

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

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Garden Hose Centrifugal Pump

INSTALLATION INSTRUCTIONS













These installation instructions are applicable for Models HPP360, HPP12V and 473707 Portable Utility Pumps

PREINSTALLATION CHECKLIST - ALL INSTALLATIONS

ATTENTION: READ CAREFULLY BEFORE ATTEMPTING TO INSTALL OR OPERATE YOUR PUMP. PROTECT YOURSELF AND OTHERS BY OBSERVING ALL SAFETY INFORMATION AND ADDITIONAL INSTRUCTIONS INCLUDED WITH EQUIPMENT. FAILURE TO COMPLY WITH INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE! RETAIN FOR FUTURE REFERENCE.

WARNING

SEE BELOW FOR LIST OF WARNINGS

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| <ol style="list-style-type: none"> 1.  Make sure that the pump is plugged into a properly grounded electrical receptacle. Use an Underwriters Laboratory listed circuit analyzer to test for proper installation of the circuit and ground. Any service to circuits or receptacles should be conducted by a qualified licensed electrician. 2.  Do not remove the ground pin from the plug under any circumstances. If the ground pin is damaged, replace the power cord or plug before use. 3.  All electrical installations must conform to the requirements of the National Electric Code and all local codes. 4.  It is strongly recommended that the 115 volt units (Models HPP360 and 473707) be plugged into a G.F.I. protected circuit. 5.  Disconnect power before servicing the pump or motor. For Model HPP12V, remove both battery clips from the battery. For Models HPP360 and 473707, unplug the unit from the outlet. 6.  Do not touch the motor when operating and allow the motor to cool before touching it afterwards. 7. This pump is designed for water only. It has not been evaluated for pumping of chemicals. 8.  Do not use this product to pump flammable or explosive liquids. | <ol style="list-style-type: none"> 9.  Do not use this product in hazardous environments or anywhere a spark could potentially ignite explosive gases. 10.  Do not handle this product with wet hands or while standing in water or on a wet or damp surface. 11. Models HPP360 and 473707 are supplied with an automatically resetting thermal overload device and can restart without warning. 12.  Do not submerge the pump or motor in water. 13. Secure the discharge line before starting the pump. An unsecured hose can whip, possibly causing personal injury or property damage. 14.  Provide a means of pressure relief if the pump discharge can be shut off or obstructed. Pumps operating against a closed discharge can create very hot pumped liquid, which can cause burns. 15. Do not operate this product while unattended. 16. Risk of electric shock - These pumps have not been investigated for use in swimming pool areas. 17.  WARNING This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. |
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CAUTION

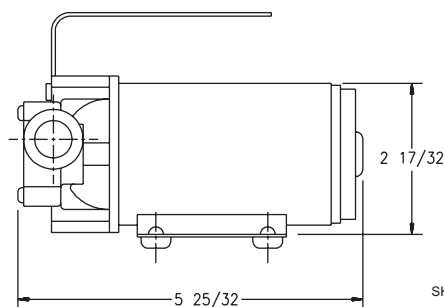
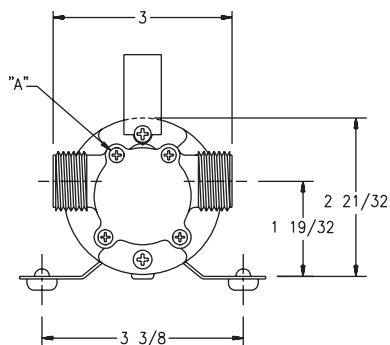
SEE BELOW FOR LIST OF CAUTIONS

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| <ol style="list-style-type: none"> 1. Make certain that the power source conforms to the requirements of the equipment as stated on the product nameplates. 2. Check hoses for weak or worn conditions before use and make certain that all connections are secure. 3. Periodically inspect the pump for damage and perform routine maintenance as required. 4. The maximum temperature of the pumped liquid must not exceed 130 deg. F. The minimum allowable temperature is 40 deg. F. | <ol style="list-style-type: none"> 5. Use a screen or strainer on the inlet to prevent solids from entering the pump. 6. NOTE: Pumps with the UL mark are certified by UL and tested to UL standard UL778. Pumps with the CSA mark are certified by CSA to CSA standard C22.2 No.108. Pumps with the cCSAus mark are certified by CSA to CSA standard C22.2 No.108 and UL standard UL778. |
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DESCRIPTION

