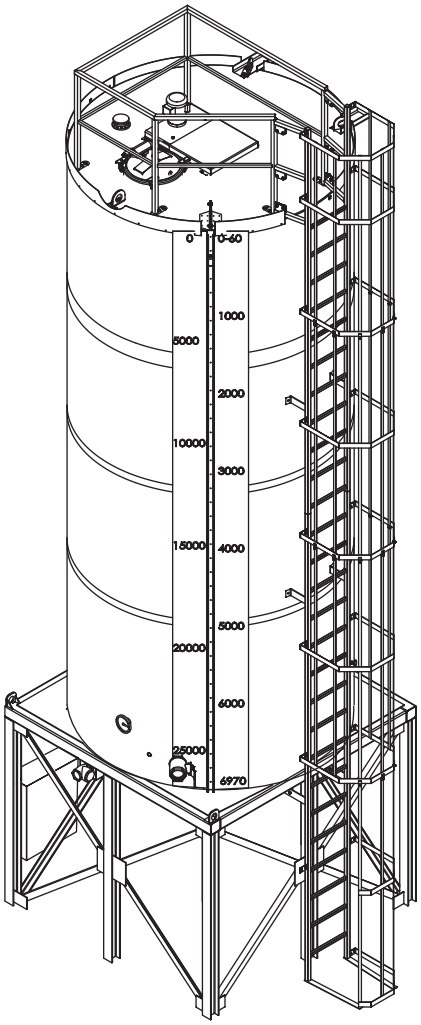
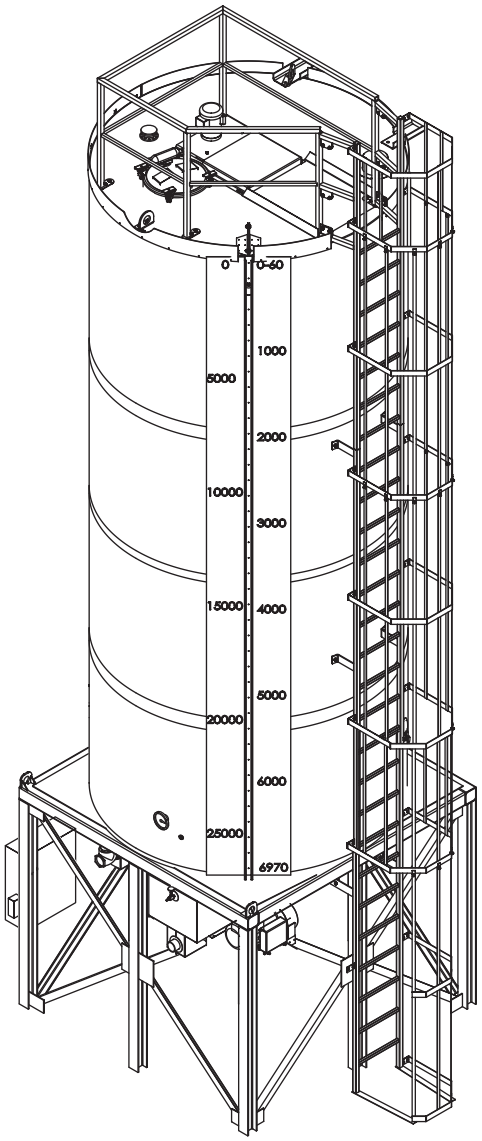
M-501-23

Starting with Serial Number A1207

ASPHALT STORAGE TANKS

Operation, Maintenance, Safety and Parts Manual





E. D. ETNYRE & CO. 1333 S. Daysville Road, Oregon, Illinois 61061

Phone: (815) 732-2116 or (800) 995-2116 • Fax: (800) 521-1107 • www.etnyre.com

PARTS / SERVICE: 888-586-1899 • CustomerService@etnyre.com

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HOW TO ORDER PARTS

To assure prompt delivery when ordering parts, please furnish the following information: **1)** Complete name and address of consignee. **2)** Method of shipment preferred. **3)** Serial numbers of units to which parts apply. **4)** Complete part numbers and descriptions. **5)** Any special instructions.

Specify unit serial number when ordering parts!

WARRANTY

Etnyre Trailer Co. warrants to the original Purchaser, its new product to be free from defects in material and workmanship for a period of six (6) months after date of delivery to original Purchaser. The obligation of the Company is limited to repairing or replacing any defective part returned to the Company and will not be responsible for consequential damages or any further loss by reason of such defect.

The company excludes all implied warranties of merchantability and fitness for a particular purpose. There are no warranties, express or implied, which extend beyond the description of the goods contained in this contract.

This warranty does not obligate the Company to bear the cost of machine transportation in connection with the replacement or repair of defective parts, nor does it guarantee repair or replacement of any parts on which unauthorized repairs or alterations have been made or for components not manufactured by the Company except to the extent of the warranty given by the original Manufacturer.

This warranty does not apply to:

(1) Normal start-up services, normal maintenance services or adjustments usually performed by the selling dealer, factory service representative or customer personnel.
(2) Any product manufactured by Etnyre Trailer Co. purchased or subjected to rental use.
(3) Any product or part thereof which shows improper operation, improper maintenance, abuse, neglect, damage or modification after shipment from factory.
(4) Any product or part thereof damaged or lost in shipment. Inspection for damage should be made before acceptance or signing any delivery documents releasing responsibility of the delivering carrier.

This warranty and foregoing obligations are in lieu of all other obligations and liabilites including negligence and all warranties of merchantability or otherwise, express or implied in fact or by law.

E. D. ETNYRE & CO., Oregon, Illinois 61061-9778
1333 South Daysville Road Phone: 800-995-2116 Fax: 800-521-1107 www.etnyre.com
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Reporting Safety Defects

If you believe that your vehicle has a defect which could cause a crash, injury, or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying E.D. Etnyre & Co.

If NHTSA receives similar complaints, it may open an investigation. If it finds a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or E.D. Etnyre & Co.

To contact NHTSA, you may call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 366-0123 in the Washington, D.C. area). Or, you may write to: U.S. Department of Transportation, Washington, D.C. 20696. You may also obtain other information about motor vehicle safety from the Auto Safety Hotline.

E. D. ETNYRE & CO. , Oregon, Illinois 61061-9778

1333 S. Daysville Road Phone: 815-732-2116 or 800-995-2116

Fax: Main Office 815-732-4277 Fax: Sales and Service 815-732-7400 Fax: Parts Dept Only 800-521-1107

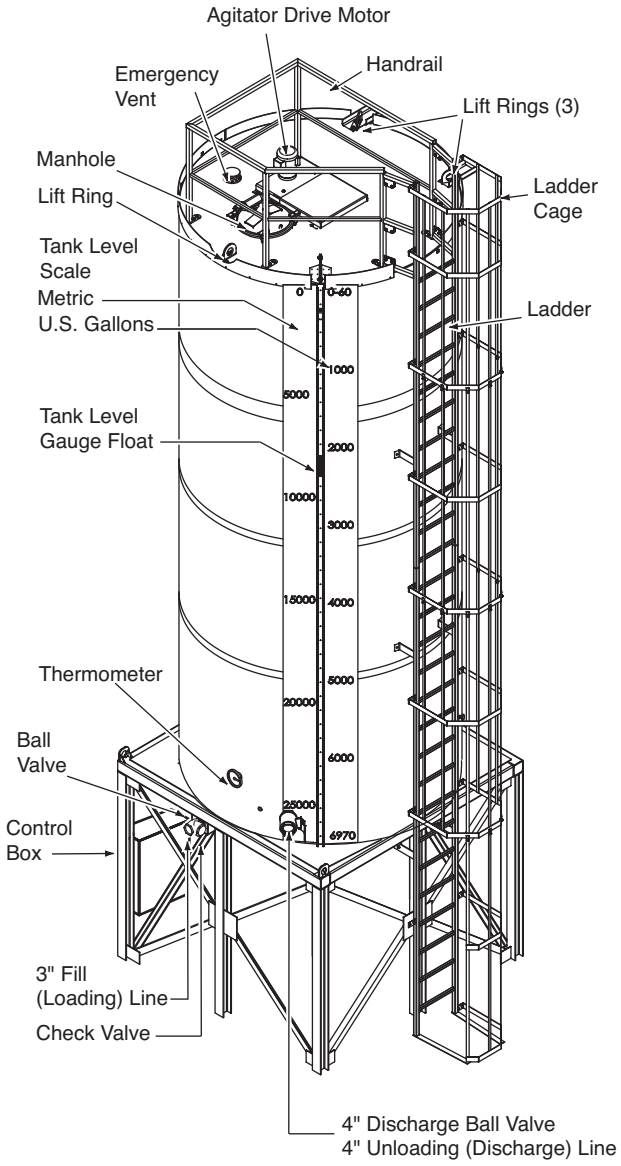
E Mail: sales@etnyre.com Web Site: www.etnyre.com

Table Of Contents

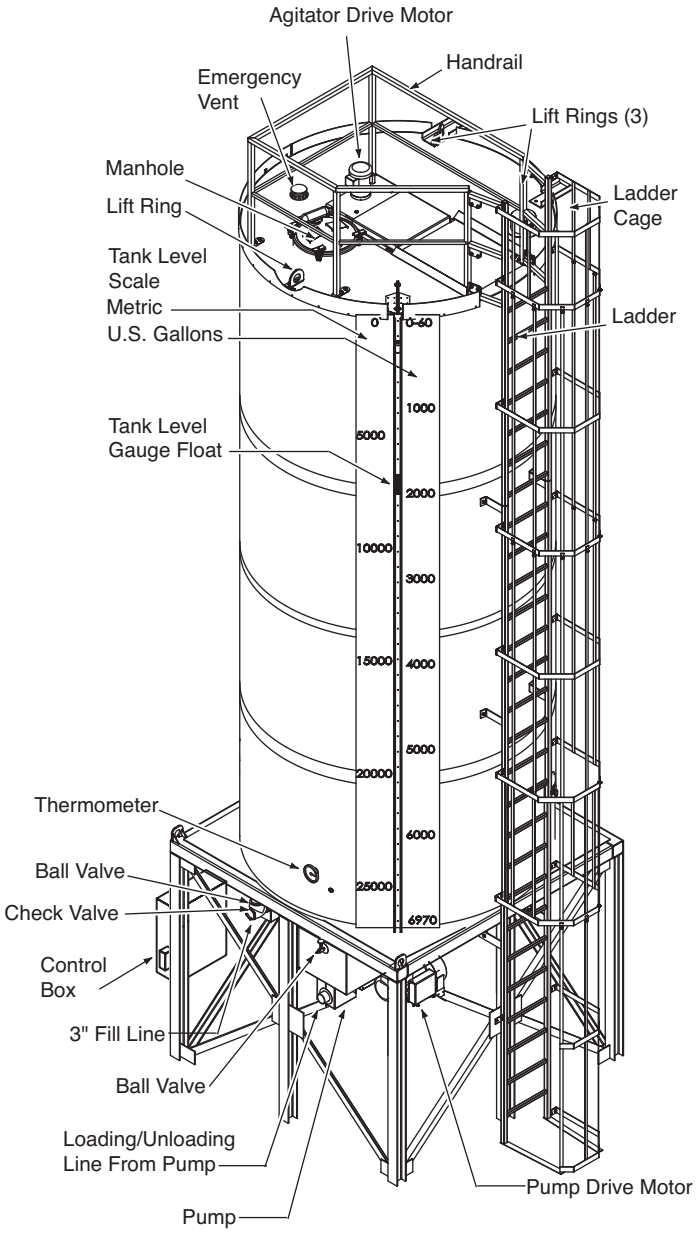
IMPORTANT

When filling the storage tank for the first time, carefully fill until the material level raises to the top of the manhole collar. This will coat the interior of the tank with a thin film of asphalt that will deter corrosion.

General Description



Gravity Storage Tank



Storage Tank with Pump

Tank

The asphalt storage tanks are provided with nominal capacities of 2,000, 3,000, 4,000, 5,000, 6,000 and 7,000 gallons. The tank level gauge on the side of the tank will identify the size of each particular storage tank. The tank is intended to store liquid asphalt up to, but not exceeding 240° F. At higher temperatures, the insulation will begin to deteriorate. The tank is equipped with a ladder to the top. The platform on top is equipped with handrails.The platform provides access to the hinged door on top of the tank, and the agitator drive mechanism. Some tanks are intended for gravity unloading, while others have pumps for unloading. The gravity tanks are mounted on seven foot high frames to allow gravity unloading into other small tanks. The tanks with pumps are mounted on three foot high frames, with the pump located below the tank.

Insulation

The tank is covered with a foil faced foam insulation, three inches thick. The insulation is intended to maintain the temperature of the heated asphalt. The insulation is covered with fiberglass reinforced plastic sheeting for weather protection.

Electric Heat

The tank is heated with twelve electric heat strips. The heaters are located between the insulation and the bottom of the tank. There are three strips under each panel on the bottom of the tank. Each heat strip is 240V and 800 Watts. The heat strips are wired in single phase, where single phase is provided and three phase, where three phase is provided. A thermostat located in the control box controls them. A light in the control box door indicates when the heaters are on.

Float Gauge

The tank is equipped with a float type level gauge. A float is hung from a cable passing through the top of the tank. The cable runs over two pulleys and down the side of the tank to an indicator weight. The white line on the indicator weight aligns with the number on the scale to determine the amount of liquid in the tank.

Agitator

The tank is equipped with an agitator to mix the contents of the tank. The agitator is a propeller supported on a vertical shaft inside the tank. The propeller shaft is supported by a bushing at the bottom and a ball bearing at the top. The height of the propeller from the bottom of the tank is adjustable. The agitator is driven by a one horse power, 115 volt motor. This motor is located at the top of the tank. The motor drives the agitator through a gear box and a belt drive, to reduce the speed. The agitator is controlled by an electronic timer, located in the control box. The timer may be programmed to turn the agitator on and off at 8 selected times.

⚠ WARNING

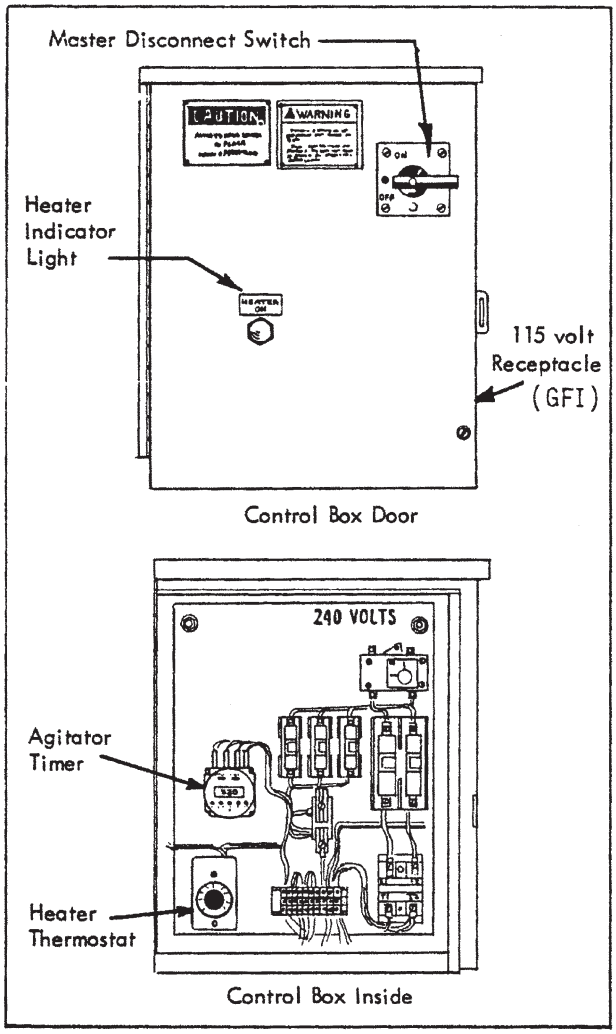
The agitator is controlled by a timer and may start unexpectedly. Stay clear.

