.


Contents

Manual Conventions	2
Warnings	3
Installation	4
Melt unit	4
Accessories	4
Front panel display	7
Front panel display controls	8
Setup	9
Mounting hot melt tank	9
Connecting hose	9
Connecting applicator	10
Connecting timers and controllers	10
Installing auxiliary bypass connector 118262 ..	10
Adding material to tank	11
Electrical wiring	11
Operation	12
Pressure relief procedure	12
Flushing	12
Starting the hot melt system	13
Adjusting panel controls	13
Dispensing material	13
Adjusting timers and controllers	14
Daily Maintenance	15

Troubleshooting	16
Repair	19
Tools Used	19
Replacing hose	19
Replacing front panel	20
Removing tank cover	21
Replacing motor and capacitor	21
Replacing pump	22
Replacing pressure adjuster	25
Replacing outlet fitting and thermistor assembly	27
Replacing tank heaters and switch assembly ..	28
Parts	29
Housing assembly	29
Motor and heat shield assembly	30
Insulation and base assembly	31
Pump to tank and pressure adjuster assembly .	32
Front assembly	33
Pump assembly 118273	34
Schematics	35
Dimensions	36
Technical Data	37
Graco Standard Warranty	38
Graco Information	38

Manual Conventions


WARNING



WARNING: a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Warnings in the instructions usually include a symbol indicating the hazard. Read the general **Warnings** section for additional safety information.

CAUTION
CAUTION: a potentially hazardous situation which, if not avoided, may result in property damage or destruction of equipment.









Note



Additional helpful information.

Warnings

The following warnings include general safety information for this equipment. More specific warnings are included in the text where applicable.

 WARNING	
	<p>ELECTRIC SHOCK HAZARD</p> <p>Improper grounding, setup, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> • Turn off and disconnect power cord before servicing equipment. • Use only grounded electrical outlets. • Use only 3-wire extension cords. • Ensure ground prongs are intact on sprayer and extension cords.
	<p>PRESSURIZED EQUIPMENT HAZARD</p> <p>Fluid from the gun/dispense valve, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.</p> <ul style="list-style-type: none"> • Follow Pressure Relief Procedure in this manual, when you stop spraying and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.
 	<p>EQUIPMENT MISUSE HAZARD</p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See Technical Data in all equipment manuals. • Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. • Check equipment daily. Repair or replace worn or damaged parts immediately. • Do not alter or modify equipment. • For professional use only. • Use equipment only for its intended purpose. Call your Graco 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. • Comply with all applicable safety regulations.
	<p>PRESSURIZED ALUMINUM PARTS HAZARD</p> <p>Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use can cause serious chemical reaction and equipment rupture, and result in death, serious injury, and property damage.</p>
	<p>BURN HAZARD</p> <p>Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns, do not touch hot fluid or equipment. Wait until equipment/fluid has cooled completely.</p>
	<p>PERSONAL PROTECTIVE EQUIPMENT</p> <p>You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> • Protective eyewear • Clothing and respirator as recommended by the fluid and solvent manufacturer • Gloves • Hearing protection

Installation

THERM-O-FLOW® T5 Hot Melt System is used for melting and pumping hot melt thermoplastic adhesives. The system consists of the melt unit, a heated supply hose, and applicator. System operation is further enhanced by the use of pattern controllers, timers, foot switches, or other such devices. All temperatures in the hot melt system are controlled by closed loop electronics using thermistor-based sensors.

Melt unit

Includes heated melt tank with a motor-driven, positive displacement gear pump. Front panel controls temperatures and settings. Fluid pressure is supplied by the regulator that controls flow through a bypass mechanism.

Accessories

Install the following accessories in the order shown in FIG. 1, using adapters as necessary.

Hoses

- **Heated Hose (J):** allow adhesive to flow from the tank to the applicator while maintaining the set temperature.
 - Extrusion Hose: for extrusion application.
 - Spray/Swirl Hose: includes air line in the hose jacket.

Hose Part No.	Extrusion, Spray/Swirl Application	Length	115/230 VAC
117852	Extrusion	4 ft (1.2 m)	115
117853	Extrusion	6 ft (1.8 m)	115
117854	Extrusion	8 ft (2.4 m)	115
117855	Extrusion	10 ft (3 m)	115
117856	Extrusion	12 ft (3.6 m)	115
117857	Extrusion	16 ft (4.8 m)	115
117858	Extrusion	18 ft (5.4 m)	115
117859	Extrusion	24 ft (7.3 m)	115
117860	Extrusion	4 ft (1.2 m)	230
117861	Extrusion	6 ft (1.8 m)	230
117862	Extrusion	8 ft (2.4 m)	230
117863	Extrusion	10 ft (3 m)	230
117864	Extrusion	12 ft (3.6 m)	230
117865	Extrusion	16 ft (4.8 m)	230
117866	Extrusion	18 ft (5.4 m)	230
117867	Extrusion	20 ft (6 m)	230
117868	Extrusion	24 ft (7.3 m)	230
117872	Swirl/Spray	4 ft (1.2 m)	115
117873	Swirl/Spray	6 ft (1.8 m)	115
117874	Swirl/Spray	8 ft (2.4 m)	115
117875	Swirl/Spray	10 ft (3 m)	115
117876	Swirl/Spray	12 ft (3.6 m)	115
117877	Swirl/Spray	16 ft (4.8 m)	115
117878	Swirl/Spray	18 ft (5.4 m)	115
117879	Swirl/Spray	24 ft (7.3 m)	115
117880	Swirl/Spray	4 ft (1.2 m)	230
117881	Swirl/Spray	6 ft (1.8 m)	230
117882	Swirl/Spray	8 ft (2.4 m)	230
117883	Swirl/Spray	10 ft (3 m)	230
117884	Swirl/Spray	12 ft (3.6 m)	230
117885	Swirl/Spray	16 ft (4.8 m)	230
117886	Swirl/Spray	18 ft (5.4 m)	230
117887	Swirl/Spray	24 ft (7.3 m)	230

Applicators

- **EG Electric Head (D):** for automatic dispensing. No air needed for application. Use with timer and pattern controller.
- **COM-PAK Pneumatic (H):** for automatic dispensing. Use with timer and pattern controller.
- **AG Applicator (F):** for automatic dispensing. Use with timer and pattern controller. Air-open, air-close with spring-assist closing action.
- **HG Handgun (G):** for manual dispensing. Top or bottom feed available. Control pump motor with reed relay switch on the gun.
- **Vertical Electric Applicator (VEA) (E):** for manual dispensing. One or two hand control options.

Timers and controllers

- **EC-20 (B):** 2- event pattern timer for automatic application.
- **EC-40 (B):** 4-event pattern timer for automatic application.
- **Air Saver Control Unit (C):** for spray or swirl pattern applications. Adjusts and regulates air to the applicator.

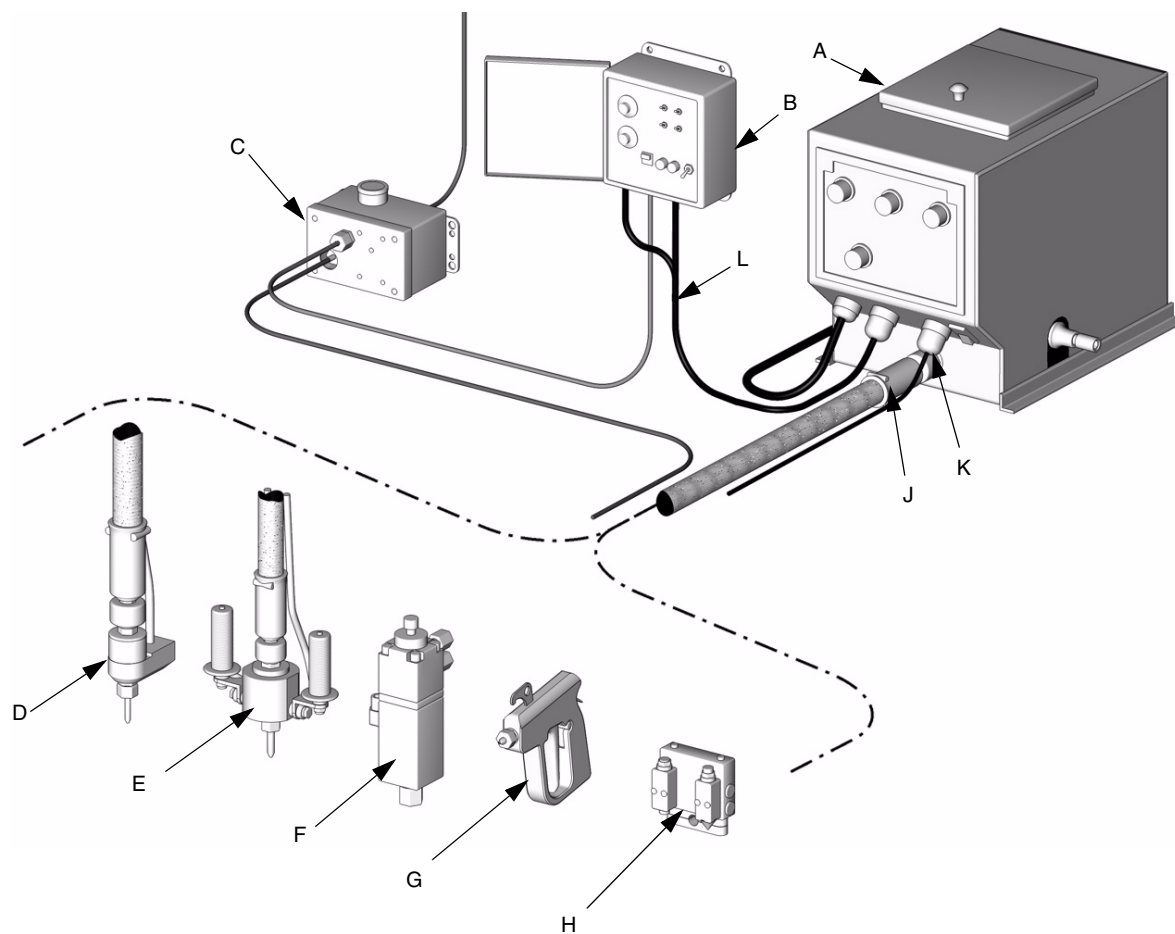


FIG. 1: Typical Installation

Key:

