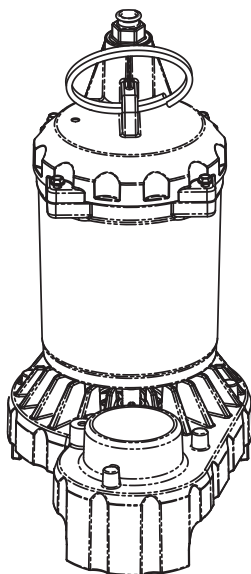


**Submersible Cast Iron and Zinc
Sump Pump**

NOTICE D'UTILISATION

**Pompe de puisard
submersible en fonte et zinc**

MANUAL DEL USUARIO

**Bomba de sumidero sumergible,
en hierro fundido y zinc****MS33D, MS50D, MS33M, MS50M,
MS33T, MS50T, MS33V, MS50V****Installation/Operation/Parts***For further operating,
installation, or maintenance
assistance:***Call 1-888-987-8677****English..... Pages 2-7****Installation/Fonctionnement/Pièces***Pour plus de renseignements
concernant l'utilisation,
l'installation ou l'entretien :***Composer le 1 (888) 987-8677****Français Pages 8-13****Instalación/Operación/Piezas***Para mayor información sobre el
funcionamiento, instalación o
mantenimiento de la bomba:***Llame al 1-888-987-8677****Español.....Paginas 14-19**

Important Safety Instructions

SAVE THESE INSTRUCTIONS - This manual contains important instructions that should be followed during installation, operation, and maintenance of the product.

 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 indicates a hazard which, if not avoided, will result in death or serious injury.

⚠ WARNING indicates a hazard which, if not avoided, could result in death or serious injury.

⚠ CAUTION indicates a hazard which, if not avoided, could result in minor or moderate injury.

NOTICE addresses practices not related to personal injury.

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

Keep safety labels in good condition. Replace missing or damaged safety labels.

California Proposition 65 Warning

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

NOTICE This unit is not designed as a waterfall or fountain pump, or for applications involving salt water or brine! Use with waterfalls, fountains, salt water or brine will void warranty.

Do not use where water recirculates.

Not designed for use in swimming pools.

NOTICE Read this Owner's Manual for installation, operation, and safety information.

- 1. Know the pump application, limitations, and potential hazards.
- 2. Do not use in water with fish present. If any oil leaks out of the motor it can kill fish.

- 3. Disconnect power before servicing.
- 4. Release all pressure within system before servicing any component.
- 5. Drain all water from system before servicing.
- 6. Secure discharge line before starting pump. An unsecured discharge line will whip, possibly causing personal injury and/or property damage.
- 7. Check hoses for weak or worn condition before each use, making certain that all connections are secure.
- 8. Periodically inspect sump, pump and system components. Keep free of debris and foreign objects. Perform routine maintenance as required.
- 9. Provide means of pressure relief for pumps whose discharge line can be shut-off or obstructed.
- 10. Personal Safety:
 - a. Wear safety glasses at all times when working with pumps.
 - b. Keep work area clean, uncluttered and properly lighted – replace all unused tools and equipment.
 - c. Keep visitors at a safe distance from work area.
 - d. Make workshop child-proof – with padlocks, master switches, and by removing starter keys.
- 11. When wiring an electrically driven pump, follow all electrical and safety codes that apply.
- 12. This equipment is only for use on 115 volt (single phase) and is equipped with an approved 3-conductor cord and 3-prong, grounding-type plug.

⚠ WARNING Risk of electric shock. Can shock, burn or kill. This pump has not been investigated for use in swimming pool areas. Pump is supplied with a grounding conductor and grounding-type attachment plug. Be sure it is connected only to a properly grounded grounding-type receptacle.

Specifications

Power supply required.....115V, 60 HZ.
Liquid Temp. Range.....32°F to 70°F(0°-21°C)
Individual Branch Circuit Required (min.).....15 Amps
Discharge.....1-1/2" FNPT

NOTICE Do not reduce size of discharge pipe or hose below 1-1/4" diameter. If discharge is too small, pump will overheat and fail prematurely.

This pump is designed for use in a residential sump only. Only pump water with this pump.

