


INSTALLATION INSTRUCTIONS

MODELS:	3CDH	3CD	433063
	3CEH	3CE	440752
	5CDH	5SE	439877

PREINSTALLATION CHECKLIST - ALL INSTALLATIONS

- Inspect your pump.** Occasionally, products are damaged during shipment. If the unit is damaged, contact your dealer before using. **Do Not** remove the test plug from the pump.
- Carefully read the literature** provided to familiarize yourself with specific details regarding installation and use. These materials should be retained for future reference.

 <div style="border: 1px solid black; padding: 5px; display: inline-block;">WARNING</div> SEE BELOW FOR LIST OF WARNINGS	 <div style="border: 1px solid black; padding: 5px; display: inline-block;">WARNING</div> SEE BELOW FOR LIST OF WARNINGS
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1. Make sure there is a properly installed ground fault circuit interrupter (GFCI) protected circuit available. All pumps are furnished with provisions for proper grounding to help protect you against the possibility of electrical shock.
2. Make certain that the ground fault receptacle is within the reach of the pump's power supply cord. **DO NOT USE AN EXTENSION CORD.** Extension cords that are too long or too light do not deliver sufficient voltage to the pump motor. But, more important, they could present a safety hazard if the insulation were to become damaged or the connection ends were to fall into the sump and become wet.
3. **Make sure the pump electrical supply circuit is equipped with fuses or circuit breakers of proper capacity.** A separate branch circuit is recommended, sized according to the National Electrical Code for the current shown on the pump name plate.
4. **TESTING FOR GROUND.** As a safety measure, each electrical outlet should be checked for ground using an Underwriters Laboratory Listed circuit analyzer which will indicate if the power, neutral and ground wires are correctly connected to your outlet. If they are not, call a qualified licensed electrician.
5. Installation and checking of electrical circuits and hardware should only be performed by a qualified licensed electrician.
6. **FOR YOUR PROTECTION, ALWAYS DISCONNECT PUMP FROM ITS POWER SOURCE BEFORE HANDLING.**
7. These pumps are supplied with a 3-prong grounded plug to help protect you against the possibility of electrical shock. **DO NOT UNDER ANY CIRCUMSTANCES REMOVE THE GROUND PIN.** The 3-prong plug **must** be inserted in a mating 3-prong fault interrupter receptacle. If the installation does not have such a receptacle, it must be changed to the proper type, wired, and grounded in accordance with the National Electrical Code and all applicable local codes and ordinances.
8. **RISK OF ELECTRIC SHOCK.** These pumps have not been investigated for use in swimming pool areas.

9. This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.



CAUTION

SEE BELOW FOR LIST OF CAUTIONS

1. Check to be sure your power source is capable of handling the voltage requirements of the motor, as indicated on the pump name plate.
2. The installation of automatic pumps with auxiliary float switches is the responsibility of the installing party and care should be taken that the tethered float switch will not hang up on the pumping apparatus or pit peculiarities and is secured so that the pump will shut off. It is recommended to use rigid piping and fittings and the pit be 12" (30cm) or larger in diameter.
3. These pumps are not designed or intended to be used to handle sewage or effluent.
4. Maximum continuous operating water temperature for standard model pumps must not exceed 77°F (25°C).
5. This pump has been evaluated for use with WATER only.
6. **NOTE: A BATTERY BACKUP SYSTEM IS RECOMMENDED TO PREVENT FLOODING AND/OR PROPERTY DAMAGE IN THE EVENT OF MECHANICAL MALFUNCTION OR POWER OUTAGE.**
7. **NOTE:** Pumps with the "CSA" mark are tested to UL standard UL778 and certified to CSA standard C22.2 No. 108.

DO NOT USE FOR PUMPING OILS, GASOLINE OR ANY PETROLEUM BY-PRODUCTS.

