

## **ATTENTION**

This pump includes a detachable base strainer or inlet screen designed to filter out large non-dissolvable solids such as leaves, pebbles and rocks, etc.

**Periodically** check and remove algae, debris and leaves from the base strainer.

Remove detachable base strainer when pumping sludge with soft suspended solids.

With or without strainer installed, **DO NOT** place pump over or near bed of pebbles, rocks, sand, silt or any small loose particles (any non-dissolved solids).

# ***Submersible Sewage and Water Pump***

## **OPERATION MANUAL**

**MODELS:** AUP-150  
AUP-250  
AUP-400  
AUP-750



**ALITA INDUSTRIES, INC.**  
Efficient and Reliable Air and Water Moving Products

**AUP-**

Model Number

Serial Number

Date of Purchase

Dealer

Phone

Dealer Address

**Remember to mail in your  
Warranty Registration**

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## **LIMITED WARRANTY**

Products manufactured by ALITA are warranted to the original retail user only ("Customer") 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. Customer is responsible for registration of product warranty and maintaining a dated proof of purchase, and such proof shall be used to determine warranty eligibility. In the absence of suitable proof of purchase date, the effective date of this warranty will be based upon the date of manufacture.

ALITA Limited Warranty covers only those defects which arise as a result of normal use of the product and do not apply to any: (a) defect or malfunctions resulting from failure to properly install, operate or maintain the ALITA Product in accordance with printed instructions provided; (b) failures resulting from abuse, accident or negligence; (c) ALITA Product which is not installed in accordance with applicable local codes, ordinances and good trade practices; (d) operation outside the ALITA Product's specifications or used for purposes other than for what it was designed and manufactured; (e) improper or inadequate maintenance or modification, and (f) damage due to shipment, lightning, natural disaster, earthquake, fire, flood, or any force majeure.

If within the duration of Limited Warranty, the ALITA Product shall prove to be defective due to defective materials or workmanship, ALITA shall either repair or replace the defective product, at ALITA's option. ALITA shall have no obligation to repair or replace until the Customer returns the defective product, together with dated proof of purchase and written notice of alleged defect to ALITA. 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.

ALITA shall be liable only for the cost of the replacement part, or the repair of any defective part. Customer shall be responsible for labor, cost of removal and installation at Customer's premises, transportation and insurance cost to and from ALITA, and any other incidental costs.

Correction of defects, in the manner and for the duration of the warranty described in this Limited Warranty, shall constitute complete fulfillment of all liabilities and responsibilities of ALITA to the Customer 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 Limited Warranty, in no event shall ALITA 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.

ALITA disclaims all other warranties with respect to ALITA Product, whether implied, and specifically disclaim the implied warranties or conditions or merchantability, satisfactory quality, fitness of a particular purpose.

Unauthorized extensions of warranties by the customer shall remain customer's responsibility.

ALITA 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.

The limited warranties described herein shall be the sole and exclusive remedy available to the Customer. This warranty is void if the ALITA Product has been improperly used, mishandled, disassembled or modified.

CUSTOMER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF ALITA PRODUCTS FOR CUSTOMER'S USE OR RESALE, OR FOR INCORPORATING THEM INTO OBJECTS OR APPLICATIONS WHICH CUSTOMER DESIGNS, ASSEMBLES, CONSTRUCTS OR MANUFACTURES.



## **SAFETY INSTRUCTIONS**

Special care should be taken when operating a submersible water pump. To avoid serious or fatal personal injury or major property damage, read and follow all safety instructions in manual and on pump.

Inspect the product when unpacking. Check for any damage to pump and power cable during shipment, and make sure all bolts and nuts are tightened properly. Any damage that may have occurred during shipping, handle all claims with shipper.

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 32~104°F (0~40°C), failure to do so may lead to thermal overload and premature pump failure.

