

SUBMERSIBLE PUMPS

OPERATING INSTRUCTION MANUAL

Thank you for selecting our products.

The equipment shall not be used for applications other than the information listed in the manual. Failure to take notice of precautions may lead to property damage, personal injury and other accidents. In the event of property damage and hazards, the manufacturer will not be assumed to any liability.

After reading the manual, it is recommended to reserve the manual for future use so that the information listed will be easily accessible while the equipment is operated.

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Identification



WARNING – Potential hazardous which could result death or series injury.



CAUTION – Potential hazardous which could result pump damaged or minor injury.

NOTE – Important information is emphasized.

Product Inspection

1. Handle with care. Confirm if the received items are packed in the perfect condition and against the packing lists.
2. Check the data on the name plate to be sure that the pump is the product you exactly ordered.

NOTE If the pump is damaged during transportation; please immediately contact your supplier.

Application Instruction

Beware of the conditions that the pump is going to be operating.



CAUTION – The pump is suitable for pumping water or liquid with little suspensions. For consideration in safety, the pump is prohibited to apply in flammable, toxic, corrosive, abrasive, crystallizing, polymerizing and high-viscosity liquid.

NOTE To use the pump for particular solution (such as sea water, industry wastewater...etc., be advised to consult your supplier.

Safety instruction

Before operation, read the instructions and follow safety rules as below.



WARNING – Be sure to ground the pump properly before operation and install the circuit breaker and overload protector to prevent the motor from burning out. Failure to follow the precaution may lead to hazards if current leakage or electric shock occur.

1. The supply voltage should be within $\pm 5\%$ of the rated voltage.

2. The pump should be immersed in water surface to advance cooling the motor and water temperature should be kept between 0~40°C.

3. Never attempt to replace the built-in protective devices.



CAUTION – Do not extend the length of power cable without consulting your supplier. The insulation resistance could be reduced significantly and cause electric shock. If the power cable is extended, do not immerse the splice in water.

4. **DO NOT** use the pump for application of food or drinking water.
5. **DO NOT** use the pump in an explosive or flammable environment or for pumping flammable liquid.

Installation

Before installation, check your local electrical and plumbing codes. Those regulations provide further information for your safety.

1. Be sure the power cable is not being kinked during installation.
2. Carry the pump with pump handle.



WARNING – Always lift the pump by lifting handle, do not move or lift the pump by pulling the cable, which may cause electrical shock, current leakage.

3. Be sure the size of the discharge is suitable to pipe size and pumping direction is correct during connection.
4. Install the pump at a location which has the least turbulence.
5. **DO NOT** permit the end of discharge piping immersed in water, backflow may result the pump stop operation.
6. Due to manual type of pumps do not built in float switch, to be sure the pump is operation in water and maintain water level is higher than pump body is important. Or self-install float switch to remain water cooling effects is necessary.

Electrical Connections

All wiring, electrical connections, and system grounding must comply with any local codes and ordinances and perform correctly by a qualified electrician.

1. Be sure to ground the pump properly before operation and install the circuit breaker and overload protector to prevent the motor from burning out. Failure to follow the precaution may lead to hazards if current leakage or electric shock occurs.

2. Make sure that the supply voltage should be within $\pm 5\%$ of the rated voltage.
3. The pump must rotate in a clockwise direction (while looking down, not looking up) and never operate in reverse. If the pump runs in reverse during pre-installation (for three-phase motor), change two of the three phases to achieve correct rotation is necessary.



CAUTION – Keep hands out of the impeller while checking the direction of rotation.

4. **DO NOT** use damaged cable or power plug.

NOTE Be aware of type of the power plugs are respectively applicable for various countries or regions.

Operation



WARNING – Do not operate pump while anybody is in water, electric shock could occur during electric leakage.

1. Be sure the pump is operating in water and maintain water level is higher than pump body.
2. If the overload protector has tripped, the pump will stop and restart automatically when it has cooled down.

Maintenance

1. **SHUT OFF** the power before maintenance.
2. When pump is not in use, it should be cleaned & lubricated all movements and store in a dry, high or locked up place, out of reach of children and wet.
3. The normal user is not allowed to disassemble the pump to do any repair/service works without any knowledge/training about the pump and relevant safety. Only qualified person with proper tools and knowledge should attempt service the pump.

Troubleshooting

Trouble	Cause	Remedy
Pump fail to start (may cause a little sound)	Power failure	Contact power supply company
	Damaged fuse	Replace fuse
	Damaged power cable	Repair
	Damaged motor	Repair
	Damaged overload protector	Repair
	Damaged Bearing	Repair
	Poor power connection	Check the source of power supply and correctly joint the power
	Voltage drop	Correct the supplying voltage to the rated voltage
	Capacity of generator is insufficient	Replace it to higher capacity
	Jammed impeller	Remove the impeller and clean it
Pump stop for running immediately	Jammed impeller	Remove the impeller and clean it
	Voltage drop	Correct the supplying voltage to the rated voltage
	Reverse running	Switch phases
	Fluctuating voltage	Adjust power supply
	Capacity of generator is insufficient	Replace it to higher capacity
	High viscosity liquid	Consult supplier
	Pump with 50Hz specification is operated at 60Hz	Replace pump to correct type
	Pump with 60Hz specification is operated at 50Hz	Replace pump to correct type
	The strainer is obstructed, and the pump was operated dry for long hours	Remove the obstruction
Pump is not pumping water	Overmuch sediments	Raise pump position
	Worn impeller	Replace impeller
	Overmuch lost of head	Reduce the number of bends in piping
	Clogged strainer	Remove strainer and clean it
	Pump with 60Hz specification is operated at 50Hz	Replace pump to correct type
	Air exists	Exhaust pump/pipe
Pump generates noise or abnormal vibration	Reverse running	Switch phases
	Damaged bearing	Repair
	Worn impeller	Replace impeller
	Reverse running	Switch phases
Electrical shock occur	Air enter pipes during operation	Exhaust pump/pipe
	Insulation drop	Check circuit breaker and repair