SLAUTTERBACK®

KB10 and KB20 Melt Units

Solid State, Manual and Automatic

Manual Number: 19600-42SS

Revision: J

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Date: 04/06/98

⚠ WARNING

- To avoid personal injury and damage to equipment and property, read the product manual completely before installing, operating or servicing this equipment.
- Follow all safety warnings located on this product and in the product manual. Consult the safety precautions section of the product manual for an explanation of all safety symbols used on this equipment.
- Retain the product manual for the life of this product.
- After reading this manual, if further assistance is needed, contact your factory authorized sales or service representative.

Sales and Service Centers in the United States and Canada

	Zip Code	Sales & Service Center
United States	010 - 029	McGinley Packaging Methods (201) 444-1213
	030 - 059	Flowmation, Inc. (315) 434-9212
	060 - 079	McGinley Packaging Methods (201) 444-1213
	080 - 083	Evco Industries (610) 586-9842
	084 - 119	McGinley Packaging Methods (201) 444-1213
	120 - 123	Flowmation, Inc. (315) 434-9212
	124 - 127	McGinley Packaging Methods (201) 444-1213
	128 - 149	Flowmation, Inc. (315) 434-9212
	150 - 219	Evco Industries (610) 586-9842
	220 - 299	Pak-Tec, Inc. (803) 831-2099
	300 - 369	Ad-Pak Systems, Inc. (770) 889-0033
	370 - 399	Pak-Tec, Inc. (803) 831-2099
	400 - 429	Production Equipment (502) 955-9798
	430 - 459	Henline Adhesive Equipment Co., Inc. (513) 722-1030
	460 - 479	Production Equipment (502) 955-9798
	480 - 489	Engineered Bonding Systems, Inc. (248) 669-1112
	490 - 491	Production Equipment (502) 955-9798
	492	Engineered Bonding Systems, Inc. (248) 669-1112
	493 - 499	Production Equipment (502) 955-9798
	500 - 503	RK Systems (913) 686-3587
	504 - 507	Chatterton's Packaging (612) 464-1944
	508 - 509	RK Systems (913) 686-3587
	510 - 513	Chatterton's Packaging (612) 464-1944
	514 - 519	RK Systems (913) 686-3587
	520 - 521	Chatterton's Packaging (612) 464-1944
	522 - 529	RK Systems (913) 686-3587
	530 - 549	Underwood Diversified Products (715) 683-2800
	550 - 589	Chatterton's Packaging (612) 464-1944
	590 - 599	Westpac Packaging Systems, Inc. (425) 888-5600
	600 - 619	I.M.S. Systems (847) 956-6600
	620 - 693	RK Systems (913) 686-3587
	700 - 703	R & R Packaging Systems, Inc. (281) 370-9253
	704	Pak-Tec, Inc. (803) 831-2099
	705 - 711	R & R Packaging Systems, Inc. (281) 370-9253
	712 - 729	Pak-Tec, Inc. (803) 831-2099
	730 - 799	R & R Packaging Systems, Inc. (281) 370-9253
	800 - 831	Astro Packaging (714) 572-1094
	832 - 838	Westpac Packaging Systems, Inc. (425) 888-5600
	840 - 865	Astro Packaging (714) 572-1094
	870 - 883	R & R Packaging Systems, Inc. (281) 370-9253
	890 - 891	Astro Packaging (714) 572-1094
	895	Pro-Pack Systems (408) 771-1300
	900 - 931	Astro Packaging (714) 572-1094
	932, 934	Pro-Pack Systems (408) 771-1300
	933, 935	Astro Packaging (714) 572-1094
	936 - 961	Pro-Pack Systems (408) 771-1300
	967 - 999	Westpac Packaging Systems, Inc. (425) 888-5600
Canada	East	Sort Production Products, Ltd. (905) 673-7678
	West	Westpac Packaging Systems, Inc. (425) 888-5600

Table of Contents

1 Safety Precautions for Hotmelt Applicator Equipment

This manual contains important safety information and instructions. Failure to comply with these instructions can result in death, injury or permanent damage to this equipment and will void the warranty.

1.1 Intended Use

This equipment is designed for use with standard adhesive and sealant materials with flash points above 232 °C (450 °F). Use of flammable material or material not compatible with the specifications of this equipment can cause injury to operator and damage to equipment.

The manufacturer has designed this equipment for safe operation. Specified models are in compliance with EN 60204-1:1993. However, heated thermoplastics and other hotmelt materials are dangerous and care must be exercised to ensure operational safety. Handling must be in accordance with hotmelt manufacturer specifications. Never exceed the maximum application temperature recommended by the adhesive manufacturer.

Dispose of hotmelt properly. Refer to the Materials Safety Data Sheet (MSDS) of the hotmelt for recommended disposal methods.

1.2 Personal Safety

Wear the following protection when working on or around this equipment:

Wear Safety Goggles

Always wear heat resistant gloves rated to 205 °C (400 °F) and allow all system temperatures to stabilize below 193 °C (380 °F) before servicing. Properly ventilate equipment according to MSDS of the material used. Do not store combustible materials in vicinity of equipment.

Wear Heat-Resistant Safety Gloves

Trained operators and service technicians should be aware of exposed surfaces of the unit which cannot be practically safeguarded. These exposed surfaces may be hot and take time to cool after the unit has been operating.

Keep parts of the body away from rotating parts. Do not wear loose articles of clothing when operating or servicing units with rotating parts. Remove wristwatches, rings, necklaces, or other jewelry and cover or pin up long hair before performing any work on or with the unit.

Wear Protective Clothing

Trained operators may perform only external equipment adjustments. Internal adjustments and service must be performed by trained service technicians.

1.3 Electrical Safety

Determine voltage of this equipment before installation and confirm compatibility with available power. Equipment must be connected to a properly grounded circuit and installed in accordance with all applicable electrical codes. Ground fault protection must be provided in supply circuitry at site installation.

Models designed to EN60204-1:1993 require power cords be approved to a harmonized (HAR) standard and rated for 70 °C (158 °F). A HAR approved Type B plug and strain relief for power cord are required to meet standard IEC 309. Power conducting wires must be nominal 5.3 mm^2 (10 AWG) maximum and nominal 2.1 mm^2 (14 AWG) minimum.

1.4 Emergency Power Disconnect

In the event of a malfunction, turn off power to the equipment at the power off switch and remove source power to the system at the nearest main disconnect.

1.5 Follow Directions

Read the product manual thoroughly before installation, operation or maintenance. Failure to do so can result in a serious accident or equipment malfunction. **The manufacturer will not be held liable for injuries or damage caused by misuse of this equipment.**

1.6 Safety Symbols and Signal Words

The following safety symbols and signal words are used throughout the manual and on the product to alert the reader and operator to personal safety hazards or to identify conditions that may result in equipment or property damage.

General Safety Symbols

DANGER Indicates a hazard which, if not avoided, will result in serious injury, including death, or equipment and property damage.

WARNING Indicates a hazard which, if not avoided, can result in serious injury, or equipment and property damage.

CAUTION Indicates a hazard which, if not avoided, can result in minor injury, or equipment and property damage.

Specific Symbols and Signal Words

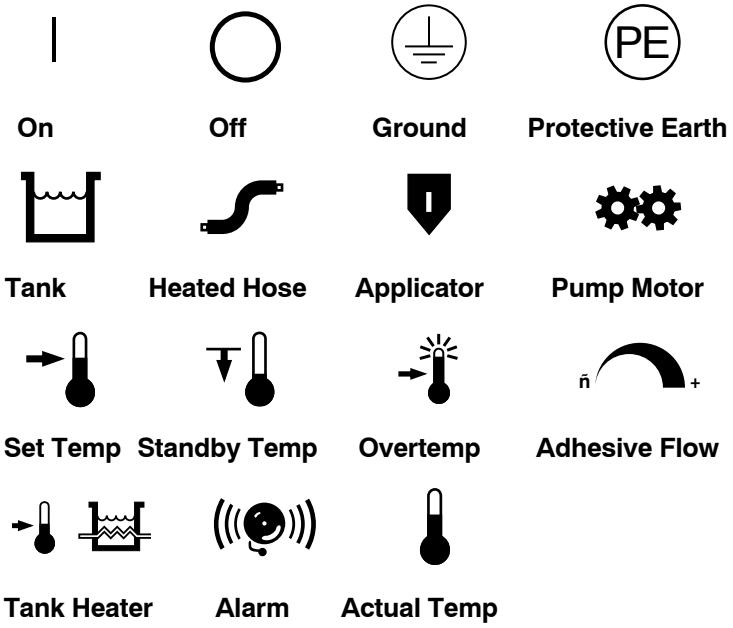
DANGER High Voltage. Can cause serious injury, including death. Disconnect electrical power at external source before servicing.

WARNING Hot Surface. Can cause serious injury and burns. Wear heat resistant clothing, gloves and safety goggles.

WARNING Disconnect electrical power at external source. Failure to do so can cause electrical shock.

WARNING High Pressure. System contents under pressure. Can cause serious injury and burns or equipment and property damage. Relieve pressure before servicing.

Other Product Symbols



The manufacturer reserves the right to make design changes for product improvement. This manual may not reflect all details of these improvements.

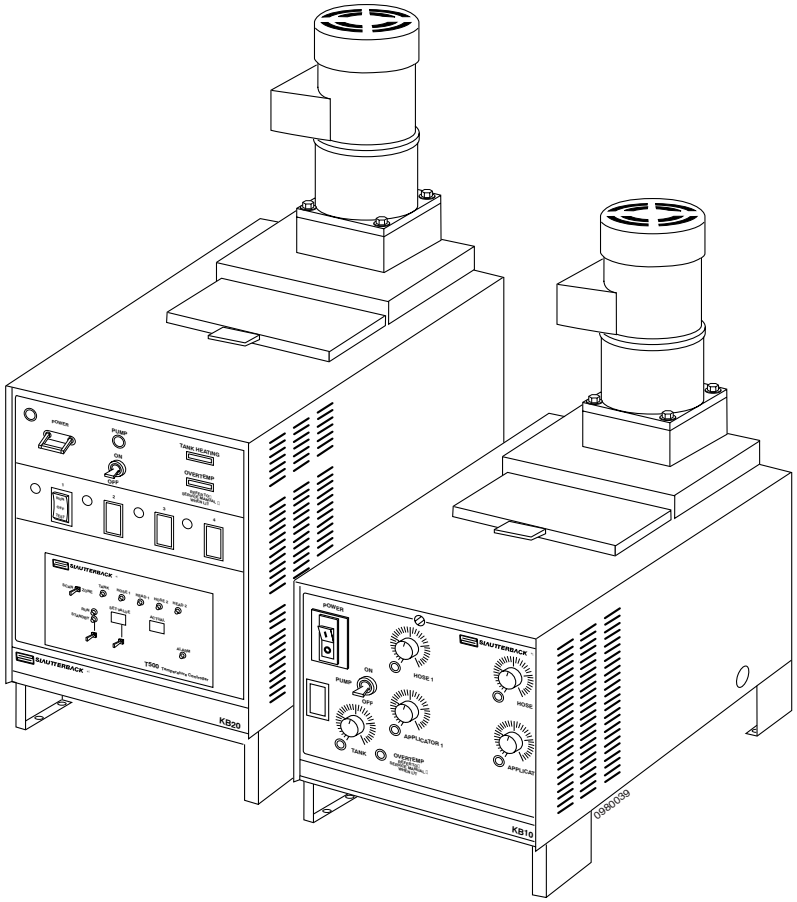
2 Introduction

2.1 Description

The KB10 and KB20 Melt Units are medium to heavy duty machines used for melting and pumping a variety of adhesives. The melt unit consists of a heated melt tank and a motor-driven, positive displacement gear pump.

The melt unit is all-electric and accepts granular, flake, or block forms of adhesive. A flow control valve regulates fluid pressure and adhesive flow. The melt unit is available in 4.5 and 9.1 kg (10 and 20 lb) tank capacities. The smaller melt unit supports up to 2 manual or automatic hoses and heads. The larger melt unit supports up to 2 manual hoses and heads or up to 4 automatic hoses and heads.

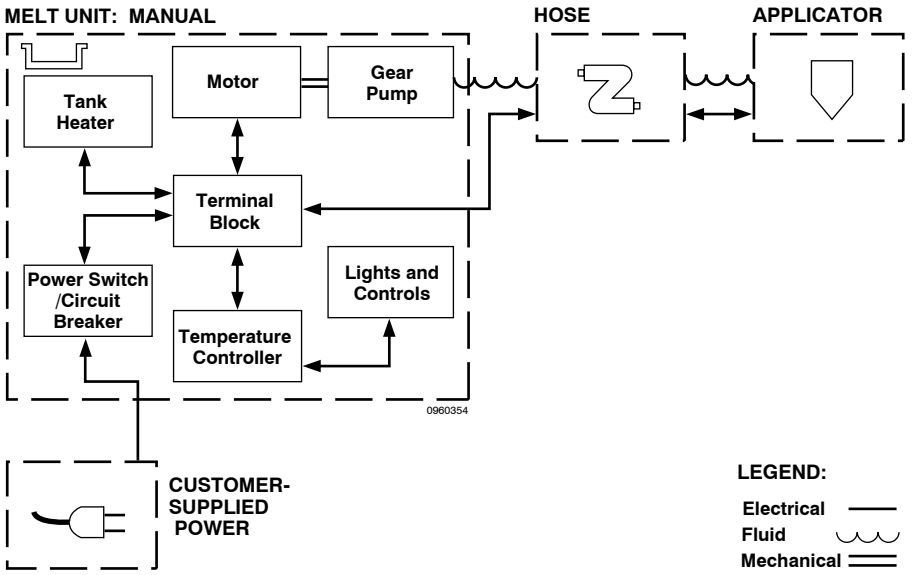
The tank, hose(s), and head(s) may be set from ambient temperature to 232 °C (450 °F) with an adjustable solid state temperature controller. An internal melt grid is a standard feature on the 9.1 kg (20 lb) melt unit and an optional feature on the 4.5 kg (10 lb) melt unit.

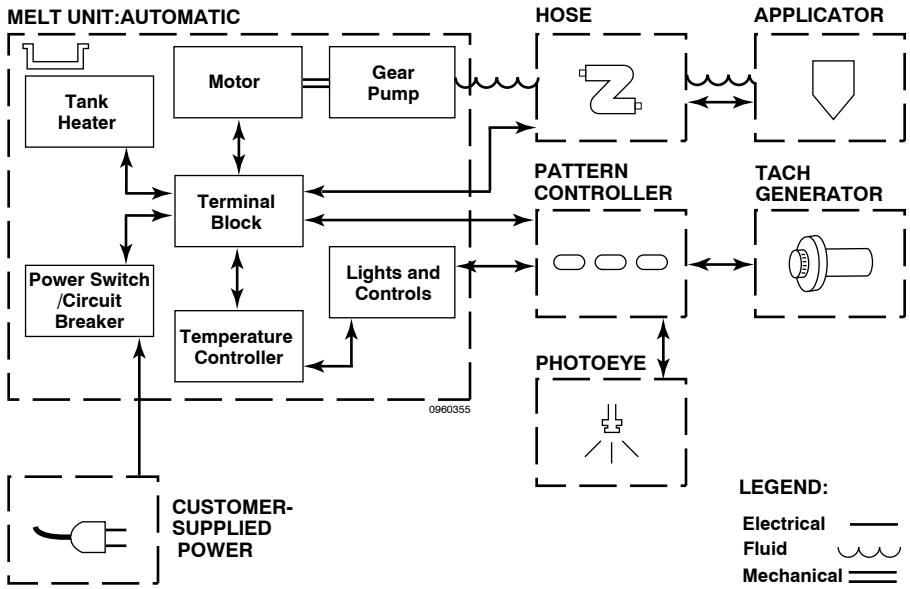


2.2 Features

- ❒ The system power switch/circuit breaker protects the entire system from overload.
- ❒ A separate circuit breaker protects the pump motor by turning the motor off should a stall or overload condition occur.
- ❒ A pump warmup thermostat protects the pump-drive mechanism by preventing operation below a safe temperature level.
- ❒ A tank-mounted overtemperature thermostat provides backup protection in the event of a tank controller failure.
- ❒ Heater circuits are fused.

2.3 System Block Diagrams





3 Installation

3.1 Set-up

1. Remove all packaging material around melt unit.
2. Carefully lift melt unit out of box.
3. Unpack the binder containing product manuals, electrical schematic, warranty information, and flow control valve hex wrench. Retain binder for future reference.
4. Unscrew 4 screws from plywood board base; remove and discard plywood.
5. Carefully uncoil hoses from around melt unit and remove protective wrap from heads. Inspect all packing material for separately wrapped items.
6. Position melt unit for easy access to control panel and convenient servicing.
7. Level mounting surface to prevent warping melt unit and to avoid misaligning the pump and motor shaft.
8. Using the base mounting holes, bolt melt unit down to a durable mounting surface in accordance with dimensions in Specifications to prevent accidental upset and possible injury.
9. Tighten all screws before start-up and after melt unit experiences excessive vibration.
10. Refer to Motor Alignment instructions in Section 7, Repair and Replacement.

3.2 Component Installation

Manual (Handgun) Systems

All standard components are normally installed on the melt unit at the factory with no user installation required. If not installed, refer to Hose Replacement. Refer to handgun product manual for complete information on installation and service of the handgun/hose assembly.

Automatic Systems

Hoses

Hoses are normally installed on an automatic melt unit at the factory with no user installation required. If not installed, refer to Hose Replacement. Refer to heated supply hoses product manual for complete installation and service information.

Automatic Heads
Automatic heads may be attached to hoses or packaged separately. If not installed, proceed as follows:

1. Heat fluid fittings on head and output end of hose by attaching the electrical connector and applying power for 3 – 5 minutes or until hose fitting will rotate.

2. Connect output end of the hose to adhesive input fitting on the head.

3. With system power off, attach hose output electrical connector to head. Return power to system.

4. When system reaches operating temperature, retighten all adhesive connections. Turn pump on and check for leaks.

Refer to head product manual for complete installation and service information.

Pattern Controllers, Head Drivers, and Optional External Components
Pattern controllers, head drivers, and other external components normally need to be connected to melt unit during installation. Refer to electrical schematic, located in manual binder or back of melt unit, for appropriate wire connections to the melt unit. Refer to individual component product manual for complete installation and service information.

3.3 Electrical Circuits and Wiring

Electrical Schematic

Consult the electrical schematic provided with the melt unit for all wire connections and component interconnections. Two schematics are shipped with each system: one is with the product manuals; the other is on the melt unit, either on or inside the rear panel. One copy of the schematic should remain with the melt unit at all times.

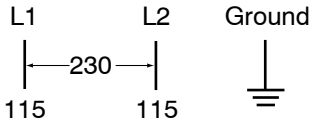
Power Requirements

> ⚠ **CAUTION** Power conducting wires must be at least 16 AWG and rated for 75 °C (167 °F).

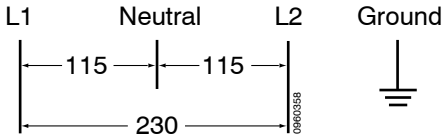
The KB Melt Unit uses single phase 100,115, 200, or 230 V~ power sources, each with earth ground for safety. Refer to Terminal Block Configurations. The standard 230 V~ melt units are wired for 2-wire single phase power. An identification plate is attached to each melt unit on the outside rear door of the tank housing. This plate specifies the exact voltage of the melt unit and frequency of the pump motor. Pump motor voltage, frequency, and current are specified on the motor data plate located on the motor. For safe and proper installation, refer to the identification plate before applying electrical power to the melt unit.

Terminal Block Configurations

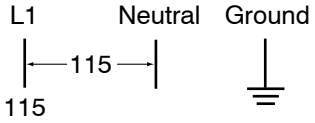
Standard 230 V~ Single Phase, 2 Wire



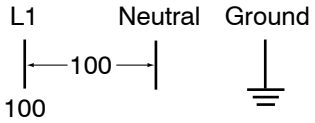
Special 230 V~ Single Phase, 3 Wire



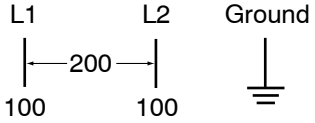
115 V~ Single Phase



100 V~ Single Phase



200 V~ Single Phase, 2 Wire



Valve Group Control Circuits for Automatic Units

An automatic head contains one or more adhesive valves which are activated by a solenoid. A valve group is a number of valves powered by the same source which activate at the same time. There are several options to activate electric valves and valve groups:

Two Types of Valves and Firing Circuits
Automatic heads are specified by solenoid voltage and valve type. Valves must match the V~ or VDC firing voltage. Multiple valve heads may have more than one firing circuit within a single head. Head firing circuits are specified with or without a Head Activate/Test (HAT) switch.

