



# SUBMERSIBLE UTILITY PUMPS

FPOS1300X ♦ FPOS1600X



## INSTALLATION AND OPERATION MANUAL

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# SAFETY

## 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 the 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.

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

**⚠ WARNING** Risk of explosion. Do not ground to a gas supply line. Pump water only with this pump. Failure to follow this warning can result in personal injury and/or property damage.

**⚠ 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.

2. Make certain power source conforms to requirements of your equipment.
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 all connections are secure.
8. Periodically inspect pump and system components. Keep sump, pump and system free of debris and foreign objects. Perform routine maintenance as required.
9. Provide means of pressure relief on 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 the work area.
  - d. Make workshop childproof – with padlocks, master switches, and by removing starter keys.
11. When wiring an electrically driven pump, follow all electrical and safety codes, as well as most recent National Electrical Code (NEC) and Occupational Safety and Health Act (OSHA).

**⚠ WARNING** Risk of sudden starts. Can cause electrical shock and personal injury. Pump motor is equipped with an automatic resetting thermal protector and may restart unexpectedly.
12. **⚠ WARNING** Risk of electric shock. Can shock, burn or kill. 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. Be certain that it is connected to 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 the National Electrical Code and local codes and ordinances.
13. All wiring should be performed by a qualified electrician.
14. Protect electrical cord from sharp objects, hot surfaces, oil, and chemicals. Avoid kinking cord. Replace or repair damaged or worn cords immediately.
15. Use wire of adequate size to minimize voltage drop at motor. Refer to most recent National Electrical Code.
16. Do not touch an operating motor. Modern motors are designed to operate at high temperatures.
17. Do not use in water where fish are present.

## SPECIFICATIONS

<b>Power supply required</b> .....	115V, 60 Hz.
<b>Liquid Temp. Range</b> .....	Max. 77°F (25°C)
<b>Operation Position</b> .....	Vertical
<b>Individual Branch Circuit Required</b> .....	15 Amp
<b>Operating Depth</b> Beginning min.....	1/2"
Ending max .....	3/16"
<b>Discharge</b> .....	1" NPT (25 mm)

# INSTALLATION

## PERFORMANCE

GPH (LPH) AT TOTAL FEET (M)				
3'	5'	10'	15'	20'
(0.91)	(1.52)	(3.05)	(4.57)	(6.09)
FPOS1300X				
1320 gal (4 996 L)	1250 gal (4 731 L)	930 gal (3 520 L)	660 gal (2 498 L)	0 gal (0 L)
FPOS1600X				
1600 gal (6 056 L)	1524 gal (5 768 L)	1260 gal (4 769 L)	924 gal (3 497 L)	372 gal (1 408 L)

## DESCRIPTION

Pentair Flotec Submersible Utility Pump is designed for draining water from basement floors, stock tanks, window wells, boats, flat roofs and cisterns. Unit is equipped with a 3-prong grounding-type power cord and automatic reset thermal protection. Bearings on the motor shaft never need lubrication. Pump water only with this pump.

**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 the warranty. (See warranty terms on page 6)

Do not use where water recirculates.

Not designed for use as a swimming pool drainer.

Do not use this pump in water with fish present. If any oil leaks out of the motor, it may harm or kill fish.

## INSTALLATION

**⚠ WARNING** Risk of electric shock. Can shock, burn or kill. Do not use power cord to lift motor. Always use handle.

1. Pump should be placed on a level solid foundation. Do not suspend pump by means of discharge pipe or power cord. Keep pump inlet screen clear.
2. Thread outlet pipe into pump body carefully to avoid stripping or crossing threads.
  - a. To install with garden hose, install adapter provided with the pump.  
**NOTICE** To maintain the optimal flow rate it is recommended to use a 3/4" diameter hose, and the shortest version of it.
  - b. To install with rigid pipe, use plastic pipe. Wrap thread with pipe thread sealant tape. Screw pipe into pump hand tight +1 - 1-1/2 turns.
3. Power Supply: Pump is designed for 115V, 60 Hz operation and requires an individual branch circuit of 15 Amp or more capacity. It is supplied with a 3-wire cord set with grounding-type plug for use in a 3-wire, grounded outlet. 3-wire extension cord, of at least 14 AWG (2mm<sup>2</sup>) size is suggested, with larger sizes for runs over 25 ft (7M). For safety, 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 the round grounding prong.

