GP-125/GP-375 Beer Chiller

LANCER INSTALLATION/OPERATION MANUAL

Español...
Français...
Deutsche...
日本語...

FOR QUALIFIED INSTALLER ONLY. This basic Installation Sheet is only for the unit being installed. Please refer to the Lancer web site (lancercorp.com), or for your convenience, scan this QR code with a mobile device (app required) for immediate access to other Technical Documents and alternative translations (if available) pertaining to this unit. Contact Lancer Customer Service for assistance as required.

ABOUT THIS MANUAL

This booklet is an integral and essential part of the product and should be handed over to the operator after the installation and preserved for any further consultation that may be necessary. Please read carefully the guidelines and warnings contained herein as they are intended to provide the user with essential information for the continued safe use and maintenance of the product. In addition, it provides ***GUIDANCE ONLY*** to the user on the correct services and site location of the unit.

BEFORE GETTING STARTED

Each unit is tested under operating conditions and is thoroughly inspected before shipment. At the time of shipment, the carrier accepts responsibility for the unit. Upon receiving the unit, carefully inspect the carton for visible damage. If damage exists, have the carrier note the damage on the freight bill and file a claim with carrier. Responsibility for damage to the appliance lies with the carrier.

The installation and relocation, if necessary, of this product must be carried out by qualified personnel with up-to-date safety and hygiene knowledge and practical experience, in accordance with current regulations.

IMPORTANT SAFETY INSTRUCTIONS

⚠ Intended Use

The appliance is for indoor use only. This unit is not a toy and children should be advised not to play with the appliance. This appliance is intended to be used in commercial applications such as restaurants or similar. This appliance should not be used by children or infirmed persons without supervision. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Cleaning and user maintenance shall not be performed by children without supervision. The min/max ambient operating temperature for the appliance is 40°F to 90°F (4°C to 32°C). Do not operate unit below minimum ambient operation conditions. Should freezing occur, cease operation of the unit and contact authorized service technician. The maximum tilt for safe operation is 5°. Service and cleaning should be accomplished only by trained personnel. Unplug the appliance during servicing and cleaning. To avoid personal injury, do not attempt to lift the appliance without assistance. For heavier appliances, use a mechanical lift. Applicable safety precautions must be observed. Instruction warnings on the product being used must be followed.

GP-125
GP-375

LANCER PN: 28-0984/03
Revision: 03-2, February 2019

⚠ Electrical Warning

Check the appliance name plate label for the correct electrical requirements of unit. Do not plug into a wall electrical outlet unless the current shown on the serial number plate agrees with local current available. Follow all local electrical codes when making connections. Each appliance must have a separate electrical circuit. Do not use extension cords with this unit. Do not 'gang' together with other electrical devices on the same outlet. Always disconnect electrical power to the unit to prevent personal injury before attempting any internal maintenance. Only qualified personnel should service internal components of electrical control housing. Make sure that all water lines are tight and units are dry before making any electrical connections! Caution, Risk of Electric Shock. If the cord or plug becomes damaged, replace only with a cord and plug of the same type.

SPECIFICATIONS

GP-125 Specifications

DIMENSIONS

Width: 17 inches (431.8 mm)
Depth: 19.5 inches (495.3 mm)
Height (w/out legs): 32 inches (812.8 mm)

ELECTRICAL

115 VAC / 60 Hz / 12 Amps
Plug Type: 5 - 15P
Requirement: 15 Amp Circuit

WEIGHT

Shipping: 155 lbs (71 kg)
Empty: 114 lbs (52 kg)
Operating: 223 lbs (101 kg)

COMPRESSOR

1/3 HP

TANK CAPACITY

Capacity: 13 gallons (49.2 L)

REFRIGERATION

Refrigeration Type: R-134A
Refrigeration Charge: 6.5 oz

FITTINGS

Inlet & Outlet Barb: 3/8 inch (12.7 mm)

This unit emits a sound pressure level below 70 dB

GP-375 Specifications

DIMENSIONS

Width: 26 inches (660.4 mm)
Depth: 27.5 inches (698.5 mm)
Height (w/out legs): 38.3 inches (971.6 mm)

ELECTRICAL

115 VAC / 60 Hz / 24 Amps
Plug Type: 5 - 30P
Requirement: 30 Amp Circuit

WEIGHT

Shipping: 285 lbs (130 kg)
Empty: 210 lbs (96 kg)
Operating: 418 lbs (190 kg)

COMPRESSOR

3/4 HP

TANK CAPACITY

Capacity: up to 32 gallons (121.13 L)

REFRIGERATION

Refrigeration Type: R-134A
Refrigeration Charge: 15.7265 oz

FITTINGS

Inlet & Outlet Barb: 3/8 inch (9.5 mm)

This unit emits a sound pressure level below 70 dB

PRINCIPLES OF OPERATION

- The GP-125 unit utilizes a water/glycol bath with an immersed copper evaporator which chills the mixture to a preset temperature.
- The Glycol can then be used for the chilling of beer lines and/or the flooding of fonts.
- The unit provides constant agitation and glycol recirculation while the electronic digital thermostat allows easy temperature setting.
- The table to the right shows the relationship between glycol percentage and approximate freezing point.

Glycol Concentration	Approximate Freezing Point
0	32°F (0°C)
10%	26°F (-3.3°C)
20%	19°F (-7.2°C)
30%	11°F (-11.6°C)
40%	-7.6°F (-22.0°C)

READ THIS MANUAL

This manual was developed by the Lancer Corporation as a reference for the owner/operator and installer of this appliance. Please read this guide before installation and operation of this appliance. If service is required please call your Lancer Service Agent or Lancer Customer Service. Always have your model and serial number available when you call.

Your Service Agent: _____

Service Agent Telephone Number: _____

Serial Number: _____

Model Number: _____

INSTALLATION

Unpack the Appliance

1. Cut plastic band and remove.
2. Carefully remove shipping carton by lifting up.
3. Remove any accessory kit or loose parts from the top packaging.

NOTE

Inspect unit for concealed damage. If evident, notify delivering carrier and file a claim against the same.

4. Lift unit up by plywood shipping base and remove lower portion of carton.
5. Remove plywood shipping base from unit by moving unit so that one side is off the counter top or table allowing access to screws on the bottom of the plywood shipping base.

NOTE

If unit is to be transported, it is advisable to leave the unit secured to the plywood shipping base.

6. Using the leg kit provided, assemble the legs by tilting unit.

⚠ ATTENTION

DO NOT LAY UNIT ON ITS SIDE OR BACK

Selecting A Location

NOTE

The appliance should only be installed in a location where it can be overseen by trained personnel

1. The unit is designed to sit on a flat, well supported surface with the dispense point as close as possible (directly above the dispense point is ideal).
2. The selected location must be able to support the weight of the unit plus the glycol mixture. Total weight (with glycol mixture) for this unit could exceed 450 pounds (204.1 kg).
3. The location should ***NOT*** be on top of the Walk-In or keg room. The location should be within ten (10) feet of the Walk-In/keg room.
4. Select a location that is in close proximity to a properly grounded electrical outlet that meets the requirements shown in the Specifications section found on page 2.

NOTE

A waste pipe to enable connection of the overflow and drain from the machine is not essential, but makes it easier to drain glycol/water mixture from the tank.

