

OWNER'S MANUAL

SUBMERSIBLE SUMP / EFFLUENT PUMPS ESP50A, ESP50AV, ESP50M, ESP33A, ESP33AV, ESP33M



SAFETY WARNINGS



BEFORE OPERATING OR INSTALLING THIS PUMP, READ THIS MANUAL AND FOLLOW ALL SAFETY RULES AND OPERATING INSTRUCTIONS.

SAFETY CAREFULLY READ THESE SAFETY MESSAGES IN THIS MANUAL AND ON PUMP.

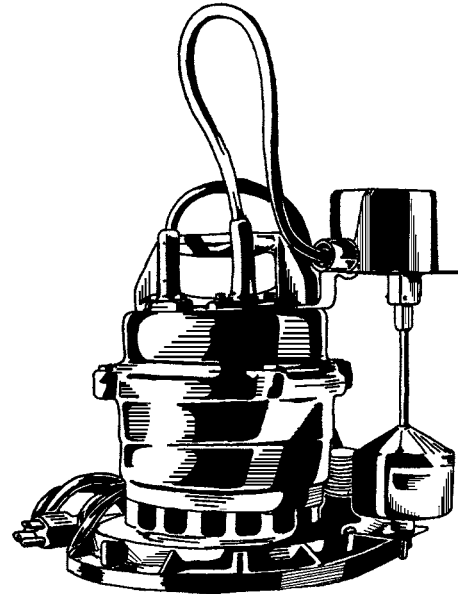
CAUTION

- DO NOT OPERATE THIS PUMP DRY!
- Review instructions before operating.

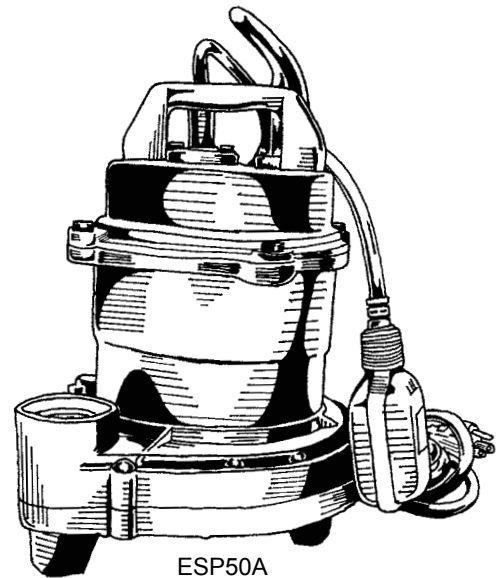
WARNING - ELECTRICAL PRECAUTIONS
All wiring, electrical connections, and system grounding must comply with the National Electrical Code (NEC) and with any local codes and ordinances. Employ a licensed electrician.

WARNING - RISK OF ELECTRICAL SHOCK

- Have an electrician provide electrical power to the motor plug receptacle.
- Always disconnect plug from power source before handling.
- This product is furnished with a three prong plug for grounding, connect only to properly grounded receptacle.
- Do not under any circumstances remove ground plug.
- Keep electric plug dry.
- Do not lift pump using cord.
- Not investigated for use in swimming pool area.
- A ground fault interrupter (GFI) protected circuit is recommended for use with any electrical appliance operating in or near water.



ESP33AV



ESP50A

APPLICATION

This pump is suitable for sump and effluent water applications where the total head requirement (including pipe friction losses) does not exceed the pump's maximum capability. 1/3 HP handles up to 1/2" diameter

spherical solids. 1/2 HP handles up to 3/4" diameter spherical solids. Also, the maximum solids size must not be greater than the pump capability. This pump is for use in Sump and Effluent applications, NOT FOR USE IN RAW SEWAGE APPLICATIONS.

INSTALLATION

⚠ Before installation, check your local electrical and plumbing codes. These regulations are for your safety.

- 1) **Location:** The pump should be installed in a location that:
 - a) Has adequate room for servicing.
 - b) Is protected from freezing.
 - c) Will require minimal piping to keep friction losses as low as possible.

2) **⚠ WARNING**

- RISK OF ELECTRICAL SHOCK

All installations must be made into a grounded outlet. A ground fault interrupter (GFI) protected circuit is recommended for use with any electrical appliance operating in or near water. For installations consult a licensed electrician.

The electrical power outlet required for this pump is a separate 15 amp circuit of 115 volts, AC 60HZ, with a proper fused switch in the line. The ground terminal on the plug is provided for your protection. Do not remove.

Plug the pump cord into the 115 volt GFI receptacle and connect the discharge piping, your pump is then ready for operation.

3) **Sump Preparation Requirements:**

- a) level bottom - can be levelled with bricks.
- b) size: minimum 24" deep x minimum 18" diameter (For vertical float switch models the minimum sump diameter is 14".)

4) **Float Switch:** (where applicable)

The float switch (if so equipped) is sealed and factory adjusted to be suitable for most sumps. Be sure that the float has adequate clearance and cannot become stuck on the sides of the sump. Do not allow the power cord to interfere with the free movement of the float or to drape over the motor housing. The power cord should be taped to the pump discharge piping with electricians tape.

NOTE: For "piggy-back" style float switches the range of pumping levels can be varied by adjusting the free length of cable between the float switch and the cable clamp. The free length of cable must be at least 4" to allow free movement of the float. Longer free length allows a larger pumping range. Always check operation of switch after making any adjustments!

