VEVOR®

SUBMERSIBLE PUMP
OPERATION MANUAL

VEVOR®

SUBMERSIBLE PUMP
WSD55-18-2.2B(A)

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NEED HELP? CONTACT US!

Have product questions? Need technical support? Please feel free to contact us:

CustomerService@vevor.com

This is the original instruction,Please read all manual instructions carefully before operating.
VEVOR reserves clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there is any technology or software updates on our product.

• For any alteration of the manual, no additional notice will be given.
• Under the condition of appropriate model selection and correct operation by users, normal wear of vulnerable parts is excluded.
• The responsibility of any consequence related to quality issues caused by arbitrary dismantling by users during the warranty should be borne by users.

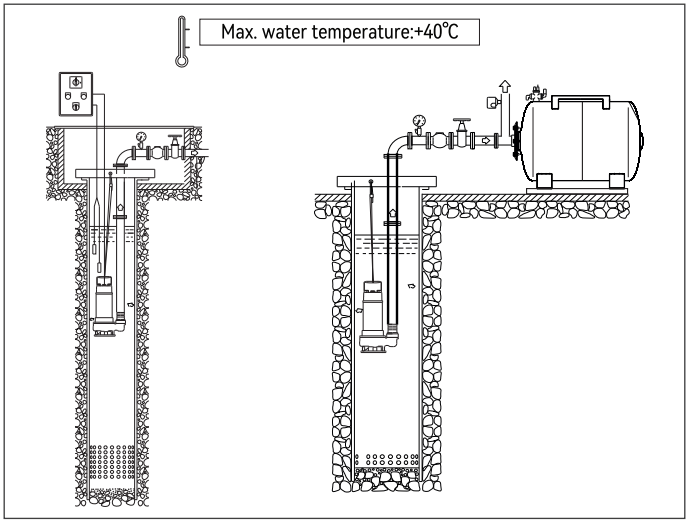
Warning

Thank you for purchasing our water pump. Please read through User Manual before using the pump.

• Electric pump must be reliably earthed before using the pump, must be installed with leakage protection device and overload or over-current protection device.
• Running the electric pump without water is strictly prohibited.
• Never touch the water near the pump when it is running.
• To prevent electric shock, turn off the power supply before maintaining or cleaning the electric pump.

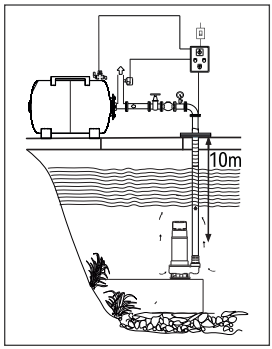
Product Introduction

Submersible sewage pump is an important equipment for sewage treatment. Its compact structure, ease of use and maintenance, and large-channel hydraulic components will ensure that solid particles, cotton yarns, weeds, and other fibers smoothly to pass through. Therefore, the pump features excellent over-current performance, wide range of work, high reliability of operation, facilitated automation, and other advantages. It is widely used in municipal works, urban industrial, commercial facilities, the sewage discharge of hotels and residential communities, the mining construction, other water media with solid particles, oil extraction, and farmland irrigation, etc.



Requirements For Use

- The water temperature should be no higher than +40℃;
- The maximum depth of submersing should not exceed 10m.
- The PH of water should be in 6.5-8.5.
- The maximum diameter of passable sol id particles: Ø15~Ø35mm.

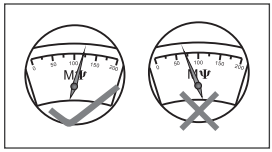


Installation And Use

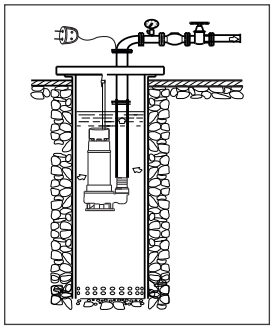
1. Submersible pump must be used within the range of the recommended head,so as to prevent damage onto the motor due to overloaded operation. User should consider pipeline and bend loss at selecting the pump head.

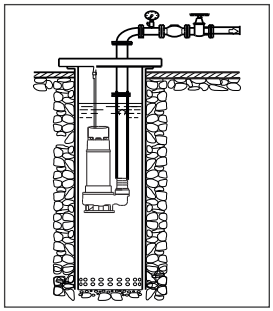
2. After unpacking, fully check if there is any damage on the pump during transportation and storage, for example, if the cables, plugs are intact, if the joints are tight without seeping or oil leakage.
If any, promptly ask professionals to repair or replace the damaged parts.