Control Box

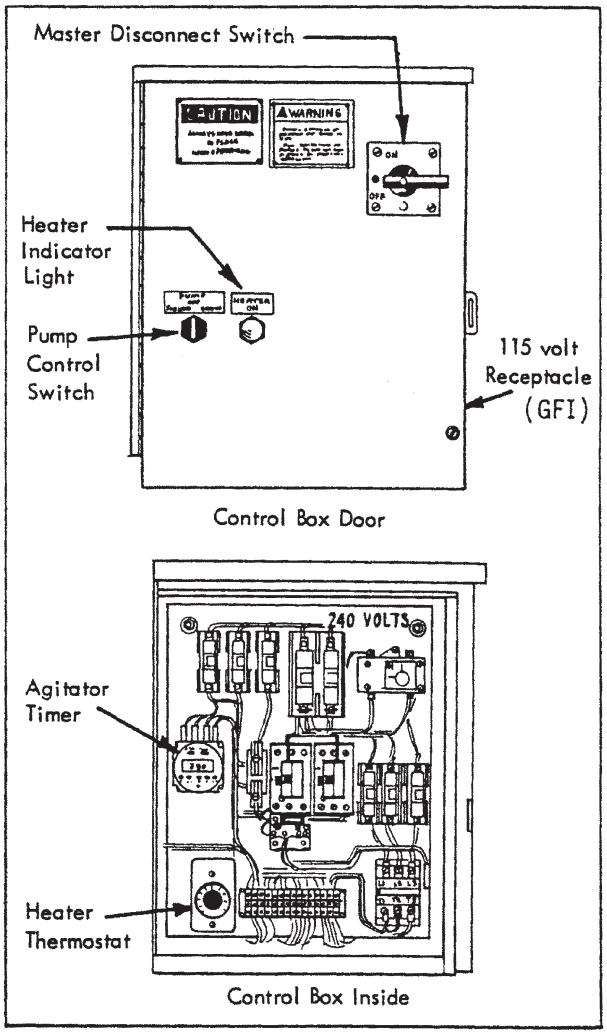
The control box is located at the left front corner of the storage tank frame. In the door of the control box is a master disconnect or switch which controls power for all of the electrical functions. A heater indicator light is also located in the door, indicating when the heaters are on. On tanks with pumps, a pump, forward, off and reverse switch will be located in the control box door as well. Inside the box are the various fuses and contactors to operate the electrical equipment. A timer for the agitator and a thermostat for the heaters is also located inside the control box. On the right side of the control box is a 115 volt receptacle (GFI), that may be used for powering lights or hand tools up to 15 amp capacity.

⚠ WARNING

Turn main power off at control panel before making repairs or adjustments.



CONTROL BOX - Gravity Tanks



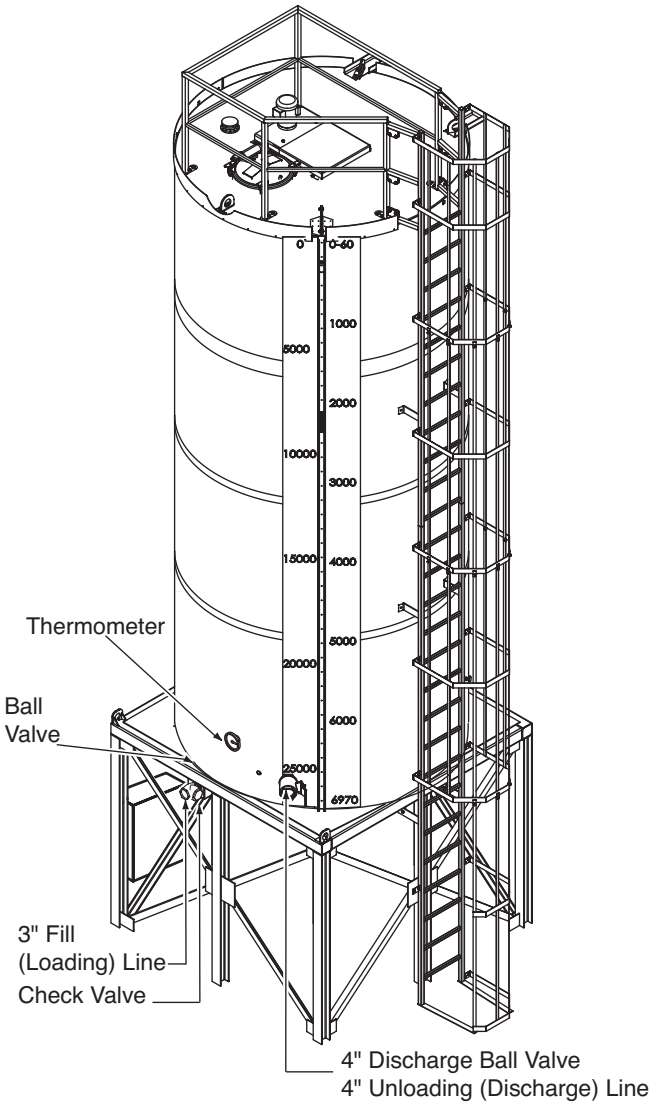
CONTROL BOX - Tanks with Pump

Thermometer

A dial thermometer is located in a dry well in the side of the tank. The thermometer indicates the temperature of the asphalt in the tank. The thermometer may be removed from the well with asphalt in the tank.

Plumbing (Gravity Tanks)

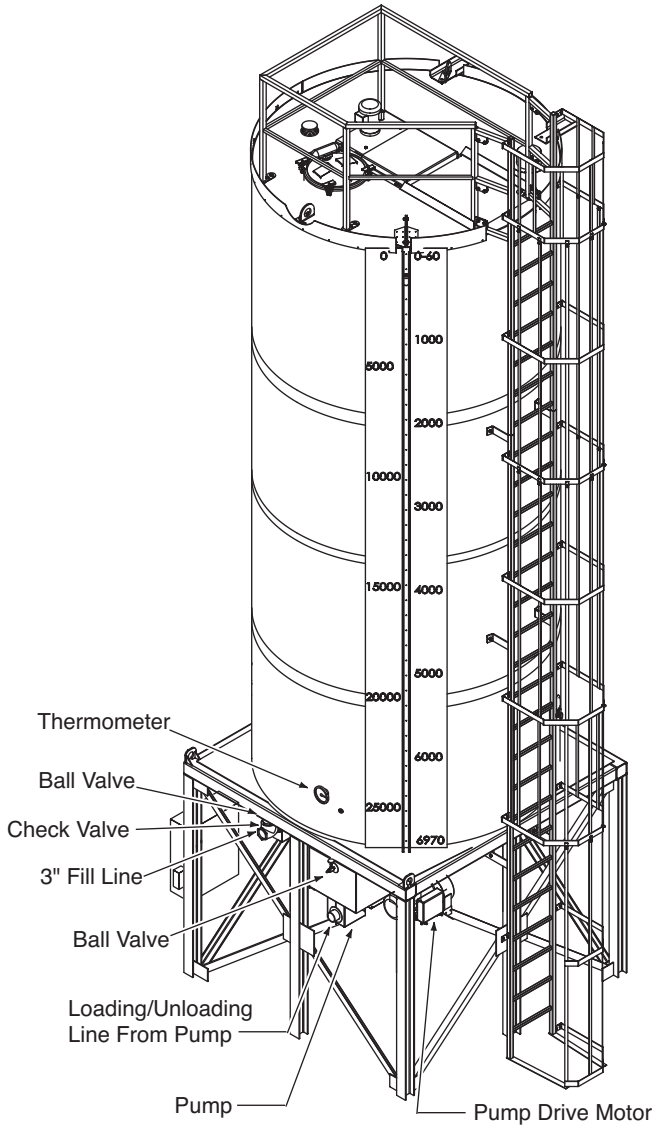
A four inch diameter line in the side of the tank is used to load other small tanks from the storage tank. A lever operated ball valve is located in this line. A four inch by 12 foot loading hose is provided. A three inch line at the bottom of the tank is used for unloading transport tanks into the storage tank. A lever operated ball valve, and a check valve are located in this line. Both of these lines are insulated and heated with 115 volt heat tape. The heat tape is on whenever the master switch in the control panel door is on.



Gravity Storage Tank

Plumbing (Pump Tanks)

A three inch diameter line runs from the bottom of the tank to the pump. A lever operated ball valve is located in this line. The pump is belt driven by a ten horsepower, 240 volt electric motor. It may be used to pump out of the storage tank (forward) into other small tanks, or used to pump (reverse) into the storage tank from a transport tank. A three inch by 12 foot loading hose is provided. Another three inch line, from the bottom of the tank may be used for loading the storage tank from a transport tank. A lever operated ball valve and a check valve are located in this line. Both of these lines are insulated and heated with 115 volt heat tape. The heat tape is on whenever the master switch in the control panel door is on.



Tank with Pump

Safety Instructions

Safety warnings have been provided to call attention to any potentially hazardous situation that may cause property damage, personal injury or death to the operator or bystanders. These safety warnings are identified by the following warning symbols:

DANGER - Alerts you to immediate hazards which will result in severe personal injury or death.

WARNING - Alerts you to hazards which may cause severe personal injury or death.

CAUTION - Hazards or unsafe practices which could result in minor personal injury or product or property damage.

NOTE - Provides general information that the operator should be aware of when performing an operation.

All of these warnings appear throughout the manual.

As with any type of equipment, there are certain hazards associated with improper or careless operation. The ability to read and understand the instructions in this manual should be a required qualification to become an operator.

Hot Surfaces

Since this tank is intended to store hot liquid asphalt, the surfaces of the tank and equipment may be hot. All surfaces and equipment should be considered to be hot. Wear insulated gloves and protective clothing to prevent burns. The piping is heated with electric heat tape, it will be hot even though it has not been used recently.

Hot Liquids

The liquids stored in this tank are hot. The piping and hoses used to transfer the liquids are hot. Wear insulated gloves, protective clothing and a face shield when transferring hot liquids, or handling hot liquid hoses to avoid burns. Stay clear of piping that may contain hot liquids. Leave all valves closed (with handles at right angles to the valve), unless you are performing an operation which requires a valve to be opened. Do not open valves unless you are prepared for asphalt to flow.

Electrical Shock

This equipment is powered by high voltage electricity. To avoid electrical shock causing personal injury or death, do not attempt to make repairs or adjustments without turning the main power off at the control panel. Do not attempt to operate this equipment with the control panel door open.

Moving Parts

This equipment contains moving parts, turning shafts, pulleys and belts. Keep all guards in place when operating. The agitator is controlled by a timer and may start unexpectedly. To avoid entanglement, do not attempt to make repairs or adjustments without turning the main power off at the control panel.

Falls

To avoid falls that could result in death or serious injury, do not climb over the guard rails on top of the tank for any reason. Be careful when working on top of the tank to avoid dropping tools or parts that could strike somone on the ground.

Tank Entrance

To avoid unauthorized entrance to the tank, keep the hinged door on top of the tank locked at all times.

Preparation For Use

Inspection

Unpack the ladder, ladder cage and handrail. Check for damage that may have occurred during shipment. Visually inspect the tank, particularly the tank jacket and insulation for damage that may have occurred during shipment. Report any damage to the driver delivering the tank.

Setting Tank in Place

1. Install ladder, ladder cage and hand rails before lifting tank to the upright position. Securely tighten all fasteners.

CAUTION

Do not stand the storage tank upright without being prepared to weld the legs immediately. High winds can overturn a tank which has not been properly anchored.

2. The tank level gauge float has been secured to the roof of the tank for shipment. Free the float from the roof before lifting the tank to the upright position. Slide the float down the guide cable to the bottom of the tank.

3. All nine tank legs must be fully welded to steel foundation pads, with at least 1/4 inch fillet welds, all the way around each leg. Foundation pads must be securely anchored to the concrete foundation.

WARNING

To avoid falls that could result in death or serious injury, do not climb over the guard rails on top of the tank for any reason.

Keep all guards in place when operating.

Connecting Power

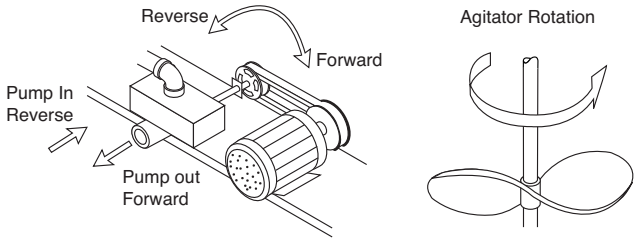
DANGER

This equipment is powered by high voltage electricity.

220 volt single phase power is required for gravity tanks. 240 volt three phase power, with a neutral wire is required for tanks with pumps. Power connection and wiring should be done by a qualfied electrician, to conform to local and national electric codes.

Start Up Rotating Devices

Turn the agitator on and observe the rotation of the shaft and propeller inside the tank. The direction should match the diagram below. If it does not, corrections to the wiring must be made. On tanks with pumps, turn the pump to forward momentarily, and observe the direction of rotation of the pulleys. The direction should match the diagram below. If it does not, corrections to the wiring must be made.



Check for proper rotation of agitator and pump motor

IMPORTANT

When filling the storage tank for the first time, carefully fill until the material level raises to the top of the manhole collar. This will coat the interior of the tank with a thin film of asphalt that will deter corrosion.

WARNING

The agitator is controlled by a timer and may start unexpectedly. Stay Clear.

General Operating Instructions

Heater Operation

1. Do not operate the heaters unless there is at least 150 gallons of asphalt in the tank.

2. Turn the master power switch off and open the control box door.

3. Set the desired temperature on the thermostat knob.

4. Close the control box door and turn the master power switch on.

5. The heaters will turn on and off automatically to maintain the set temperature.

6. The indicator light on the control box door will turn on whenever the heaters are on.

WARNING

This equipment is powered by high voltage electricity. Turn main power off at control panel before making repairs or adjustments.

WARNING

All surfaces and equipment should be considered to be hot. Wear insulated gloves and protective clothing to prevent burns.

Agitator Operation

1. Do not run the agitator when the tank is empty. The lower bearing is lubricated by the asphalt. Running the agitator without asphalt may cause damage to the bearing and shaft.

2. Do not run the agitator when there is less than the amount of asphalt shown in the following chart. Less than the amount shown below will expose the propeller blades, and cause splashing of the asphalt. Splashing of asphalt emulsions may cause them to separate.

Minimum Amount of Asphalt in Tank for Agitation

Nominal Tank Capacity	Minimum Amount
2000 gallon	400 gallon
3000 gallon	720 gallon
4000 gallon	840 gallon
5000 gallon	950 gallon
6000 gallon	1020 gallon
7000 gallon	1200 gallon

3. The agitator may be run continuously by turning it on with a switch on the timer, or set to turn on and off at certain times of the day and days of the week by programming the timer. The master power switch on the door of the control box must be on to run the agitator. Follow the timer programming instructions below for timed operation.

WARNING

The agitator is controlled by a timer and may start unexpectedly. Stay Clear.

WARNING

Keep all guards in place when operating.

Timer Programming Instructions

1. Setting the current time and current day

- slide “RUN” switch to left symbol of clock face.
- press 1....7 button until arrow points to current day (1=Monday, 2=Tuesday, etc.). Press “h” then “m” buttons to set the current time. The “PM” indicator shows noon to 11:59 p.m,
- slide “RUN” switch to “run”. The clock colon will blink between the hours and minutes.

2. Setting each cycle to “switch on”

- slide the “RUN” switch to “P”; a “1” indicates this is the first switch cycle and a “bulb” icon indicates a switch-on condition (circuit closes). (Hint: odd numbers indicate a “switch-on” cycle.)
- press 1....7 button until arrows point to selected day(s) you want this ON cycle to occur.
- press “h” and “m” buttons to show switch-on time, noting the “PM” indicator.

3. Setting each cycle to “switch off”

- slide “RUN” switch to “P”. Press “p” button, note that switch cycle number changes to 2 and bulb blinks, indicating switch-off (circuit opens). (Hint: even numbers indicate a “switch-off” cycle).
- press 1...7 button until arrows point to selected day(s) you want this OFF cycle to occur.
- press “h” and “m” button to select switch-off time.

4. Autorun mode

- set time and day and desired switch cycles.
- slide set switch to “RUN” and mode switch to “AUTO”. Switching will begin with the next switch-on set time.

5. To switch the override ON

- slide mode switch to “I”.
- the switch remains on indefinitely (circuit closed).

6. To switch the override OFF

- slide mode switch to “0”.
- the switch remains off indefinitely (circuit open).

7. Skip cycle

- in automatic run mode, press the “X⟶” button, the next program is skipped.