This marine utility pump is designed for general commercial and industrial applications. Unit is designed for water, but is not submersible. For use transferring liquids, emptying or filling tanks, sinks or bowls. The pump can be used as a bilge pump (not to be used in bilge areas). Self-priming to 7 ft. if the impeller is initially wet (primed). For occasional use. NOTE: Unit

is NOT RECOMMENDED for use with soap detergents, gasoline, fuel oil, flammable, explosive or combustible liquids or other fluids not compatible with pump component materials. Do not use unit in enclosed areas.



SK2206

INSTALLATION

1. Pump should be placed as close to source of liquid and power as possible, not more than 7 feet above liquid source if self-priming, and not more than 25 feet from power source.
2. Use reinforced plastic or fabric tubing or metal pipe for the suction side of the pump. This will prevent collapse of the suction piping. Discharge piping should never be larger than suction piping!
3. Attach suction line piping to the suction inlet and discharge line piping to the discharge outlet.
4. Avoid using looped sections of pipe which might permit air to become entrapped.
5. Piping should be checked for any leaks at the connections. Small leaks in suction line greatly reduce efficiency of pump, and may prevent priming. (Never operate a pump unless it is secured to a solid foundation.)
6. Do not operate pump dry. Impeller and seal damage will result.
7. Protect pump from extreme heat, cold, and humidity. This unit is not waterproof and is not intended to be used in showers, saunas, or other potentially wet locations. The motor is designed to be used in a clean, dry location with access to an adequate supply of cooling air. Ambient temperature around the motor should not exceed 104° F (40° C). For outdoor installations, motor must be protected by a cover that does not block airflow to and around the motor. This unit is not weatherproof, nor is it able to be submersed in water or any other liquid.
8. Install a foot valve and prime pump when suction lift is over six feet or when suction line is longer than six feet.
9. It is strongly recommended that Models HPP360 and 473707 are plugged into a G.F.I. (Ground Fault Interrupter Circuit). Consult your local electrician for installation and availability.

OPERATION

1. Pumps are self-priming and should prime themselves within 25 seconds after pump is started. Wetting impeller with pumped fluid and keeping the impeller coated with silicone grease will lengthen its life and improve priming action. Running the impeller dry for as short as 30 seconds can ruin the impeller (Ref. No. 5). Keep suction line as short as possible.

NOTE: An easy way to prime the pump (wet impeller), if using a garden hose, is to fill the discharge hose; elevate the discharge hose slightly to

- retain water and start the pump. Another method would be to disconnect the discharge hose from the pump, making a U-bend of the discharge hose, fill the hose and then reconnect to the pump (without losing the water). In both cases, the water behind the impeller will seal the pump and it will prime almost immediately.
2. Be sure hose attachments or piping connections are tight. Any leakage in suction side will prevent pump from priming.