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THE SUMP PIT

1. The sump pit should be large enough to prevent frequent cycling of the pump. A sump pit of not less than 12" (30cm) in diameter and 18" (46 cm) deep is required.
2. The sump pit should have a hard bottom. Do not place the pump directly on clay, earth or sand surface. Make sure there are no small stones or gravel in the pit which may become clogged in the pump.
3. The sump pit may be constructed of tile, concrete, steel or plastic. Check local codes for satisfactory materials.

INSTALLATION

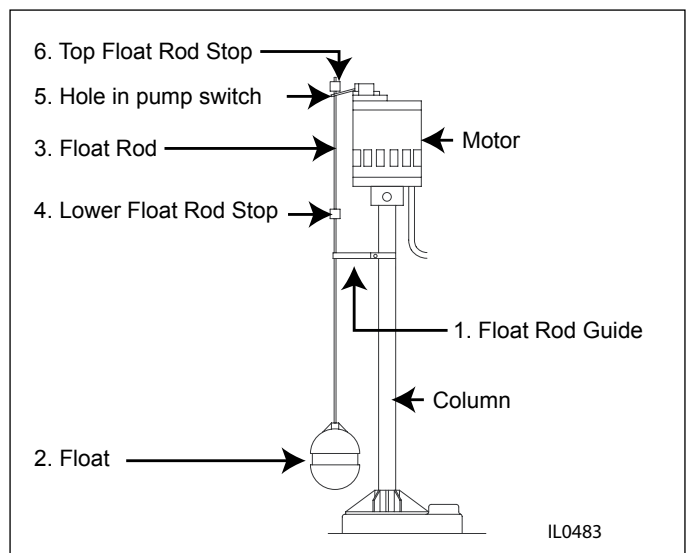
1. **▲ WARNING** DISCONNECT POWER AT THE MAIN ELECTRICAL BOX BEFORE INSTALLING OR SERVICING THE PUMP. DO NOT PLUG IN UNIT OR CHANGE FUSES WHILE STANDING ON WET OR DAMP SURFACES, AND DO NOT TOUCH ANY OTHER METAL SURFACES WHILE PLUGGING IN PRODUCT OR CHANGING FUSES. CHANGE FUSES WITH ONE HAND WHILE KEEPING THE OTHER HAND FREE.
2. Clean any debris from the pit and set the sump pump in place. The solid bottom of the sump will prevent clogging of the pump from sand and dirt.
3. LOCATE THE PUMP IN THE CENTER OF THE PIT SO THAT THE PUMP HOUSING AND ANY FLOAT CONTROL WILL NOT COME IN CONTACT WITH THE SIDE OF THE PIT AND CREATE OPERATIONAL PROBLEMS.
4. Connect the discharge piping and run it to the nearest sewer or surface outlet. Sump pumps can be piped to discharge into the house drainage system, to a dry well or splash block, or to a storm drain, depending on local plumbing codes. Always use a check valve when connecting discharge line to sewer lines. The discharge piping should be as short as possible to reduce pipe friction losses. It is recommended that the discharge pipe diameter be equal to or larger than the discharge size of the pump. Smaller pipe diameters will restrict the capacity of the pump and reduce performance.
5. Always install a union in the discharge line, preferably just above the sump pit, to allow easy removal of the pump for cleaning or repair.
6. For installations where the piping is long, the vertical discharge is above 7' or 8' (2 or 2.5 m), or a small sump has been provided, use of a check valve is recommended to prevent backflow of water into the sump and to reduce cycle frequency.
7. DO NOT ALLOW THE CORD TO INTERFERE WITH THE FLOAT CONTROL MOTION OR TO DRAPE OVER THE PUMP MOTOR. With electrician's tape, secure the cord to the discharge pipe. This will provide protection for the cord and make a neat installation.
8. After the discharge piping is complete and the sump cleaned, connect the pump cord to the electrical outlet and run water into the sump to test the pump. DO NOT ATTEMPT TO OPERATE THE PUMP WITHOUT WATER -- SEALS AND BEARINGS COULD BE DAMAGED.
9. Fill the sump with water to the normal turn-on level and allow the pump to remove the water to the normal control turn-off point.