8. Setting error

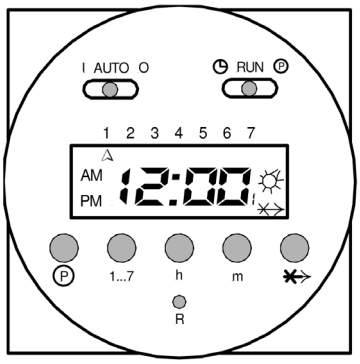
- If “EEE” appears, a setting error exists. The switch cycle number in error is shown. Slide set switch to “p”. Press button until cycle is shown. Review this and the following setting to correct error. Slide set switch to “RUN”.

9. Clear any setting

- slide the “RUN” switch to “P”, press the lower “P” button to show switch cycle you want to clear.
- press 1....7 button until no days are indicated. Repeat for the following switch cycle. This on/off cycle is now inactive.

10. Clear all

- To erase all settings, press “R”.



Gravity Tank Operating Instructions

Filling Gravity Storage Tanks From Transport

1. Connect the transport tanker's hose to the outlet line on the transport tanker.

2. Connect the hose from the transport tanker to the 3 inch fill line on the storage tank.

3. Open the valve on the storage tank and on the transport tanker.

4. Start the pump on the transport tanker to pump into the storage tank.

5. Watch the tank level gauge on the storage tank to protect against over filling the storage tank.

6. When filling is complete, stop the pump on the transport tanker.

7. Clean the hoses are directed by the transport tanker operating instructions.

8. Close the valves on the storage tank and on the transport tanker.

9. Disconnect the hose from the storage tank.

WARNING

Do not open valves unless you are prepared for asphalt to flow. The Liquids stored in this tank are hot.

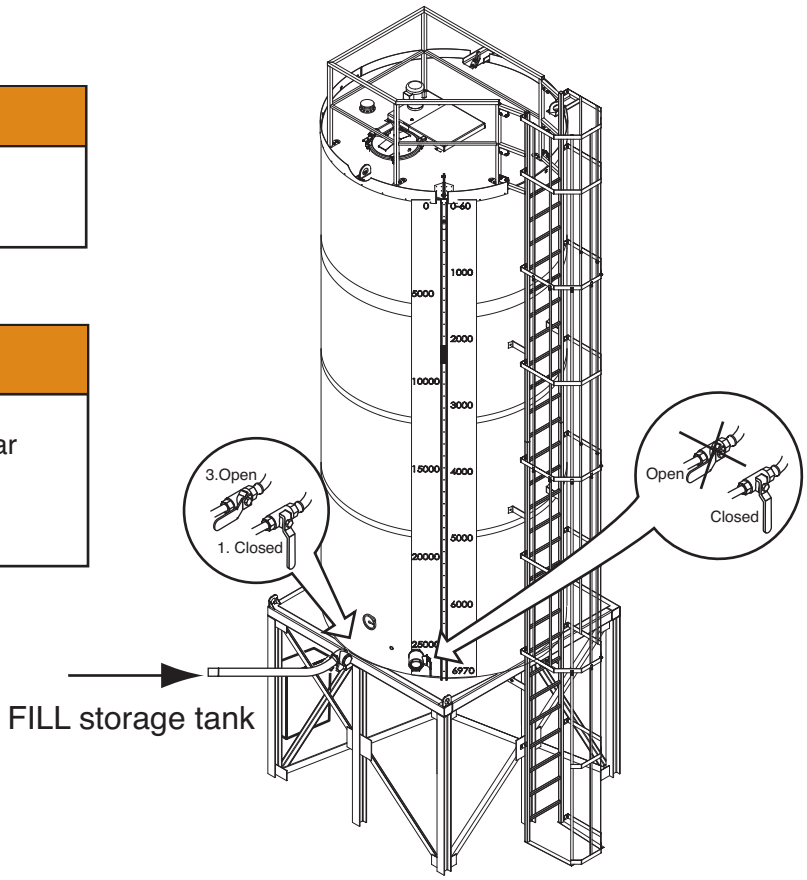
WARNING

All surfaces and equipment should be considered to be hot.

WARNING

The liquids stored in this tank are hot. Wear gloves and protective clothing when transferring or handling hoses.

Gravity Storage Tank



Unloading Gravity Storage Tank Into Asphalt Distributors or Kettles

1. Connect the four inch hose to the discharge line on the storage tank.

2. Connect the other end to the distributor or kettle being loaded.

3. Open the four inch discharge valve on the storage tank.

4. Before the distributor or kettle is completely full, close the four inch valve on the storage tank and let the hose drain into the cargo tank or kettle being loaded.

5. Disconnect the hose from the distributor or kettle being loaded.

WARNING

Do not open valves unless you are prepared for asphalt to flow. The Liquids stored in this tank are hot.

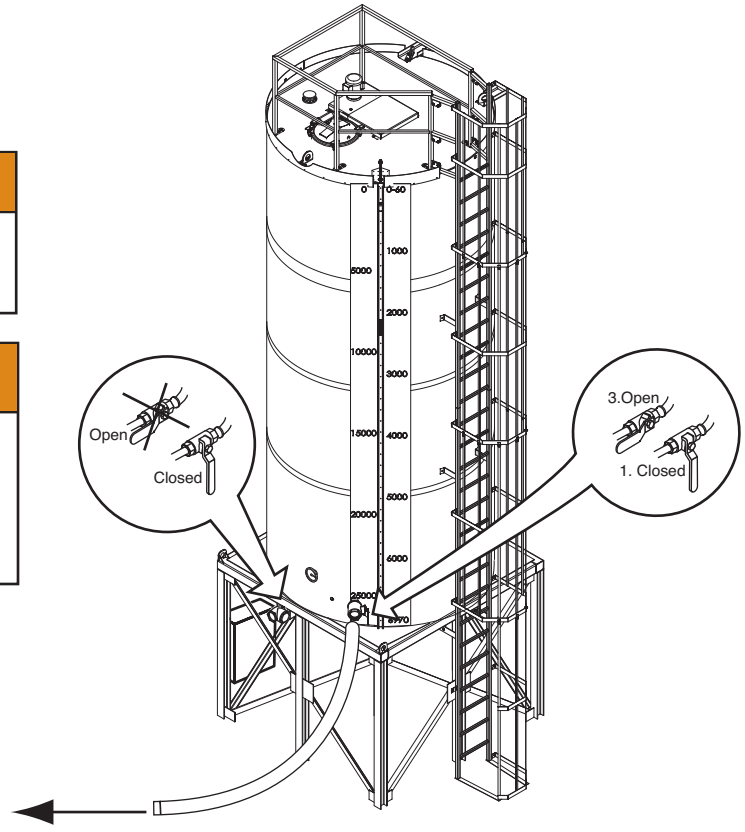
WARNING

All surfaces and equipment should be considered to be hot.

WARNING

The liquids stored in this tank are hot. Wear gloves and protective clothing when transferring or handling hoses.

Gravity Storage Tank



UNLOAD storage tank
LOAD cargo tanks and kettles

Pump Tank Operating Instructions

Filling Storage Tanks With Pumps From Transport Tanker

1. Connect the transport's hose to the outlet line on the transport tanker.

2. Connect the hose from the transport tanker to the 3 inch fill line on the storage tank.

3. Open the valve on the storage tank and on the transport tanker.

4. Start the pump on the transport tanker to pump into the storage tank.

5. Watch the tank level gauge on the storage tank to protect against over filling the storage tank.

6. When filling is complete, stop the pump on the transport tanker.

7. Clean the hoses are directed by the transport tanker operating instructions.

8. Close the valves on the storage tank and on the transport tanker.

9. Disconnect the hose from the storage tank.

WARNING

Do not open valves unless you are prepared for asphalt to flow. The Liquids stored in this tank are hot.

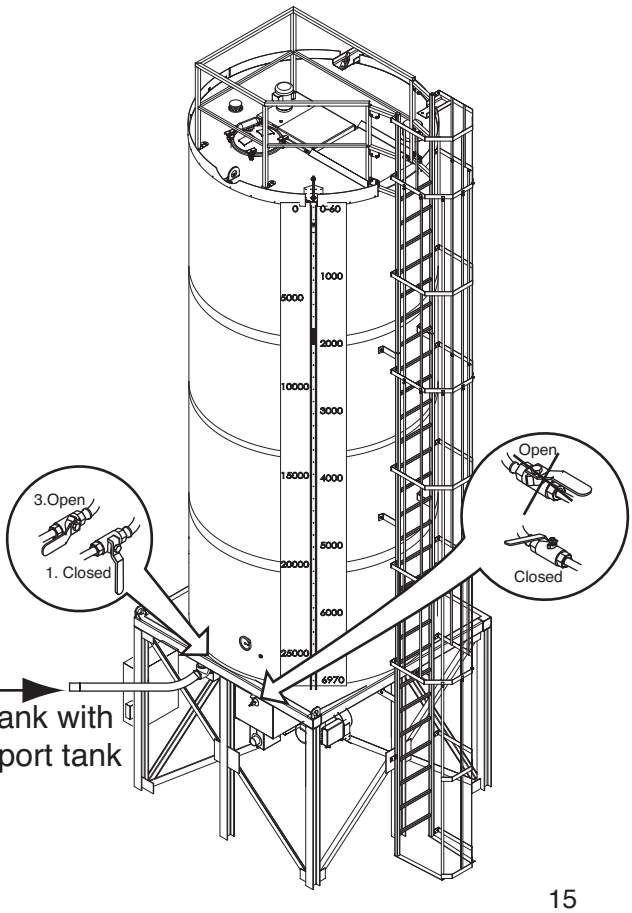
WARNING

All surfaces and equipment should be considered to be hot.

WARNING

The liquids stored in this tank are hot. Wear gloves and protective clothing when transferring or handling hoses.

Storage Tank with Pump



Unloading Storage Tank with Pumps Into Asphalt Distributors or Kettles

1. Connect the three inch hose to the discharge pipe on the storage tank pump.

2. Connect the other end to the distributor or kettle being loaded.

3. Open the three inch valve between the storage tank and the pump on the storage tank.

4. Open the valve on the distributor or kettle being loaded if there is one.

5. Turn the pump switch to forward.

6. Before the distributor or kettle is completely full, close the three inch valve on the storage tank.

7. Turn the pump switch to off.

8. If there is a valve on the distributor or kettle, close it.

9. If you are loading the distributor or kettle through a top opening, raise the end of the hose above the level of the liquid in the distributor or kettle.

10. Open the valve between the storage tank and the pump.

11. Turn the pump switch to reverse, and draw the material from the hose and pump it back into the storage tank to clean the hose.

12. If the hose is connected to piping on the distributor or kettle, crack open the hose connection or open the breather vent valve on the distributor or kettle if there is one. This will allow air to flow through the hose to clean it.

13. Disconnect the hose from the distributor or kettle and raise the end so that any asphalt remaining in the hose can drain back to the pump.

14. Once the hose is clean, close the valve between the asphalt tank and the pump.

15. Turn the pump switch to off.

WARNING

Do not open valves unless you are prepared for asphalt to flow. The Liquids stored in this tank are hot.

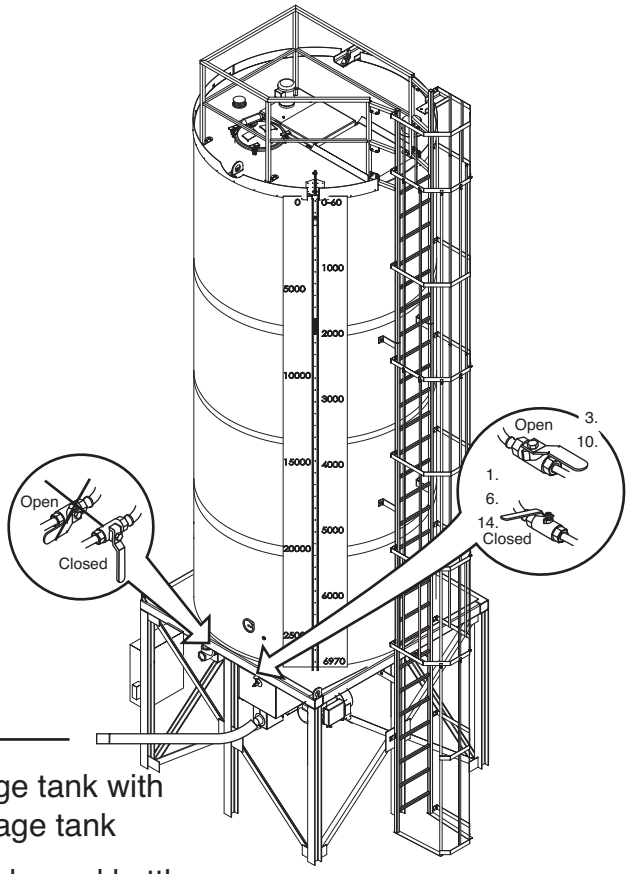
WARNING

All surfaces and equipment should be considered to be hot.

WARNING

The liquids stored in this tank are hot. Wear gloves and protective clothing when transferring or handling hoses.

Storage Tank with Pump



UNLOAD storage tank with pump on storage tank

LOAD cargo tanks and kettles

Cleaning Asphalt Pump

1. With the hose connected to the pump discharge pipe, put the loose end of the hose in a bucket.

2. Check the area for sources of flame, lit cigarettes, torches or lighters. Extinguish all sources of flame.

3. Put the end of the small hose attached to the breather vent valve in a bucket of diesel fuel or kerosene.

4. Hold the hoses to avoid being splashed.

5. While holding the hoses securely, turn the pump switch to forward momentarily. This will draw the solvent from the bucket, pump it through the pump and out into the other bucket.

6. Turn the pump switch to off.

7. Drain the remaining solvent from the three inch hose into the bucket.

WARNING

Do not open valves unless you are prepared for asphalt to flow. The Liquids stored in this tank are hot.

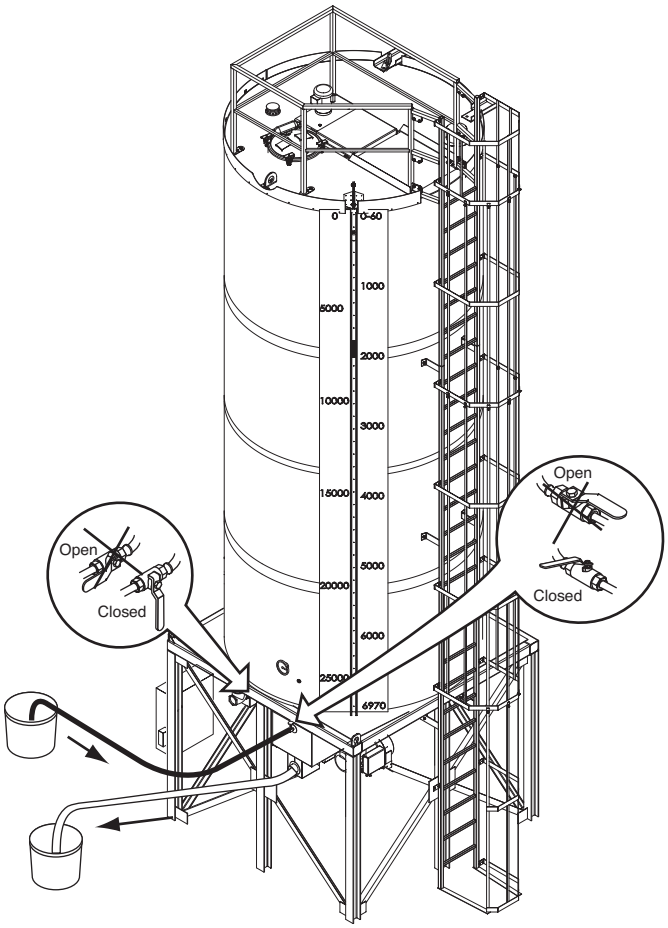
WARNING

Extinguish all sources of flame,lit cigarettes, torches or lighters

WARNING

All surfaces and equipment should be considered to be hot. Wear insulated gloves and protective clothing to prevent burns.