Performance

GPM (LPM) at total feet (m) of lift						No flow at height shown below
Series	HP	5 (1.5m)	10 (3m)	15 (4.6m)	20 (6.1m)	
Capacity Gallons(L)/Minute						
MS33	1/3	53	45	36	24	
MS50	1/2	66	56	44	28	25 (7.6)

Electrical & Switch Specifications

Series	HP	Motor Full Load Amps	Individual Branch Circuit Req. (Amps)	Automatic Switch Type	Switch Setting in inches Water Level For:	
					On	Off
MS33V	1/3	3.9	15A 115 VAC	Vertical Switch	7-1/2"	3"
MS50V	1/2	4.1				
MS33T	1/3	3.9		Tethered Switch	14"	5"
MS50T	1/2	4.1				
MS33D	1/3	3.9		Diaphragm Switch	9-1/2"	5"
MS50D	1/2	4.1				
MS33M	1/3	3.9		Non-Automatic Option. No switch included.		
MS50M	1/2	4.1				

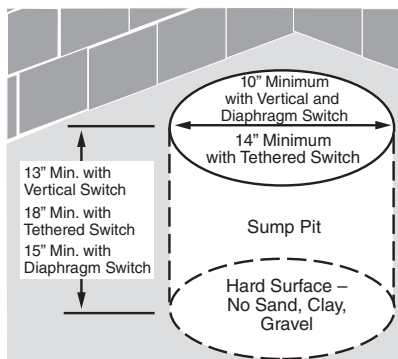
Where a 2-prong wall receptacle is encountered, it must be replaced with properly grounded 3-prong receptacle installed in accordance with codes and ordinances that apply.

13. All wiring should be performed by a qualified electrician.
14. Make certain power source conforms to requirements of your equipment.
15. Protect electrical cord from sharp objects, hot surfaces, oil, and chemicals. Avoid kinking cord. Replace or repair damaged or worn cords immediately.
16. Do not touch an operating motor. Modern motors can operate at high temperatures.
17. Do not handle pump or pump motor with wet hands or when standing on wet or damp surface, or in water.

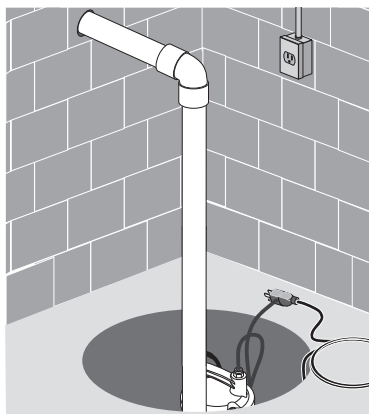
⚠ WARNING Risk of electric shock. Can shock, burn or kill. If your basement has water or moisture on floor, do not walk on wet area until all power has been turned off. If shut-off box is in basement, call electric company or hydro authority to shut-off service to house, or call your local fire department for instructions. Remove pump and repair or replace. Failure to follow this warning can result in fatal electrical shock.

Do not lift pump by power cord.

Installation



1. Install pump in sump pit with minimum diameter of 10" (254mm) for models equipped with vertical switches and 14" (356mm) for tethered float switch models. Sump depth should be 18" (457mm) for tethered models and 13" (330mm) for vertically switched models. Construct sump pit of tile, concrete, steel or plastic. Check local codes for approved materials and for proper installation.
2. Install pump in pit so that switch operating mechanism has maximum possible clearance.
3. Pump should not be installed on clay, earth or sand surfaces. Clean sump pit of small stones and gravel which could clog pump. Keep pump inlet screen clear.



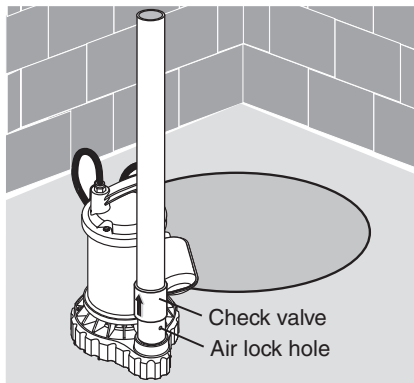
NOTICE Do not use ordinary pipe joint compound on plastic pipe. Pipe joint compound can attack plastics.

4. Install discharge plumbing. Use rigid plastic pipe and wrap threads with PTFE pipe thread sealant tape. Screw pipe into pump hand tight plus 1-1/2 turns.

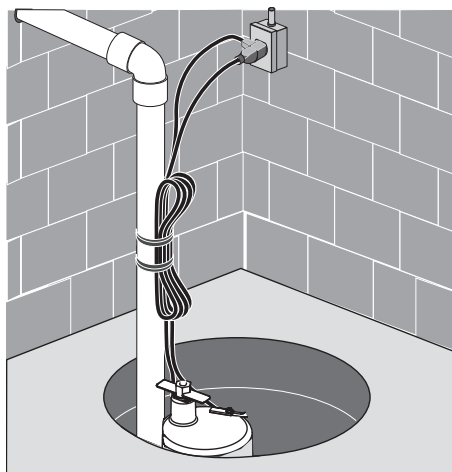
⚠ CAUTION Risk of flooding. Can cause personal injury and/or property damage. If a flexible discharge hose is used, make sure pump is secured in sump to prevent movement. Failure to secure pump may allow pump movement, switch interference and prevent pump from starting or stopping.