MAINTENANCE

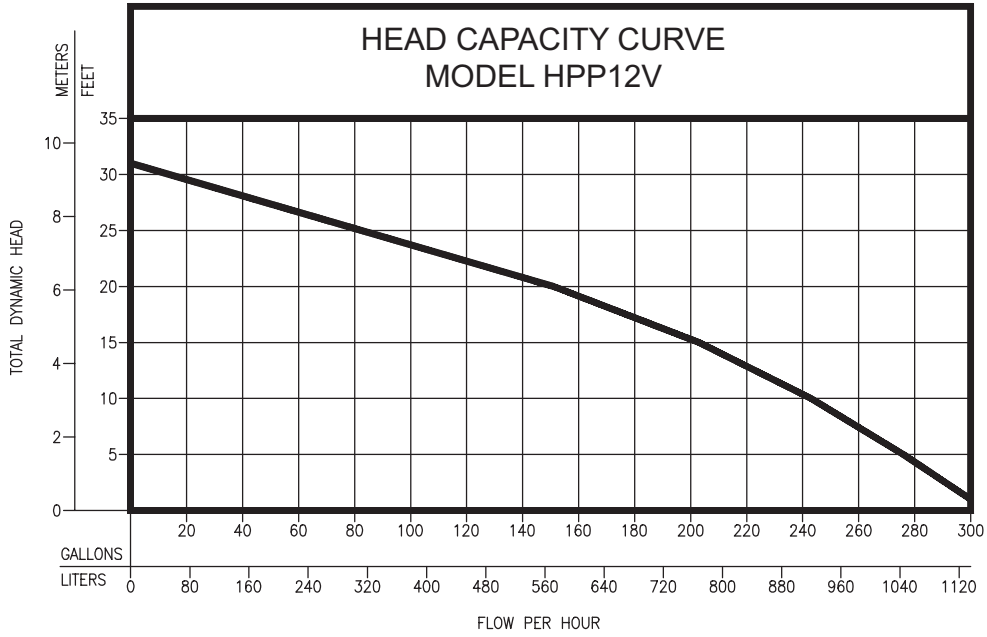
1. Always drain pump when not in use.
2. If pump is not going to be used for a month or longer, flush with fresh water and remove body cover, take impeller out, clean inside body and apply generous coating of silicone grease to both inside body and impeller before replacing impeller in body.
3. Pump should be checked daily, weekly, monthly, etc. for proper operation. If anything has changed since unit was new, unit should be removed and repaired or replaced. Only qualified electricians or servicemen should attempt to repair the motor of this unit. Improper repair and/or assembly can cause an electrical shock hazard.

HOW TO REPLACE IMPELLER

Replace impeller when it has been worn or damaged by foreign objects, pumping improper liquid or dry running.

1. Remove four screws at "A" (see figure above).
2. Remove cover plate.
3. Using your fingers, remove damaged or worn impeller.
4. Clean the inside of the pump head and remove any foreign materials which will obstruct the impeller's operation.
5. Apply silicone grease or similar lubricant to both the inside of pump head and to the outside diameter of the impeller.
6. Align the flat on the inside of the new impeller with the flat on the motor shaft. Push into place while twisting blades in a clockwise direction.
7. Place new gasket on pump body face, align holes and replace cover.
8. Tighten all four screws evenly and snugly.
9. Replacement impeller/gasket kits are available as part number KH71.

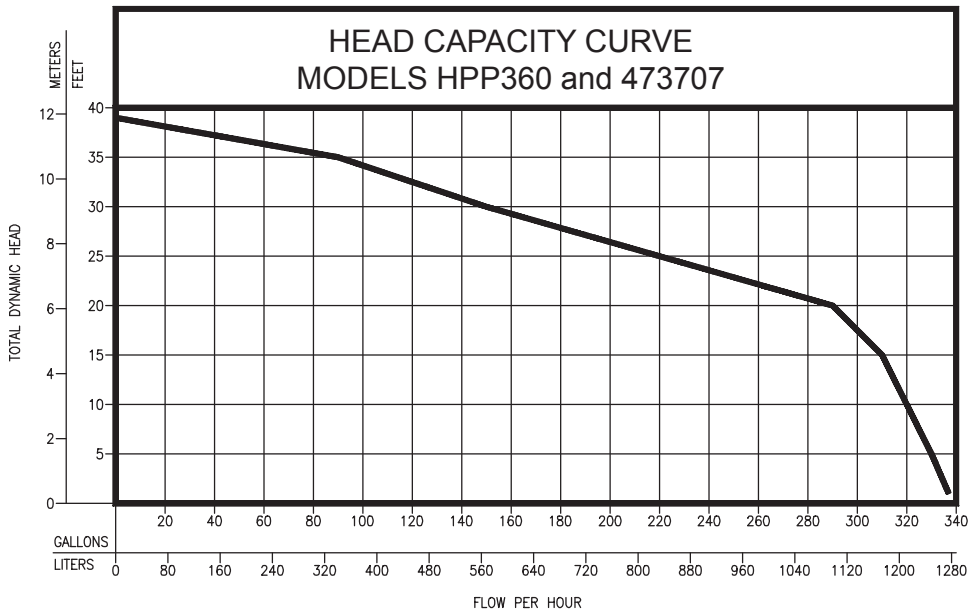
PERFORMANCE



TOTAL DYNAMIC HEAD/CAPACITY
PER HOUR
DEWATERING

MODEL		HPP12V	
Feet	Meters	Gal.	Liters
1	0.3	300	1136
5	1.5	276	1045
10	3.0	243	920
15	4.6	203	768
20	6.1	151	572
25	7.6	82	310
Shut-off Head:		31 ft. (9.5m)	