Storage Tank with Pump



Wiring - 240V / 1Ph System

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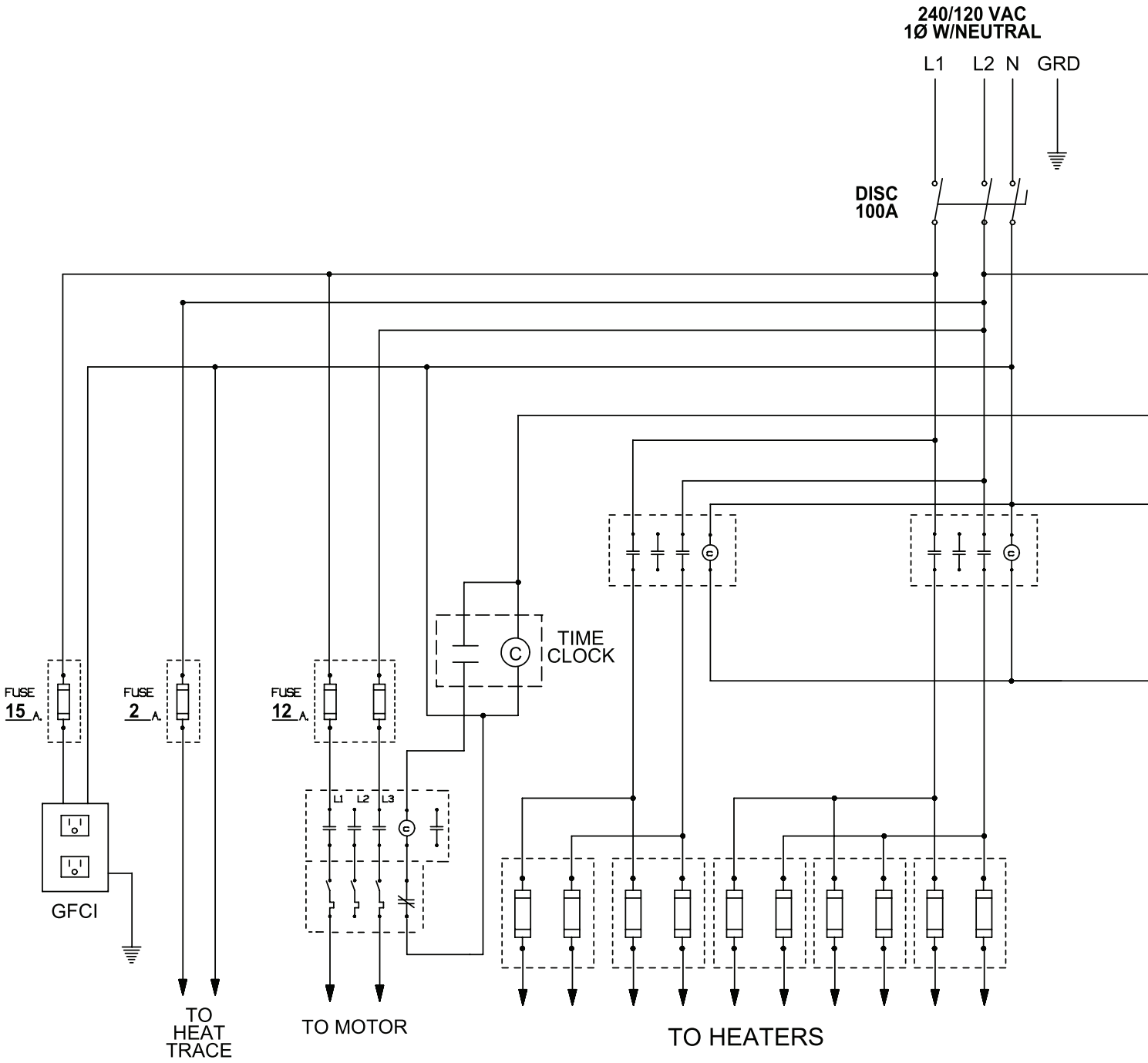
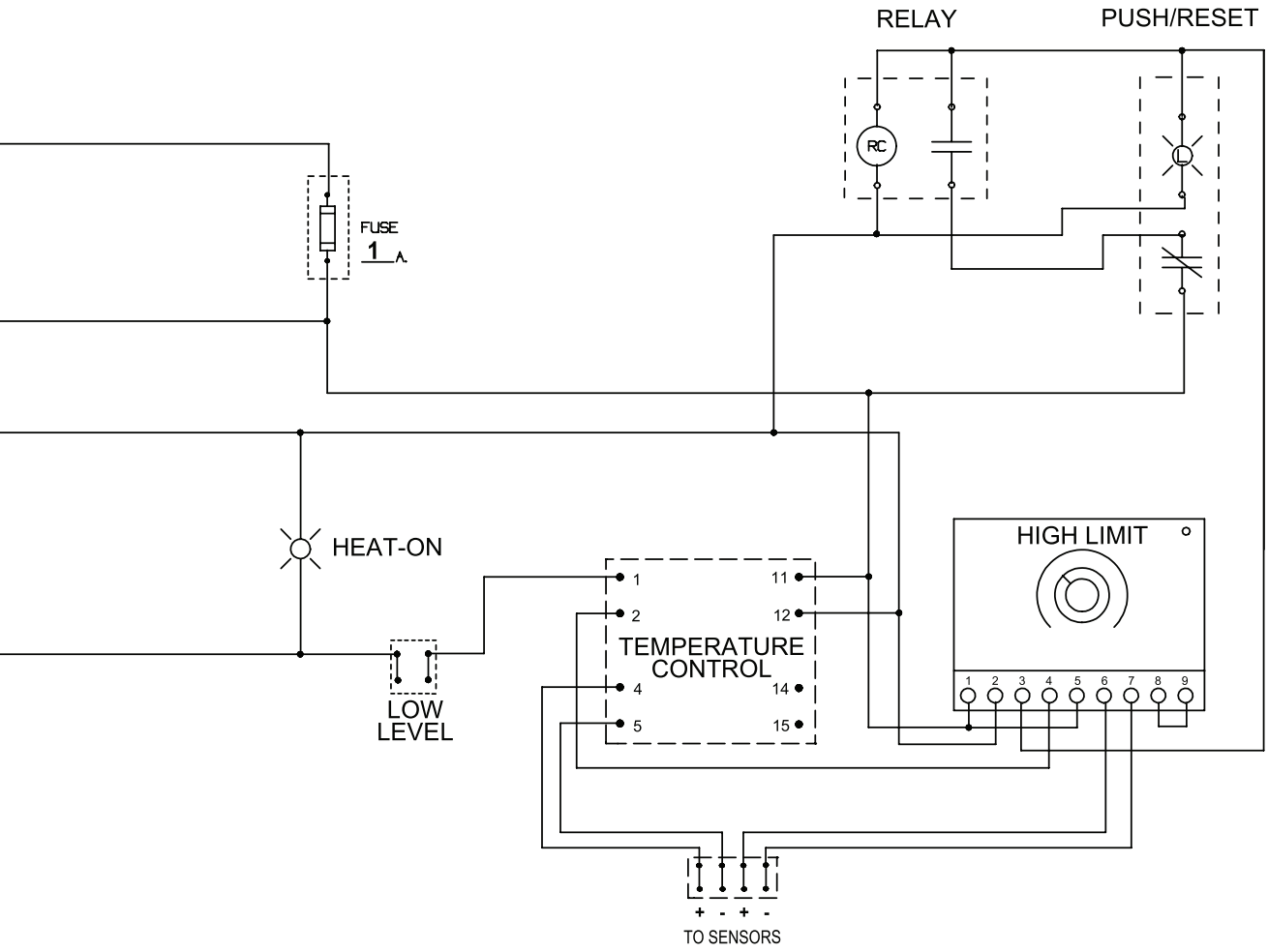