3. Before using the pump, fully check its insulation resistance, and the cold insulation resistance should be no less than 100 MΩ.



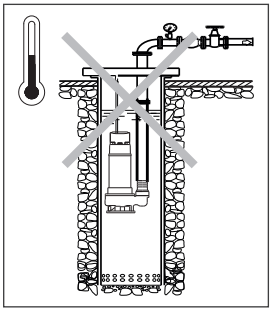
4. When cleaning the pool or the channel, check if the minimum water level of the intake pool meets the requirements for installation.

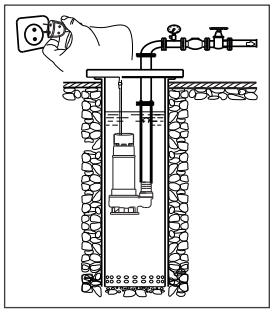




5. To install the electric pump in pond, hoist it with a tripod or assisted by boat, bridge, or wharf, do not directly place it at the bottom of pond, otherwise, the motor may gradually get stuck in the mud, blockage brings too high temperature to burn out the motor.
6. To hoist the pump, user must turn off the power supply at first to ensure safety.

7. The electric pump must be used at an appropriate voltage. If the power supply is far from the place where the electric pump is used the extended cables should be appropriately thickened according to the distance, . The connectors should be sealed and bound with waterproof insulation tape, making sure it insulated and off the ground. If necessary, ask a professional electrician to test if the operating voltage of the pump is within ±10% of the rated voltage, so as to avoid the pump burnout caused by under-voltage operation because the cable is too long or the voltage drop is too great.

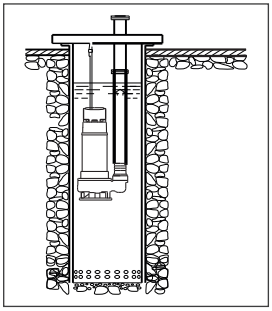


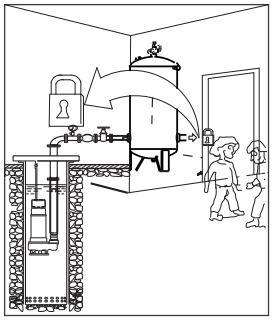


8. Before diving the pump into the water, turn on the power for running test, confirm the rotating direction of the impeller before starting it, but it should not exceed 3s. The cable of the single-phase pump should be strictly as per the wiring diagram as indicated on the motor or the control box, and should be wired by the corresponding colors.Incorrect wiring connection will cause the pump to work abnormally and may damage the motor; the three-phase pump can be wired despite the colors, when the pump rotates in the reversed direction (from the end of motor shaft, the correct direction is indicated if the motor rotates counterclockwise), just change the connection of any two lines.

9. The elec tri c pump should separatel y use appropriate protection switch, in case of frequent tripping of the switch, when it happens, never force to start it, check if the electric pump is failed at first, otherwise the motor may be easily burnt out.

10. To dive or lift the pump out of the water, user must hold the hoist ring or the handle with steel wire rope, never pull the cable at random. When operating the motor, it is preferably to keep the cable off the ground, so as to avoid crushing it when the heavy object passes on the ground, which may cause an accident.

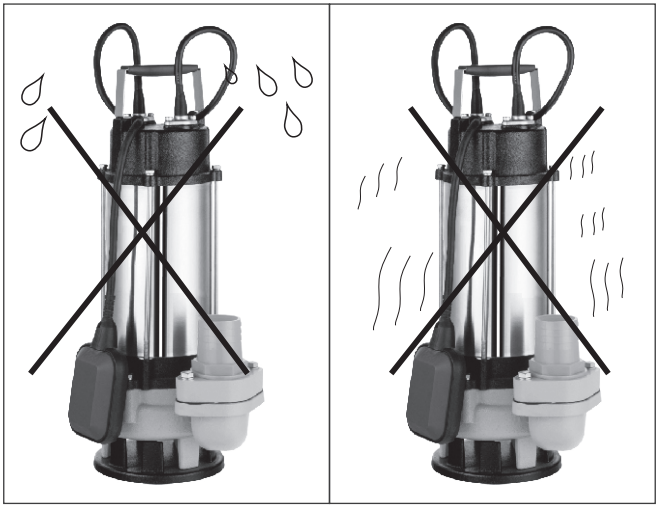




11. When using the electric pump, if float switch or liquid level detector and other protective measures are not provided, the pump should be supervised by a specific person, so as to avoid it from running without water due to reduced water level. If there has abrupt reduction of water, abnormal sound , or violent vibration, immediately turn off the power, and stop using it until the cause is identified.

