PENTAIR CSS-3D Hydromatic Preplumbed Sump Pump System Owner's Manual

Contents

PENTAIR CSS-3D Hydromatic Preplumbed Sump Pump System

Product Information

The Preplumbed Sump Pump System is a CSS-3D, CSS-3V model that is designed to pump water from a sump pit in a basement or crawl space. It is a submersible pump that can handle up to 2820 gallons per hour (GPH) or 10,675 liters per hour (LPH) at 5 feet or 1.5 meters of lift. It has a motor horsepower of .30 and requires an individual branch circuit of 15 amps. The pump, motor, switch, and cord are permanently lubricated, and the cord length is 10 feet or 3 meters.

Safety Information

It is important to carefully read and follow all safety instructions in the manual or on the pump. The safety alert symbol indicates potential hazards that can cause personal injury or property damage if ignored. The pump has hazardous voltage, so it is important to disconnect power to the outlet box before unplugging the pump for servicing. It is also important to not modify the cord and plug and to only plug it into a grounded outlet. Do not run the pump dry as it can overheat and void the warranty. Allow the pump to cool for 20 minutes before handling it after shutdown.

Product Usage Instructions

1. Check your local codes before installing the Preplumbed Sump Pump System. You must comply with their rules.
2. Make sure the basin and pump are not installed in any location classified as hazardous by the United States National Electrical Code (NEC), or by the Canadian Electrical Code (CEC), where applicable.
3. If the pump needs servicing, disconnect power to outlet box before unplugging the pump. Unplug the pump before handling or servicing it.
4. When wiring to a system control, connect the pump ground lead to the system ground.
5. Do not modify the cord and plug. When using the cord and plug, plug into a grounded outlet only.
6. Do not run the pump dry. Dry running can overheat the pump and void the warranty.
7. Allow the pump to cool for 20 minutes after shutdown before handling it.

Safety

safety information

Carefully read and follow all safety instructions in this manual or on pump.

This is the safety alert symbol. When you see this symbol on your pump or in this manual, look for one of the following signal words and be alert to the potential for personal injury!

Danger: warns about hazards that will cause serious personal injury, death or major property damage if ignored.
Warning: warns about hazards that can cause serious personal injury, death or major property damage if ignored.
Caution: warns about hazards that will or can cause minor personal injury or property damage if ignored.

The word NOTICE indicates special instructions which are important but not related to hazards.

1. Read these rules and instructions carefully. Failure to follow them could cause serious bodily injury and/or property damage.
2. Check your local codes before installing. You must comply with their rules.
    - **Warning:** Hazardous voltage. Can shock, burn or kill. During operation the pump is in water. To avoid fatal shocks, proceed as follows if pump needs servicing:
3. Disconnect power to outlet box before unplugging pump.
    - Unplug the pump before handling or servicing it.
    - Take extreme care when changing fuses. Do not stand in water or put your finger in the fuse socket.
    - Do not modify the cord and plug. When using the cord and plug, plug into a grounded outlet only. When wiring to a system control, connect the pump ground lead to the system ground.
4. Do not run the pump dry. Dry running can overheat the pump (causing burns to anyone handling it), and will void the warranty.
5. The pump normally runs hot. To avoid burns when servicing pump, allow it to cool for 20 minutes after shutdown before handling it.
6. The pump is permanently lubricated. No oiling or greasing is required in normal operation.
7. Do not install the basin and pump in any location classified as hazardous by the United States National Electrical Code (NEC), or by the Canadian Electrical Code (CEC), where applicable.

California Proposition 65 Warning

Warning: This product and related accessories contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

pump specifications

- **Power Supply Required**…….. 115V, 60 Hz
- **Individual Branch Circuit Required**…….15 Amps
- **Maximum Liquid Temperature**……. 120°F (50°C)
- **Discharge Adapter**…… 1-1/2″ NPT

Description

The Hydromatic Sump Pump System, Model NumberCSS-3D or CSS-3V, is ideal for basement and cellar installations. It includes a submersible sump pump and a corrosion-resistant sump basin and lid. The pump features a flush-mount system for maximum discharge of the basin. All components of the sump pump system are preassembled at the factory for easy installation. This submersible pump is designed for sump drainage, dewatering and flood control. The pump has built-in thermal overload protection and an automatic reset. The mechanical seal and ball bearings on the motor shaft are permanently lubricated. This system is designed for residential use only. The supplied hardware kit includes a rubber inlet hub, a cord grommet and an exterior check valve. No special tools or sealants are required.