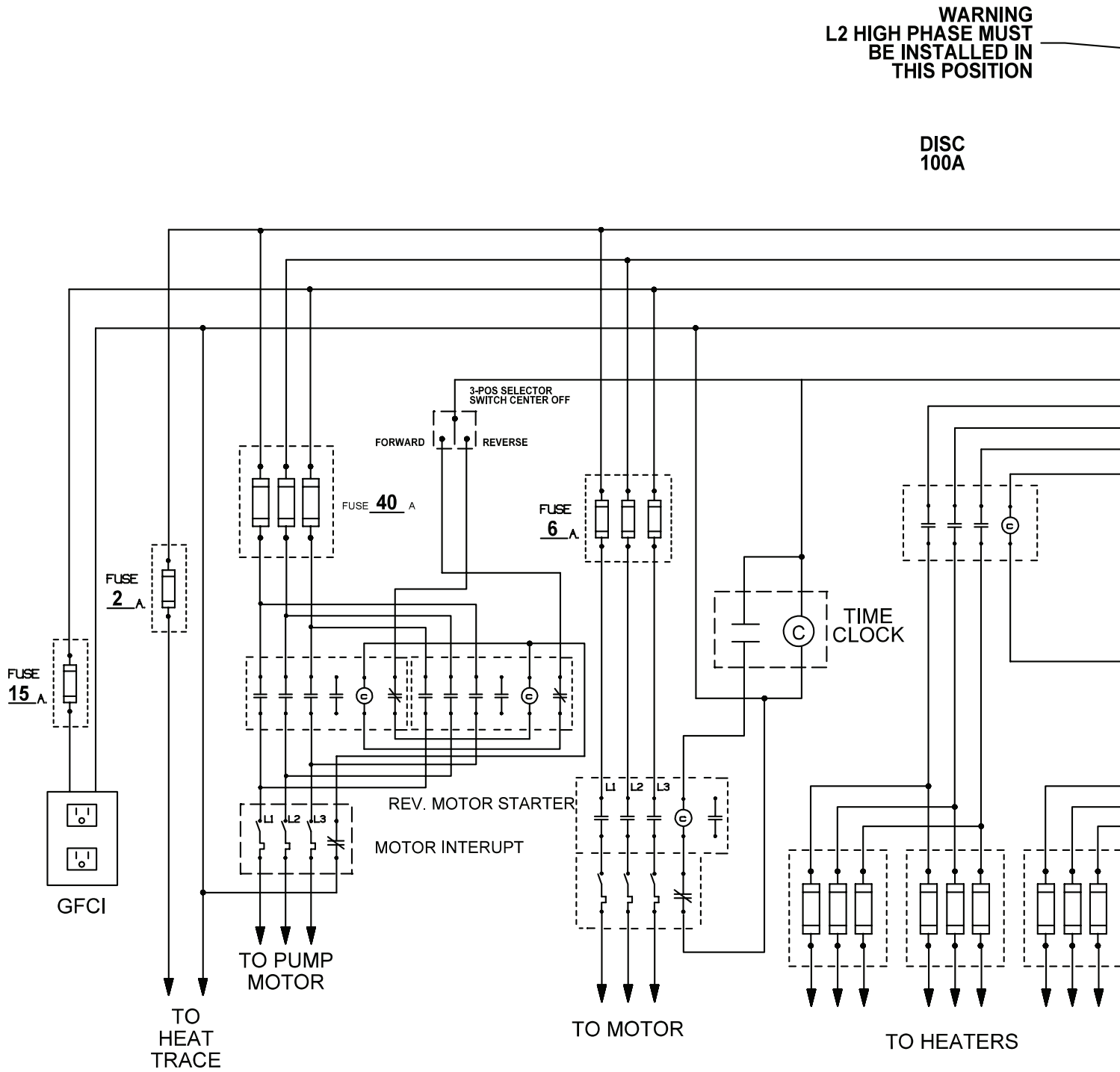
Wiring - 240V / 1Ph System

6500531



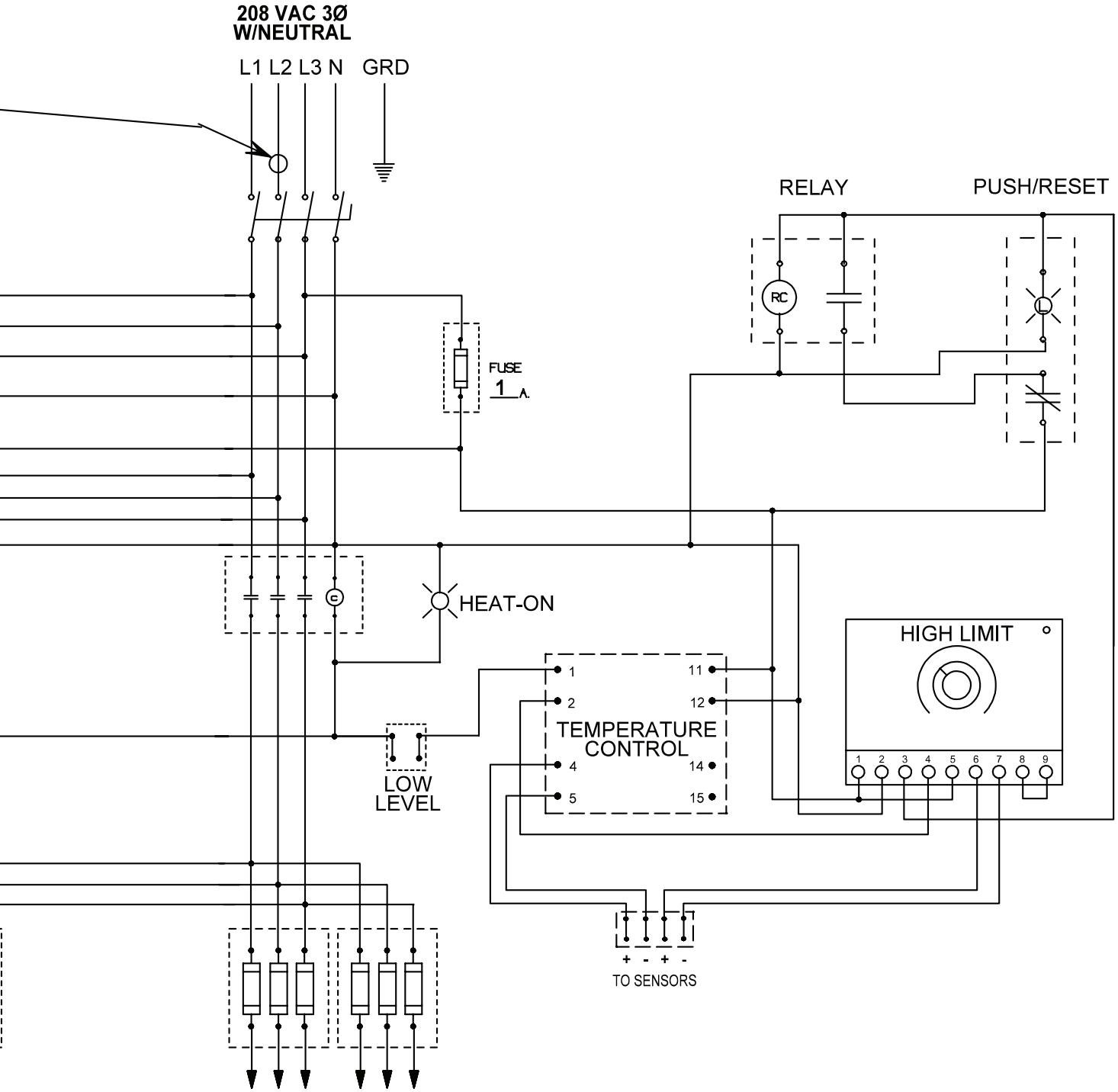
Wiring - 208V / 3Ph w/ Pump System

6500532



Wiring - 208V / 3Ph w/ Pump System

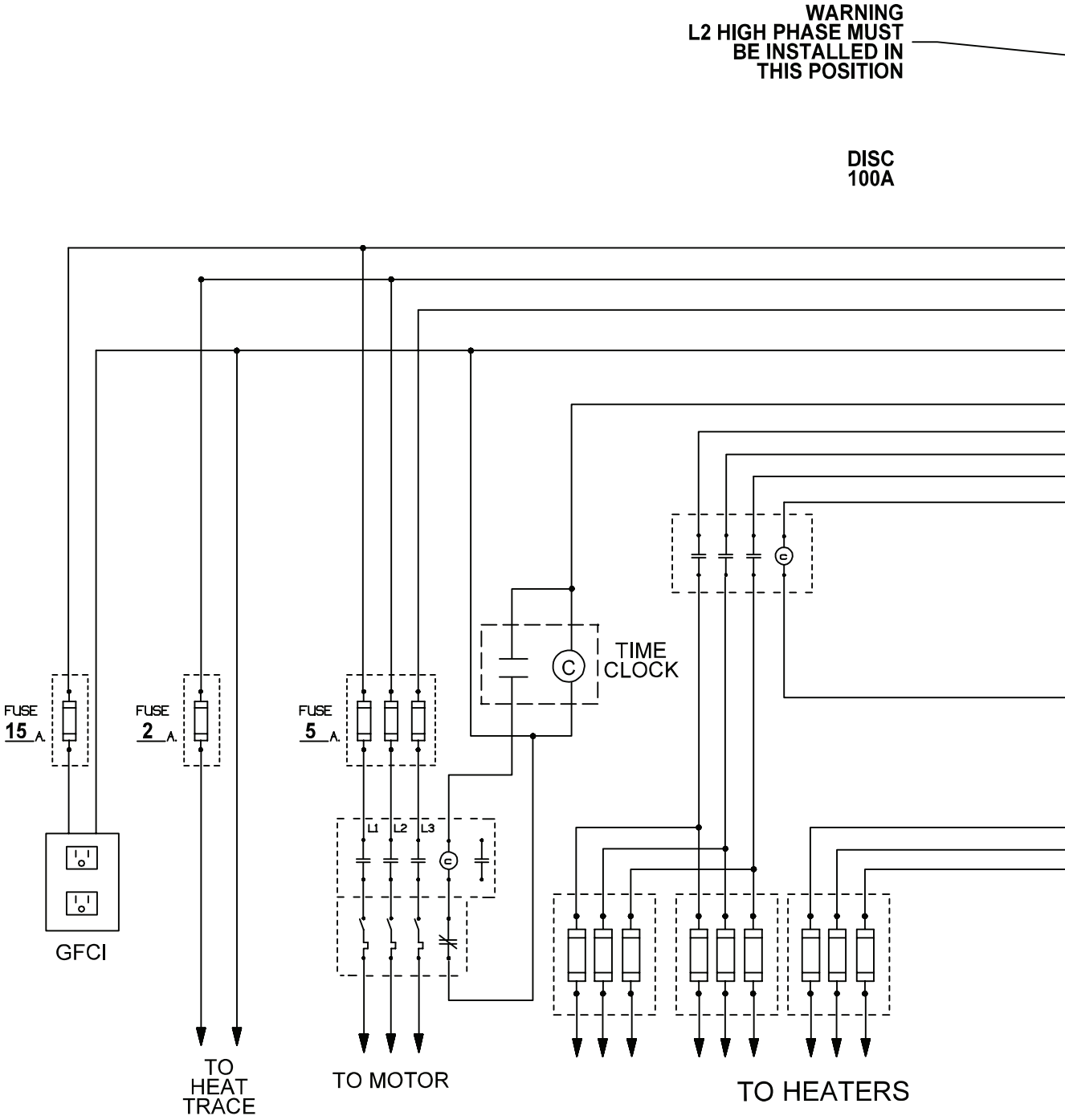
6500532



LOAD FUSES	**KLKR015**
CURRENT DRAW	**8.3A**
KW	**3**

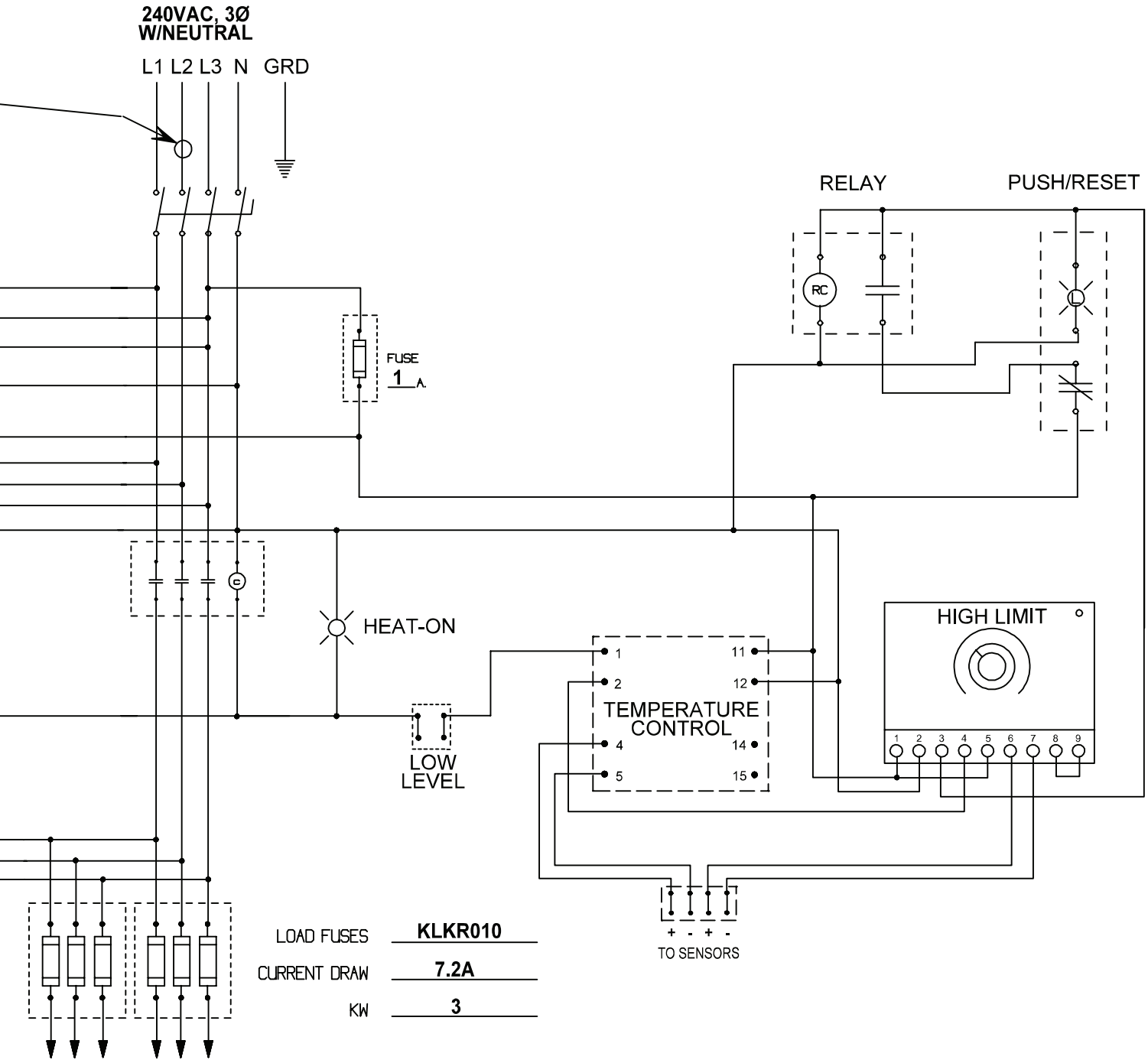
Wiring - 240V / 3Ph System

6500535



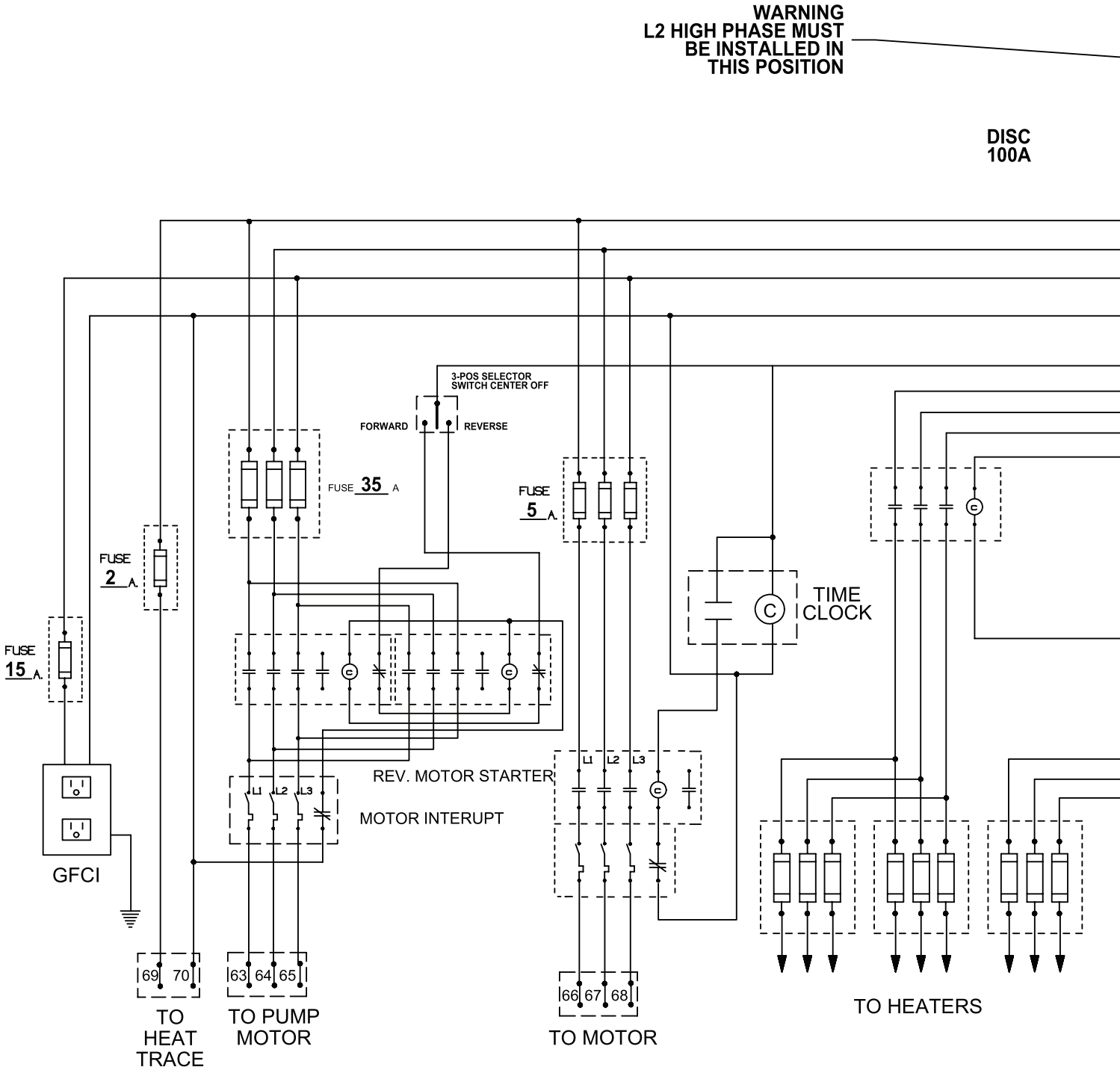
Wiring - 240V / 3Ph System

6500535



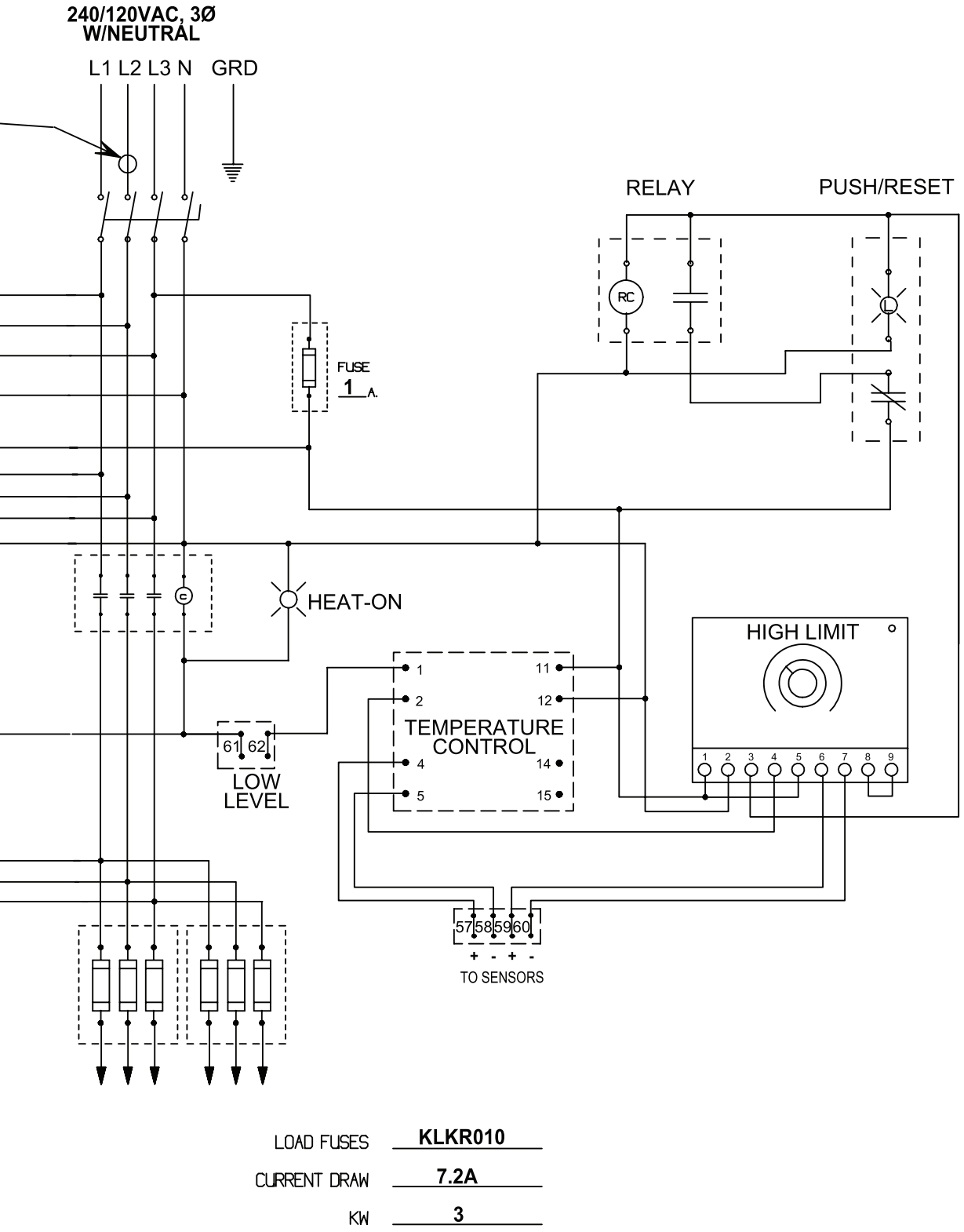
Wiring - 220V / 3Ph w/ Pump System

6500538



Wiring - 220V / 3Ph w/ Pump System

6500538



LOAD FUSES	**KLKR010**
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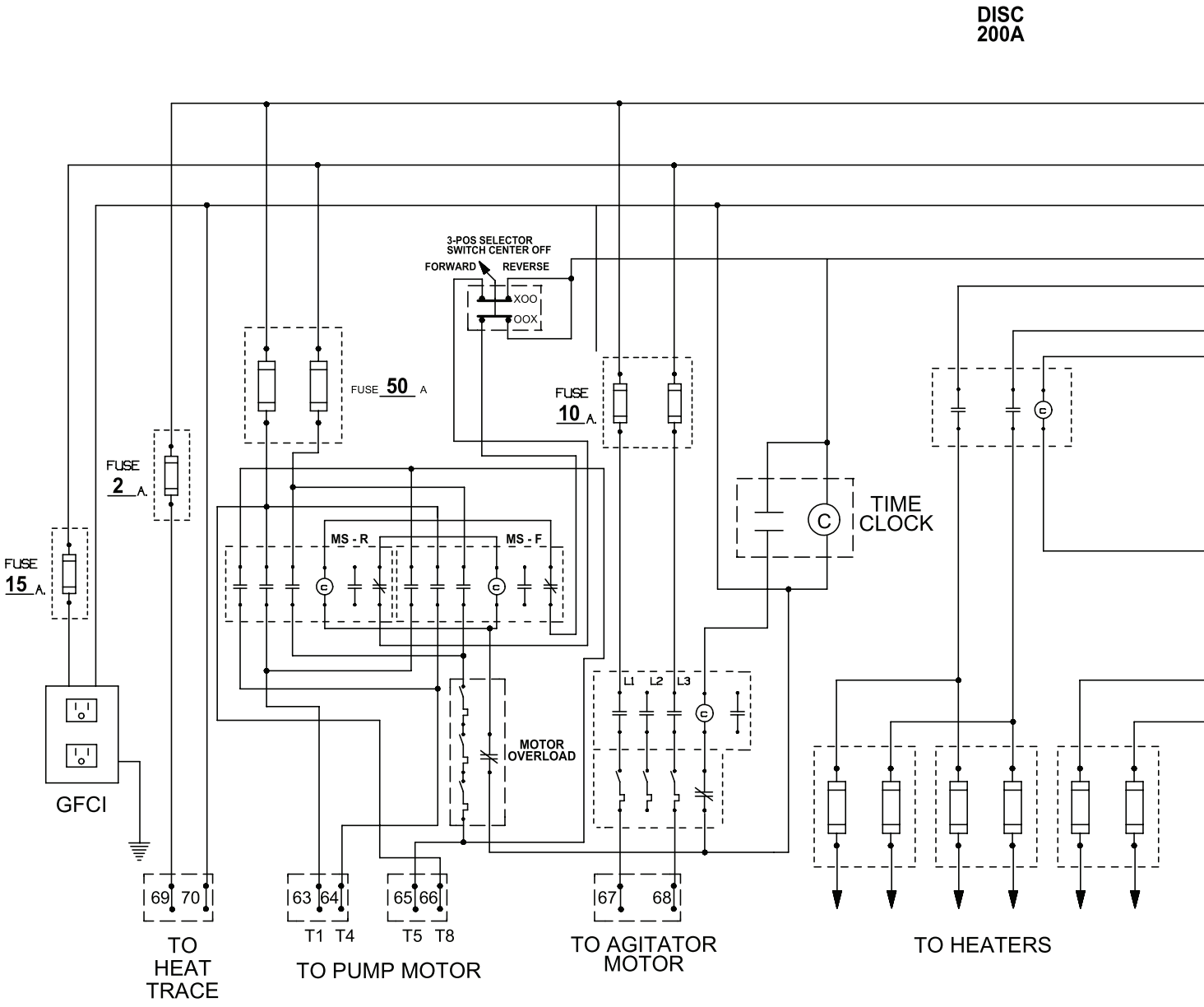
KW	**3**