10. Install a sump cover. A cover will prevent solid matter from falling into the sump, prevent odors, and guard against accidental injury.

▲ WARNING NEVER TOUCH THE SUMP PUMP OR DISCHARGE PIPING WHEN THE PUMP IS CONNECTED TO ELECTRICAL POWER AND WATER IS PRESENT IN THE SUMP. ALWAYS DISCONNECT THE PUMP FROM THE POWER SOURCE BEFORE HANDLING.

COLUMN SUMP PUMP ASSEMBLY

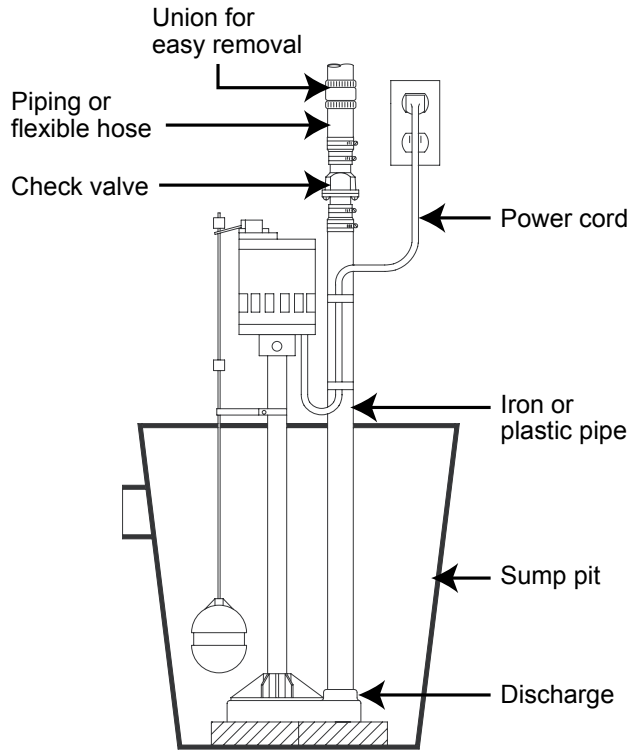
1. Locate float rod guide about 6" (15 cm) below motor. Clamp guide to column with screw provided. DO NOT OVERTIGHTEN!
2. Screw float onto threaded end of rod until no threads are visible. Threads on rod will cut threads into corrosion-resistant float.
3. Insert end of float rod up through eye of rod guide.
4. Position lower rubber float rod stop approximately 8" (20 cm) from the top of float rod.
5. Pass rod through hole in pump switch.
6. Slide top rubber float rod stop even with top of the rod after passing through hole in switch. **▲ WARNING** Risk of flooding. Be sure that float rod is vertical and can move up and down freely. If float is angled or binds, pump may not start, allowing flooding to occur.
7. With lower rod stop in this position, pump will automatically cycle at approximately 2½" (6.4 cm) off and 10" - 12" (25 - 30 cm) on. For faster cycling, move lower rod stop closer to switch lever arm.



TROUBLESHOOTING CHECKLIST

Over 98% of all sump pumps returned to the factory are actually free from defects in material and workmanship, and can usually be traced back to one of the below situations. Please keep this sheet available in the unlikely event your sump pump should ever need maintenance.

1. Make sure unit is plugged into a 115 volt grounded outlet that will not be turned off by a wall switch.
2. Be sure check valve is installed and operating properly. Replace check valve if necessary.
3. Unit needs to be sitting level in the pit. A concrete block or other material can be used to achieve this.



4. Check for dirt, rocks, mud or stones under float rod. This can keep the switch mechanism from properly turning on and off.
5. Check for foreign objects in the base. The bottom plate can be removed to clean the impeller by taking out the sheet metal screws and removing the plastic bottom cover.
6. NOTE: Some model sump pumps include a nylon screen. Lint and other build-up should be removed from screen area periodically.

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