



# Big Frog Submersible Water Pump Operation Manual



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Models:  
BFP3000 ♦ BFP4200 ♦ BFP5500 ♦ BFP6300 ♦ BFP10000

## **LIMITED WARRANTY**

Products manufactured by ANJON are warranted to the original user only to be free of defects in material and workmanship for a period of 24 months from date of purchase, but not more than 30 months from date of manufacture. ANJON liability under this warranty shall be limited to repairing or replacing at ANJON's option, without charge, F.O.B. ANJON's factory or authorized service station, any product of ANJON's manufacture. ANJON will not be liable for any costs of removal, installation, transportation, or any other charges which may arise in connection with a warranty claim. Products which are sold but not manufactured by ANJON are subject to the warranty provided by the manufacturer of said products and not by ANJON's warranty. ANJON will not be liable for damage or wear to products caused by abnormal operating conditions, accident, abuse, misuse, unauthorized alteration or repair, or if the product was not installed in accordance with ANJON's printed installation and operating instructions.

To obtain service under this warranty, the defective product must be returned to the distributor or dealer of ANJON's products from which it was purchased together with proof of purchase and installation date, failure date, and supporting installation data. Unless otherwise provided, the distributor or dealer will contact ANJON or an authorized service station for instructions. Any defective product to be returned to ANJON or a service station must be sent freight prepaid; documentation supporting the warranty claim and/or a Return Material Authorization must be included if so instructed. In the absence of suitable proof of purchase date, the effective date of this warranty will be based upon the date of manufacture.

Any replacement product may be either new or like-new, provided that it has functionality at least equal to that of the product being replaced. No requests for service under this warranty will be accepted if received more than 30 days after the term of the warranty. Correction of defects, in the manner and for the duration of the warranty described in this warranty, shall constitute complete fulfillment of all liabilities and responsibilities of ANJON to the user with respect to the product, and shall constitute full satisfaction of all claims, whether based on contract, negligence, strict liability or otherwise. Except for the obligations specifically set forth in this warranty, in no event shall ANJON be liable for direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory and whether advised of the possibility of such damages.

ANJON reserves the right to change or improve its products or any portions thereof without being obligated to provide such a change or improvement for units sold and/or shipped prior to such a change or improvement.

THERE ARE NO EXPRESS OR IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH EXTEND BEYOND THOSE WARRANTIES DESCRIBED OR REFERRED TO ABOVE. EXCEPT AS EXPRESSLY HEREIN PROVIDED THE GOODS ARE SOLD "AS IS", THE ENTIRE RISK AS TO QUALITY AND FITNESS FOR A PARTICULAR PURPOSE, AND PERFORMANCE OF THE GOODS IS WITH THE BUYER, AND SHOULD THE GOODS PROVE DEFECTIVE FOLLOWING THEIR PURCHASE, THE BUYER AND NOT THE MANUFACTURER, DISTRIBUTOR, OR RETAILER ASSUMES THE ENTIRE RISK OF ALL NECESSARY SERVICING AND REPAIR.

Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages and some jurisdictions do not allow limitations on how long implied warranties may last or require you to pay certain expenses as set forth above. Therefore, 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 jurisdiction to jurisdiction.

## **TROUBLESHOOTING**

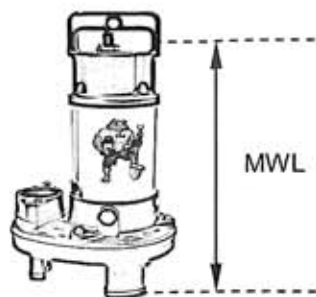
**WARNING:** FAILURE TO DISCONNECT AND LOCKOUT ELECTRICAL POWER BEFORE HANDLING CAN CAUSE SHOCK, BURNS OR DEATH.

