



## SUBMERSIBLE SEWAGE PUMP

### User's Manual

**Models: GV,GVS,4GVS,7GV,GVK,GVH,GVHS,GVX  
GVXS,GVXT,WQ,WQK,WQK-CB,WQAS-CB.**

**Read this manual carefully before installation. The product can not be used for medical industry which have the potential to cause personal injury, also can not be used for pumping other liquids than water.**



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Thanks for choosing our product. Please read the manual carefully before operation.



### Warnings!

- Before operation, The pump must be grounded reliably.
- Do not touch the electric pump while it is running.
- Do not run the electric pump without water.

### Products Introduction

Models:GV,GVS,4GVS,7GV,GVK,GVH,GVHS,GVX,GVXS,GVXT,WQ,WQK,WQK-CB,WQAS-C B Submersible Sewage Pumps (hereinafter referred to as simply “electric pump”) consist of water pump seal and motor. The electric pumps adopt single phase or three phase asynchronous motor. The motor are fitted at the upper part of electric pump, whereas the water pump fitted at the lower part of it. Models GV,GVS,4GVS,7GV,GVK,GVH,GVHS,GVX,GVXS,and GVXT submersible pumps adopt flow passage impeller with volute casing type, possessed excellent anti-jam and strong wearability, suitable for transport of big solid granules. Being assembled stainless steel pump body and tension bar, these models products look artistic and use in practice. With double-passage impeller in volute casing and strong traffic and equilibrium ability, Models WQ,WQK electric pumps have good stability while running, it can be applied widely in high head and big flow environment. Models WQK-CB,WQAS-CB and WQK composed with uniparted half-open impeller and vortex shuck with big channel. These electric pumps possess wonderful stabilization, provided with well anti-jamability, are good choice for delivering big solid granules and long fibre. Model WQK-CB,WQAS-CB electric pumps with cutting structure, have special design on the bottom of the electric pump basing, possessed outstanding anti-jam, enwind and avulsion effect. Single or double mechanical seal is used between water pump and motor, and O-ring is applied among all the static joints.

These serial sewage submersible pumps are widely apply to industry, agriculture, mining, construction and urban environmental protection. As ideal equipment , they are used for pumping mud, mortar, waste water, sewage water, excrement and urine, such as solid granules short fiber, wastepaper and mud as well as sand, farm drainage and irrigation, river and pond dredging except for flammable media and blast environment. Especially, models WQK-CB,WQAS-CB serial cutting pumps can cut or mangle the wrap, strip, grass, clothes, etc into pieces, so as to achieve the transport and drainage.

### Conditions for Use

The pump can work normally and continuously in the following conditions:

Maximum medium temperature: +40°C;



Medium pH value: 4-10;

Medium density:  $1.2 \times 10^3 \text{ kg/m}^3$

Maximum volumetric of medium solid: 2% except the pumps with cutting feature

Medium kinematic viscosity:  $7 \times 10^{-7} \sim 23 \times 10^{-6} \text{ m}^2/\text{s}$  except the pumps with cutting feature;

The electric pump performances must meet the technical parameter marked on the name plate

Maximum submersible depth: 5m

### Installation and Warnings

1. Check whether there exist damages e.g cable, plug, etc in transport or storage. Check whether insulation resistance exceed  $1 \text{ M}\Omega$ .
2. The electric pump must equip with creepage protector and the yellow green core with grounding mark from the lead-out cable of the three phase electric pump shall be properly grounded.
3. Before submersion, trail-run test should not exceed 1 min, and check the rotational direction of the electric pump to see whether it is correct, if not, turn off the power and swap any two of the three phase.
4. Use the wire or clamp to fasten the soft hose and the screwed joint or welded flange for steel hose and then fasten it with a rope through the handle to carry.
5. **Do not strike or press the cable and nor shall it be used as hoisting rope. Do not pull the cable while in operation to avoid damage to the cable that may lead to electric shock.**
6. The depth when it is submersed, shall not exceed 5 m from the water bottom. Do not place it in the mud to avoid clogging by weed and other matter that will put the electric pump out of action. Check the water level frequently while in operation, to see whether it is lowering and the electric pump shall not be out of water while running.
7. **When operation, washing, swimming, bathing is forbidden nearby the operation area to avoid accidents.**
8. If the electric pump is used far away from the power source, thicken the cable in accordance with the distance (thicker than the pump cable)
9. In normal operation, the built-in protection device (0.55 -2.2 kW) will not activate. In case the protection device stops and turns on frequently, turn off the power for removing trouble before use again.
10. The pump shall be used within the rated head range to avoid, damage from overloading:
11. If the **motor is of dry structure, do not fill oil or water inside.**