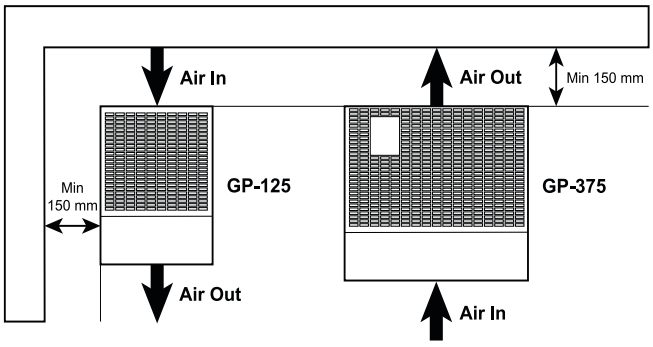
NOTE

NSF listed units must use legs provided.

5. Condenser air is drawn in from the back of the unit and discharged out the front of the unit. Allow at least 150 mm of clearance around the unit to provide for proper air flow and circulation.

⚠ ATTENTION

Failure to maintain specified clearance will cause the compressor to overheat and will result in compressor failure



Unit Installation

1. Determine the appropriate length of insulated python tubing required, allowing additional length as required for servicing.

> **⚠ ATTENTION**
>
> **Use a sharp knife, razor blade, or tube cutter to cut tubing. Tubing cut with a saw will result in plastic shavings, which will plug the flow controls in the dispensing valve.**

2. Position one end of the python near the chiller and product keg(s). Using a sharp knife or razor, slit the python insulation back 18 inches (46 cm) and roll insulation back to expose individual tubes.

> **⚠ ATTENTION**
>
> **Careful not to cut tubing bundle when slitting python insulation.**

3. Connect product supply line(s) from the product keg(s) to the product supply line(s) of the python tubing.
4. Install drain plug or drain faucet to drain outlet, (whichever one is necessary for specific install).

> **⚠ ATTENTION**
>
> **Make sure drain plug or drain faucet connection is sealed using Teflon tape or some other sealant to prevent leaks.**

5. Install a six (6) inch length of tubing to the overflow fitting on the side of the unit, so that the overflow reaches the outside edge of the unit.
6. Route and connect the glycol line from the outlet on the chiller to the inlet on the glycol pump. Make sure to use “U” bend fitting (PN: 01-2124/01) included with unit to avoid crimping line.

> **NOTE**
>
> **See plumbing diagrams on page 13 for reference.**

7. Connect glycol line from the outlet on the pump to the glycol line of the python tubing. Make sure to use “U” bend fitting (PN: 01-2124/01) included with unit to avoid crimping line.
8. Route the glycol return line from the inlet on the chiller to the return line of the python tubing. Make sure to use “L” bend fitting (PN: 01-0431/01) included with unit to avoid crimping line.
9. Connect the product line(s), glycol line(s), and glycol return line(s) of the insulated python tubing to the dispense font(s).
10. Check all connections for leaks.

> **NOTE**
>
> **DO NOT insulate connections until all connections are inspected for leaks.**

11. If the chiller is required to be plumbed to a drain, attach a 3/8 inch (10 mm) drain tube to the drain fitting at the front of the chiller and route to nearest drain.

Unit Setup

1. After installation is complete, fill water bath with glycol/water solution. Mixture is 2 1/3 parts water to 1 part glycol.

> **⚠ ATTENTION**
>
> **Make sure to use distilled water in the glycol/water mixture.**

2. Fill tank with glycol mixture until glycol flows out of the overflow at the front of the unit.

> **NOTE**
>
> **After starting the pump, glycol/water bath will need topping off, top off with glycol/water mixture until it flows out of overflow tube.**

> **⚠ ATTENTION**
>
> **DO NOT use car antifreeze for the glycol/water mixture. Only food grade Propylene Glycol should be used.**

3. Once the water bath is full and all plumbing connections are made, connect the power supply cord to a properly grounded outlet.

> **⚠ WARNING**
>
> **The unit must be properly electrically grounded to avoid serious injury or fatal electrical shock. The power cord has a three-prong grounded plug. If a three-hole grounded electrical outlet is not available, use an approved method to ground the unit. Follow all local electrical codes when making connections. Each appliance must have a separate electrical circuit. Do not use extension cords. Do not connect multiple electrical devices on the same outlet.**

4. Switch on the power supply. The compressor, condenser fan motor, and agitator motor pump should start.

> **NOTE**
>
> **There is approximately a five (5) second delay from switch on to start up.**

5. Adjust thermostat to desired temperature setting, see pages 9-11 for thermostat control instructions.

> **⚠ ATTENTION**
>
> **DO NOT set thermostat below 18°F (-7.78°C). Failure to set the thermostat above 18°F (-7.78°C) will cause the glycol lines to freeze up. Set point should be set to 29°F (-1.67°C) with a 3°F (1.6°C) differential.**

MAINTENANCE & CLEANING

GENERAL INFORMATION

Lancer equipment (new or reconditioned) is shipped from the factory cleaned and sanitized in accordance with NSF guidelines. The operator of the equipment must provide continuous maintenance as required by this manual and/or state and local health department guidelines to ensure proper operation and sanitation requirements are maintained.

The cleaning procedures provided herein pertain to the Lancer equipment identified by this manual. If other equipment is being cleaned, follow the guidelines established by the manufacturer for that equipment.

Cleaning should be accomplished only by trained personnel. Sanitary gloves are to be used during cleaning operations. Applicable safety precautions must be observed. Instruction warnings on the product being used must be followed.

⚠ ATTENTION

- **Use sanitary gloves when cleaning the unit and observe all applicable safety precautions.**
- ***DO NOT* use a water jet to clean or sanitize the unit.**
- ***DO NOT* use strong bleaches or detergents; These can discolor and corrode various materials.**
- ***DO NOT* use metal scrapers, sharp objects, steel wool, scouring pads, abrasives, or solvents on the appliance.**
- ***DO NOT* use hot water above 140° F (60° C). This can damage the appliance.**
- ***DO NOT* spill any solution on any circuit boards. Insure all sanitizing solution is removed from the system.**

Scheduled Maintenance and Cleaning

⚠ WARNING

Make sure Glycol Circulation Pump is turned off before cleaning any internal components or beer lines.

As Needed	• Keep exterior surfaces of unit clean using a clean, damp cloth.
Monthly	• Unplug the unit from the power source. • Remove the bonnet and clean the dirt from the condenser fins using a soft brush. • Check level of glycol/water mixture. If level has dropped, top off with glycol and water. • Check glycol/water level i.e. 20%.
Every Six Months	• Pull out unit and clean behind and underneath. Check the refrigeration area for any loose components or noises (ex: fan motor rattling).
Yearly	• Unplug the unit from the power source. • Remove the bonnet and inspect the evaporator coils for scale or other deposits that could inhibit heat transfer. Clean as required. • Inspect agitator blade for deposits or wear. • Inspect agitator/pump for blockage or failure. • Refill tank with glycol/water mixture as necessary, replace bonnet and reconnect power.

Cleaning Solution

Mix a mild, non-abrasive detergent (e.g. Sodium Laureth Sulfate, dish soap) with clean, potable water at a temperature of 90°F to 110°F (32°C to 43°C). The mixture ratio is one ounce of cleaner to two gallons of water. Do not use abrasive cleaners or solvents because they can cause permanent damage to the unit. Ensure rinsing is thorough, using clean, potable water at a temperature of 90°F to 110°F.

NOTE

Please refer to local brewery as to the recommended cleaning solution and mixing ratios.