### **Symptoms and Probable Solutions**

- ❖ Pump does not start
  - Electrical problem ⇒ Check for blown fuse or tripped circuit breaker.
  - Power cord damage ⇒ Contact ANJON for repair service.
  - GFCI tripped ⇒ Check for moisture on plug. Reset GFCI or try another GFCI protected AC outlet. Replace any faulty GFCI.
  - Motor start capacitor damage (possible lightning damage) ⇒ Contact ANJON for repair service. Consult qualified electrician for proper in wall wiring and surge protection.
- ❖ Pump stop operating after starting
  - Motor thermal protector tripped ⇒ Allow motor to cool. Ensure pump always operates above Minimum Water Level. Clear any mineral and algae deposit on surface of motor housing.
  - Obstacle builds in the flow chamber ⇒ Remove debris and clog matter by running clean water through the flow chamber. Allow protection circuit to reset after motor cooling.
- ❖ Ground Fault Interrupter triggers
  - Faulty GFI ⇒ Replace faulty GFI and/or try another GFI outlet.
  - Water leak into motor, electrical shorts, motor damage ⇒ Repair required. Contact ANJON for assistance.
- ❖ Reduced flow rate or performance
  - Pump inlet plugged ⇒ Inspect and clear as required. If necessary, disassemble low composite pump body only and disassemble impeller from motor shaft to remove fibrous matters that wrap around the impeller.
  - Impeller is worn or damaged ⇒ Inspect impeller, replace as required.
  - Pump is air locked or inlet is exposed to air ⇒ Shut off pump for approximately one minute, then restart. Repeat until air lock clears. Do not operate the pump below the Minimum Water Level. If air locking persist in a system with a check valve, a 3/16" hole may be drilled in the discharge pipe approximately 2" above the discharge connection.
  - Excessive system head loss ⇒ Reduce pipe length, avoid long and winding upward slopes, check for clog inside the pipeline.

## OPERATING WATER LEVEL

Do not operate the pump below the Minimum Water Level (MWL).



Model	MWL
BFP3000	13 inch
BFP4200	14 inch
BFP5500	15 inch
BFP6300	16 inch
BFP10000	16 inch

Failure to observe the operating water level may result in pump overheating, malfunctions or abnormal pump behaviors.

## REGULAR INSPECTION

Regular inspections are a necessity for continued efficient functioning of the pump. It is recommended that a spare pump be kept ready in case of any problems.

Check for any drop in performance. This may indicate plugged pump inlet, clogging in the pipe line, or significant wear or damage to the impeller. Turn off the power first before inspection. Remove the clogged matter or debris and replace damaged or worn impeller. Contact ANJON to order a new impeller.

Remove all mineral or algae deposits from the surface of the pump motor and wash pump with clean water.

## STORAGE

When the pump is not in use for an extended period, wash it and dry it thoroughly, then store it indoors. If water is expected to freeze during winter, remove pump from installation and store indoors. In certain conditions it is recommended that the pump be submerged in a bucket of water and stored at room temperature.

**NOTE:** Always, run a test operation before putting the pump back into service. When the pump is left installed under water, it should be run at regular intervals (about once a week).

## SAFETY WARNING

To avoid serious or fatal personal injury, read and follow all safety instructions in manual and on pump.

Inspect the pump when unpacking. Check for any damage to pump and power cable during shipment, and make sure all bolts and nuts are tightened properly. Lift or lower the pump only by the handle, never with power cable. Check the power supply that is adequate to handle the voltage and current rating of this pump.

Use water pump only for circulation, transfer or removal of water or wastewater. Do not pump oil, brine, liquid with high degree of acid or alkaline, organic solvents, or water containing high level of sand or silt. Do not operate in water temperatures outside the range of 32°F ~ 104°F, failure to do so may lead to thermal overload and premature pump failure. Do not use the pump in the vicinity of explosive or flammable materials. Do not tamper with the pump; operate only in fully assembled state.

The pump generates high fluid suction and discharge velocity. Do not cover or block any openings on this pump. While pump operates, never place your hand or any object in or near the inlet opening. Disconnect from power source before attempting any inspection.

## ELECTRICAL SAFETY

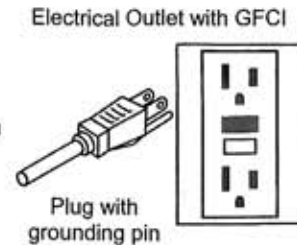
All electrical works should be performed by a qualified electrician in accordance with the latest edition of the National Electrical Code, local codes and regulations.

For your protection, always disconnect the pump from its power source before handling. Single phase 115V pumps are supplied with a 3-prong grounded plug to help protect you against the possibility of electrical shock. **DO NOT UNDER ANY CIRCUMSTANCE REMOVE THE GROUND PIN.** The 3-prong plug **MUST** be inserted into a compatible 3-prong grounded 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.