NOTICE: This system is not designed for applications involving salt water or brine! Use with salt water or brine will void warranty. Pump water only with this pump.

performance

GPH (LPH) AT TOTAL FEET (METERS) OF LIFT					No flow at height shown below
model	5 (1.5 m)	10 (3 m)	15 (4.6 m)	20 (6.1 m)	25 ft
CSS-3D, CSS-3V	2,820 (10,675)	2,280 (8,631)	1,800 (6,814)	1,020 (3,861)	(7.6 m)

- For performance at maximum temperature see Catalog.

pump, motor, switch & cord specifications

motor HP	**motor full Load amps**	**individual Branch Circuit required (amps)**	**Cord Length in ft. (m)**	**switch setting in inches (mm)**		**Discharge adapter size**
				on	**off**	
.30	8.0	15	10 (3)	8 (203)	3-1/2 (89)	1-1/2″

Description / Installation

installation

Piping

- Piping must not be smaller than pump discharge.

Electrical

Warning: Hazardous voltage. Can shock, burn, or kill. When installing, operating, or servicing this pump, follow the safety instructions listed below.

Do nt lift pump by the power cord. See “Cord Lift Warning”.

1. DO NOT splice the electrical power cord.
2. DO NOT allow the electrical cord plug to be submerged.
3. DO NOT use extension cords. They are a fire hazard and can reduce voltage sufficiently to prevent pumping and/or damage motor.
4. DO NOT handle or service the pump while it is connected to the power supply.
5. DO NOT remove the grounding prong from the plug or modify the plug. To protect against electrical shock, the power cord is a three-wire conductor and includes a 3-prong grounded plug. Plug the pump into a 3-wire, grounded, grounding-type receptacle. Connect the pump according to the NEC or CEC and local codes.

The pump is plugged into an automatic float/diaphragm switch for automatic operation. The pump will run continuously when plugged directly into an electrical outlet. Connect or wire pump to its own individual branch circuit with no other outlets or equipment in the circuit. Size fuses or circuit breakers according to the “Pump, Motor, Switch and Cord Specifications” chart.

Warning: Risk of electrical shock and fire. Be sure that power supply information (Voltage/ Hertz/Phase) in this manual matches incoming power supply exactly. Install pump according to all electrical codes that apply.

NOTICE: Proper ventilation is needed to prevent negative basin pressure and to provide air within the basin. The basin should be located at the lowest place in the basement or area to be drained. Floor drains from other areas in the basement may be tiled into the basin. Drain tile around a house foundation may also be tiled into the basin, effectively removing water and relieving pressure from this area. Basin covers are used to exclude refuse from the basin.

Limited Warranty

HYDROMATIC warrants to the original consumer purchaser (“Purchaser” or “You”) of HYDROMATIC Sump Pumps, Effluent Pumps, Sewage Pumps (other than 2-1/2”), and Package Systems, that they will be free from defects in material and workmanship for the Warranty Period of 36 months from date of manufacture.

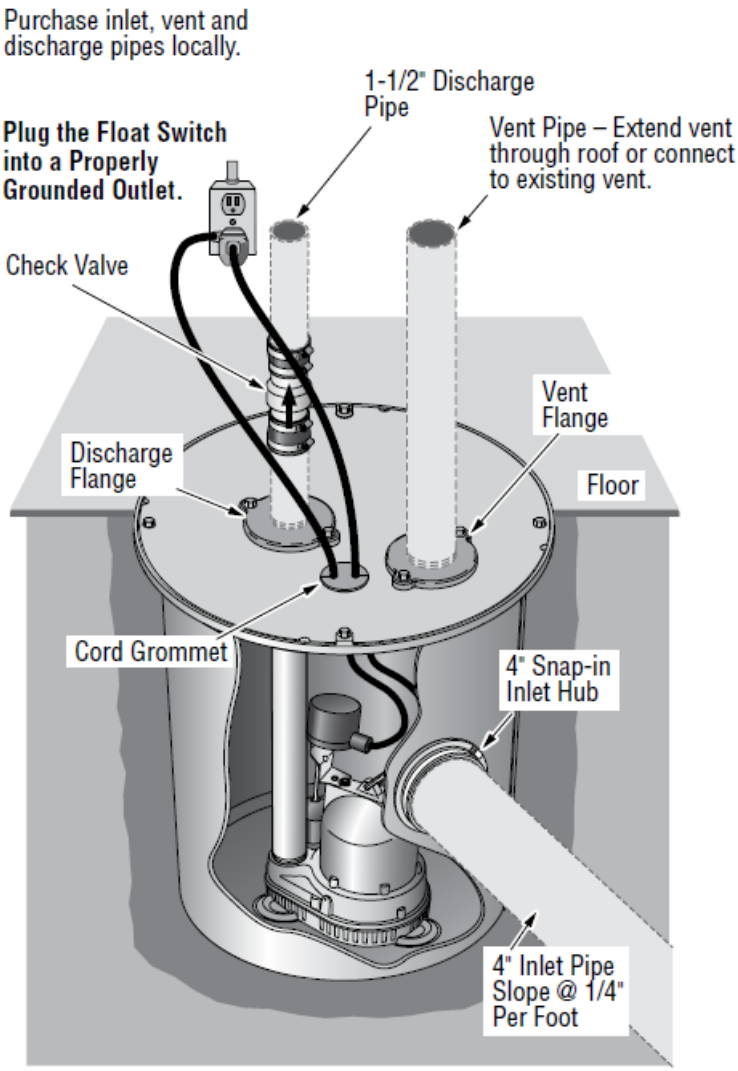
Our warranty will not apply to any product that, in our sole judgement, has been subject to negligence, misapplication,improper installation, or improper maintenance. Without limiting the foregoing, operating a three phase motor with single phase power through a phase converter will void the warranty. Note also that three phase motors must be protected by three-leg, ambient compensated, extra-quick trip overload relays of the recommended size or the warranty is void. Your only remedy, and HYDROMATIC’s only duty, is that HYDROMATIC repair or replace defective products (at HYDROMATIC’s choice). You must pay all labor and shipping charges associated with this warranty and must request warranty service through the installing dealer as soon as a problem is discovered. No request for service will be accepted if received after the Warranty Period has expired. This warranty is not transferable. EXCEPTIONS: Hydromatic Special Application Pumps, Battery Back-Up Sump Pumps, Filtered Effluent Pumps, Grinder Pumps, and 2-1/2” Sewage Pumps are warranted for a period of 12 months from date of purchase or 18 months from date of manufacture, whichever comes first.