- | | |
|--|-----------------------------|
| A T5 Hot Melt Tank | G Handgun Applicator |
| B Timer (required for automatic application) | H Compak Applicator |
| C Air Controller (required for airspray and swirl application) | J Fluid Hose |
| D EG Applicator | K Hose Electrical Connector |
| E VEA Applicator | L Timer to Tank Power Cord |
| F AG Applicator | |

Front panel display

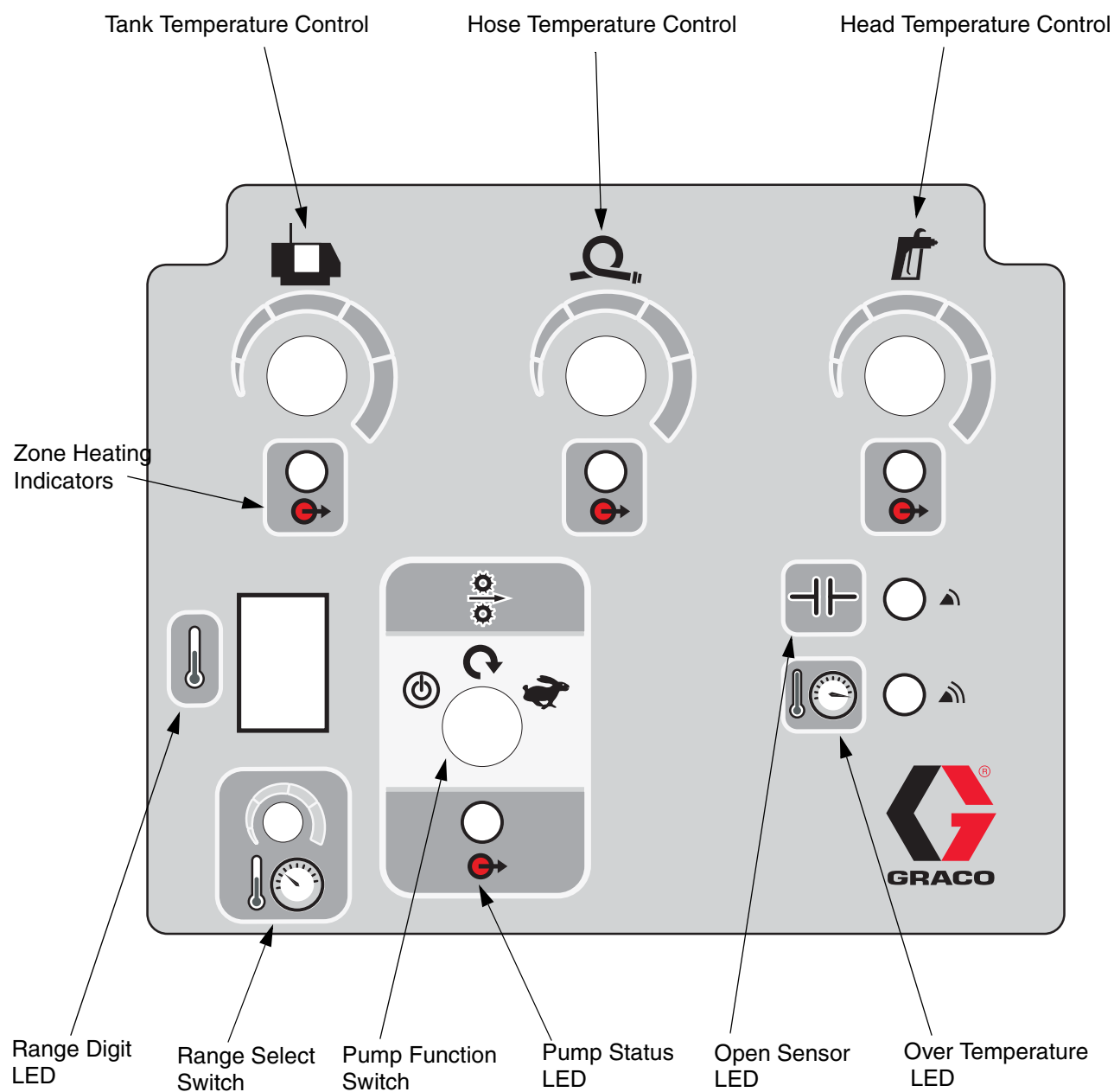








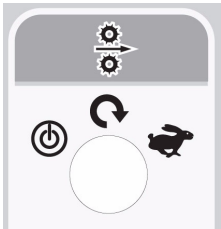




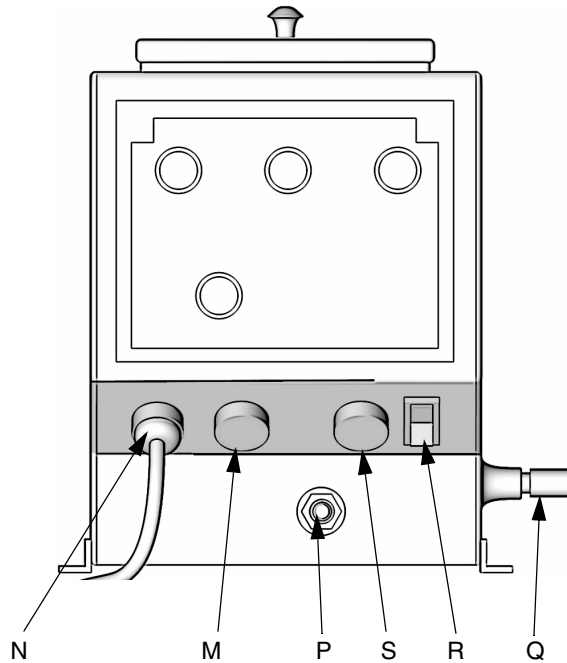


FIG. 2: Front Panel Display

Front panel display controls

Control	Name	Function
	Tank Temperature Control	Adjusts tank temperature within range number. See Range Digit LED Chart , page 13.
	Hose Temperature Control	Adjusts hose temperature within range number. See Range Digit LED Chart , page 13.
	Head Temperature Control	Adjusts applicator head temperature within range number. See Range Digit LED Chart , page 13.
	Zone Heating Indicators	Indicates when appropriate control (Tank, Hose, or Head) is at the selected temperature. Flashing Amber: Warming up. Flashing Green: Temperature has been reached.
	Open Sensor LED	Safety feature. Turns Yellow when open sensor condition is detected. See Troubleshooting , page 16.
	Over Temperature LED	Flashes Red when over-temperature condition is detected. The Zone Heating Indicator for the affected zone flashes Red. Heating is disabled. See Troubleshooting , page 16.
	Pump Status LED	Indicates pump status. Red: pump function switch is OFF. Green: pump is ON and enabled.
	Range Select Switch	Sets temperature range number for tank, hose, and applicator.
	Pump Function Switch	Activates Pump:  OFF: pump is off.  CYCLE: pump will run when hand gun or foot pedal is triggered.  RUN: pump is on.
	Range Digit LED	Displays temperature range per range number, see Range LED chart 13.

Setup


Key:

- M Auxiliary Bypass Connection
- N Power Cord
- P Fluid Outlet
- Q Pressure Adjuster
- R On/Off Power Switch
- S Hose Electrical Receptacle

FIG. 3: T5 Connections and power supply

Mounting hot melt tank

Bolt the hot melt tank securely to appropriate surface. Bolt holes are provided on the base of the tank. Make sure to mount tank where hose fittings are accessible with wrenches.

Connecting hose


WARNING


To avoid accidental system pressurization or electrical shock, disconnect power cord and turn the ON/OFF switch to OFF.

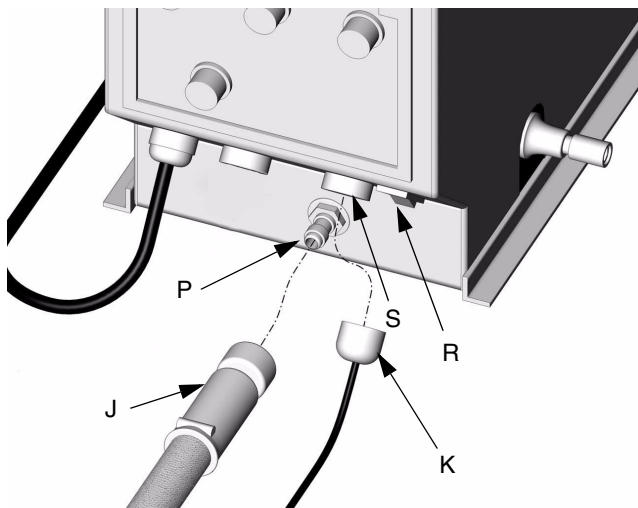

WARNING


To prevent hose damage, do not flex hose when cold. When hot, the hoses have a minimum bend diameter 16 in. (40.64 cm)
115 VAC tanks can support up to 16ft. (7.32 m) of total hose.



For hoses that are available, see hose chart on page 4.

1. Connect hose (J) to fluid outlet fitting (P). Tighten with 11/16 in (mm) opened end wrench.



2. Connect hose electrical connector (K) to tank hose electrical receptacle (S). Make sure pins align properly.
3. Screw bayonet ring of the plug onto the receptacle.

Connecting applicator

See hot melt tank applicator manual for specific instruction on how to install applicators to the hot melt tank.

- 310801 Manual Applicator manual
- 310803 Automatic Applicator manual


Connecting timers and controllers

See EC-20/40 timer manual 310814 for instruction. See appropriate gun manual for air saver control instructions.

Installing auxiliary bypass connector 118262

(Included with assembly.)

When operating the hot melt unit with an extrusion handgun, the Auxiliary Bypass Connector (M) should be installed. The T5 will not function if nothing is plugged into this port. See FIG. 3 page 9.

 To prevent leakage, make sure hose is seated securely on outlet fitting.

