



Leading the Rise of Chinese Pump Industry

WQ(11-22kW)系列潜水排污泵

WQ(30kW及以上)智慧型系列潜水排污泵

WQ (11-22kW) Series Submersible Sewage Pumps

WQ (30kW and above) Series Intelligent Submersible Sewage Pumps

Leading the Rise of Chinese Pump Industry



➤ **None Overload Hydraulic Design**
Stable operation, and the off load condition will not exceed power

➤ **General Design**
Modular design of water pump, standardized design of motor, high general purpose

➤ **Intelligent Cloud Monitoring (30kW and Above)**
Real time data collection and transmission to intelligent cloud platform for vibration, bearing temperature, winding temperature rise and seal failure of water pump are carried out to realize remote monitoring

➤ **High Reliability**
Short shaft extension, self cleaning technology of machine seal, double cable sealing

➤ **High Configuration**
Standard SKF Bearing, Burgmann mechanical seal, H-class motor insulated impeller, casing cover wear-resistant ductile iron

上海凯泉泵业(集团)有限公司
SHANGHAI KAIQUAN PUMP(GROUP) CO., LTD.

Company Address: No. 4255/4287, Caoan Highway, Jiading District, Shanghai
Company Website: www.Kaiquan.com.cn
Customer Service Hotline: 400-002-6600

合肥凯泉电机泵有限公司
HEFEI KAIQUAN MOTOR AND PUMP CO., LTD.

Company Address: No. 611, Tianshui Road, Xinzhan District, Hefei (the intersection of Dangtu North Road and Tianshui Road)
Fax: 0551-65459127
Company Telephone: 0551-65459133
Customer Service Hotline: 0551-65459293



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Kaiquan became the first company in the world to allow the use of SKF Equipped trademarks on equipment!

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Shanghai Kaiquan is a large-scale comprehensive pump industry group integrating design/production/sales of pumps, water supply equipment and pump control equipment. The group has more than 6,000 employees, including more than 800 engineering and technical personnel, mainly composed of well-known pump experts, professors, doctors and masters, and intermediate and senior engineers, forming an echelon talent structure with innovative thinking. It has 7 enterprises and 5 industrial parks in Shanghai, Zhejiang, Hebei, Liaoning, Anhui and other provinces and cities. Shanghai Kaiquan Group has won the "Shanghai Top 100 High-tech Enterprises", "Shanghai Famous Brand Products", "China Quality Credit AAA Level", "National Contract Credit Rating AAA Level", "Quality, Credit and Service Three Excellent Enterprise", etc. Honorable title. The products serve the construction (including heating and air conditioning), municipal, nuclear power, thermal power, petrochemical, large-scale water conservancy and other fields.

SKF Group is constantly committed to reducing friction, making machinery and equipment run faster, longer service life, more environmentally friendly and safer. Adhering to the business philosophy of efficiency and sustainability, SKF Group is the world's leading supplier of products, solutions and services in the fields of rolling bearings, seals, mechatronics, services and lubrication systems. Services include technical support, maintenance services, condition monitoring, asset efficiency optimization, engineering consulting and training.

Today, SKF has more than 130 production bases around the world, sales companies in more than 130 countries, and more than 17,000 dealer stores, providing customers all over the world with customized solutions and products that meet global quality standards.

Catalogue

Product Overview	01
Main Applications	01
Usage Conditions	01
Features and Advantages	01
Structure and Technical Description	02
Main Parts Material	04
Installation Methods	05
Technical Specifications	06
Main and Control Cables Standard Wiring Diagram	10
Motor Protection System Components Monitoring Performance Comparison Table	10
Introduction of Special Leakage Super Thermal Protector	11
Special Electric Control Cabinet Product Introduction and Selection	13
Special Electric Control Cabinet Product Selection and Description	13
(Liquid Level) Float Switch, Terminal Box, Threading Pipe and Cable Models	18
Ordering Instructions	20
Supply List	21
Comprehensive Characteristic Curve Charts	22
Performance Parameters Table	23
Performance Curves, Parameter Data, Installation Dimension Diagrams	24

Product Overview

The WQ (11-22kW) series submersible sewage pump developed by Shanghai Kaiquan is in compliance with the national standard of GB/T24674-2009 "Sewage sewage submersible pump". It absorbs the advantages of similar products at home and abroad, and integrates the existing sewage pump series on its basis. The research and development of an innovative non-overload hydraulic model is a true full-head submersible pump.

At the same time, comprehensive optimization design has been carried out in terms of mechanical structure, wiring, sealing, protection, control, etc., so that it has a higher configuration, better hydraulic performance, stronger versatility, and better reliability.

Main Applications

Mainly used for sewage treatment plants, municipal sewage lifting pumping stations, water plants, water conservancy drainage and irrigation, water diversion projects, integrated pumping stations, etc. to discharge sewage, wastewater, rainwater containing solids and long fibers.

Usage Conditions

1. The temperature of the medium does not exceed 40℃, the density of the medium is <math><1050\text{kg/m}^3</math>, and the PH value is in the range of 4-10.
2. The liquid level of the pump during operation shall not be lower than the dimension "▽" in the installation dimension drawing.
3. The main parts of the pump are made of gray cast iron and nodular cast iron, so it cannot be used to pump strong corrosive or strong abrasive solid particles.
4. The diameter of the solids in the medium should be smaller than the minimum size of the flow channel, see "WQ (11-22kW) series submersible sewage pump performance parameter table" for the specific solids size.
5. The length of the fiber in the medium should be less than the discharge outlet diameter of the pump.

Features and Advantages

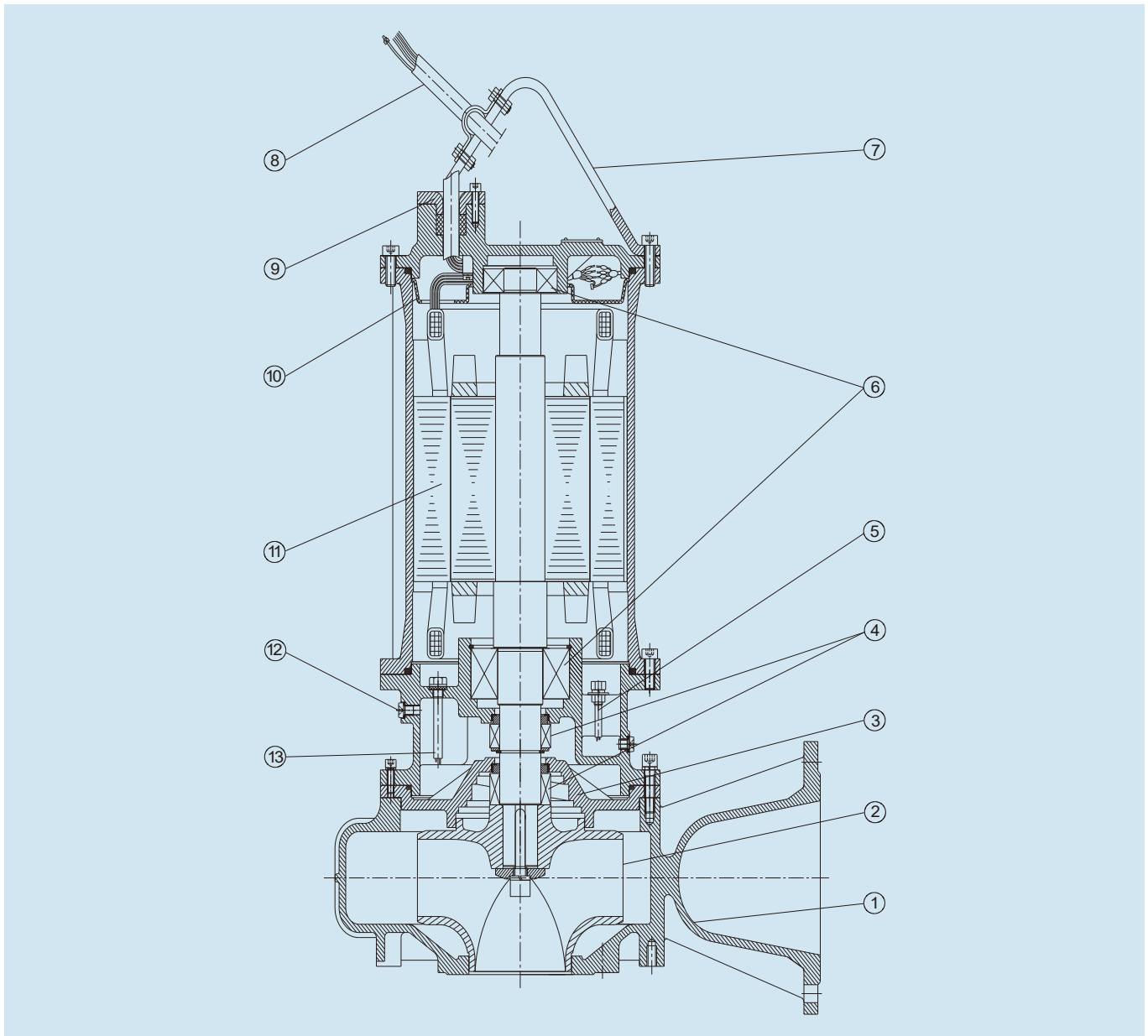
1. Unique non overload hydraulic design, innovative technology of sewage treatment pump
Innovative high efficiency non overload hydraulic model design concept, while taking into account the capacity of sewage pump design. Completely solve the operation of the pump worries.
No overload hydraulic model technical characteristics, the maximum power point appears in the high efficiency area, smooth operation, no vibration.
Impeller capacity: The impeller has undergone a large number of CFO research, analysis and testing, so that the impeller blades and the solid passing capacity have achieved the best balance. The unique design of the flow component ensures the passing of solids and the anti-winding of fibers.
2. Excellent mechanical seal
The imported Bergman mechanical seal is adopted, and the material of pump head mechanical seal is silicon carbide and tungsten carbide, providing the maximum anti-wear ability. The designed service life of mechanical seal is 15000 hours.
3. Self cleaning technology of mechanical seal
Two single face mechanical seals are installed in series, and special spiral grooves or small gaps are used at the pump cover to prevent solid particles from depositing on the mechanical seal at the pump side, so as to achieve the self-cleaning function of the mechanical seal and prolong the service life of the mechanical seal.
4. Short shaft extension design
The short shaft extension design can significantly eliminate the eccentricity error of the shaft. Reduce the center of gravity of the pump, reduce the running vibration of the pump, extend the service life of the mechanical seal and bearing.
5. Bearing design
The bearing is designed according to the minimum service life of 100000 hours to ensure the normal operation of the pump.
6. Reliability design of submersible motor
The insulation grade of the motor is grade H, and the maximum allowable temperature is 180℃. Compared with grade F, the motor can withstand higher temperature and is more durable.

7. General pump installation design

There are various installation methods, including automatic coupling installation. The pump and the outlet pipe are connected through the outlet pipe seat of the coupling device, without conventional fasteners. When the pump and the outlet pipe seat are connected or disconnected, it only needs to simply put down and lift the pump along the guide bar, which is very convenient, trouble-saving and time-saving.

Structure and Technical Description

WQ(11-22KW) Series Submersible Sewage Pump Structural Diagram



- 1. Casing
- 2. Impeller
- 3. Casing Cover
- 4. Mechanical Seal
- 5. Leakage Probe
- 6. Bearing
- 7. Handle
- 8. Cable
- 9. Cable Seal
- 10. Wiring Board
- 11. Motor
- 12. Screw Plug and Oil Filling Port
- 13. Hydrophobic Probe

Technical Description

Casing and Impeller

Optimized design using CFD technology, adopts wide-outlet high-efficiency non-overload impeller, non-overload hydraulic design and the best balance of high passing capacity, wide flow channel, and the best dirt pass ability. The impeller undergoes strict dynamic balance testing to minimize vibration and maximize the life of bearings and mechanical seals.

Casing Cover

The design of self-cleaning technology is adopted. The pump cover has a ring-shaped spiral groove structure. When the medium particles rotate at the pump cover, they are thrown outward by centrifugal force, which can avoid the particles gathering in the sealing cavity and achieve the self-cleaning effect of the mechanical seal.

Motor

The submersible motor is specially designed and manufactured, the protection grade is IP68, the stator winding is H-class insulation, the limit working temperature of the insulation material is 180℃, and the overheating protection element is embedded in the winding to protect the motor through the electric control cabinet.

Cooling of Motor

The motor is cooled by the pumped medium through the heat sink on the stator shell. The medium needs to submerge the motor. The lowest pump stop position should not be lower than the liquid level marked with "▽" in the installation dimension drawing.

The electric pump can be specially equipped with a motor cooling system to cool the motor. The cooling medium flows between the stator housing and the cooling sleeve. The cooling medium can be pumped medium or external cooling water. The cooling channel is different between the pumped medium cooling and the external cooling water cooling. Therefore, when the user wants to install the cooling system, he should specify in the order whether to use the pumped medium cooling or the external cooling water cooling. When the cooling medium is pumped, the structure of the pump can prevent large particles from entering the cooling channel. After a long period of operation, small particles may deposit in the sleeve, which can be flushed by external flushing fluid through the pipe joint on the cooling sleeve.

Mechanical Seal

Borgmann mechanical seal is used. The mechanical seal is made of low friction and wear-resistant friction materials. The rubber parts are oil-resistant nitrile rubber, and the metal parts are stainless steel. The pump side mechanical seal is matched with silicon carbide/tungsten carbide, and the designed service life is 15,000 hours. The motor side mechanical seal is made of low friction and wear-resistant friction materials. The rubber parts are oil-resistant nitrile rubber, and the metal parts are stainless steel. The pump side mechanical seal is matched with silicon carbide/tungsten carbide, and the designed service life is 15,000 hours.

Oil Chamber

The oil in the oil chamber adopts 32# anti-wear hydraulic oil, and the executive standard is GB1118.1-2011. In addition to lubricating the mechanical seal, it can also take away the heat of the bearing, and the oil chamber also has the additional safety function of preventing liquid penetration. The oil chamber is equipped with a leakage probe. When the medium on the pump side leaks into the oil chamber, the leakage probe will stop the pump through the electric control cabinet to remind the operator of maintenance.

The oil filling amount is to overflow oil from the oil filling hole, and it can ensure that there is a certain volume of oil in the oil chamber, so that the pressure in the oil chamber will not rise significantly after the oil temperature rises, so as to avoid excessive wear or leakage of the mechanical seal.

Bearing

SKF Bearing imported from the original is adopted as the standard configuration of the whole system. The upper bearing is deep groove ball bearing or cylindrical roller bearing, which is used to bear radial force. The lower bearing is used to bear the radial force and axial force. According to the radial force and axial force, some pumps are designed as a double row angular contact ball bearing, some as a diagonal contact ball bearing plus a cylindrical roller bearing, all of which have sufficient load margin. The designed service life of the bearing is 100000 hours, and it is lubricated with 3# lithium grease.

