



Oil Pump

Models L 5020, L 5116 & L 5132

Owner's Manual



DO NOT RETURN THIS PRODUCT TO THE STORE!

Please contact GPI before returning any product. If you are missing parts or experience problems with your installation, our **Customer Support Department** will be happy to assist you:

**800-835-0113 or
316-686-7361**



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To the owner...

Congratulations on receiving your GPI® oil pump. We are pleased to provide you with a system designed to give you maximum reliability and efficiency.

Your pump is designed for use with motor oil, gear oil, hydraulic oil and waste oil. If used with antifreeze, do not exceed 50% water. Please take all due precautions when handling these liquids. Your safety is important to us.

Also, to assure the longest possible service life, it is important that you follow the operation and maintenance procedures outlined in this manual. We are proud to provide you with a quality product and dedicated support. Together with your conscientious use, we are sure that you will obtain years of safe, dependable service.

Victor Lukic

Victor Lukic, President
Great Plains Industries, Inc.

GENERAL INFORMATION

The purpose of this manual is to assist you in installing, operating and maintaining your GPI Oil Pump. This pump is a positive displacement, direct drive pump.



WARNING

This product shall not be used for pumping fuel or other liquids into aircraft.

Models L 5116 and L 5132 are wired for 115-volts only, however these motors have the capability to run on 230-volts if properly wired by an Electrician (see the label on the motor for specifications). GPI does not supply any wiring items or hookup connectors for the 230 voltage. Rewiring for 230-volts is the risk and responsibility of the buyer/owner and user. GPI is not liable for any damage or accidents caused by rewiring.

Both the 12-volt DC and the 115-/230-volt AC pump are compatible with motor oil, gear oil, hydraulic oil, antifreeze (not to exceed 50% water), ATF and waste oil. Do not use this pump for dispensing any fluids other than those for which it was designed. To do so may damage pump components and will void the warranty.

Do not use the GPI Oil pump with water, acids, brake fluid or windshield washer fluid.

If in doubt about compatibility of a specific fluid, contact the supplier of the fluid to check for chemical compatibility with:

- Aluminum
- Stainless Steel
- Brass
- Steel
- Nitrile Rubber
- Zinc Plated Steel

Do not leave the system running without fluids. "Dry running" can damage the pump.

Do not pump the tank completely dry, as contaminants from the bottom of the tank may enter the pump.

SAFETY INFORMATION



The following safety alert symbols are used in this manual.

⚠ DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

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

⚠ CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

It is your responsibility to:

- know and follow applicable national, state and local safety codes pertaining to installing and operating electrical equipment for use with petroleum fluids.
- ensure that all equipment operators have access to adequate instructions concerning safe operating and maintenance procedures.

Observe all safety precautions concerning safe handling of petroleum fluids. Do not use pump with low flash point fluids (100° F or less).

To ensure safe operation, this pump must be properly grounded. Care should be taken to ensure proper grounding during initial installation and after any service or repair procedures. For your safety, please take a moment to review the warnings below.

Observe precautions against electrical shock when operating the system. Serious or fatal shock can result from operating electrical equipment in damp or wet locations.

On 12-volt pumps, inspect external pump wiring regularly to make sure it is correctly attached to the battery. To avoid electrical shock, use extra care when connecting the pump to power.

⚠ WARNING

GPI recommends installing only one pump per battery. Using more than one pump on the same battery could create a hazardous situation in a fault condition. As an option, use an appropriate selector switch that allows only one pump to be run at a time.

Avoid prolonged skin contact with petroleum fluids. Use protective goggles, gloves and aprons in case of splashing or spills. Change saturated clothing and wash skin promptly with soap and water.

Observe precautions against electrical shock when servicing the pump. **Always** disconnect power before repairing or servicing. **Never** apply electrical power to the system when any of the coverplates are removed.

If using solvent to clean pump components or tank, observe the solvent manufacturer's recommendations for safe use and disposal.

The 115-/230-volt AC pump motors are equipped with thermal overload protection. If overheated, the pump will shut itself off. Turn off the pump if this occurs. See Motor Protector Section for details.

Worn and damaged hoses or nozzles are potential safety hazards and should be replaced.