To insure proper seating of threads, make sure outlet threads are clean. See **Troubleshooting**, page 16.

Adding material to tank



WARNING



This equipment is designed for use with standard adhesive and sealant such as EVA's, butyls, and polyolefins with flash points above 450°F (232°C). Not recommended for water curable or solvent based adhesive. Do not use flammable material or material not compatible with the specifications of this equipment. Failure to follow this instruction can cause injury to operators and damage to equipment.

1. Make sure melt tank has been flushed and cleaned. See Flushing page 12.



If material to be added is compatible to existing material in tank, flushing is not necessary.


2. Fill the melt tank with the amount of adhesive material that will be used in one day. Material should not be higher than 1.5 in. (4 cm) from the top of the tank.
3. Follow the material manufacturer's instructions for operating temperature.


Electrical wiring

The hot melt tanks use single phase, 100 to 130 VAC or 200 to 240 VAC, 50 to 60 Hz power sources, each with earth ground for safety. The 115 VAC tanks come equipped with a 15 amp molded plug for convenient connection to a 115 VAC, 15 amp grounded receptacle. The 230 VAC tanks come with three bare wire leads for connection to an electrical circuit box or user-supplied plug.

Operation

Pressure relief procedure


 **WARNING**




Follow **Pressure relief procedure** when you stop spraying and before cleaning, checking, servicing, or transporting equipment. Read warnings, page 3.


1. Shut off pump motor.
2. Actuate applicator, dispensing material into an empty pail, until material stops dispensing through the applicator.
3. Remove spray tip and soak in compound.
4. Pour compound into tank.
5. Make sure material in tank is completely dispensed.
6. Follow **Pressure Relief Procedure**, page 12.

Flushing

 **WARNING**



This equipment is designed for use with standard adhesive and sealant such as EVA's, butyls, and polyolefins with flash points above 450°F (232°C). Not recommended for water curable or solvent based adhesive. Do not use flammable material or material not compatible with the specifications of this equipment. Failure to follow this instruction can cause injury to operators and damage to equipment.

- 
 - Flush before changing materials.
- Flush at the lowest pressure possible. Check connectors for leaks and tighten as necessary.
 - Flush with purging compound 118090.
 7. Turn On/Off switch (R) OFF and unplug unit. See FIG. 3 page 9.
 8. Remove gun from hose. See gun manual to further clean gun.
 9. Start up the hot melt system. Follow instructions for **Starting the hot melt system**, page 13; **Adjusting panel controls**, page 13; and **Dispensing material**, page 13.
 10. Trigger the gun until clean compound dispenses.

Starting the hot melt system

1. Plug in hot melt system.

2. Turn On/Off switch (R) ON. See FIG. 3 page 9.

Adjusting panel controls



Refer to the material manufacturers specifications for correct operating temperatures. The range number (1 through 7) that is selected applies to the hose, tank, and applicator. Each control (i.e., hose, tank, and applicator) can be adjusted to select the temperature range within that range number.


Range Digit LED Chart

The Range Digit LED chart shows each range number and its corresponding tank or hose and heated temperature range.


Range	Tank Temperature	Hose and Applicator Temperature
1	115 to 160°F 46 to 71°C	125 to 170°F 52 to 77°C
2	155 to 205°F 68 to 96°C	165 to 215°F 74 to 102°C
3	195 to 250°F 91 to 121°C	205 to 260°F 96 to 127°C
4	235 to 295°F 113 to 146°C	245 to 305°F 118 to 152°C
5	270 to 340°F 132 to 171°C	285 to 350°F 141 to 177°C
6	305 to 380°F 152 to 193°C	320 to 385°F 160 to 196°C
7	325 to 395°F 163 to 202°C	340 to 410°F 171 to 210°C

1. Using the range select tool, adjust the range select


switch . Range number will appear in the range digit LED .

2. Turn tank temperature control  clockwise to desired temperature setting.

For range number identification, see Range Digit LED chart, page 13.

3. Turn hose temperature control  clockwise to desired temperature setting.

For range number identification, see Range Digit LED chart, page 13.


4. Turn head control  clockwise to desired temperature setting.


For range number identification, see Range Digit LED chart, page 13.

Dispensing material



Pump status LED must flash green before pump can operate.

1. When all three zone heating indicators  are

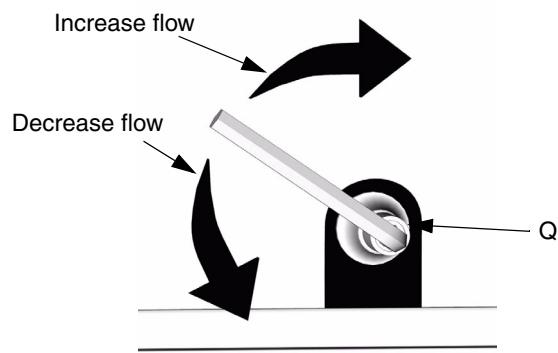
flashing green, turn the pump function switch  to cycle.

2. Dispense the material as instructed in appropriate applicator manual.

- 310801 Manual Applicator manual
- 310803 Automatic Applicator manual

3. To adjust flow of material, using a 10 mm hex wrench, turn the pressure regulator (Q).

- To increase flow, turn regulator clockwise.
- To decrease flow, turn regulator counterclockwise.



Adjusting timers and controllers

See Timer manual 310814 for instruction. See Air Saver Control instructions in appropriate applicator manual.

- 310801 Manual Applicator manual
- 310803 Automatic Applicator manual

Daily Maintenance

Before powering up the hot melt system perform the following checks.

1. Inspect the melt tank for foreign materials and/or charring of the adhesive. Wipe off all excess adhesives from all surfaces with purging compound 118090.
2. Check the hoses, applicator heads, and nozzles for wear and ensure integrity of all electrical connections.
3. Verify the hose is being properly supported so it is not over-stressed during use. The minimum bend diameter is 16 in. (42 cm) when hot.
4. Look for leaks under the melt unit and at all mechanical connections.

Troubleshooting

Problem	Cause	Solution
Front panel not lit.	Unit not plugged in or turned on.	Plug in unit. Turn On/Off switch ON.
	Wire harness connections not connected or needs replacing. Fuse disconnected or needs replacing.	Check all power supply connections to the front panel. Replace if necessary, see Replacing front panel , page 20. Check fuse with ohmmeter, replace if necessary.
Open Sensor LED is activated	Sensor condition is detected.	Check hose and applicator electrical connections. Make sure pins are lined up correctly and are secure.
		Check tank thermistor assembly with ohmmeter, which should read approximately 100,000 ohms at room temperature. Replace if necessary, see Replacing thermistor assembly , page 27.
		Check hose thermistor assembly with ohmmeter. Replace hose. See Replacing hose , page 19.
		Check applicator thermistor assembly. See appropriate applicator manual.
Over Temperature Sensor LED is activated and affected zone indicator LED is activated.	Sensor condition is detected.	If tank zone indicator is activated, check tank heaters with ohmmeter. If resistance is infinite, heater is bad. Replace if necessary, see Replacing tank heaters , page 28.
		If hose zone indicator is activated, check hose heater with ohmmeter. If resistance is infinite, heater is bad. Replace hose if necessary, see Replacing hose , page 19.
		If applicator zone indicator is activated, check applicator heater. See appropriate gun manual.

Problem	Cause	Solution
Tank not heating or taking a long time to heat and front panel is lit.	Temperature range not selected. Power supply to the heaters not connected correctly. One or both heaters are damaged.	Check temperature range, see Front panel display , page 7. Check fuse and heaters with ohmmeter. Check power supply to the heaters, see Replacing front panel , page 20. Replace heaters, see Replacing heaters, page 28.
Hoses are not heating.	Hose not plugged into correct connector.	Properly connect hose, see Connecting hose , page 9.
	Tank temperature too low.	Wait for tank to heat up properly. Hose will not heat completely until tank reaches 65% of set temperature.
	Improper voltage rating hose.	A 230 VAC hose will connect to a 115 VAC receptacle. Make sure voltage rating on hose matches the voltage rating on the tank.
	Pins not aligned correctly at hose to tank connection.	Check connection for proper alignment of pins.
		Check pins 13 and 14 with ohmmeter.
	Power supply connections not connected or needs replacing.	Check all power supply connections to the front panel. Check fuses with ohmmeter. Replace if necessary, see Replacing front panel , page 20.
	Hose is damaged	Replace hose. See Replacing hose , page 19.

Problem	Cause	Solution
Low or no flow of material from unit.	No power to tank.	Plug in unit. Turn On/Off switch ON.
	Front panel settings not properly set.	See Adjusting panel controls , page 13.
	Not enough material in tank.	Add material. Material should not be higher than 1.5 in. (4 cm) from the top of the tank. See Adding material to tank , page 11.
	Pressure adjuster is set too low.	Adjust pressure adjuster, see Dispensing material , page 13.
	Auxiliary plug not plugged in.	Plug in auxiliary connection or port plug.
	Set screw on pump/motor coupler is loose.	Tighten set screw (32) on pump/motor coupling.
	Viscosity of material too high.	Increase temperature settings. Reference material manufacturers instruction and follow Adjusting panel controls , page 13.
		Increase orifice size.
	Gun nozzle plugged.	Clean nozzle or replace. See appropriate applicator manual.
	Hose is kinked or bent.	Check for kinks in hose, replace if damaged. See Replacing hose , page 19.
Material leaks from hose connection.	Pump damaged.	Replace pump, see Replacing pump , page 22.
	Threads at hose connection not seated properly.	Tighten connection. Clean threads by heating or using purging compound 118090.
Applicator not heating.	Front panel control not properly set.	See Adjusting panel controls , page 13.
	Tank has not yet reached set temperature.	See Adjusting panel controls , page 13.
	Applicator heater is damaged.	See appropriate gun manual.
	Applicator thermistor is damaged.	See appropriate gun manual.