Lift or lower the pump only by the handle, never with power cable. Check for power supply that is adequate to handle the voltage and current rating of this equipment. Use with a power supply voltage within  $\pm 5\%$  of the rated voltage.

## **WARNINGS**

- ☒ Do not operate water pump under any conditions other than those for which it is specified.
- ☒ The pump generates high fluid suction and discharge velocity. Do not cover or block the intake or discharge ports.
- ☒ While pump operates, never place your hand or any object in or near the inlet opening. If pump inlet or the discharge pipe is clogged, switch off the power first before attempting to remove any debris.
- ☒ Do not use the pump in the vicinity of explosive or flammable materials.
- ☒ Do not operate the pump if it has a damaged cord or plug, or if it is not working properly. Keep power cable away from heated surfaces.
- ☒ Do not tamper with the pump; operate only in fully assembled state.

## **GROUNDING AND ELECTRICAL SAFETY**

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, wire sizes, etc., per national and local electrical codes.

In accordance with all applicable safety regulations, electrical wiring should be performed by qualified technicians. Incorrect wiring can lead to electrical leakage, electrical shock and fire. Do not use the submersible water pump without proper grounding. Failure to observe proper grounding rules will increase the risk of electrical shock from an electrical leak or pump malfunction. Consult a qualified electrician or serviceman if the grounding instructions are not completely understood, or if doubt exists as to whether the equipment is properly grounded.

Use dedicated power outlet rated at 15 Ampere or above with a ground leakage circuit breaker. 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.

### **FIRE HAZARD!**

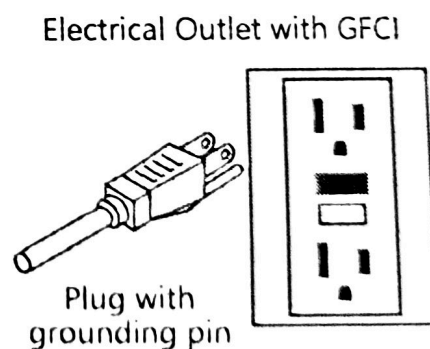
Sharing the outlet with other electrical equipment may cause overheating at the branch outlet and could result in fire.

### **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 might damage it, does not laid across pedestrian traffic and does not come in contact with heated surfaces.

Avoid the use of extension cord. If extension is required, use shortest cord available for connection to avoid performance drop and overheating. Use only a 3-wire extension cord that has a 3-blade grounding plug. The marked rating of the extension cord should be AC 115-120 Volt, 15 Ampere or more. Do not submerge the connection leads of the power cable in water!

## **INSTALLATION NOTES**

- ⇒ 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 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.
- ⇒ If a hose is used, make sure that the hose does not buckle and that the inside diameter of the hose matches that of the discharge port or the supplied adapter fitting only.
- ⇒ If 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.

## **OPERATION NOTES**

### **PRIOR TO OPERATION**

Turn off power supply or circuit breaker before connecting the power plug to avoid electrical shock, shorting, or unexpected starting of the pump, leading to injury.

**NEVER** operate the pump while it is suspended in air or water. The recoil may result in injury or other major accident.

Please observe the following water & wastewater conditions when operating the pump.

Water Temperature	0~40°C / 32~104°F
pH Level	6 – 9
Electrical Conductivity	< 1000 µS/cm
Dissolved Oxygen Level (DO)	1 – 4 mgO <sub>2</sub> /L
Dissolved Ion (Salt)	< 1000 mg/L
Suspended Solids (SS)	< 3000 mg/L
Biochemical & Chemical Oxygen Demands (BOD & COD)	< 1000 mg/L

- ◆ Use this pump only for circulation, transfer or removal of water or waste water, do not use this pump in oil, or organic solvents. Do not operate in unknown liquid solution or chemicals.
- ◆ Do not pump oil, brine (salt water), high degree of acid and alkaline liquid, organic solvents and liquid containing sand and silt.