INSTALLATION

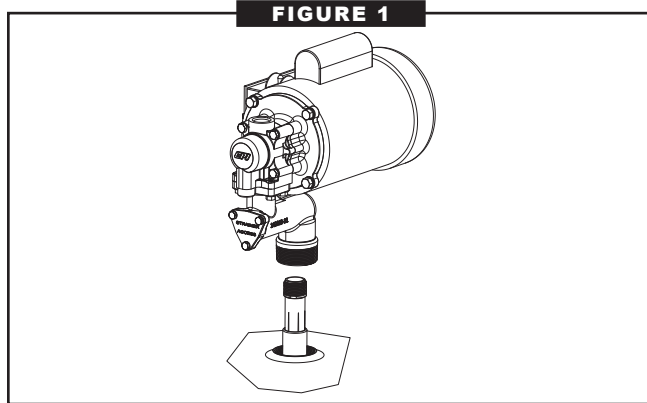
Make sure all threaded connections are wrapped with three to four turns of oil resistant thread tape or pipe thread sealant.

Make sure drums are properly secured to prevent tip over when full or empty. All tanks must be properly vented.

Installing Pump to a Tank

GPI pumps have a 2-inch NPT connection that can be mounted directly to a 2-inch female pipe thread on the tank.

1. Clean the tank interior of all dirt and foreign material.
2. Glue sections of suction pipe together and cut it to the proper length that is required. Suction pipe should extend 2 to 3 inches above bottom of tank.
3. Screw suction pipe into inlet threads of pump base.
4. Insert the suction pipe through the tank bung. Screw pump into tank bung to secure the pump to the tank. (Figure 1)



5. To prevent pressure buildup and possible leaks through the ball valve, make sure the tank is vented.

Installing Discharge Plumbing on Pump Outlet

1. Install a 90 degree elbow to the pump outlet using oil resistant pipe sealant.
2. Install the hose and ball valve using oil resistant pipe sealant on the threads. Tighten securely.

Electrical Installation

⚠ WARNING

Electrical wiring must be done by a licensed electrician. Shut off all power before connecting wires to motor. Failure to follow these wiring instructions may result in death or serious injury from shock, fire or explosion.

115-/230-volt AC Powered Pumps

(Models L 5116 & L 5132):

This GPI Oil Pump is factory wired for 115-volt AC. These motors have the capability to run on 230-volts if properly wired by an electrician. Power to the unit should be supplied from a dedicated circuit breaker.

If AC extension cords are used, they must be capable of safely carrying the rated motor current. Use only heavy duty, 3-wire, grounded extension cords.

NOTE: Many building codes require Ground Fault Circuit interrupt (GFCI) protection.

Motor Ratings (FLA):

115-/230-volt AC:

1/2 HP, 1725 RPM – 7.5/3.7 amps
1 HP, 3450 RPM – 13.3/6.6 amps

12-volt DC:

1/2 HP, 1800 RPM – 40 amps

12-volt DC Powered Pumps (Model L 5020):

This GPI Oil Pump is factory wired for 12-volt DC. Circuit must be protected with a 40 amp automotive-type fuse.

OPERATION

⚠ CAUTION

Do not operate pump dry. Damage to pump could occur.

Before first usage, pour oil into pump outlet port to coat pumping element.

1. Place ball valve into the receiving tank to be filled.
2. Turn on the motor.
3. Open the ball valve and fill the container to the desired level. If flow does not occur within 15 seconds, shut off motor and refer to the priming information in the Troubleshooting Section.
4. Shut off the nozzle.
5. Turn off the motor.

Motor Protector

The AC pumps contain thermal motor protection. If the pump overheats the unit will shutoff.

If the motor shuts off, follow these instructions:

Model L 5132: Turn off the switch. Allow the motor to cool before restarting.

Model L 5116: Turn off the switch. Allow the motor to cool. Push the button to manually reset the protector.

Model L 5020: The 12-volt model should be protected by an inline fuse (supplied). If the motor shuts off, check the fuse.

MAINTENANCE

Disconnect power and relieve pressure in the system by opening the nozzle before servicing the pump.