TROUBLESHOOTING

Refrigeration Troubleshooting

TROUBLE	CAUSE	REMEDY
Compressor starts and continues to run until freeze and will not cut off.	1. PCB malfunctioning or faulty thermostat. 2. Thermostat positioned improperly. 3. Thermostat shorted to ground.	1. Check thermostat & position of thermostat probe, and replace if needed. 2. Check positioning of thermostat, and replace if needed. 3. Check positioning of thermostat, and replace if needed.
Compressor does not start (no hum), gas cooler fan does not run.	1. There is a five (5) second compressor and condenser fan delay. 2. Circuit breaker or fuse tripped. 3. Inadequate Voltage	1. Allow for five (5) second delay to lapse. 2. Reset breaker or replace fuse. If problem persists: Determine reason and correct or electrical circuit overloaded; switch to another circuit. 3. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.
Compressor does not start (no hum), but gas cooler fan motor runs.	1. Compressor relay capacitors or overload malfunctioning. 2. Inadequate voltage. 3. Compressor malfunctioning.	1. Replace compressor relay capacitors or overload. 2. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. 3. Have the unit repaired by a qualified service technician.
Compressor does not start but hums.	1. Inadequate voltage. 2. Starting relay capacitors malfunctioning. 3. Compressor malfunctioning.	1. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. 2. Replace starting relay or capacitors. Be sure to use correct rating. Failure to use correct rating will cause compressor failure. 3. Have the unit repaired by a qualified service technician.
Compressor starts but does not switch off start winding (will run for only a few seconds before internal overload switch-es before internal overload switches compressor off).	1. Inadequate voltage. 2. Starting relay malfunctioning.	1. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. 2. Replace starting relay. Be sure to use correct relay. Failure to use correct relay will cause compressor failure.

TROUBLE	CAUSE	REMEDY
Compressor starts and runs a short time but shuts off on overload.	1. Dirty condenser. 2. Insufficient or blocked air flow. 3. Inadequate voltage. 4. Defective condenser fan motor. 5. Refrigerant leak. 6. Compressor malfunctioning.	1. Clean the condenser. 2. Remove all obstruction and allow for minimum clearances of 8 inches (203 mm) over top. 3. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage. 4. Have the unit repaired by a qualified service technician. 5. Have the unit repaired by a qualified service technician. 6. Have the unit repaired by a qualified service technician.
Compressor cycles on and off frequently during the initial pull down and/or normal operations.	1. PCB malfunctioning. 2. Defective thermostat. 3. Weak overload or pressure switch.	4. Check positioning of thermostat, and replace if needed. 5. Replace thermostat. 6. Have the unit repaired by a qualified service technician.

Product Troubleshooting

TROUBLE	CAUSE	REMEDY
Excessive Foam	1. Power not on. 2. Volume of beer too high for machine capacity (ice bank depleted). 3. Keg turnover too slow. 4. Incorrect tap manipulation. 5. Glass held too far from tap. 6. Glass temperature too high. 7. Faulty CO_2 regulator. 8. CO_2 pressure too low. 9. Over carbonation. 10. Unit not adequately ventilated. 11. Storage temperature too low. 12. Obstruction in beer lines or equipment. 13. Agitator not operating. 14. Refrigeration fault (fan motor or compressor). 15. Faulty equipment and/or beer tap.	1. Check/ensure unit is turned on. 2. Give machine time to build up ice bank again or larger capacity unit is required. 3. Keg over carbonated, replace keg. 4. Ensure when pouring the tap is fully open. 5. Ensure glass is held at an angle and held up close to tap when dispensing. 6. Pre-chill glass in a cool or refrigerated space. 7. Repair/replace. 8. Re-adjust CO_2. 9. De-pressurize keg/check CO_2 regulator pressure. 10. Move unit out from wall, counter. 11. Relocate keg or adjust room temperature. 12. Check and remove. Flush beer lines and equipment. 13. Repair/replace. 14. Repair/replace. 15. Repair or replace.
Product Not Cold	1. Refrigeration system not operating. 2. Low refrigerant charge. 3. Agitator motor seized or fused.	1. Check for blown fuse, tripped circuit breaker or disconnected power supply. 2. Check for leaks and repair as necessary. 3. Replace agitator motor.

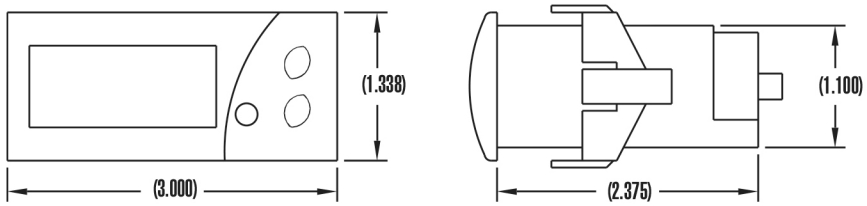
TROUBLE	CAUSE	REMEDY
Hazy Beer	1. Aged beer/incorrect stock rotation. 2. Beer subject to high storage temperature. 3. Dirty beer lines and equipment. 4. Beer blown back to kegs. 5. Beer infected by spoilage organism.	1. Rotate stock. 2. Re-locate to cooler area. 3. Empty beer lines. Flush lines with sanitizing solution or replace lines. 4. Check beer keg check valves. 5. Replace keg. Clean system, sanitize before starting.
Unpalatable Beer	1. High storage temperature. 2. Aged beer. 3. Dirty beer lines and equipment, including tap. 4. Use of non-approved cleaning compounds. 5. Beer infected by spoilage organism. 6. Poor quality of CO_2 gas.	1. Replace keg. Re-locate storage of kegs to cooler ambient. 2. Ensure correct rotation of stock. 3. Clean and sterilize beer system. 4. Use correct cleaning compounds. 5. Replace keg. Clean system, sanitize before starting. 6. Purchase higher grade of CO_2 gas (food grade)
Poor Head Retention	1. Soapy or greasy lines. 2. Residual detergent left on glasses. 3. Overfilled glasses. 4. Low CO_2 pressure. 5. Dirty beer lines and equipment.	1. Ensure glasses are washed and thoroughly rinsed with clean water before using. 2. Ensure glasses are rinsed with clean water before using. 3. Fill glasses approximately 10-20 mm from top to allow head retention. 4. Check CO_2 regulator pressure increase. 5. Clean and sterilize beer lines and equipment.
Flat Beer	1. Residual detergent on glassware. 2. Greasy glassware. 3. CO_2 turned off. 4. CO_2 empty. 5. Incorrect CO_2 pressure. 6. Leaking CO_2 fittings. 7. CO_2 line incorrectly fitted. 8. Faulty CO_2 regulator.	1. Ensure glasses are rinsed with clean water after washing. 2. Ensure glasses are cleaned properly and rinsed thoroughly. 3. Turn on CO_2. 4. Replace CO_2. 5. Adjust CO_2 regulator. 6. Leak check CO_2 system and repair. 7. Fit correctly. 8. Repair or replace.

Dispenser Disposal

To prevent possible harm to the environment from improper disposal, recycle the unit by locating an authorized recycler or contact the retailer where the product was purchased. Comply with local regulations regarding disposal of the refrigerant and insulation.

Series TS2 Digital Temperature Switch

Specifications - Installation and Operating Instructions



DESCRIPTION

Monitor and control temperature for heating and cooling applications with the Series TS2 Digital Temperature Switch. The Series TS2 offers twelve programmable functions to customize the unit to fit application requirements. Use the 16 Amp SPDT relay output to drive a motor, compressor, or fan. Designed with the OEM in mind, the TS2 offers the ability to configure multiple units with the touch of a button.