### **While in Operation**

- ⇒ Pay careful attention to the water level while the pump is operating. Dry operation may cause the pump to malfunction. In dry operation or operation with lack of water cooling, pump may become very hot during operation, 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.
- ⇒ **CAUTION:** In case of very excessive vibration, unusual noise or odor, turn off the power immediately and consult with your nearest dealer or ALITA representative. Continuing to operate the pump under abnormal conditions may result in electrical leakage, electrical shock or fire.

## MOTOR PROTECTION SYSTEM

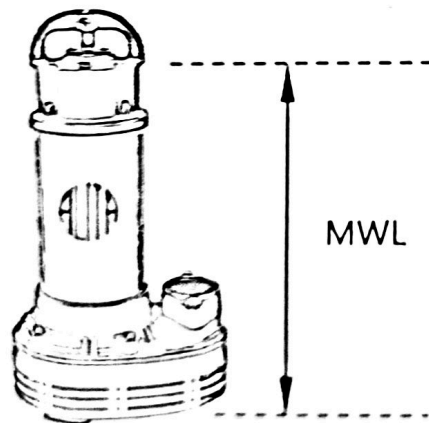
The pump has a built-in motor protection system. For reasons such as the following can cause the pump to stop automatically regardless of water level, to protect the motor.

- Motor overheat or overload
- Excessive current
- Fluctuation in supply voltage level or change in voltage polarity
- Open-phase operation or operation under constraint
- Operation with excessive load (numerous elbows, restrictive valves, extended or flow resistive pipe line and excessive slope, etc.)

Repeating cycles of stopping and restarting under above conditions will damage the water pump. Do not continue operation at low lift, low water level, or while the inlet is clogged with debris, such conditions may cause noise, heavy vibration, and malfunctions. Before resuming operation, always determine the cause and find solutions to resolve the problem.

## OPERATING WATER LEVEL

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



Model	MWL
AUP-150	13 inch
AUP-250	14 inch
AUP-400	15 inch
AUP-750	16 inch

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

## ON/OFF CYCLE (for automatic model with a float switch)

Please utilize the pump for applications with less than 10 On/Off cycle per hour.



## REGULAR INSPECTION

Regular inspections are a necessity for continued efficient functioning of the pump. If any abnormal conditions are noticed, refer to the section on Troubleshooting Guide and take corrective measures immediately. It is recommended that a spare pump be kept ready in case of any problems.

Check for any drop in performance. This may indicate clogging on the inlet or wear to the impeller. Remove the clogged matter or debris and replace damaged or worn impeller. Contact ALITA to order a new impeller.

Remove accumulated matter from the surface of the pump and wash pump with clean water. Turn off the power first before removing any debris from the flow chamber and impeller.

## STORAGE

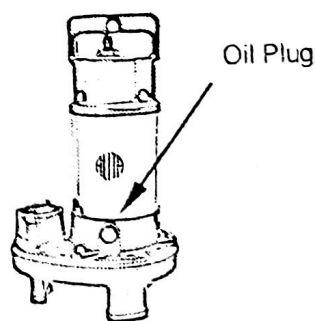
When the pump is not in use for an extended period, wash it and dry it thoroughly, then store it indoors. In certain regions it is recommended that the pump be submerged in a bucket of water and store indoors. Do not store pump outdoors or in a garage during winter.

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

## Lubrication Inspection / Replacement (Mechanical Seal Chamber)

Change mechanical seal lubricant approximately 24~30 months of operation. Use only biodegradable turbine oil ISO VG 32.

Replacement Procedure: Tilt the pump with Oil Plug (large hex bolt) facing up. Unscrew Oil Plug and remove gasket or washer. Tilt the pump and drain the lubricant completely into a container for inspection. Re-fill mechanical seal chamber with approximately 8 oz. of lubricant. Secure with gasket or washer and Oil Plug. Apply water resistant sealant if necessary.