This pump is designed for minimum maintenance. Motor bearings are sealed and require no lubrication. Inspect the pump and components regularly for leaks and make sure the hose, ball valve and components are in good condition.

Use of the pump with unauthorized fluids will void the warranty.

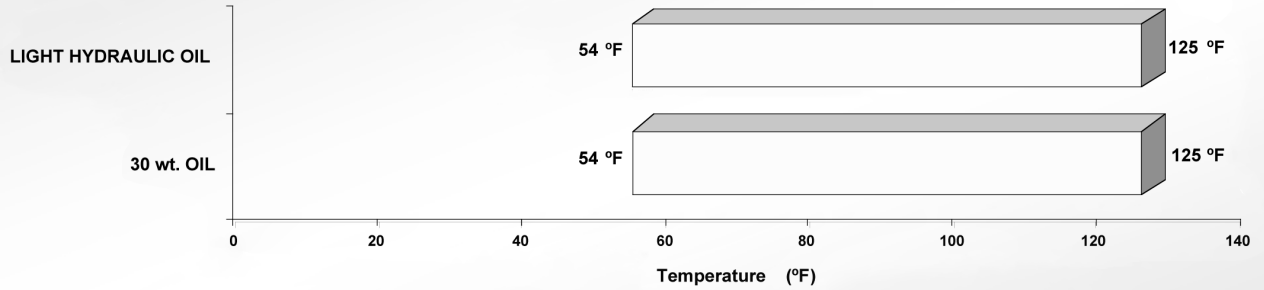
Remove and clean the strainer if low flow is noticed. To clean the strainer, remove the three screws on the strainer cover. Remove cover and pull out screen. Clean screen and reinstall. Care should be taken not to damage the O-ring.

TROUBLESHOOTING

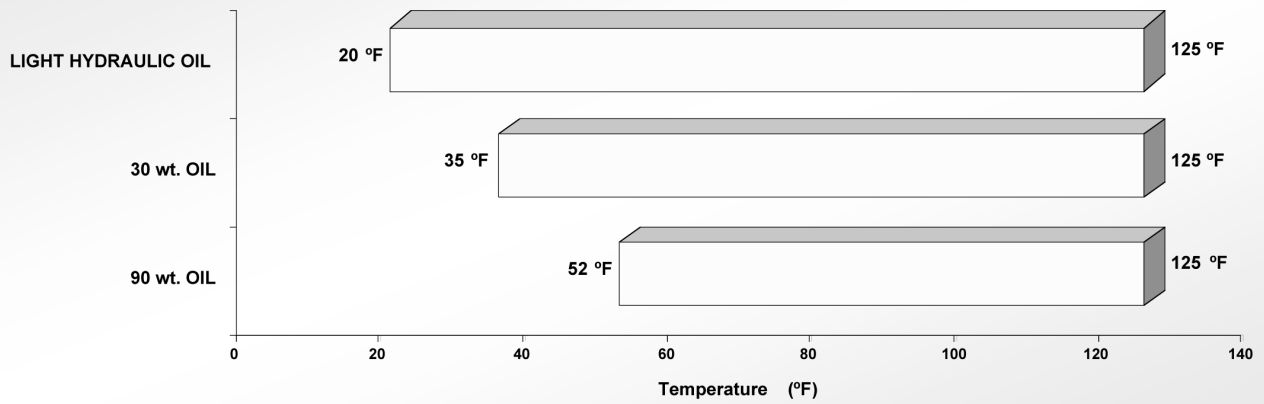
SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
A. PUMP WON'T PRIME	1. Dirty strainer screen 2. Suction line problem 3. Pump outlet is blocked or valve is shutoff 4. Fluid level below suction pipe 5. Fluid viscosity exceeds pumps rated capability 6. Gerotor is locked 7. Excessive gerotor wear 8. Bypass valve not seating	Remove and clean strainer. Check for leaks in suction line. Check pump outlet system for blockage. Refill tank or add longer suction pipe. Refer to the Viscosity Charts for viscosity limits. Inspect gerotor for smooth rotation. Remove any debris. Inspect gerotor. Replace if worn. Remove / inspect bypass valve. Clean if necessary.
B. LOW FLOWRATE	1. Dirty strainer screen 2. Suction line problem 3. Fluid viscosity exceeds pumps rated capability 4. Nozzle or meter pressure exceeds product specifications 5. Bypass valve not seating 6. Excessive gerotor wear 7. Low voltage to motor 8. Motor wired for incorrect voltage	Remove and clean strainer. Check for leaks in suction line. Refer to the Viscosity Charts for viscosity limits. Replace meter or nozzle. Remove / inspect bypass valve. Clean if necessary. Inspect gerotor. Replace if worn. Ensure power at motor is at proper voltage. Rewire for correct voltage. Instructions are on motor nameplate.
C. MOTOR STALLS WHEN VALVE/ NOZZLE IS CLOSED	1. Bypass valve is sticking	Remove / inspect bypass valve. Clean if necessary.
D. MOTOR STALLS WHEN PUMP FIRST STARTS	1. Fluid viscosity exceeds pumps rated capability 2. Gerotor is locked	Refer to the Viscosity Charts for viscosity limits. Inspect gerotor for smooth rotation. Remove any debris.
E. MOTOR OVERHEATS	1. Fluid viscosity exceeds pumps rated capability 2. Gerotor is not rotating smoothly 3. Incorrect voltage	Refer to the Viscosity Charts for viscosity limits. Inspect gerotor for smooth rotation. Remove any debris. Ensure power at motor is at proper voltage.
F. MOTOR WILL NOT TURN ON	1. No power to motor 2. Switch failure 3. Motor has tripped internal motor protection	Check circuit breakers and electrical connections. Replace switch. Allow motor to cool for at least 30 minutes.
G. PUMPS LEAK	1. Missing or damaged seals 2. Shaft seal damage 3. Incompatible fluid pumped	Inspect affected areas for proper O-ring sealing. Inspect and replace shaft seal if needed. Check if fluid is compatible with aluminum, brass, nitrile rubber, stainless steel, steel and zinc plated steel.