Repair

Tools Used

• 11/16 in. wrench	• 5/16 in. socket wrench	• 1 in. wrench	• Krytox [®] lubricant
• 1/8 in. hex wrench	• 7/16 in. wrench	• 3/32 in. hex wrench	• Penetrating lubricant
• 15/16 in. nut driver	• 3/16 in. hex wrench	• 5/8 in. wrench	
• 5/16 in. wrench	• 1 3/8 in. wrench	• Phillips screw driver	

Replacing hose

For a list of hose part numbers, see hose chart on page 4.

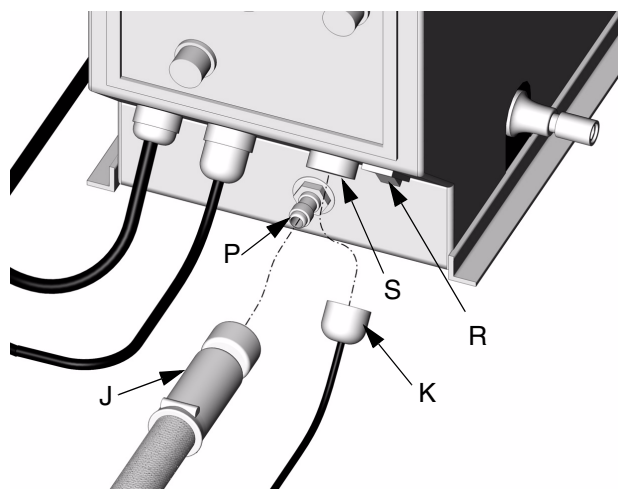
1. Follow **Pressure relief procedure**, page 12.

2. Turn On/Off switch (R) OFF. Unplug tank unit.

3. Allow tank unit to cool before repairing.

4. Disconnect applicator from hose. See appropriate applicator manual for instructions.

5. Remove bayonet ring from the electrical connector.



6. Pull electrical connector (K) from the tank hose electrical receptacle (S).

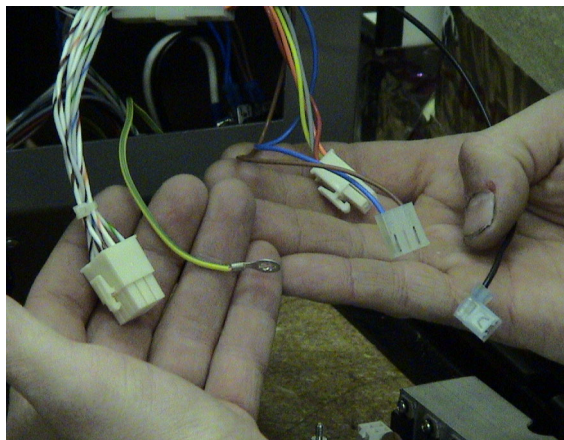
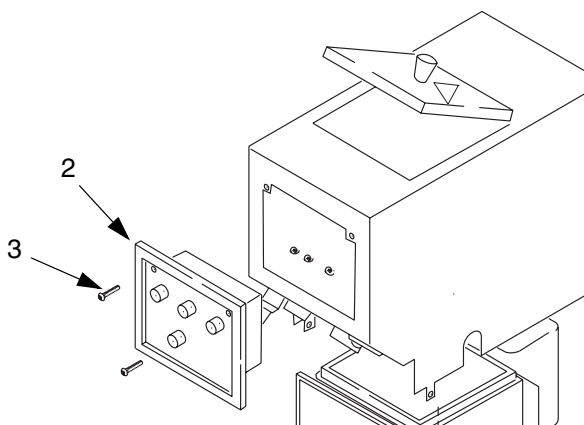
7. Using an 11/16 in. wrench, remove hose (J) from the fluid outlet fitting (P).

8. Replace hose. To reconnect hose, see **Connecting Hose**, page 9.

Replacing front panel

1. Turn On/Off switch (R) OFF. Unplug tank unit.
3. Pull panel (2) away from tank and disconnect four wire harness electrical connections and ground cable. Front panel should now be disconnected completely from tank.

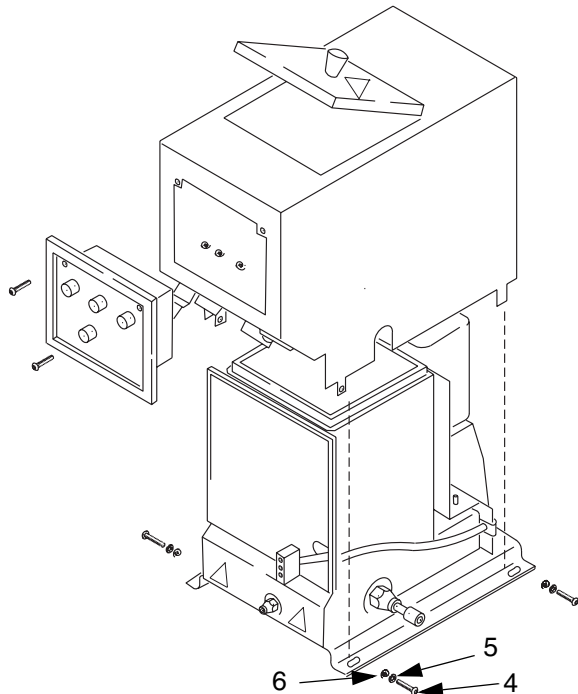
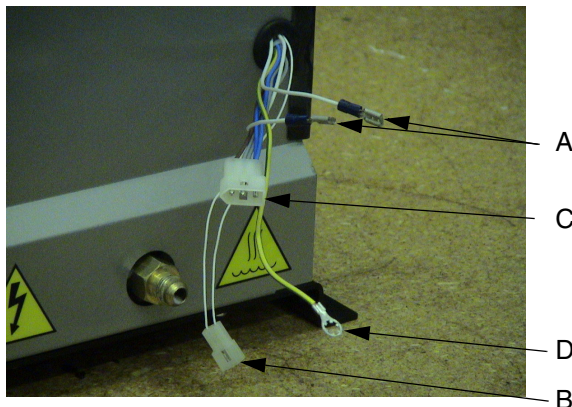
2. From the front panel (2), using a 1/8 in. hex wrench, remove screws (3).



4. Inspect front panel fuse 118320 attached to the upper back of the front panel. Replace if necessary.
5. Inspect front panel 118191 and replace if necessary. Repeat steps 2 and 3 in reverse order.

Removing tank cover

1. Disconnect hose, see **Replacing hose**, page 19.
2. Disconnect any accessories connected to the auxiliary bypass connector.
3. Remove the front panel, see **Replacing front panel**, page 20.
4. Using a 5/16 nut driver, remove screws and washers (4,5, and 6).
5. Disconnect all wires connecting tank cover to tank unit: two white wires (A), two-pin connection (B), three-pin connection (C), and ground cable (D).
6. Pull tank cover from tank.

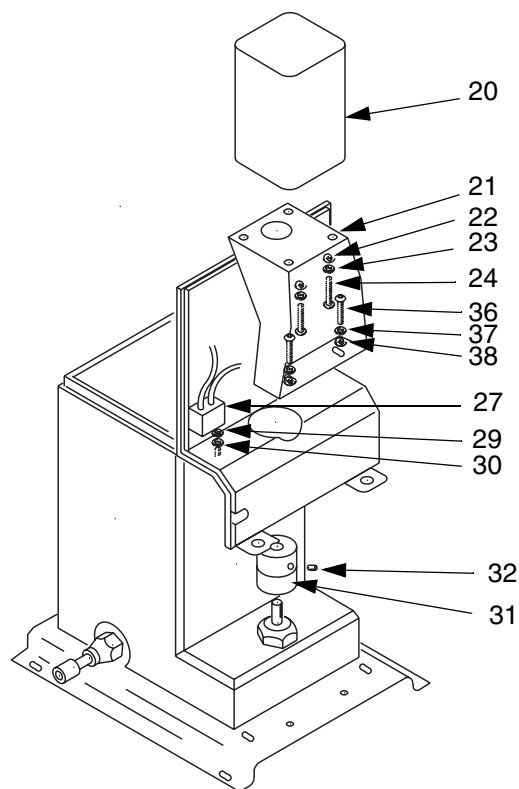


Replacing motor and capacitor

For replacement parts, see **Parts** page 30.

1. Remove tank cover, see **Removing tank cover** page 21.

2. Using a 11/32 in. wrench, remove nut and washer (29, 30).



6. Using a 5/16 in. wrench, remove bolts (24).
7. To remove bracket from wire harness, remove flat-head screw. Remove motor (20) and capacitor (27). Replace using motor capacitor kit 118185 (115 VAC) or 118186 (230 VAC).
8. Reassemble in reverse order.

Replacing pump

For replacement parts, see **Parts** page 34.

Remove pump from tank

3. Using a 5/16 in. wrench, remove ground nut. Disconnect wire harness to motor.
4. Using a 1/8 in. hex wrench loosen set screw (32).
5. Using a 7/16 in. wrench, remove 2 bolts and washers (36,37,38) that attach the motor bracket (21) to the tank. Lift motor (20), with bracket attached, from tank.

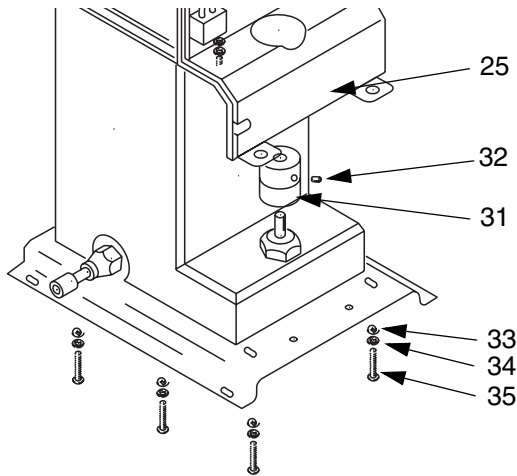
2. Remove motor from pump, see **Replacing motor and capacitor**, page 21.