Programming multiple units is quick and easy. Simply program one switch with the desired parameter settings and connect the configuration key (sold separately) to the back of the unit. Press the button on the configuration key and download the parameter settings. Connect the key to the other switches to upload the stored settings with the push of a button.

The TS2 features set point adjustments, static defrost timing, compressor mean time, hysteresis, and ambient probe adjustment. Security protection is offered using a password code. The Series TS2 Digital Temperature Switches are designed to operate with PTC (1000Ω @ 25°C) probes sold separately.

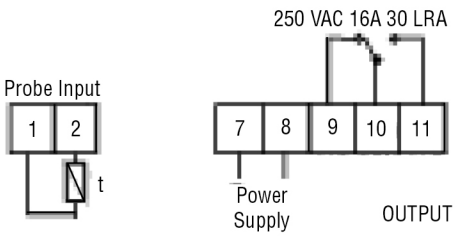
INSTALLATION

The thermostat must be installed by authorized professionals. It should be located in a place free of vibrations, impacts, water and corrosive gases.

A hole measuring 71 x 29 mm must be cut in the panel where the thermostat is to be fitted (apply silicone to make it leaktight). Then, the fixing cups must be fitted, sliding them onto the thermostat until secure. Do not force tightening of the screw if the U-brackets are used. The connections must be covered with the rear cover for this.

WIRING INSTRUCTIONS

Avoid installing the probe's cables in proximity with any power cable. If the length of the probe cables measures more than 100 meters, a recalibration adjustment must be made (parameter P1).



SPECIFICATIONS

Probe Range: -58 to 302°F (-50° to 150°C).
Input: PTC thermistor 1000Ω @ 25°C.
Output: SPDT relay rated 16A @ 240 VAC resistive.
Horsepower Rating (HP): 1 HP.
Control Type: ON/OFF.
Power Requirements: 115 VAC, 230 VAC, 12 VAC/VDC or 24 VAC/VDC (depending on model).
Accuracy: ±1°C.
Display: 3-digit, Red, 1/2″ digits.
Resolution: ±1 digit.
Memory Backup: Nonvolatile memory.
Ambient Operating Temperature: 14 to 158°F (-10 to 70°C).
Storage Temperature: -4 to 176°F (-20° to 80°C).
Weight: 2.3 oz (65 g).
Agency Approvals: CE, cUR, UR.

FRONT OPERATION
PUSH BUTTONS

Pushing SET once gives access to the SP. Pushing for 8 seconds gives way to the requested code. After entering the correct code, all parameters are accessible. This button alternates between text parameters and their value. It validates the modified parameters. When pressed with DOWN, it exits parameter programming.

Pressing this arrow allows the user to go to the next parameter or increase the value viewed on the display. When pressed for 8 seconds, it activates or deactivates defrosting.

Pressing this arrow allows the user to go to the previous parameter or decreases the value viewed on the display. When pressed for 8 seconds, it activates or deactivates the continuous cooling cycle. When pressed simultaneously with SET, it exits the programming mode.

LOVE CONTROLS DIVISION
DWYER INSTRUMENTS INC.
P.O. BOX 338 - MICHIGAN CITY, INDIANA 46360, U.S.A.

Phone: 219/879-8000 www.love-controls.com
Fax: 219/872-9057 e-mail:love@love-controls.com

PROGRAMMING PARAMETERS

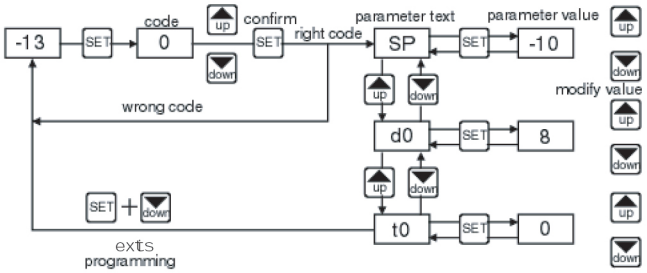
Access only to Set Point SP (without code protection):

- Press and release SET. SP text appears on the display.
- Press SET again. The real value is shown on the display.
- Modify the value using the UP and DOWN keys.
- Press SET to store the new SP value.
- Press SET and DOWN to quit programming, or wait 1 minute for the controller to TIMEOUT.

Access to all parameters (code protected):

- Press SET for 8 seconds. The access code value 00 is shown on the display.
- Using the UP and DOWN buttons, select the code (factory-set code is 00).
- Press SET to enter the code. If it is correct, the first parameter label will be shown on the display (SP).
- Move to the desired parameter with the UP and DOWN keys.
- Press SET to see the value.
- Modify the value with the UP and DOWN keys.
- Press SET to enter it, and exit to next parameter.
- Press SET and DOWN to quit programming, or wait 1 minute for the controller to TIMEOUT.

SETTING THE KEYBOARD CODE TO ZERO



The keyboard code can be set to zero by holding the SET key and turning the controller off then on again.

LED INDICATIONS

Out: This indicates that the compressor is connected. It waits the programmed minimum stop time of the compressor.

Def: This indicates that defrosting is activated.

MESSAGES DISPLAY

In normal operation, the probe temperature will be shown. In case of alarm or error, the following messages will be shown:

- Er- Memory error.
- -- Short-circuited probe error.
- oo- Open probe error.

	Description	Units	Range
SP	Set point	degrees	r1 to r2
r0	Differential or hysteresis	degrees	1 to 20°
r1	Lower value for set point	degrees	-50 to 150°C -58 to 302°F
r2	Higher value for set point	degrees	-50 to 150°C -58 to 302°F
d0	Heating or cooling control	option	Ht/Co
d2	Time for defrosting	minutes	0 to 59´
d8	Interval time between defrosting	hours	0 to 24
c0	Minimum stop time for compressor	minutes	0 to 59´
c1	Continuous cycle time	hours	0 to 24
c2	ON time of fault cycle	minutes	0 to 999
c3	OFF time of fault cycle	minutes	0 to 999
P1	Ambient probe adjustment	degrees	-10° to 10°
P4	Decimal point	option	yes/no
H5	Parameter access code	numeric	0 to 255
H6	Ambient probe type	option	ptc/ntc
t0	Maximum temperature on display	degrees	-50 to 150°C -58 to 302°F

PARAMETERS

PARAMETER DESCRIPTIONS

SP = Set Point. Temperature wished to regulate the machine. Can vary from r1 to r2.

r0 = Differential

For heating control if temperature is > SP then output is OFF. When the temperature drops to <SP - r0 the output is ON.

For cooling control if temperature is < SP then output is OFF. When the temperature increases to > SP + r0 the output is ON.

r1 = Lower Set Point Limit

r2 = Higher Set Point Limit

d0 = Heat or Cooling Control. Ht = heating control, Co = cooling control.

d2 = Defrosting Time Remaining, in minutes. If d2 = 0, defrosting will not start.

d8 = Interval Between Two Defrostings, in hours.

c0 = Minimum time for compressor to be OFF. Minimum time from when the compressor stops till it connects again.

c1 = Continuous Cycle Time. The remaining time for a continuous cold cycle.

c2 = ON time of fault cycle, during probe error.

c3 = OFF time of fault cycle, during probe error.

P1 = Ambient Probe Calibration. Offsets degrees to adjust the ambient probe.

P4 = Decimal Point. Display decimal point in normal operation. Always present in parameter menus.

H5 = Access Code to Parameters. Factory-set as 00.