Timer Adaptor Relay Options
V~ valves may be powered directly from the V~ output of a pattern controller or triggering device, or through an isolation or timer adaptor relay with V~ output. The solid state relay may be factory installed or added separately and is mounted inside the electrical enclosure. Timer adaptor relays are available to accept inputs from 100 – 230 V~ or 3.5 – 28 VDC.

Head Activate/Test (HAT) Switch
The HAT Switch is a 3-position switch to control power to the firing circuit for a valve group. The RUN position is for normal operation; it allows the valves to be activated by an input trigger. The OFF position removes power to the valve group firing circuit so that no valve activation can take place. The TEST position allows manual firing of the valve group for test purposes. HAT switches are not available with HD style head drivers.

Valve Group Firing Circuit Options
Each melt unit is factory wired for 1 of the options below at the time of order. Proper installation requires knowing what option was specified. The option is listed on the packing slip and the Quality Control and Final Test Report, located with the product manuals. The electrical schematic, located in back of the melt unit, also provides this information. Refer to tables below.

V~ or VDC valve group firing circuit without HAT switch. This head firing configuration activates V~ or VDC valves from a factory or customer supplied pattern controller, timer or other triggering device. When using a customer supplied pattern controller with V~ valves, an optional solid state timer adaptor relay is available.

V~ valve group firing circuit with HAT switch. This circuit includes a HAT switch on the control panel. The circuit activates V~ valves from a factory or customer supplied pattern controller, timer or other triggering device. When using a customer supplied pattern controller, an optional solid state timer adaptor relay is available.

VDC valve group firing circuit with HAT switch. This circuit includes a HAT switch on the control panel. It is only available when a DC Driver is included in the system. A HAT switch is not available with HD series head drivers.

*V~ Valve Firing Voltage**

Firing Voltage Source	Trigger Signal Source	Optional Timer Adaptor Relay**	Pattern Control Jumpers
Melt unit	any V~ trigger	no relay	present
External	customer V~ trigger	no relay	not present
External	customer V~ trigger	AC relay	present
External	customer VDC trigger	DC relay	present

* With or without HAT Switch

** Timer adaptor relay isolates melt unit power from an external power source

VDC Valve Firing Voltage

Firing Voltage Source	Trigger Signal Source	Head Driver Required	Pattern Control Jumpers
DC Driver*	any 3–32 VDC trigger	DC Driver	not present
Head driver**	any 3–32 VDC trigger	DC Driver or HD2A,HD4A	not present

* With HAT Switch

**Without HAT Switch

Foot Switch Trigger for Semi-automatic Systems

A manually operated foot switch allows operator to control adhesive deposition through heads while keeping hands free. The foot switch assembly may be factory installed or added later. See Accessories.

External Control of Pump Motor for Automatic Units

The pump motor circuit may be connected to a parent machine or other control device to enable the parent machine to control the hotmelt system pump. This extends pump life and provides added safety when the melt unit is used in conjunction with other machinery.

1. Using melt unit electrical schematic, locate parent machine interface jumper.

2. Remove parent machine interface jumper.

3. Wire contacts from external device to the melt unit main terminal block where the parent machine interface jumper was located.

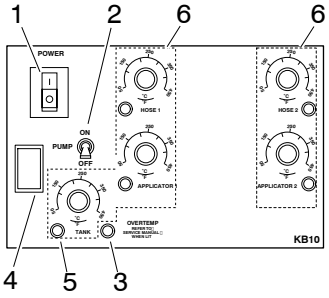
4 Operation

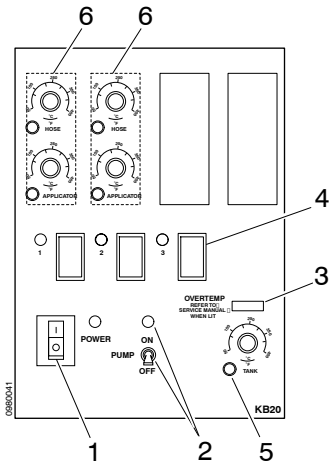
4.1 Control Panels

Temperature controllers normally dominate the control panel and determine the arrangement and appearance of other controls and indicators. See Controls and Indicators for explanation.

T150 Temperature Controller

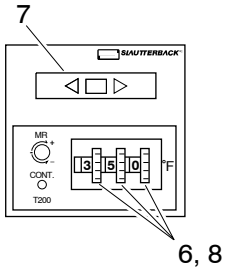
[1] System Power Switch/Circuit Breaker
[2] Pump Motor Switch/Circuit Breaker/ Indicator
[3] Tank Overtemperature Indicator
[4] Head Activate Test (HAT) Switch or Gun/Hose Power Switch
[5] Zone or Tank Heating Indicator
[6] Zone Set Temperature Dial

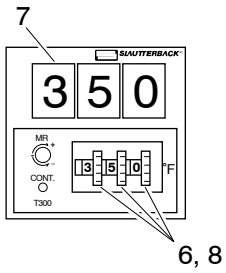


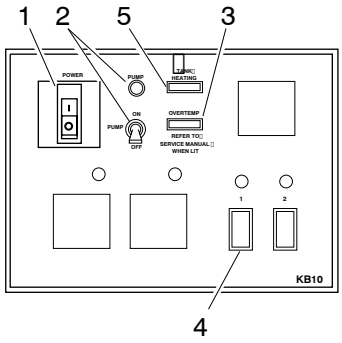


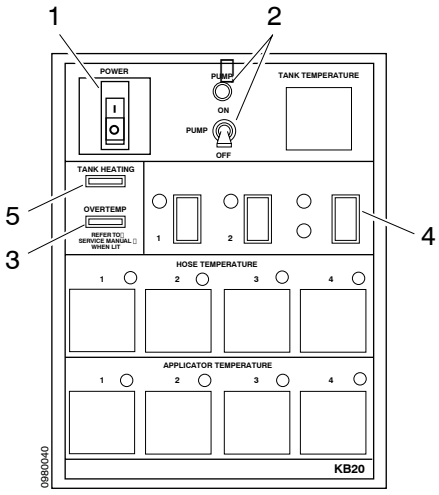
T200 and T300 Temperature Controllers

[1] System Power Switch/Circuit Breaker
[2] Pump Motor Switch/Circuit Breaker/ Indicator
[3] Tank Overtemperature Indicator
[4] Head Activate Test (HAT) Switch or Gun/Hose Power Switch
[5] Zone or Tank Heating Indicator
[6] Zone Set Temperature Thumbwheel
[7] Actual Temperature Indicator
[8] Set Temperature Value



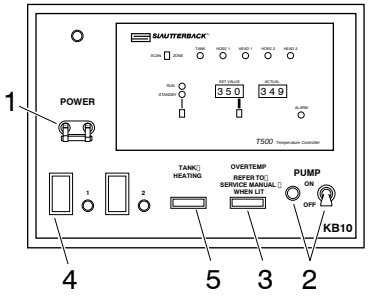


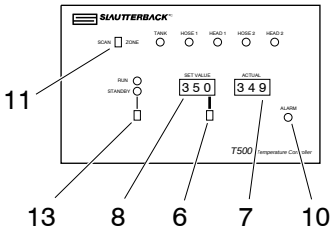


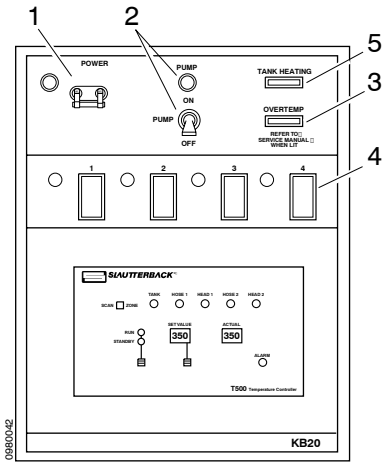


T500 Temperature Controller

[1] System Power Switch/Circuit Breaker
[2] Pump Motor Switch/Circuit Breaker/ Indicator
[3] Tank Overtemperature Indicator
[4] Head Activate Test (HAT) Switch or Gun/Hose Power Switch
[5] Tank or Zone Heating Indicator
[6] Zone Set Temperature Toggle
[7] Actual Temperature Display
[8] Set Temperature Value
[10] Alarm
[11] Zone-Scan Toggle
[13] Run-Standby Toggle

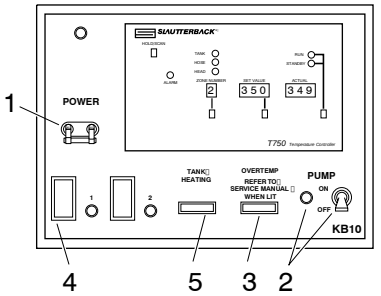


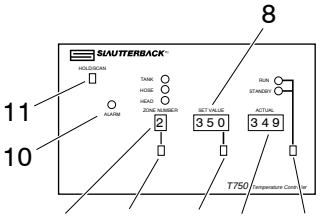


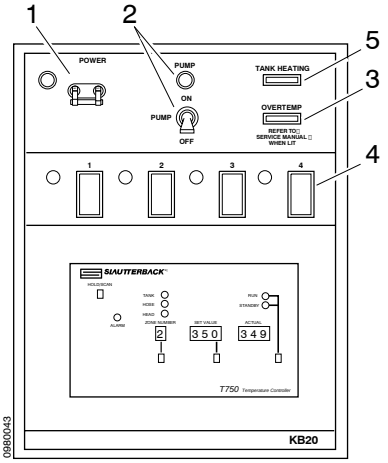


T750 Temperature Controller

[1] System Power Switch/Circuit Breaker
[2] Pump Motor Switch/Circuit Breaker/ Indicator
[3] Tank Overtemperature Indicator
[4] Head Activate Test (HAT) Switch or Gun/Hose Power Switch
[5] Tank or Zone Heating Indicator
[6] Zone Set Temperature Toggle
[7] Actual Temperature Display
[8] Set Temperature Value
[9] Zone/Zone Number Selector Toggle
[10] Alarm
[11] Zone-Scan Toggle
[12] Zone Indicators
[13] Run-Standby Toggle

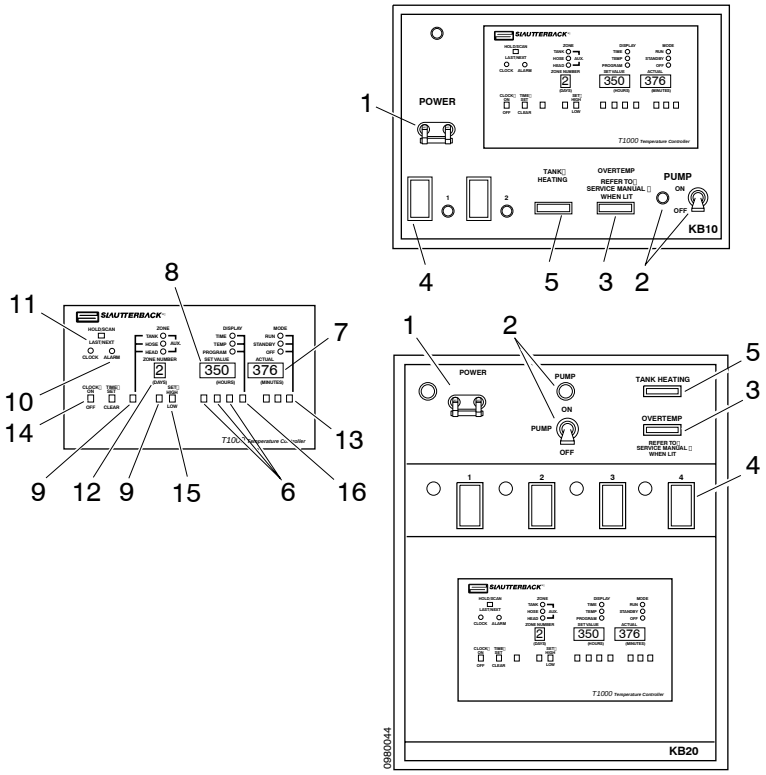






T1000 Temperature Controller

[1] System Power Switch/Circuit Breaker
[2] Pump Motor Switch/Circuit Breaker/ Indicator
[3] Tank Overtemperature Indicator
[4] Head Activate Test (HAT) Switch or Gun/Hose Power Switch
[5] Zone or Tank Heating Indicator
[6] Zone Set Temperature Toggle
[7] Actual Temperature Display
[8] Set Temperature Value
[9] Zone/Zone Number Selector Toggle
[10] Alarm
[11] Zone-Scan Toggle
[12] Zone Indicators
[13] Run-Standby-Off Toggle
[14] Clock On/Off Switch
[15] High/Low Temperature Limits
[16] Display Selector Switch



4.2 Controls and Indicators

System Power Switch/Circuit Breaker

[1] A white power switch controls power to system and all components receiving power from the melt unit. The switch is illuminated when On. This switch is also the main circuit breaker for the system and will trip, or open, if an overload or short occurs.

Pump Motor Switch/Circuit Breaker/Indicator

[2] This switch powers the pump motor for normal operation and is turned off during periods of inactivity or system maintenance. A circuit breaker in the switch protects motor during a stall or overload condition. Switch must be On to support handgun actuated switching. Two additional circuits protect the pump and motor. Indicator illuminates when pump motor switch is ON.

Pump Warmup Thermostat (Not Shown)
The pump warmup thermostat, located on the back of the tank, prevents the pump motor from starting before system reaches operating temperature. In units with T500, T750, or T1000 Temperature Controllers, the pump warmup thermostat is in series with the run-ready circuit of the controller.

Motor Thermal Overload Protection (Not Shown)
The motor thermal overload protection prevents the motor from overheating. The motor stops when overheated and begins operating again when the temperature drops to a safe level.

Tank Overtemperature Indicator

[3] A bimetallic fixed thermostat, located inside the rear of the melt unit on the tank base, provides overtemperature protection for the melt tank. If the tank controller fails with tank heaters on, the red warning light will illuminate and tank temperature will be controlled by this thermostat until the normal tank controller is repaired.

Head Activate/Test (HAT) Switch (for Automatic Systems) or Gun/Hose Power Switch (for Manual Systems)

[4] An optional 3-position switch controls power to the firing circuit for a valve group. The Run position (for normal operation) allows valves to be controlled automatically by the triggering device. The Off position removes power to a valve group firing circuit so adhesive valves will not open. The Test position allows manual activation of head valve group for test purposes.

[4] The Gun/Hose Power switch gives user individual On/Off control of the heater circuit of each handgun and hose.

Zone Heating Indicators/Tank Heating Indicator

[5] Many melt units have rectangular tank heating indicator that is separate from any temperature controller. Each T150, T200, and T300 Temperature Controller contains its own heating indicator lamp. The T500, T750, and T1000 microprocessor temperature controllers indicate zone heating by a decimal point to the right of the display for Set Value (T500) or Zone Number (T750 and T1000). In all cases the heating indicators are off when zone is not heating, and on when power is applied to heater(s).

Zone Set Temperature Dials, Thumbwheels, or Toggle Switch

[6] Each heated zone (tank, hose, head) has an analog dial, thumbwheel, or toggle switch for setting and adjusting temperature for that zone.

Actual Temperature Indicator or Display

[7] T200 temperature controllers show above and below set point deviations with lighted arrows and set point with lighted center square. T300, T500, T750, and T1000 temperature controllers display actual temperature in numerals in either °C or °F. For T150 temperature controllers, Actual Temperature equals Set Temperature when heating indicator moves from constantly on during warmup to intermittently on during maintenance.

Set Temperature Value

[8] The desired operating temperature set for each zone (tank, hose, head).

Zone/Zone Number Selector Toggle

[9] This switch selects zones one at a time for viewing or setting temperatures.

Alarm

[10] This indicator lights when potential heating problems arise. See appropriate temperature controller manual for more information

Zone-Scan Toggle

[11] Switch displays one zone (tank, hose, head) at a time for two seconds and continuously rotates through all zones. Each zone indicator lights when selected.

Zone Indicators

[12] LED indicates selected zone. On T750 and T1000, the numeral displayed in Zone Number indicates which hose or head has been selected.

Run/Standby Toggle

[13] Switch allows user to manually move from Run to Standby temperature. It also allows user to set temperature values for Run and Standby. On the T1000, this switch allows the controller to be turned off.

Clock On/Off Switch

[14] This switch activates or deactivates the clock.

High/Low Temperature Limits

[15] Toggled up, this switch selects the high temperature limit; down selects the low temperature limit.

Display Selector Switch

[16] Toggle selects among time, temperature, or program displays.

4.3 Temperature Setting and Adjustment

⚠ **DANGER** To avoid personal injury, follow all safety labels. Failure to properly operate and maintain equipment can lead to serious injury.

- Wear protective clothing, safety goggles, and safety gloves. Hot -melt materials can cause severe burns resulting in disfigurement or blindness.
- Use manufacturer recommended materials only in this system. Fire, explosion, personal injury, property, and equipment damage can result if improper or unsafe materials are used.

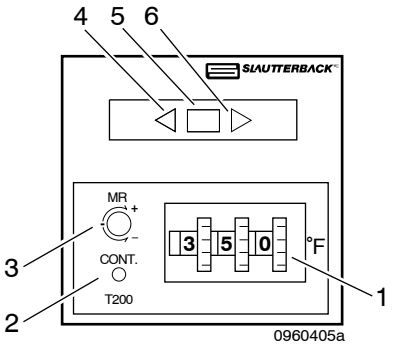
1. Fill tank with hotmelt material to 3.8 cm (1.5 in.) from top.

2. Turn melt unit on and allow 30−45 minutes warmup time.

T150 Temperature Controller

If melt unit is equipped with a T150 Temperature Controller, operating temperature for each zone is set with the control dial provided on the control panel. Set temperature dial at desired Operating or Set Temperature, then wait for warmup and temperature stabilization. During warmup the heating indicator light is on constantly. Once Set Temperature is reached, the indicator light cycles on and off with the controller heating cycle.

T200 Temperature Controller



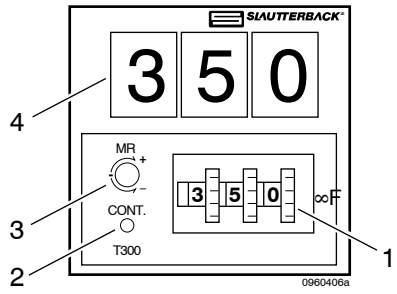
1. Turn thumbwheels [1] to the desired Operating or Set Temperature. Maximum temperature is 232 °C (450 °F).

2. Set Manual Reset knob [3] to 0 or neutral.

3. Wait for component to reach Set Temperature. The Cont. lamp [2] indicates the component is heating. Temperature deviation lamps [4 and 6] indicate the temperature in relation to Set Temperature. When the component is within ±1°C (±3 °F) of Set Temperature the middle lamp [5] will light. The left arrow lamp [4] indicates the temperature is below the Set Temperature. The right arrow lamp [6] indicates the temperature is above the Set Temperature.

4. Use the Manual Reset knob [3] to adjust the Cycling Point. Measure the component temperature with a thermometer to determine when the heater turns on and off. Turn the Manual Reset knob [3] + or –, as needed, to have the heater cycle around the Set Temperature.

T300 Temperature Controller



1. Turn thumbwheels [1] to set the desired Operating or Set Temperature. Maximum temperature is 232 °C (450 °F).

2. Set Manual Reset knob [3] to 0 or neutral.

3. Wait for component to reach Set Temperature. The Cont. lamp [2] indicates the component is heating. The temperature display [4] shows the actual temperature of the component.

4. Use the Manual Reset knob [3] to adjust the cycling point, if necessary. Note the temperature that the heater cycles on and off. Turn the Manual Reset knob [3] + or – as needed to have the heater cycle around the Set Temperature.

T500, T750, T1000 Temperature Controller

If melt unit is equipped with a T500, T750, or T1000 Temperature Controller, set and adjust operating temperature according to appropriate temperature controller product manual:

T500 Temperature Controller (P/N 19600-100),
T750 Temperature Controller (P/N 19600-118),
T1000 Temperature Controller (P/N 19600-66).

4.4 Adhesive Flow Adjustments

> **CAUTION** For maximum performance and motor life, do not allow pump motor to stall. A prolonged stall condition will cause motor to go into thermal overload.