3. Remove coupling (31). Lubricate in between top and bottom of coupling with Krytox lubricant before reassembly.



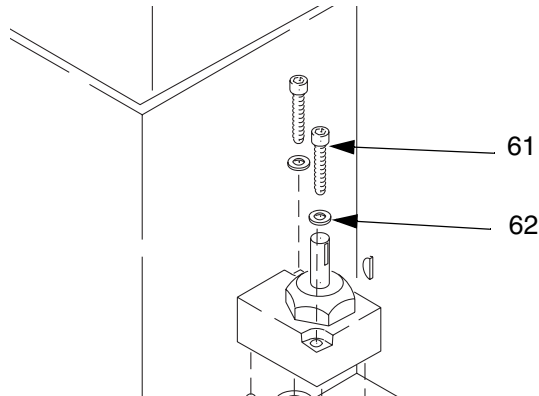
Coupling (31) will not loosen if material in pump has cooled. Using a heat gun, heat the coupling before removal. Wear gloves when handling heated parts.

4. Using a 5/16 in. socket wrench, remove the bolts and washers (33, 34, 35).




5. Remove heat shield (25).

6. Using a 3/16 hex wrench, remove screws and washers (61, 62).




7. Insert a flat screw driver in the pump assembly groove and remove assembly from base of tank.


 Pump assembly will not loosen if material in pump has cooled. Using a heat gun, heat the pump assembly before removal. Wear gloves when handling heated parts.

8. Reassemble in reverse order.

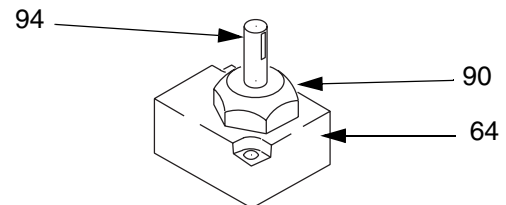
Repairing pump

See Pump assembly FIG. 4 for reference.

 Pump assembly will not loosen if material in pump has cooled. Using a heat gun, heat the pump assembly before repairing. Wear gloves when handling heated parts.

 When replacing o-ring seals, lubricate with Krytox[®] lubricant.

1. Place pump assembly (64) into vise. Using a 1 3/8 in. wrench, remove seal housing (90).



2. From housing (90), using a o-ring pick, remove u-cup seal (91). Lubricate and replace.

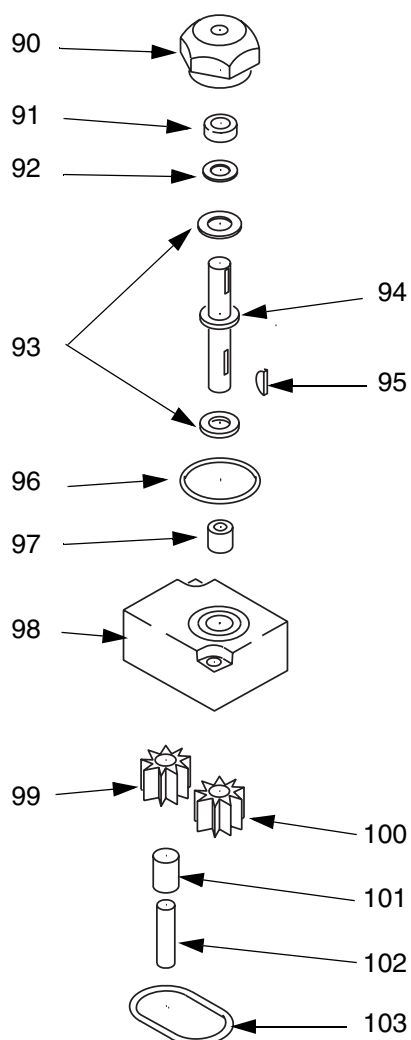



FIG. 4: Pump assembly 118273

4. Remove gears (99, 100).

5. Remove key (95). Push out shaft (94) from the top down of the pump housing (98).

 Note the orientation of shaft (94). When reassembling, insert long end of shaft into the top of the pump housing

6. From driven gear (99), remove pin (102) and bearing (101). Inspect for damage, lubricate, and replace if necessary.

7. Remove seal (103). Inspect for damage, lubricate, and replace if necessary.

8. From the pump housing (98), remove lower thrust bearing (93), o-ring (96), and pump shaft bearing (97). Inspect o-ring and thrust bearing for damage, lubricate, and replace if necessary.

3. Remove the top thrust bearing (93). Inspect for damage and replace if necessary.

9. Reassemble in reverse order.

Replacing pressure adjuster

For replacement parts, see **Parts** page 32.

Disassembly

Refer to FIG. 5 for the following instructions.

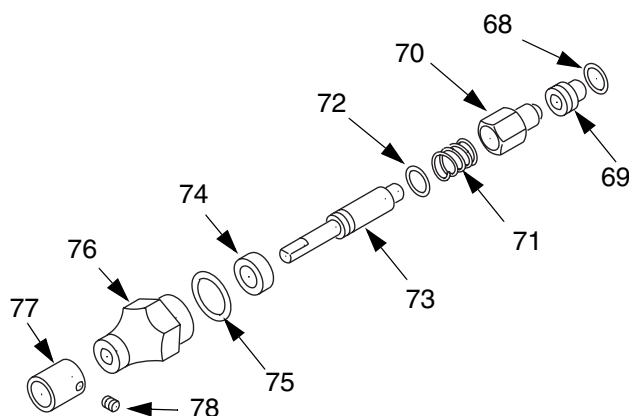


FIG. 5: Pressure adjuster assembly

1. Turn On/Off switch to OFF. Unplug tank unit.
2. Using a 1 in. wrench, remove pressure adjuster body (76).
3. Using a 3/32 in. hex wrench loosen set screw (78). Loosen and remove knob (77).
4. From the body (76), remove shaft (73), u-cup (74), and o-ring (75). Inspect for damage and replace if necessary.
5. From shaft (73), remove o-ring (72). Inspect for damage and replace if necessary.
6. From pressure adjuster insert, use an o-ring pick to remove spring (71) and poppet (70). Inspect for damage and replace if necessary.
7. Using a 3/16 hex wrench, remove seat (69) and o-ring (68). Inspect for damage and replace if necessary.

Reassembly

Refer to FIG. 6 for the following instructions.

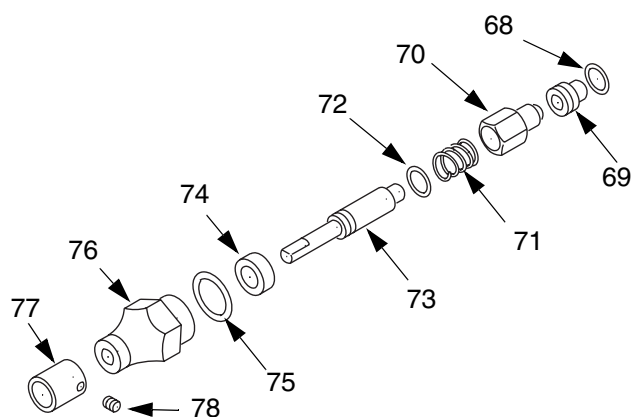




FIG. 6: Pressure adjuster assembly

 Before reassembly, make sure all threads are free of material. Use a penetrating lubricant to loosen and remove material around threads.

 When replacing o-ring seals, lubricate with Krytox lubricant.

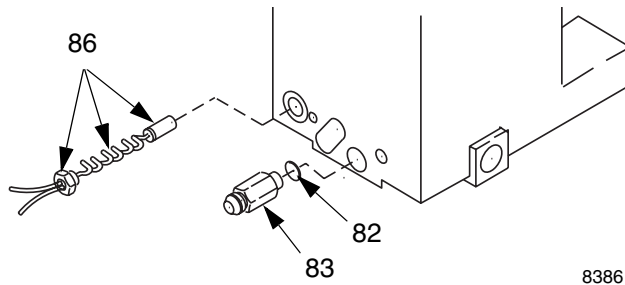
2. Assemble u-cup (74) onto shaft (73). Make sure lips face towards tank.
3. Lubricate and assemble o-ring (75) into body (76). Assemble shaft (73) onto body (76).
4. Assemble knob (77) onto shaft (73). Tighten screw (78) on knob (77).
5. Lubricate and assemble o-ring (68) onto seat (69). Using a 3/16 in. hex wrench, thread seat (69) into pressure adjuster insert.
6. Place spring (71) into poppet (70). Rest poppet (70) onto shaft (73) and insert remaining pressure adjuster assembly into the pressure adjuster insert. Tighten securely.

1. Assemble o-ring (72) onto shaft (73). Lubricate.

Replacing outlet fitting and thermistor assembly

For replacement parts, see **Parts** page 33.

1. Remove tank cover, see **Removing tank cover**, page 21.
2. Loosen and remove outlet fitting (83) and o-ring (82). Inspect for damage and replace if necessary.
3. Remove heat shield from tank front.
4. At the base of the tank, cut away insulation tape and pull away insulation from the thermistor assembly (86).
5. Using a 5/8 in. wrench, remove thermistor assembly (86). Disconnect thermistor electrical connections and remove entire thermistor assembly. Check with ohmmeter. Replace if necessary. Thermistor is good if ohmmeter reads approximately 100,000 ohms.



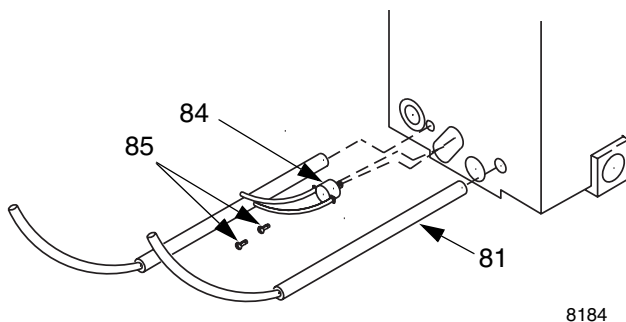
Replacing tank heaters and switch assembly

For replacement parts, see **Parts** page 33.