HYDROMATIC SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, OR CONTINGENT DAMAGES WHATSOEVER. THE FOREGOING LIMITED WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE FOREGOING LIMITED WARRANTIES SHALL NOT EXTEND BEYOND THE DURATION PROVIDED HEREIN.

Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on the duration of an implied warranty, so the above limitations or exclusions may not apply to You. This warranty gives You specific legal rights and You may also have other rights which vary from state to state. This Limited Warranty is effective June 1, 2011 and replaces all undated warranties and warranties dated before June 1, 2011.

Installation / Operation

Installation Instructions



1. Dig the hole for the basin and the sub-base. The hole must be deep enough so the top of the basin is flush with the finished floor. Refer to Figure 1.
    - **NOTICE:** The sub-base should include 4″ of sand or gravel. The maximum diameter of crushed rock should be 1/2″. The recommended maximum diameter of pea gravel is 3/4″.
2. Level the sub-base out until it is smooth. Sharp rock can damage the basin.
3. Reach into the inlet hole to retrieve the hardware kit. Locate the cord grommet in the hardware kit.
4. Reach into the inlet hole again to pull the power cordsup through the cord grommet hole in the cover. Press the cords into the cord grommet and install the grommet in the cover.

5. Locate the inlet hub in the hardware kit, and snap it into the inlet hole.
6. Install the basin on top of the sub-base.
7. Insert a 4″ inlet pipe through the inlet hub. Insert it 2″ into the basin. Dish soap can be used to lubricate the inlet hub. If necessary, file the sharp edges of the pipe to prevent damage to the hub.
    - **NOTICE:** The inlet pipe should pitch down to the basin inlet at 1/4″ per foot. This will cause the water to run into the basin.
8. Backfill around the basin with crushed rock, with a maximum diameter of 1/2″, or use pea gravel.
9. Install a 1-1/2″ discharge pipe into the 1-1/2″ FNPT discharge flange.
10. Install a 2″ vent pipe into the 2″ FNPT threaded vent flange. The vent pipe must go through the roof of the building or it can be connected to an existing vent pipe. The sump basin must be vented.
    - **NOTICE:** Proper ventilation is needed to prevent negative basin pressure and to provide the necessary air within the basin.
11. Install the 1-1/2″ check valve (supplied) in the discharge pipe. See Figure 1. Make certain the flow indicating arrow points away from the pump. This check valve will keep the water from running back into the basin when the pump is not running.
    - **NOTICE:** To prevent clogging the pump, clear basin of any debris if you remove the cover during or after installation. Unplug the pump first.
12. Plug the pump into a properly grounded outlet.
13. Check the operation by filling the basin with water and observing pump operation through one complete cycle. Make sure that no parts of the assembly interfere with the float.

Warning: Failure to make this operational check may lead to improper operation, premature failure, and flooding.

Operation

NOTICE: The shaft seal depends on water for lubrication and cooling. Do not operate the pump unless it is submerged in water as the seal may be damaged if allowed to run dry. Allowing the pump to run dry will void the warranty.