SK2176A-FW



TOTAL DYNAMIC HEAD/CAPACITY
PER HOUR
DEWATERING

MODELS		HPP360 473707	
Feet	Meters	Gal.	Liters
1	0.3	337	1276
5	1.5	330	1249
10	3.0	320	1211
15	4.6	310	1173
20	6.1	290	1098
25	7.6	220	833
30	9.1	150	568
35	10.7	90	341
Shut-off Head:		39 ft. (11.9m)	

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TROUBLE SHOOTING GUIDE



▲ WARNING ELECTRICAL PRECAUTIONS- Before servicing a pump, always shut off the main power breaker and then unplug the pump. Make sure you are not standing in water and are wearing insulated protective sole shoes. Under flooded conditions, contact your local electric company or a qualified licensed electrician for disconnecting electrical service prior to pump removal.

CONDITION	COMMON CAUSES
A. Pump will not prime or retain prime after operating.	Suction lift too high, hose kinked or hose fitting not tight on head, air leak in suction line, defective cam or impeller or gasket leaking
B. Pump runs but no fluid.	Faulty suction piping, defective cam or impeller, suction lift too high, discharge head too great, clogged inlet, pump too far from liquid. <u>DC HPP12V</u> : Verify red battery clip is placed on the positive terminal and black clip is on the negative terminal.
C. Motor runs too hot.	Voltage incorrect, excessive discharge pressure, impeller swollen, liquid too viscous, plugged or kinked discharge, insufficient air flow on motor, liquid too hot.
D. Flow rate is low.	Piping or hose is fouled or damaged, clogged impeller, worn impeller, voltage incorrect, hoses too long.
E. Pump will not run.	Inspect power source, impeller jammed, motor overheated.

LIMITED WARRANTY

This product is warranted for one year from the date of purchase or two years from the date of manufacture, whichever occurs first. Subject to the conditions hereinafter set forth, the manufacturer will repair or replace to the original consumer, any portion of the product which proves defective due to defective materials or workmanship. To obtain warranty service, contact the dealer from whom the product was purchased. The manufacturer retains the sole right and option to determine whether to repair or replace defective equipment, parts or components. Damage due to conditions beyond the control of the manufacturer is not covered by this warranty.

THIS WARRANTY WILL NOT APPLY: (a) To defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with printed instructions provided; (b) to failures resulting from abuse, accident or negligence or use of inappropriate chemicals or additives in the water; (c) to normal maintenance services and the parts used in connection with such service; (d) to units which are not installed in accordance with normal applicable local codes, ordinances and good trade practices; and (e) the unit is used for purposes other than for what it was designed and manufactured.

RETURN OF WARRANTED COMPONENTS: Any item to be repaired or replaced under this warranty must be returned to the manufacturer at Kendallville, Indiana or such other place as the manufacturer may designate, freight prepaid.

THE WARRANTY PROVIDED HEREIN IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES, AND MAY NOT BE EXTENDED OR MODIFIED BY ANYONE. ANY IMPLIED WARRANTIES SHALL BE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY AND THEREAFTER ALL SUCH IMPLIED WARRANTIES ARE DISCLAIMED AND EXCLUDED. THE MANUFACTURER SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES, SUCH AS, BUT NOT LIMITED TO DAMAGE TO, OR LOSS OF, OTHER PROPERTY OR EQUIPMENT, LOSS OF PROFITS, INCONVENIENCE, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY TYPE OR NATURE. THE LIABILITY OF THE MANUFACTURER SHALL NOT EXCEED THE PRICE OF THE PRODUCT UPON WHICH SUCH LIABILITY IS BASED.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow limitations on duration of implied warranties or exclusion of incidental or consequential damages, so the above limitations may not apply to you.

WARRANTY VALID IN CANADA AND MEXICO.