H6 = Ambient Probe Type. Sets probe type to be NTC or PTC.

t0 = Temperature Display Limit. Maximum temperature shown on the display, although the real temperature can be greater.

OPERATION IN CASE OF ERROR

If the probe or thermostat memory should fail, the compressor will be connected for 5 minutes ON then 5 minutes OFF.

MAINTENANCE

CLEANING

Clean the surface of the display controller with a soft, damp cloth. Never use abrasive detergents, petrol, alcohol or solvents.

REPAIRS

After final installation of the TS Series Digital Temperature Switch, no routine maintenance is required. A periodic check of system calibration is recommended. The devices are not field repairable and should be returned to the factory if recalibration or other service is required. After first obtaining a Returned Goods Authorization (RGA) number, send the material, freight prepaid, to the following address. Please include a clear description of the problem plus any application information available.

Dwyer Instruments,Inc.
Attn: Repair Department
102 Highway 212
Michigan City, IN 46360 U.S.A

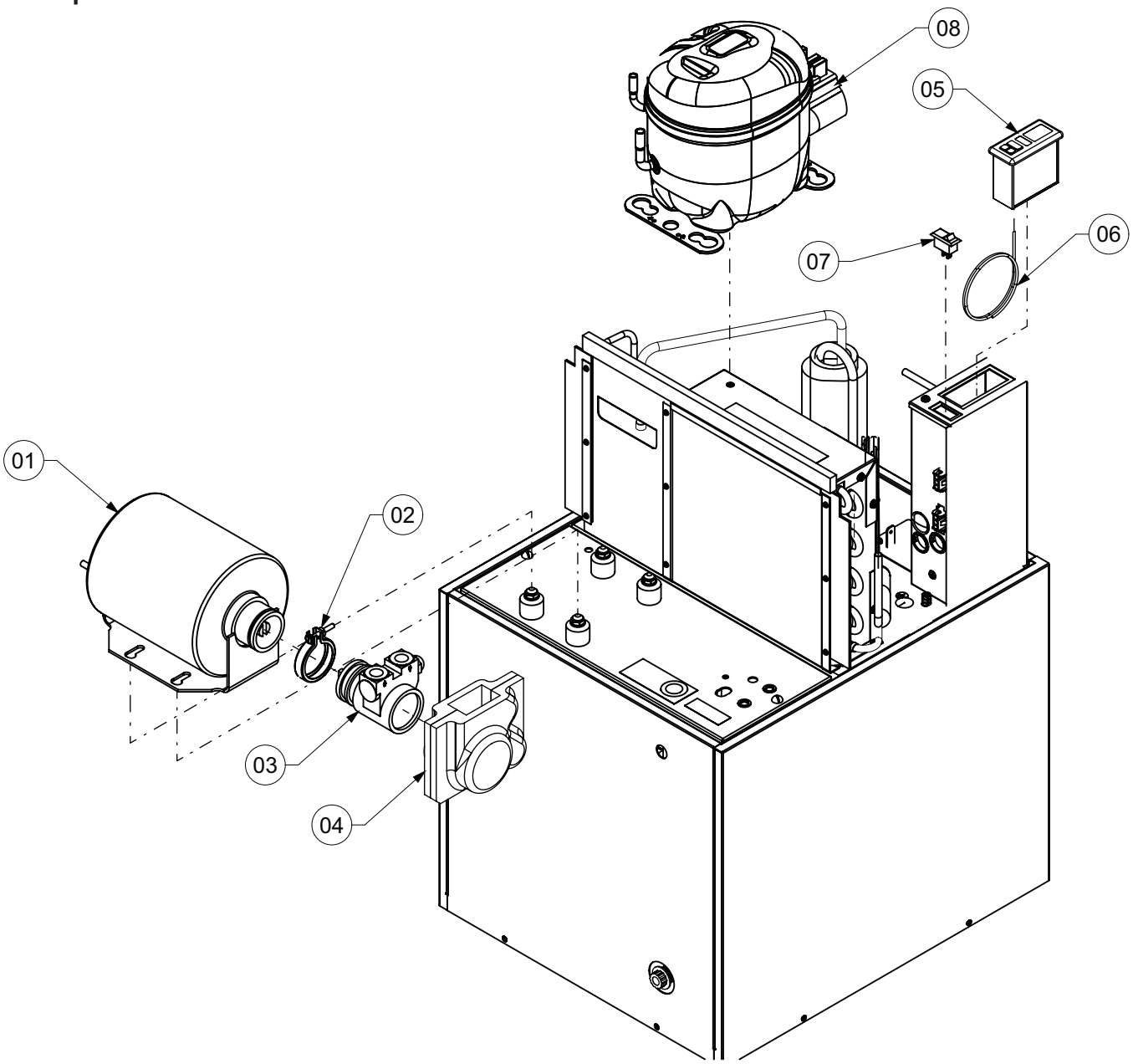
Printed in U.S.A. 7/14
FR# R0-443771-00 Rev. 4

LOVE CONTROLS DIVISION
DWYER INSTRUMENTS INC.
P.O. BOX 338 - MICHIGAN CITY, INDIANA 46360, U.S.A.

Phone: 219/879-8000 www.love-controls.com
Fax: 219/872-9057 e-mail:love@love-controls.com