Cable and Motor Seal

Heavy duty rubber sheathed flexible cable with sewage resistance is selected, which has superior mechanical strength and oil resistance. The cross-sectional area and current carrying capacity of cable conductor are selected according to the condition of long-term continuous operation at ambient temperature of 40℃. Therefore, under normal service conditions, the current carrying capacity of cable has sufficient margin and longer service life.

The cable gland compresses the cable sealing ring to realize reliable sealing between the cable and the wiring cavity. Fix the cable to prevent it from pulling off. The cable adopts color mark and digital mark, which makes the identification and connection of the cable easier. The motor wiring cavity and the electric control cabinet are equipped with grounding marks and grounding fasteners, and the cables are strictly grounded, which is safe and reliable.

In the process of assembly, the O-ring, cable seal and mechanical seal of each pump should be strictly tested to ensure the reliable sealing of motor cavity including wiring cavity.

Protector

The water pump is equipped with motor winding overheating protection element, motor cavity oil water probe, oil chamber leakage probe. In order to ensure the safe and reliable operation of your pump, especially in order to prevent the burning of the motor, it is recommended to use our company's special electric control cabinet for submersible pump. When the user provides the electric control cabinet by himself, please contact the professional team of the electric control cabinet of the company for any electrical technical problems, especially the electrical technical problems of the protection device.

Protective Devices Description

Overheat Protection Element

The overheat protection element is a temperature-controlled electric appliance embedded in the stator windings of the motor. Under the condition of abnormal operation, when the temperature of the winding reaches the set value of the overheat protection element, the overheat protection element makes the "overheat" indicator light up through the electric control cabinet and automatically stops the motor, reminding the operator to check and find out the cause of the overheat of the motor.

After the winding temperature drops, the motor will return to the starting state.

Leak Detector

The oil-water probe is used for water or oil leakage detection.

The water leakage probe in the oil chamber is referred to as the oil probe. When the turbomachinery seal is damaged and the water in the leakage chamber reaches a certain level, the two electrodes of the leakage probe are connected, and the alarm signal (indicator light is on) is sent out through the electric control cabinet to remind the operator to check the mechanical seal or replace the oil in the oil chamber in time.

The leakage probe in the motor cavity is called water probe for short. It is installed in the cavity under the motor cavity and beside the bearing, and the cavity is communicated with the bearing chamber through a hole. When the mechanical seal of the motor fails, the oil in the oil chamber enters into the cavity through the bearing chamber, or the water flowing into the motor enters into the cavity, the two electrodes of the water leakage probe will be connected, and the alarm signal (indicator light on) will be sent out through the electric control cabinet, and the pump will stop running automatically to remind the operator to repair the pump.

Lifting Device

The lifting frame of the pump is made of 304 material, and it is designed with large space, which is convenient for the hook to hang in, making the lifting convenient and durable.



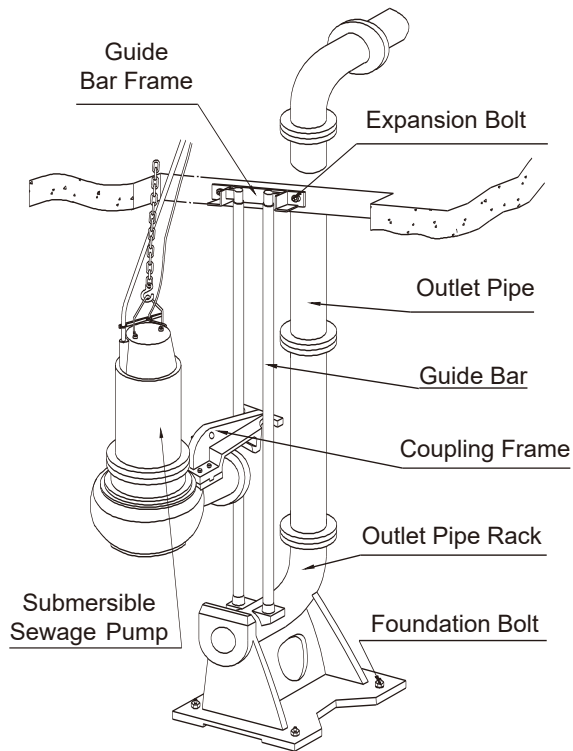
Main Parts Material

No.	Name		Material
1	Impeller, casing cover		QT500
2	Casing, terminal box cover, connection base		HT250
3	Shaft		2Cr13
4	Motor insulation		180℃ class h insulation
5	Bearing brand		SKF
6	Mechanical seal	Brand	Burgmann
		Motor side friction pair	Graphite / Silicon Carbide
		Pump side friction pair	Silicon Carbide / Tungsten Carbide
7	O-ring		Nitrile 40
8	Cable sealing ring		

Installation Methods

WQ series submersible sewage pump has automatic coupling installation (Z), fixed base installation (P), fixed base installation (F), hose movable installation (R) and hard pipe movable installation (Y). It's easy to install either way. The following are respectively introduced.

Automatic Coupling Installation (Z)

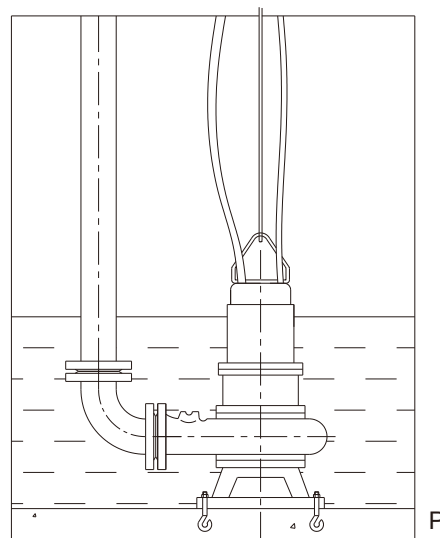


Automatic coupling installation is actually using coupling device to connect pump and pipeline. With the coupling device, the pump and the outlet pipe are independent of each other, and there is no need to connect with conventional fasteners, so the connection and separation of the pump and the outlet pipe are very easy. In fact, the coupling device is very simple. There are only such things as outlet pipe seat, guide bar frame and coupling frame. The guide bar only plays a guide bar and does not bear any force. It is OK to use ordinary water pipe or steel pipe. The user can provide it by himself, and it can be easily cut into the required length according to the depth of the pool. When installing, install the outlet pipe seat, guide bar and guide bar frame, install the coupling frame on the pump body, lift the pump, put the semicircular orifice on the coupling frame into the guide bar, and slide the pump down to the bottom along the guide bar, the coupling frame will fasten the pump body and outlet pipe seat, at the same time, the outlet of the pump body and the inlet of the outlet pipe seat will be aligned automatically, and the flange end face will be attached automatically. When the pump needs to be repaired, just lift the pump up, and the pump body and outlet pipe seat will be separated. This installation method is really easy, labor-saving and trouble-free.

Since the coupling device and the pump are relatively independent, if your pump station needs to use the same caliber low head or high head pump due to the change of situation, you can still use the original coupling device.

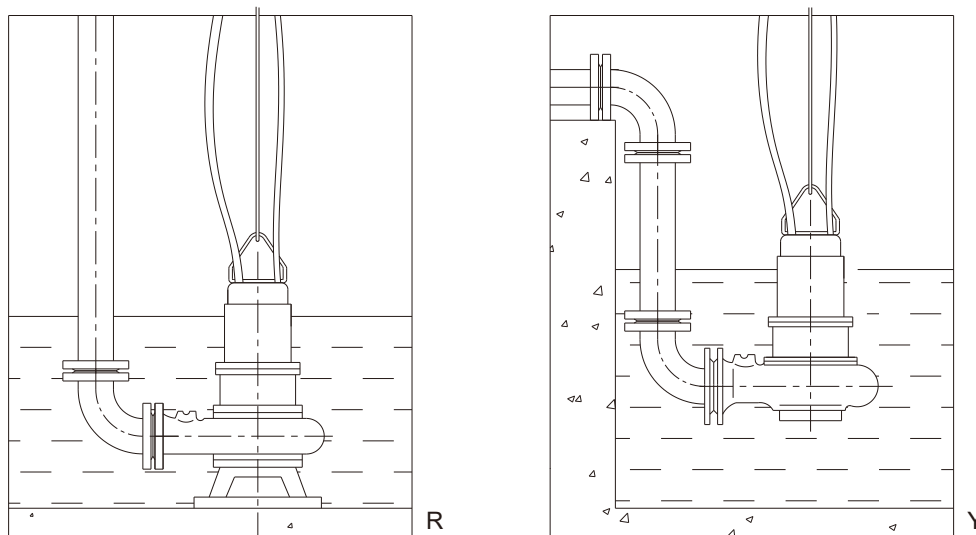
Fixed Base Installation (P)

Fix the support base on the foundation and connect the outlet pipe to run. The base needs to be fixed with foundation bolts.



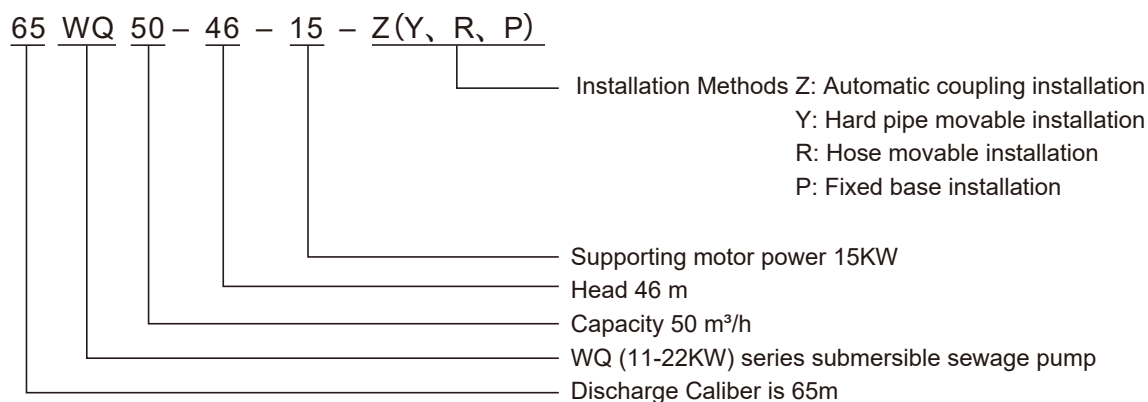
Movable Installation (R, Y)

It is supported by a base, and it can work when connected to a water outlet hose or a hard tube. This method is mainly used for emergency rescue or maintenance and construction needs. When connecting hard pipes, if the pipes have sufficient rigidity, the pump can also be suspended using pipes.



Technical Specifications

Model Description



Rated Voltage, Rated Frequency

The rated voltage of the motor is 380V and the rated frequency is 50Hz.

Connection Method

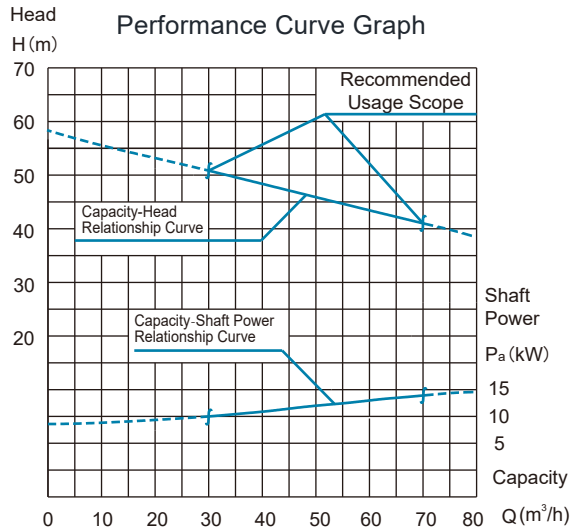
The connection method of motor winding wiring:

The pump adopts triangle (Δ) connection method. When the pump leaves the factory, the connecting cavity has been connected according to this. According to the field conditions, direct start, auto-step-down start or external electronic soft starter can be used.

Rotation Direction

Seen from the pump inlet, the impeller rotates counterclockwise.

Performance Curve and Main Parameter Explanation



Main Parameter Outlet Diameter 65mm

New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
65WQ50-46-15	WQ2210-2112	Rectangle 38	2940	136
Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor $\cos \phi$	Motor Efficiency (%)	Rated Torque Block Torque /
15	29	0.9	88.8	2.4

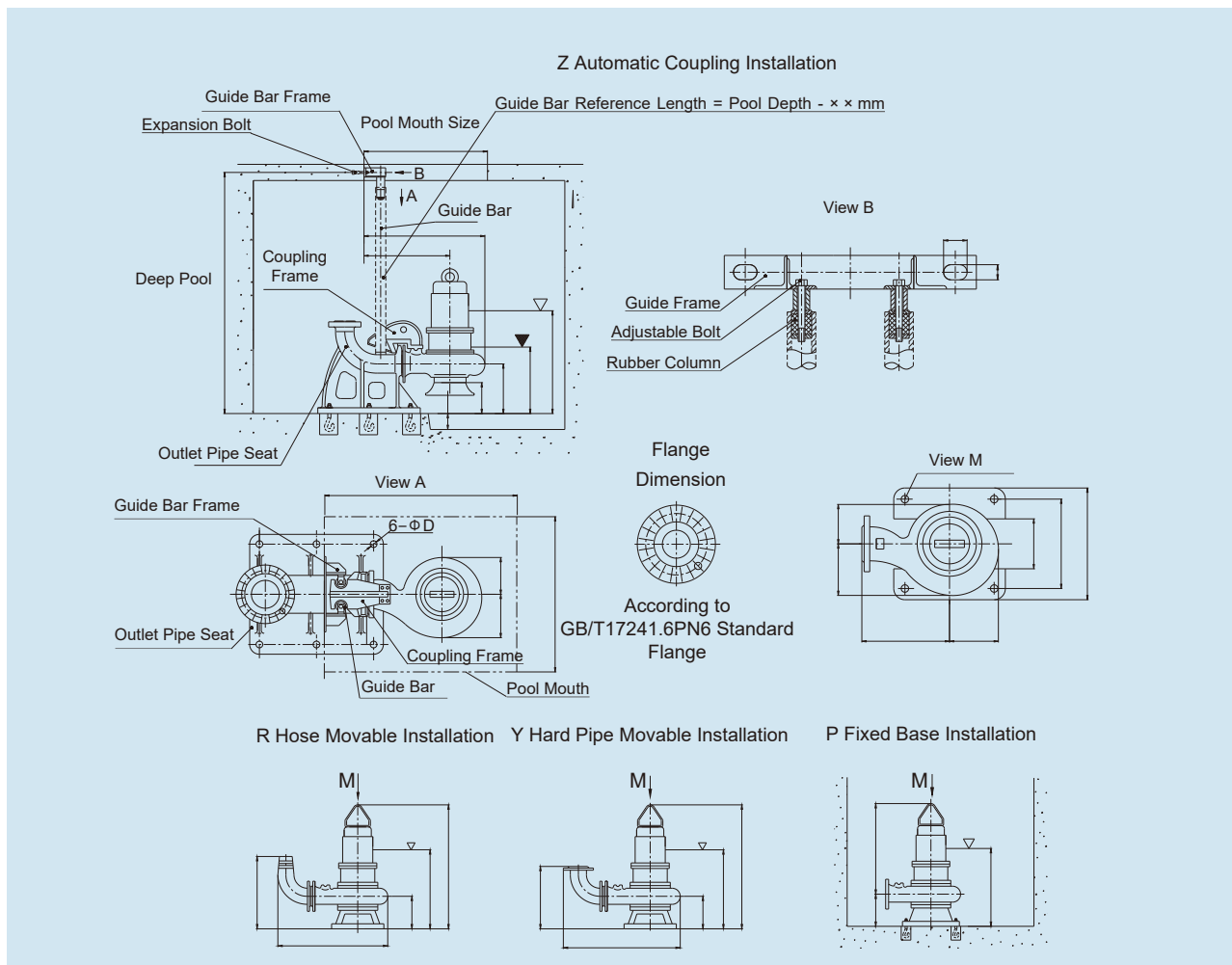
The solid part of the curve on the graph indicates the recommended application range of the pump. When the shaft power increases to a certain value, it will not increase. Generally, there is no danger of overload for non overload pump. Even if there is a little overload occasionally, it is limited. Therefore, the motor of such pump is safe when it is used under any flow. However, it is better to use it within the recommended range, because the efficiency of the pump is higher within the recommended range, and it is more economical to use the pump. When the flow is less than the left limit, the efficiency of the unit is very low, resulting in large radial force, leading to rolling key and shaft breaking. When the flow is greater than the right limit, the pump will produce vibration, noise and other problems.