VISCOSITY CHARTS

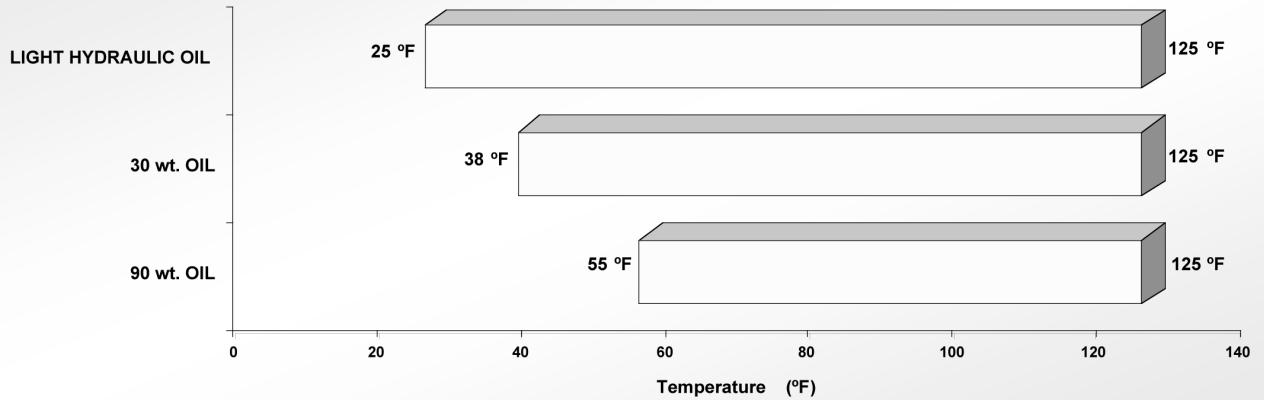
MODEL L 5020 PUMP OPERATING TEMPERATURE RANGE