An automatic overload protector in the motor will protect the motor from burning out due to overheating/ overloading. When the motor cools down, the overload protector will automatically reset and start the motor. If the overload trips frequently, check for the cause. It could be a stuck impeller, wrong/low voltage, or an electrical failure in the motor. If an electrical failure in the motor is suspected, have it serviced by a competent repairman?

The pump is permanently lubricated. No oiling or greasing is required.

NOTICE: The pump will not remove all water. For extended operation, water depth must be at least 5″ (13 cm) to prevent motor overheating.

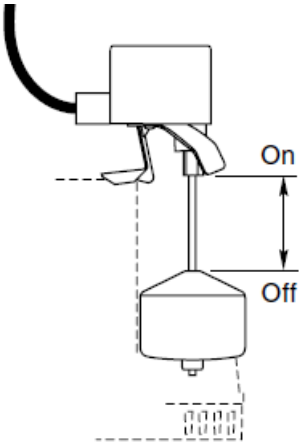
Maintenance

Airlocks

When a pump airlocks, it runs but does not move any water. An airlock will cause the pump to overheat and fail. The discharge pipe is plumbed with a predrilled antiairlock hole. Leakage from the anti-airlock hole is normal during pump operation.

Operational Check

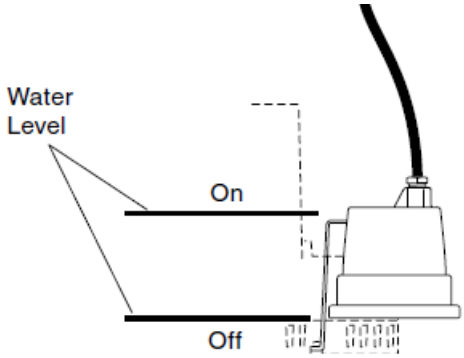
Vertical Float Switch (CSS-3V Only)



1. Fill the sump with the correct amount of water to check the operation and tightness of the connections. During the first automatic cycle, it may take 30 seconds or more before the pump is primed and pumping. The pump will start as indicated in the “Pump, Motor, Switch and Cord Specifications”.
2. Check the turn-off position. The pump will stop approximately as indicated in the “Pump, Motor, Switch and Cord Specifications”.
3. If the pump does not operate, check the electrical service. The vertical float has a short range of motion along a vertical rod, which helps prevent the float from sticking.

Diaphragm Pressure Switch (CSS-3D Only)

1. Fill the basin with enough water to cover the pump. Water pressure increases as the water level rises, engaging the switch and turning on the pump.
2. The switch will turn the pump off when the water level drops.



This mechanism should never stick because the diaphragm switch has no float. The switch is also not easily triggered by water rushing into the basin, which helps extend the life of the switch.

MAINTENANCE

Warning: Hazardous voltage. Can shock, burn, or kill. Before removing the pump from the basin for service, always disconnect electrical power to the pump and the control switch. Do not lift the pump by the power cord. See the “Cord Lift Warning” below.

NOTICE: To prevent clogging the pump, clear basin of any debris if you remove the cover during or after installation. Unplug the pump first.

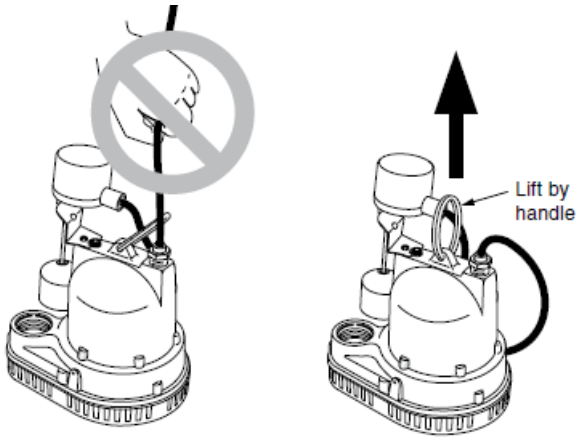
NOTICE: The pump should only be serviced by trained personnel. There are no consumer serviceable parts inside the pump.

Disconnect the discharge and vent pipes from the unit, remove the four basin cover bolts, and then lift the pump out of the basin using the pump handles. DO NOT attempt to open the pump further than removing the base and bottom plate. The pump motor housing contains a special lubricating oil which should be kept clean and free of water at all times. The sump basin and cover, pump, and piping should be protected from freezing temperatures.

WARNING

- Risk of electrical shock. Can burn or kill.
- Do not lift pump by power cord.

