WQ

MEDIUM AND LARGE SUBMERSIBLE SEWAGE PUMP

LARGE FLOW

SAFE AND STABLE

GREEN AND ENERGY-SAVING

HIGH QUALITY

HIGH PERFORMANCE

Basic Parameters

Power	11~900kW
Flow	20~12000m³/h
RPM	590~2900r/min
Diameters	Maximum 1000mm
Head	Maximum 110mm
Voltage	Customizable 660v, 3kv, 6kv, 10kv, etc.

Model meaning

500 WQ 3000 30 315

- 315 — Rated power: kW
- 30 — Design head: m
- 3000 — Rated flow rate: m³/h
- WQ — Product Series: WQ Submersible Sewage Pump
- 500 — Port diameter: mm

Applications

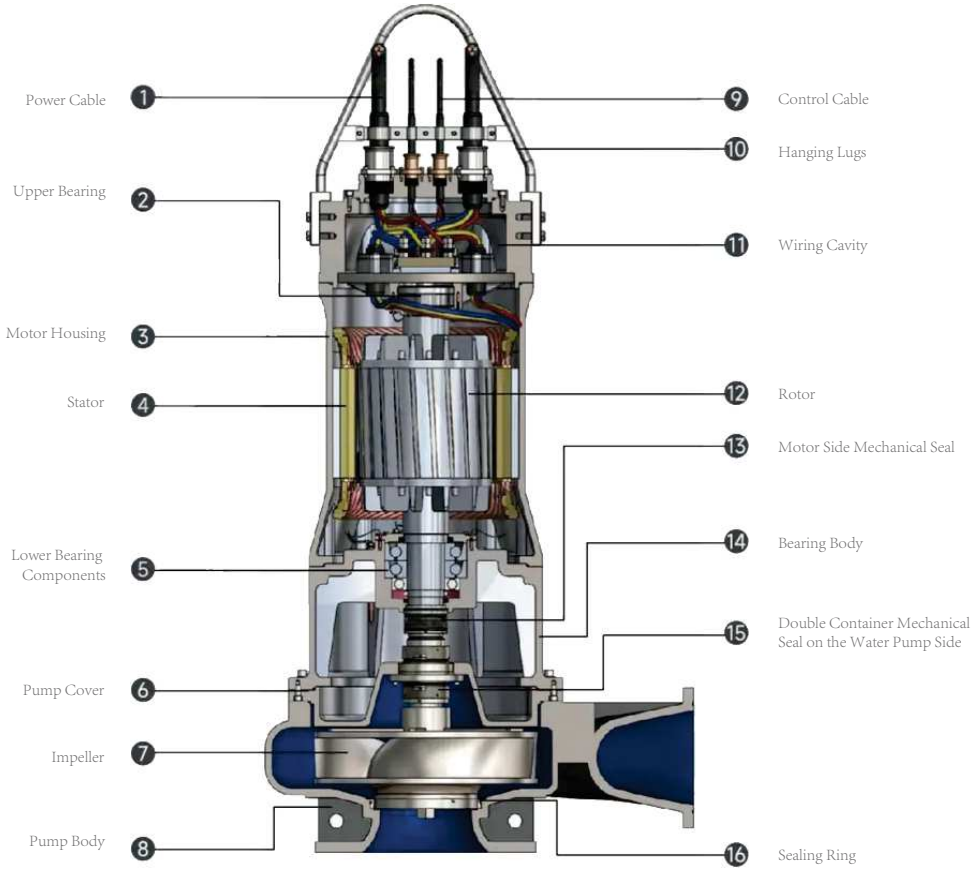
Medium and large WQ series submersible sewage pumps are mainly used to transport various types of sewage, wastewater, rainwater, or other solid-containing particles, sediment, fibers and other insoluble solid-phase mixed liquids. It is widely used in the drainage system of urban sewage treatment plants, discharge of severely polluted wastewater in factories and commercial areas, drainage of residential areas, drainage of civil defense systems, drainage of hospitals and hotels, drainage of water power stations, drainage of water conservation pump stations, exploration and mining supporting equipment, water supply device of water plant, municipal engineering, construction site, subway station drainage and other industries.

Product Overview

The medium and large WQ series submersible sewage pump is the fourth generation of highly efficient, energy-saving and anti-clogging submersible sewage pump innovatively developed by our company on the basis of widely integrating advanced technologies of similar products. Innovative and optimized designs have been carried out in hydraulic performance, special submersible motors, product appearance, mechanical strength, sealing system, cooling system, intelligent protection, control system, etc. It has outstanding advantages such as compact structure, no overload, high efficiency and energy saving, high reliable performance, high stability, anti-winding, anti-clogging, automatic coupling, intelligent protection, intelligent control, and full-scene applications. It has a specific unique function in transporting various types of sewage or insoluble solid-phase mixed liquids such as solid particles and silt.