1. Remove tank cover, see **Removing tank cover**, page 21.

2. Remove heat shield from tank front.

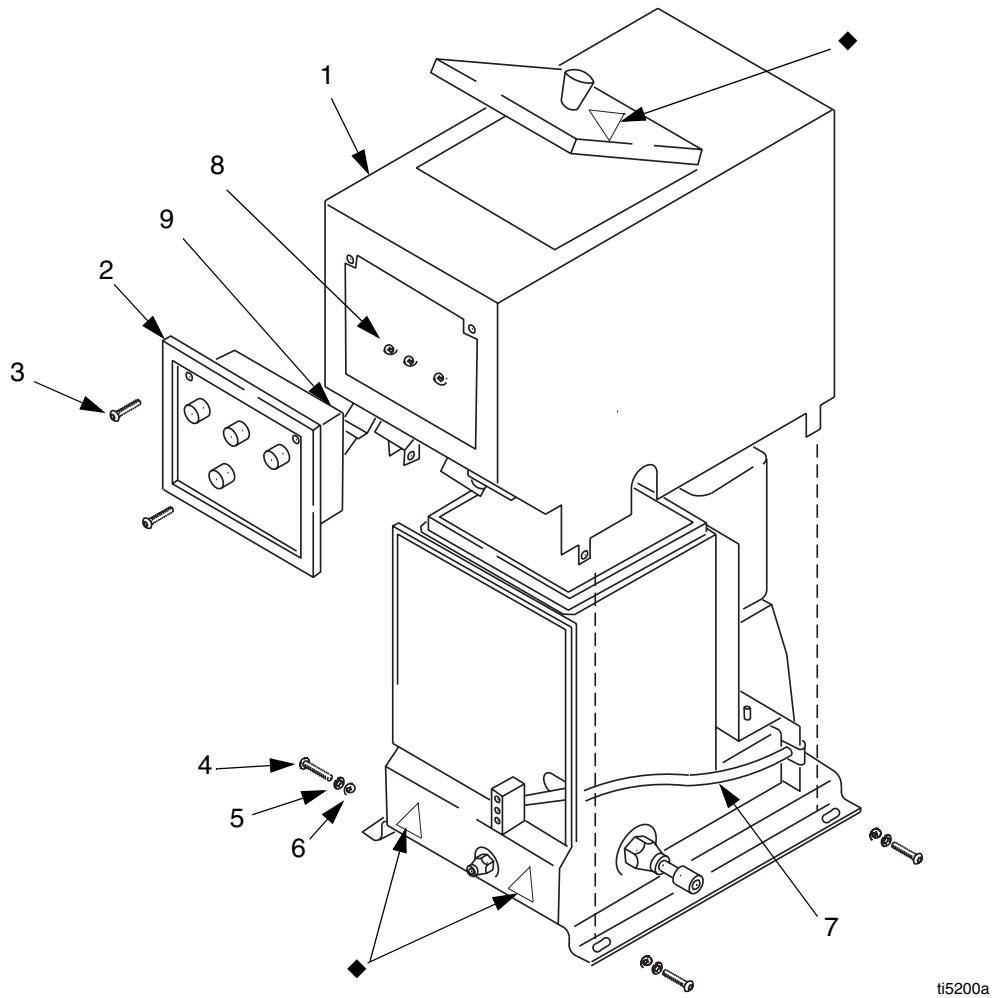
3. Disconnect wires and pull out heaters (81) from inside tank. Replace if necessary.



4. Using a phillips screw driver, remove switch assembly screws (85). Disconnect wires and remove switch assembly (84) from tank. Check with ohmmeter. Switch is bad if ohmmeter shows infinite ohms. Switch is good if ohmmeter shows zero ohms. Replace if necessary.

Parts

Housing assembly

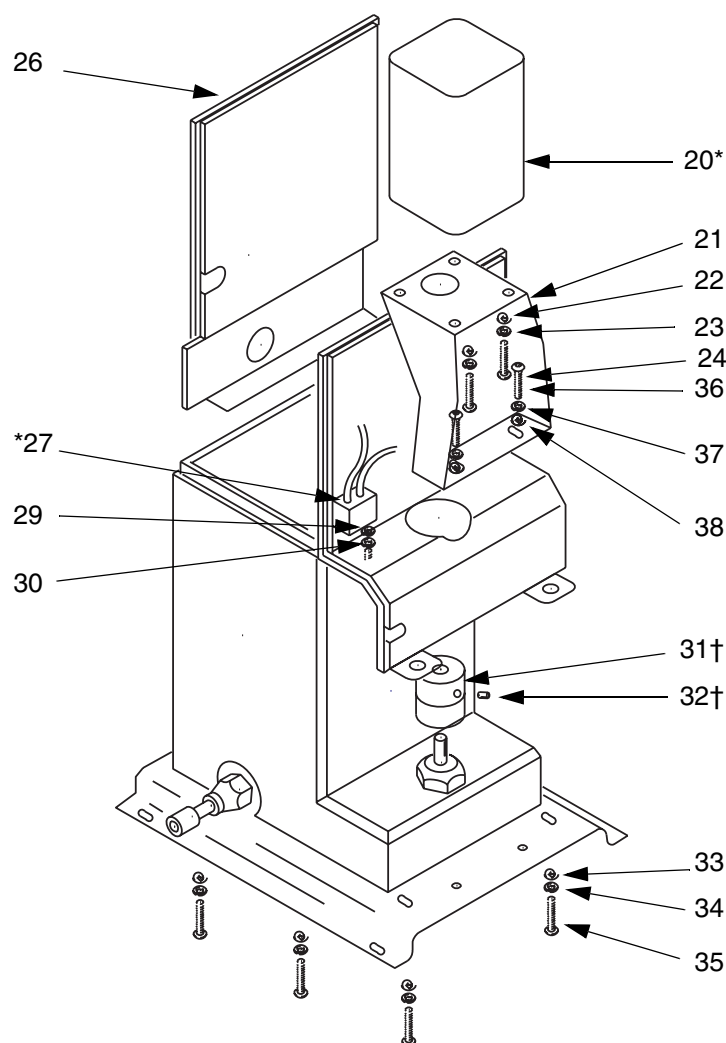


ti5200a

Ref. No.	Part No.	Description	Qty.
1	118190	ENCLOSURE	1
2	118191	CONTROL PANEL	1
3		SCREW, cap; #10-32 x 1/4	2
4		BOLT, hex head; #10-32 x 1/2	4
5		WASHER, flat #10	4
6		WASHER, split #10	4
7		WIRE HARNESS	1
8		NUT, ground, hex #10	3
9	118320	FUSE KIT	1
10	118262	AUXILIARY BYPASS CONNECTOR, not shown; see page 10 for installation	1

◆ Free replacement of worn or damaged labels are available by ordering Safety Label Kit 119610.

Motor and heat shield assembly



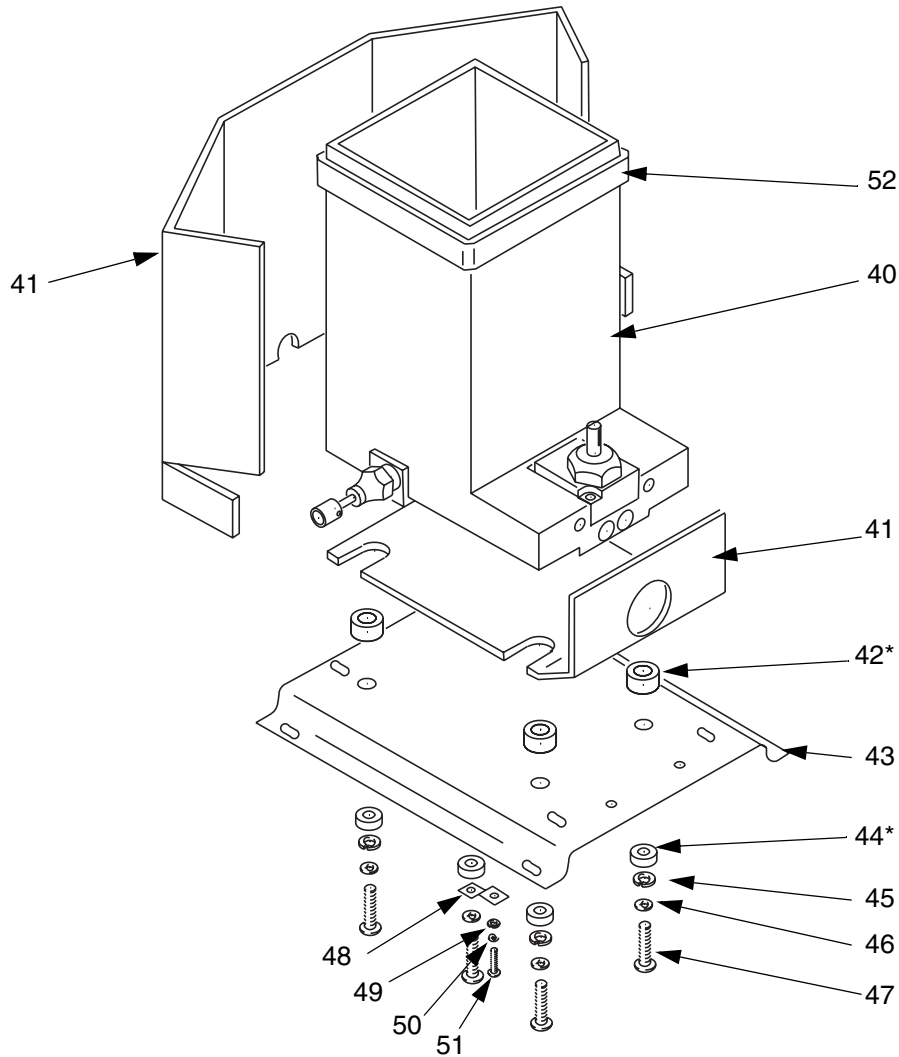
ti5198a

Ref. No.	Description	Qty.	Ref. No.	Description	Qty.
20*	MOTOR, 115 or 230 VAC	1	33	WASHER, flat #10	4
21	BRACKET, motor	4	34	WASHER, split #10	4
22	WASHER, flat #10	4	35	BOLT, hex; #10 - 32 x 1/2 in.	4
23	WASHER, split #10	4	36	BOLT, hex; 1/4 - 20 x 5/8 in	2
24	BOLT, hex; #10 - 32 x 1/2 in.	4	37	WASHER, split; 1/4 in.	2
25	HEAT SHIELD, pump	1	38	WASHER, flat; 1/4 in	2
26	HEAT SHIELD, control	1			
27*	CAPACITOR, motor, 115 VAC or 230 VAC	1			
29	NUT #8	1			
30	WASHER, lock #8	1			
31†	COUPLER, motor	1			
32†	SCREW, set 1/4-20 x 1/4	1			

* Included in motor capacitor replacement kit: 118185 115 VAC, 118186 230 VAC.

