

Liberty Pumps®

Installation Manual

7387000D

HT40-Series High Temp Submersible Pumps

***Do not throw away or lose this manual.**

Models

HT41M	4/10 HP	115V	Manual
HT41A	4/10 HP	115V	Automatic



Contents

- 1.) General Information/Safety Guidelines
- 2.) Installation
- 3.) Maintenance and Troubleshooting

IMPORTANT:

Prior to installation, record Model, Serial Number, and Code Number from pump nameplate for future reference.

MODEL _____

SERIAL _____

CODE _____

INSTALLATION
DATE _____

Liberty Pumps®

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1. General Information/Safety Guidelines

Before Installation, read the following instructions carefully. Each Liberty pump is individually factory tested to assure proper performance. By closely following these instructions, potential operating problems should be eliminated, providing years of trouble-free service.

⚠ WARNING

- **Risk of electric shock.** Always disconnect the pump from the power source before handling or making adjustments.
- The electrical connections and wiring for a pump installation should only be made by qualified personnel.
- This pump is supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type 15 Amp receptacle.
- Always wear rubber boots when water is on the floor and you must unplug the pump.
- DO NOT bypass grounding wires or remove ground prong from attachment plugs.
- DO NOT use an extension cord.
- This pump requires a separate, properly fused and grounded branch circuit. Make sure the power source is properly sized for the voltage and amperage requirements of the pump, as noted on the nameplate.
- The electrical outlet shall be within the length limitations of the pump power cord, and at least 4 feet above floor level to minimize possible hazards from flood conditions.
- The installation must be in accordance with the National Electric Code, Uniform Plumbing Code, International Plumbing Code, as well as all applicable local codes and ordinances.
- Sump and sewage pumps often handle materials which could cause illness or disease. Wear adequate protective clothing when working on a used pump or piping.
- Never enter a pump basin after it has been used. Sewage and effluent can emit several gases which are poisonous.
- Keep clear of suction and discharge openings. To prevent injury, never insert fingers into pump while it is plugged in.
- DO NOT use this product for flammable or corrosive liquid.
- DO NOT use this product in applications where human contact with the pumped fluid is common (such as swimming pools, fountains, etc.)
- NEVER dispose of materials such as paint thinner or other chemicals down drains, as they can chemically attack and damage pump components, potentially causing product malfunction or failure.

⚠ CAUTION

- This pump is designed to pump high temperature water. The maximum water temperature is 200°F on an intermittent basis. The maximum water temperature for continuous operation (duty cycle) is 190°F.
- DO NOT use pumps in mud, sand, cement, oil or chemicals.
- DO NOT modify the pump in any way.
- DO NOT lift or carry pump by power cord.
- DO NOT remove any tags from pump or cords.
- If pump is installed during construction before power is available, it must be protected from the environment to prevent water from entering through the cord plug end, etc.

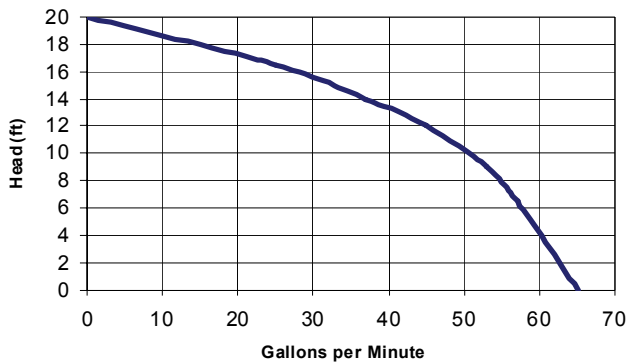
Materials to avoid: Use of this pump in high temperature water necessitates that accessories be rated for high temperature use as well. The following table includes a short list of accessories and materials to avoid, and recommended alternatives. This list is not intended to be all-inclusive, and consideration should be given to the temperature rating of all materials that will come in contact with high temperature water.

	Pipe	Control / Alarm floats	Sump / Basin
Unacceptable	PVC, CPVC, polyethylene tube	Standard pump, control, and alarm floats	Polyethylene, fiberglass
Acceptable	Steel, copper	High temperature pump, control, and alarm floats	Concrete, steel

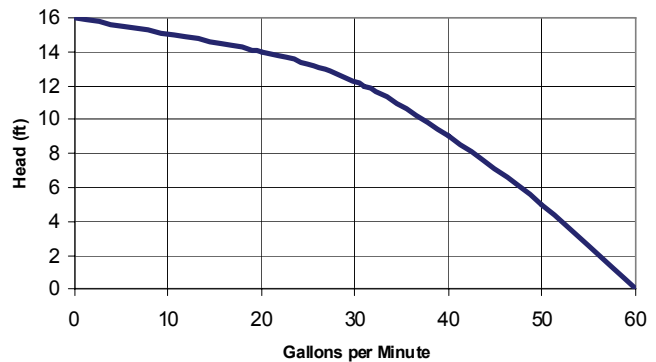
MODEL SPECIFICATIONS

Model	HP	Volts	Phase	Full Load Amps	Cord Length	Solids Handling	FNPT Discharge	Automatic or Manual	Shut-off Head *
HT41M	4/10	115	1	12	10 ft.	3/4"	1 1/2"	Manual	20' *
HT41M-2	4/10	115	1	12	20 ft.	3/4"	1 1/2"	Manual	20' *
HT41A	4/10	115	1	12	10 ft.	3/4"	1 1/2"	Automatic	20' *
HT41A-2	4/10	115	1	12	20 ft.	3/4"	1 1/2"	Automatic	20' *