Refer to "performance parameter table of WQ (11-22kw) series submersible sewage pump" for the maximum size of solids.

The new model corresponds to the prototype number, and the name plate is made according to the customer's needs.

The weight of the pump does not include accessories of various installation methods, such as coupling device, base, elbow joint, hose elbow joint, etc.

Installation Dimension Diagram Description



1. All the guide bars can be fixed with the M16×150 I expansion bolts. Expansion bolts are easy to purchase and can be supplied or ordered from our company.

Function of the rubber column on the guide bar frame: tightening the regulating bolt of the rubber column can make the rubber column tighten the inner hole of the guide bar, make the guide bar stable, and avoid the vibration and sound of the guide bar.

2. The length of the guide bar shall be calculated according to the "pool depth" shown on the diagram. Information on guide bars is shown in Schedule 1.

3. No water inlet horn pipe pump coupling installation, the bottom of the pool made flat, the height of the outlet pipe seat can ensure that the pump suction inlet to the bottom of the pool has enough height, so that the pump has good suction conditions, so there is no need to make concrete boss for the outlet pipe seat, so that you can save the trouble in construction.

Coupling installation of pumps with inlet horn tube. In order to ensure sufficient height of horn tube to the bottom of the pool, concrete lugs with certain strength should be made for the outlet pipe base. The minimum height of lugs is given in the installation dimension diagram of each pump.

4. "▽" means the lowest liquid level at which the pump operates. The liquid level of the pump should be higher than the lowest liquid level. It is best to submerge the pump completely so that the motor can be fully cooled. The lowest liquid level can be controlled by a float switch. Our submersible sewage pump special electric control cabinets are liquid level control type, are equipped with a certain number of float switches.

5. Movable installation pump, hose elbow or elbow are provided by our company. For hose movable installation, the inner diameter of applicable hose for pumps with various diameters is shown in Table 2.

6. For the same type of pump, the fixed base installation and the movable base installation are the same. The shape and dimensions of the base are shown in the M direction view.

7. Flange size refers to the outlet flange of the pump and the outlet pipe seat flange. The flange dimension of GB/T17241-2008/XGI - 2011 standard.

Table 1 Specifications and Dimensions of Pump Guide Bar

Pump Discharge Diameter (mm)	Guide Bar Specification (GB/T17395-2008) Water Pipe/Seamless Steel Pipe	Guide Bar Reference Length = (Pool Depth - L) ±15mm The Following are L Dimensions
50	1"/32×3.5	300
65		305
80		425
100		410
150	2"/60×5	435
200		540
250		630
300	3"/89×5	655
350		900

Table 2 Pump Hose

Pump Discharge Diameter (mm)	50		65	80	100	150
Specification for Hose Elbow Joints	50-6	50×65-6	65-6	80-6	100-6	150-6
Inner Diameter of Hose (mm)	64	76	76	89	102	152

Table 3 Foundation Bolts for Self-Coupling Installation of Outlet Pipe Seat

Pump Discharge Diameter (mm)	Foundation Bolts (GB/T799-1988)			
	Specifications	Quantity	Reserve Holes for Reference Dimensions Length × Width × Depth (mm)	
50	M16×220	4	80×80×270	
65				
80	M20×300		100×100×350	
100				
150				
200	M24×300		6	160×160×450
250	M30×400			
300				
350				

Table 4 Foundation Bolts for Pump Fixed Base Installation

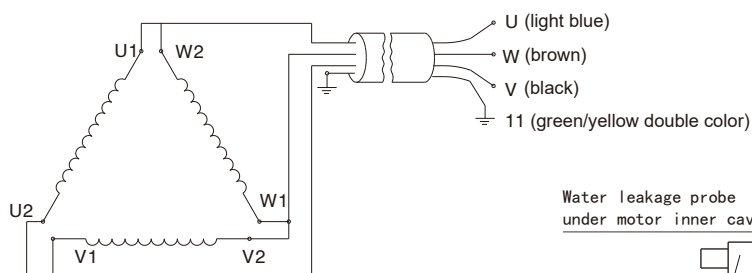
Hole Diameter of Base	Foundation Bolts (GB/T799-1988)	
	Specifications	Reserve Holes for Reference Dimensions Length × Width × Depth (mm)
Φ18、Φ20	M16×220	80×80×270
Φ25、Φ26	M20×300	100×100×350
Φ30	M24×300	

Table 5 Coupling Device Weight Table

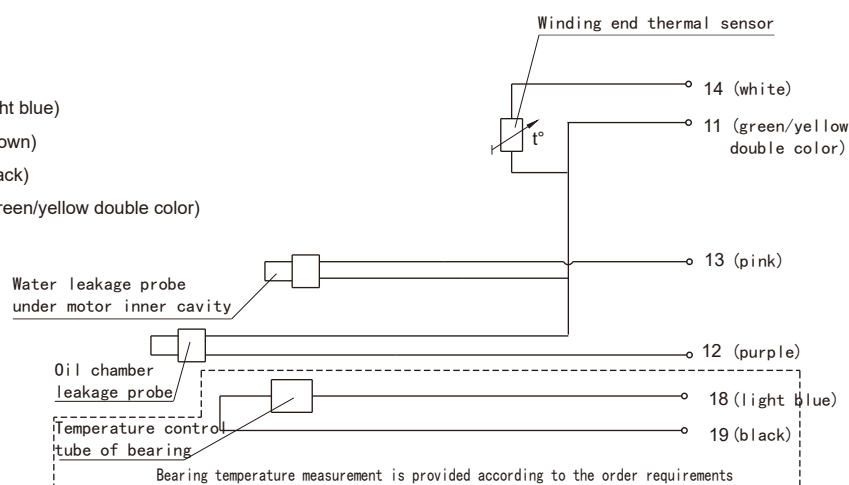
Pump Caliber (mm)	Coupling Device		
	Base of Outlet Pipe (kg)	Coupling Frame(kg)	Guide Bar
50	21.5	6	2.45kg/m
65	27.5	7.1	
80	41.3	8.1	
100	37	9.3	6.78kg/m
150	74.3	20	
200	119	24	
250	232	46	10.36kg/m
300	334	64	
350	428	106	

Main and Control Cables Standard Wiring Diagram

Wiring diagram of stator outgoing line and main cable (i.e. internal triangle connection)



Wiring diagram of submersible motor control cable



Motor Protection System Components Monitoring Performance Comparison Table

Protection Element Name	Winding Thermistor (120°C)	Motor Lumen Bottom Leak Probe	Oil Chamber Leak Probe	Bearing Temperature pt100
Control cable label	11-14	11-13	11-12	18-19
Normal state (Ω)	0	$\geq 30k\Omega$	$\geq 15k\Omega$	When 0°C, about 100 Ω
Fault status (Ω)	∞	$< 30k\Omega$	$< 15k\Omega$	When 95°C, about 136 Ω

Introduction of Special Leakage Super Thermal Protector

KQ510 Water Leakage Super Thermal Protector

KQ510 type water leakage and super heat protector can realize the detection and fault output of oil chamber water leakage, motor cavity water leakage, junction box water leakage and winding super heat; three groups of water leakage signal inputs have the function of return difference.

Power supply: AC220 V, 50 Hz, input power 5 W.

Operating environment: temperature - 20 ℃ ~ + 50 ℃, relative humidity ≤ 85% RH.

Relay contact capacity: 5A 250VAC

The following is the panel and physical control:

Signal Input

COM and R1 are the input terminals of oil chamber leakage;
COM and R2 are the input terminals of the motor cavity;
COM and R3 are the input terminals of the junction box;
COM and K1 are the input terminals of motor winding overheating.

Fault Output

J1 is the fault output, open when there is no fault, close when there is fault, and the switch value is zero;
J2 is the fault output, closed when there is no fault, open when there is fault, switch value.

Fault Detection

When the oil chamber leaks the probe detects the resistance value. When 15K, the corresponding indicator light, fault output relay action; When the resistance > 20K, the fault disappears and the protector returns to its initial state (i.e., the return characteristic). The input has a delay of 1s to 5s. The smaller the input resistance, the shorter the delay time, and vice versa.

When the motor cavity leaks the probe detects the resistance value. 30K, the corresponding indicator light, fault output relay action; When the resistance > 35K, the fault disappears and the protector returns to its initial state (i.e., return characteristic). The input has a delay of 1s to 5s. The smaller the input resistance, the shorter the delay time, and vice versa.

When the junction box leaks the probe, the resistance value is detected. 30K, the corresponding indicator light, fault output relay action; When the resistance > 35K, the fault disappears and the protector returns to its initial state (i.e., return characteristic). The input has a delay of 1s to 5s. The smaller the input resistance, the shorter the delay time, and vice versa.

When the winding overheating probe detects that the temperature exceeds the specified temperature (determined by the overheating probe selected by the user) and disconnects, the corresponding indicator light and fault output relay will act. When the temperature resumes below the specified temperature and closes, the fault will disappear and the protector will return to the initial state. The input has a delay of 1s to 2s.

KQ1010 Water Leakage Super Thermal Protector

KQ1010 type water leakage and super heat protector can realize the detection and fault output of oil chamber water leakage, motor cavity water leakage, junction box water leakage and winding super heat, and can realize two-way PTI temperature acquisition and display, alarm temperature setting, fault output and other functions.

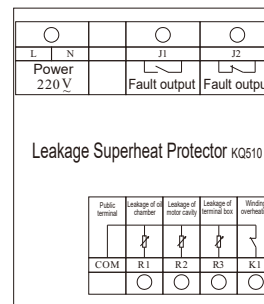
Power supply: AC220 V, 50 Hz, input power 5 W.

Operating environment: temperature - 20 ℃ ~ + 50 ℃, relative humidity ≤ 85% RH.

Relay contact capacity: 5A 250VAC

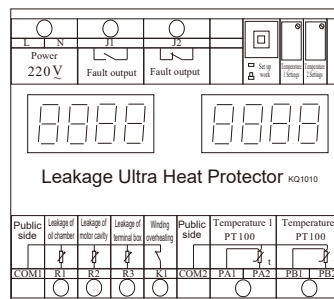
PT100 temperature display range: - 199.9 ℃ ~ + 199.9 ℃

The following is the panel and physical control:



Signal Input

COM1 and R1 are the input terminals of oil chamber leakage;
 COM1 and R2 are the input terminals of the motor cavity;
 COM1 and R3 are the input terminals of the junction box;
 COM1 and K1 are the input terminals of motor winding overheating;
 Com2, PA1 and pa2 are PT100 input terminals of temperature 1, and three wire connection method is adopted (two lines with the same color in PT100 are respectively connected to com2, PA1 and the other line is connected to pa2);
 Com2, PB1 and Pb2 are PT100 input terminals of temperature 2, and three wire connection method is adopted (two lines with the same color in PT100 are respectively connected to com2, PB1 respectively, and the other line is connected to PB2).



Fault Output

J1 is the fault output, disconnected when there is no fault, closed when there is fault, switching quantity;
 J2 is the fault output, closed when there is no fault, disconnected when there is fault, switching quantity.
 Temperature alarm setting
 Release the button display shows the detection temperature of two PT100;
 Press the button to display the set alarm temperature;
 Temperature 1 potentiometer can change the alarm temperature set by PT100 in the first way;
 Temperature 2 potentiometer can change the alarm temperature set by PT100 of the second circuit.

Fault Detection

When the oil chamber leakage probe detects that the resistance value is $<15K$, the corresponding indicator light is on, and the fault output relay moves; When the resistance $>20K$, the fault disappeared, the protector returned to the initial state (that is, the return characteristic).The input has a delay of 1s to 5s. The smaller the input resistance, the shorter the delay time, and vice versa.

When the motor cavity leakage probe detects the resistance value $<30K$, the corresponding indicator light is on, fault output relay action; When the resistance $>35K$, the fault disappeared and the protector returned to the initial state (that is, the return characteristic).The input has a delay of 1s to 5s. The smaller the input resistance, the shorter the delay time, and vice versa.

When the junction box leaks the probe and detects the resistance value $<30K$, the corresponding indicator light will light up and the fault output relay will operate; When the resistance $>35K$, the fault disappeared and the protector returned to the initial state (that is, the return characteristic).The input has a delay of 1s to 5s. The smaller the input resistance, the shorter the delay time, and vice versa.

When the winding overheating probe is detected beyond the specified temperature (the temperature value is determined by the overheating probe selected by the user) and disconnected, the corresponding indicator light is on, and the fault output relay acts. When the temperature reaches the specified temperature and closes, the fault disappears and the protector reaches the initial state. The input has a delay of 1s to 2s.