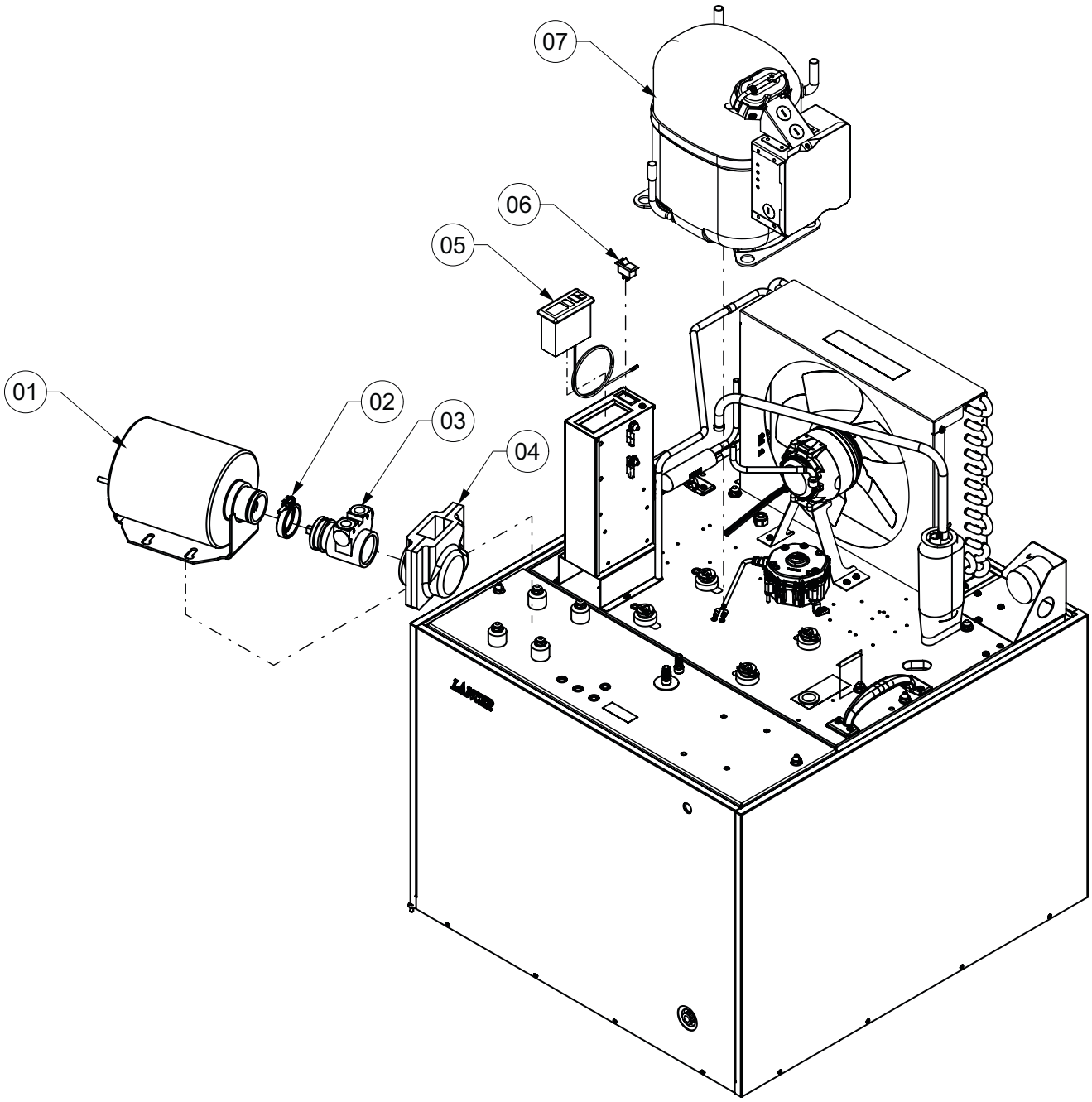
SPARE PARTS LIST

GP-125 Spare Parts List



Item	Part No.	Description
01	91-0008	Motor , AC, SPLP, 115 V, 60 Hz, 1/3 HP
02	07-0582	Pump Motor Clamp
03	86-0194	Pump Sub-Assembly
04	50-0485	Pump Jacket Insulation
05	52-3002/02	Thermostat, TS2-010, 115 V
06	21-2001	Thermostat Probe, PTC, TS-1
07	12-0089	Kill Switch
08	83-0071-01	Compressor, 1/3 HP, 115 V, 60 Hz
-	01-3026	Drain Plug
-	01-3029	Drain Faucet
-	08-0615	Overflow tube