- ◆ If the original lubricant is milky white or has large amount of water mixed in, the mechanical shaft seal may become faulty due to long term wear or abrasion from harsh minerals in the water, mechanical seal replacement will be necessary. Contact ALITA for assistance.
- ◆ Old lubricant should be disposed in accordance with applicable laws by a qualified agent. Contact your local government for location of qualified agents.
- ◆ Warranty is void if Oil Plug is disturbed or oil change is performed during the term of warranty.

## **TROUBLESHOOTING GUIDE**

**WARNING:** Always turn off the power before inspecting the pump. Failure to observe this precaution can result in serious accident.

- If matter accumulate in pump chamber, clean pump by running in clean water. Bring up the pump and allow pump to dry completely.
- If freezing is suspected, remove pump from water and allow the impeller chamber to dry before operating the pump.
- If the problem persist, do not attempt to repair the pump on your own. Contact ALITA for repair information.

Before ordering repairs, carefully read through this instruction manual, then repeat the inspection. If the problem remains, contact ALITA for assistance.

### **Symptoms and Probable Solutions**

#### **❖ Pump does not start**

- Poor electrical connection ⇒ Plug the power plug firmly into AC outlet.
- Poor electrical wiring ⇒ Consult qualified electrician for proper wiring.
- Power cord damage ⇒ Contact ALITA for repair service.
- GFCI tripped ⇒ Check for moisture on plug. Reset GFCI or try another GFCI protected AC outlet. Replace any faulty GFCI.
- Thermal protection circuit activated ⇒ Inspect pump and remove any foreign objects and observe the proper water levels described within this manual.
- Motor start capacitor damage ⇒ Contact ALITA for repair service. Consult qualified electrician for proper in wall wiring and surge protection.

#### **❖ Pump stop operating after starting**

- Motor section expose to air for extended period ⇒ Increase water level and observe Minimum Water Levels described within this manual. Allow thermal protection circuit to reset after motor is cooled.
- High liquid temperature ⇒ Try to lower the temperature of fluid below 40°C or 104°F. Allow protection circuit to reset after motor is cooled.
- Current overload ⇒ Check cable connection and in wall wiring for proper length and cable size. Consult qualified electrician for assistance.
- 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 ALITA for assistance.

#### ❖ Reduced flow rate or performance

- Obstacle blocks inlet or strainer ⇨ Turn off the pump and remove any obstacles blocking or stuck in the inlet or strainer if added.
- Sharply bent or clogged hose ⇨ Check for clog inside hose or pipe. Reduce the bends and folds of the water hose connected to the pump.
- Worn impeller ⇨ Contact ALITA for parts and replacement instructions.
- Obstacle builds in the flow chamber ⇨ Remove debris and clog matter by running clean water through the flow chamber. If necessary, disassemble low composite pump body only and disassemble impeller from motor shaft to remove fibrous matters that wrap around the impeller.
- Pump inlet expose to air ⇨ Submerge the pump or increase water level. Do not operate the pump below the Minimum Water Level.
- Water hose or pipe is too long ⇨ Reduce head loss from pipe line by shorten its length and check for clogging inside hose or pipe. Do not run pipe up a long incline. Lay pipe horizontally and vertically when ever possible.

If none of the prescribed solution can help you resolve your pump problem, contact ALITA for repair service instructions. **DO NOT ATTEMPT** to repair the pump on your own.

For repair or service, contact Alita Industries first for instructions and to receive an authorization number prior to sending of the pump. Alita Industries will not be responsible for any lost or misdirected packages.

When sending a pump for service or repair, please include the following:

1. Dated proof of purchase.
2. Legible contact information and return address  
e.g.      Name  
              Street Address  
              City, State, Zip Code  
              Telephone / Mobile Number  
              Email Address
3. Description of the pump application and installation setup.  
(Include drawings or photographs if possible.)
4. Summary of the operating conditions and history.
5. Detailed description of the problems.