5. To reduce motor noise and vibrations, a short length of rubber hose (1-7/8" (47.6mm) I.D., e.g. radiator hose) can be connected into discharge line near pump using suitable clamps.
6. Install an in-line check valve or an in-pump check valve to prevent flow backwards through pump when pump shuts off.

NOTICE If your check valve is not equipped with an air bleed hole to prevent airlocking pump, drill a 1/8" (3.2 mm) hole in discharge pipe just above where the discharge pipe screws into the pump discharge. Be sure the hole is below the waterline and the check valve to prevent air locks.



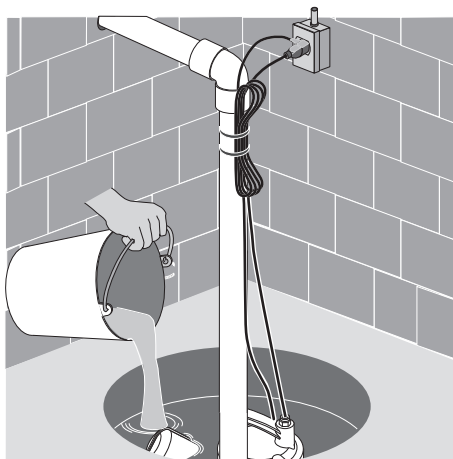
7. Power Supply: Pump is designed for 115 V., 60 Hz., operation and requires a minimum 15 amp individual branch circuit. Both pump and switch are supplied with 3-wire cord sets with grounding-type plugs. Switch plug is inserted directly into outlet and pump plug inserts into opposite end of switch plug.



⚠ WARNING Risk of electric shock. Can shock, burn or kill. Pump should always be electrically grounded to a suitable electrical ground such as a grounded water pipe or a properly grounded metallic raceway, or ground wire system. Do not cut off round ground pin.

8. If pump discharge line is exposed to outside sub-freezing atmosphere, portion of line exposed must be installed so any water remaining in pipe will drain to the outfall by gravity. Failure to do this can cause water trapped in discharge to freeze which could result in damage to pump.
9. After piping, check valve and float switch have been installed, the unit is ready for operation.
10. Secure power cords to the discharge pipe so they are out of the way for proper float switch operation, prior to testing the unit.
11. Check the pump operation by filling sump with water and observing pump operation through one complete cycle. For switch settings see the Electrical and Switch Specifications chart.

⚠ CAUTION Risk of flooding. Can cause personal injury and/or property damage. Failure to make this operational check may lead to improper operation, premature failure, and flooding.



Operation

⚠ WARNING **Risk of electric shock.** Can shock, burn or kill. Do not handle a pump or pump motor with wet hands or when standing on wet or damp surface, or in water.

- 1. Shaft seal depends on water for lubrication. Do not operate pump unless it is submerged in water as seal may be damaged if allowed to run dry.
- 2. Motor is equipped with automatic reset thermal protector. If temperature in motor should rise excessively, switch will cut off all power before damage can be done to motor. When motor has

cooled sufficiently, switch will reset automatically and restart motor. If protector trips repeatedly, pump should be removed and checked as to cause of difficulty. Low voltage, long extension cords, clogged impeller, very low head or lift, or a plugged or frozen discharge pipe, etc., could cause cycling.

- 3. Pump will not remove all water. If operating a pump manually, and suddenly no water comes out of the discharge hose, shut off the unit immediately. The water level is probably very low and the unit has broken prime.