**⚠ WARNING** Risk of sudden starts. Can cause electrical shock and personal injury. The pump motor is equipped with automatic resetting thermal

protector and may restart unexpectedly. Protector tripping is indication of motor overloading as a result of operating pump at low heads (low discharge restriction), excessively high or low voltage, inadequate wiring, incorrect motor connections, or a defective motor or pump.

## OPERATION

**⚠ WARNING** Risk of electric shock. Can shock, burn or kill. Do not handle pump or pump motor with wet hands or when standing on wet or damp surface, or in water. Disconnect power from pump and let it cool down before handling, servicing, or attempting to repair the pump.

1. The pump must be standing in at least 1/2" (12.7mm) of water before starting it 1" (25.4 mm) is better. The shaft seal is water lubricated and may be damaged if pump runs dry.
2. After starting, the pump will lower the water level to 3/16" (4.75 mm) before losing suction. It will not pick up water less than 3/16" deep when running and will not operate successfully if started in only 3/16" of water.
3. Do not leave pump unattended! If the pump has been operating satisfactorily and the discharge stream suddenly stops coming out of the hose, stop the pump immediately; do not allow it to run dry. A mop or squeegee will be needed to remove remaining water.
4. The motor is equipped with an automatically resetting thermal overload protector. If the motor gets too hot, the overload protector will stop the motor before it is damaged. When the motor has cooled sufficiently, the overload protector will reset itself and the motor will restart.  
**NOTICE** If the overload protector stops the pump repeatedly, disconnect the power from the pump and check it to find the problem. Low voltage, long extension cords, clogged impeller, too much back pressure in the discharge hose (as when pumping through 50 ft or 15 M of coiled hose), or running pump with no load, can all cause excessive cycling and overheating.
5. For models FPOS1300X and FPOS1600X, the water being pumped cools the motor, allowing the pump to run continuously at any depth of water above 3/16". However, if the motor overload stops the pump, allow it to cool for one hour before restarting. Motor will not restart before the overload has cooled.

## AIRLOCKS

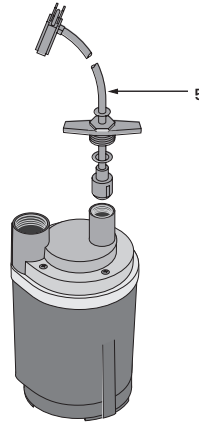
When a pump airlocks, it runs but does not move any water. An airlock will cause the pump to overheat and fail. This pump has an anti-airlock hole in the bottom of the pump body. If you suspect an airlock, unplug the pump, clean out the anti-airlock hole with a paper clip or piece of wire, and restart the pump.

**NOTICE** This hole allows the pump to start priming within 15 seconds in as little as 1/2" of water. NEVER restart pump in less than 1/2" of water. Leakage from the anti-airlock hole is normal.

# SPECIFICATIONS

REF	DESCRIPTION	QTY	PART NO.
5	Power Cord	1	PS117-54-TSU
•	Garden Hose Adapter	1	FT0013-43

\*\* If motor fails, replace entire pump.  
 • Not Illustrated.



## TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Pump won't start or run	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.
	Defective motor	Replace pump.
	Impeller	If impeller won't turn, for models FP0S1300X and FP0S1600X, remove the screen. Locate the source of binding.
Pump operates but delivers little or no water	Low line voltage	When an extension cord is necessary use as short of a cord as possible. Use only 14 gauge or larger extension cords.
	Something caught in impeller	Clean out impeller.
	Small diameter garden hose or long discharge line	Use larger diameter garden or 1" flexible pipe. Eliminate any excess hose. Short hoses work best.
	Air lock	Turn off pump for a few seconds, clean out anti-airlock hole and restart pump.
	Coils or bends in hose	Straighten hose.