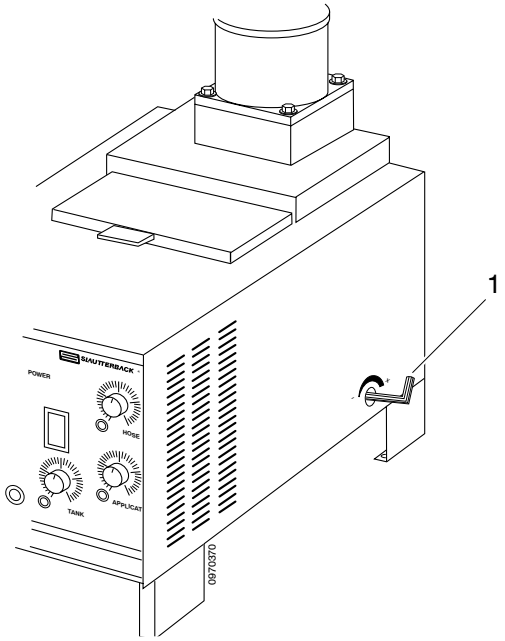
Flow Control Valve
An adjustable pressure regulating device is mounted on the pump under the melt unit chassis.

1. Adjust flow control from lower right side of melt unit using the 1/4 in. hex wrench [1] or optional knob supplied with melt unit.

2. To increase pressure and adhesive flow, turn wrench or knob clockwise.

3. To decrease pressure and adhesive flow, turn wrench or knob counter-clockwise.

4. To achieve minimum pressure and lowest flow rate suitable for application, turn wrench fully counterclockwise. Gradually turn wrench clockwise until desired pressure and flow rate is reached.



5 Maintenance

WARNING Take the following precautions before beginning any maintenance:

- Wear protective clothing, safety goggles and safety gloves.
- Depressurize system. Switch off pump motor. Activate head trigger or valve until pressure is released and no adhesive flows. Switch off system power.
- Disconnect electrical power at external source. Failure to disconnect power can result in fatal electrical shock.
- Allow equipment to cool before servicing.

CAUTION To prevent damage to components (hose fittings, etc.), heat part(s) being serviced to approximately 121 °C (250 °F) prior to dismantling, assembly, or adjustment. Heat parts by applying power to melt unit, using a hand held hot air gun or placing parts on a hot plate. Failure to do this will result in stripped threads and ruined parts and tools.

CAUTION To avoid arcing of electrical contacts and possible failure of components, disconnect power to hoses before joining electrical connectors.

DANGER Disconnect power at external source before opening front control panel. Hazardous voltage can shock, burn, or cause death.

5.1 Internal Adjustments

There are no adjustments inside the electrical panel or melt unit housing required for normal operation of the melt unit.

5.2 Preventative Maintenance

Daily

1. Check for and remove foreign material in tank.
2. Wipe off excess hotmelt from tank lid.
3. Check for leaks.

Monthly

1. Purge tank and hoses.

2. Inspect hoses.

   a. Verify that hose is properly supported so it is not stressed during use. Minimum bend radius is 20 cm (8 in.) when hot. See appropriate hose manual for complete hose care guidelines.

   b. Visually inspect hose for wear, torn outer covering, and leaks. Replace hose if necessary.

3. Check tank temperature.

   a. Verify that system is not operating in overtemperature mode by observing Overtemperature Indicator Light.

   b. Determine tank temperature and adjust according to Temperature Setting and Adjustments.

4. If system is equipped with a pump filter, clean filter if flow rates are inadequate and char is present in the system. Refer to Pump Filter Installation, Servicing, and Replacement.

As Required

1. Purge tank and hoses.

2. Clean head nozzles.

6 Troubleshooting

Symptom	Possible Cause	Troubleshooting and Corrective Action
No power to system or control panel when main power switch is ON	Problem with source power	Ensure integrity of wiring from source to unit. Check voltage to main power switch with voltmeter.
	Problem with main power switch	With main power switch ON, check voltage at power switch output. Replace switch if necessary.
	Connectors to microprocessor	Check plug-in connectors on controller to ensure snug fit. Check integrity of wiring to connectors and repair if needed.
System powers up but tank fails to heat	Intermittent or broken connection in tank heater or RTD sensor circuit	With power source off, check integrity of wiring and terminations from main circuit breaker to tank temperature controller, all the tank heaters and the RTD sensor. Refer to electrical schematic. Repair as needed.
	Failed tank heater control relay	Locate tank heater relay. Refer to electrical schematic. Test by exchanging with working relay. Replace relay if defective.
	Failed tank heater fuse	Locate tank heater fuse. Refer to electrical schematic. Inspect and replace if needed.
	Failed RTD sensor	Locate RTD sensor circuit using Pin Location diagram. Measure RTD resistance with ohmmeter . Compare to Resistance chart in Appendix. Replace RTD if necessary.
	Failed tank heater(s)	Locate tank heater circuit using Pin Location diagram. Measure heater resistance with ohmmeter . Compare to Resistance chart in Appendix. Replace heater(s) if necessary.
	Failed tank overtemp-erature thermostat	If overtemperature lamp illuminated, turn source power off, and replace overtemperature thermostat.
	Tank temperature controller failure	With voltmeter, check adequacy of controller output to tank control relay. If no output, replace controller. With T150 controller only, check resistance of potentiometer before replacing controller and replace if defective.
	Settings “not learned” by microprocessor controller	Initiate “Learn” sequence. See controller manual.

Troubleshooting (Continued)

Symptom	Possible Cause	Troubleshooting and Corrective Action
Tank heats slowly or does not reach set temperature	Low source voltage	Measure source voltage and ensure that it matches melt unit rating.
	Tank heater failure	Measure resistance of each tank heater. Refer to Resistance Tables in Appendix. Replace heater if necessary.
	Incorrect tank heater	If tank voltage rating of tank heater is higher than source voltage, slow heating will result. Measure resistance of each heater or check voltage marking on heater and ensure compatibility with source voltage. Replace heater if needed.
	Controller calibration or scale problem	Incorrect scale setting on microprocessor controller: Microprocessor controllers could be on Celsius scale when Fahrenheit is desired. See manual to change scale. T150 Controller calibration: Calibrate controller by adjusting dial knob on shaft to match actual temperature.
	Failed T150 Potentiometer	Check resistance of potentiometer. Refer to Resistance Tables in Appendix. Replace if defective.
	Failed Controller	Replace controller if none of above solves problem.
Tank overheats (overtemperature indicator is illuminated)	At ambient temperature, failed overtemperature thermostat	Replace tank overtemperature thermostat.
	At operating temperature, set temperature too high	Tank temperature controller may need calibration. Check actual tank temperature at operating temperature.
	At operating temperature, incorrect overtemperature thermostat	Thermostat may be defective or rated too low. Replace thermostat with correct temperature rating.
	In normal operating mode, actual temperature is too high	Thermostat may be defective or rated too low. Replace thermostat with correct temperature rating.

Troubleshooting (Continued)

Symptom	Possible Cause	Troubleshooting and Corrective Action
Hose heats slowly	Low source voltage	Measure source voltage and ensure that it matches melt unit rating.
	Loose wires or connector pins in hose heater circuit	Check all wire connections and tighten if needed. Refer to electrical schematic and pin diagram. Ensure pins are not damaged and are securely seated. With ohmmeter measure resistance in heater and RTD sensor circuit inside hose. Compare to Resistance Table in Appendix. Replace hose if heater or sensor resistance is outside limits.
	Incorrect Hose	Check parts list and hose manual for correct hose number. Reorder/replace if necessary. If hose is rated for higher voltage than available source voltage, heating will be slow. Check voltage on hose tag or measure heater resistance within hose and compare to Resistance Chart in Appendix. Replace hose if necessary.
	Hose heater is defective	Measure hose heater resistance. Power off. Disconnect hose electrical connector from melt unit. Refer to Pin Location Diagrams for correct pin locations. Refer to Component Resistance Tables in Appendix. If defective hose heater, replace hose. If your hose is not represented in the Appendix, consult the factory for assistance.
	Controller calibration or scale problem	T150 Controller calibration: Calibrate controller by adjusting dial knob on shaft to match actual temperature. Incorrect scale setting on microprocessor controller: Microprocessor controllers could be on Celsius scale when Fahrenheit is desired. See manual to change scale.

Troubleshooting (Continued)

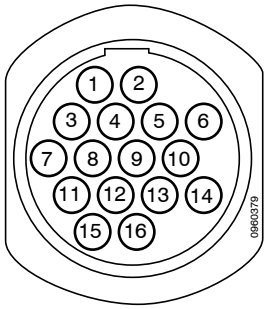
Symptom	Possible Cause	Troubleshooting and Corrective Action
Hose fails to heat	Loose wires or connector pins in hose heater circuit	Check all wires and terminations in hose heater and sensor circuit and repair as needed. Refer to electrical schematic.
	Failed hose heater control relay	Locate hose heater control relay. Refer to electrical schematic. Test by exchanging with working relay. Replace relay if needed.
	Failed hose heater fuse	Replace fuse. Refer to electrical schematic.
	Failed hose RTD sensor	Locate sensor circuit. See system schematic. Measure RTD resistance with ohmmeter. Refer to chart in Appendix. Replace RTD if necessary.
	Failed hose heater	Locate hose heater circuit. See system schematic. Measure heater resistance with ohmmeter. Refer to Appendix chart. Replace hose if needed.
	Zone “not learned” by microprocessor controller	Initiate “Learn” sequence. See appropriate temperature controller manual.
	Temperature controller failure	See the appropriate temperature controller manual.
Hose or applicator overheats	Set temperature is too high.	Ensure that set temperature is at desired operating temperature. If using T150 controller, ensure proper calibration. If using microprocessor, ensure temperature is on correct scale (°F/°C).
	Defective RTD sensor	Locate RTD circuit using system schematic. Use ohmmeter to check resistance.
	Temperature controller failure	Check output relay by replacing with known good one. Replace as necessary.

Solid State Controlled Hose

Male Connector Pin Location and Function

Handgun Hose		Automatic Hose		Autotech Hose	
Pin	Function	Pin	Function	Pin	Function
1	Ground	1	Ground	1	Ground
2	Heater circuit common (L2 or neutral)	2	Heater circuit common (L2 or neutral)	2	Heater circuit common (L2 or neutral)
3	Handgun heater (with pin no. 2)	3	Applicator heater (with pin no. 2)	3	Applicator heater (with pin no. 2)
4	Pump switch	4	Head coil circuit C *	4	Handgun circuit C
5	Pump switch	5	Head coil circuit C *	5	Handgun circuit C
6	Hose heater circuit (with pin no. 2)	6	Hose heater circuit (with pin no. 2)	6	Hose heater circuit (with pin no. 2)
7	Blank	7	Head coil circuit B (with pin no. 14)	7	Blank
8	Hose RTD	8	Hose RTD	8	Hose RTD
9	Hose RTD	9	Hose RTD	9	Hose RTD
10	Applicator RTD	10	Applicator RTD	10	Applicator RTD
11	Applicator RTD	11	Applicator RTD	11	Applicator RTD
12	Blank	12	Head coil circuit A	12	Applicator head coil
13	Blank	13	Head coil circuit A	13	Applicator head coil
14	Blank	14	Head coil circuit B (with pin no. 7)	14	Blank
15	Blank	15	Head coil circuit D*	15	Blank
16	Blank	16	Head coil circuit D*	16	Blank

* Only on 4-circuit versions.

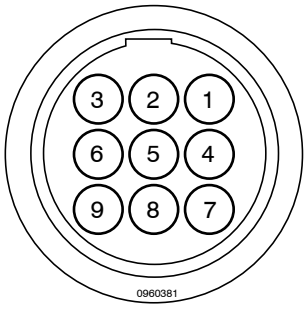


Input End of Hose for Handgun and Automatic Applicator

Automatic Hose with RTD Sensor

9-Pin Female Connector Pin Locations and Functions

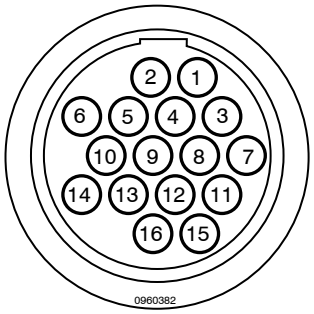
Pin	Function
1	Ground
2	Heater circuit return
3	Applicator heater (with pin no. 2)
4	Head coil circuit A
5	Head coil circuit A
6	Applicator RTD
7	Applicator RTD
8	Head coil circuit B
9	Head coil circuit B



Output End of Hose for Standard 2-Firing Circuit Automatic Applicator

16-Pin Female Connector Pin Locations and Functions

Pin	Function
1	Ground
2	Heater circuit return
3	Applicator heater (with pin no. 2)
4	Head coil circuit C
5	Head coil circuit C
6	Blank
7	Head coil circuit B (with pin no. 14)
8	Blank
9	Blank
10	Applicator RTD
11	Applicator RTD
12	Head coil circuit A
13	Head coil circuit A
14	Head coil circuit B (with pin no. 7)
15	Head coil circuit D
16	Head coil circuit D



Output End of Hose for 4-Firing Circuit Automatic Applicator with RTD Sensor

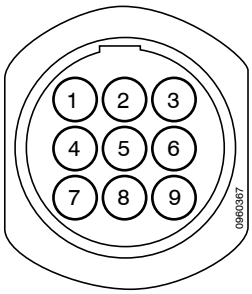
Troubleshooting (Continued)

Symptom	Possible Cause	Troubleshooting and Corrective Action
Applicator fails to heat	Weak connection	Check all wires and terminations in hose heater, output connector, and sensor circuit and repair as needed. Refer to electrical schematic. With system power off, disconnect hose electrical cable from melt unit and applicator. Check for continuity of heater and sensor through wires to applicator. Furthermore, check each heater through wire to ground to ensure wire is not grounded. Replace hose if lack of continuity or if heater wire is grounded.
	Lack of continuity	Check heater and sensor pins in hose connector. Use pin location diagram.
	Failed applicator heater control relay	Locate applicator heater relay. Refer to electrical schematic. Test by exchanging with working relay. Replace relay if defective.
	Incorrect resistance	With system power off, disconnect applicator from hose. Using schematic and pin location diagram for applicator input, measure resistance of RTD sensor and heater(s). Compare value to Resistance table in Appendix. Replace heater or RTD sensor as needed.
	Failed applicator heater(s).	Locate hose heater circuit using pin location diagram. Measure heater resistance with ohmmeter. Compare to Resistance table in Appendix. Replace heater if necessary.
	Applicator temperature controller failure	With voltmeter, check adequacy of controller output to tank control relay. If no output replace controller. With T150 controller only, check resistance of potentiometer before replacing controller and replace if defective.

Automatic Applicator with RTD Sensor

9-Pin Male Connector Pin Locations and Functions

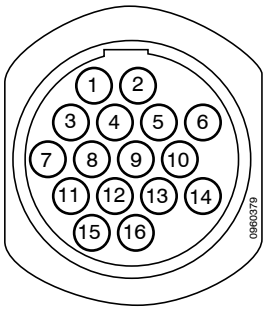
Pin	Function
1	Ground
2	Heater circuit return
3	Applicator heater (with pin no. 2)
4	Head coil circuit A
5	Head coil circuit A
6	Applicator RTD
7	Applicator RTD
8	Head coil circuit B
9	Head coil circuit B



Input End of Standard 2-Firing Circuit Automatic Applicator

16-Pin Male Connector Pin Locations and Functions

Pin	Function
1	Ground
2	Heater circuit return
3	Applicator heater (with pin no. 2)
4	Head coil circuit C
5	Head coil circuit C
6	Blank
7	Head coil circuit B (with pin no. 14)
8	Blank
9	Blank
10	Applicator RTD
11	Applicator RTD
12	Head coil circuit A
13	Head coil circuit A
14	Head coil circuit B (with pin no. 7)
15	Head coil circuit D
16	Head coil circuit D



Input End of 4-Firing circuit Automatic Applicator

Troubleshooting (Continued)

Symptom	Possible Cause	Troubleshooting and Corrective Action
Motor fails to function when pump motor switch is ON	Cold tank	Wait for tank temperature to increase. Pump warm-up thermostat may not have closed.
	Defective wiring or switch	With melt unit power and pump motor switch on, check voltage on both sides of pump motor switch. Correct wiring or replace switch as needed.
	Failed or incorrect pump warmup thermostat	If tank temperature appears to be at desired operating temperature, pump warmup thermostat may have a loose connection, failed open, or be overrated for the application. Locate pump warmup thermostat on back of tank base or wall of tank. Check wire connections, check for continuity and/or check temperature rating as marked on thermostat. Correct wiring or replace thermostat as needed.
	Motor thermal overload condition	Turn off pump motor switch, wait until motor cools and restart motor. Once restarted, ensure that the motor fan is functioning by carefully checking for positive air flow below the motor fan housing. Replace motor if defective.
	Current overload condition	Reduce pump pressure at flow control adjustment.
	Failed Motor Capacitor	Check motor capacitor and all connections to capacitor and motor.

Troubleshooting (Continued)

Symptom	Possible Cause	Troubleshooting and Corrective Action
Motor operates but produces no adhesive pressure	Incorrect motor rotation direction	Ensure that motor rotation is counterclockwise when viewed from top of motor.
	Incorrect motor junction box wiring	If problem arises on start-up, check for reversed wires. Refer to electrical schematic.
	Motor direction reverses after period of normal operation	Replace motor start/run capacitor.
	Clogged filter	Clean or replace filter.
	Low flow	Check flow control adjustment.
	Defective pump	Replace pump.
Motor overheats	Source voltage does not match motor voltage requirements	Check source voltage with voltmeter. Check motor voltage rating. Apply proper source voltage to melt unit.
	Source power frequency does not match motor frequency	Check frequency of incoming power and motor. Ensure correct frequency is applied to the melt unit.
	Flow control valve set too high	Check flow control valve position. Adjust flow control valve as necessary.
	Melt unit temperature set too low	Check set temperature, adjust if necessary. Refer to temperature controller manual.

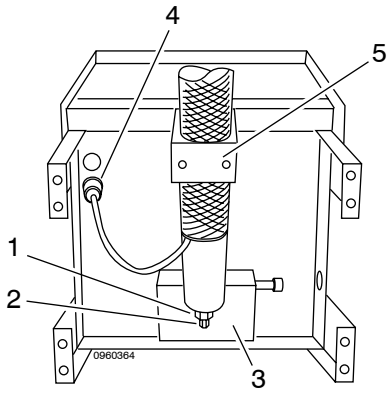
Troubleshooting (Continued)

Symptom	Possible Cause	Troubleshooting and Corrective Action
Adhesive output is too low	Incorrect flow control valve/adjustment	Increase system adhesive pressure (without stalling motor) by adjusting flow control valve. If no change, inspect flow control valve for proper operation and possible servicing. Refer to Pump and Flow Control Replacement.
	Incorrect nozzle size	Replace nozzle with a larger orifice nozzle.
	Clogged applicator nozzle	Clean applicator nozzle. If necessary, clean needle on handgun or valve assembly on automatic applicator. Refer to appropriate applicator manual.
	Clogged filter	Clean or replace pump filter and applicator filters if present.
	Clog of unknown origin	Purge system to remove any obstruction.
	Hose temperature too low	Increase hose temperature by 4–10 °C (25–50 °F). If no change, consult hotmelt material supplier regarding application.
Adhesive output is too high	Flow control valve set too high	Decrease system adhesive pressure with flow control valve. If no change, inspect flow control valve for proper operation and possible servicing.
	Incorrect nozzle size	Replace nozzle with a smaller orifice nozzle.
	Hose temperature too high	Decrease hose temperature by 4–10 °C (25–50 °F). If no change, consult hotmelt material supplier regarding application.

7 Repair and Replacement

See Parts List for part numbers of all replacement parts mentioned in this section.

7.1 Hose Replacement



> ⚠ **CAUTION** For safe and proper hose replacement, verify that all material in melt tank has completely solidified.

Removal of Existing Hose

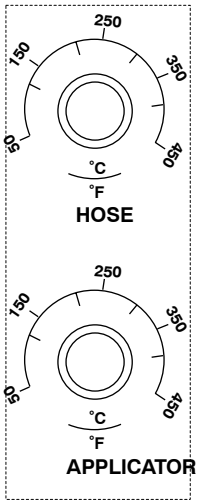
1. Switch system power off, and allow hotmelt in tank to completely solidify.
2. Switch system on for 5 minutes to allow fittings to warm or heat fitting with a hand-held hot air gun.
3. Switch system power off, and disconnect melt unit electrical power from external source.
4. Disconnect hose electrical connector [4] by tilting melt unit back until underside is accessible. Support the melt unit with block on back of housing so hotmelt does not spill. Do not turn melt unit upside down.
5. Remove screws from hose mounting block [5].
6. Loosen hose JIC fitting [1] and remove hose from the fitting [2] on the flow control block [3].