PT100 temperature detection

The protector is designed with double PT100 input. In order to eliminate the influence of PT100 lead length on temperature, a three-wire design is adopted. The detection range of temperature is $-199.9^{\circ}C$ to $+199.9^{\circ}C$, and it is displayed in the display window. When the detected temperature exceeds the set alarm value, the corresponding indicator light will light up and the fault output relay will act. When the detected temperature is lower than the set alarm value, the fault will disappear and the protector will return to the initial state.

PT100 alarm temperature setting

The two-way PT100 alarm temperature value can be set. Press the alarm temperature setting button and the display window will switch to the display of alarm temperature setting value. Two alarm temperature setting potentiometers can be adjusted separately to change the alarm temperature value. After setting, press the alarm temperature setting button again, and the display window will switch to the display of PT100 acquisition temperature value.

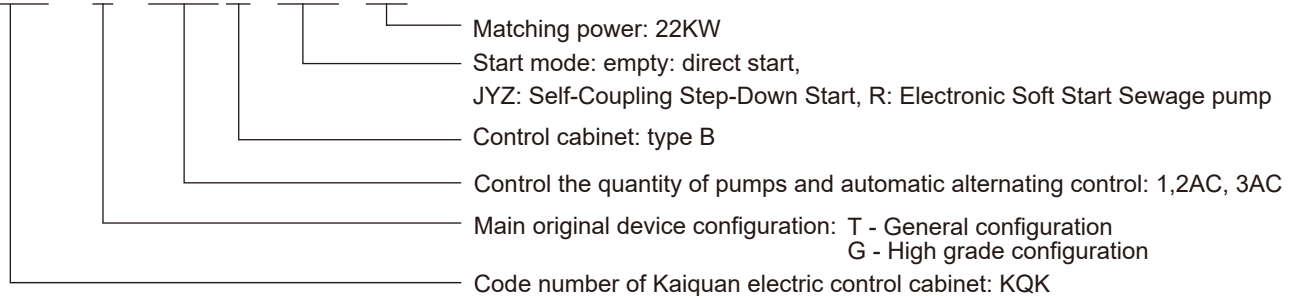
Special Electric Control Cabinet Product Introduction and Selection

Special Electric Control Cabinet for Submersible Sewage Pump

The KQK-B control cabinet matched with the submersible sewage pump is an economical, safe, reliable, and easy-to-maintain automatic control system. The control cabinet uses low-voltage electrical appliances and liquid level sensors of well-known brands at home and abroad, which have the protection functions of short circuit, phase loss, overload, motor cavity leakage, oil chamber leakage and winding overheating. The control cabinet can be equipped with various liquid level sensors such as float level switch, throw-in or ultrasonic, and can automatically control the start and stop of the water pump according to the level of the liquid when unattended. Except for single-control products, all products with main and standby pump control have the function of automatically shutting down the faulty pump and automatically turning on the standby pump. The two-pump and three-pump control cabinet can realize automatic alternate or cyclic operation to realize the equal running time of each pump.

Commonly configured control cabinet components are mainly domestic well-known brands such as Tianzheng, Chint and Delixi; high-end configuration control cabinet components are mainly internationally renowned brands such as Schneider, Siemens, and ABB.

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Special Electric Control Cabinet Product Selection and Description

Direct Start

The following table lists the type and dimension of the control cabinet for direct start of the supporting submersible sewage pump

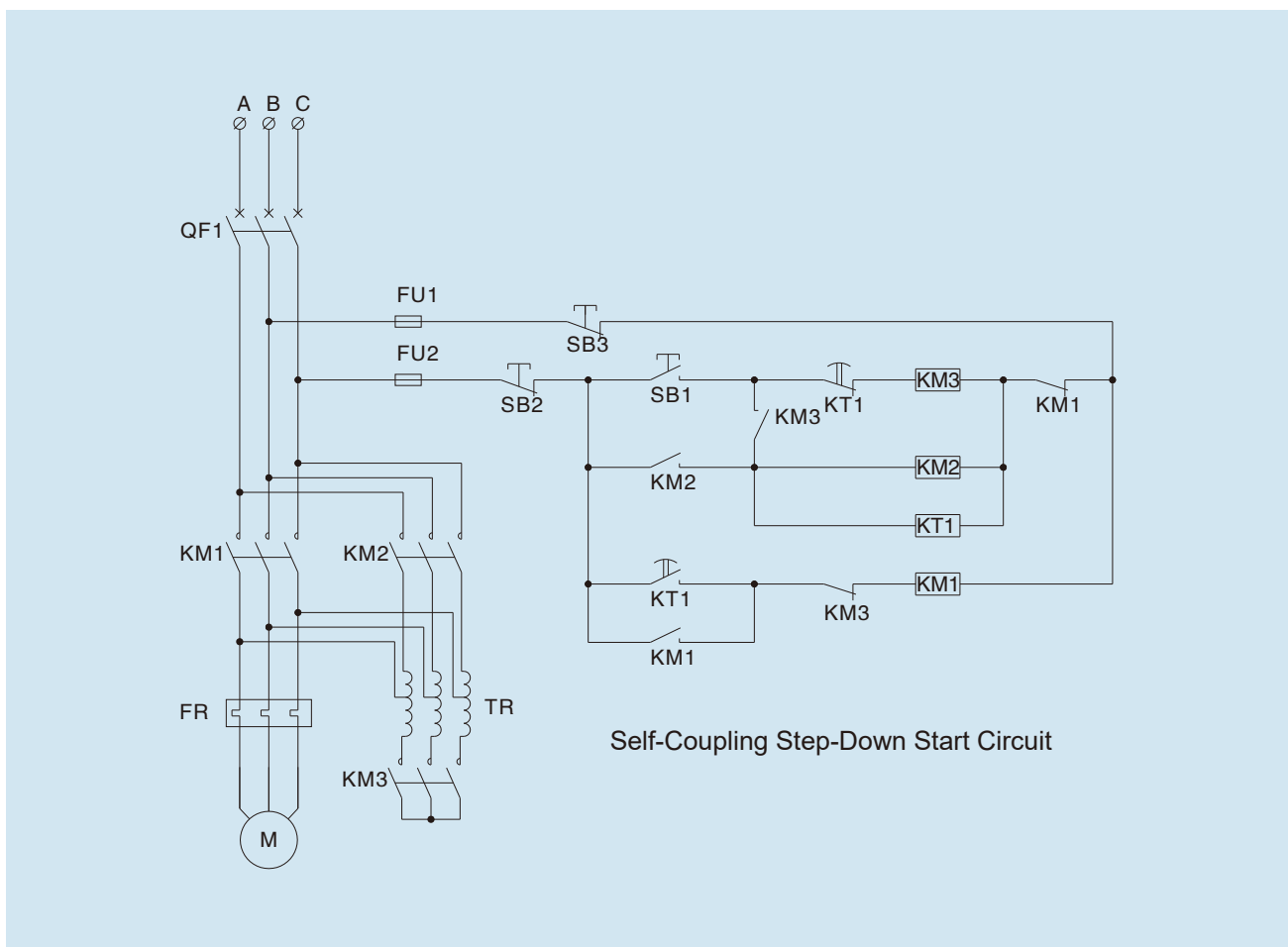
WQ(11-22KW) Series Submersible Sewage Pump(One Control One)-Direct Start							
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height x Width x Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	11	2 Poles	22	KQK/T-1B-11	KQK/G-1B-11	500 × 400 × 200	15
2		4 Poles	23				
3	15	2 Poles	29	KQK/T-1B-15	KQK/G-1B-15	500 × 400 × 200	20
4		4 Poles	30				
5		6 Poles	31				
6		8 Poles	35				

WQ(11-22KW) Series Submersible Sewage Pump(One Control Two)-Direct Start							
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height x Width x Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	11	2 Poles	22	KQK/T-2ACB-11	KQK/G-2ACB-11	600 × 400 × 200	20
2		4 Poles	23				
3	15	2 Poles	29	KQK/T-2ACB-15	KQK/G-2ACB-15	600 × 400 × 200	25
4		4 Poles	30				
5		6 Poles	31				
6		8 Poles	35				

WQ(11-22KW) Series Submersible Sewage Pump(One Control Three)-Direct Start							
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height x Width x Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	11	2 Poles	22	KQK/T-3ACB-11	KQK/G-3ACB-11	800 × 600 × 250	27
2		4 Poles	23				
3	15	2 Poles	29	KQK/T-3ACB-15	KQK/G-3ACB-15	800 × 600 × 250	35
4		4 Poles	30				
5		6 Poles	31				
6		8 Poles	35				

Self-Coupling Step-Down Start

It refers to the use of an autotransformer to reduce the starting voltage applied to the stator winding of the motor when starting. After the motor starts, then the motor is separated from the autotransformer, so as to run normally under full pressure.



The different taps of the autotransformer can be selected according to the allowable starting current and the required starting torque to achieve step-down start, and it can be used regardless of the stator winding of the motor using Y or Δ connection method.

The following table lists the type and dimension of the control cabinet for the self coupling step-down start of the submersible sewage pump

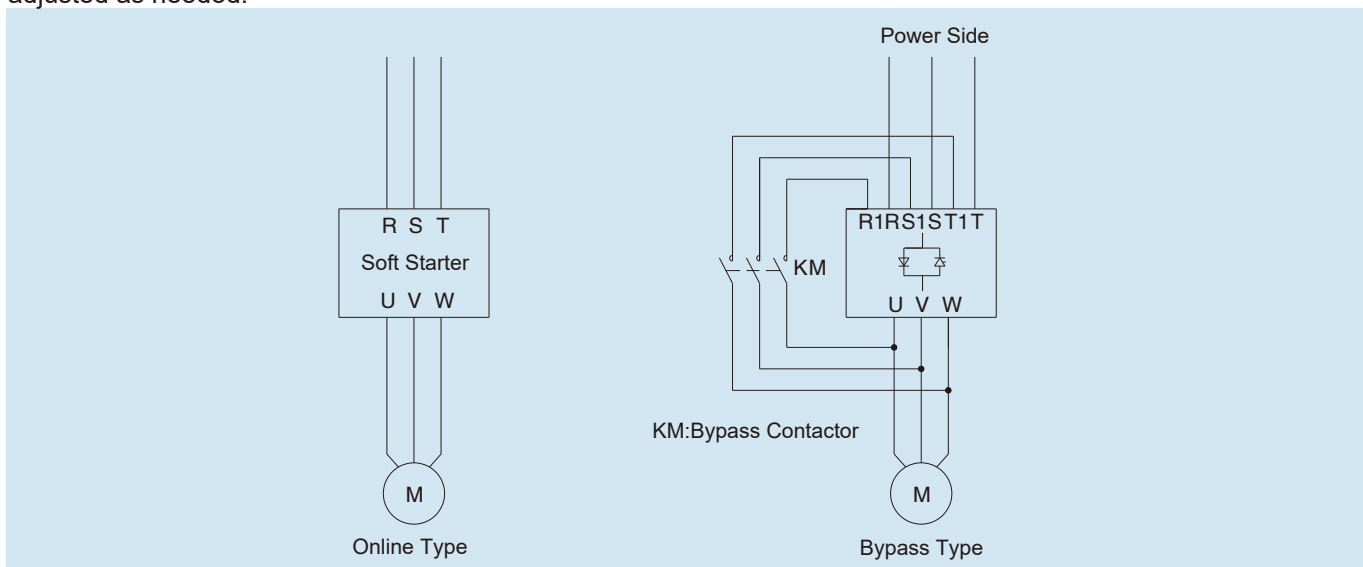
WQ(11-22KW) Series Submersible Sewage Pump(One Control One)-Self-Coupling Step-Down Start							
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height x Width x Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	15	2 Poles	29	KQK/T-1B-JYZ-15	KQK/G-1B-JYZ-15	1200×600×400	100
2		4 Poles	30				
3		6 Poles	31				
4		8 Poles	35				
5	18.5	2 Poles	35	KQK/T-1B-JYZ-18.5	KQK/G-1B-JYZ-18.5	1200×600×400	110
6		4 Poles	36				
7		6 Poles	38				
8		8 Poles	40				
9	22	2 Poles	41	KQK/T-1B-JYZ-22	KQK/G-1B-JYZ-22	1200×600×400	120
10		4 Poles	40				
11		6 Poles	45				
12		8 Poles	47				

WQ(11-22KW) Series Submersible Sewage Pump(One Control Two)-Self-Coupling Step-Down Start							
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height x Width x Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	15	2 Poles	29	KQK/T-2ACB-JYZ-15	KQK/G-2ACB-JYZ-15	1400 × 600 × 400	130
2		4 Poles	30				
3		6 Poles	31				
4		8 Poles	35				
5	18.5	2 Poles	35	KQK/T-2ACB-JYZ-18.5	KQK/G-2ACB-JYZ-18.5	1400 × 600 × 400	145
6		4 Poles	36				
7		6 Poles	38				
8		8 Poles	40				
9	22	2 Poles	41	KQK/T-2ACB-JYZ-22	KQK/G-2ACB-JYZ-22	1400 × 600 × 400	155
10		4 Poles	40				
11		6 Poles	45				
12		8 Poles	47				

WQ(11-22KW) Series Submersible Sewage Pump(One Control Three)-Self-Coupling Step-Down Start							
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height x Width x Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	15	2 Poles	29	KQK/T-3ACB-JYZ-15	KQK/G-3ACB-JYZ-15	1700 × 700 × 500	175
2		4 Poles	30				
3		6 Poles	31				
4		8 Poles	35				
5	18.5	2 Poles	35	KQK/T-3ACB-JYZ-18.5	KQK/G-3ACB-JYZ-18.5	1700 × 700 × 500	195
6		4 Poles	36				
7		6 Poles	38				
8		8 Poles	40				
9	22	2 Poles	41	KQK/T-3ACB-JYZ-22	KQK/G-3ACB-JYZ-22	1700 × 700 × 500	210
10		4 Poles	40				
11		6 Poles	45				
12		8 Poles	47				

Electronic Soft Start

The soft starter, connected in series between the power supply and the controlled motor, controls the conduction Angle of the internal semiconductor (thyristor), so that the input voltage of the motor gradually rises from zero in a preset function until the end of start-up, giving the motor full voltage. The voltage is gradually increased from zero to the rated voltage, so that the starting current of the motor in the process of starting can be controlled from the past overload impulse current which can not be controlled and the size of the starting current can be adjusted as needed.



In the whole starting process, no impact torque, smooth start motor, according to the characteristics of the motor load to adjust various parameters in the starting process, such as current limit value, start time, etc. Soft parking can also be achieved. Due to the use of semiconductor converter technology, there will be high order harmonic generation, causing pollution to the power grid.