Performance - 77°F Water



Performance - 200°F Water

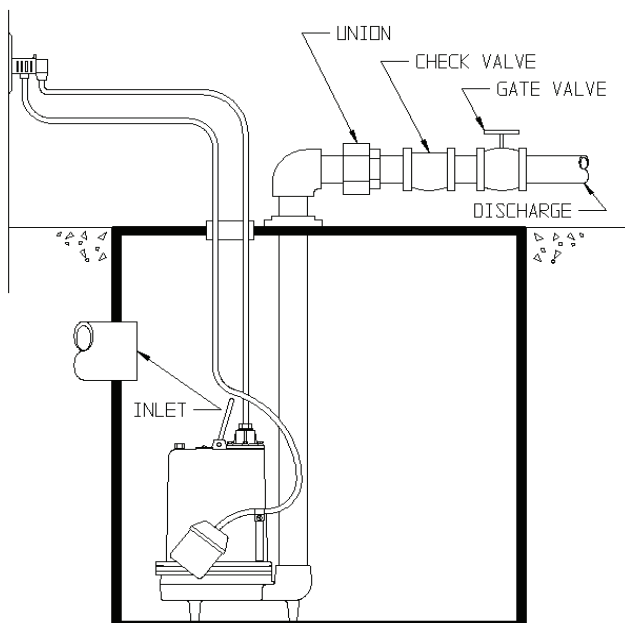


* Maximum (shut-off) head and pump performance vary relative to the temperature of the water being pumped. Please review the performance curves relative to your application.

2. Installation

Fig. 1 – Typical Installation

This is a recommended installation only. Variations may apply.



Set the pump in place making sure the float has adequate clearance to the side wall of the basin. If an optional control device or float is used, follow the directions for mounting that accompany the optional control. Connect the discharge pipe to the pump's threaded discharge. **IMPORTANT: DO NOT REDUCE THE DISCHARGE PIPE SIZE BELOW THAT WHICH IS PROVIDED ON THE PUMP.** In some applications, it may be necessary to increase the pipe size to reduce friction losses. Contact Liberty Pumps or other qualified person if you have questions regarding proper pipe sizes and flow rates.

After the pump has been mounted, install the remaining discharge line. A union should be installed just above the cover to facilitate pump removal if necessary. A check valve is recommended after the union to prevent the backflow of liquid after each pumping cycle. A gate valve should follow the check valve to allow periodic cleaning of the check valve or removal of the pump.

The remainder of the discharge line should be as short as possible with a minimum number of turns, to minimize friction head loss. Do not restrict the discharge below that which is provided on the pump. Larger pipe sizes may be required to eliminate friction head loss over long runs. Contact Liberty Pumps or other qualified person if there are questions regarding proper pipe size and flow rates.

These pumps come equipped with an air bleed hole to help prevent air lock. A small spray of water from this hole is normal while pump is running.

⚠ WARNING

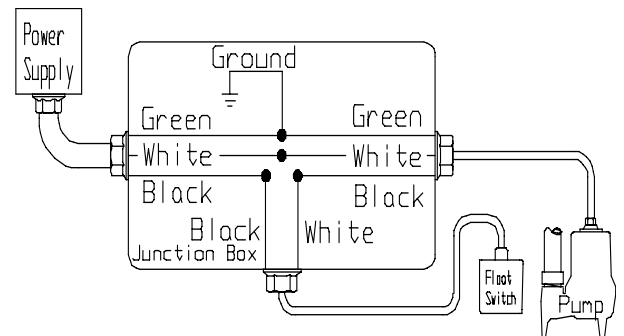
- **Risk of electric shock.** Always disconnect the pump from the power source before handling or making adjustments.
- This pump is supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle. This receptacle should be protected by a ground fault circuit interrupter (GFCI)
- Never remove the ground pin from the plug.
- Do not use an extension cord.

⚠ WARNING

- All electrical circuitry should be installed by qualified personnel in accordance with the National Electric Code (NEC) and all applicable local codes or ordinances.
- This pump requires separate, properly fused and grounded branch circuit. Make sure the power source is properly sized for the voltage and amperage requirements of the motor, as noted on the pump nameplate.
- The electrical outlet or panel shall be within the length limitations of the pump power cord, and at least 4 feet above floor level to minimize possible hazards from flood conditions.