Installation of New Hose

1. Switch off system power and disconnect melt unit electrical power from external source.
2. Never flex a hose when cold. Hoses have a minimum bend radius of 20.32 cm (8 in.) when hot. Further flexing will cause permanent damage.
3. Heat hose JIC fittings [1] before adjusting or damage may result. New or clean hose fittings may not require heating.
4. Install hoses on melt unit by tilting melt unit back until underside is accessible. Support melt unit with block on back of housing so hotmelt does not spill. Do not turn melt unit upside down.
5. Support hose to prevent excessive flexing. Do not support hose in a way which may add to its thermal insulating characteristics or overheating will result. Failure to properly support the hose will result in premature failure.
6. Install hose as follows:
   a. Loosely connect the hose JIC swivel fitting [1] to fitting [2] on the flow control block or hose manifold [3].
   b. Fasten hose support block [5] to chassis.
   c. Tighten JIC swivel fitting [1].
   d. Attach hose electrical connector [4].
   e. Tuck electrical connector under melt unit.
   f. Position and support hose before using.
   g. After heating, tighten JIC swivel fitting [1].

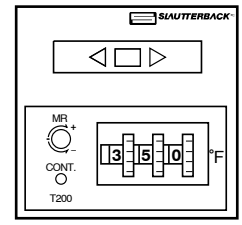
7.2 Temperature Controller Replacement

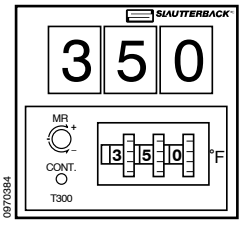
T150 Temperature Controller



1. Switch off system power. Disconnect electrical power to melt unit at external source.
2. Open melt unit control panel by turning access fastener(s) on control panel.
3. Remove 4 screws, washers and/or spacers at corners of T150 Temperature Controller module. Do not drop metal spacers into melt unit.
4. Remove controller module from mounting location.
5. Carefully disconnect wires to controller, 1 wire at a time, noting each connector location.
6. Position new T150 controller in mounting location.
7. Carefully reconnect each wire to new controller in its proper location on replacement module.
8. Replace 4 screws, washers and metal spacers at corners of new module and attach to control panel.
9. Replace melt unit control panel and secure access fastener(s).
10. Reconnect melt unit power, switch system power on and adjust controller as specified in Temperature Setting and Adjustments.

T200/T300 Temperature Controller





1. Remove power from melt unit or controller before replacing controller.
2. Remove existing T200 or T300 temperature controller from plastic housing by pushing up and releasing clip on bottom front of controller.
3. Do not remove housing if it is undamaged and wiring is intact.
4. Ensure top of controller aligns with top of housing. The top of housing has a label with the Slautterback part number and a wiring schematic label.
5. Insert replacement controller into housing.
6. Verify controller is in place. Incorrect insertion of controller will result in destruction of controller.
7. Consult wiring schematic in melt unit manual for more information.

T500/T750/T1000 Temperature Controller

1. Record existing settings for all zones.

2. Switch off system power. Disconnect electrical power to melt unit at external source.

3. Open melt unit control panel by turning access fastener(s) on control panel.

4. Remove orange wire connector [3], RTD sensor cable [5], and, except for T500, PB board connector [2] from temperature controller.

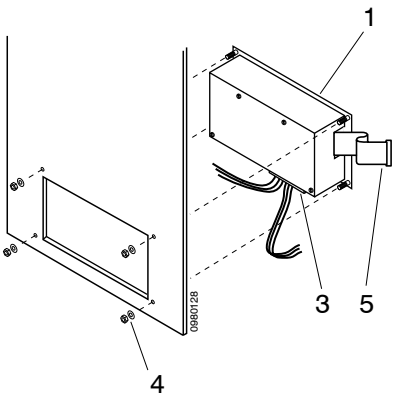
5. Remove 4 nuts and washers [4] holding temperature controller enclosure [1], and remove the enclosure.

6. Install new temperature controller [1] by following instructions in reverse order.

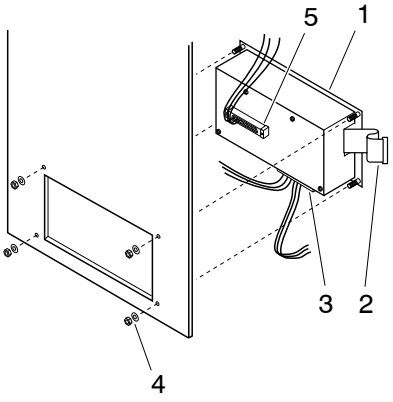
7. Ensure orange wire connector [3] orientation is correct before restoring power to melt unit.

8. Restore power to melt unit.

9. Follow instructions in the appropriate temperature controller manual to program the new temperature controller.



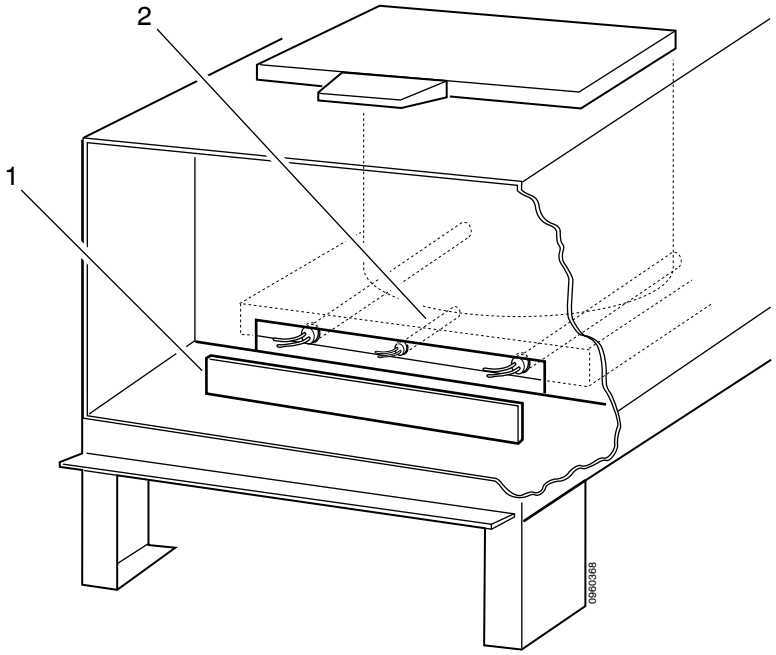
T500



T750
T1000

7.3 Tank RTD Sensor Replacement

1. Switch off system power and disconnect electrical power from external source.
2. Open control panel and remove tank access panel [1].
3. Locate RTD sensor [2] in bore on tank base.
4. Using pliers, remove failed sensor from the bore located at tank base.
5. Apply a thin coating of heat sink compound to the new RTD sensor [2].
6. Slide new RTD sensor [2] into bore.
7. Route RTD lead wires in their original locations.
8. Replace tank access panel [1] and control panel.



7.4 Tank Heater Replacement

1. Before considering replacement, check each heater with amp probe (system power on) or ohmmeter (system power off, wires disconnected). Refer to electrical schematic, located in back of melt unit.

2. To measure heater resistance, switch off system power and disconnect electrical power from external source.

3. Referring to figure, open control panel and remove tank access panel [1].

4. Determine resistance of each individual heater [2]. Refer to Appendix for Component Resistance Tables.

5. If heater requires replacement, disconnect wires on defective heater.

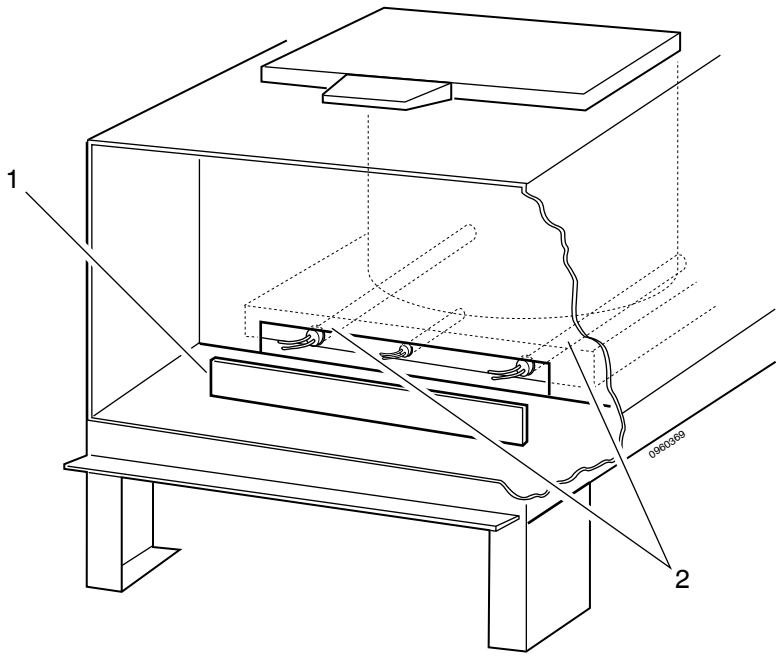
6. Pull heater [2] out of bore using pliers. If heater does not come out easily, drive out using a 6.35 mm (0.25 in.) diameter rod inserted in knockout holes in back of tank base.

7. Apply a coating of heat release and transfer agent to new heater [2] and slide it into tank heater bore from the front.

8. Route heater lead wires through electrical panel, and reconnect heater wires in original locations. See electrical schematic included with melt unit.

9. Replace tank access panel [1].

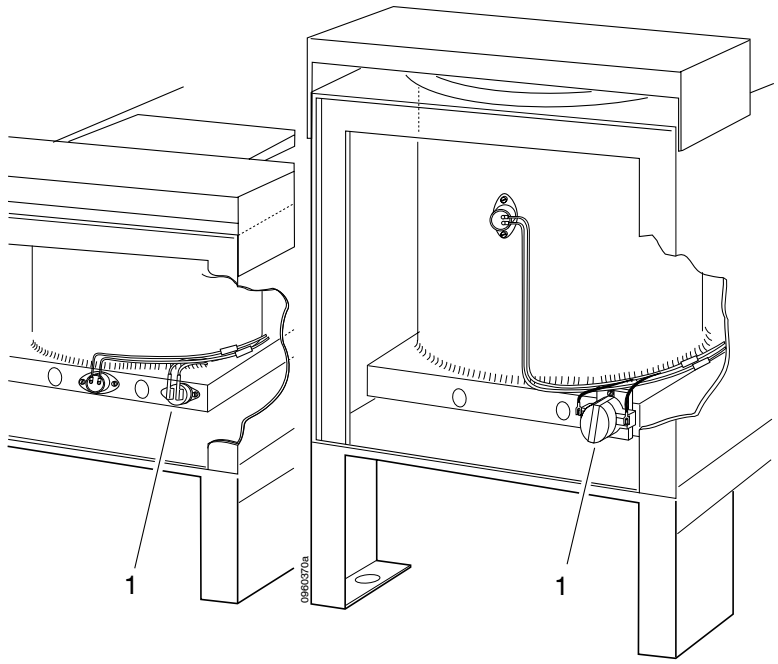
10. Close and fasten control panel.



7.5 Tank Overtemperature Thermostat Replacement

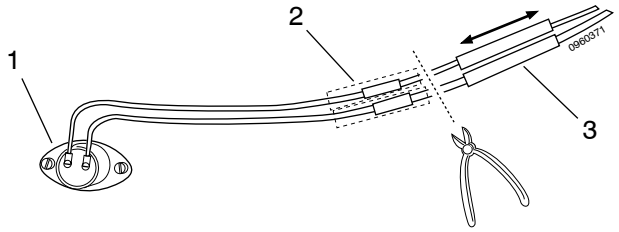
> ⚠ **WARNING** The overtemperature thermostat is a necessary safety device for preventing runaway heating on all melt units. Do not bypass this protection. Runaway heating of tank can cause hotmelt materials to burst into flames.

1. Disconnect melt unit electrical power at external source.
2. Open rear access panel.
3. Referring to figure, locate overtemperature thermostat [1]. Separate tank insulation as needed to access thermostat.
4. Remove mounting screws and wire connectors from overtemperature thermostat.
5. Remove existing thermostat [1] and clean mounting surface.
6. Apply a small amount of heat sink compound on back side of replacement overtemperature thermostat [1].
7. Position thermostat [1] in appropriate location on tank base and attach using mounting screws. Replace tank insulation as needed.
8. Reconnect overtemperature thermostat wire connectors and replace rear panel.



7.6 Pump Warmup Thermostat Replacement

1. Disconnect melt unit electrical power at external source.
2. Open rear access panel.
3. Referring to figure, locate pump warmup thermostat [1]. Remove tank insulation as needed.
4. Referring to figure, cut plastic wire ties holding insulation sleeving [3] in place.
5. Slide sleeving [3] toward tank to expose butt connectors [2], and cut wires as close to connectors as possible.
6. Remove mounting screws and existing thermostat [1]. Clean mounting surface.
7. Apply heat transfer paste to new thermostat [1], and install on tank or tank base.
8. Strip wires to approximately 6 mm (0.25 in.).
9. Ensure sleeving [3] is in place on wires. Crimp wires to new thermostat.
10. Reposition sleeving over butt splices and secure with wire ties.
11. Replace tank insulation, as needed.
12. Replace rear access panel.



7.7 Motor Alignment

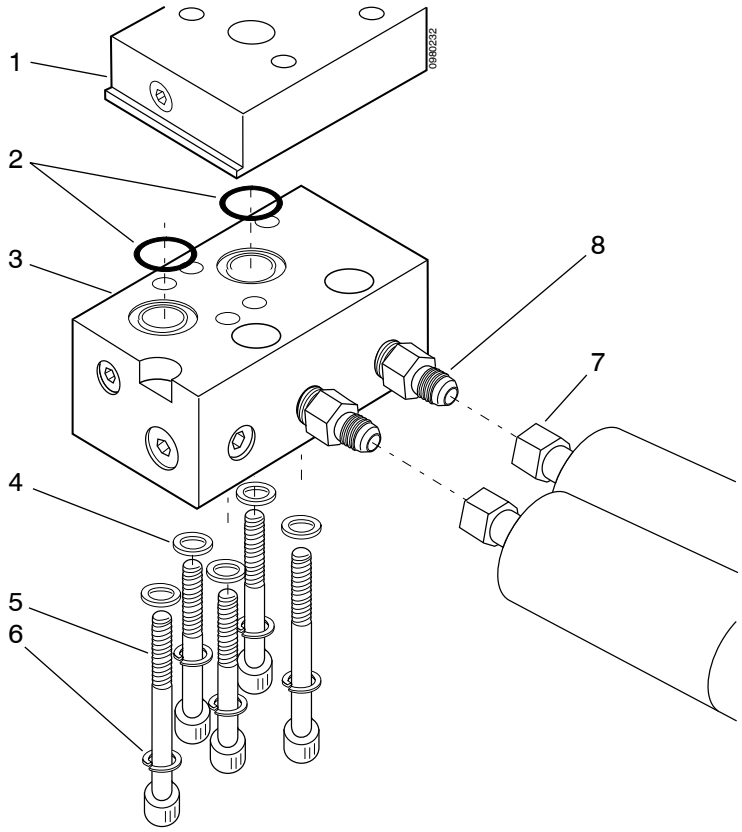
Align motor, if necessary. Motor alignment may be necessary on receipt of a new melt unit; after transportation; when replacing the motor, pump-shaft, flow control block or pump; or when the motor is noisy.

1. Loosen but do not remove 4 button head screws holding the motor to motor mount.
2. Warmup melt unit and run motor. This centers the motor.
3. With motor running, tighten 4 button screws in a crisscross pattern.

7.8 V1 Pump Hose Manifold Filter Block Replacement

The hose manifold filter block is an optional component that is required when a pump filter is used.

1. If possible, pump out all adhesive in melt unit before disconnecting power. If not possible, disconnect power and allow hotmelt in tank to solidify.
2. Switch on system power for 5 minutes to warm fittings.
3. Switch off system power and disconnect electrical power at external source.
4. Disconnect hose electrical connector and tilt melt unit backwards. Support the melt unit with block on back of housing so hotmelt does not spill. Do not turn melt unit upside down.
5. Referring to figure, loosen JIC fittings [7] and remove hose(s) from fitting(s) [8] on hose manifold [3].
6. Remove 5 screws [5], lock washers [6], and flat washers [4] from hose manifold filter block [3].
7. Ease hose manifold [3] from flow control block [1]. Two screws remain (3 for reverse mounting) holding flow control block [1] and pump to tank base plate.
8. Clean flow control block [1] mating surfaces thoroughly.
9. Refit hose manifold [3] with hardware. Lubricate 2 new o-rings [2] with a silicone-based grease and replace. Tighten all screws [5] evenly. Torque to 8.47 N-m (75 in.-lbs).
10. Switch on system power, and allow melt unit to reach operating temperature.
11. Retighten screws [5] to torque specifications.
12. Reconnect hose as specified in Hose Replacement.

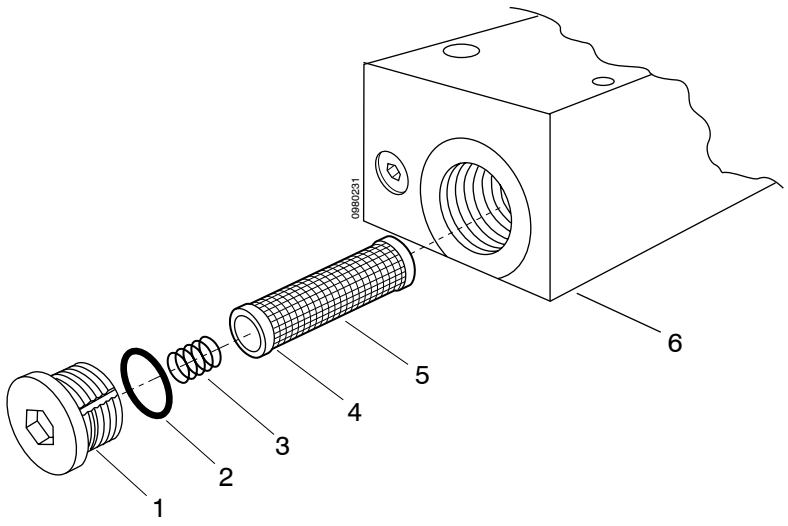


7.9 V1 Pump Filter Installation, Servicing, and Replacement

A pump filter is an optional accessory for use when adhesive filtering is desired. The pump filter is installed in the hose manifold filter block. Refer to figure for installation and servicing of filter element.

WARNING Contents at high temperature and pressure. Remove pressure before opening filter or drain valve to prevent accidental discharge of system pressure. Do not touch hot surfaces. Failure to follow these instructions may result in severe burns.

1. Bring melt unit to operating temperature.
2. Switch off pump motor.
3. Activate head several times to relieve all pressure in the system.
4. Place a disposable container below filter access area to catch all adhesive spillage or run off.
5. Slowly remove plug [1] with o-ring [2] to release any residual pressure trapped in hose manifold filter block [6]. A 9/16 in. hex wrench is required.
6. Remove spring [3], and spring retainer [4], and filter [5]. Clean spring [3]. It is recommended that the filter be replaced, not cleaned.
7. Carefully switch pump motor on for approximately 1 to 2 seconds causing a small amount of adhesive to flush the filter chamber. Clean filter chamber of all foreign material. Repeat if necessary.
8. Insert spring retainer [4] into new filter [5]. Slide spring [3] onto retainer [4] and place clean filter assembly into manifold filter block [6].
9. Inspect o-ring [2], and replace if damaged, lubricating o-ring with silicone-based grease.
10. Install plug [1] with o-ring [2] securely into hose manifold filter block [6].



7.10 Pump and Flow Control Block Replacement

V1 Pump

1. Follow Steps 1−8 of Section 7.8: V1 Pump Hose Manifold Filter Block Replacement, if present.

2. Referring to figure, use dimension (h) to ensure correct pump size is installed.

3. After hose manifold filter block [7] (an optional component) has been removed, remove 2 socket head cap screws [6] attaching flow control block [5] and pump [2] to tank.

4. Pull pump [2] out and remove o-ring [3], copper shim [4] and tank gasket [1]. Install new replacement o-ring, shim, and gasket.