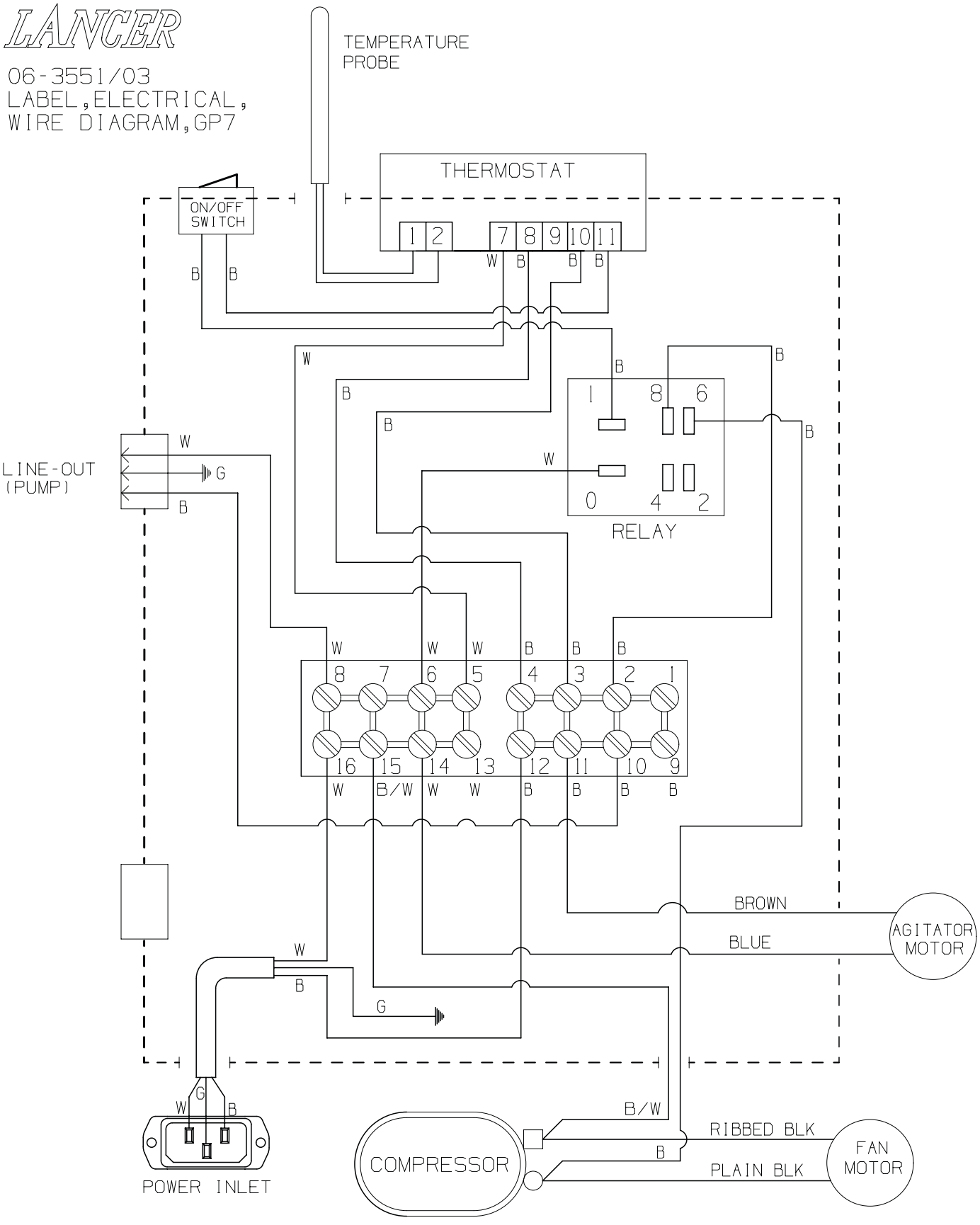
GP-375 Spare Parts List



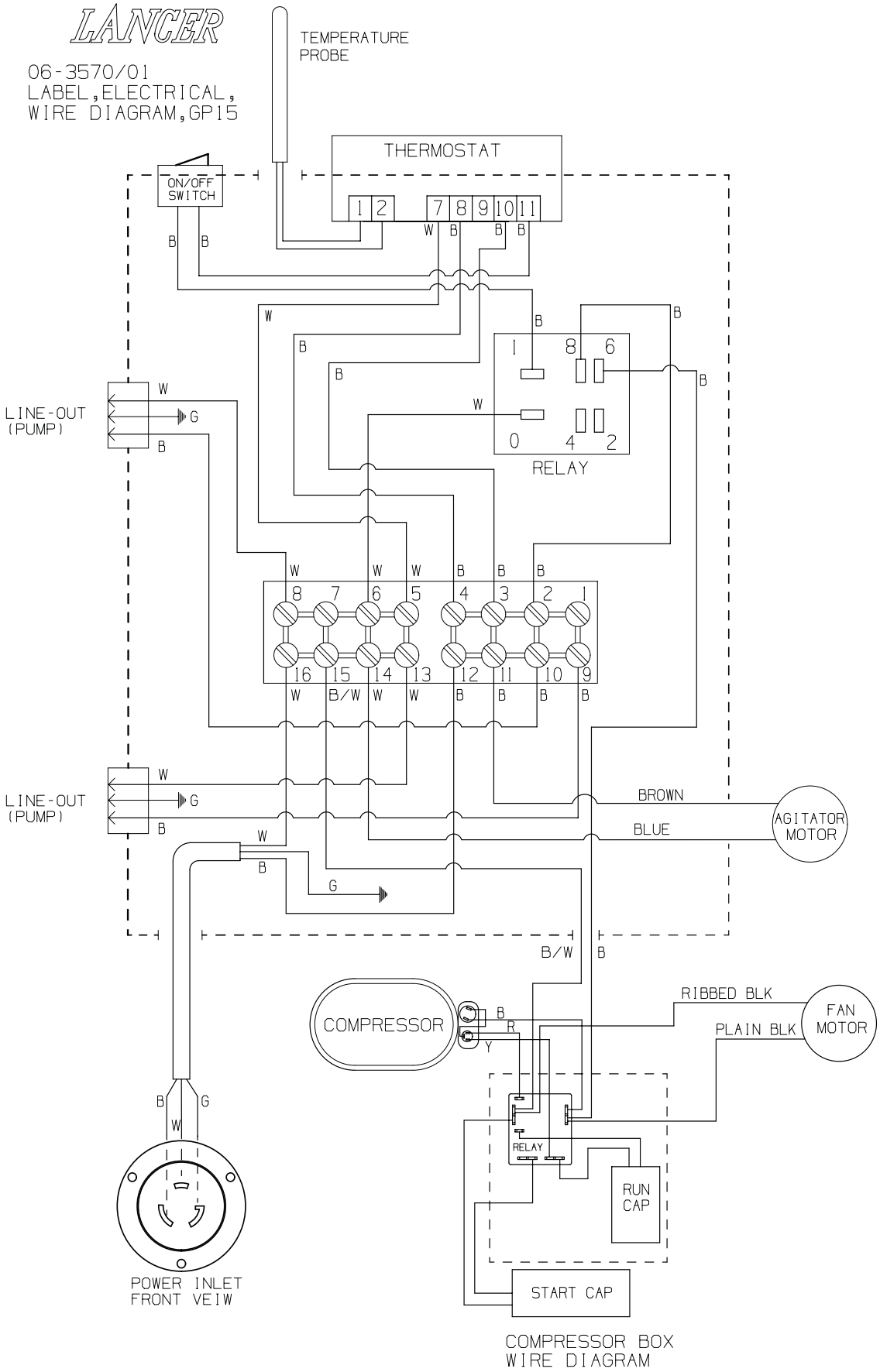
Item	Part No.	Description
01	91-0008	Motor , AC, SPLP, 115 V, 60 Hz, 1/3 HP
02	07-0582	Pump Motor Clamp
03	86-0194	Pump Sub-Assembly
04	50-0485	Pump Jacket Insulation
05	52-3002/01	Thermostat with Probe, AKO-D14120, 120 V
06	12-0089	Kill Switch
07	83-0104	Compressor, 3/4 HP, 115 V, 60 Hz
-	01-3026	Drain Plug
-	01-3029	Drain Faucet
-	08-0615	Overflow tube

