

STA-RITE

P.O. Box 342, Delavan, WI 53115

Submersible Sump Pumps

OPERATION & INSTALLATION INSTRUCTIONS

DESCRIPTION

This Submersible Sump Pump is designed for home sumps. Unit is equipped with a 3-prong grounding-type power cord. Shaded-pole motor is oil filled and sealed for cooler running. Sleeve bearings on motor shaft never need lubrication. Automatic reset thermal protection.

SPECIFICATIONS

Power supply required.....115V, 60 HZ.
Motor dutycontinuous*
Liquid Temp. Range32°F to 70°F(0°-21°C)
Circuit Requirement (minimum).....15 Amps
Discharge1-1/4" FNPT / 1-1/2" MNPT

*NOTICE: For continuous operation, water depth must be at least 5" (13 cm), to prevent motor overheating.

PERFORMANCE

GPM (LPM) AT TOTAL FEET (M)					
Series	Motor HP	5 (1.5m)	10 (3m)	15 (4.5m)	No flow at height shown below
CAPACITY GALLONS(L)/MINUTE					
ST25ASP,VSP	1/4	38 (142)	30 (114)	14 (52)	18 Ft. (5.5M)
ST33ASP,VSP	1/3	46 (174)	36 (136)	24 (89)	20 Ft (6M)
ST50ASP,VSP	1/2	54 (202)	45 (170)	33 (126)	24 Ft. (7.3M)
ST25ASC,VSC	1/4	38 (136)	30 (95)	14 (42)	19 Ft. (5.8M)
ST33ASC,VSC	1/3	46 (170)	36 (139)	24 (88)	20 Ft (6M)
ST50ASC,VSC	1/2	54 (202)	45 (170)	33 (126)	24 Ft. (7.3M)

ELECTRICAL & SWITCH SPECIFICATIONS

Series	Motor HP	Motor Full Load Amps	*Switch Setting in inches (mm)	
			On	Off
ST25ASP	1/4	8.5	14"(356)	6"(152)
ST33ASP	1/3	9.0	14"(356)	6"(152)
ST50ASP	1/2	13.0	14"(356)	6"(152)
ST25ASC	1/4	8.5	13"(330)	5"(127)
ST33ASC	1/3	9.0	13"(330)	5"(127)
ST50ASC	1/2	13.0	13"(330)	5"(127)
ST25VSP	1/4	8.5	8"(203)	3-1/2"(89)
ST33VSP	1/3	9.0	8"(203)	3-1/2"(89)
ST50VSP	1/2	13.0	8"(203)	3-1/2"(89)
ST25VSC	1/4	8.5	7-1/2"(191)	3"(76)
ST33VSC	1/3	9.0	7-1/2"(191)	3"(76)
ST50VSC	1/2	13.0	7-1/2"(191)	3"(76)

GENERAL SAFETY INFORMATION

Electrically powered sump pumps normally give many years of trouble-free service when correctly installed, maintained, and used. However, unusual circumstances (interruption of power to the pump, dirt/debris in the sump, flooding that exceeds the pump's capacity, electrical or mechanical failure in the pump, etc.) may prevent your pump from functioning normally. To prevent possible water damage due to flooding, consult your dealer about installing a secondary sump pump, a DC backup sump pump, and/or a high water alarm. See the "Troubleshooting Chart" in this manual for information about common sump pump problems and remedies. For more information, see your dealer or call customer service at 1-800-323-0620.

1. Know the pump application, limitations, and potential hazards.

⚠ CAUTION

Risk of flooding. 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.

2. Disconnect power before servicing.
3. Release all pressure within system before servicing any component.
4. Drain all water from system before servicing.
5. Secure discharge line before starting pump. An unsecured discharge line will whip, possibly causing personal injury and/or property damage.
6. Check hoses for weak or worn condition before each use, making certain that all connections are secure.
7. Periodically inspect sump, pump and system components. Keep free of debris and foreign objects. Perform routine maintenance as required.
8. Provide means of pressure relief for pumps whose discharge line can be shut-off or obstructed.
9. 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.
10. When wiring an electrically driven pump, follow all electrical and safety codes that apply.
11. **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

To reduce risk of electric shock, pull plug before servicing. 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.