CORD LIFT WARNING



1. Attempting to lift or support pump by power cord can damage cord and cord connections.
2. Cord may pull apart, exposing bare wires with possibility of fire or electrical shock.
3. Lifting or supporting pump by power cord will void warranty.
4. Use lifting ring on top of pump for all lifting/ lowering of pump. Disconnect power to pump before doing any work on pump or attempting to remove pump from sump.

Cleaning

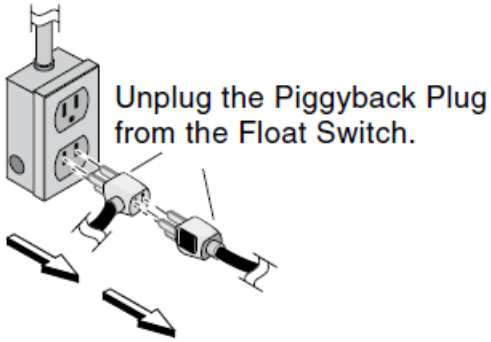
To clean the impeller

Follow the steps shown below. To reassemble pump, reverse the sequence.

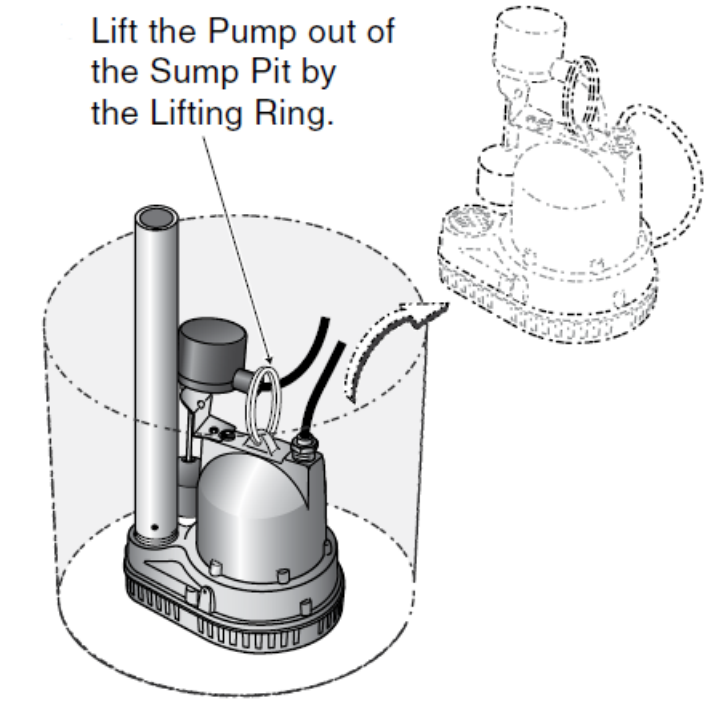
Warning: Risk of electrical shock. Can burn or cause death.

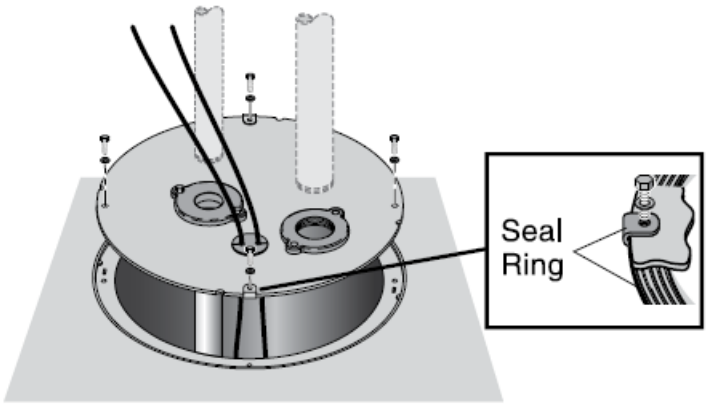
Before removing the pump from the sump for service, always disconnect the electrical power source to the pump. Do not raise, lower or carry the pump by the power cord. Use the lifting ring provided on the pump.