WIRING DIAGRAMS

GP-125 - Wiring Diagram

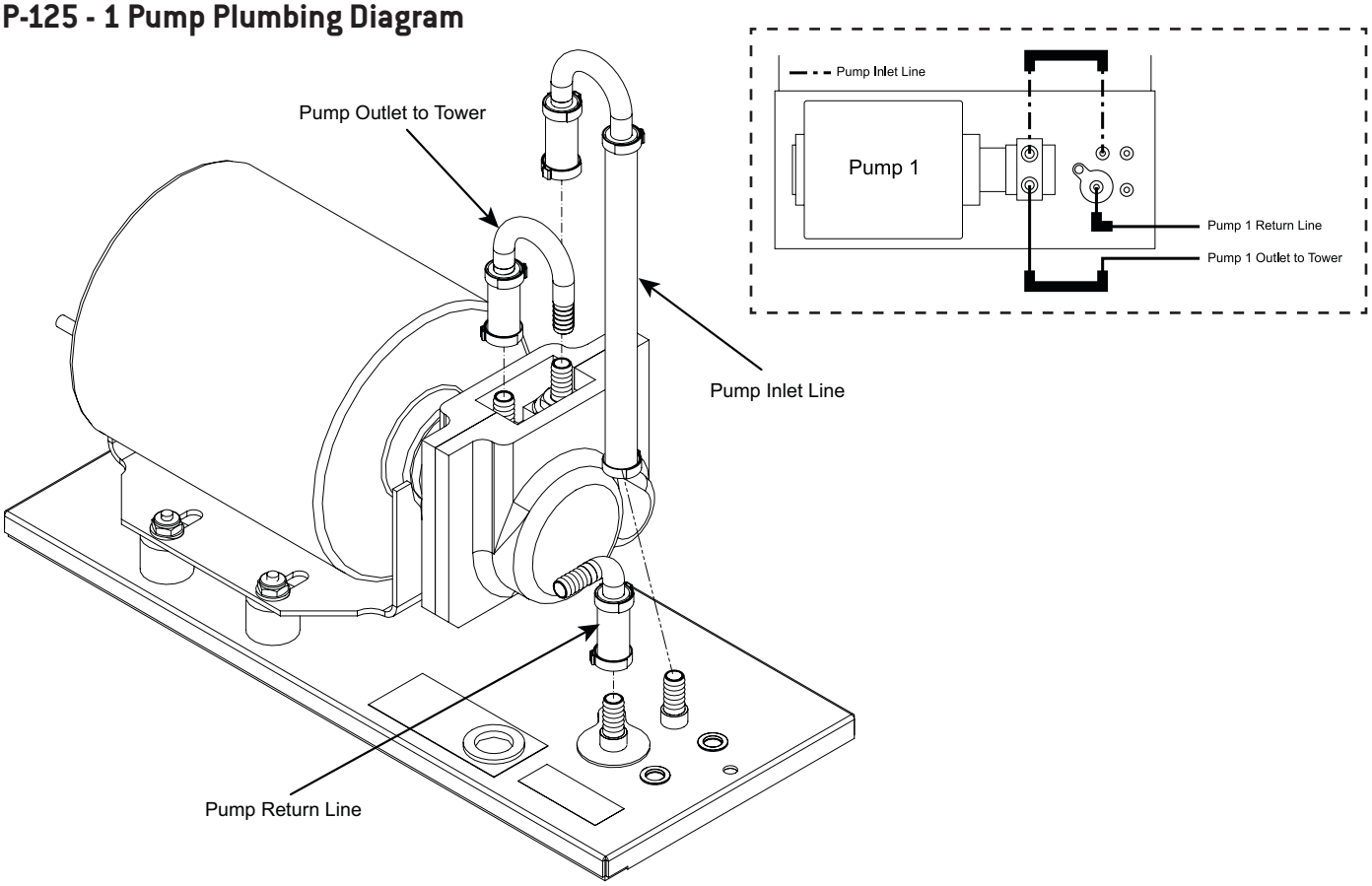


GP-375 - Wiring Diagram

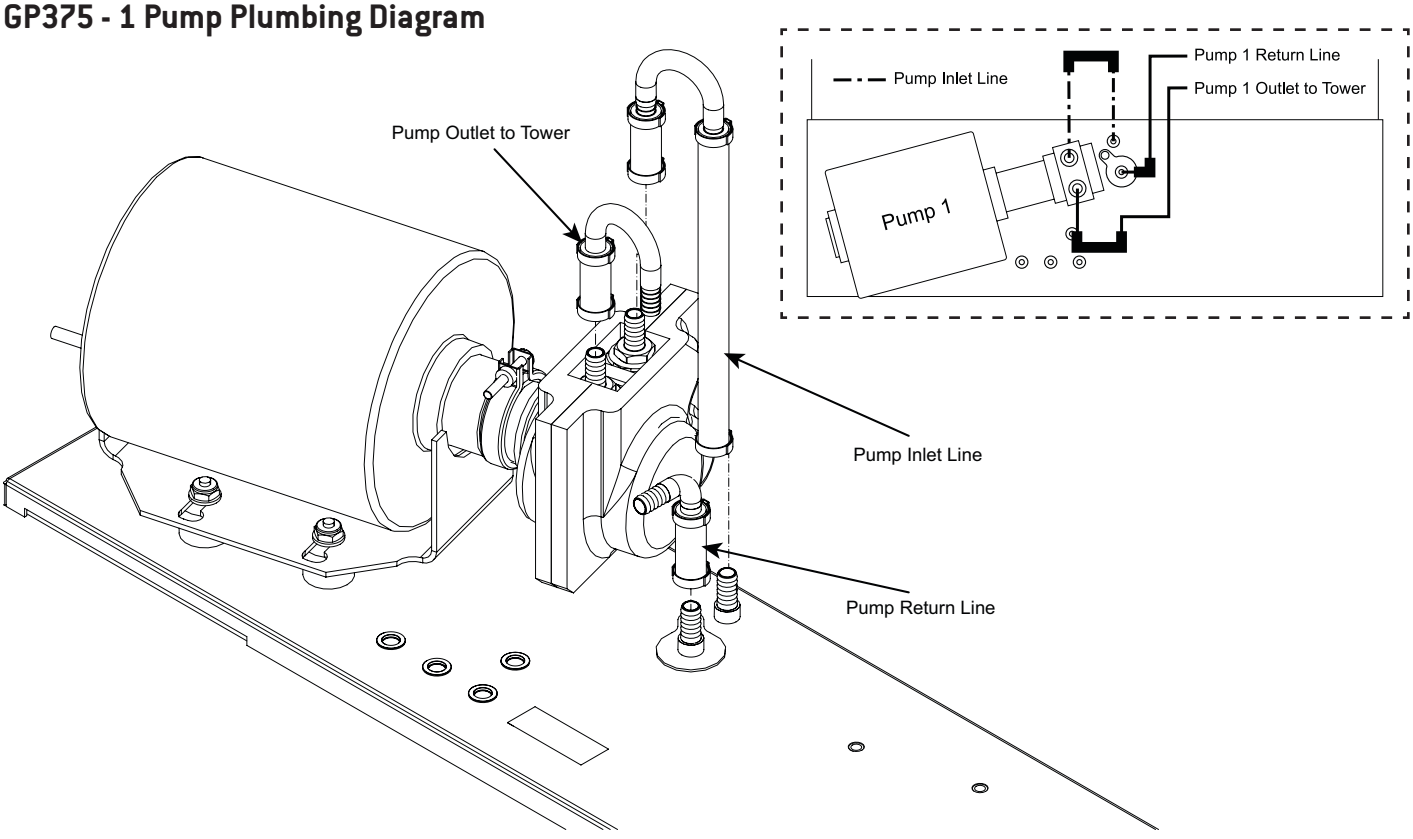


PLUMBING DIAGRAMS

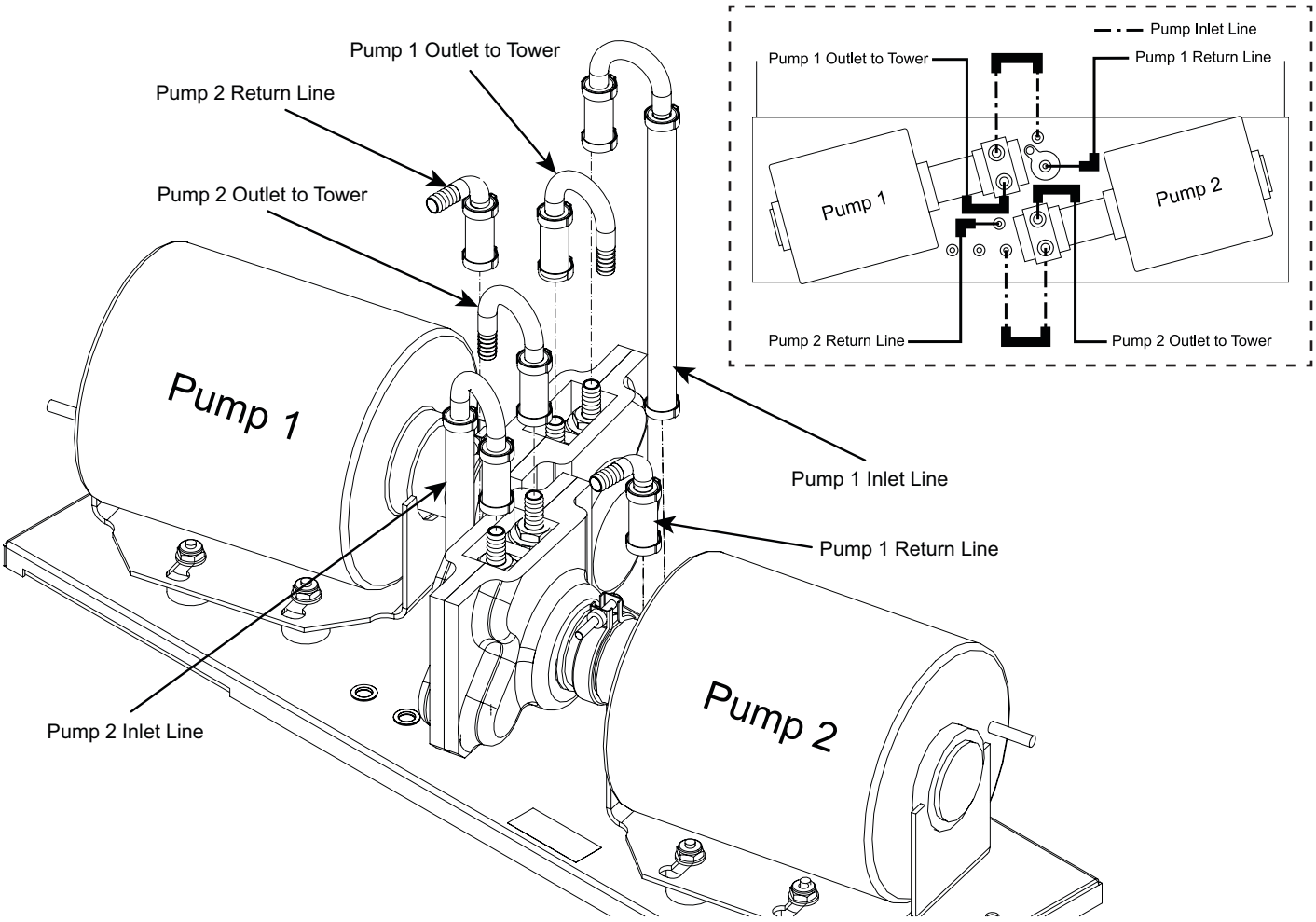
GP-125 - 1 Pump Plumbing Diagram



GP375 - 1 Pump Plumbing Diagram



GP-375 - 2 Pump Plumbing Diagram



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