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.

12. All wiring should be performed by a qualified electrician.
13. Make certain power source conforms to requirements of your equipment.
14. Protect electrical cord from sharp objects, hot surfaces, oil, and chemicals. Avoid kinking cord. Replace or repair damaged or worn cords immediately.
15. Do not touch an operating motor. Modern motors are designed to operate at high temperatures.
16. 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. 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.

INSTALLATION

1. Install pump in sump pit with minimum diameter of 10" (254mm) for models equipped with vertical switche (VSP, VSC) and 14" (356mm) for float switch models (ASP, ASC). Sump depth should be 14" (356mm). Construct sump pit of tile, concrete, steel or plastic. Check local codes for approved materials.

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. When using rigid pipe, use plastic pipe. Wrap thread with Teflon tape or use Plasto Joint Stik*. Screw pipe into pump hand tight +1 – 1-1/2 turns.

▲ CAUTION Risk of flooding. 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 to prevent flow backwards through pump when pump shuts off.

NOTICE: Drill 1/8" (3.2 mm) hole in discharge pipe just above pump body but below check valve to prevent air locks.

7. Power Supply: Pump is designed for 115 V., 60 Hz., operation and requires a minimum 15 amp. 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 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 and check valve have been installed, unit is ready for operation.

10. Check operation by filling sump with water and observing pump operation through one complete cycle.

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

NOTICE: This unit is not designed for applications involving salt water or brine! Use with salt water or brine will void warranty.

OPERATION

▲ WARNING Risk of electric shock. 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 unduly, 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, etc., could cause cycling.

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

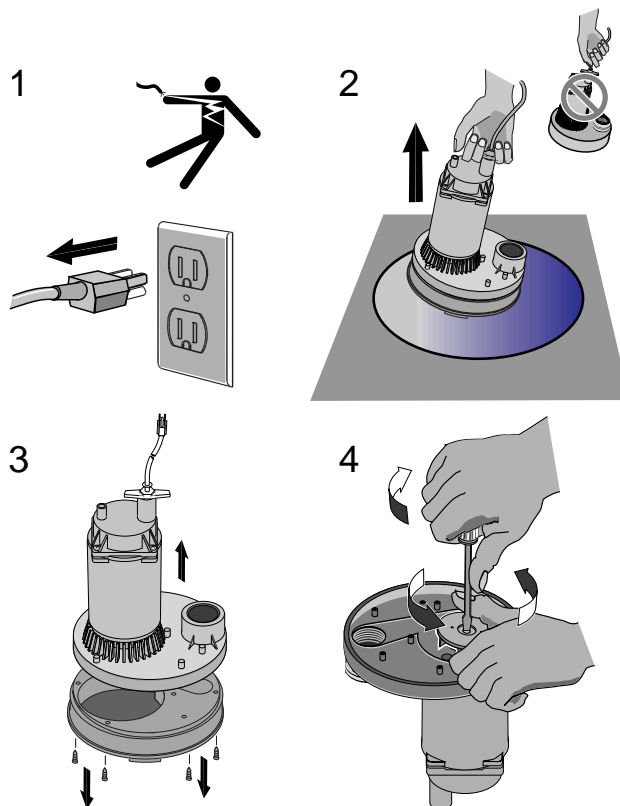
NOTICE: For continuous operation, water depth must be at least 5" (127mm) to prevent motor overheating.

▲ WARNING Risk of electric shock. Before attempting to check why unit has stopped operating, disconnect power from unit. Do not handle pump with wet hands or when standing on wet or damp surfaces, or in water.

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

▲ WARNING Risk of electric shock. Unplug pump before attempting to service it.