The following table lists the type and dimension of the control cabinet selected for the electronic soft start of the supporting submersible sewage pump

WQ(11-22KW) Series Submersible Sewage Pump(One Control One)-Electronic Soft Start							
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height x Width x Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	15	2 Poles	29	KQK/T-1B-R1-15	KQK/G-1B-R1-15	800 x 600 x 250	35
2		4 Poles	30				
3		6 Poles	31				
4		8 Poles	35				
5	18.5	2 Poles	35	KQK/T-1B-R1-18.5	KQK/G-1B-R1-18.5	800 x 600 x 250	40
6		4 Poles	36				
7		6 Poles	38				
8		8 Poles	40				
9	22	2 Poles	41	KQK/T-1B-R1-22	KQK/G-1B-R1-22	800 x 600 x 250	40
10		4 Poles	40				
11		6 Poles	45				
12		8 Poles	47				

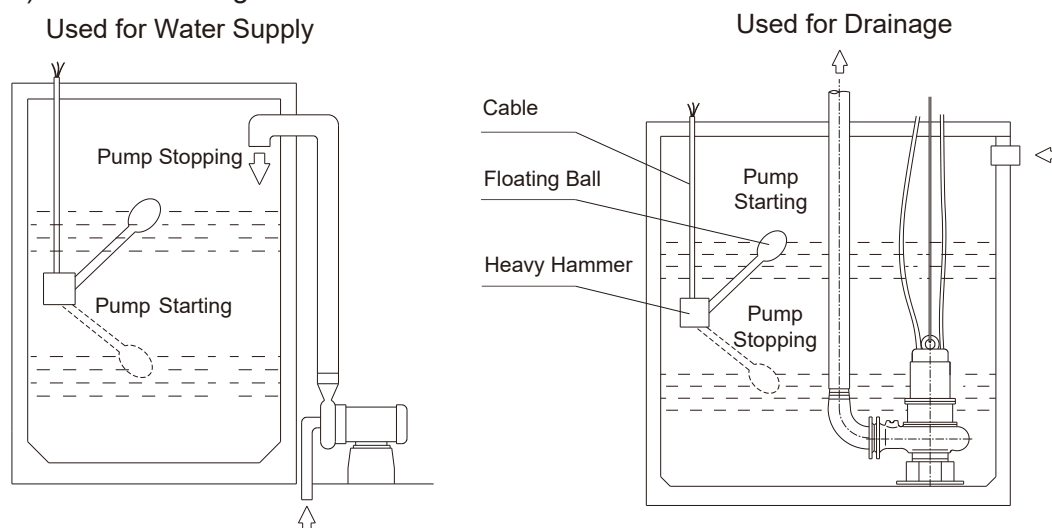
WQ(11-22KW) Series Submersible Sewage Pump(One Control Two)-Electronic Soft Start							
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height × Width × Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	15	2 Poles	29	KQK/T-2ACB-R2-15	KQK/G-2ACB-R2-15	1600 × 600 × 400	50
2		4 Poles	30				
3		6 Poles	31				
4		8 Poles	35				
5	18.5	2 Poles	35	KQK/T-2ACB-R2-18.5	KQK/G-2ACB-R2-18.5	1600 × 600 × 400	55
6		4 Poles	36				
7		6 Poles	38				
8		8 Poles	40				
9	22	2 Poles	41	KQK/T-2ACB-R2-22	KQK/G-2ACB-R2-22	1600 × 600 × 400	55
10		4 Poles	40				
11		6 Poles	45				
12		8 Poles	47				

WQ(11-22KW) Series Submersible Sewage Pump(One Control Three)-Electronic Soft Start							
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height × Width × Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	15	2 Poles	29	KQK/T-3ACB-R3-15	KQK/G-3ACB-R3-15	1700×700×500	70
2		4 Poles	30				
3		6 Poles	31				
4		8 Poles	35				
5	18.5	2 Poles	35	KQK/T-3ACB-R3-18.5	KQK/G-3ACB-R3-18.5	1700×700×500	80
6		4 Poles	36				
7		6 Poles	38				
8		8 Poles	40				
9	22	2 Poles	41	KQK/T-3ACB-R3-22	KQK/G-3ACB-R3-22	1700×700×500	80
10		4 Poles	40				
11		6 Poles	45				
12		8 Poles	47				

(Liquid Level) Float Switch, Terminal Box, Threading Pipe and Cable Models

(Liquid Level) Float Switch

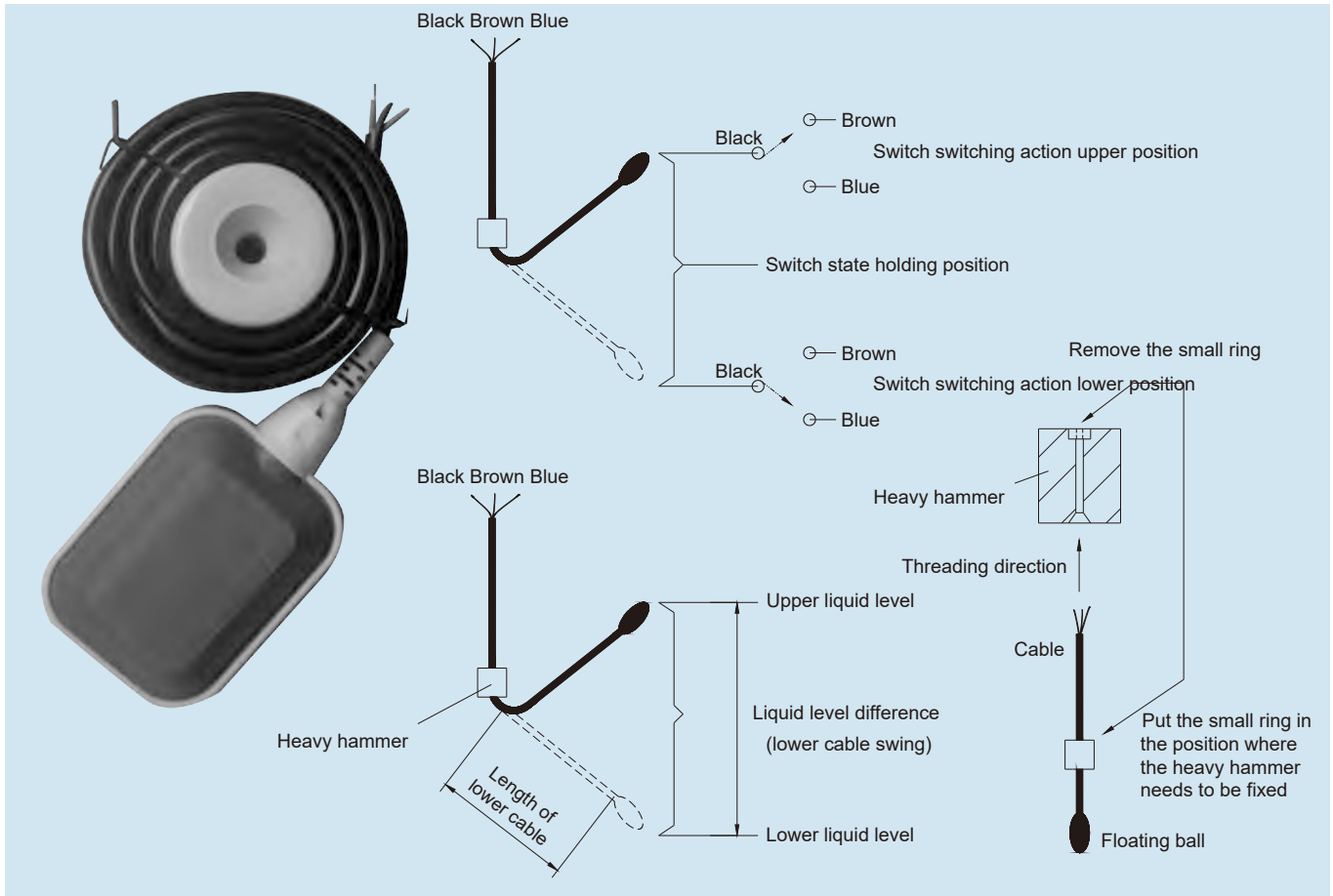
(Liquid Level) Schematic Diagram of Float Switch



The minimum liquid level is indicated on the sample and instruction manual of submersible sewage pump. "▽" means that half of the liquid level of the stator part of the motor is submerged by the medium.

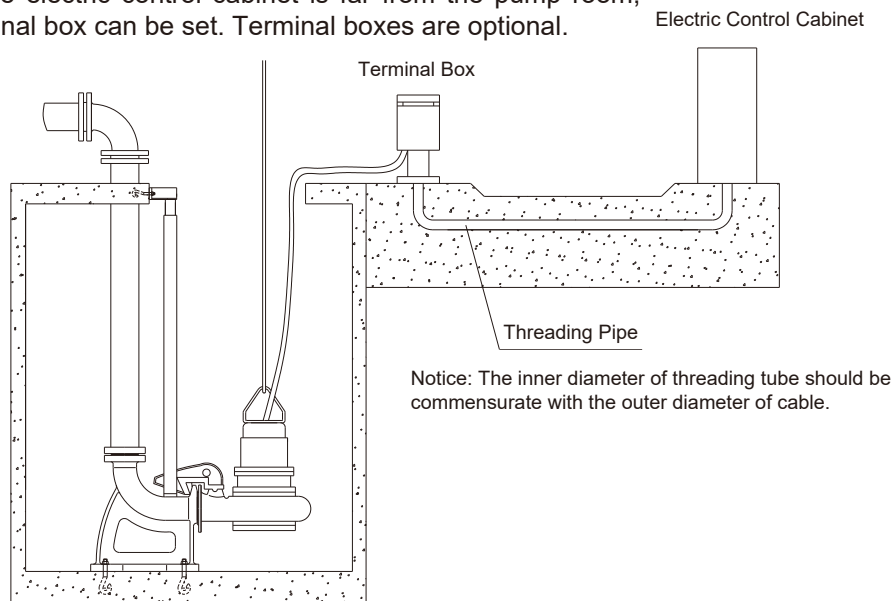
The liquid level float switch is used when the electric control cabinet is in the automatic position.

Wiring and setting of liquid level float switch: there are black, brown and blue cores in the cable of liquid level float switch. When the floating ball floats, the internal contact of the floating ball connects the black and brown cores and disconnects the black and blue cores; when the floating ball droops, on the contrary, the internal contact connects the black and blue cores and disconnects the black and brown cores. When the float ball is in the middle position, the internal switch is in the original position. Only when the float and droop positions are shown in the figure, the internal switch will change action. In the case of drainage, the black and brown cores must be connected to the electric control cabinet, and the blue core must be wrapped and insulated; in the case of water supply, the black and blue cores must be connected to the electric control cabinet, and the brown core must be wrapped and insulated. If a float switch is used to control the two liquid levels of starting and stopping the pump, the position of re sleeping on the cable can be adjusted, and the liquid level difference between starting and closing the pump can be determined. Therefore, in principle, a float switch can realize the starting and stopping control of a group of up and down liquid levels. However, if the liquid level difference is large, the length of floating ball swing arm will increase, and the dead weight of the cable from heavy sleep to floating ball will affect the accuracy of liquid level control. Therefore, our special electric control cabinet for submersible sewage pump is equipped with floating ball switch as follows: for the main pump or large pump, two floating ball switches are used to control the starting and stopping liquid level respectively; for small pump or extra high water level standby pump, one floating ball switch is used Switch to control the pump, stop the pump two levels. When users need more than the specified number of float switches or do not order our special electric control cabinet for submersible sewage pump, they can also order float switches from us.



Terminal Box and Threading Tube

When the electric control cabinet is far from the pump room, the terminal box can be set. Terminal boxes are optional.



This diagram is suggestive only and does not represent a design specification. Matters relating to pump station design and safety shall be dealt with in accordance with relevant standards and codes.

When the threading pipe is to be installed (the threading pipe is provided by the user), the inner diameter of the threading pipe should be determined according to the outer diameter of the cable.

Choose the threading pipe according to the size and installation quantity in the table below.

WQ (11-22kw) Series Submersible Sewage Pump Cable Model and Dimension Table						
No.	Casing No.	Motor Model	Main Cable	Control Cable	Outer diameter of single main cable /mm	Outer diameter of control cable / mm
1	Y210	WQ/E11-2P	1 piece of YVC3×4+1×2.5+4×1		18	/
2		WQ/E15-2P	1 piece of YVC3×6+1×4+4×1		19	
3	Y260	WQ/E11-4P	1 piece of YVC3×4+1×2.5+4×1		18	
4		WQ/E15-4P	1 piece of YVC3×6+1×4+4×1		19	
5		WQ/E18.5-2P	1 piece of YCW3×10+1×6+4×1.5		28	
6		WQ/E22-2P				
7		WQ/E18.5-4P				
8		WQ/E22-4P				
9	Y290	WQ/E15-6P	1 piece of YCW3×10+1×6	Yvc5×1.5 cable: (Yvc7×1 cable is used for temperature measurement with lower bearing)	25	13.5
10	WQ/E18.5-6P					
11	WQ/E22-6P					
12	WQ/E15-8P					
13	Y368	WQ/E18.5-8P				
14		WQ/E22-8P				

Notice: If the temperature measurement of the lower bearing is added to the motor of Y210 and Y260, a separate control cable YVC7X1 with an outer diameter of 13.5mm is needed

Ordering Instructions

In order to make the pump you choose more suitable, we warmly welcome users to consult our company's technical department for technical questions.

1. Please specify when ordering: serial number, impeller number, material of flow-through parts, installation method, and outlet diameter.

2. The installation method of the water pump is subject to the installation drawing on the sample.

3. Due to the excellent design of the coupling frame in the coupling device, the guide bar only needs to use general water pipes or steel pipes. We have provided the specification and length calculation method of the water pipe or steel pipe used as the guide bar in the sample. The user only needs to purchase the water pipe or steel pipe by himself and cut it to the required length for use. Therefore, the guide bar is not included in the coupling device.

4. This series of water pumps are not equipped with a motor cooling system. If a cooling sleeve is required, it is a special order and the delivery time is extended.

5. Standard configuration, motor cable is provided at 10 meters. When the user needs other lengths, it should be noted on the order.

6. The complete set of supply parts is supplied according to the installation method selected by the user.

7. Users of optional parts and spare parts need to order separately.

8. For rigid pipe mobile installation Y, one elbow joint is supplied as a complete set for each pump; for flexible hose installation R, one elbow joint is supplied as a complete set for each pump. When a mobile-mounted pump requires more than one elbow joint or hose elbow joint, it must be ordered separately.