Working Conditions

Port diameter: DN80mm~DN1000mm.
Rated voltage: 380V, 660V, 3KV, 6KV, 10KV, etc. voltage can be optional as customization.
Frequency: 50Hz three-phase AC power supply.
Medium: temperature ≤42℃, density ≤1200kg/m³.
PH value: volume ratio of solids ≤ 5% in the range 4- 10
Maximum flow capacity: the diameter of the solid object in the medium should not be bigger than 80% of the minimum size of the impeller channel. For specific data, please refer to the performance parameter table.
Minimum operating liquid level: There are two levels of motor cooling system or motor-free cooling system. Cooling sleeves can reduce the operating temperature of the water pump and are often used in dry pump stations or low-level lift pump stations. (Customizable)
Corrosive media requirement: Cannot be used to pump highly corrosive or abrasive solid particles. (Customizable)



FIVE Core Advantages

1.High efficiency and energy saving

The hydraulic model adopts ternary flow design and CFD simulation calculation, and the performance is theoretically optimal.
Adopting the latest self-developed hydraulic model, the pump efficiency and stability have reached the international leading level.
All hydraulic parts are made of metal molds, precision casting, and the physical channel are completely restored as design drawings to ensure the efficiency of the water pump and the width of the efficient zone.
Special first-level energy-efficiency submersible motors improve motor efficiency, and their unit efficiency is generally 6.1 to 16.3% higher than that of ordinary motors.

2.Safe and reliable

Advanced design

It adopts ternary flow theory design, CFD calculation simulation, anti-clogging and no overload design. The pump body flow channel is spacious, solid objects are easy to pass through, and fibers are not easily winding. The impeller is subjected to strict dynamic balance tests to minimize vibration and maximize the life of bearings and mechanical seals.

Safe and reliable

It can be equipped with a cooling sleeve cooling system according to the water level to improve the heat dissipation of the motor and bearings, improve the service life of the bearings, and ensure that the motor can still operate continuously after being exposed to the water surface.

Cable Loose Sealing System

The cable outlet adopts a special structure to avoid water leakage, electricity leakage, short circuit, and burning of stator coils caused by accidental factors such as human pulling, broken cable jacket, and aging of cables, effectively reducing the probability of water inlet on the upper part of the machine.

Patented sealing system

Combined double-assembled mechanical seal is adopted. This structure makes the sealing performance of the water pump very reliable, protecting the stable operation of the pump.

Professional motors comply with Energy efficiency first standards

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High-quality parts

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5-level electric pump protection system

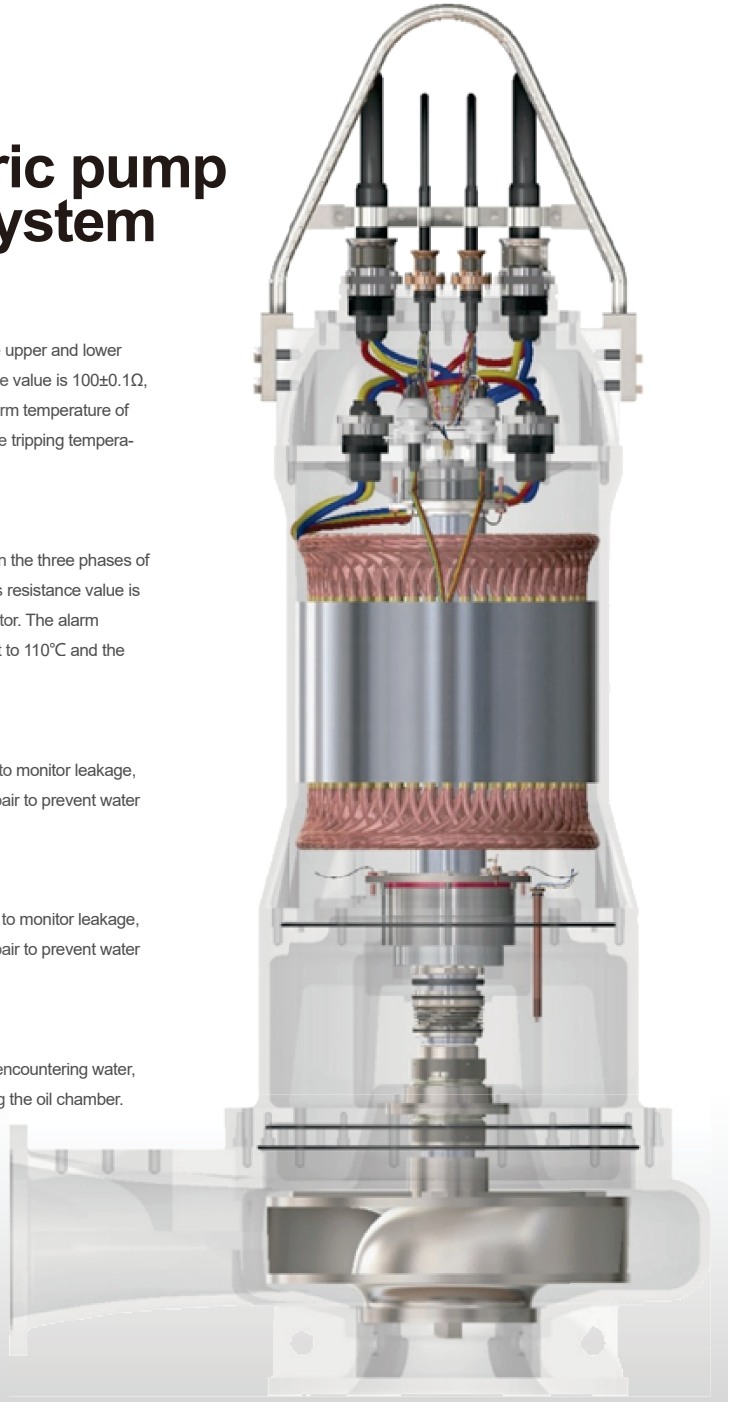
Bearing temperature rise protection:
PT100 temperature sensor is embedded in the upper and lower bearing seats of the motor. At 0℃, its resistance value is 100±0.1Ω, which is led to the integrated protector. The alarm temperature of the equipment can be freely set to 90℃ and the tripping temperature is 95℃.