The electrical supply must be a separate branch circuit with fuses or circuit breakers for short-circuit protection. Use dedicated power outlet rated at 15 Ampere or above with a ground leakage circuit breaker or Ground Fault Circuit Interrupter (GFCI). Attach power supply plug securely into the outlet, receptacle or terminal to reduce the probability of electrical shock, shorting or fire. Power outlet, receptacle or terminal should be protected and shield from weather or water discharge from the pump, reducing possibility of accidental electric shock or short circuit.

## GROUND FAULT CIRCUIT INTERRUPTER

The pump must be connected to a Ground Fault Circuit Interrupter (GFCI) or Earth Leakage Circuit Breaker (ELCB) with a tripping current < 30 mA. A good quality heavy duty GFCI with over 15A tolerance should be used. Do not connect more than one electrical application to the GFCI outlet when using with pump.



A working GFCI can protect and reduce the probability of a person from getting shocked or electrocuted, caution should still be applied when operating an electrical equipment. Please do not develop a false sense of security with GFCI. Check and verify the GFCI is operating within normal parameters on a regular monthly basis. When GFCI is tripped regularly, check for moisture and make sure GFCI is working properly, faulty GFCI should be replaced at once.

## POWER CABLE

Protect power cable from damage during handling, installation or removal. If a cable, with cut insulation or other damage is submerged in the water or exposed to weather, there is a danger of water seeping into the motor causing a short. This may result in damage to the pump, electrical leakage, electrical shock or fire.

Make sure the power cable does not become excessively bent or twisted, does not rub against a structure in a way that may damage it, and does not come in contact with heated surfaces. Do not use extension cord(s). Do not cut or alter power cord in any manner.

## MOTOR PROTECTION

The pump has a built-in thermal protector which opens the circuit when overload condition is encountered. Protector automatically resets when motor cools.

## INSTALLATION AND OPERATION GUIDELINES

- ⇒ Do not paint over the pump's stainless steel motor housing. Reduced cooling capacity can cause thermal damage, undesirable performance reductions, periodic auto shut-off and other malfunctions.
- ⇒ Remove any sludge, pebbles or large solid debris from where the pump is to be installed.
- ⇒ Care should be taken with the pump's weight and center of gravity during installation to prevent personal injury and equipment damage.

- ⇒ Situate pump in location with sufficient water level, where water collects and flow readily.
- ⇒ If the pump is installed in a pump basin or pit, the area must have sufficient space to allow ample of water circulation around the pump at all levels. Basin or pit with at least 2 feet diameter is recommended; furthermore, it should be dimensioned according to the relation between the water flow to the pit and the pump performance. When placing in a pond skimmer box, the pump basin is defined as the compartment where the pump is located, not the entire skimmer box.
- ⇒ Place pump in upright position, on a stable base, barred from tilting or submerged in sludge, mud or similar materials.
- ⇒ When a flexible pipe is used, make sure that the pipe does not buckle and that the inside diameter of the pipe matches that of the discharge port or the supplied adapter fitting only.
- ⇒ When a rigid pipe is used, the union or coupling, non-return valve and isolating valve should be fitted in the sequence mentioned, as seen from the pump side.
- ⇒ Always attach the hose or secure pipe fitting as far as they will go, then secure tightly with hose band or bond the pipes with adhesive.
- ⇒ Fit a non-return valve in the discharge pipe to prevent siphon or back-flow when power is turn off or during a power outage.

## PRIOR TO OPERATION

**CAUTION:** Turn off power supply or circuit breaker before connecting the power plug to avoid electrical sparks, or unexpected starting of the pump, leading to injury. NEVER turn on the pump while it is suspended in air or water, the recoil may result in injury or other major accident.

## DURING OPERATION

**CAUTION:** DO NOT PHYSICALLY FEEL FOR THE IMPELLER ROTATION. SERIOUS INJURY COULD RESULT.

- ⇒ Pay careful attention to the water level while the pump is operating. Dry operation may cause the pump motor to overheat and malfunction. In dry operation or operation with lack of water cooling, pump motor can become very hot, do not come in contact with pump to avoid being burned. (Refer to Operating Water Level)
- ⇒ Make sure no extraneous objects such as pins, nails or other metal objects are sucked into the pump.
- ⇒ In case of a power outage, turn off the power to the pump to avoid having it start unexpectedly when the power is restored, presenting serious danger to people in the vicinity.