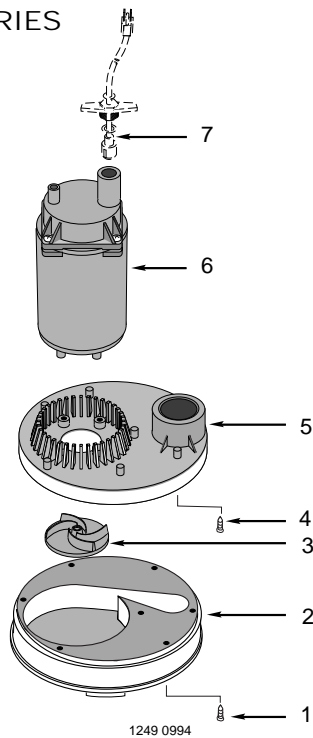
- A. Complete repairs and replace pump in pit before plugging it in again.
- B. Do not raise, lower, or carry pump by the power cord. Use the tee-handle provided.



*Lake Chemical Co., Chicago, Illinois

PLASTIC SERIES

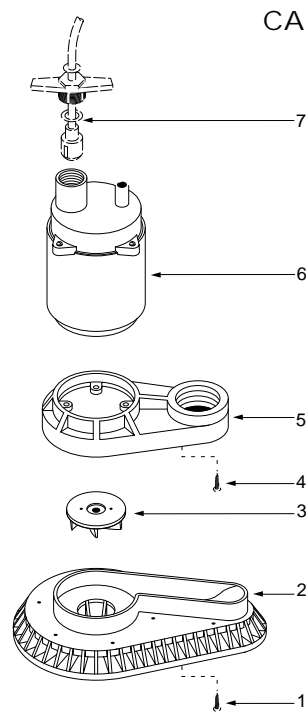
**ST25ASP
ST33ASP
ST50ASP
ST25VSP
ST33VSP
ST50VSP**



1249 0994

CAST IRON SERIES

**ST25ASC
ST33ASC
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ST25VSC
ST33VSC
ST50VSC**



231 1093

REPLACEMENT PARTS LIST

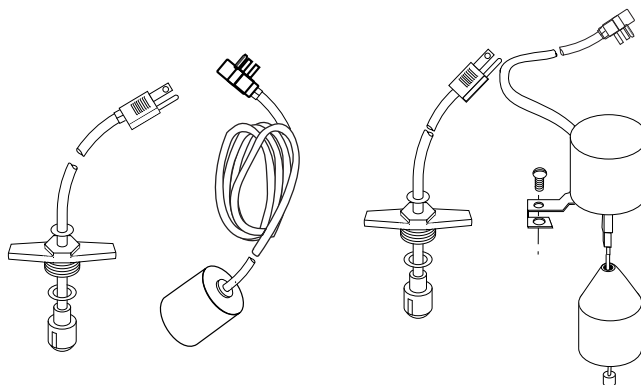
Key No.	Description	Qty.	ASP Series Part No.	Qty.	ASC Series Part No.
1	Lower Pump Body Screw	7	U30-934ZP	8	U30-571BT
2	Lower Pump Body	1	FP0005781	1	PS4-18P
3	Impeller	1	See Chart, Page 4	1	See Chart, Page 4
4	Upper Pump Body Screw	4	U30-912PS	4	U30-912PS
5	Upper Pump Body*	1	PS1-21P	1	PS1-24A
6	Motor	1	**	1	**
7	Switch/Power Cord	1	See Chart, Page 4	1	See Chart, Page 4

* ST25ASP-01 uses PS1-32P. ST25ASC uses PS1-27. **If motor fails, replace entire pump.