† Included in T5 coupler hub assembly kit 118161.

Insulation and base assembly

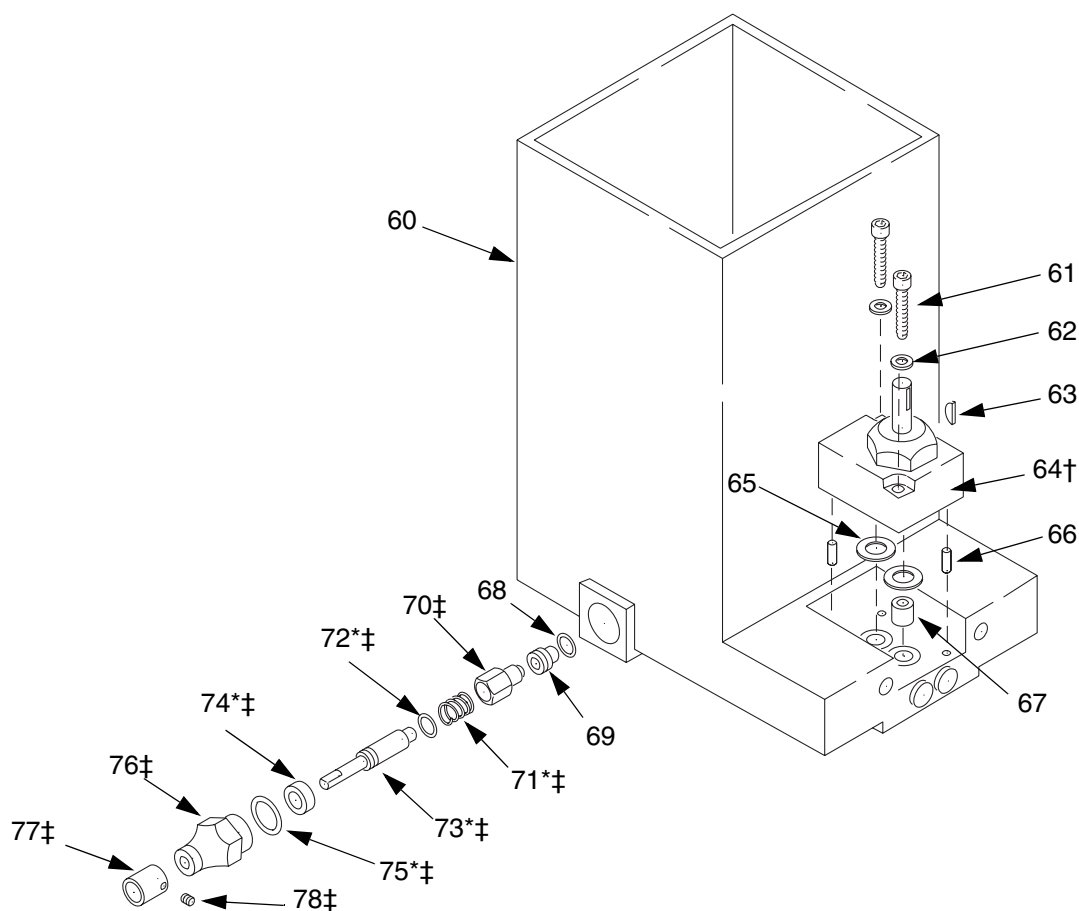


ti5199a

Ref. No.	Description	Qty.
40	TANK ASSY.; 115 VAC or 230 VAC	1
41	INSULATION	1
42*	INSULATOR, tank mounting	4
43	PLATE, base	1
44*	WASHER, Kevlar®	4
45	WASHER, 1/4 in.	3
46	WASHER, split; 1/4 in.	4
47	SCREW, cap; 1/4 - 20 x 1 - 1/2	4
48	STRAP, ground	1
49	WASHER, flat #10	1
50	WASHER, split #10	1
51	BOLT, hex head; 10-32 x 1/2 in.	1
52	SPONGE, silicone insulated	1

* Included in T5 tank spacer insulation kit 118302.

Pump to tank and pressure adjuster assembly



ti51961a

Ref. No.	Part No.	Description	Qty.
60		TANK	1
61		SCREW, cap; 1/4 - 20 x 1 1/2 in	2
62		WASHER, split; 1/4 in.	2
63		KEY	1
64†	118273	PUMP ASSY.	1
65		BEARING, thrust	2
66		PIN, dowel 1/8 diameter	2
67		BEARING, pump shaft	1
68		O-RING, Viton®	1
69		SEAT, pressure adjuster	1
70‡		POPPET, pressure adjuster	1
71*‡		SPRING, pressure adjuster	1
72*‡		O-RING, Viton®	1

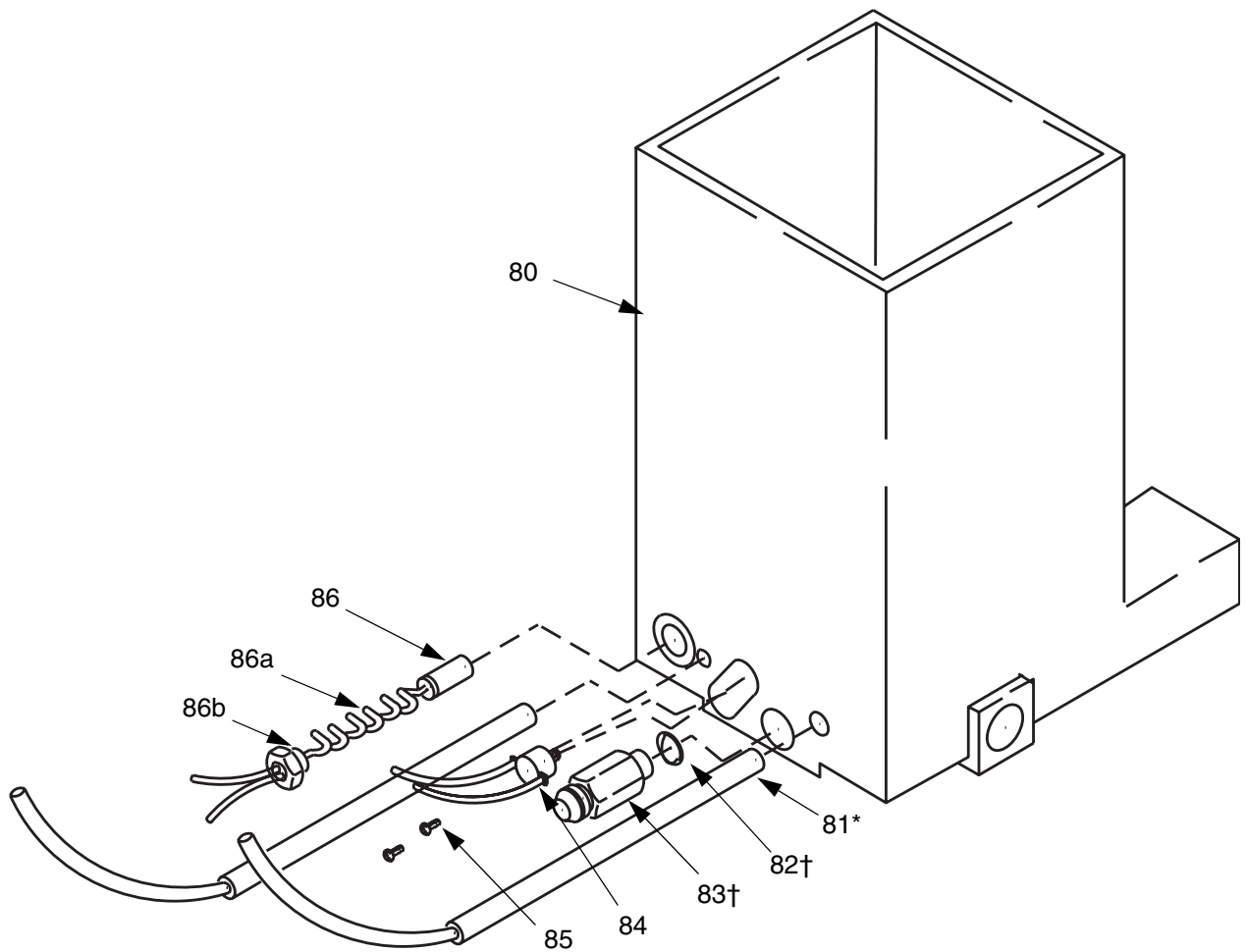
Ref. No.	Part No.	Description	Qty.
73*‡		SHAFT, pressure adjuster	1
74*‡		SEAL, pressure adjuster	1
75*‡		O-RING, Viton®	1
76‡		BODY, pressure adjuster	1
77‡		KNOB, pressure adjuster	1
78‡		SCREW, set #10 - 32 x 1.4 in.	1

* Included in pressure adjuster repair kit 118150.

† See page 34 for detailed pump assembly.

‡ Included, pre-assembled, in pressure adjuster replacement 118180.