9. The diameters of elbow joints are: 50, 65, 80, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600.

10. The diameters of hose elbow joints are: 50 (with 64 hose), 50×65 (with 76 hose), 65 (with 76 hose), 80 (with 89 hose), 100 (With 102 hose), 150 (with 152 hose).

11. The tapered tube is an optional part, and its two port diameters are: 50×65, 50×80, 65×80, 80×100, 100×150, 150×200, 200×250, 250×300, 300×350, 350×400, 400×450, 450×500, 500×600. The tapered tube installed on the discharge line should be used for diffusion, not for contraction.

12. When the taper pipe and elbow joint on the discharge pipeline are connected with each other, the diameter of the elbow joint should be consistent with the diameter of the big end of the taper pipe, that is, the principle of "diffusion first and then turn" should be followed, so that the pipeline loss is less than "turn first and then spread".

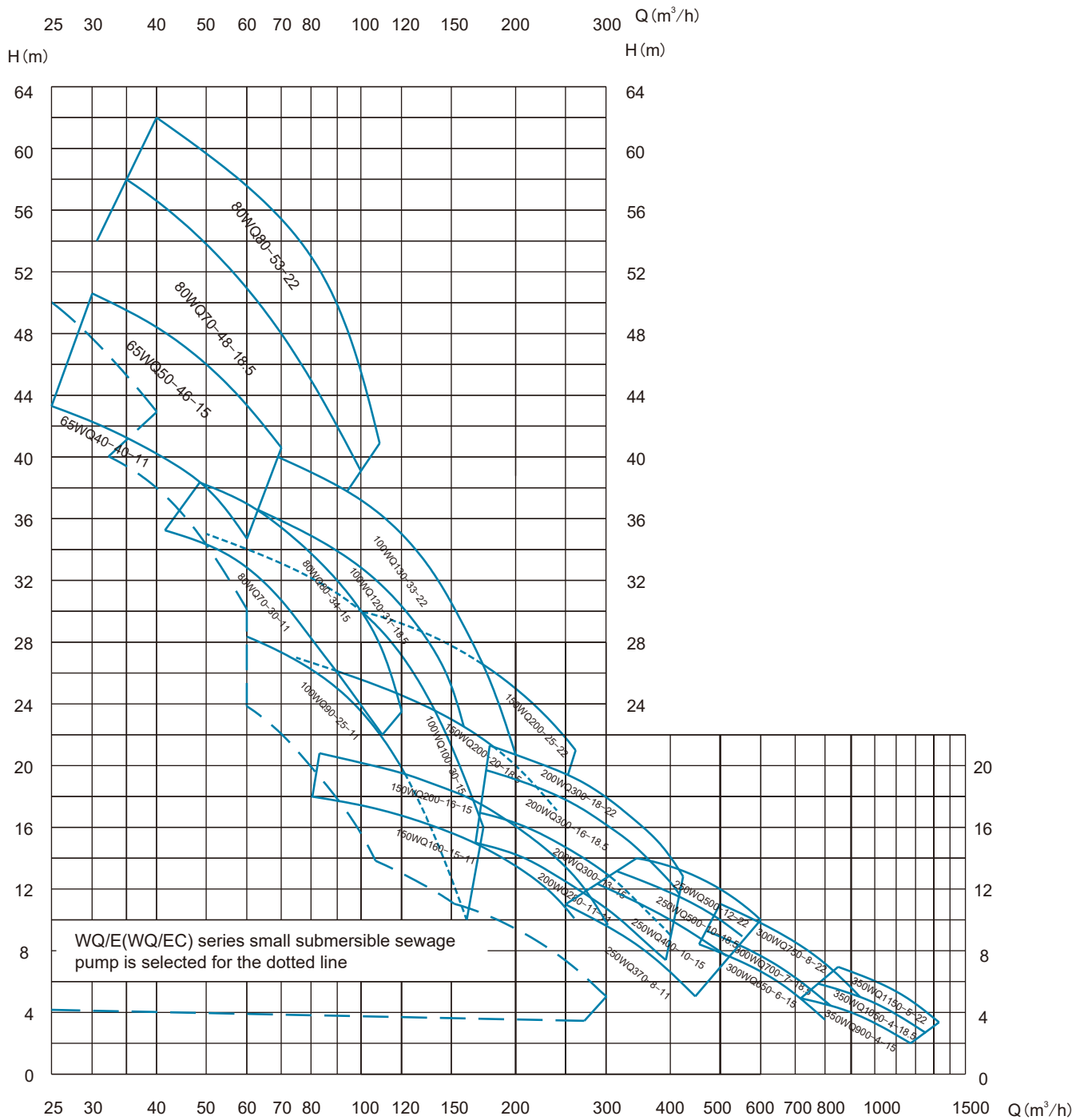
13. For coupled pumps, if the diameter of the discharge pipe is larger than that of the pump, a taper pipe can be installed on the outlet pipe seat. The small head diameter of the taper pipe should be the same as that of the outlet pipe seat, that is, the diameter of the pump.

14. Specifications, nominal pressure and dimensions of elbow joints, hose elbow joints and tapered pipes are shown in the "Annex Instructions" at the end of the sample.

Supply List

Supply Selection		Installation Methods	Wet Installation				
			Automatic Coupling Installation	Fixed Base Installation	Hose Movable Installation	Hard Pipe Movable Installation	Single Pump
Supply Model		Z	P	R	Y		
Package supply	Main pump (10m cable length)	✓	✓	✓	✓	✓	
	Automatic coupling device	Outlet pipe seat	✓				
		Coupling frame	✓				
		Positioning plate	✓				
	Base			✓	✓	✓	
	Elbow joint + connecting accessories					✓	
	Hose Elbow joint + connecting accessories				✓		
Essential	Guide bar	✓					
	Expansion bolts	✓					
	Foundation bolts	✓	✓				
Options	Elbow joint + connecting accessories		✓				
	Hose bend joint + connecting accessories		✓				
	Stainless steel lifting rope and clamp for lifting pump	✓	✓	✓	✓	✓	
	Chain and shackle for lifting pump	✓	✓	✓	✓	✓	
	Taper Pipe	✓	✓		✓	✓	
	Mating flange	✓	✓		✓	✓	
Optional spare parts	Impeller	✓	✓	✓	✓	✓	
	Pump cover	✓	✓	✓	✓	✓	
	Bearing	✓	✓	✓	✓	✓	
	Mechanical seal	✓	✓	✓	✓	✓	
	O-ring	✓	✓	✓	✓	✓	
	Seal ring	✓	✓	✓	✓	✓	

Comprehensive Characteristic Curve Charts



Comprehensive Characteristic Curve Charts Description:

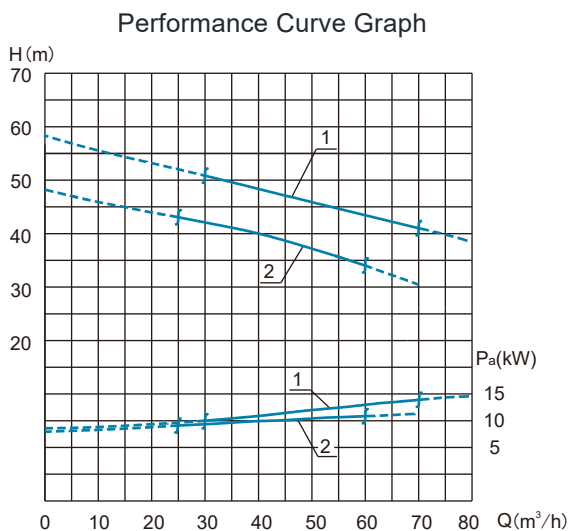
1. In order to make the Comprehensive Characteristic Curve Charts clean, the Comprehensive Characteristic Curve Charts lists the general range of most models, which can be used for preliminary selection. However, the complete pump curve and parameters must refer to the single page performance curve described later.
2. For details of WQ/E and WQ/EC Series in the graph, please refer to the samples of WQ/E series small submersible sewage pump and WQ/EC series small submersible sewage pump.

Performance Parameters Table

WQ(11-22KW) Series Submersible Sewage Pump Performance Parameters Table									
No.	New Model	Original Model	Caliber	Capacity	Head	Speed	Matching Power	Maximum Pass Particle	Weight
			mm	m ³ /h	m	r/min	kW	mm	kg
1	65WQ40-40-11	WQ2210-2111-65	65	40	40	2940	11	30	128
2	65WQ50-46-15	WQ2210-2112-65		50	46	2940	15	30	136
3	80WQ70-30-11	WQ2210-2115-80	80	70	30	2935	11	36	128
4	80WQ80-34-15	WQ2210-2116-80		80	34	2935	15	36	138
5	80WQ70-48-18.5	WQ2260-2117-80	80	70	48	2940	18.5	40	185
6	80WQ80-53-22	WQ2260-2118-80		80	53	2940	22	40	200
7	100WQ90-25-11	WQ2210-2121-100	100	90	25	2940	11	42	140
8	100WQ100-30-15	WQ2210-2122-100		100	30	2940	15	42	150
9	100WQ120-31-18.5	WQ2260-2123-100	100	120	31	2940	18.5	44	222
10	100WQ130-33-22	WQ2260-2124-100		130	33	2940	22	44	236
11	150WQ160-15-11	WQ2260-4125-150	150	160	15	1460	11	60	226
12	150WQ200-16-15	WQ2260-4138-150		200	16	1460	15	60	242
13	150WQ200-20-18.5	WQ2260-4127A-150	150	200	20	1460	18.5	65	295
14	150WQ200-25-22	WQ2260-4127-150		200	25	1460	22	65	305
15	200WQ280-11-11	WQ2260-4128-200	200	280	11	1460	11	70	258
16	200WQ300-13-15	WQ2260-4129-200		300	13	1460	15	70	274
17	200WQ300-16-18.5	WQ2260-4130-200		300	16	1470	18.5	70	294
18	200WQ300-18-22	WQ2260-4131-200		300	18	1470	22	70	306
19	200WQ380-7-11	WQ2260-4154-200	200	380	7	1460	11	80	254
20	200WQ400-8-15	WQ2260-4155-200		400	8	1460	15	80	270
21	200WQ500-8-18.5	WQ2260-4156-200		500	8	1470	18.5	80	286
22	200WQ520-10-22	WQ2260-4157-200		520	10	1470	22	80	298
23	250WQ370-8-11	WQ2260-4158A-250	250	370	8	1470	11	100	290
24	250WQ400-10-15	WQ2260-4158-250		400	10	1470	15	100	310
25	250WQ500-10-18.5	WQ2260-4159A-250		500	10	1470	18.5	100	325
26	250WQ500-12-22	WQ2260-4159-250		500	12	1470	22	100	350
27	300WQ650-6-15	WQ2290-6155-300	300	650	6	980	15	90	530
28	300WQ700-7-18.5	WQ2290-6156-300		700	7	980	18.5	90	550
29	300WQ750-8-22	WQ2290-6157-300		750	8	980	22	90	570
30	350WQ900-4-15	WQ2368-8152-350	350	900	4	730	15	70	760
31	350WQ1050-4-18.5	WQ2368-8153-350		1050	4	730	18.5	70	780
32	350WQ1150-5-22	WQ2368-8154-350		1150	5	730	22	70	800

Notice: there is a one-to-one correspondence between the new model and the original name

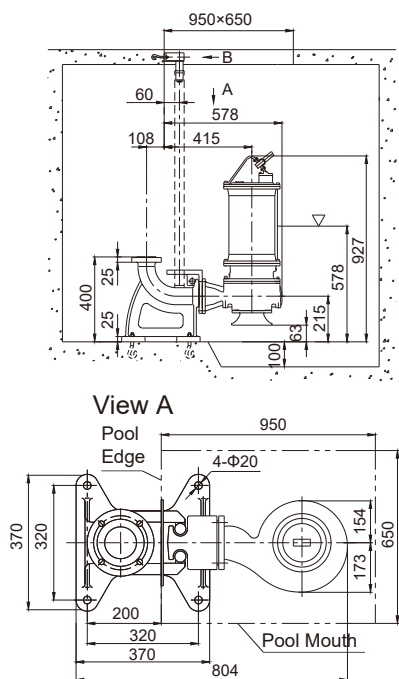
Performance Curves, Parameter Data, Installation Dimension Diagrams



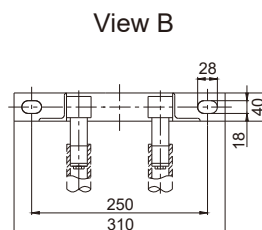
Main Parameter
Outlet Diameter 65mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	65WQ50-46-15	WQ2210-2112	Rectangle 38	2940	136
2	65WQ40-40-11	WQ2210-2111	Rectangle 38	2940	128
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	15	29	0.90	88.8	2.4
2	11	22	0.89	87.6	2.3
	Capacity-Head	Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m³/h-m	30-51	50-46	70-41	
2		25-43	40-40	60-34	

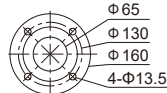
Installation Dimension Diagram



Z Automatic Coupling Installation

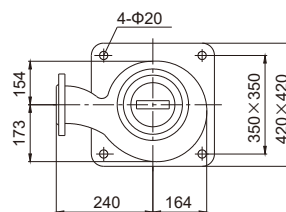


Flange Dimension

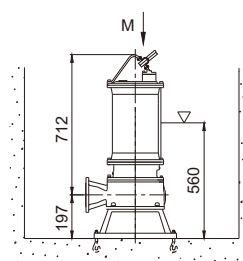
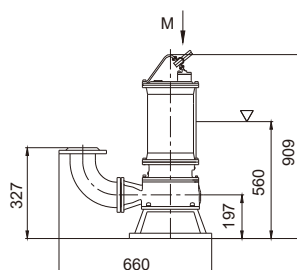
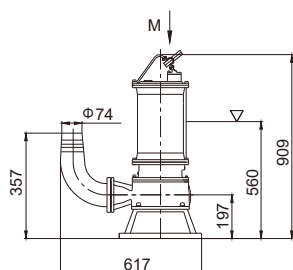


According to GB/T17241.6PN6 Standard Flange

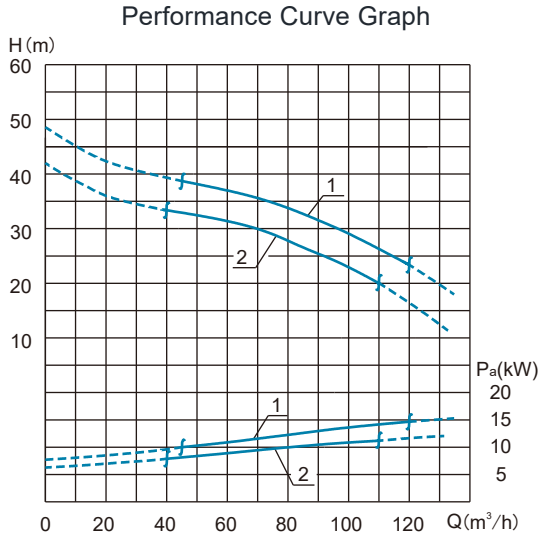
View M



R Hose Movable Installation Y Hard Pipe Movable Installation P Fixed Base Installation

