

TIGERFLOW WDS SERIES SUBMERSIBLE WATER PUMP Installation and Operation Manual

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TIGERFLOW WDS SERIES INSTALLATION OPERATION AND MAINTENANCE MANUAL

CONTENTS

1. OPERATION INSTRUCTIONS

1.1 About safety warnings

Please read and follow these instructions carefully before using the equipment. Understanding the operating instructions will minimize the risk of failure or injury.

Only authorized or trained personnel should use the submersible pump, not following the instructions or not understanding the operation of the pump can lead to premature failure and risk iniurv.

If the pump is operated disregarding these instructions, the warranty might be void.

1.2 Inspection

The purpose of this manual is to provide necessary information to:

• If the pump inlet is damaged, it must be returned to the manufacturer or an authorized service center for inspection and repair or replacement, failure to do so can be dangerous and risk of injury.

• The equipment is not intended to be used by non-authorized or non-capable personnel. To reduce the risk of injury do not allow other people to operate this equipment without supervision.

- Never use this pump when there are animals or people in the fluid being pumped.
- There might be contamination of the liquid if there are leakages of the oil or lubricant.
- The pump must be used in a vertical position.
- The pump must not be used in a swimming pool.

• Do not bury the electrical cord, locate it where it will not be damaged by other equipment such as lawn mowers, trimmers, forklifts, etc.

• If the electrical cord is damaged, it must be replaced or repaired. Contact the manufacturer or the local authorized service center in order to avoid hazard and risk of injury.



DANGER:

Failure to follow this instructions may result in property damage, serious injury or even death.

2. OPERATING CONDITIONS

3. OPERATING THE PUMP



replace or repair.

- The WDS pumps are designed for use in submerged water applications, including residential, but they are not intended to be used in swimming pools. Typical applications include flooding dewatering, liquid transfer, well water supply, boats and ships drainage and dewatering, etc.
- The maximum working depth of the pump is 50 ft (15 m) and can be used for pumping clean or dirty water up to maximum particle size of 5 mm.
- This pump is not intended to pump corrosive liquids, explosive or flammable substances (i.e., gasoline, petroleum, alcohol, among others), fats, oils, salt water, or wastewater.
- The maximum working temperature is 95 degrees Fahrenheit.
- The pumps are not intended for continuous operation.

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ATTENTION:

Please adhere to the safety regulations and guidelines when operating this pump.Never run the pump without liquid or water to be pumped.

4. SAFETY RECOMMENDATIONS

It is recommended that a current leak detector switch is used.

Always examine the equipment before use, including the inlet and the oil plug. A damaged pump should not be used. If any damage is noted, please contact your factory representative to

8. ELECTRICAL CORD

before wrapping.

9. MOUNTING

finished.

Connect the outlet piping, valves, pressure gauges and water meters.

10. START-UP

Once the pump is in the well, the control panel is mounted, connect the power and start the pump. Observe pressure in the gauge or sensor and if possible, power meter. Turn off the pump If there is no pressure, or water is not being pushed out. Check for issues and restart the pump.

Check for solid particles in the water after the pump has stopped, if the water is not within acceptable parameters, run for a few minutes and check for improvement. If the water remains with large particles, or sludge then stop the pump and clean the well before restarting the pump. Do not use the well pump to clean out the well.

5. ELECTRICAL

• Always follow the National Electric Code (NEC), Canadian Electric Code, or any state, or local codes.

• Use copper wire and refer to the NEC for wiring sizing.

• The pump may be 50/60 Hz, please consult the pump model tag.

• Voltage should be +/- 6% of the nominal voltage to avoid premature failure.

6. OTHER RECOMMENDATIONS

ATTENTION:

- Do not lift the pump by the electrical cord.
- The pump must be more than 15 feet from the bottom of the well and a
- water-level must be maintained within 3 feet of the motor recommended water level.



• Do not run the pump in reverse for more than 1 minute.

• If the pump will remain nonoperational for long periods of time, ensure that it can be cleaned before restarting operation.

• The control panel must be installed before pump operation.

7. PREPARATIONS FOR USE

Confirm the operating conditions before starting up the pump.

- Incoming Power: Verify voltage and phases coming in matches the pump tag.

- Water condition: The maximum sand content should be no more than 5%, the pH should be between 6.8 and 8.5 approximately, and the water must be clear of solids larger than 5mm.

8. ELECTRICAL CORD

8.1 The cord must be one designed for borehole pumps.

8.2 Strip off the corresponding cable leads and the motor leads to at around 1-1/2", twist the leads together and use a wire nut and electrical tape for a minimum of 3-5 layers. Once all individuals are wrapped up, tie all three joints with electrical tape.