TROUBLESHOOTING CHART

SYMPTOM	PROBABLE CAUSE(S)	CORRECTIVE ACTION
Pump won't start or run.	Blown fuse. Low line voltage. Defective motor. Defective float switch. Impeller. Float obstructed.	If blown, replace with fuse of proper size. If voltage under recommended minimum, check size of wiring from main switch on property. If OK, contact power company or hydro authority. Replace pump. Replace float switch. If impeller won't turn, remove lower pump body and locate source of binding. Remove obstruction.
Pump starts and stops too often.	Backflow of water from piping. Faulty float switch.	Install or replace check-valve. Replace float switch.
Pump won't shut off.	Defective float switch. Restricted discharge (obstacle in piping). Float obstructed.	Replace float switch. Remove pump and clean pump and piping. Remove obstruction.
Pump operates but delivers little or no water.	Low line voltage. Something caught in impeller. Worn or defective parts or plugged impeller. Check valve installed without vent hole.	If voltage under recommended minimum, check size of wiring from main switch on property. If OK, contact power company or hydro authority. Clean out impeller. Clean impeller if plugged; otherwise replace pump. Drill a 1/16" - 1/8" (1.6mm - 3.2mm) dia. hole between pump discharge & check valve.

PLUGS AND SWITCHES



**A: Float Switch
with Piggy Back Plug**

**B: Vertical Switch
with Piggy Back Plug**

	Model	Material	HP	Impeller	Power Cord	Mech. Switch Assy.
A: FLOAT SWITCH w/Piggy-Back Plug	ST25ASP-04	Plastic	1/4	RP0000917	PS17-54	PW217-179B
	ST33ASP, -02	Plastic	1/3	RP0000918A	PS17-54	PW217-179B
	ST50ASP, -02	Plastic	1/2	RP0000911A	PS17-53	PW217-179B
	ST25ASC, -03	Cast Iron	1/4	PS5-23PB	PS17-54	PW217-179B
	ST33ASC, -02	Cast Iron	1/3	PS5-19P	PS17-54	PW217-179B
	ST50ASC, -02	Cast Iron	1/2	PS5-20P	PS17-53	PW217-179B
B: VERTICAL SWITCH w/Piggy-Back Plug	ST25VSP, -02	Plastic	1/4	RP0000917	PS17-54	PS17-66 Switch
	ST33VSP, -02	Plastic	1/3	RP0000918A	PS17-54	
	ST50VSP, -02	Plastic	1/2	RP0000911A	PS17-53	PS198-5 Hardware
	ST25VSC, -02	Cast Iron	1/4	PS5-23PB	PS17-54	
	ST33VSC, -02	Cast Iron	1/3	PS5-19P	PS17-54	
	ST50VSC, -02	Cast Iron	1/2	PS5-20P	PS17-53	

LIMITED WARRANTY

Sta-Rite warrants to the original consumer of the products listed below, that they will be free from defects in material and workmanship for the Warranty Period from the date of original installation or manufacture as noted.

Product

Water Systems Products – jet pumps,
small centrifugal pumps, submersible pumps
and related accessories

Con-Aire® tanks

Epoxy-Line Tanks

Sump/Sewage/Effluent Products

Warranty Period

whichever occurs first:

1 year from date of original installation, or
2 years from date of manufacture

5 years from date of original installation

3 years from date of original installation

1 year from date of original installation, or
2 years from date of manufacture

Our warranty will not apply to any product that has been subject to negligence, misapplication, improper installation or maintenance. In the event a three phase submersible motor is operated with single phase power through a phase converter, or if three-leg ambient compensated, extra-quick trip overload relays of recommended size are not used, our warranty is void.

Buyer's only remedy and Sta-Rite's only duty is to repair or replace defective products (at Sta-Rite's choice). Buyer agrees to pay all labor and shipping charges associated with this warranty and to request warranty service through the installing dealer as soon as a problem is discovered. If warranty service is requested more than 30 days after the Warranty Period has ended, it will not be honored.

STA-RITE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, OR CONTINGENT DAMAGES WHATSOEVER.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES. IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE WARRANTY PERIOD PROVIDED HEREIN.

Certain states do not permit the exclusion or limitation of incidental or consequential damages or the placing of limitations on the duration of an implied warranty, therefore, the limitations or exclusions herein may not apply. This warranty sets forth specific legal rights and obligations, however, additional rights may exist, which may vary from state to state.

Supersedes all previous publications.

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