1. Unplug the Pump.

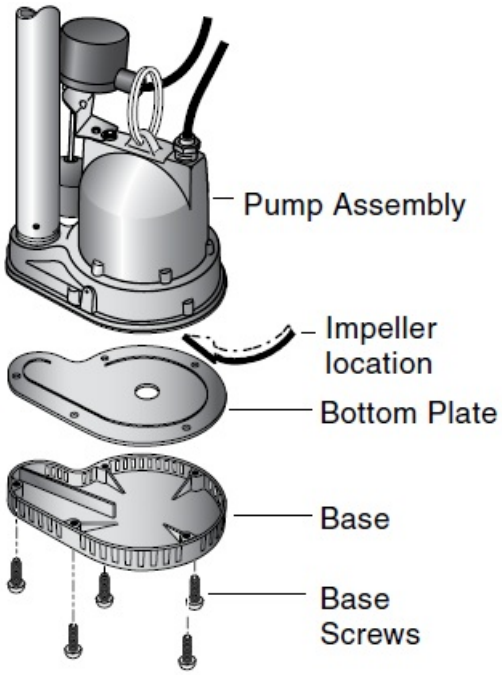


2. Disconnect the discharge and vent pipes, and remove basin cover. Be sure you do not damage the seal ring.

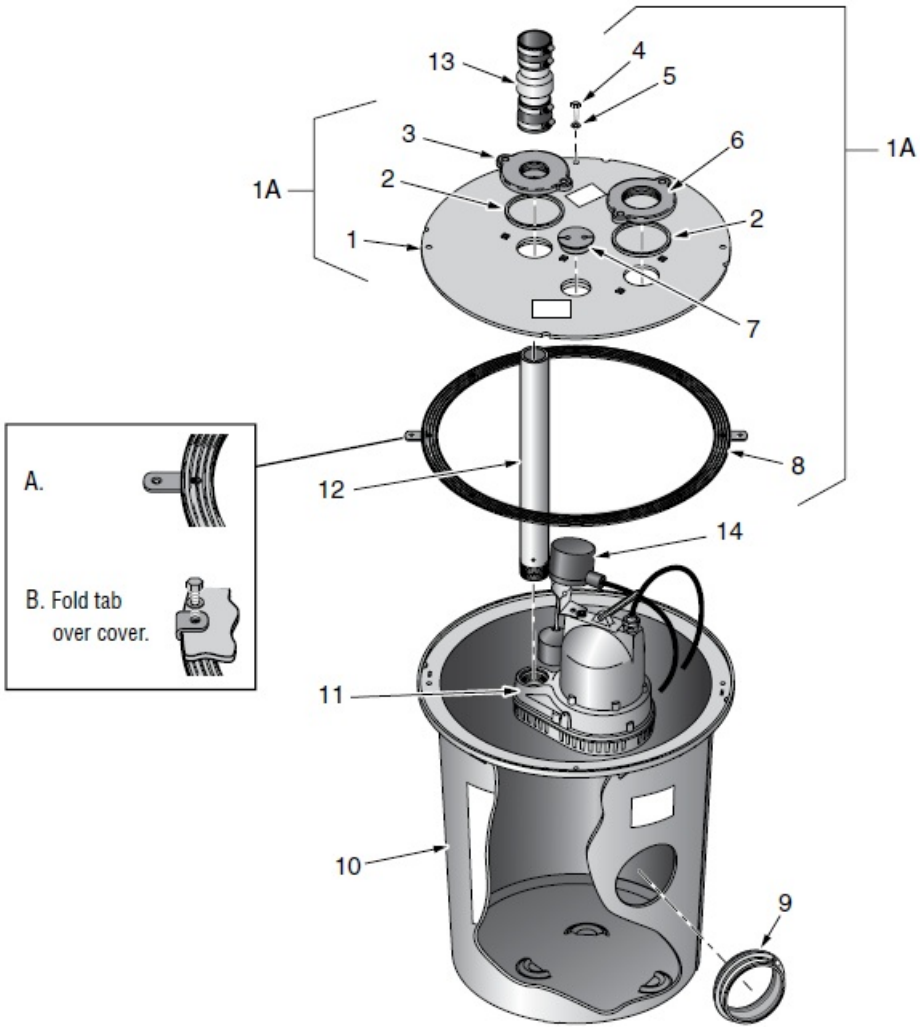