Precautions

1. When hoisting the equipment, never directly lift the cable or place any other heavy object on the cable;
2. It is strictly prohibited to dip the end of the cable into the liquid.
3. The housing of all equipment should be reliably earthed to prevent electric shock.
4. The inner diameter of the outlet pipe should meet the specifications (principally no less than the outlet diameter of the pump).
5. Do not place the su b m e r s i b l e sewa g e pump at the sewage inlet. When the pump is placed on mud or floating sand,the pump may sink due to vibration,and in this case, it is recommended to place the pump on a larger base plate.
6. Using the housing of the pump in sewage will accumulate slurry, debris to reduce the rate of heat transfer,cause temperature rise in the motor, shorten the service life of the stator,or cause tripping for no reason,please remove debris (at least once a year) after sucking the sewage to the minimum level.
7. If the pump can normally operate even if the temperature is below 0℃, you can continue to use, otherwise place it in a well-ventilated and dry area.



Repair And Service

Before repairing and servicing,make sure that the pump is flushed with clean water,after disassembling the pump,flush the over-current parts with water.

1. The operation of the pump is normal or not should be checked at least once a year. If the liquid pumped is turbid or the sediment concentration is large,shorten the intervals of checking the pump.

2. The following points should be checked:

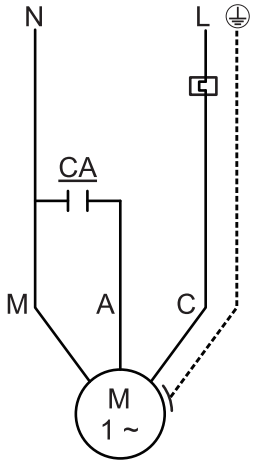
- Energy consumption: If there is anomaly,check if the circuit is significantly increased.
- Oil condition: If the oil contains water,it will be as gray as milk,there may be a leakage of mechanical seal.
- Cable: Make sure that the cable is still sealed without obvious bending or shrinking.
- Over-current components of the pump: After its middle and long-term usage in the sewage, the impeller is worn, with lower flow and efficiency.
- Bearing: Check if the bearing is damaged or its rotation becomes inflexible.

Note: To check the electric pump, ask professionals to repair or replace.

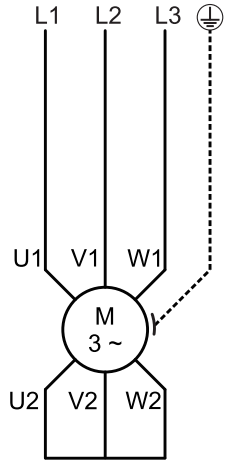
Make sure that the power is turned off before uncovering the junction box of the motor and disassembling the pump.

Wiring Figure

Single phase with capacitor connection demonstration



Three phase with six cable Y connection demonstration: Connections for across-the-line starting, running, and any reduced voltage starting except WYE-DELTA type starters.



220-240V 50Hz

Single Phase Motor	Cable Length / Cross-sectional Area Of Conductor (mm²)					
kW	0-15m	16-30m	31-45m	46-60m	61-75m	76-90m
0.25	0.75	0.75	0.75	0.75	1.0	1.25
0.37	0.75	0.75	0.75	1.0	1.25	1.25
0.55	0.75	0.75	1.0	1.25	1.25	1.5
0.75	0.75	1.0	1.25	1.25	1.5	1.5
0.92	1.0	1.25	1.25	1.5	1.5	2.0
1.1	1.0	1.25	1.5	1.5	2.0	2.0
1.5	1.25	1.5	2.0	2.0	2.5	2.5
1.8	1.5	2.0	2.0	2.5	2.5	3.0
2.2	1.5	2.0	2.5	2.5	3.0	4.0
2.6	2.0	2.5	2.5	3.0	4.0	4.0
3.0	2.0	2.5	3.0	4.0	4.0	5.0