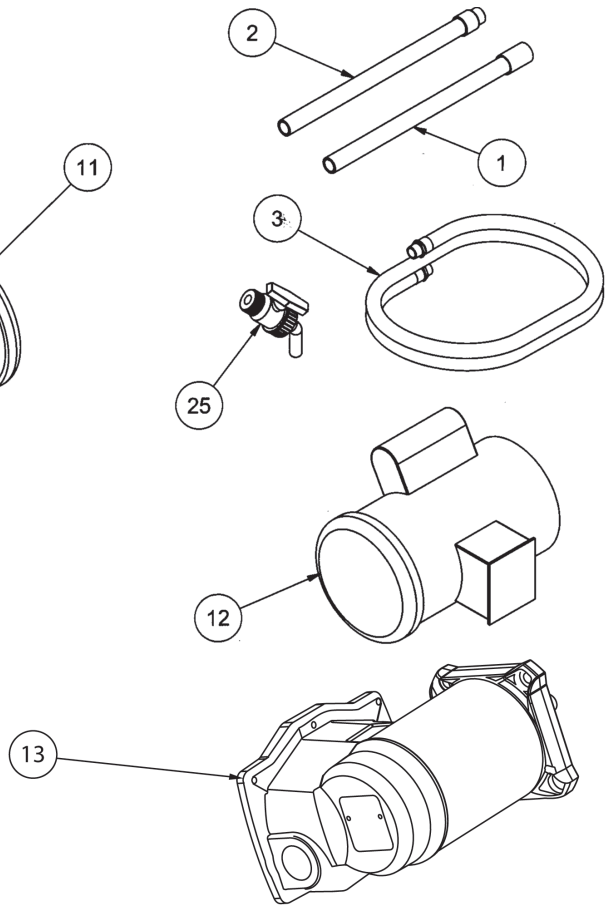
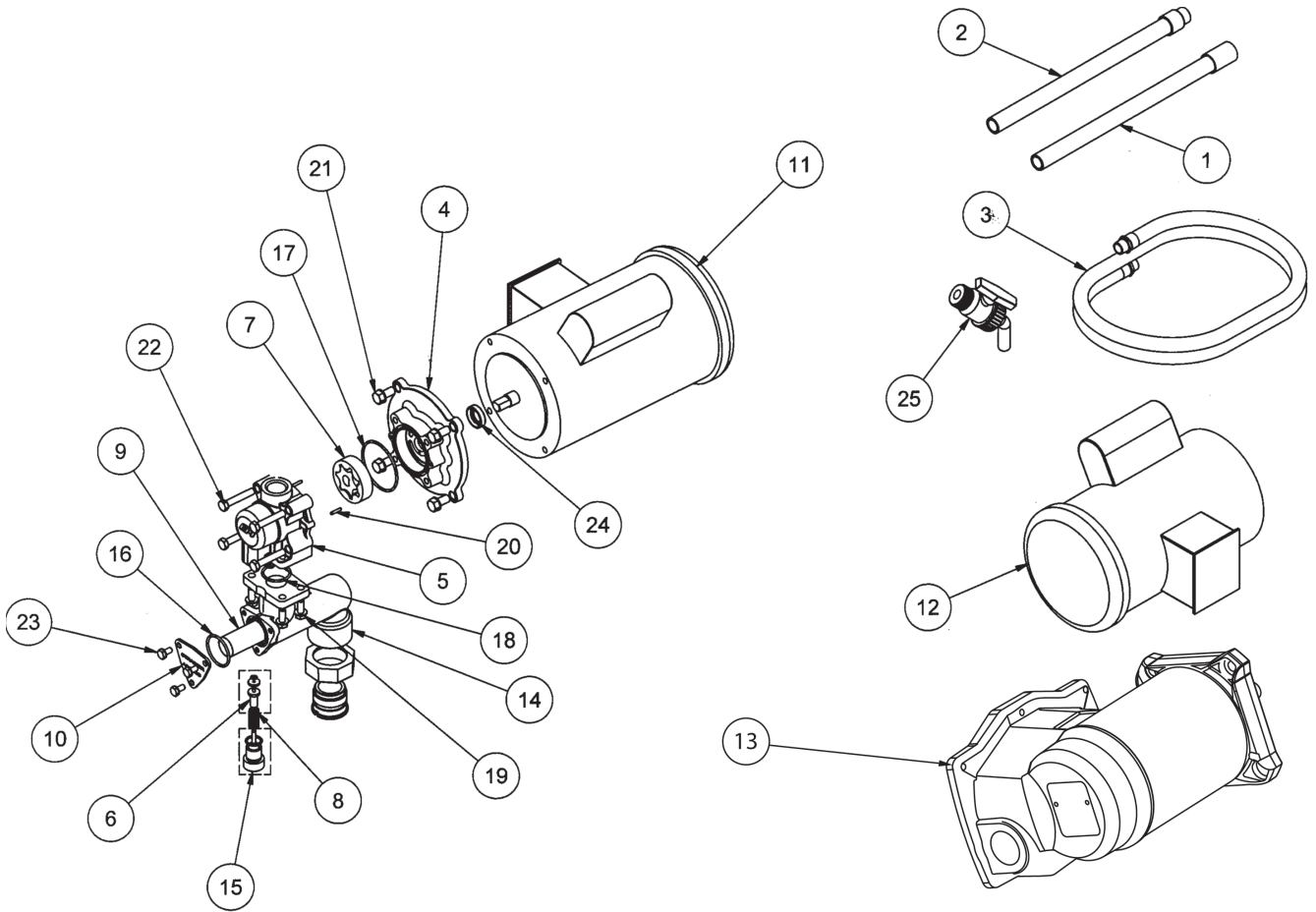
MODEL L 5116 PUMP OPERATING TEMPERATURE RANGE