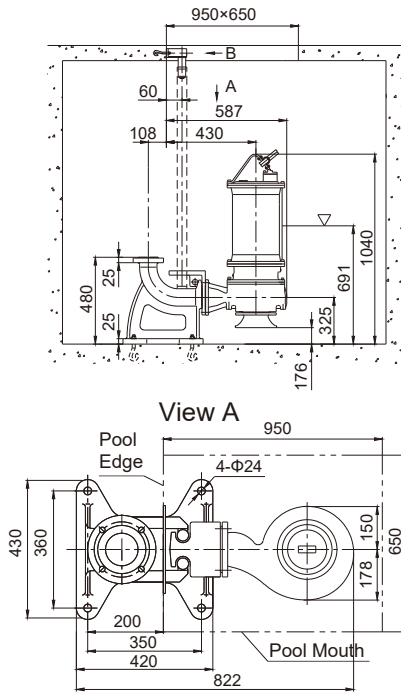


Main Parameter
Outlet Diameter 80mm

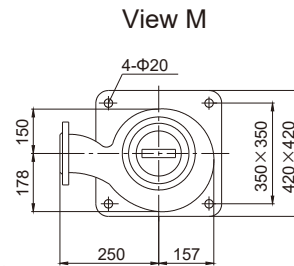
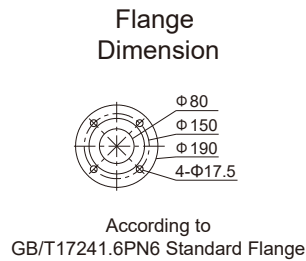
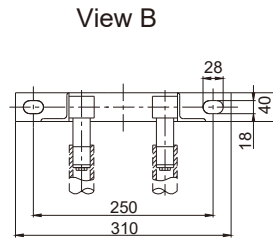


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	80WQ80-34-15	WQ2210-2116	Rectangle 45	2935	138
2	80WQ70-30-11	WQ2210-2115	Rectangle 45	2935	128
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	15	29	0.90	88.8	2.4
2	11	22	0.89	87.6	2.3
	Capacity-Head	Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m³/h-m	45-38	80-34	120-23	
2		40-33	70-30	110-20	

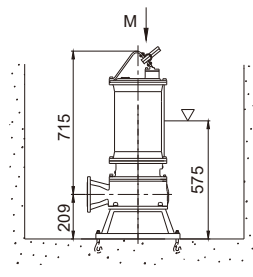
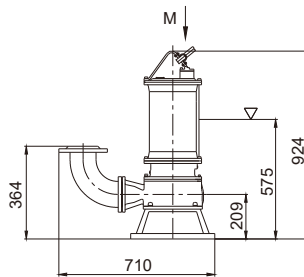
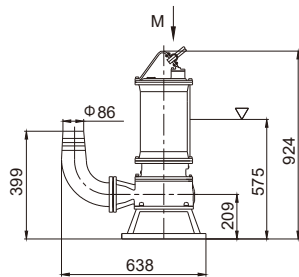
Installation Dimension Diagram



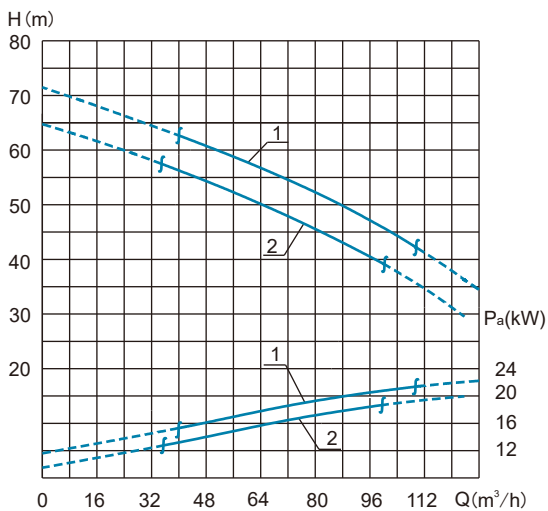
Z Automatic Coupling Installation



R Hose Movable Installation Y Hard Pipe Movable Installation P Fixed Base Installation



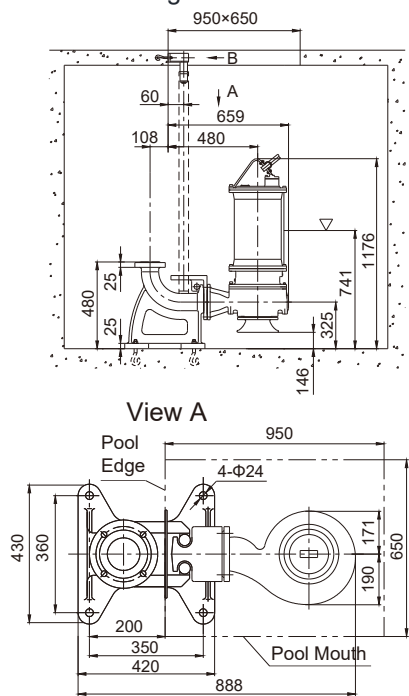
Performance Curve Graph



Main Parameter
Outlet Diameter 80mm

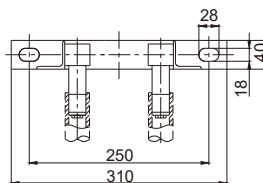
No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	80WQ80-53-22	WQ2260-2118	40	2935	200
2	80WQ70-48-18.5	WQ2260-2117	40	2935	185
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency (%)	Rated Torque Block Torque /
1	22	41	0.90	90.5	2.0
2	18.5	35	0.91	90	2.7
	Capacity-Head	Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m³/h-m	40-62	80-53	108-41	
2		35-58	70-48	100-39	

Installation Dimension Diagram

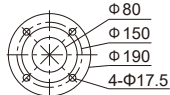


Z Automatic Coupling Installation

View B

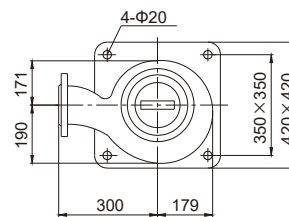


Flange Dimension

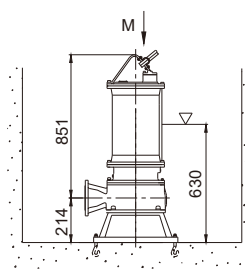
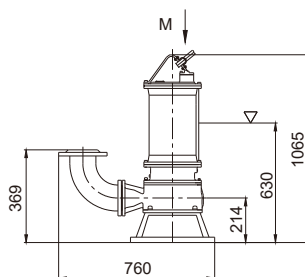
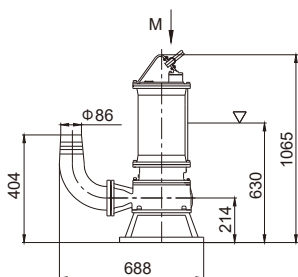


According to GB/T17241.6PN6 Standard Flange

View M



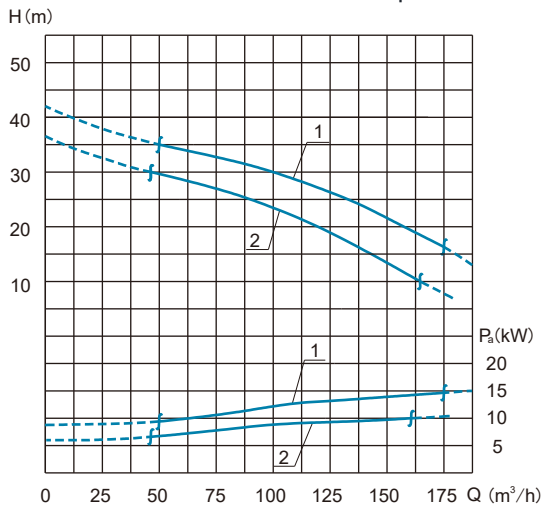
R Hose Movable Installation Y Hard Pipe Movable Installation P Fixed Base Installation



Main Parameter

Outlet Diameter 100mm

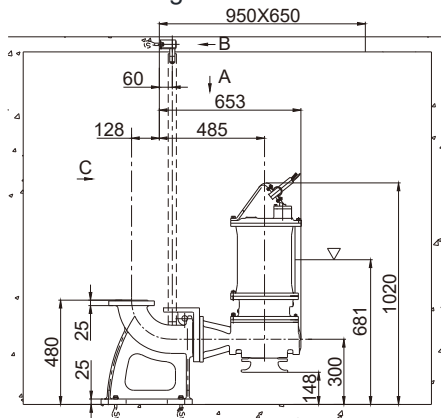
Performance Curve Graph



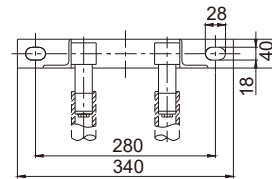
No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	100WQ100-30-15	WQ2210-2122	Rectangle 52	2935	150
2	100WQ90-25-11	WQ2210-2121	Rectangle 52	2935	140
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	15	29	0.90	88.8	2.4
2	11	22	0.89	87.6	2.3
Capacity-Head		Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m³/h-m	50-35	100-30	175-16	
2		45-30	90-25	160-10	

Installation Dimension Diagram

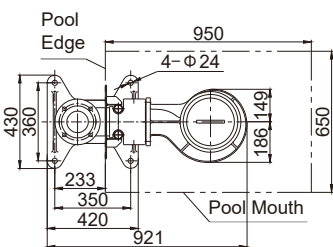
Z Automatic Coupling Installation



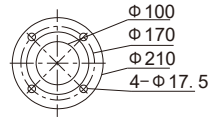
View B



View A

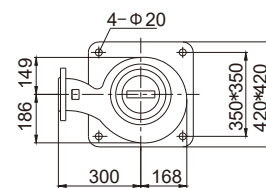


Flange Dimension

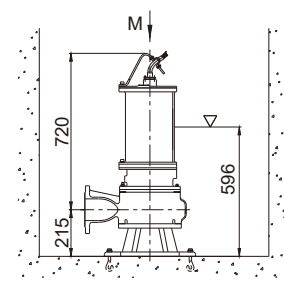
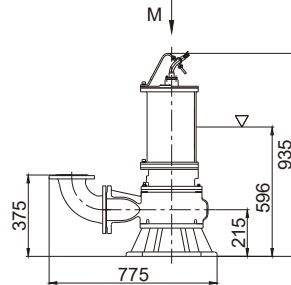
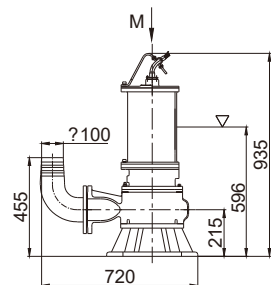


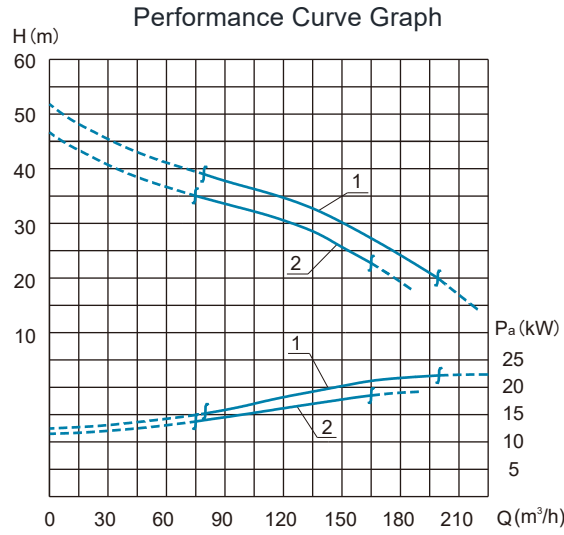
According to GB/T17241.6PN6 Standard Flange

View M



R Hose Movable Installation Y Hard Pipe Movable Installation P Fixed Base Installation

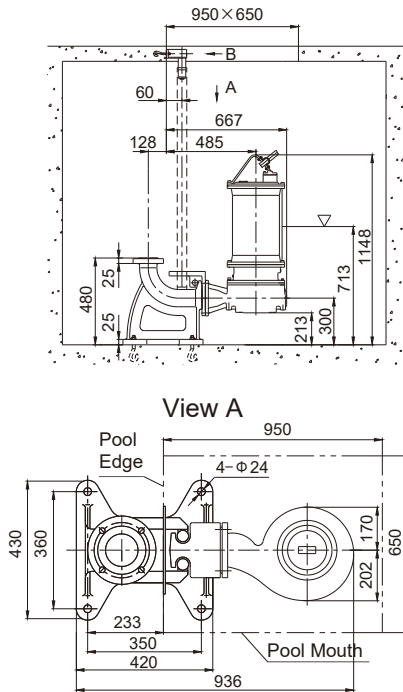




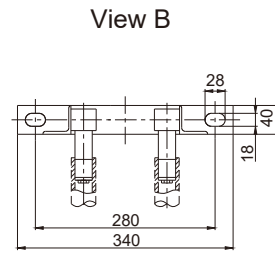
Main Parameter Outlet Diameter 100mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	100WQ130-33-22	WQ2260-2124	Rectangle 55	2940	236
2	100WQ120-31-18.5	WQ2260-2123	Rectangle 55	2940	222
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	22	41	0.90	90.5	2.0
2	18.5	35	0.91	90	2.7
	Capacity-Head	Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m ³ /h-m	80-39	130-33	200-20	
2		75-35	120-31	160-22	

Installation Dimension Diagram



Z Automatic Coupling Installation

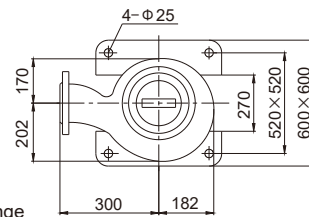


Flange Dimension

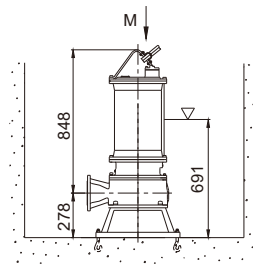
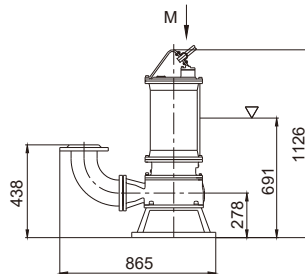
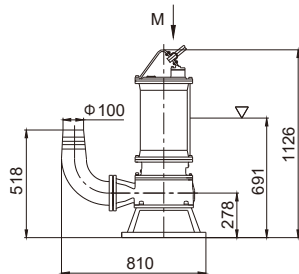