> ⚠ **CAUTION** Verify that o-ring is properly aligned in pump groove when replacing pump and/or flow control valve. A pinched or misaligned o-ring may result in pump leakage.

5. Place o-ring [3] in pump groove after lubricating with silicone-based grease.

6. Align pump [2], pump shim [4] and flow control block [5] with o-ring in place. Verify that mating surfaces of pump and flow control valve block lie flat against one another.

7. Attach flow control block [5] and pump [2], with pump gasket [1] seated to bottom of tank using socket head cap screws and lock washers [6].

8. Before tightening screws, check o-ring groove alignment by manually pressing flow control block [5] against pump [2].

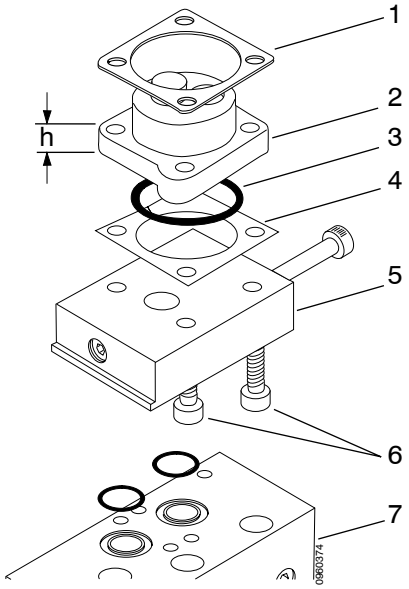
9. Tighten all screws evenly. Torque to 8.47 N-m (75 lb-in.).

10. Reconnect hose manifold filter block per Steps 9−12 of Hose Manifold Filter Block Replacement.

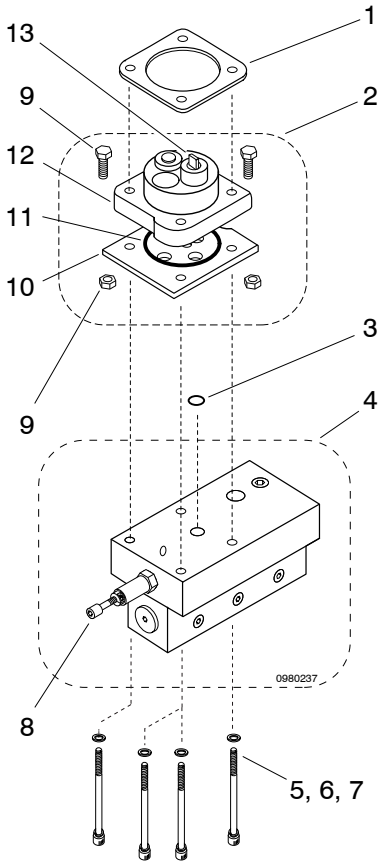
Note:

V1 pump flange thickness (h)

V1-450: h= 7.9 mm (0.3125 in.)
V1-675: h=15.9 mm (0.6250 in.)



7.10 Pump and Flow Control Filter Block Replacement (Continued)



V4 Pump

1. If melt unit is cold, allow it to heat approximately 5 minutes.
2. Depressurize system by manually activating applicator(s).
3. Remove electric power from system at main circuit breaker and at external source.
4. Disconnect hose fluid connection(s) from fitting(s) on flow control block [4]. Disconnect hose electrical connection(s) from bottom of control box. Set hose(s) aside.
5. Remove 4 screws [5], 4 lock washers [6] and 4 flat washers [7] holding flow control block [4] and pump assembly [2].
6. Remove flow control block [4] and discard. Do not lay flow control block [4] flat on any surface: block may glue itself to surface.
7. Remove and discard existing pump [12], wear plate [10] and gasket [1].
8. Install the new pump as follows:
9. Remove and discard 2 bolts and 2 nuts [9] that keep new pump [12] and wear plate [10] together.
10. Coat pump assembly o-ring [11] with high temperature lubricant, then place onto groove in pump body [12]. Place pump body [12] onto wear plate [10], ensuring that o-ring [11] is not pinched.
11. Cover wear plate o-ring [3] with high temperature lubricant.
12. Insert wear plate o-ring [3] into groove in wear plate [10].
13. Place new pump [12] and wear plate [10] onto new flow control block [4].
14. Place new gasket [1] onto pump [12]. No sealants are necessary.
15. Align tab [13] on end of pump with pump shaft assembly inside tank and insert pump assembly with pump gasket and filter block to bottom of tank.
16. Tighten 4 screws [5], 4 lock washers [6] and 4 flat washers [7] in a crisscross fashion.
17. Reconnect hose(s) fluid and electrical connections.

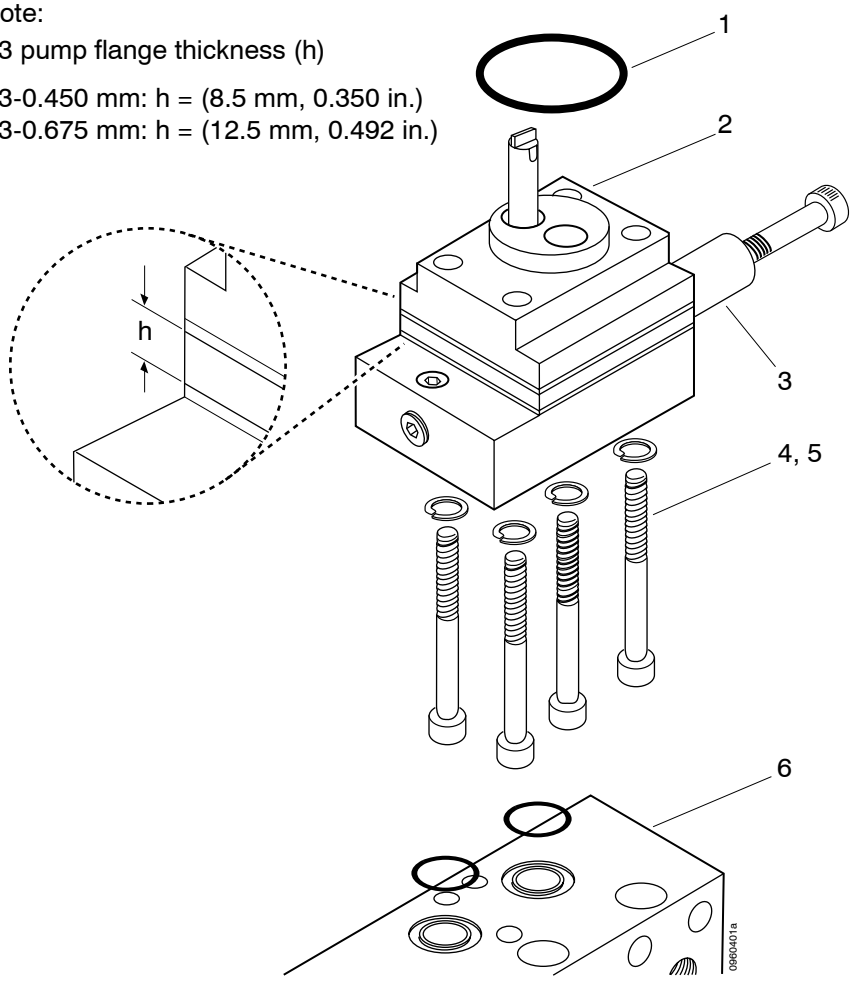
    Note: Pump and flow/filter components should reach operating temperature before hardware is tightened to 5.65-8.47 N-m (50-75 lb-in.).
18. Restore power to melt unit.
19. With pump switch off, allow melt unit to heat to operating temperature.
20. Retighten pump screws [5] to 5.65-8.47 N-m (50-75 lb-in.).
21. Reduce pressure by turning flow control valve [8] counterclockwise.
22. Test melt unit and adjust pressure.
23. Check for leaks.
24. Return melt unit to service.

V3 Pump

1. Follow Steps 1−8 of Section 7.8: V1 Pump Hose Manifold Filter Block Replacement.
2. Referring to figure, use dimension (h) to ensure correct pump size is installed.
3. After hose manifold filter block [6] has been removed, remove 4 socket head cap screws [4] and 4 lock washers [5] attaching V-3 pump [2] to tank.
4. Pull pump [2] out and remove o-ring [1]. Install new replacement o-ring.
5. Attach pump with integral flow control valve [3] using socket head cap screws and lock washers [4,5].
6. Tighten all screws evenly. Torque to 4.61 N-m (75 lb-in.).
7. Reconnect hose manifold filter block per Steps 9−11 of Hose Manifold Filter Block Replacement.

Note:
V3 pump flange thickness (h)

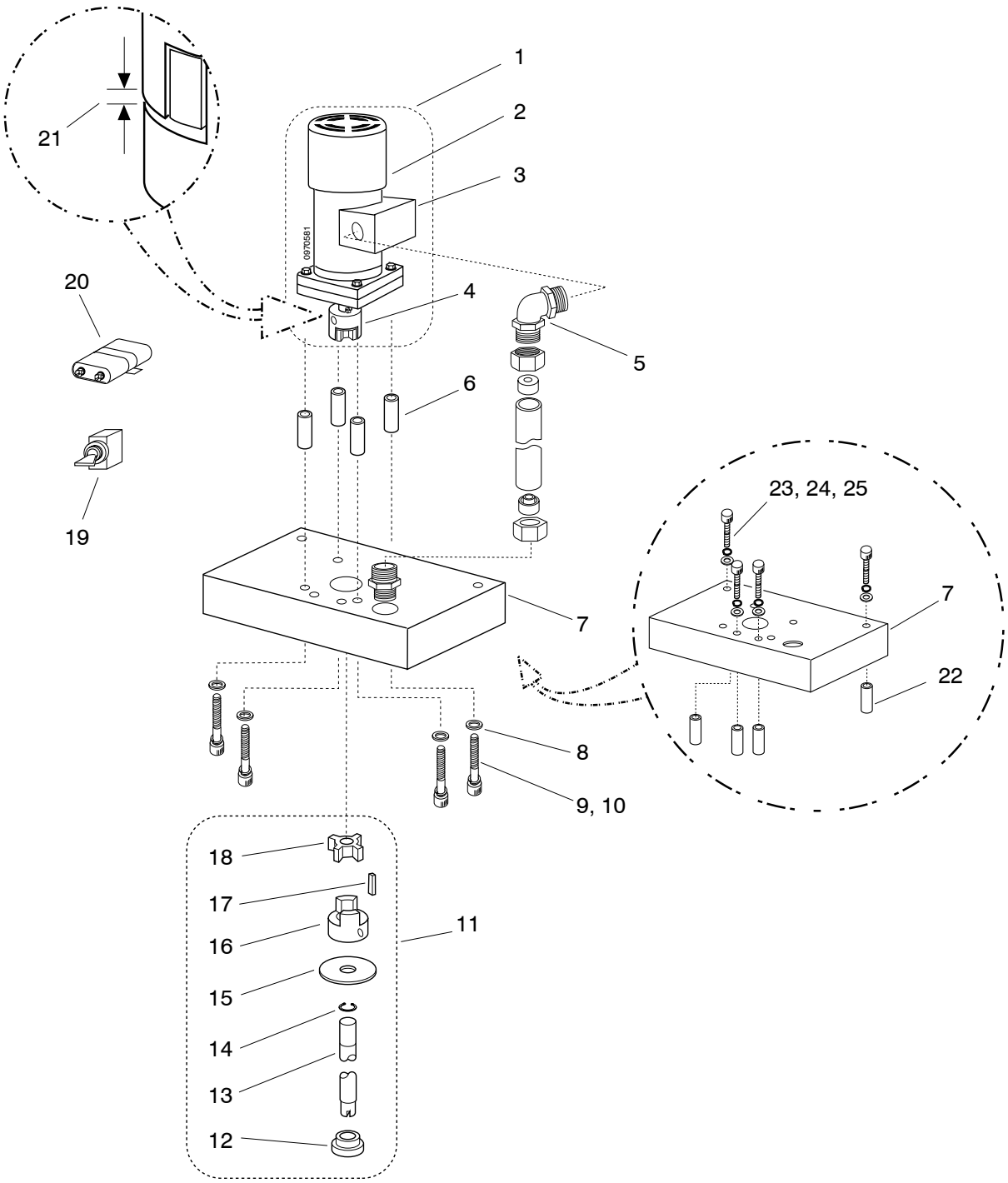
V3-0.450 mm: h = (8.5 mm, 0.350 in.)
V3-0.675 mm: h = (12.5 mm, 0.492 in.)



7.11 Motor and Pump Shaft Assembly Replacement

1. Disconnect electrical power and allow melt unit to cool to 121 °C (250 °F).
2. Open motor junction box cover [3]. Disconnect motor wiring and and liquitite fitting [5].
3. Remove screws [9], lock washers [10], flat washers [8] and spacers [6] holding motor mounting pan [7] to melt unit.
4. Lift motor assembly [1] off melt unit.
5. Remove screws [9], lock washers [10], flat washers [8] and spacers [6] holding motor to motor mounting pan [7].
6. Install new motor on motor mounting pan [7] and install screws [9], lock washers [10], flat washers [8] and spacers [6], and tighten the screws.
7. Inspect pump shaft coupler [16] for wear. Replace if necessary.
8. Install new pump shaft assembly [11] or individual components as needed.
9. Check pump shaft [13] alignment on pump in tank.
10. Align motor coupler [4] with pump shaft coupler [16] in tank and lower motor [2] onto pump shaft [13].
11. Align motor mounting pan [7] to melt unit with mounting screws [23], lock washers [25], flat washers [24] and spacers [22], and hand tighten the screws.
12. Verify that pump shaft [13] seats properly with pump, and verify that coupler clearance [21] of 0.8 mm ±0.3 mm (0.030 in. ±0.010 in.) exists and tighten motor mounting pan screws [23].
13. Reinstall liquitite fitting and wires [5].
14. Reconnect wires according to electrical schematic, located in back of melt unit. Refer to melt unit identification plate to determine exact voltage.
15. Turn on melt unit and allow melt unit to heat to normal operating temperature. Turn on pump motor.
16. Tighten motor mounting pan screws [23], in a crisscross pattern while motor [2] is operating to align pump shaft [13].

Note: If replacing complete motor group [1], also replace pump motor switch [19] on front panel and motor capacitor [20] inside electrical enclosure.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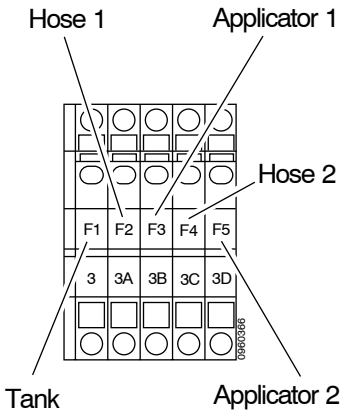
7.12 Heater Fuse Replacement

Internal Terminal Strip Mounted (T150 Temperature Controller)



1. Switch off system power at main system power switch/circuit breaker and disconnect melt unit power.

2. Open front door and control panel, and locate main terminal block and fuse locations.

3. Refer to figure to determine fuse location for the troubled zone. Lightly press down on top of fuse holder. This causes the fuse holder to pivot down and out towards the technician.

4. Lift hinged plastic cover protecting fuse. Remove fuse.

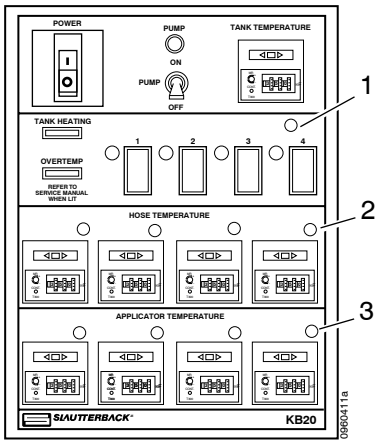
5. If fuse is not visibly damaged, check with an ohmmeter that it has continuity. Clean contact points in fuse holder as necessary. If replacement is necessary, refer to Parts List or the electrical schematic, located in back of melt unit, for correct fuse rating.

6. Replace new fuse in fuse holder. Lift fuse holder back in place and verify that it is seated firmly.

7. Close and secure control panel door.

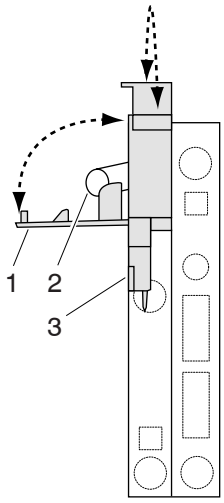
8. Return melt unit to normal operation.

Panel Mounted (T200/T300 Temperature Controller)



1. Switch off system power at main system power switch/circuit breaker and disconnect melt unit power.

2. Unscrew fuse holder cap [1, 2, or 3] adjacent to single zone temperature controller and replace if defective.

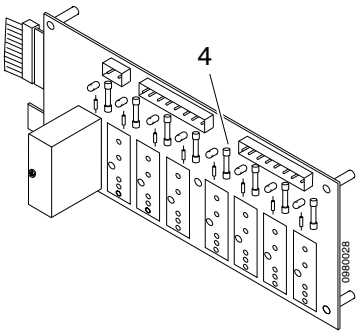


T500, T750, and T1000 Temperature Controllers

Units equipped with T500 Temperature Controllers have 4 fuses (F1, F2, F3, and F4) located in the electrical panel fuse holders mounted on the din rail.

These fuses are replaced by hand:

1. Flip up fuse holder [3] with blown fuse inside.
2. Open fuse holder compartment on left side [1]. Fuse [2] partially pops out.
3. Pull out failed fuse and insert new fuse.
4. Close compartment and flip down fuse holder.



Units equipped with T750 and T1000 Temperature Controllers have up to 8 fuses located on the PB8 circuit board, which is mounted on the electrical panel inside the unit.

These fuses are replaced using a narrow flat-blade screwdriver:

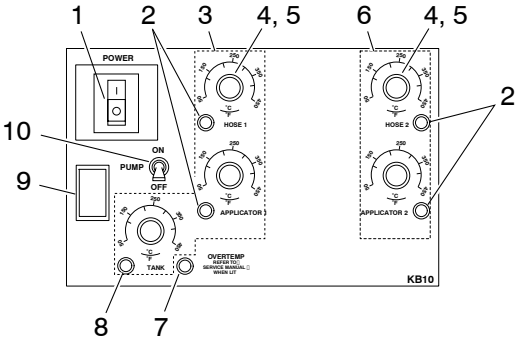
1. Pry out failed fuse(s) [4] with screwdriver.
2. Replace with new fuse(s) by hand.