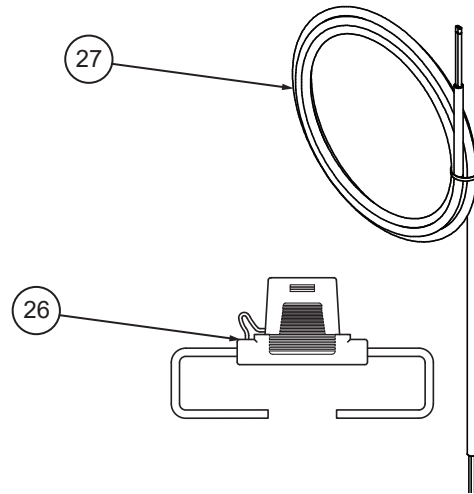
MODEL L 5132 PUMP OPERATING TEMPERATURE RANGE



ILLUSTRATED PARTS LIST



Item No.	Part No.	Description	No. Req'd.
1	110264-1	Suction Pipe Assembly	1
2	110264-2	Suction Pipe Assembly	1
3	110187-509	Hose Assembly	1
4	142001-01	Gerotor Housing Adapter	1
5	142002-01	Pump Body	1
6	142021-01	Poppet Assembly	1
7	142500-01	Gerotor Kit (Element & O-Ring)	1
8	142005-01	Bypass Spring	1
9	142008-01	Inlet Screen	1
10	142009-01	Base Cover	1
11	142014-01	Motor, 115-/230-volt AC, 1/2 HP, 1725 RPM	1
12	142015-01	Motor, 115-/230-volt AC, 1 HP, 3450 RPM	1
13	142111-01	Motor, 12-volt DC, 1/2 HP, 1800 RPM	1
14	142022-01	Inlet Base Assembly	1
15	142023-01	Poppet Plug Assembly	1
16	90100389	O-Ring	1
17	90100387	O-Ring, Nitrile	1
18	90100388	O-Ring, Nitrile	1
19	904002-24	Sems Screw & Washer Assembly	4
20	904005-59	Spring Pin	2
21	90400807	Sems Hex Head, 3/8"-16 x 3/4"	4
22	90400793	Hex Head Screw, 5/16"-18 x 1-3/4"	4
23	90400794	Sems Hex Head, 1/4"-20 x 1/2"	3
24	90400795	Radial Lip Seal	1
25	90600658	Ball Valve with 45° Spout	1
26	133532-02	Fuse	1
27	501009-503	Power Cord	1