3. Remove the Screws that hold the Base to the Pump Assembly. Remove the Bottom Plate and clean out the Impeller.



Parts

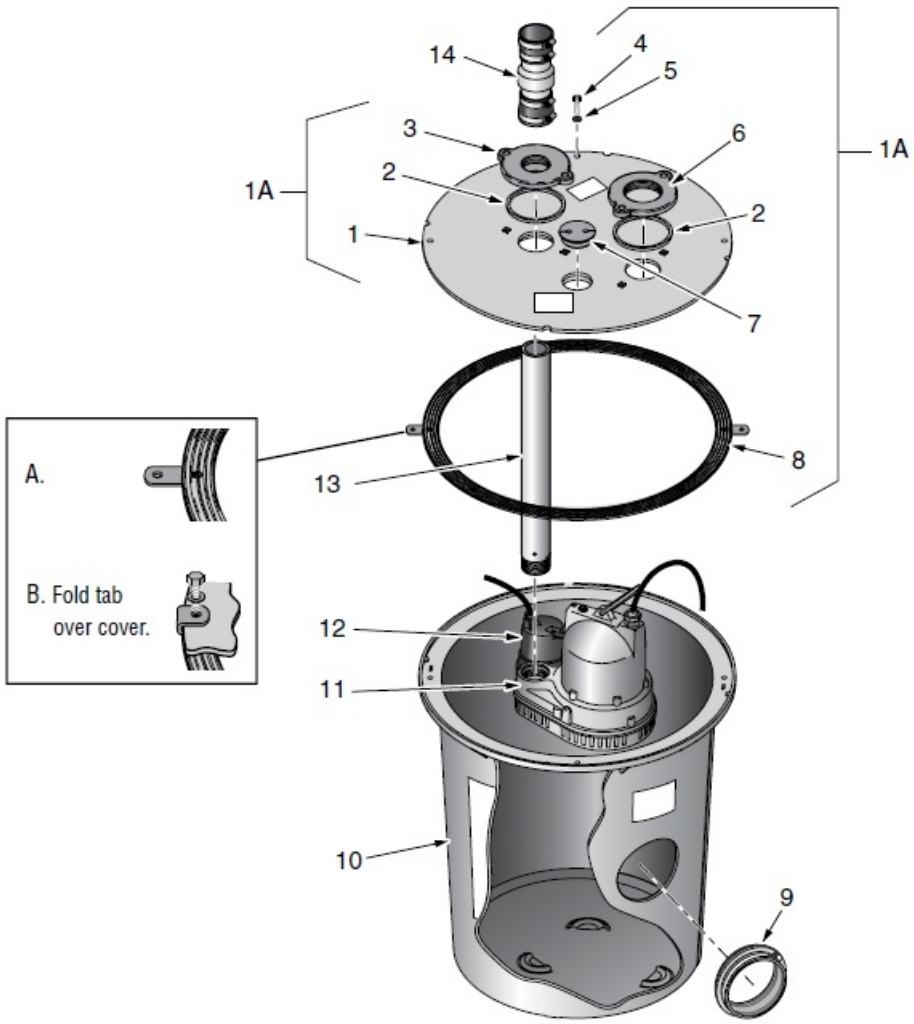


Warning

- Drowning risk to small children. Do not leave small children unattended near basin if lid is off of basin.