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8.3 Twine the strong stripped parts of the cable with the outgoing lines of the motor. 8.4 Increase the length of the waterproof tape for as much as two the times the original length

8.5 Keep the joints and the tape clean.

- The well pump shall be affixed the to the motor, please confirm to avoid issues.
- Introduce the pump into the well, refer to the image in Chapter 13.
- Fasten the pump with nylon wire or tightwire to adjust the height of the installation.
- Mount a piece of pipe to the outlet of the pump with a splint and put into the well. Then mount the second, the third and so on until the needed depth. Fasten the pump in the well once this is

11. TROUBLESHOOTING

Table1. Error& Potential Cause& Troubleshooting

Error	Potential Cause	Troubleshooting				
The pump works normally, but the voltage display or indicator lights are off.	 The power is off or not all phases are present. The length of the electrical cord is too long, or too small causing a voltage drop. The contactor is bad, or the thermal overload tripped. The power wiring is not well fastened, or the contactor is broken. There is a blockage inside the impellers and/or the pump body. The motor is damaged. 	 Check incoming power with power meter. Increase the length or gauge of the wire. Reset or change the thermal overload relay or contactor. Check the wiring inside the control panel Clear the pump impeller and body from obstructions. Repair or replace the motor. 				
No water flow or less than normal	 The pump is running in reverse. The pump inlet is blocked. There is a leak on the piping. The coupling is damaged or loose. There is abrasion in the impellers. The check valve is blocked or non-functional. 	 Switch two legs of the incoming wiring to the motor. Clear any blockage. Correct any pipe leaks. Repair or replace the coupling. Replace the impellers. Change the check valve. 				
There's a sudden increase or decrease in water flow (normal power)	 There is not enough depth for the pump. The water level is lower than the pump inlet. The flow is too much. 	 Increase the depth of installation. Limit the water outlet or increase the length of submersion. Change the pump for a lower flow one. 				
Problems in water level when running in Auto mode.	 The electrodes' distance between the high level and low level is too small. Swap wiring connections of the high level and low level water electrodes. 	 Increase the distance between the level electrodes Change the wiring 				
The thermal overload works properly, but the contactor is not closing.	 There is a phase unbalance (upstream of control box) The contactor is damaged or faulty. 	 Use a voltmeter to verify voltages in each phase. Check the contactor or replace it. 				
The pump works normally, but the voltage display or indicator lights are off.	 There is bad connection at the voltage display device. There is a bad connection or damaged indicator lights. 	 Check wiring connections to the voltage display. Repair or replace indicator lights. 				

12. PLEASE USE THE APPROPRIATE CABLE AS INDICATED BELOW

Table2. Cable choosen form

Туре	Po	Power		Cable specification							
	(kw)	(hp)	4×0.75	4×1	4×1.5	4×2.5	4×3	4×4	4×6	4×10	4×16
Single Phase 220V 50Hz	0.37	0.5	50	80	100						
	0.55	0.75	35	55	80	130					
	0.75	1	20	35	55	90	110	140			
	1.1	1.5		25	40	65	80	105	160		
	1.5	2		20	30	50	60	75	115	190	
	2.2	3			22	36	50	60	90	145	230
	3	4				25	35	40	60	100	165
Three Phase 380V 50Hz	0.37	0.5	200	315							
	0.55	0.75	100	210	315						
	0.75	1	80	165	240						
	1.1	1.5		120	180	285					
	1.5	2		90	135	225	300	360			
	2.2	3		65	100	165	200	255	390		
	3	4			65	110	120	165	255	390	
	4	5.5			50	85	105	135	195	330	516
	5.5	7.5				70	90	110	165	270	422
	7.5	10					40	80	130	200	320

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13. PUMP AND PIPING DIAGRAM



- diately if anything is defective.

- tape.
- pressure operation.

- dures as applicable.
- restricting device.
- Turn the power disconnect on.

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14. INSTALLATION CHECKLIST

Record the pump, motor and other relevant information on a document for future reference.

Inspect all equipment for shipping damages and contact the factory or local distributor imme-

• Confirm the HP of the pump and motor are the same.

• Confirm the motor power matches the specifications or local power available.

Locate a place that is away from direct sun and dry to mount the control box.

• Ensure all underwater and underground connections and splices are done with waterproof

• Check all plumbing connections to make sure they are tight.

• Confirm the piping and other components' pressure ratings are suitable for the pump

Install a pressure relief valve if the system is able to generate 75 psi or more. Confirm the tank pressure rating is suitable for the pump operation.

Locate the tank and control box in environmentally protected areas.

Set the pump at a minimum of 15' from the bottom of the well.

Confirm all power is off before performing any connections. Follow Lock-out/Tag-out proce-

Wiring should only be made by licensed electricians and must follow NEC or local codes.

Before starting the pump, restrict water flow through a ball, or globe valve or any other water

Allow for water to flow by opening a faucet or other water opening.

Repeat the starting procedure to verify proper operation.

• Check the power amp draw and record the data for future reference.

• Leave this manual and other relevant information with the owner or owner representative.