12. The oil chamber and motor chamber is filled with machine oil, which ensures the mechanical seal is effectively lubricated and cooled. The machine oil may possibly leak out if the pump is damaged or malfunctioned. When the pump applies to planting, animal breeding, potable water or food transportation and processing, the leakage of the machine oil may be harmful to plants growth and animals, or pollute potable water or food.

13. Cut off the power before adjusting the position of these electric pump or touching it to avoid accidents

14. After the power cut-off, remove the pump out of water only after the motor cool off to avoid explosion or accident.

15. If soft line damaged, the user must use the special soft line from factory or maintenance department to purchase special component for replacement.

**Maintenance**

1. Check regularly the insulation resistance between pump winding and motor casing. It shall not be lower than 1MΩ . Otherwise, measures shall be taken. After meeting requirements, the electric pump can be used again.

2. The following steps shall be taken according to the following steps:

Dismantlement: Check all the vulnerable parts such as ball bearing, mechanical seal, impeller, etc.

Replace them if damages occurred.

Change oil: Remove the oil-filled screw in oil chamber to fill 10# mechanical oil to about 80-90% capacity of the oil chamber.

Pressure test: Pressure test shall be taken after the repair or replacement and the pressure shall be 0.2 MPa with 3 minutes until no leakage or sweat occurred.

3. If the electric pump remains to be unused for a long period of time, it shall not be soaked in the water and shall run in clean water for several minutes to remove the hard sediments inside and outside of it, and dry it for rust-proof treatment, then place it in the draughty area. For the used electric pump, repaint with lacquer and rust-resisting paint according to its erosion.



**Troubleshooting**

Trouble	Main reasons	Solution
Electric pump start difficulty	<ol style="list-style-type: none"> <li>1. Power voltage too low.</li> <li>2. Pump phase lost.</li> <li>3. Impeller clogged.</li> <li>5. Big loss of cable voltage.</li> <li>6. Stator winding burnt.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust voltage to 0.9-1.1 times of the rated range.</li> <li>2. Check the switch, terminal, cable..</li> <li>4. Adjust clogged position.</li> <li>5. Choose the proper cable.</li> <li>6. Rewind and overhaul.</li> </ol>
Insufficient water flow	<ol style="list-style-type: none"> <li>1. Head too high.</li> <li>2. Strain and inlet clogged</li> <li>3. Impeller worn severely.</li> <li>4. Submersion shallowed too much and air sucked in.</li> <li>5. Impeller rotates counterclockwise.</li> </ol>	<ol style="list-style-type: none"> <li>1. Used within the range of rated head.</li> <li>2. Remove water weed and other foreign matter.</li> <li>3. Replace impeller.</li> <li>4. Adjust the submersible depth till no less than 0.5m.</li> <li>5. Swap over any two- phases out of phase.</li> </ol>
Electric pump suddenly stops operation.	<ol style="list-style-type: none"> <li>1. Switch disconnected or fuse burnt.</li> <li>2. Impeller clogged.</li> <li>3. Stator winding burnt out.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check whether the head in use or power voltage is in compliance with requirements and adjust accordingly.</li> <li>2. Remove foreign matter.</li> <li>3. Rewinding and overhaul.</li> </ol>
Stator winding burnt out	<ol style="list-style-type: none"> <li>1. Electric pump runs too long with phase lost.</li> <li>2. Winding turn-to-turn short circuit or short circuit between phases due to mechanical seal leakage.</li> <li>3. Impeller clogged.</li> <li>4. Electric pump starts and stops frequently</li> <li>5. Electric pump runs in overload.</li> </ol>	<p>Remove the troubles, disassemble the winding and rewind, bake it in the insulating lacquer or send it to service agency for repair.</p>