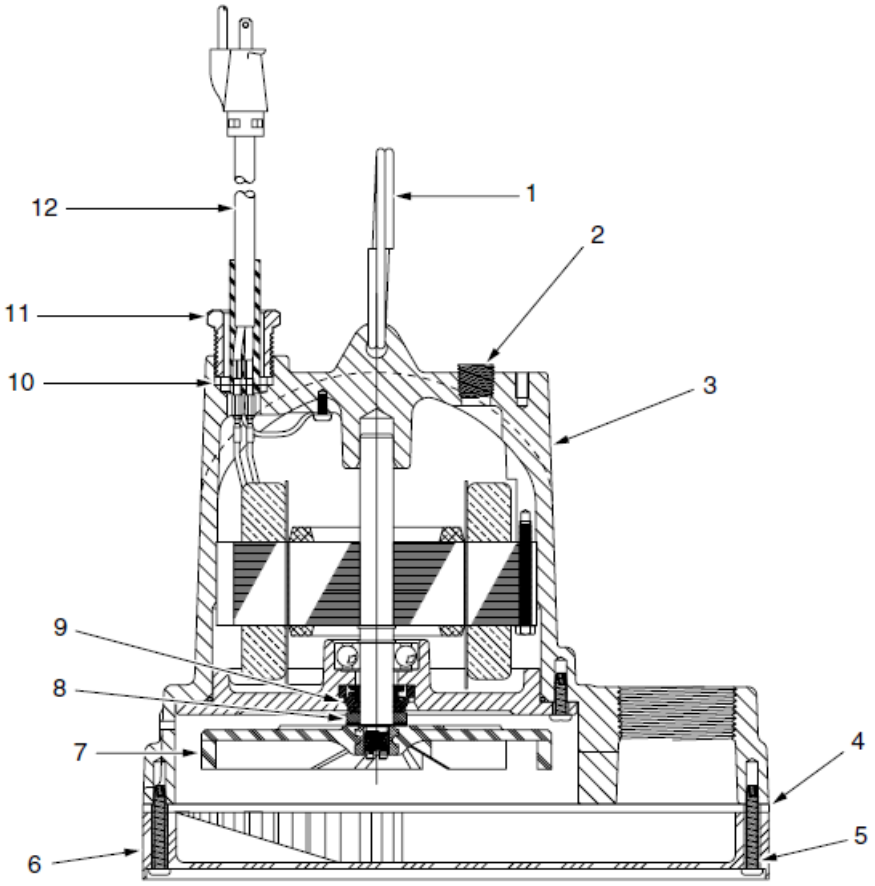
Repair Parts: PRE-PLUMBED SYSTEMS

Key No.	Part Description	Qty.	CSS-3V
1A	Basin Cover Assembly (Includes Nos. 1-8)	1	PW73-65P
1	Basin Cover	1	-
2	Square Cut O-Ring	2	-
3	Vent Flange, 2"	1	-
4	Basin Bolt	8	-
5	Flat Washer	8	-
6	Discharge Flange, 1-1/2"	1	-
7	Cord Grommet	1	-
8	Seal Ring	1	PW73-71
9	Inlet Hub, Snap-In	1	PW73-67
10	Sump Basin	1	-
11	Sump Pump	1	522480007
12	Discharge Pipe	1	U37-689P
13	Check Valve	1	PW12-260
14	Vertical Float Switch	1	13869-510-5



Repair Parts: PRE-PLUMBED SYSTEMS

Key No.	Part Description	Qty.	CSS-3D
1A	Basin Cover Assembly (Includes Nos. 1-8)	1	PW73-65P
1	Basin Cover	1	-
2	Square Cut O-Ring	2	-
3	Vent Flange, 2"	1	-
4	Basin Bolt	8	-
5	Flat Washer	8	-
6	Discharge Flange, 1-1/2"	1	-
7	Cord Grommet	1	-
8	Seal Ring	1	PW73-71
9	Inlet Hub, Snap-In	1	PW73-67
10	Sump Basin	1	-
11	Sump Pump	1	522480007
12	Diaphragm Switch	1	12752-000-5
13	Discharge Pipe	1	FP0026-1
14	Check Valve	1	PW12-260



Repair Parts: PUMP

Key No.	Part Description	Qty.	Part No.
1	Ring Handle	1	8522-010-1
2	Pipe Plug	1	14077-000-1
3	Motor Assembly Housing*	1	-
4	Bottom Plate	1	8521-101-1
5	Pan Screw	5	14770-002-1
6	Base	1	8520-002-1
7	Impeller	1	8498-003-1
8	Rotating Seal	1	5484-003-1
9	Stationary Seal	1	5484-001-1
10	O-Ring	1	834-030-1
11	Cord Nut	1	75-005-1
12	Power Cord 10'	1	14623-010-1

Troubleshooting

Troubles-remedies

Warning: Sudden Starts. If the power is on to the pump when thermal overload resets, the pump may start without warning. If you are working on the pump, you may get an electrical shock or the impeller may catch fingers or tools. Disconnect the power before servicing the pump.

a. Pump fails to operate:	1. Check to be sure that power cord is securely plugged into outlet or securel y wired into controller or switch box. Disconnect power to outlet before ha ndling pump or motor. 2. Check to be sure you have electrical power. 3. Check that liquid fluid level is high enough to activate switch or controller. 4. Check to be sure that the anti-airlock vent hole in the pump discharge is n ot plugged. 5. Check for blockage in pump inlet, impeller, check valve or discharge pipe. 6. Disconnect the pump from the power source for a minimum of 30 minutes to allow the motor to cool and to protect yourself from sudden starts. See Warning above. Check for the cause of overheating. Pump is running dry because the float s witch is caught up on something. Inlet pipe is plugged. Outlet pipe is plugged.

B. Pump fails to empty sump:	1. Be sure all valves in discharge pipe are fully open. Be sure check valve is installed with flow arrow pointing AWAY from pump. 2. Clean out discharge pipe and check valve. 3. Check for blockage in pump inlet or impeller. 4. Pump not sized properly. A higher capacity pump may be required.
C. Pump will not shut off:	1. Check switch or controller automatic floats for proper operation and location. See installation instructions for switch/controller. 2. If pump is completely inoperative or continues to malfunction, consult your local serviceman.
D. fuse blows or circuit breaker trips when pump starts:	1. Clogged inlet holes in pump base or clogged impeller. Unplug pump, remove it from the basin, and clean. 2. Defective motor. Replace pump. 3. Fuse or circuit breaker too small. Connect pump to a 15 amp circuit.
e. motor runs for a short time, then stops:	1. Clogged inlet holes in pump base or clogged impeller. Unplug pump, remove it from the basin, and clean. 2. Defective motor. Replace pump.

Installation/Operation/Parts

For further operating, installation, or maintenance assistance: Call 1-888-957-8677

- 293 WRIGHT STREET, DELAVAN, WI 53115
- WWW.hydromatic.COM

Documents / Resources

PENTAIR CSS-3D Hydromatic Preplumbed Sump Pump System [pdf] Owner's Manual
CSS-3D Hydromatic Preplumbed Sump Pump System, CSS-3D, Hydromatic Preplumbed Sump Pump System, Preplumbed Sump Pump System, Sump Pump System, Pump System