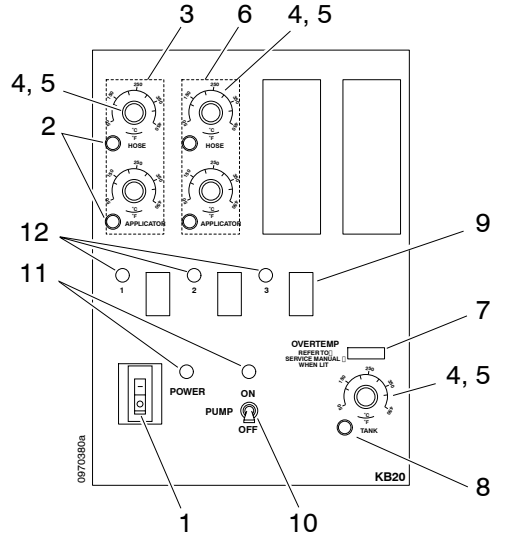
8 Parts List

8.1 Control Panel–Front View

T150 Temperature Controller

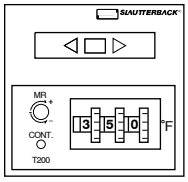
Item	Description	Part Number
1	Circuit breaker/switch, main, 20 A for all KB10 melt units and for 200/230 V~ KB20s	12015-20
1	Circuit breaker/switch, main, 20 A for 100/115 V~ KB20s	12015-15
2	Lamp, green, zone heating	12030-4
3	Controller, 3-zone, T150, includes potentiometer	79158A
4	Knob, phenolic, T150	12029-6
5	Potentiometer, with trimdown resistor (located inside control panel)	17018-40199
6	Controller, 2-zone, T150, includes potentiometer, KB10	79158
6	Controller, 2-zone, T150, with face plate	73353
7	Lamp, round, red, tank overtemperature, KB10	12030-1
7	Lamp, rectangular, red, overtemperature indicator, KB20	12044-2
8	Lamp, round, amber, tank heating	12030-10
9	Switch, HAT, rocker, DPDT, for automatic systems only	79128-1
9	Blank, switch	12011-3
10	Pump switch, part of motor group	
11	Lamp, white, 230 V~, motor on/power on	12030-9
12	Plug, hole, 0.5 in.	14518-5
12	Lamp, round, amber	12030-10

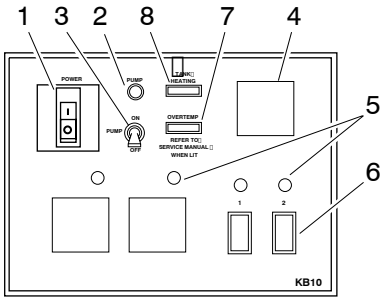


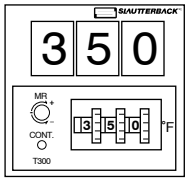


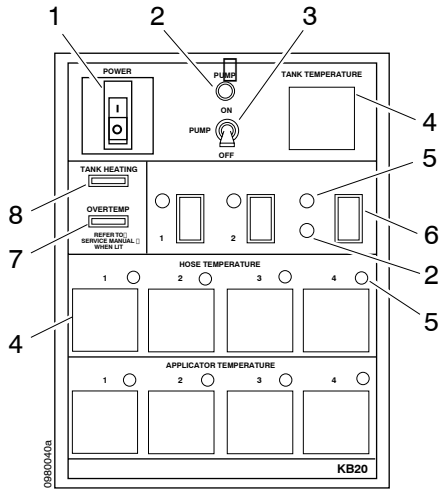
T200 and T300 Temperature Controllers

Item	Description	Part Number
1	Circuit breaker/switch, main, 15 A, for 115 V~ KB10s	12015-1
1	Circuit breaker/switch, main, 20 A, for 230 V~ KB10/20s	12015-20
1	Circuit breaker/switch, main 30 A for 100/115 V~ KB20s	12015-24
2	Lamp, white, 230 V~, motor on and head firing	12030-9
3	Pump switch, part of motor group	
4	Kit,T200, proportional, °C, SS relay	79043-20C
4	Kit,T200, on/off, °C, SS relay	79043-21C
4	Kit,T200, proportional, °F, SS relay	79043-20F
4	Kit,T200, on/off, °F, SS relay	79043-21F
4	Kit,T300, proportional, °C, SS relay	79043-30C
4	Kit,T300, on/off, °C, SS relay	79043-31C
4	Kit,T300, proportional, °F, SS relay	79043-30F
4	Kit,T300, on/off, °F, SS relay	79043-31F
5	Lamp, round, amber	12030-10
5	Holder, fuse	12013
5	Plug, hole, 0.5 in.	14518-5
6	Switch, HAT, rocker, DPDT (for automatic systems only)	79128-1
6	Blank, switch	12011-3
7	Lamp, rectangular, red, overtemperature indicator	12044-2
8	Lamp, rectangular, amber, tank heating	12044-10



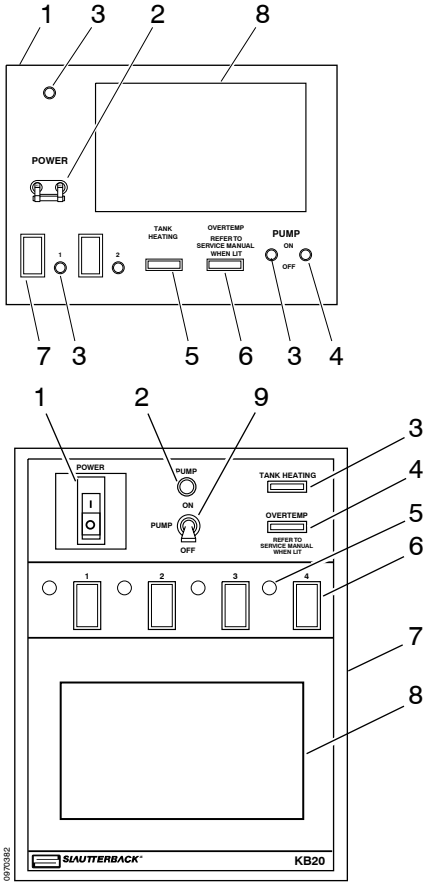






T500, T750, and T1000 Temperature Controllers Front Panel

Item	Description	Part Number
1	Front panel, KB10, T500/750/1000	70586-7T
1	Front panel, KB20, T500/750/1000	70586-5T
2	Lamp, white, 230 V~, power on	12030-9
3	Circuit breaker/switch, main 20 A for all KB10s and 230 V~ KB20s	12015-14
3	Circuit breaker/switch, main 20 A for 115 V~ KB20s	12015-15
4	T500 replace kit, includes power supply, relays for 2 hoses/heads and all Aux	79253-01
4	T750 replace kit, without power supply, with all auxiliaries	79256-01
4	T1000 replace kit, without power supply, no auxiliaries	79196-25
4	T1000 replace kit, without power supply A1 auxiliary package	79198-25
4	T1000 replace kit, without power supply A2 auxiliary package	79198-21
4	T1000 replace kit, without power supply A3 auxiliary package	79198-22
5	Pump switch, part of motor group	
6	Lamp, white, 230 V~, motor on	12030-9
7	Lamp, rectangular, red, tank overtemperature indicator	12044-2
8	Lamp, rectangular, amber, tank heating	12044-10
9	Plug, 0.5 in.	14518-5
10	Lamp,round, amber	12030-10
11	Switch, HAT, rocker, DPDT for automatic systems only	79128-1
12	Blank, switch	12011-3



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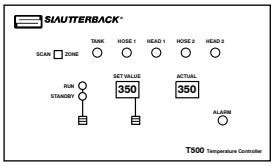

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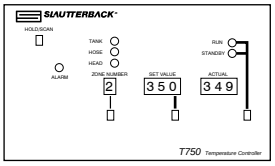

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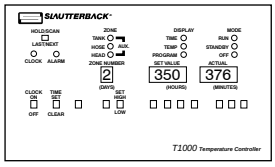
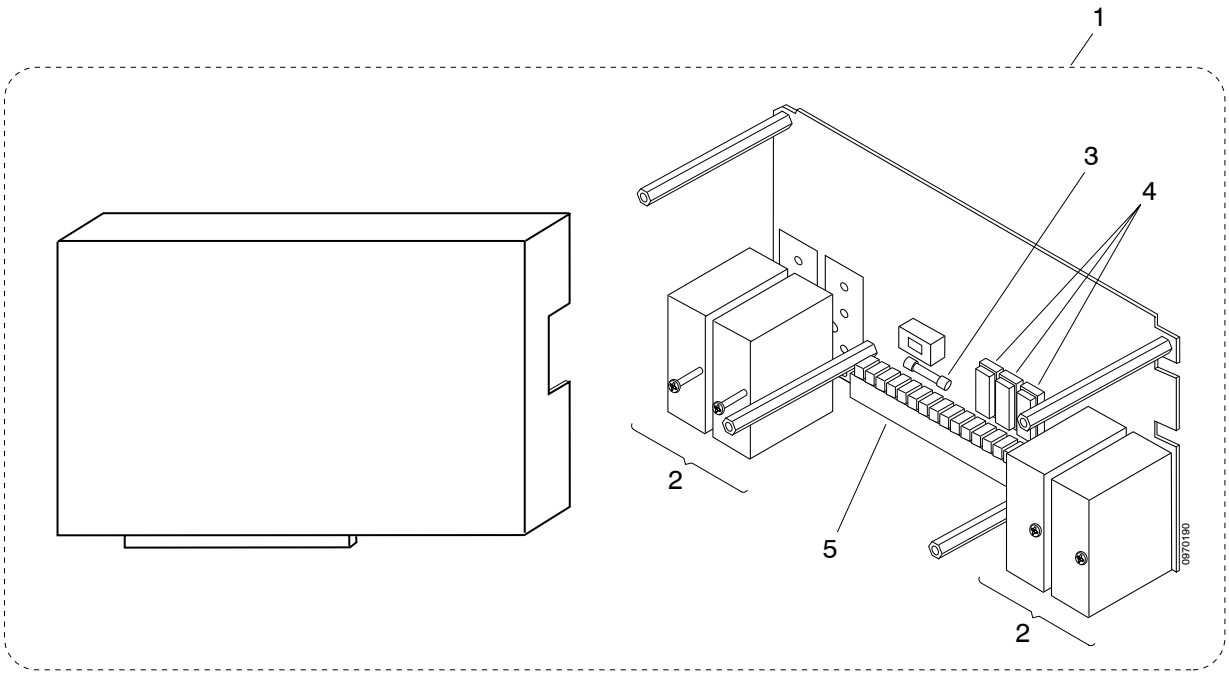


T500 Temperature Controller Electrical Panel

Item	Description	Part Number
1	T500 Replacement Module	79253-01
2	AC output relay 5A, 24-230 V~	12047A-3
2	DC output relay 5A, 200 VDC	12047A-2
3	Fuse, 3/4 amp	12014-10A
4	Kit, IC relays for T500 auxiliary package (has 3 relays)	79253-02
5	Connector, 20-pin	12299-20

Parts not shown:

Kit, audible alarm	79189-02
Socket; mini relay (2 pole)	10806-2
Relay; mini 230 V~ (2 pole)	10810-2
Alarm, audible, 230 V~	10869-01
Kit, audible alarm, 230 V~, 100 DB	79217-01
Box, alarm	10869-02A
Alarm, external, 230 V~, 100 DB	10869-02
Kit, audible alarm, 115 V~, 100 DB	79217-02
Box, alarm	10869-02A
Alarm, external, 115 V~, 100 DB	10869-03
Kit, Lexan door, T500, 20# units only	79253-03

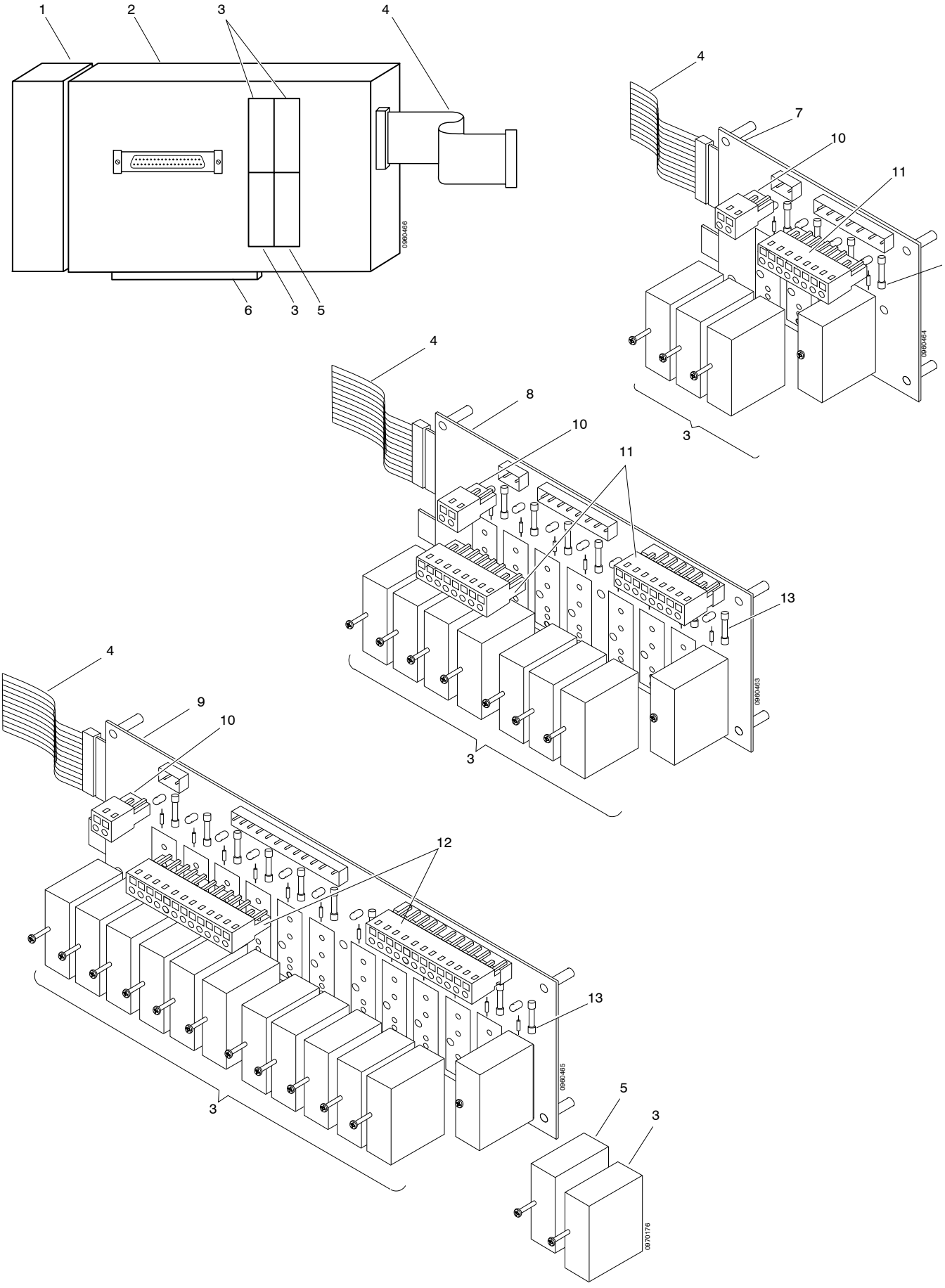


T750 and T1000 Temperature Controllers Electrical Panel

Item	Description	Part Number
1	Power supply, universal voltage	12091-1
2	Kit, T1000 replacement, no power supply, no auxiliaries	79196-25
2	Kit, T1000 replacement, no power supply, A1 auxiliaries	79198-25
2	Kit, T1000 replacement, no power supply, A2 auxiliaries	79198-21
2	Kit, T1000 replacement, no power supply, A3 auxiliaries	79198-22
2	Kit, T750 replacement, no power supply, no auxiliaries	79256-01
2	DC input relay, 5-60 VDC [for T750 & T1000]	10868-01
2	Kit, T1000 replacement, no power supply, no auxiliaries	79196-25
2	Kit, T1000 replacement, no power supply, no auxiliaries	79196-25
3	AC output relay, 5A, 24-230 V~	12047A-3
3	DC output relay, 5A, 200 VDC	12047A-2
4	Cable, ribbon, 6 in.	73058-01
4	Cable, ribbon, 12 in.	73058-02
5	DC input relay, 5-60 VDC	10868-01
5	AC input relay, 120 V~	10868-02
5	AC input relay, 230 V~	10868-03
6	Connector, 14-pin	12299-14
7	Kit, PB4 (up to 2 hoses and heads) [for T750 & T1000]	79197-01
8	Kit. PB8 (3 or 4 hoses and heads) [for T750 & T1000]	79197-02
9	Kit, PB12 (up to 6 hoses and heads) [for T1000 only]	79197-03
10	Connector, 2-pin	12299-2
11	Connector, 8-pin	12299-8
12	Connector, 12-pin	12299-12
13	Fuse, 5 A	12014-5B

Parts Not Shown

Audible alarm kit	79189-02
Socket mini relay, 2-pole	10806-2
Relay mini, 230 V~, 2-pole	10810-2
Alarm, audible, 230 V~	10869-01
Kit, audible alarm, 230 V~, 100 DB	79217-01
Box, alarm	10869-02A
Alarm, external 230 V~, 100 DB	10869-02
Kit, audible alarm, 115 V~, 100 DB	79217-02
Box, alarm	10869-02A
Alarm, external 115 V~, 100 DB	10869-03
Kit, power on 230 V~	79183-2
Socket, mini relay, 3-pole	10806-9
Relay, mini 230 V~, 3-pole	10810-9
Kit, Lexan door, T750/T1000 (KB20 only)	79352-03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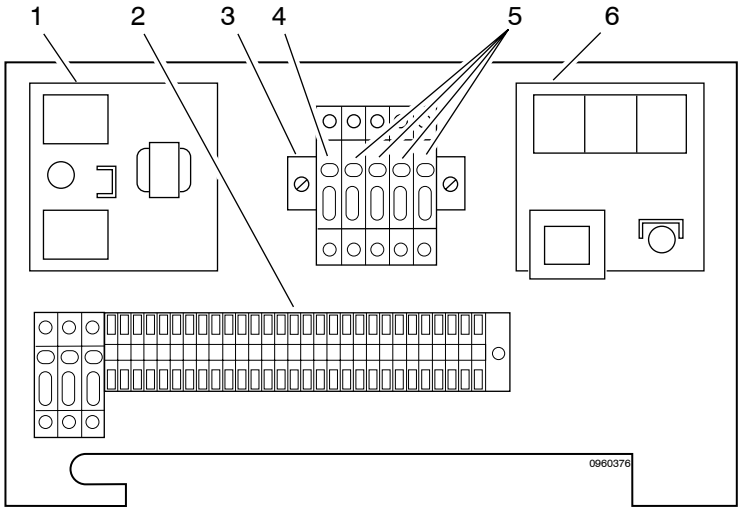
8.2 Main Terminal Block, Fuses, and Temperature Controllers

T150 Temperature Controller

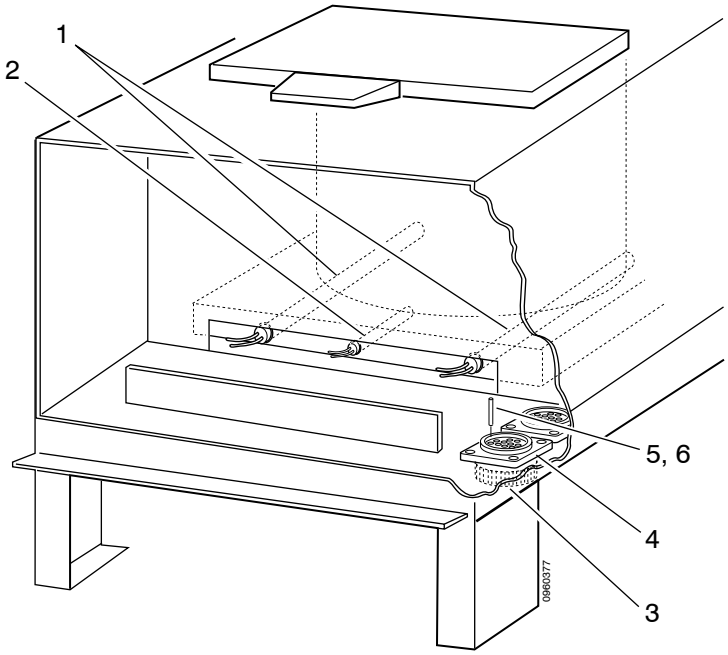
Item	Description	Part Number
1*	T150 Temperature Controller Kit, 2 Zone, hose and head	79158
2	Terminal block assembly, KB10 melt units	73168-05
2	Terminal block assembly, KB20 melt units	73168-12
3	Fuse block assembly	73168-06
4	Fuse, 10 A, tank heater for 10 lb melt units 100 V~	12014-10B
4	Fuse, 8 A, tank heater for 10 lb melt units 115 V~	12014-8B
4	Fuse, 5 A, tank heater for 10 lb melt units 200 V~	12014-5B
4	Fuse, 4 A, tank heater for 10 lb melt units 230 V~	12014-4B
4	Fuse, 15 A, tank heater for 20 lb melt units 100 V~	12014-15B
4	Fuse, 12 A, tank heater for 20 lb melt units 115 V~	12014-12B
4	Fuse, 8 A, tank heater for 20 lb melt units 200 V~	12014-8B
4	Fuse, 6 A, tank heater for 20 lb melt units 230 V~	12014-6B
5	Fuse, 5 A, hose or head heater,100/115 V~	12014-5B
5	Fuse, 2.5 A, hose or head heater, 200/230 V~	12014-25B
6*	T150 Temperature Controller Kit, 3 Zone, tank, hose, head	79158A

*Note: T150 controller modules (Items 1 and 6) are mounted on the inside of the control panel on the 20 lb melt units.