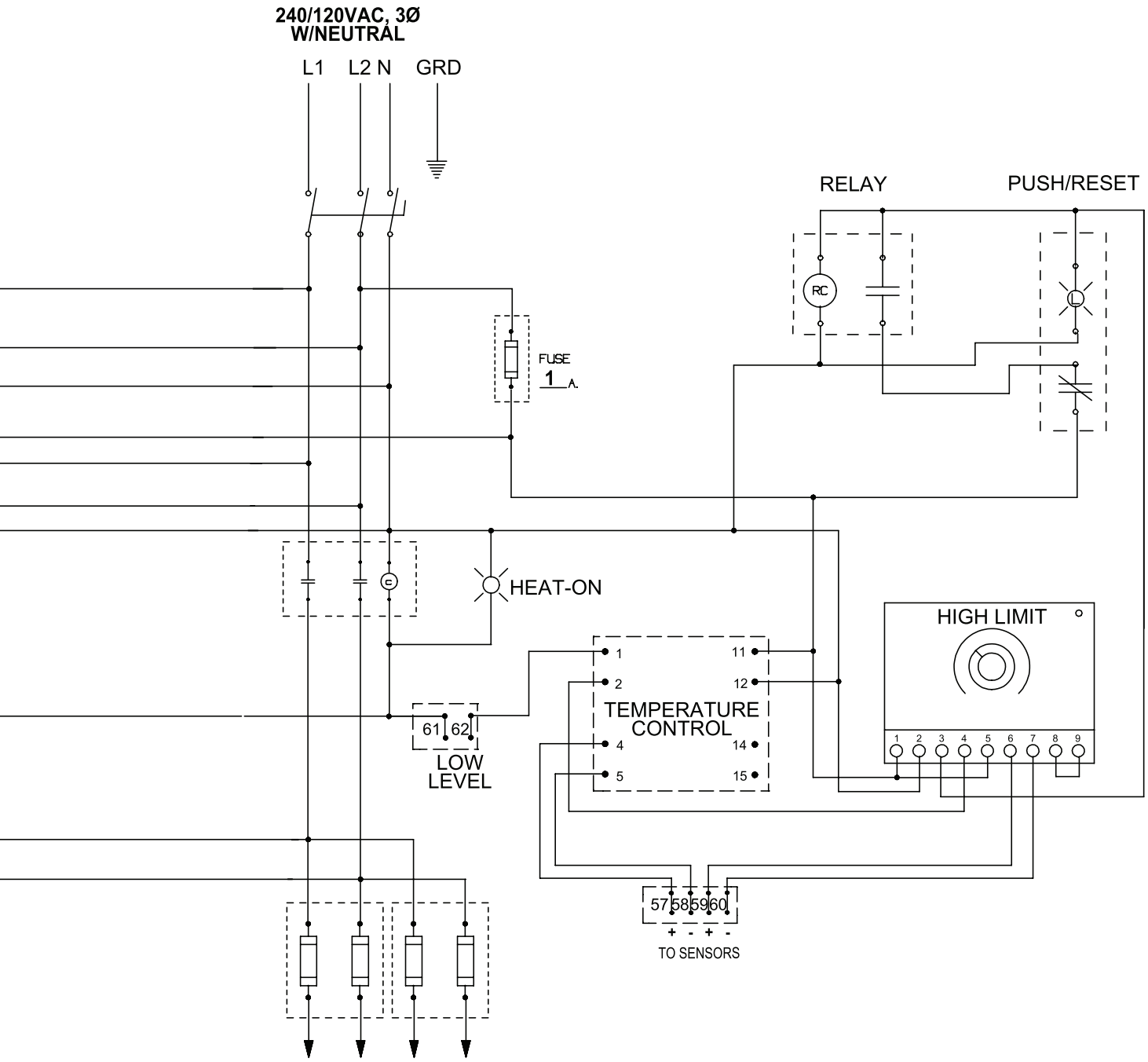
Wiring - 220V / 1Ph w/ Pump System

6500539



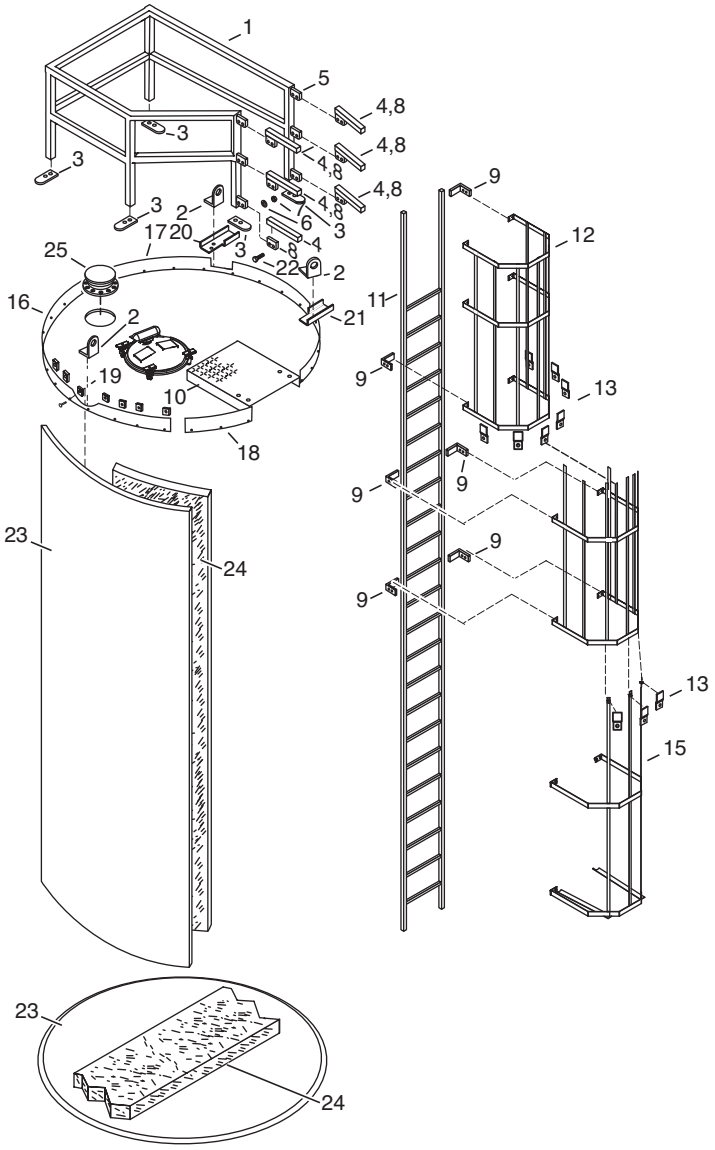
Wiring - 220V / 1Ph w/ Pump System

6500539



LOAD FUSES	**KLKR020**
CURRENT DRAW	**12.5A**
KW	**3**

Ladder, Handrails, Heaters, Tank Trim & Insulation

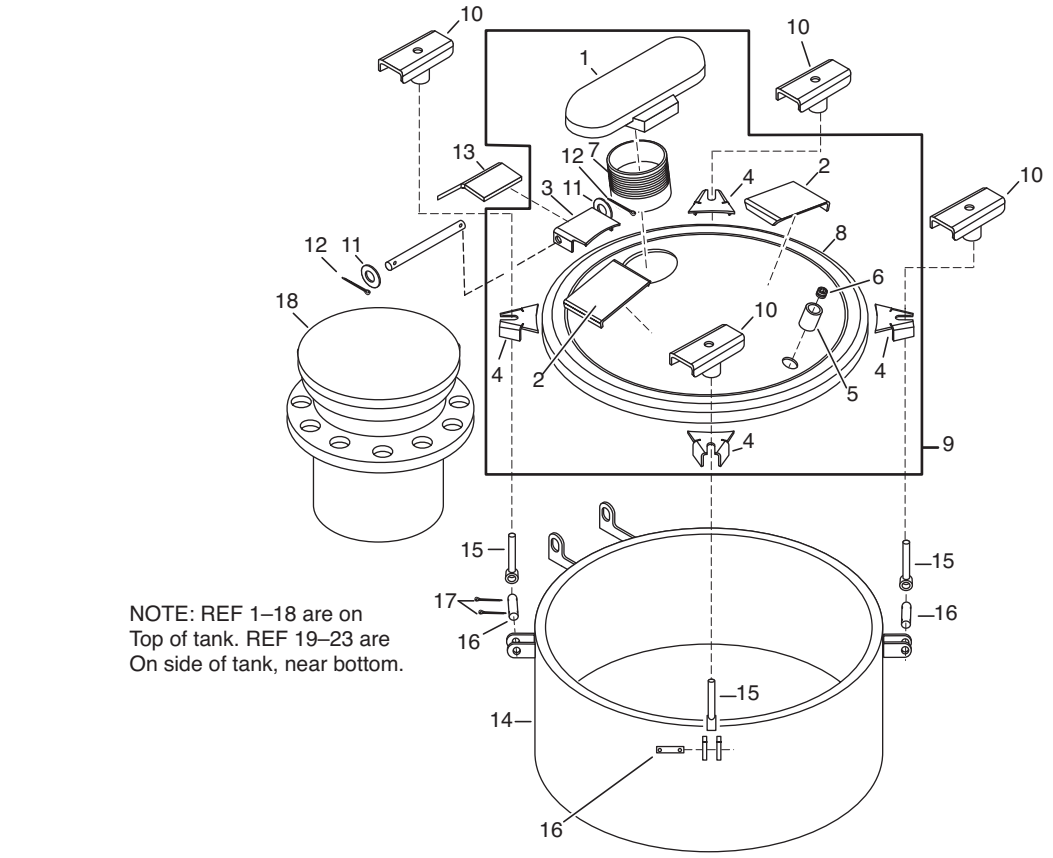


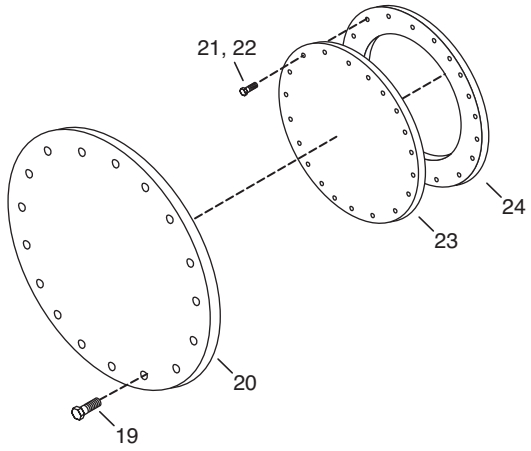
REF	PART NO.	QTY	DESCRIPTION
1	5200388	1	Handrail Assembly
2	5200414	3	Lifting Attachment
3	5200179	5	Plate-Handrail Mount
4	5200413	6	Brace-Ladder
5	5200410	6	Bracket, Ladder Brace, 4.50” Wide
6	0120384	12	Washer-Lock, 0.50”
7	0120378	12	Nut-Hex, 0.50”NC
8	5200409	6	Bracket-Ladder Brace, 4.0” Wide
9	5200134	AR	Bracket-Cage to Ladder
10	A1001LC	1	Walkway-Storage Tank
11	*******	1	Ladder Asm-Storage Tank *(Specify Serial Number)*
	*******	1	Ladder-8000 Gal. *(Specify Serial Number)*
12	A1001LJ	1	Cage-Top Section, 3 Hoop *(Specify Storage Tank Size & Model)*
	5200971	1	Cage-Top Section, 2 Hoop
13	5200135	17	Clip-Cage
14	A1001LG	2	Cage-Intermediate Section, 7 Bar
15	A1001LF	1	Cage-Bottom Section, 3 Bar
16	5200516	1	Guard-Toe, Storage Tank
17	5200517	1	Guard-Toe, Storage Tank
18	5200515	1	Guard-Toe, Storage Tank
19	5200518	29	Spacer-Toe Guard, Storage Tank
20	5200488	1	Shipping Leg-Storage Tank, LH
21	5200489	1	Shipping Leg-Storage Tank, RH
22	0122408	12	Screw-Hex, 0.50”NC x 1.0” Long
23	6319107	AR	Aluminum Sheeting
24	6000753	AR	Insulation-Fiberglass, 2.0” Thick
25	6002722	1	Vent-Emergency