# WARRANTY

## Retain Original Receipt For Warranty Eligibility

### Limited Warranty

This Limited Warranty is effective July 11, 2019 and replaces all undated warranties and warranties dated before July 11, 2019.

Pentair Flotec warrants to the original consumer purchaser ("Purchaser" or "You") that its products are free from defects in material and workmanship for a period of twelve (12) months from the date of the original consumer purchase. If, within twelve (12) months from the original consumer purchase, any such product shall prove to be defective, it shall be repaired or replaced at Pentair Flotec's option, subject to the terms and conditions set forth herein. Note that this limited warranty applies to manufacturing defects only and not to ordinary wear and tear. All mechanical devices need periodic parts and service to perform well. This limited warranty does not cover repair when normal use has exhausted the life of a part or the equipment.

The original purchase receipt and product warranty information label are required to determine warranty eligibility. Eligibility is based on purchase date of original product – not the date of replacement under warranty. The warranty is limited to repair or replacement of original purchased product only, not replacement product (i.e. one warranty replacement allowed per purchase). Purchaser pays all removal, installation, labor, shipping, and incidental charges.

Claims made under this warranty shall be made by returning the product (except sewage pumps, see below) to the retail outlet where it was purchased immediately after the discovery of any alleged defect. Pentair Flotec will subsequently take corrective action as promptly as reasonably possible. No requests for service will be accepted if received more than 30 days after the warranty expires.

Warranty is not transferable and does not apply to products used in commercial/rental applications.

For parts or troubleshooting assistance, DO NOT return product to your retail store – contact Pentair Flotec® Customer Service at 1-800-365-6832.

### SEWAGE PUMPS

DO NOT return a sewage pump (that has been installed) to your retail store. Sewage pumps that have seen service and been removed carry a contamination hazard with them.

If your sewage pump has failed:

- ◆ Wear rubber gloves when handling the pump;
- ◆ For warranty purposes, return the pump's cord tag and original receipt of purchase to the retail store;
- ◆ Dispose of the pump according to local disposal ordinances.

Contact Pentair Flotec Customer Service at 1-800-365-6832.

### EXCEPTIONS TO THE TWELVE (12) MONTH LIMITED WARRANTY

PRODUCT	WARRANTY PERIOD
Pentair Parts20®(Parts & Accessories), FPOF360AC, FPOFDC	90 days
FPOS1775A, FPOS4100X, FPPSS3000, FPCC5030, FPCI3350, FPCI5050, FPDC30	2 Years
4" Submersible Well Pumps, FPSC1725X, FPSE3601A, FPSC3350A, FPZT7300, FPZT7350, FPZT7450, FPZT7550	3 Years
FP7100 Series Pressure Tanks, E3305TLT, E3375TLT, E5005TLTT, E50TLT, E50VLT, E75STVT, E75VLT, FPSE9000, FPSE9050	5 Years

### GENERAL TERMS AND CONDITIONS; LIMITATION OF REMEDIES

You must pay all labor and shipping charges necessary to replace product covered by this warranty. This warranty does not apply to the following: (1) acts of God; (2) products which, in the sole judgment of Pentair Flotec, have been subject to negligence, abuse, accident, misapplication, tampering, or alteration; (3) failures due to improper installation, operation, maintenance or storage; (4) atypical or unapproved application, use or service; (5) failures caused by corrosion, rust or other foreign materials in the system, or operation at pressures in excess of recommended maximums.

This warranty sets forth the sole obligation of Pentair Flotec, and purchaser's exclusive remedy for defective products.

PENTAIR FLOTEC SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, OR CONTINGENT DAMAGES WHATSOEVER.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE FOREGOING 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 how long an implied warranty lasts, 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.



**NOTES**

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