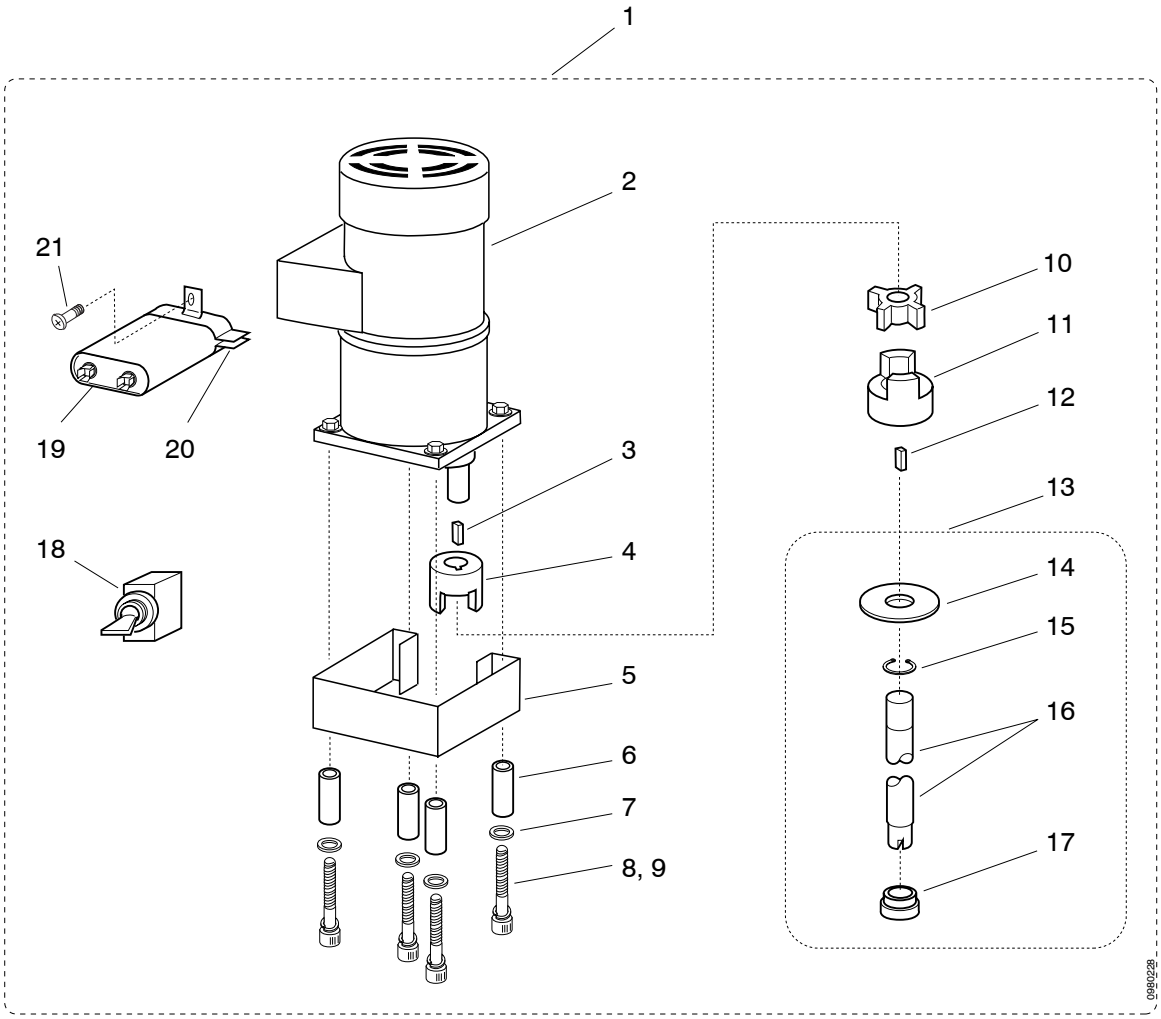
8.3 Electrical Enclosure and Chassis Base

Item	Description	Part Number
1	Tank heater kit, 100 V~, 400 W (2 heaters for 10 lb unit)	79005-2
	Tank heater kit, 115 V~, 400 W (2 heaters for 10 lb unit)	79005
	Tank heater kit, 200 V~, 400 W (2 heaters for 10 lb unit)	79005-3
	Tank heater kit, 230 V~, 400 W (2 heaters for 10 lb unit)	79005-1
	Tank heater kit, 100 V~, 600 W (2 heaters for 20 lb units)	79044-2
	Tank heater kit, 115 V~, 600 W (2 heaters for 20 lb units)	79044-1
	Tank heater kit, 200 V~, 600 W (2 heaters for 20 lb units)	79044-3
	Tank heater kit, 230 V~, 600 W (2 heaters for 20 lb units)	79044
2	RTD sensor for melt tank	79117-04
3	Connector, 16-pin, for solid state controller melt units	12115-17
4	Flange, 16-pin connector, panel mount	12115-11
5	Female electrical pins	12116
6	Female electrical pins (gold), for RTD sensor leads	12116-1



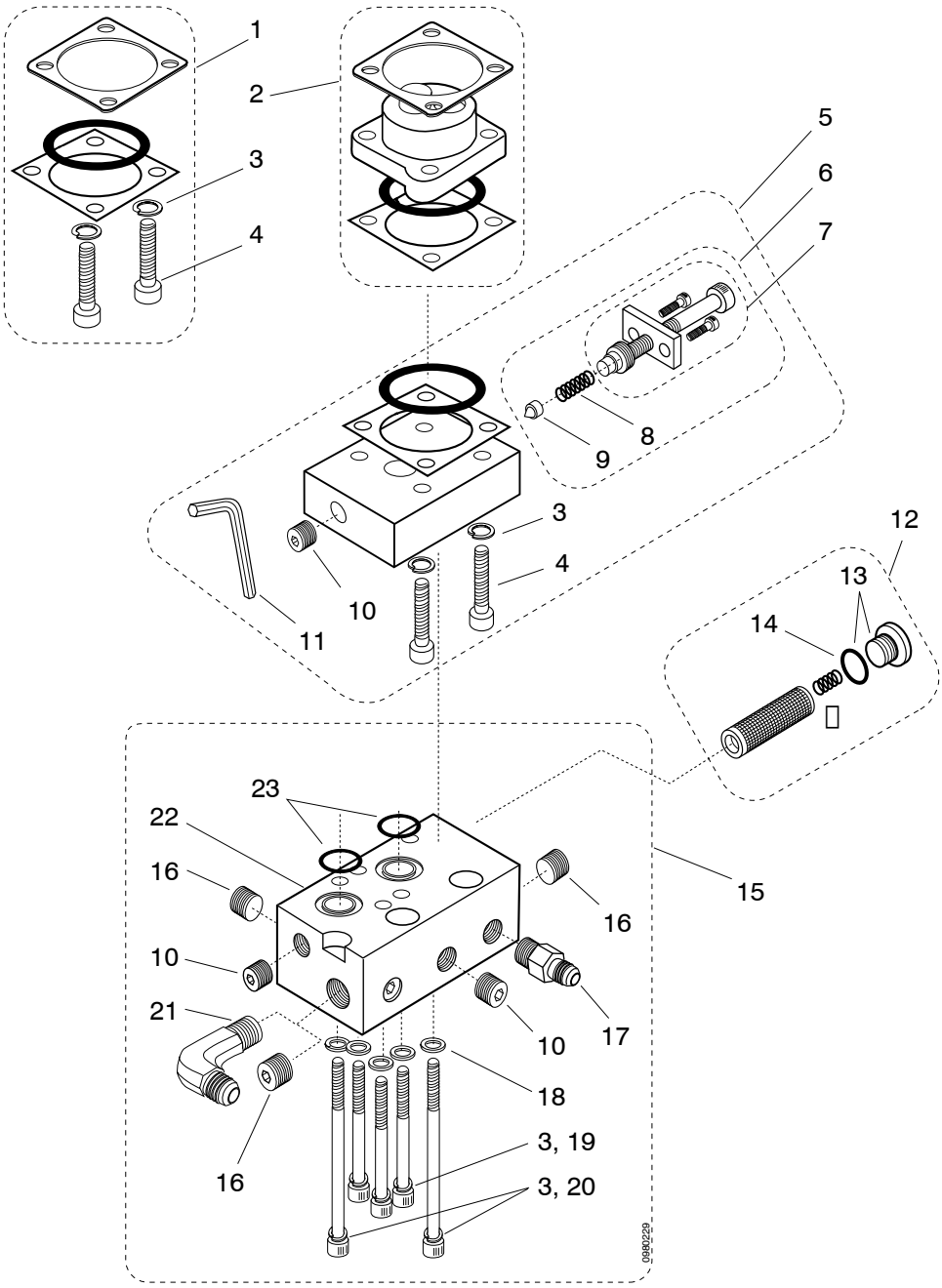
8.4 Motor Group and Pump Shaft Assembly

Item	Description	Part Number
1	Motor grp, 1/6 hp, 86/72 rpm, 60/50 Hz, 100/115 V~, KB10	73714-41
1	Motor grp, 1/6 hp, 86/72 rpm, 60/50 Hz, 100/115 V~, KB20	73714-43
1	Motor grp, 1/6 hp, 86/72 rpm, 60/50 Hz, 200/230 V~, KB10	73714-42
1	Motor grp, 1/6 hp, 86/72 rpm, 60/50 Hz, 200/230 V~, KB20	73714-44
2	Motor kit, 86/72 rpm, 60/50 Hz, 1/6 Hp, 100–115 V~ (for 73714-41, -43)	79168-43
2	Motor kit, 86/72 rpm, 60/50 Hz, 1/6 Hp, 200–230 V~ (for 73714-42, -44)	79168-44
3,12	Key, machine, 0.1875 X 0.1875 X 0.75 in. long	14475-2
4,11	Coupler, 0.625 in. bore with keyway	18425-6H
5	Skirt, fan cooled motor	70458-6
6	Spacer, 1/4 in. ID X 1/2 in. OD X 1.38 in. lg (4) (for 74714-41)	14471-13
7	Washer, flat #8 (4)	14456-DA
8	Screw, socket head, 1/4-20 X 2 1/4 in. long (4)	14431-GDQ
9	Washer, split lock #8 (4)	14451-DA
10	Spider, bronze	18425-7B
13	Pump shaft assembly, 10 lb melt unit	73726-11
13	Pump shaft assembly, 20 lb melt unit	73726-12
14	Washer, 0.625 in. ID	14528-4
15	Ring, retaining, 0.625 in. OD	14502-12
16	Shaft, pump, 10 lb melt unit	70461-101
16	Shaft, pump, 20 lb melt unit	70461-102
17	Retainer, shaft	70601
18	Circuit breaker/switch, motor, 1.5 A (for 73714-42, -44,)	12055A-15
18	Circuit breaker/switch, motor, 2.9 A (for 73714-41, -43)	12055A-29
19	Capacitor, 5 μf, +/- 10%, VDE	18416-11
20	Bracket, capacitor	18417-1
21	Screw, cross-tip, self-tap, 8-32 x 5/16 long	14530-CAW
Items Not Shown		
	Liquitite conduit, 3/8	15850-3/8
	Liquitite fitting, 90°, 3/8	12008-90-3/8
	Liquitite fitting, straight 3/8	12008-00-3/8
	Gear box, repair kit, 86/72 rpm motor	79295-02



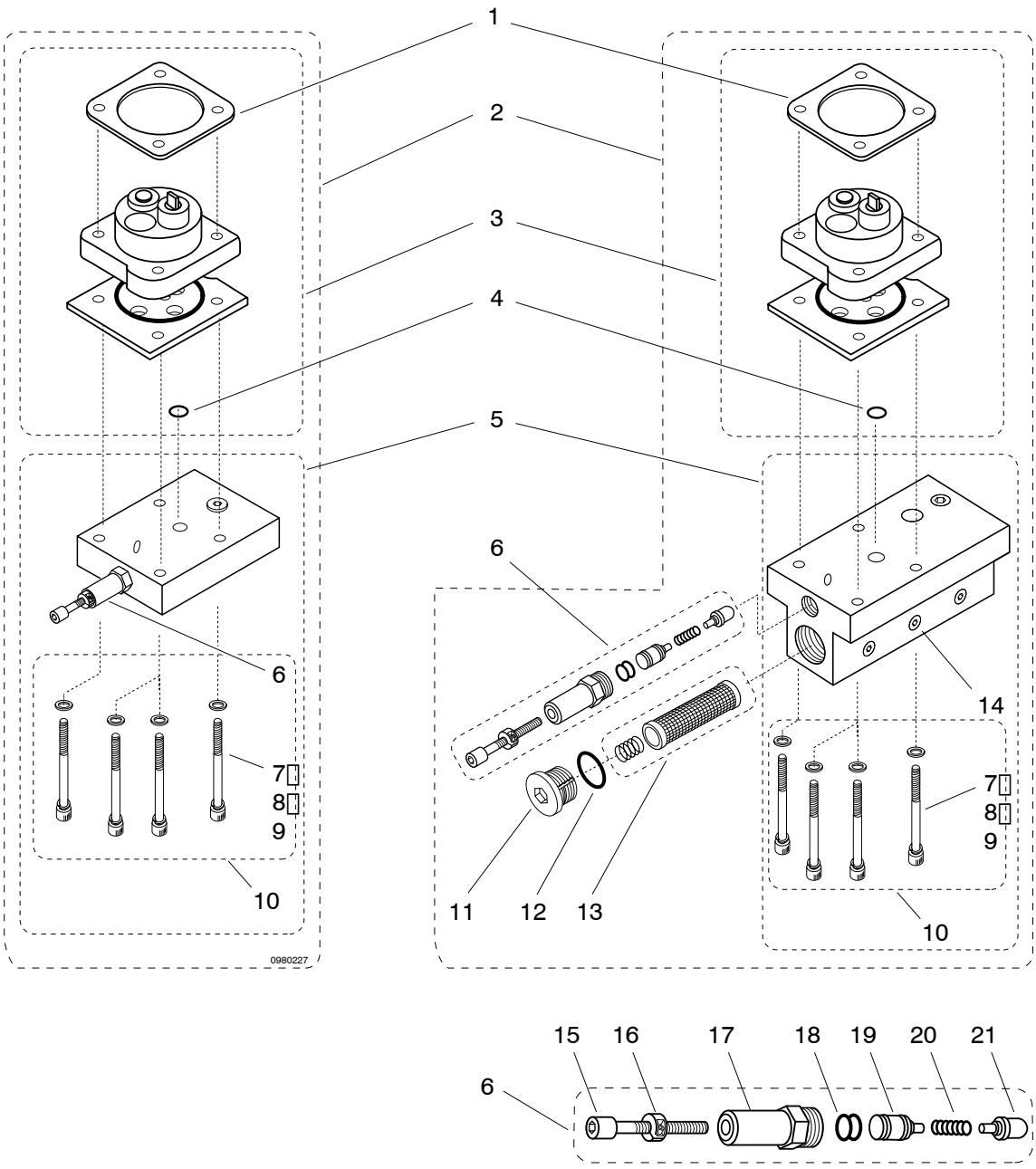
8.5 V1 Pump, Flow Control Valve, and Hose Manifold Filter Block

Item	Description	Part Number
1	Pump seal kit, all V1 pumps	79081
2	Pump kit, V1-450, 0.450 CID	79030-2
2	Pump kit, V1-675, 0.675 CID	79048-3
3	Washer, lock, 0.25 in. (9)	14451-GA
4	Screw, socket head cap 1/4-20 X 1.75 in. (for V1-450) (4)	14431-GDO
4	Screw, socket head cap 1/4-20 X 2.25 in. (for V1-675) (4)	14431-GDQ
5	Flow control valve replacement kit, 10 and 20 lb melt units	79082-3
6	Flow control valve repair kit	79082-2
7	Plunger assembly, flow control valve	73051
8	Spring, flow control valve	14489-10
9	Damper, flow control valve	70392-1
10	Plug, 1/4 NPTF, flush, steel (3)	11603-4D
11	Hex wrench, 1/4 in.	11050-1/4
12	Pump filter kit, 50 mesh	79064
13	Plug, Parker, socket head no.12, with o-ring 10456	11604-12
14	O-ring for 11604-12, viton, 0.116 in. W X 0.924 in.	10456
15	Manifold group, filter block, 1 hose	75014-001
15	Manifold group, filter block, 2 hose	75014-002
15	Manifold group, filter block, 3 hose	75014-003
15	Manifold group, filter block, 4 hose	75014-004
16	Plug, 3/8 NPTF, flush, steel (3)	11603-6A
17	Fitting, male, 1/4 in. NPT to no.6 JIC, straight	11408-64A
18	Washer, flat, 0.25 in. (5)	14456-GA
19	Screw, socket head cap 1/4-20 X 2.50 (both pumps) (3)	14431-GDR
20	Screw, socket head cap 1/4-20 X 3.75 in. (V1-450) (2)	14431-GDV
20	Screw, socket head cap 1/4-20 X 4.25 in. (V1-675) (2)	14431-GDY
21	Fitting, male, 3/8 in. NPT to no.6 JIC, 90°	11409-66A
22	Manifold filter block	70122
23	O-ring, viton, 0.86 in. ID X 0.070 in. (2)	10420



8.6 V4 Pump, Flow Control Valve, and Hose Manifold Filter Block

Item	Description	Part Number
1	Gasket, pump to tank	70118
2	Pump kit, V4-450, 0.450 CID, without filter block	79211-12
2	Pump kit, V4-675, 0.675 CID, without filter block	79211-13
2	Pump kit, V4-450, 0.450 CID, with filter block	79211-14
2	Pump kit, V4-675, 0.675 CID, with filter block	79211-15
3	Kit, pump and seal, .450	79290-1
3	Kit, pump and seal, .675	79290-2
4	O-ring, Teflon, 2-015	10493-015
5	Kit, V4 flow control valve, 10/20 lb units	79025-4
5	Kit, V4 T block, 10/20 lb units	79025-5
6	Kit, flow control valve replacement	79287-07
7	Screw, socket head cap 1/4-20 X 1.75 in. (4) (with block)	14431-GDO
7	Screw, socket head cap 1/4-20 X 2.00 in. (8) (with and without block)	14431-GDP
7	Screw, socket head cap 1/4-20 X 2.25 in. (4) (without block)	14431-GDQ
8	Washer, lock, 0.25 in. (4)	14451-GA
9	Washer, flat, 0.25 in. (4)	14456-GA
10	Kit, V4 hardware without seals	79042-1
11	Plug, Parker, socket head no.12, with o-ring 10456	11604-12
12	O-ring for 11604-12, viton, 0.116 in. W X 0.924 in.	10456
13	Pump filter kit, 50 mesh	79064-3
14	Plug, 3/8 NPTF, flush, steel	11603-6A
15	Screw, flow control valve, knob adjust	74020-4
16	Collar, threaded, locking, 5/16-24	14445-01
17	Bonnet, flow control valve	18508-1
18	O-ring, viton, 0.070 in. W x 0.364 in. ID (2)	10412
19	Piston, flow control valve	70037-8
20	Spring, flow control valve	14490-6
21	Guide seat, throttling stem, flow control valve	70038-2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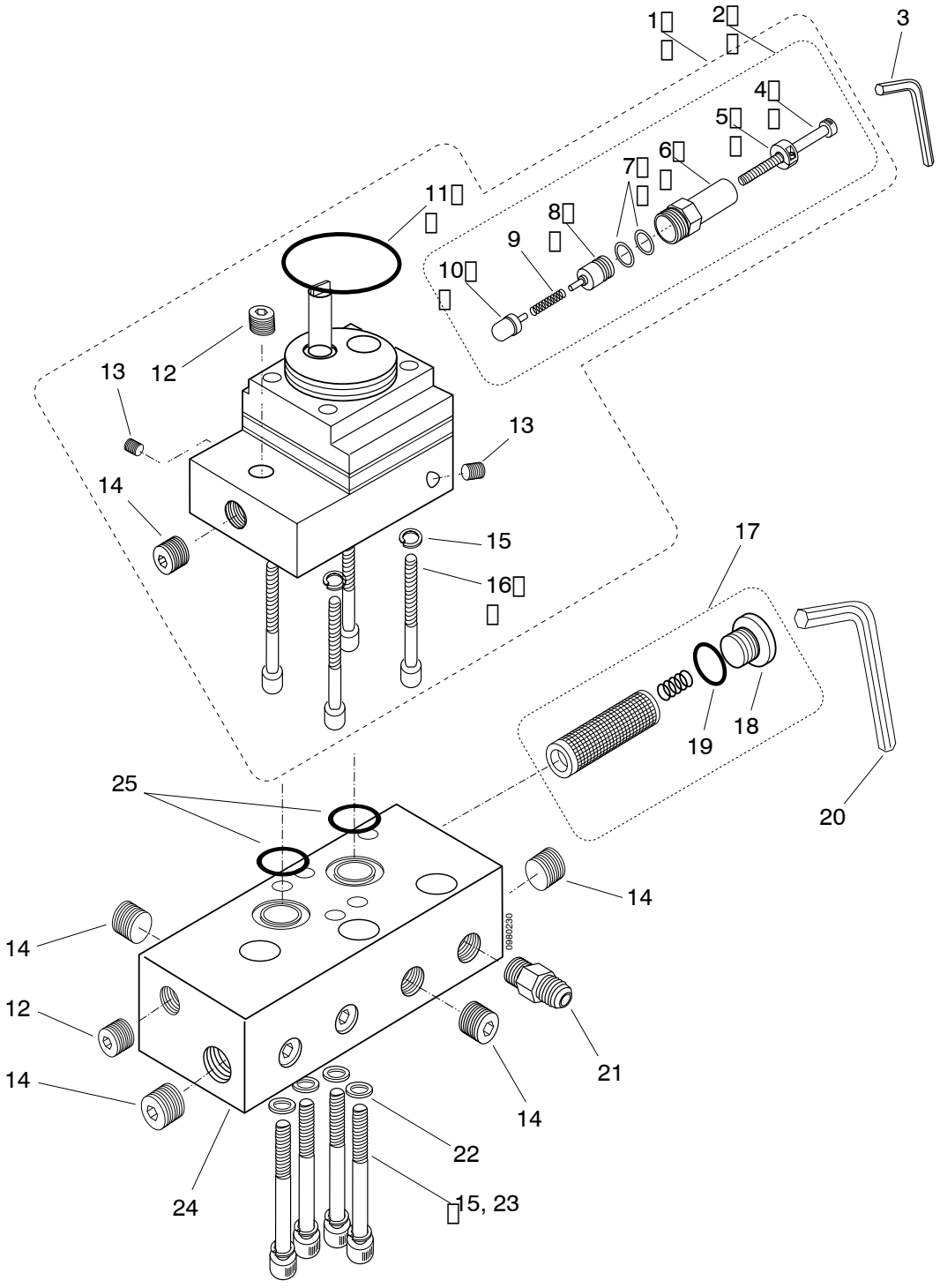
8.7 V3 Pump, Flow Control Valve, and Hose Manifold Filter Block