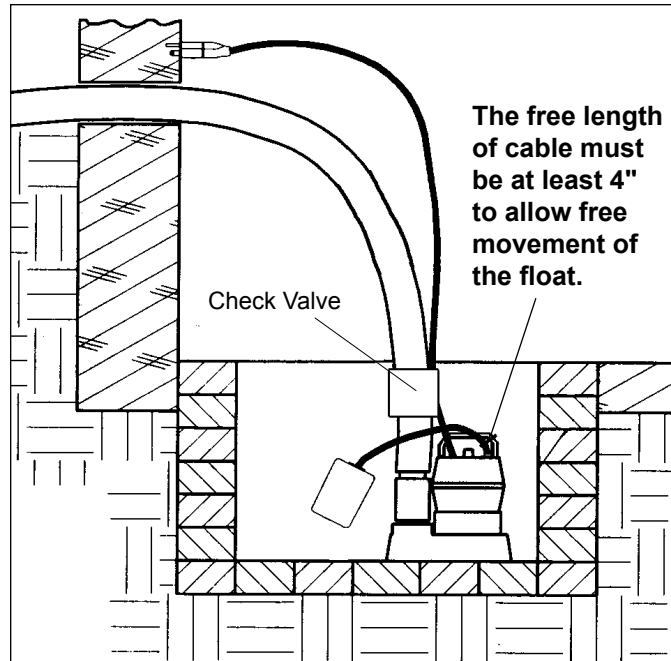


FIG.1 TYPICAL INSTALLATION

5) **Discharge Piping:**

- a) The pump has a threaded discharge opening.
- b) PVC or ABS adapters may be used to adapt to other sizes of pipe.
- c) We recommend that you not reduce the discharge pipe size, use as large as possible.
- d) Keep piping length to a minimum (extra length increases friction losses).
- e) A check valve must be installed for proper installation.

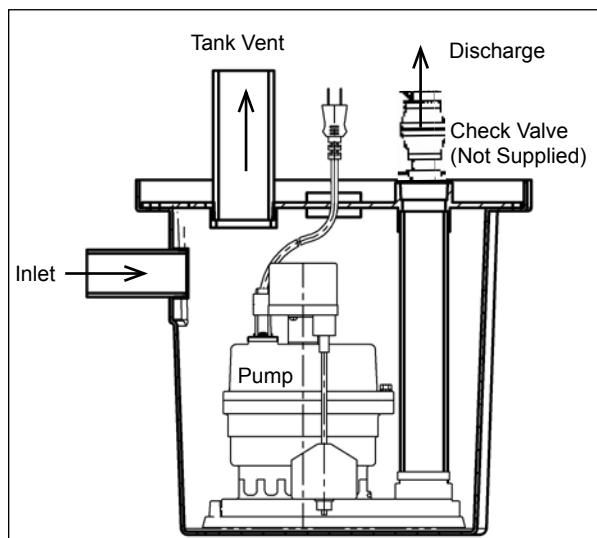


FIG.2 TYPICAL PUMP & TANK INSTALLATION

- 6) **Operational Check:** (never operate pump dry)
Upon installation manually fill the sump to check the float switch operation. Ensure the start and stop levels are satisfactory and the float has adequate clearance to the sump sides. While the pump is operating check that all connections are tight and are not leaking.

IMPORTANT: To avoid freezing in the discharge line during cold weather operation drill a 1/4" hole in the discharge pipe above the check valve in sump pit. This will allow any liquid in the discharge pipe to drain back into the sump pit and avoid freezing.

If the back flow of water in the discharge pipe causes the pump to turn on again, then the length of the discharge pipe needs to be reduced.

OPERATION

Automatic Models

The pump operation is designed to be completely automatic, the integral switch (if so equipped) is preset at the factory to turn the pump on and off when the fluid level in the tank reaches a specific height. Separate "piggyback" style switches must be carefully adjusted during installation to ensure proper operation.

Manual Models

Plug in and unplug the electrical cord as required or use a certified control for starting and stopping, of equal or greater horsepower rating than the pump.

AIR LOCKING

If the pump is placed into the water while running, it will air lock. This means that air is trapped in the pump, preventing it from pumping water. To avoid this, always

place the pump in the water when it is off, and then plug it in. If the pump does air lock, simply unplug it and then plug it back in.

MAINTENANCE

Your pump has been built to give many years of satisfactory service. No regular maintenance is required since the pump is completely self lubricating. The following routine checking procedure is recommended to be carried out once a year and is especially important for occasional use applications.

- a) Check the power cords and electrical outlet for damage or corrosion.
- b) Ensure there is no build-up of sludge or sediment in the sump.
- c) Manually fill the sump to check for correct switch adjustment and pump operation.



SAFETY TIPS (ELECTRICAL)

- 1) Never make adjustments with the power connected. Always disconnect your pump from the electrical outlet before beginning any service procedures.
- 2) Do not stand on wet floor when servicing.
- 3) Do not put your finger into the fuse socket - it could be fatal.
- 4) Never remove the round pin from your plug; this is the ground and is there for your safety.

TROUBLESHOOTING

Trouble	Probable Cause	Corrective Action
Motor does not run	Blown fuse	Replace fuse
	Tripped circuit	Reset
	Disconnected plug	Reinstall
	Corroded plug	Clean prongs
	Tripped overload	Allow pump to cool, investigate cause (jammed impeller)
	Defective switch	Replace switch
	Defective motor	Replace pump/repair
	Float-improper position	Check for freedom of movement
Motor hums but flow reduced or none at all	Impeller jammed	Remove bottom plate and clean.
	Plugged check valve	Remove valve, clean or replace
	Partially blocked inlet	Clean inlet
	Line leak	Repair
	Worn impeller	Replace pump/repair
	Defective motor	Replace pump/repair
Runs continuously	Plugged inlet	Clean inlet
	Defective switch	Replace switch
	Float obstruction	Adjust position of pump
	Plugged check valve	Remove valve, clean or replace

CAUTION

A plugged pump inlet can be mistaken for a faulty switch. If the pump runs continuously or for extended periods of time between turn offs - First check for a partially plugged inlet.

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