Motor temperature rise protection:
The PT100 temperature sensor is embedded in the three phases of the stator winding A, B, and C. When at 0℃, its resistance value is 100±0.1Ω, which is led to the integrated protector. The alarm temperature of the equipment can be freely set to 110℃ and the tripping temperature is 120℃. .

Leak protection for wiring room:
Set a water leakage sensor in the wiring room to monitor leakage, alarm when encountering water, prompt for repair to prevent water from entering the wiring room.

Leak protection for motor cavity:
Set a water leakage sensor in the motor cavity to monitor leakage, alarm when encountering water, prompt for repair to prevent water from entering the motor cavity.

Oil chamber humidity alarm:
Monitor oil chamber leakage and alarm when encountering water, prompt for repair to prevent water from entering the oil chamber.



3.Advanced technology

Metal precision molds, CNC processing, beautiful appearance, all molds are inspected by three-coordinates to ensure hydraulic dimensions and highly restored design.

Vorcine

Mold: Metal mold, precision casting, high surface accuracy of volute runner;
Heat treatment: solution treatment or annealing (HT250) to eliminate stress;
Processing: CNC turning, milling and inlet and outlet mating surface, motor mating surface, boring, etc.;
Water pressure test: Perform a water pressure test of 1.5 times the design pressure, and the pressure is stabilized for 30 minutes without leakage.

impeller

Mold: Metal mold, precision casting, high surface accuracy of impeller runner;
Heat treatment: solid solution treatment to eliminate stress;
Processing: CNC impeller diameter, milled shaft hole mating surface;
Dynamic balance test: Perform dynamic balance test at level 2.5 and meet the requirements

4. Intelligent control

Traditional Operation and Maintenance	Intelligent Pumps
Manual inspection	Real-time operation and maintenance Keep track of the operation
Manual control	Efficient management Digital product archives
Paper product archives	Energy efficiency optimization Analyze operating energy efficiency, optimal operating position
A fault was found afterwards High maintenance costs	Intelligent diagnosis Pump machine abnormal warning, real-time diagnosis of faults

Effects of the intelligent operation and maintenance service cloud platform for water pumps and pump stations

Downtime reduced by 60-70%

Reduce spare parts consumption by 50-60%

Extended service life by 30-40%

Reduce maintenance costs by 40-50%

Reduce operating energy consumption by 10-20%

1. Real-time operation and maintenance: APP 24 hours a day to grasp the operating status of the pump machine
2. Efficient management: health management of digital pump machine life cycle
3. Energy efficiency optimization:R=real-time analysis of pump power efficiency, optimize working conditions, save energy and increase efficiency
4. Intelligent diagnosis: early warning of pump abnormalities, real-time intelligent diagnosis of faults
5. Remote control: disconnect the power immediately when the equipment is abnormal, and the loss will be minimized

5.Full-scene application

Power:

Maximum 900kW, wide spectrum range impeller: stainless steel (open/closed type), cast iron without overload design

Vertical wet installation

Vertical dry installation

Horizontal dry installation

Cable-stayed installation

Multiple installation methods:

Installation environment: dry type, wet type
Installation form: vertical, horizontal, cable-stayed