SPECIFICATIONS

Model:	L 5020 12-volt DC Pump	L 5116 115-volt AC 1/2 HP	L 5132 115-volt AC 1 HP
Pump Housing:	Aluminum	Aluminum	Aluminum
Performance:			
Pump Rate:	20 QPM (15 LPM)	16 QPM (15 LPM)	32 QPM (30 LPM)
Duty Cycle:	30 min. ON, 30 min. OFF	30 min. ON, 30 min. OFF	30 min. ON, 30 min. OFF
Max. Viscosity Pumped:	220 CPS	1160 CPS	970 CPS
Operating Temperature:	Maximum temperature is +140° F (+60° C). See Viscosity Chart for minimum temperature.		
Operating Pressure:	50 PSI		
Electrical Specifications:			
Input:	12-volt DC	115-/230-volt AC	115-/230-volt AC
Current Draw:	40 amps	7.5/3.7 amps	13.3/6.6 amps
Motor:	1800 RPM	1725 RPM	3450 RPM
Motor Approval:	UL Recognized Component, CSA Certified	UL Recognized Component, CSA Certified	UL Recognized Component, CSA Certified
Motor Protection:	Inline Fuse (40A)	Thermal Protection	Thermal Protection
Cord:	10/2 x 18ft installed	36 in. with Grounded NEMA Plug	36 in. with Grounded NEMA Plug
Mechanical Connections:			
Bung:	2-inch NPT	2-inch NPT	2-inch NPT
Inlet:	1-inch NPT	1-inch NPT	1-inch NPT
Outlet:	3/4-inch NPT	3/4-inch NPT	3/4-inch NPT
Weight:	22 lbs	33.7 lbs.	43.6 lbs

SERVICE

For warranty consideration, parts, or other service information, please contact your local distributor. If you need further assistance, contact the GPI Customer Service Department in Wichita, Kansas, during normal business hours. A toll free number is provided for your convenience.

1-800-835-0113

To obtain prompt, efficient service, always be prepared with the following information:

1. The model number of your pump.
2. The manufacturing date code of your pump.

For warranty work, always be prepared with your original sales slip or other evidence of purchase date.

Please contact GPI before returning any pump. It may be possible to diagnose the trouble and find a solution with a telephone call. GPI can also inform you of any special requirements you will need to follow for shipping.

⚠ CAUTION

Do not return the pump without authority from the Customer Service Department. Due to strict government regulations, GPI cannot accept pumps unless they have been drained and cleaned.

SAVE THESE INSTRUCTIONS

Limited Warranty Policy

Great Plains Industries, Inc. 5252 E. 36th Street North, Wichita, KS USA 67220-3205, hereby provides a limited warranty against defects in material and workmanship on all products manufactured by Great Plains Industries, Inc. This product includes a 1 year warranty from date of purchase as evidenced by the original sales receipt. A 30 month warranty from product date of manufacture will apply in cases where the original sales receipt is not available. Reference product labeling for the warranty expiration date based on 30 months from date of manufacture. Manufacturer's sole obligation under the foregoing warranties will be limited to either, at Manufacturer's option, replacing or repairing defective Goods (subject to limitations hereinafter provided) or refunding the purchase price for such Goods theretofore paid by the Buyer, and Buyer's exclusive remedy for breach of any such warranties will be enforcement of such obligations of Manufacturer. The warranty shall extend to the purchaser of this product and to any person to whom such product is transferred during the warranty period.

This warranty shall not apply if:

- A. the product has been altered or modified outside the warrantor's duly appointed representative;
- B. the product has been subjected to neglect, misuse, abuse or damage or has been installed or operated other than in accordance with the manufacturer's operating instructions.

To make a claim against this warranty, contact the GPI Customer Service Department at 316-686-7361 or 800-835-0113. Or by mail at:

Great Plains Industries, Inc.
5252 E. 36th St. North
Wichita, KS, USA 67220-3205

GPI will step you through a product troubleshooting process to determine appropriate corrective actions.

GREAT PLAINS INDUSTRIES, INC., EXCLUDES LIABILITY UNDER THIS WARRANTY FOR DIRECT, INDIRECT, INCIDENTAL AND CONSEQUENTIAL DAMAGES INCURRED IN THE USE OR LOSS OF USE OF THE PRODUCT WARRANTED HEREUNDER.

The company herewith expressly disclaims any warranty of merchantability or fitness for any particular purpose other than for which it was designed.

This warranty gives you specific rights and you may also have other rights which vary from U.S. state to U.S. state.

Note: In compliance with MAGNUSON MOSS CONSUMER WARRANTY ACT – Part 702 (governs the resale availability of the warranty terms).



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