AR = As Required

Specify Unit Serial No., Part No., & Part Description

Manhole Assembly, Emergency Vent, Cleanout Manhole

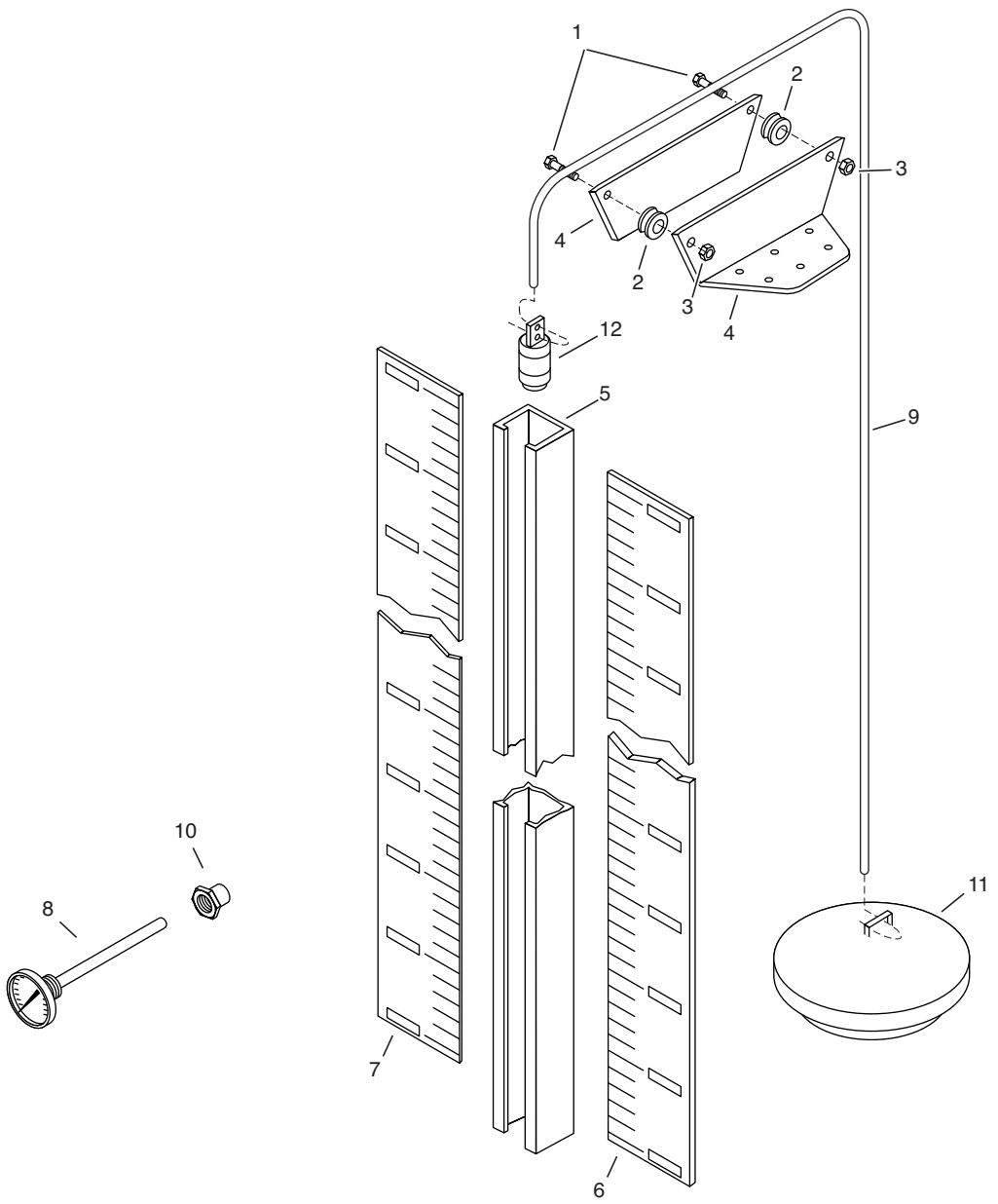




REF	PART NO.	QTY	DESCRIPTION
1	T204820	1	Vent-T Type C&B #300, 3.0”
2	2780583	2	Bracket-Mtg, Caution Label, MH
3	2600370	1	Lug-Hinge, Cover
4	2600378	4	Bracket-Retainer, Formed
5	0120755	1	Coupling-Pipe, 0.38”NPT, PN
6	0444867	1	Plug-Auto, Hex Socket, 0.38”NPTF, PD
7	6200093	1	Nipple-Hlf, Sch40, 3.0” x 3.0”, PN
8	2700677	1	Lid Asm-20” MH, Non Rel
9	5200546	1	Cover Asm-20” Manhole
			(Includes Ref 1–8, does not include 10–12)
10	2600376	4	Handle Asm
11	0120390	2	Washer-Flat, 0.50A, W, PD
12	0137204	2	Pin-Cotter, 0.12” x 1.5”, PD

REF	PART NO.	QTY	DESCRIPTION
13	2700261	1	Stop-Cover, Manhole
14	5200028	1	Collar Asm-20” Manhole
15	2600371	4	Bolt-Eye, 20” Manhole
16	2600372	4	Pin-Hinge
17	0103364	8	Pin-Cotter, 0.06” x 1.25”, PD
18	6002722	1	Vent-Emergency
19	6000550	16	Screw-Hex, 0.25-14 x 0.75”, TEK3, PD
20	2700901	1	Finish-Cover, 20” Cleanout MH, Sheet, Alum, .050” x 37-3/8” x 37-3/8”
21	0180122	20	Screw-Hex, 0.38”NC x 1.0”, GR5, PD
22	0120382	20	Washer-Lock, 0.38”, Spring, PD
23	5200458	1	Flange-Blind, MH, Cleanout
24	5200459	1	Gasket-Manhole, 20” Cleanout

Scale Assembly & Thermometer

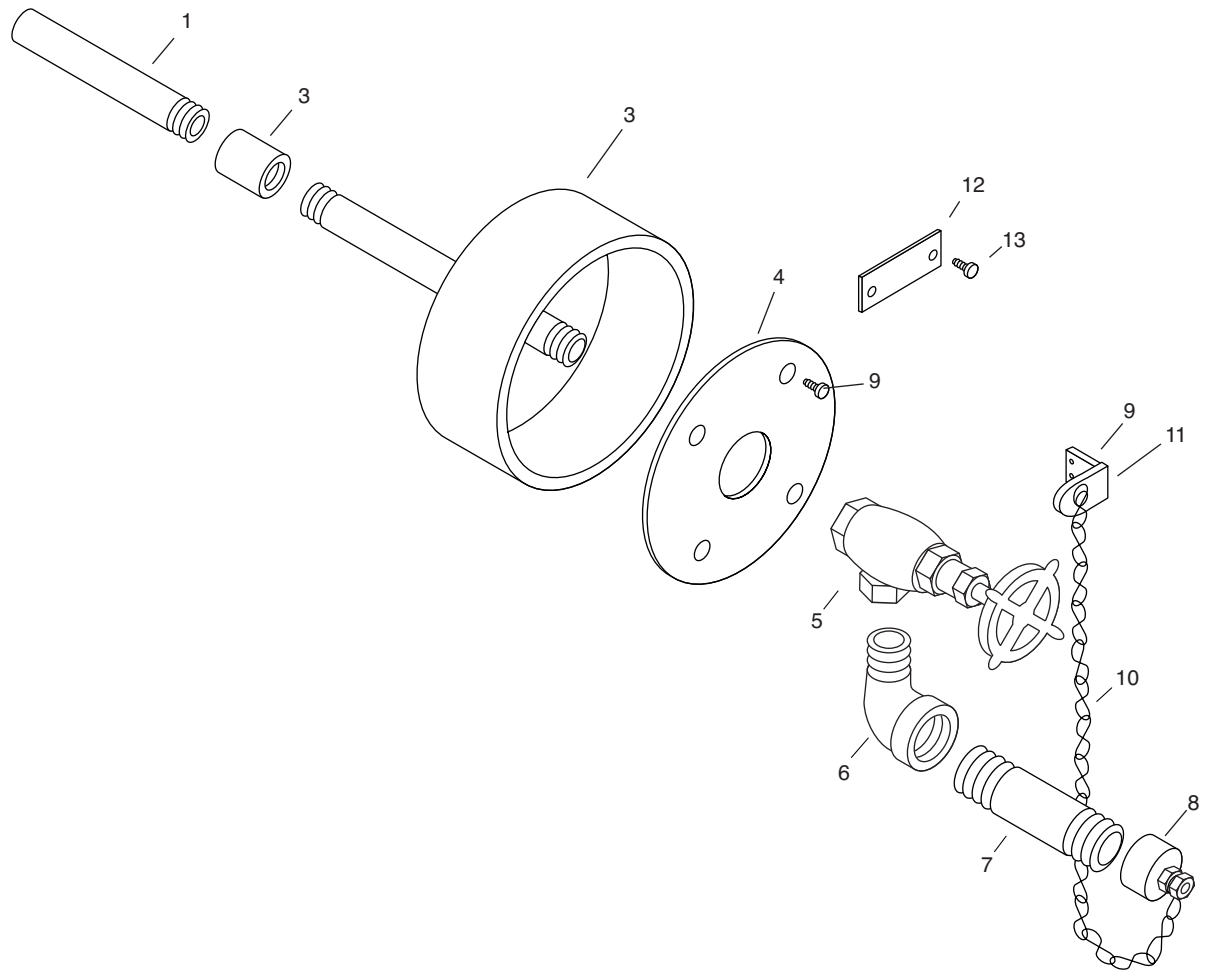


REF	PART NO.	QTY	DESCRIPTION
1	0120426	2	Screw-Hex, 0.50”NC x 1.25”
2	A100161	2	Pulley-1.5” OD x 7/16” x 1/2 Bore
3	9411727	2	Nut-Hex, Lock, 0.50”NC
4	A1001PL	2	Bracket-Mounting, Pulley
5	A1001PN	1	Channel-Trap, Counterweight
6	A1001GA	AR	Scale Asm-U.S., 4000 Gallon Units
	A1001GB	AR	Scale Asm-U.S., 6000 Gallon Units
	A1001GC	AR	Scale Asm-U.S., 7000 Gallon Units
	A1001GD	AR	Scale Asm-U.S., 3000 Gallon Units
	A1001GE	AR	Scale Asm-U.S., 2000 Gallon Units
7	A1001GF	AR	Scale Asm-Metric, 2000 Gallon Units
	A1001GG	AR	Scale Asm-Metric, 3000 Gallon Units
	A1001GH	AR	Scale Asm-Metric, 4000 Gallon Units
	A1001GJ	AR	Scale Asm-Metric, 6000 Gallon Units
	A1001GK	AR	Scale Asm-Metric, 7000 Gallon Units

REF	PART NO.	QTY	DESCRIPTION
8	6500038	1	Thermometer-5” Dial *(Gravity Units)*
	6500039	1	Thermometer-2” Dial *(Units w/ Pump)*
9	6001727	AR	Cable-3/16” OD, Plastic Coated
10	0144034	1	Bushing-Pipe, 0.75” x 0.50” *(Gravity Units)*
	0144033	1	Bushing-Pipe, 0.75” x 0.25” *(Units w/ Pump)*
11	5200350	1	Float Assembly-12”
12	5200144	1	Counterweight-2.0” x 6.0” Long

AR = As Required

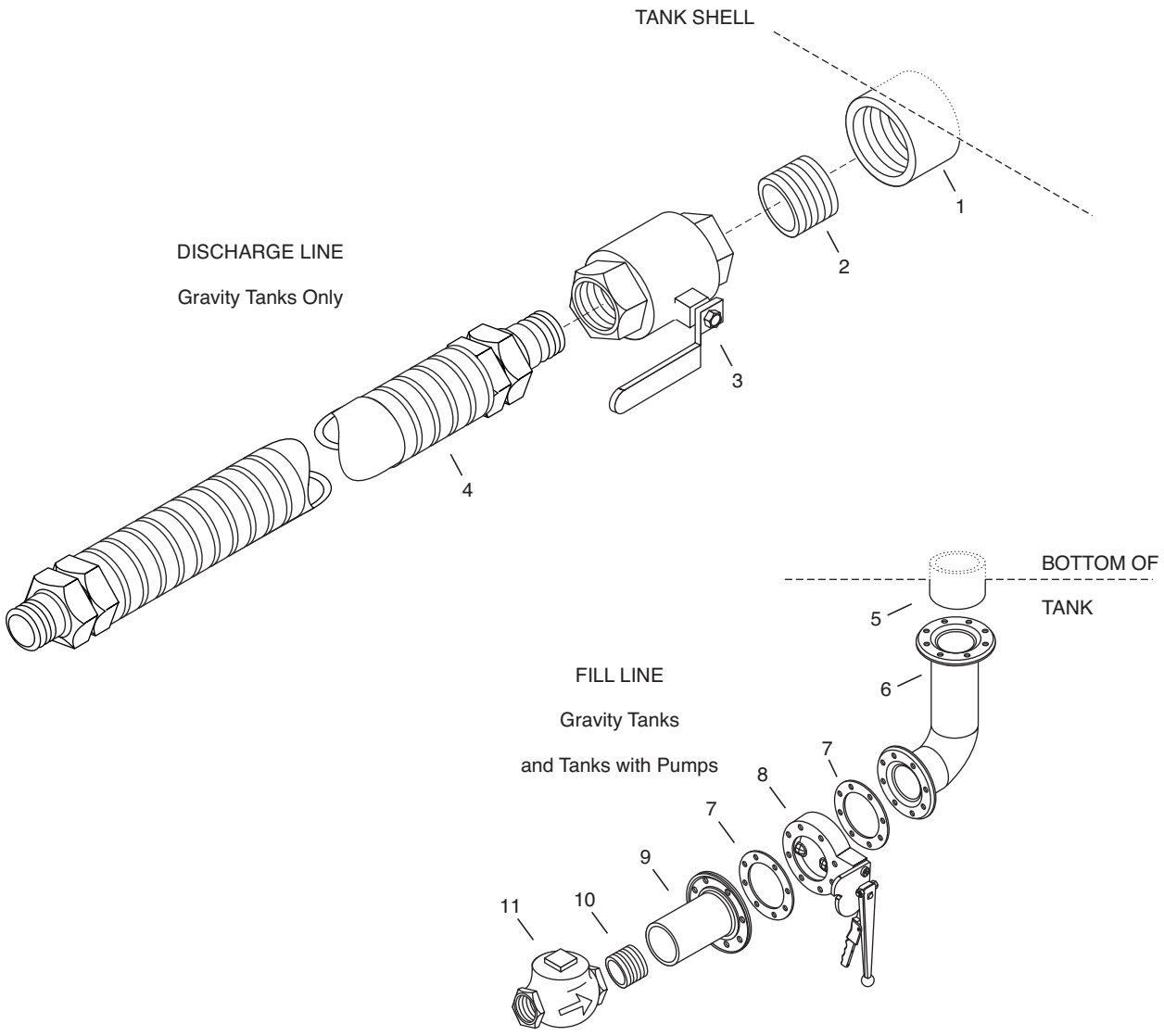
Sample Valve



REF	PART NO.	QTY	DESCRIPTION
1	3410050	1	Pipe-Sch40, 0.75”NPT x 12.0”
2	0144071	1	Coupling-Pipe, 0.75”NPT
3	2780018	1	Well Asm-REcess, Sample Valve
4	2700161	1	Ring-Finish, Sample Valve Outlet
	2700162	1	Gasket-Sample Valve Outlet
5	6600349	1	Valve-0.75”, Angle, Crane #2
6	0140798	1	Elbow-Pipe, 45, ST, 0.75”NPT
7	6200433	1	Nipple-Pipe, Sch40, 0.75”NPT x 8.0”
8	2780018	1	Cap Asm-Sampling Valve

REF	PART NO.	QTY	DESCRIPTION
9	6000434	7	Rivet-Dr, 0.19, 0.12Grip, 0.17Max
10	6000346	6”	Chain-PRF Coil,19
11	2780027	1	Clip-Sealing Valve
12	3390531	1	Tag-Warning, Sample Valve
13	6100139	2	Rivet-Pop, 0.12” Dia x 0.18” Long

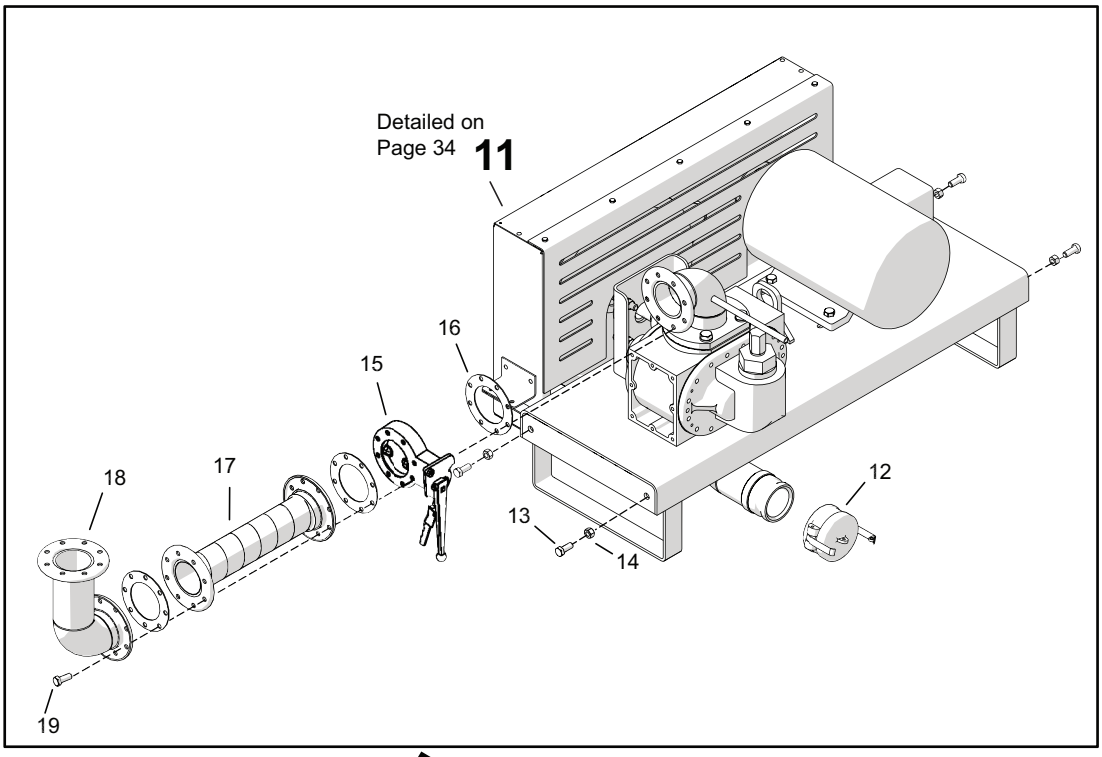
DISCHARGE LINE - Gravity Tanks Only
FILL LINE - Gravity Tanks and Tanks with Pumps