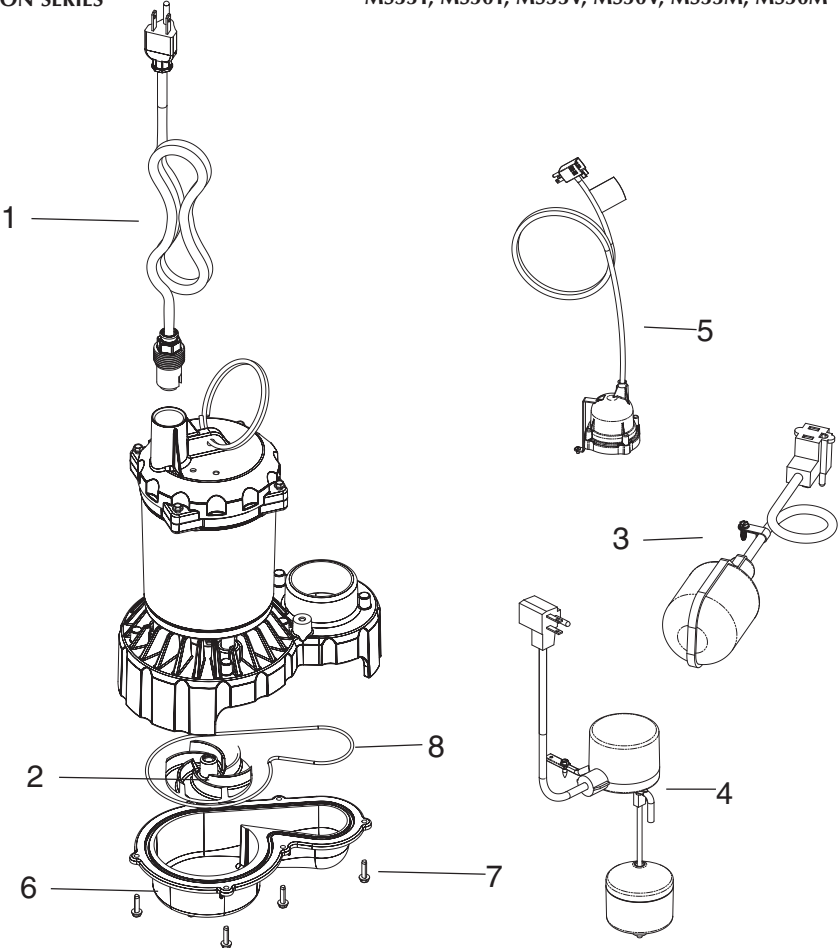
⚠ WARNING **Risk of electric shock.** Can shock, burn or kill. Before attempting to check why unit has stopped operating, disconnect power from unit.

Troubleshooting

Symptom	Possible Cause(s)	Corrective Action
Pump won't start or run	Pump is not plugged in	Check and see if pump is plugged into a proper outlet.
	Blown fuse	If blown, replace with fuse of proper size.
	Low line voltage	If voltage under recommended minimum, check size of wiring from main switch on property. If OK, contact power company or hydro authority.
	Defective motor	Replace pump.
	Defective float switch	Replace float switch.
	Impeller	If impeller won't turn, remove lower pump body and locate source of binding.
	Float obstructed	Remove obstruction.
Pump starts and stops too often	Backflow of water from piping	Install or replace check-valve.
	Faulty float switch	Replace float switch.
Pump won't shut off	Defective float switch	Replace float switch.
	Restricted discharge (obstacle or ice in piping)	Remove pump and clean pump and piping.
	Float obstructed	Remove obstructed.
	Restricted intake screen	Remove the pump and clean the intake screen and the impeller.
Pump operates but delivers little or no water	Low line voltage	If voltage under recommended minimum, check size of wiring from main switch on property. If OK, contact power company or hydro authority.
	Something caught in impeller	Remove the pump and clean out the impeller.
	Worn or defective parts or plugged impeller	Clean impeller if plugged; otherwise replace pump.
	Check valve installed without vent hole	Drill a 1/16" - 1/8" (1.6mm-3.2mm) dia. hole between pump discharge & check valve (1-2" above where the discharge pipe screws into the pump discharge and below the waterline).
	Restricted intake screen	Remove the pump and clean out the intake screen.
	Check valve is installed either backward or upside down	Be sure check valve is installed correctly.

CAST IRON SERIES

MS33T, MS50T, MS33V, MS50V, MS33M, MS50M



Ref.	1	2	3	4	5	6	7	8
Model #	Power Cord Assembly	Impeller	Tethered Float Switch	Vertical Float Switch	Diaphragm Switch	Lower Volute	Screw #8-32 x 1/2" (6 pcs)	O-ring - 162 Buna - N 5.75 x 3/32
MS33V10	PW17-281	P55-285		PS117-2126		PS1-326	U30-1047SS	U9-470
MS33V20	PS17-2121	P55-285		PS117-2127				
MS50V10	PW17-281	P55-286		PS117-2126				
MS50V20	PS17-2121	P55-286		PS117-2127				
MS33T10	PW17-281	P55-285	PS17-91					
MS33T20	PS17-2121	P55-285	PS17-93					
MS50T10	PW17-281	P55-286	PS17-91					
MS50T20	PS17-2121	P55-286	PS17-93					
MS33D10	PW17-281	P55-285			149740005-01			
MS33D20	PS17-2121	P55-285			149740015-01			
MS50D10	PW17-281	P55-286			149740005-01			
MS50D20	PS17-2121	P55-286			149740015-01			
MS33M20	PS17-2121	P55-285						
MS50M20	PS17-2121	P55-286						

*Purchase locally | **If motor fails, replace entire pump