If the pump is to be wired directly into a control device or junction box, and it is necessary to remove the plugs, have a certified electrician do the wiring in accordance with the National Electric Code and applicable local codes. See Fig. 2 for direct wire installation of single phase automatic pumps.

Fig. 2 – Direct Wiring of 115V or 208-230V, Single Phase, Automatic Pumps



3. Maintenance and Troubleshooting

⚠ WARNING

Risk of electric shock. Always disconnect the pump from the power source before handling or making adjustments.

Problem	Cause	Correction
Pump will not run.	• Blown fuse or other interruption of power; improper voltage.	• Check that the unit is securely plugged in. Have an electrician check all wiring for proper connections and adequate voltage and capacity.
	• Switch is unable to move to the “turn on” position due to interference with the side of basin or other obstruction	• Position the pump or switch so that it has adequate clearance for free operation.
	• Insufficient liquid level.	• Make sure the liquid level is allowed to rise enough to activate switch(s).
	• Defective switch.	• Remove and replace switch.
Pump will not turn off.	• Switch(s) unable to move to the “turn off” position due to interference with the side of basin or other obstacle.	• Position the pump or switch so that it has adequate clearance for free operation.
	• Defective switch.	• Remove and replace switch.

Pump runs or hums, but does not pump.	<ul style="list-style-type: none"> Discharge is blocked or restricted. 	<ul style="list-style-type: none"> Check the discharge line for foreign material, including ice if the discharge line passes through or into cold areas.
	<ul style="list-style-type: none"> Check valve is stuck closed or installed backwards. 	<ul style="list-style-type: none"> Remove check valve(s) and examine for freedom of operation and proper installation.
	<ul style="list-style-type: none"> Gate or ball valve is closed. 	<ul style="list-style-type: none"> Open gate or ball valve.
	<ul style="list-style-type: none"> Total lift is beyond pump's capability. 	<ul style="list-style-type: none"> Try to route piping to a lower level. If not possible, a larger pump may be required. Consult the factory.
	<ul style="list-style-type: none"> Pump impeller is jammed or volute casing is plugged. 	<ul style="list-style-type: none"> *Remove the pump from the basin. Detach the pump base and clean the area around the impeller. Reassemble and reinstall.
Pump runs periodically when fixtures are not in use.	<ul style="list-style-type: none"> Check valve was not installed, is stuck open or is leaking. 	<ul style="list-style-type: none"> Remove check valve(s) and examine for freedom of operation and proper installation.
	<ul style="list-style-type: none"> Fixtures are leaking. 	<ul style="list-style-type: none"> Repair fixtures as required to eliminate leakage.
Pump operates noisily.	<ul style="list-style-type: none"> Foreign objects in the impeller cavity. 	<ul style="list-style-type: none"> *Remove the pump from the basin. Detach the pump base and clean the area around the impeller. Reassemble and reinstall.
	<ul style="list-style-type: none"> Broken impeller. 	<ul style="list-style-type: none"> Consult the factory for information regarding replacement of impeller.
	<ul style="list-style-type: none"> Worn bearings. 	<ul style="list-style-type: none"> Return pump to the factory or authorized repair station for repair.
	<ul style="list-style-type: none"> Piping attachments to building are too rigid. 	<ul style="list-style-type: none"> Replace a portion of the discharge line with rubber hose or connector.

***NOTE:** Liberty Pumps, Inc. assumes no responsibility for damage or injury due to disassembly in the field. Disassembly, other than at Liberty Pumps or its authorized service centers, automatically voids warranty.

Liberty Pumps, Inc. warrants that pumps of its manufacture are free from all factory defects in material and workmanship for a period of 2 years from the date of purchase. The date of purchase shall be determined by a dated sales receipt noting the model and serial number of the pump. The dated sales receipt must accompany the returned pump if the date of return is more than 2 years from the "CODE" (date of manufacture) number noted on the pump nameplate.

The manufacturer's obligation under this Warranty shall be limited to the repair or replacement of any parts found by the manufacturer to be defective, provided the part or assembly is returned freight prepaid to the manufacturer or its authorized service center, and provided that none of the following warranty-voiding characteristics are evident.

The manufacturer shall not be liable under this Warranty if the product has not been properly installed; if it has been disassembled, modified, abused or tampered with; if the electrical cord has been cut, damaged or spliced; if the pump discharge has been reduced in size; if the pump has been used in water temperatures above the advertised rating, or water containing sand, lime, cement, gravel or other abrasives; if the product has been used to pump chemicals or hydrocarbons; if a non-submersible motor has been subjected to excessive moisture; or if the label bearing the serial, model and code number has been removed. Liberty Pumps, Inc. shall not be liable for any loss, damage or expenses resulting from installation or use of its products, or for consequential damages, including costs of removal, reinstallation or transportation.

There is no other express warranty. All implied warranties, including those of merchantability and fitness for a particular purpose, are limited to two years from the date of purchase.

This Warranty contains the exclusive remedy of the purchaser, and, where permitted, liability for consequential or incidental damages under any and all warranties are excluded.