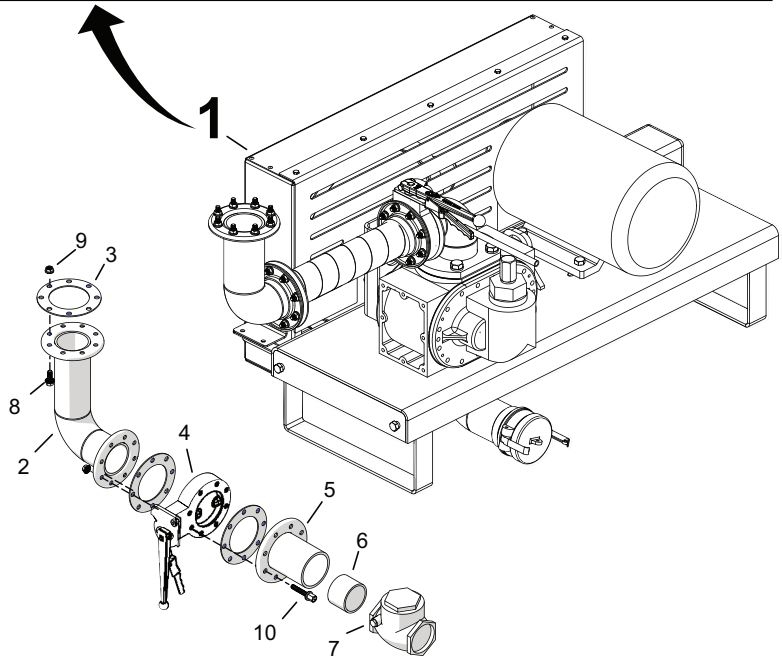


REF	PART NO.	QTY	DESCRIPTION
1	6200061	1	Coupling-Pipe, 4.0”NPT
2	6200140	1	Nipple-Pipe, 41.0” x 2.875” Long
3	A100156	1	Valve-Ball, 4.0”NPT
4	A100159	1	Hose Asm-Loading, 4.0” x 12 Ft.
5	6200059	1	Coupling-Pipe, 3.0”NPT
6	5201206	1	Load Line-Flanged
7	6000071	2	Gasket-3 Flange
8	6002723	1	Valve-Butterfly, 3.0”NPT, Steel
9	5201255	1	Load Line-Flanged
10	6200122	1	Nipple-Pipe, 3.0”NPT x 2.5”
11	A100155	1	Valve-Check, 3.0”NPT

Specify Unit Serial No., Part No., & Part Description

Pump Unit Assembly

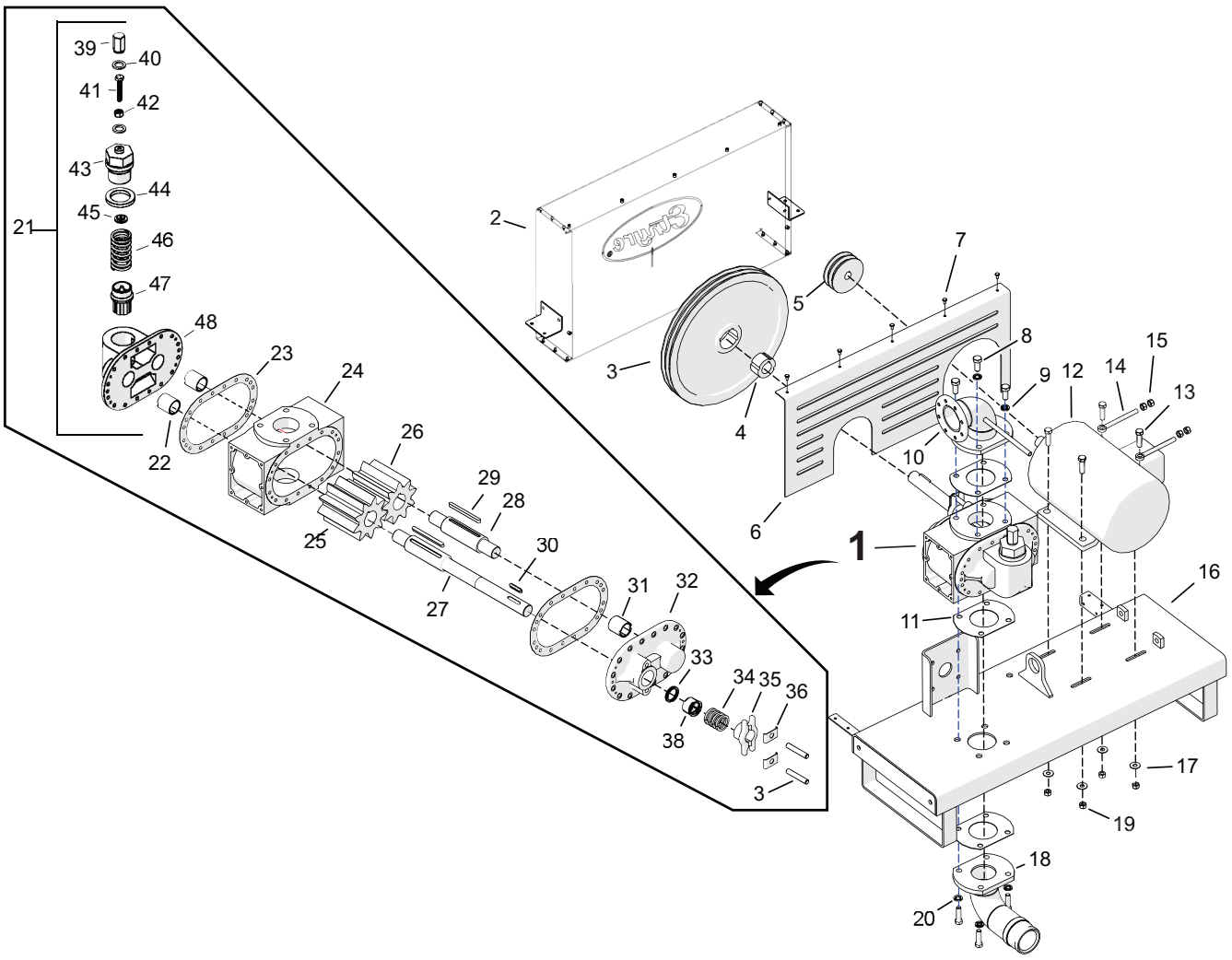




REF	PART NO.	QTY	DESCRIPTION
1	5201455	1	Piping Installation
2	5201206	1	Load Line-flanged
3	6000071	3	Gasket-3 Flange,av#10233b
4	6002723	1	Valve-butterfly, 3.0", Ttma
5	5201255	1	Load Line-flanged
6	6200122	1	Nipple-pp,sch 40,3.00x2.50,pn
7	A100155	1	Check Valve-3in Npt Steel
8	6100880-03	8	Bolt-wiz,0.375uncx1.00 Gr5,pd
9	6002390	1	Nut-hex Ser Flg,.38nc Gr2pd
10	6100880-08	8	Bolt-wiz,0.375uncx2.25" Gr5,pd

REF	PART NO.	QTY	DESCRIPTION
11	5201446	1	Pump Unit Asm-p200 W/10hp Elec
12	6600281	1	Cap-dust,3in,al
13	0271547-CR	4	Screw-hex,0.62nc X 1.5",gr5,pcr
14	9411727-CR	4	Nut-hex,lock,0.50nc,pcr
15	6002723	1	Valve-butterfly, 3.0" Ttma
16	6000071	3	Gasket-3 Flange,av#10233b
17	5201205	1	Flanged Flex Joint, Pump, 15 3-16/' Lg
18	5201195	1	Elbow Asm-3.0" Flanged
19	6100880-08	8	Bolt-wiz, 0.375"Unc X 2.25", Gr5, Pd

Pump Unit Assembly



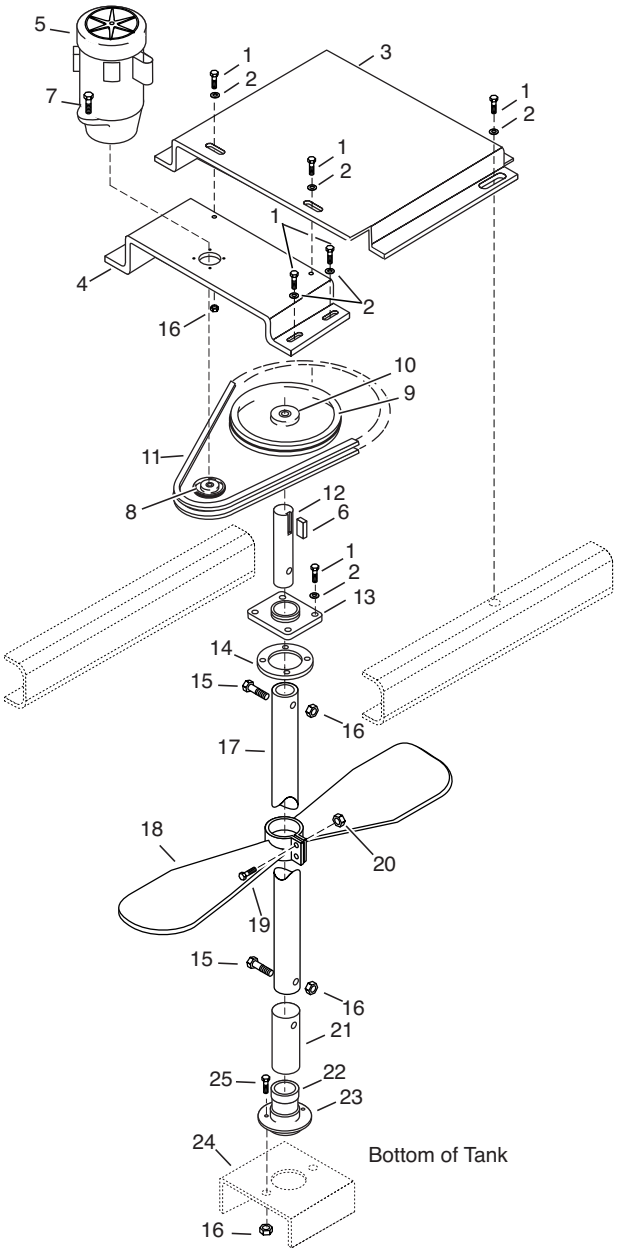
Specify Unit Serial No., Part No., & Part Description

Pump Unit Assembly

REF	PART NO.	QTY	DESCRIPTION
1	3340593	1	Bituminous pump p-200
2	5201451	1	Guard asm-belt,al
3	A100153	1	Sheave-18.4 dia,"b"
4	6000193	1	Bushing-taper lock,2517,1.50
5	A100151	1	Sheave-4.8 dia,"b"
6	5201453	1	Guard-back v-belt,al
7	0180016-cr	5	Screw-hex,0.25ncx0.50,gr5,pcr
8	0271547-cr	4	Screw-hex,0.63ncx1.5,gr5,pcr
9	0121574	4	Washer-lock,0.62,spring,pd
10	5201281	1	Pump inlet, flanged
11	3340341	3	Gasket-200 gal. Pump
12	A100150	1	Motor-elec,10 HP, **240V, 3 Phase**
	6703193	1	Motor-elec, 10 HP, **220V, 1 Phase**
13	0454778	8	Screw-hex,0.56ncx2.00,gr8,pd
14	4050188	2	Bolt-draw,elect.,pumping unit
15	0120378	4	Nut-hex,0.50nc,pd
16	5201447	1	Pump base asm
17	0120389	4	Washer-flat,0.44a(0.50x1.25)pd
18	5201202	1	Pump-discharge,quick couple
19	9413947	4	Nut-hex,lock,0.44nc,ea,pd
20	0121574	4	Washer-lock,0.62,spring,pd
21	3340342	1	Valve Asm-bypass
22	3340314	2	Bearing-face Plate
23	3340573	1	Gasket-pump,P-200 & P-100 Pump
24	3340331	1	Case-200 Gal. Pump
25	3340334	1	Imp-L.h. Spiral, 200 Gal. Pump
26	3340335	1	Imp-R.H. Spiral, 200 gal pump
27	3340340	1	shaft-pump,w/outboard bearing
28	3340337	1	shaft-pump,driver
29	6000469	2	key-0.38x0.38 Crx5.00,Rd end
30	6000468	1	key-0.38x0.38 Crx1.88,Rd end
31	3340314	1	bearing-face plate
32	3340312	1	face plate-packing gland
33	3340305	1	ring-lantern,
34	6600310	4	pk-ring,1.5idx2od,synthpack
35	3340307	1	gland-packing, split
36	3340308	2	retainer-split packing gland
37	3340949	2	stud-packing gland
38	3340294	1	bearing,pump shaft
39	3340350	1	cap-adj. Bolt, by-pass vlv.
40	6600264	2	gasket-0.75x0.50,Copper fiber
41	3340348	1	bolt-adjusting
42	0271501	1	nut-hex, 7/16"
43	3340347	1	plug-by-pass valve
44	6600208	1	gasket-0.75x0.50,Copper fiber
45	3340346	1	plt-spring brg, by-pass vlv.
46	3340345	1	spring, by-pass valve
47	3340344	1	valve body
48	3340343	1	face plate-by pass valve

REF	PART NO.	QTY	DESCRIPTION

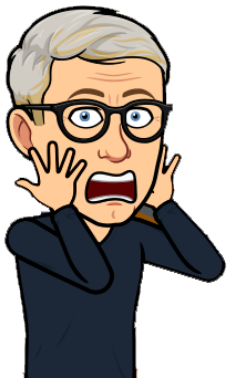
Agitator Assembly



REF	PART NO.	QTY	DESCRIPTION
1	0122408	12	Screw-Hex, 0.50”NC x 1.0”
2	9411417	12	Washer-Flat, 0.50”
3	A1001AG	1	Guard-Agitator Drive
4	A1076AC	1	Motor Base-Agitator
5	A100175	1	Motor-Electric, 1HP, 115V, Single Phase
	6703458	1	Motor-Electric, 1HP, 3 Phase
6	6001501	1	Key-0.375” x 1.375”
7	0120233	4	Screw-Hex, 0.38”NC, 1.0”
8	A107601	1	Sheave-3.0” Dia, 0.625” Bore, “B”
9	A100178	1	Sheave-18.0” Dia., “B”
10	A100179	1	Bushing-Taper Lock, 1.50” Bore
11	A100102	1	Belt-V, BX70
12	A1001AF	1	Shaft-Upper, Agitator
13	6420114	1	Bearing-Flange, 4 Bolt, 1.5” Shaft
14	6310216	1	Plate-Top Bearing

REF	PART NO.	QTY	DESCRIPTION
15	0120236	2	Screw-Hex, 0.50”NC x 2.75”, Gr2
16	9411727	4	Nut-Hex, Lock, 0.50”NC
17	6303281	AR	Tube-2.0” x 0.25 CDS, Ft
			(Specify Model & Capacity)
18	A1001AC	1	Blade Asm-Agitator
19	0120918	4	Screw-Hex, 0.38”NC x 1.5”, Gr2
20	0274993	4	Nut-Hex, Lock, 0.38”NC
21	A1001AE	1	Shaft-Lower, Agitator
22	6420063	1	Bushing-Bronze, 1.5” x 2.0” x 2.0”
	6000193	1	Bushing-Taperlock, 1.50”
23	A1001AB	1	Bearing Asm-Agitator
24	6310007	1	Channel-Bottom, Bearing
25	0120426	2	Screw-Hex, 0.5”NC x 1.25”, Gr2

AR = As Required



Something Wrong with this manual?

If you find inaccurate or confusing information in this manual, or just have a suggestion for improvement, please let us know.

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Attn: Service Manager

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Phone _____

Date Sent _____

Manual Number (upper right corner of front cover) _____

Manual Title _____

Explain the problem in the space below.

Page Number	Reference Number	Paragraph Number	Figure Number	Problem (please be specific)