Front assembly



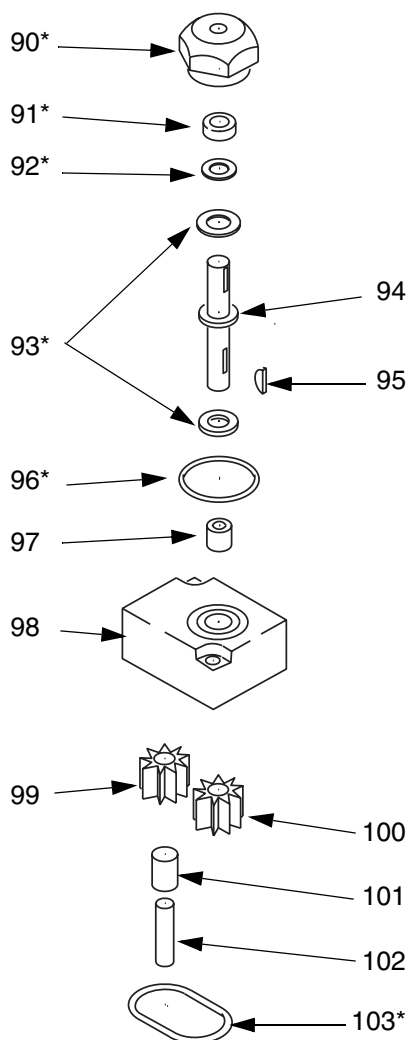
ti5197a

Ref. No.	Part No.	Description	Qty.
80		TANK	1
81*		HEATER, 115 VAC or 230 VAC	2
82†		O-RING, Viton	1
83†		FITTING, #6 JIC	1
84	119570	SWITCH ASSY., over temp.	1
85		SCREW, #6 - 32 x 1/2 in.	2
86	118209	THERMISTOR ASSY.; includes 86a and 86b	1
86a		•SPRING, sensor	1
86b		•RETAINER, sensor	1

* Included in replaceable tank heater kit (2 heaters per kit): 118173 for 115 VAC, 118174 for 230 VAC.

† Included in T5 tank fitting kit 118179.

Pump assembly 118273

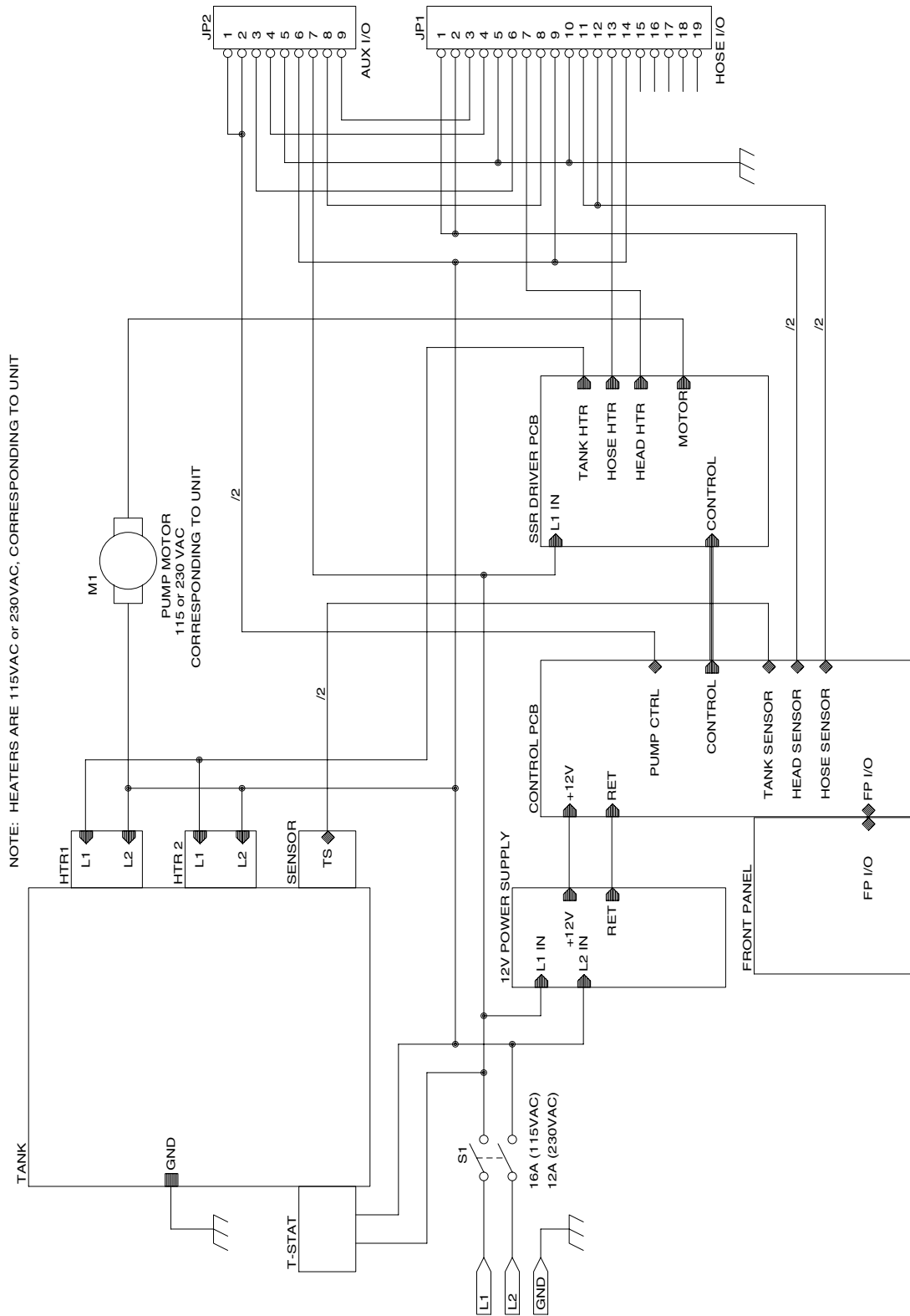


ti5201a

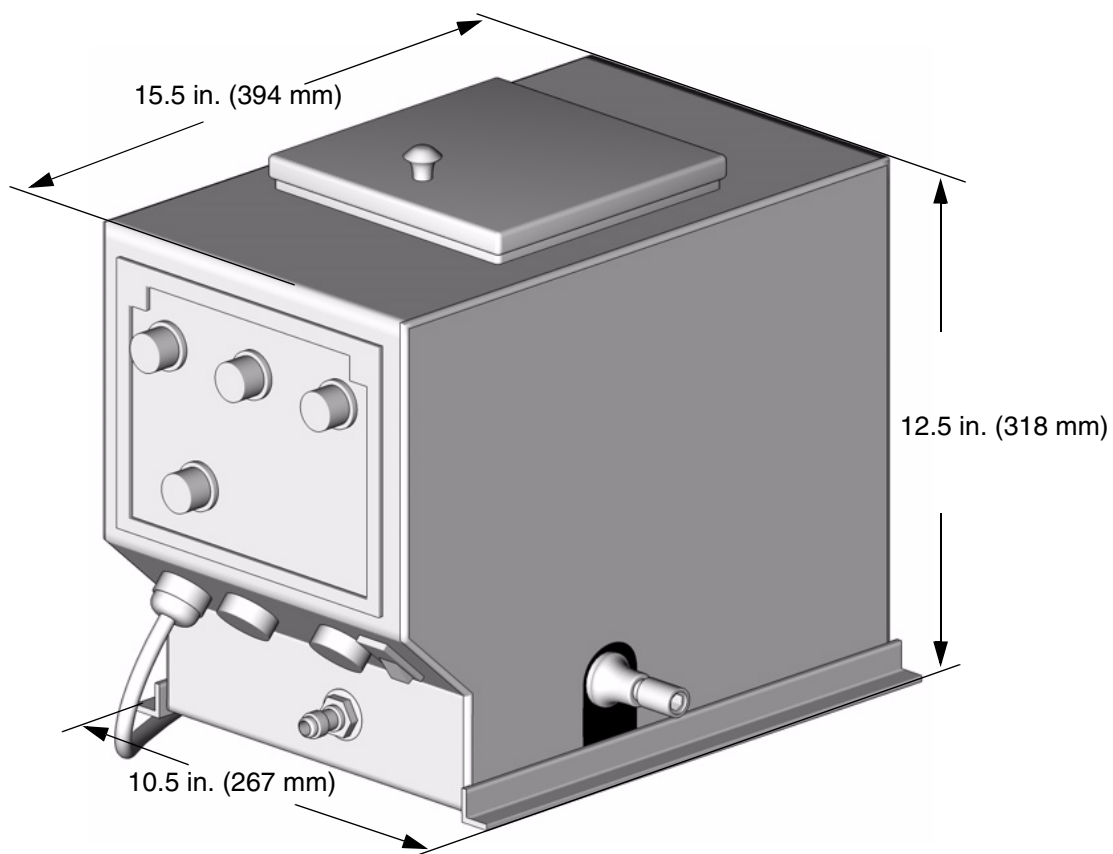
Ref. No.	Description	Qty.
90*	SEAL, housing pump shaft	1
91*	SEAL, pump shaft	1
92*	SEAL, retainer	1
93*	BEARING, thrust	2
94	SHAFT, pump	1
95	KEY	1
96*	O-RING, seal housing, Viton	1
97	BEARING, pump shaft	1
98	PUMP, housing	1
99	GEAR, driven	1
100	GEAR, drive	1
101	BEARING, gear	1
102	PIN, dowel, 3/8 diameter	1
103*	O-RING, Viton	1

* Included in T5 pump assembly repair kit 118151.

Schematics



Dimensions



Technical Data

Application temperature	up to 410°F (210°C)
Tank temperature	up to 395°F (202°C)
Temperature accuracy	± 2%
Melt rate	12 lb/hr (5.5 kg/hr)
Viscosity range	up to 20,000 centipoise
Tank capacity	12 lbs (5 liters)
Power consumption	115V: 1550 total watts Melt unit: 900 watts 230V: 2800 total watts Melt unit: 1700 watts
Power requirements - single phase	115 VAC 50/60 Hz 230 VAC 50/60 Hz
Circuit breaker rating	15 amp (115V); 12 amp (230V)
Empty weight	41 lb (18.5 kg)
Pump pressure	300 psi (2.0 MPa, 20.6 bar)
Hoses	up to 16 ft (4.8 m)
Wetted Materials	Aluminum, Carbon Steel, Brass, PTFE, and Viton®

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Graco Headquarters: Minneapolis
International Offices: Belgium, China, Japan, Korea

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1441

www.graco.com

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