Item	Description	Part Number
1	Kit, V3, .450 CID, with stainless steel gears	79204-5
1	Kit, V3, .675 CID, with stainless steel gears	79204-7
2	Kit, V3 pump flow control valve replacement	79082-8
3	Wrench, hex, 1/4 in. (for use with 79082-8)	11050-1/4
4	Screw, flow control valve, V2/V3 knob adjust	74020-4
5	Collar,threaded, locking, 5/16-24	14445-01
6	Bonnet, flow control valve	18508-1
7	O-ring, viton, 0.070 in. W X 0.364 in. ID (2)	10412
8	Piston, flow control valve, V3	70037-4
9	Spring, flow control valve	14490-5
10	Seat, throttling stem, flow control valve	70038-2
11	O-ring, viton, 0.070 in. W X 2.614 in. ID	10438
12	Plug, 3/8 NPTF,steel (2)	11603-6A
13	Plug, 1/16 in., NPTF, flush, steel (2)	11603-1D
14	Plug, 1/4 in., NPTF, flush, steel (5)	11603-4D
15	Washer, lock 1/4 in. ID (8)	14451-GA
16	Socket head cap screw 1/4-20 X 3.25 (.450 CID) (4)	14431-GDTC
16	Socket head cap screw 1/4-20 X 3.50 (.675 CID) (4)	14431-GDU
17	Kit, pump filter, 50 mesh	79064
18	Plug, Parker, socket head, #12, with o-ring 10456	11604-12
19	O-ring for 11604-12, viton, 0.116 in. W X 0.924 in. ID	10456
20	Wrench, hex, 9/16 in. (for use with 11604-12)	11050-9/16
21	Connector, male, JIC #6 pipe, 1/4 in.	11408-64A
22	Washer, flat 1/4 in. ID (4)	14456-GA
23	Screw, socket head cap 1/4-20 X 2.50 in.(4)	14431-GDR
24	Block, filter, manifold	70122
25	O-ring, viton, 0.070 in. W X 0.864 in. ID (2)	10420

Parts Not Shown

Kit, teflon o-ring (polyamide)	79290-05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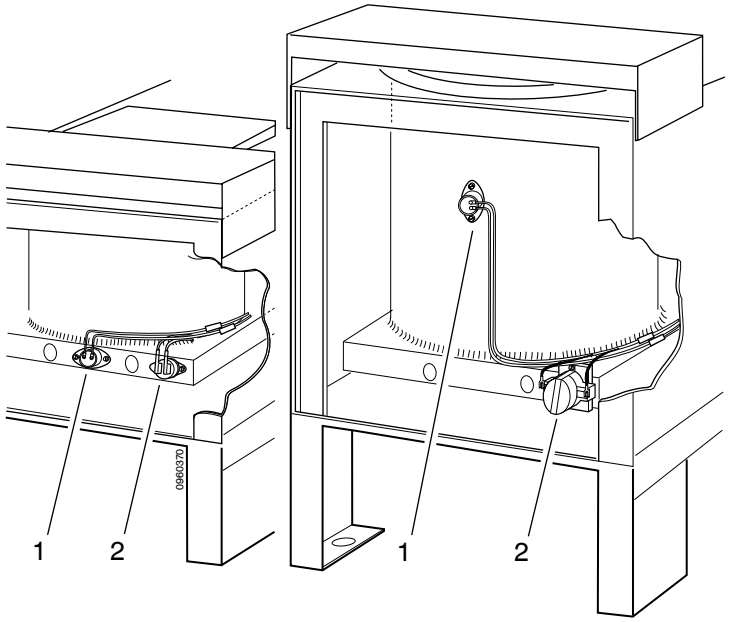
8.8 Pump Warmup and Tank Overtemperature Thermostats

Item	Description	Part Number
1	KB10, KB20 Pump Warmup Thermostat Kit	
	37.78 °C (100 °F)	79068-100
	93.33 °C (200 °F)	79068-200
	107.22 °C (225 °F)	79068-225
	129.44 °C (265 °F)	79068-265
	148.89 °C (300 °F)	79068-300
	176.67 °C (350 °F)	79068-350
2	KB10 Overtemperature Thermostat Kit	
	65.56 °C (150 °F)	79126-150
	93.33 °C (200 °F)	79126-200
	148.89 °C (300 °F)	79126-300
	204.44 °C (400 °F)	79126-400
	232.22 °C (450 °F)	79126-450
	KB20 Overtemperature Thermostat Kit	
	65.56 °C (150 °F)	79127-150
	93.33 °C (200 °F)	79127-200
	148.89 °C (300 °F)	79127-300
	204.44 °C (400 °F)	79127-400
	232.22 °C (450 °F)	79127-450



8.9 Accessories

Item	Description	Part Number
	Kit, melt grid (standard on KB20, optional on KB10)	79033-1
	Kit, pump inlet screen (placed on top of melt grid, 79033-1)	79282-01
	Kit, gearbox repair, 44/36 rpm motor, 1/20 hp	79295-01
	Kit timer adaptor relay, 90–280 V~ input; 48–280 V~ output	79060
	Kit, timer adaptor relay, 3–32 VDC input; 48–280 V~ output	79060-24
	Lid assembly	73526-1
	Seal, tank lid	70020
	Kit, pump filter, 50 mesh (requires hose manifold filter block assembly)	79064
	Kit, pressure gauge, low pressure, 0-300 psi/2000 Kpa	79227-01
	Kit, pressure gauge, standard, 1500 psi/ 10,000 Kpa	79227-02
	Kit, reverse hose mounting, for 1 RTD hose	79135-05
	Kit, reverse hose mounting, for 2 RTD hoses	79135-06
	Hose hammock (supports overhead manual hose)	30087
	Constant tension balancer, 0.91–2.27 kg (2–5 lb) (supports overhead manual hose)	11031
	Kit, foot switch assembly, 2.44 m (8 ft) cable assembly, Valve group 1 (allows operator to trigger automatic heads)	79304-8A
	Kit, foot switch assembly, 2.44 m (8 ft) cable assembly, Valve group 2 (allows operator to trigger automatic heads)	79304-8B
	AMP pin extraction tool	11042-2

Appendix A Specifications

Electrical

Voltage	100, 115, 200, or 230 V~ (±10%) single phase
Power Requirements	KB10: 900 W (melt unit only: hoses and heads not included) KB20: 1400 W
Frequency	50/60 Hz
Main Circuit Breaker Rating	KB10/20 all V~: 20 A
Pump Motor Circuit Breaker Rating	200/230 V~: 1.5 A 100/115 V~: 2.9 A
Tank Fuse Ratings	KB10 KB20 100 V~: 10 A 15 A 115 V~: 8 A 12 A 200 V~: 5 A 8 A 230 V~: 4 A 6 A
Hose and Applicator Fuse Ratings	100/115 V~: 5 A 200/230 V~: 2.5 A
Tank Overtemperature Thermostat	205 °C (400 °F) (standard, other ratings available)
Pump Warmup Thermostat	121 °C (250 °F) (standard, other ratings available)

Physical

Tank Capacity	KB10: 4.5 kg (10 lb) KB20: 9.1 kg (20 lb)
Hose Capacity	KB10: 2 manual or 2 automatic KB20: 2 manual or 4 automatic
Shipping Weight	KB10: 29.1 kg (64 lb) KB20: 35.4 kg (78 lb)
Storage Temperature	0–60 °C (32–140 °F)
Pump Size	V1 & V4-450: 7.4 CCD (0.450 CID) V1 & V4-675: 11.1 CCD (0.675 CID) V3-450: 7.4 CCD (0.450 CID) V3-675: 11.1 CCD (0.675 CID)
Head Activate/Test Switch	KB10: 1 maximum (automatic systems only) KB20: 2 maximum (automatic systems only)
Gun/Hose Power Switch	Up to 2 dependent on melt unit configuration
Melt Grid	Standard

Operating

Warmup Time	30–45 minutes
Viscosity	Maximum 70,000 centipoise (cps)
Melt Rate	KB10: 7.3 kg/hr (16 lb/hr) KB20: 9.1 kg/hr (20 lb/hr)
Temperature Range	38 °C – 232 °C (100 °F – 450 °F)

Environmental

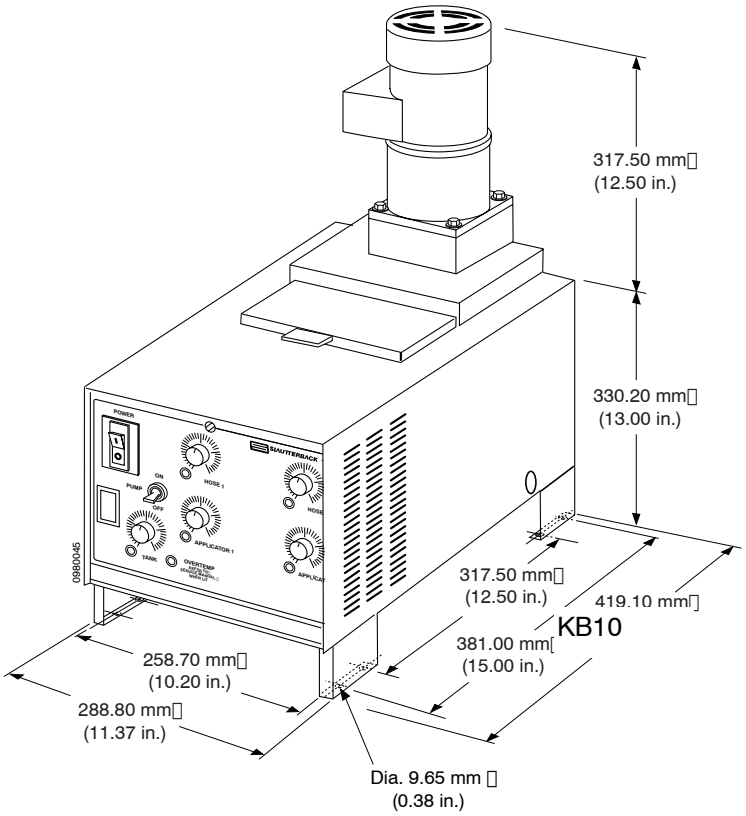
Ambient Air Temperature	5–40 °C (41–104 °F)
Altitude	Sea level up to 2 km (1.24 miles)
Humidity	30–95 R.H. (%)

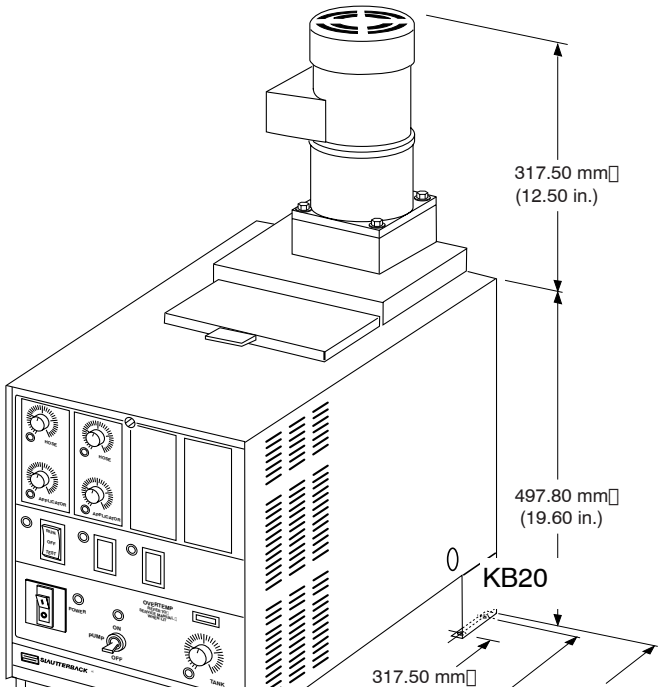
Motor Speed, Adhesive Pressure, and Flow Rate

Frequency	**60 Hz**	**50 Hz**
Motor Speed	86/min (rpm)	72/min (rpm)
Recommended Adhesive Pressure Range*		
V1 & V4-450 Pump	6.89–24.13 bar 689.48–2,413.16 kPa 100–350 psi	6.89–24.13 bar 689.48–2,413.16 kPa 100–350 psi
V1 & V4-675 Pump	6.89–20.68 bar 689.48–2,068.43 kPa 100–300 psi	6.89–20.68 bar 689.48–2,068.43 kPa 100–300 psi
V3-450 Pump	20.68–58.6 bar 2,068.43–5,860.54 kPa 300–850 psi	20.68–58.6 bar 2,068.43–5,860.54 kPa 300–850 psi
V3-675 Pump	20.68–55.15 bar 2,068.43–5,515.81 kPa 300–800 psi	20.7–55.15 bar 2,068.43–5,515.81 kPa 300–800 psi
Maximum Flow Rate*		
V1 & V4-450 Pump	36.3 kg/hr 80 lb/hr	32.7 kg/hr 72 lb/hr
V1 & V4-675 Pump	49.9 kg/hr 110 lb/hr	40.8 kg/hr 90 lb/hr
V3-450 Pump	39 kg/hr 86 lb/hr	31.8 kg/hr 70 lb/hr
V3-675 Pump	39 kg/hr 86 lb/hr	31.8 kg/hr 70 lb/hr

**Based on standard, packaging grade hotmelts at 1000 cps. Varies with adhesive and tank temperature. Consult factory representative for non-standard requirements.*

Dimensions





Appendix B Resistance Tables

Component Resistance Tables

Minimum and maximum resistance (R) of common melt unit components, hoses, and heads
Unless otherwise specified, resistance values are measured at 20° ± 5° C (68° ± 10° F).

Table 1. Tank Heater Resistance

Spare Kit	Voltage	Heater	Ohms*
79005	115	12532	32.4–37.8
79005-1	230	12538	136.8–158.4
79044	230	12546-1	91–106
79044-1	115	12456-2	23–26
79088-30	230	12600	55–63.3
79088-50	230	12600	55–63.3
79088-100	230	12610	91.5–100.5

*Resistance shown is for one heater only. Spare kit may include more than one heater.

Table 2. Motor Resistance

Melt Unit Model	Motor Label	Spare Motor Group	RPM	Hz	Voltage	Ohms
SS10G, Mark II	73714-24	73714-24	38/31	50/60	100–115	6
SS10G, Mark II	73714-24	73714-24	38/31	50/60	200–230	16
LS/SQ10 & 20	73795-01	73714-20	44/36	50/60	100–115	25–28
LS/SQ10 & 20	73795-02	73714-21	44/36	50/60	200–230	102–105
KB10 & 20	73795-01	73714-25	44/36	50/60	100–115	25–28
KB10 & 20	73795-02	73714-26	44/36	50/60	200–230	102–105
KB/FS10 & 20	73794-01	73714-41/-43	86/72	50/60	100–115	6–9
	73794-02	73714-42/-44	86/72	50/60	200–230	16–20
	73794-06	73714-45/-46	72	50	200–230	16–20
KB/FS30–100	73794-02	73278-42	86/72	50/60	200–230	16–20
	73794-06	73278-45/-46	72	50	200–230	16–20
	73207-03	73278-98	170	60	200–230	8–10
	73207-04	73278-97	140	50	200–230	19
	73012-20	73278-70	340	60	200–230	8–10
	73012-82	73278-71	280	50	200–230	16
LS/KB10E & 20E	73789-05	79301-01/-03	47	50	200–230	45–50
KB10E & 20E	73794-07	79301-02/-04	70	50	200–230	60–65
Model 115C	73789-05	79301-01/-03	47	50	200–230	45–50

Table 3. RTD Sensor Resistance

Temperature	Ohms
0 °C (32 °F)	100
38 °C (100 °F)	115
66 °C (150 °F)	126
93 °C (200 °F)	136
121°C (250 °F)	147
149 °C (300 °F)	158
177 °C (350 °F)	168
204 °C (400 °F)	178

Same RTD sensor is used in tank, hose and head.

Table 4. Potentiometer/Variable Resistor

Part Number	Product	Ohms	Turns
17018-10400	FCI flow controller	0–100	1
17018-10402	FCI flow controller	0–100	10
17018-40199	T150 temperature controller	0–450	1

Table 5. Valve Coil Resistance

E100XT Style Coil		E900 Style Coil	
Voltage	**Ohms**	**Voltage**	**Ohms**
100	39–42	100	64–75
115	45–48	115	77–89
200	156–157	200	239–281
230	172–201	230	285–335

Table 6. Heater Resistance for Common Applicators

Model	Voltage	Heater Quantity	Heater Wattage	Total Wattage	Ohms*
Automatic Heads					
E100XT	230	2	120	240	216–264
E100	230	1	150	150	369–399
E901	230	1	150	150	369–399
E902	230	2	150	300	182–211
E904	230	2	150	300	182–211
M101	230	2	150	300	182–211
M102	230	4	150	600	91–106
M104	230	4	150	600	91–106
Manual Applicators					
L4/SW4	230	1	80	80	664–720
L1	115	1	50	50	247–314
L4/SW4	115	1	80	80	170–190

*For heads with more than 1 heater, resistance shown is for heaters in parallel.

Table 7. Heater Resistance for Common Hoses (in Ohms)

HC Style Automatic Hoses

Part No. (V~)	4 ft	6 ft	8 ft	10 ft	12 ft	14 ft	16 ft
Capillary Sensor							
25132 (115 V~)	153–159	105–109	80–83	65–67	54–56	47–49	41–43
26288 (230 V~)	560–583	385–401	294–306	237–247	199–207	171–178	150–157
RTD Sensor							
26701 (115 V~)	127–140	86–96	66–72	53–58	44–49	39–41	33–37
26703 (230 V~)	510–563	347–384	264–291	212–235	178–196	153–169	134–148

Handgun Hoses

Part No. (V~)	8 ft	12 ft	16 ft
L1 Hose, Capillary Sensor			
26257 (115 V~)	80–83	54–56	41–42
26276 (230 V~)	293–305	199–207	150–156
L1 Hose, RTD Sensor			
26499 (115 V~)	73–80	49–54	36–40
26500 (230 V~)	298–306	199–204	149
L4 Hose, Capillary Sensor			
21260 (115 V~)	71–74	48–50	36–38
21262 (230 V~)	283–294	192–200	145–152
L4 Hose, RTD Sensor			
21285 (115V~)	75–79	45–52	37–39
21287 (230V~)	298–315	199–209	149–157
SW4 Hose, RTD Sensor			
21261 (115 V~)	75–79	49–52	37–39
21263 (230 V~)	298–314	199–209	149–157

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