380-415V 50Hz

Single Phase Motor	Cable Length / Cross-sectional Area Of Conductor (mm^2)					
kW	0-20m	21-40m	41-60m	61-80m	81-100m	101-120m
0.37	0.75	0.75	0.75	1.0	1.0	1.25
0.55	0.75	0.75	1.0	1.0	1.25	1.25
0.75	0.75	1.0	1.0	1.25	1.25	1.5
1.1	0.75	1.0	1.25	1.25	1.5	1.5
1.5	1.0	1.25	1.25	1.5	1.5	2.0
2.2	1.25	1.5	1.5	2.0	2.0	2.5
2.6	1.25	1.5	2.0	2.0	2.5	2.5
3.0	1.5	2.0	2.0	2.5	2.5	3.0
4.0	2.0	2.5	2.5	3.0	3.0	4.0
5.0	2.0	2.5	3.0	3.0	4.0	4.0
5.5	2.5	3.0	3.0	4.0	4.0	5.0
7.0	2.5	3.0	4.0	4.0	5.0	5.0
7.5	3.0	4.0	4.0	5.0	5.0	6.0
9.2	3.0	4.0	5.0	5.0	6.0	6.0
1	4.0	5.0	5.0	6.0	6.0	6.0
13	4.0	5.0	6.0	6.0	6.0	8.0
15	5.0	6.0	6.0	6.0	8.0	8.0
18.5	5.0	6.0	6.0	8.0	8.0	10.0
22	6.0	6.0	8.0	8.0	10.0	10.0
26	6.0	8.0	8.0	10.0	10.0	6.0x2
30	8.0	8.0	10.0	10.0	6.0x2	8.0x2

To choose the required cutting area of cable according to the power of pump and the length of external cable to ensure the normal operation of motor.

Technical Data

Model	WSD55-18-2.2B(A)
Nominal voltage	220-240V~ 50Hz
Rated Power	2200W
Qmax	1000L/min
Hmax	18m
Maximum Water Temperature	40℃

Troubleshooting

Fault	Analysis of Cause	Handling Method
Flow rate or head reduces	1. Pump rotates off the reversed direction; 2. The pump head does not match the rated head; 3. The suctioned media bypasses; 4. The outlet pipe leaks; 5. The outlet pipe is locally blocked by sediment; 6.The pump channel is blocked.	1. Turn at the main power of the control cabinet, exchange any two-phase power cords; 2. Recalculate the pump head to identify its model number; 3. Check the transport pipeline; 4. Find out the leakage and make correction; 5. Check the pipeline, clean or replace a new one; 6. Hoist and clean the pump, if the pump is placed in the filter net, you may also need to check and clean it.
Without flow	1. Air is blocked; 2. Check the outlet valve; 3. Pump rotates at the reversed direction.	1. (1) Open and close the valve continuously for several times; (2) Open and close the pump for several times, with the interval of no less than 10 min; (3) According to dif ferent methods of installation, check if an exhaust valve needs to be installed. 2. (1) Open the valve if closed; (2) If installed reversely, disassemble and install it again. 3. Turn off the main power of the control cabinet, exchange any two-phase power cords.
Noise or vibration during operation	1. The installation base is not sturdy enough or the pump is installed unevenly; 2. The bearing is worn; 3. The impeller becomes loose or falling; 4. The impeller is winded or blocked by debris; 5. The impeller is partially broken or worn by debris.	1. Reinforce the foundation and immobilize the pump; 2. Replace the bearing; 3. Fasten the impeller; 4. Clean the flow channel; 5. Replace the impeller.
Pump cannot be started	1. No power is available; 2. There is an electrical failure; 3. Winding, connector or cable 4. Pump is disconnected; 4. Pump is blocked; 5. Floating ball fails; 6.There is phase deficiency.	1. Check if the control cabinet is set power on; 2. Replace the failed component; 3. Check with a multimeter, if proved to be disconnected, check winding, connector or cable; 4. Turn off the power. Remove the pump out of the sewage pond, clean blocks, make a running test before resetting; 5. Float switch is short-circuited, see if the pump can be started or not. If so, check the float switch; 6. Check the circuit.

Abnormal interruption during operation of the pump	1. Voltage is low ; 2. Voltage is too high; 3. Short circuit; 4. Control cabinet fails; 5. The protection device is triggered; 6. There is phase deficiency; 7. Run over the rated current for a long time; 8. Slurry or other sediments is accumulated on the cover plate of the housing base.	1. Check the voltage of the control cabinet, if too low, it cannot be used for temporary, please adjust; 2. Install a transformer to regulate the voltage until it reaches the specified range; 3. Check the use or circuit breaker; 4. Check the control cabinet, repair or replace it; 5. Ask our after-sales service for maintenance; 6. Check the circuit; 7. Use the pump as per the actual specifications; 8. Clean the pump and sewage pond, refer to the relevant sections under user manual.
Pump frequently starts and stops or fails	1. The space between the upper and lower part of float switch is too short; 2. Check valve fails and cannot hold the liquid from returning, so that the liquid returns to the sewage pond; 3. Float switch fails; 4. Floating ball is stuck in the position of the operating switch.	1. Readjust the space between the upper and lower part of float switch, extend the operating time; 2. Check and repair it; 3. Check the float switch, if necessary, replacement is required; 4. Release the float switch, if necessary, change the position.

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