According to GB/T17241.6PN6 Standard Flange

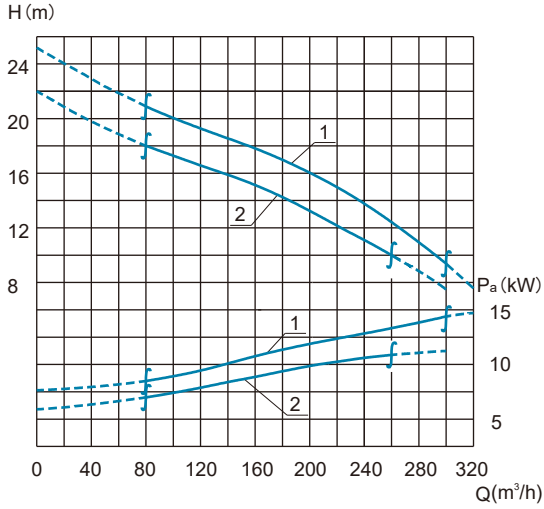
View M



R Hose Movable Installation Y Hard Pipe Movable Installation P Fixed Base Installation



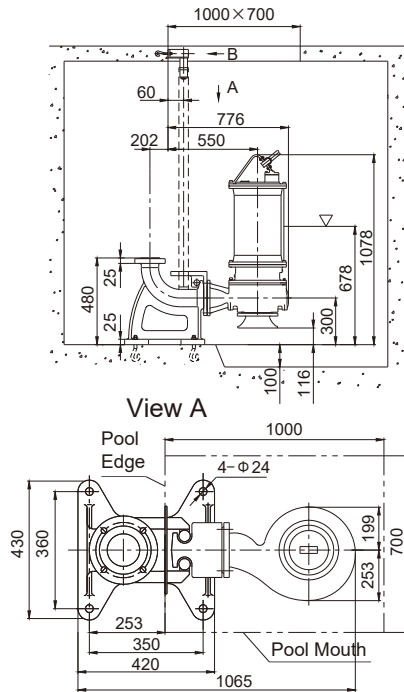
Performance Curve Graph



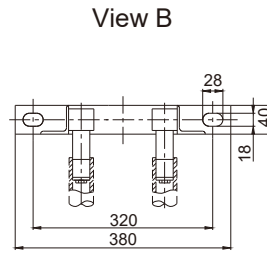
Main Parameter
Outlet Diameter 150mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	150WQ200-16-15	WQ2260-4138	Oval 77×79	1460	242
2	150WQ160-15-11	WQ2260-4125	Oval 77×79	1460	226
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	15	30	0.85	89.4	2.6
2	11	23	0.85	88	2.4
Capacity-Head		Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m³/h-m	80-21	200-16	300-9	
2		80-18	160-15	260-10	

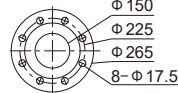
Installation Dimension Diagram



Z Automatic Coupling Installation

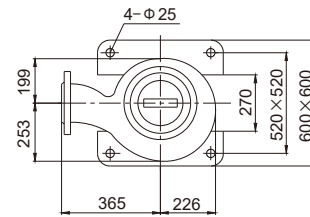


Flange Dimension

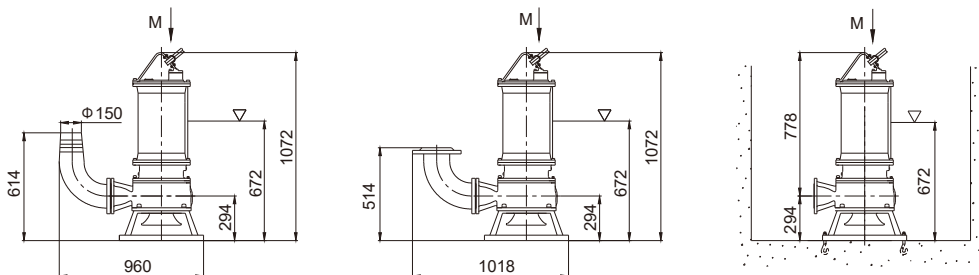


According to GB/T17241.6PN6 Standard Flange

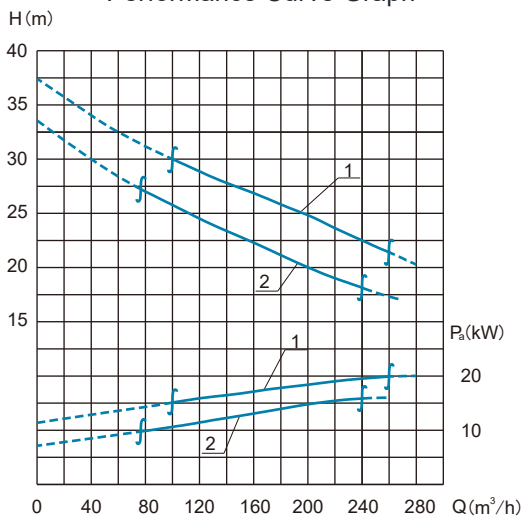
View M



R Hose Movable Installation Y Hard Pipe Movable Installation P Fixed Base Installation



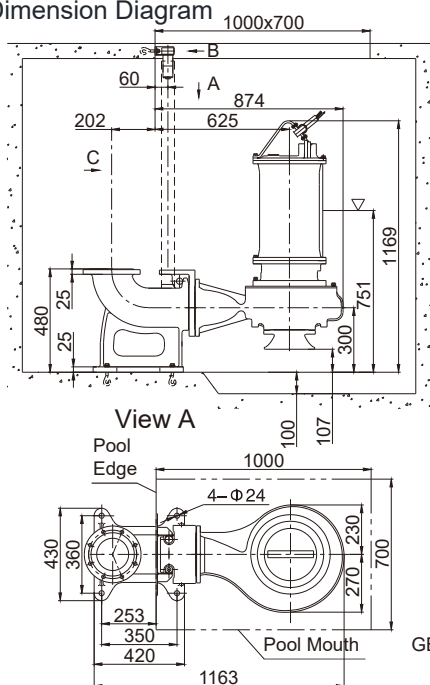
Performance Curve Graph



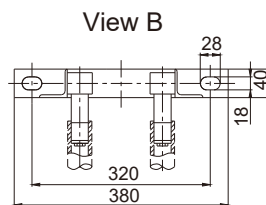
Main Parameter
Outlet Diameter 150mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	150WQ200-25-22	WQ2260-4127	Oval 72×90	1470	305
2	150WQ200-20-18.5	WQ2260-4127A	Oval 72×90	1470	295
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	22	40	0.87	91.2	2.2
2	18.5	36	0.87	90.7	2.2
Capacity-Head		Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m³/h-m	100-30	200-25	260-21	
2		75-27	200-20	240-17	

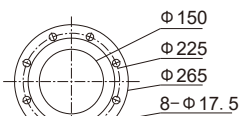
Installation Dimension Diagram



Z Automatic Coupling Installation

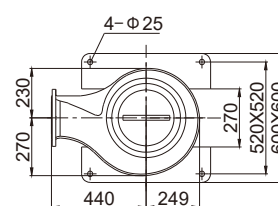


Flange Dimension

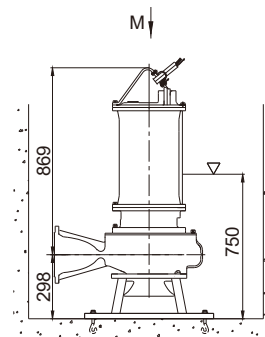
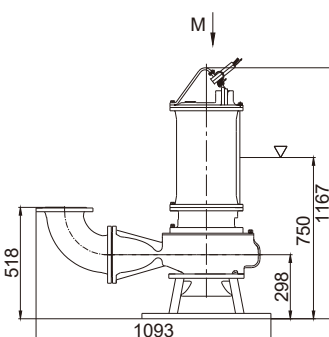
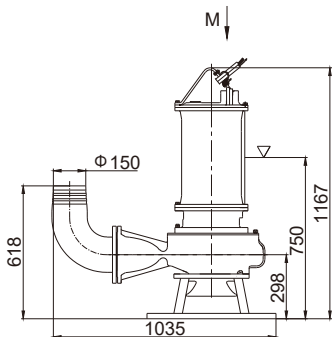


According to GB/T17241.6PN6 Standard Flange

View M

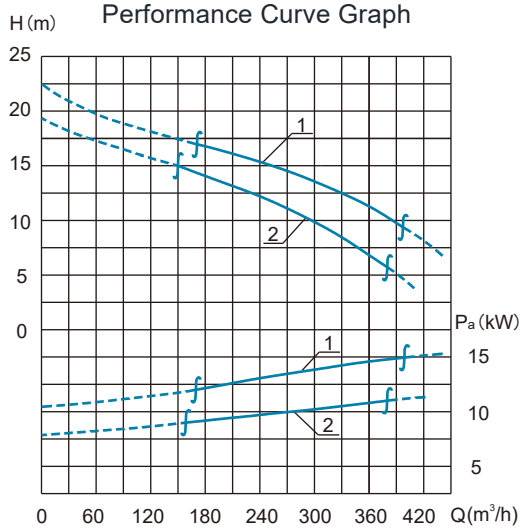


R Hose Movable Installation Y Hard Pipe Movable Installation P Fixed Base Installation



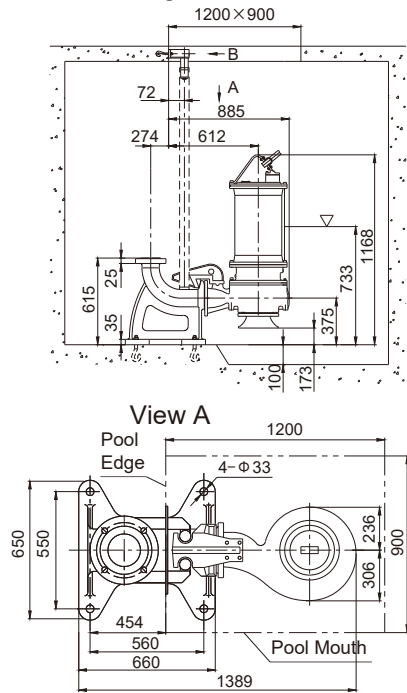
Main Parameter

Outlet Diameter 200mm

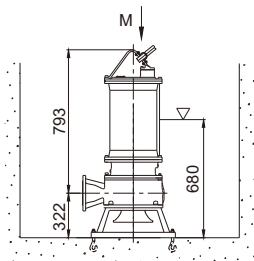


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	200WQ300-13-15	WQ2260-4129	Oval 85×93	1460	274
2	200WQ280-11-11	WQ2260-4128	Oval 85×93	1460	258
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	15	30	0.85	89.4	2.6
2	11	23	0.85	88	2.4
Capacity-Head		Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m ³ /h-m	170-17	300-13	400-9	
2		150-15	280-11	380-6	

Installation Dimension Diagram

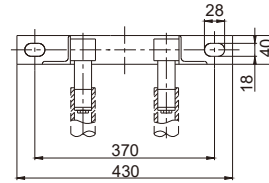


P Fixed Base Installation

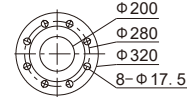


Z Automatic Coupling Installation

View B

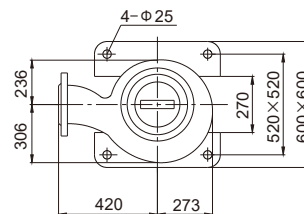


Flange Dimension



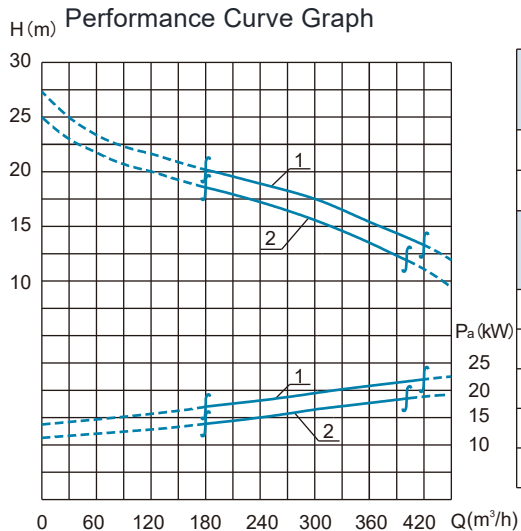
According to GB/T17241.6PN6 Standard Flange

View M



Main Parameter

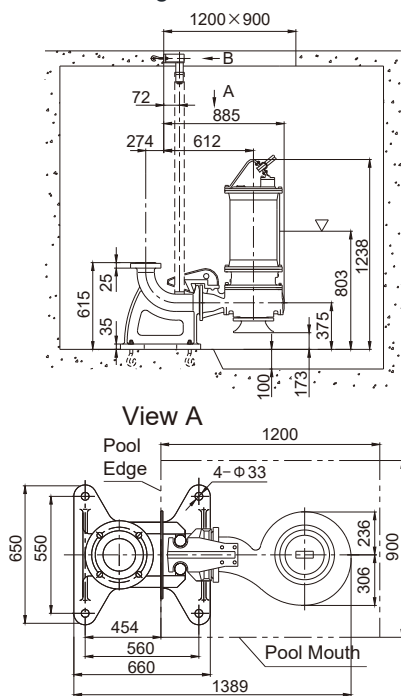
Outlet Diameter 200mm



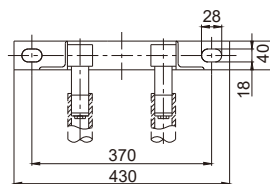
No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	200WQ300-18-22	WQ2260-4131	Oval 85×93	1470	306
2	200WQ300-16-18.5	WQ2260-4130	Oval 85×93	1470	294
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	22	40	0.87	91.2	2.2
2	18.5	36	0.87	90.7	2.2
	Capacity-Head	Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m ³ /h-m	180-20	300-18	420-13	
2		180-18.5	300-16	400-12	

Installation Dimension Diagram

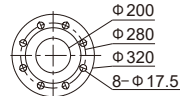
Z Automatic Coupling Installation



View B

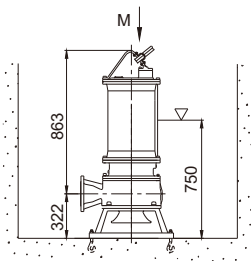


Flange Dimension

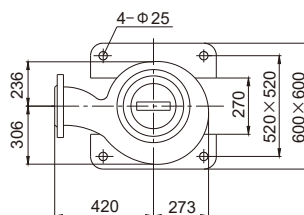


According to GB/T17241.6PN6 Standard Flange

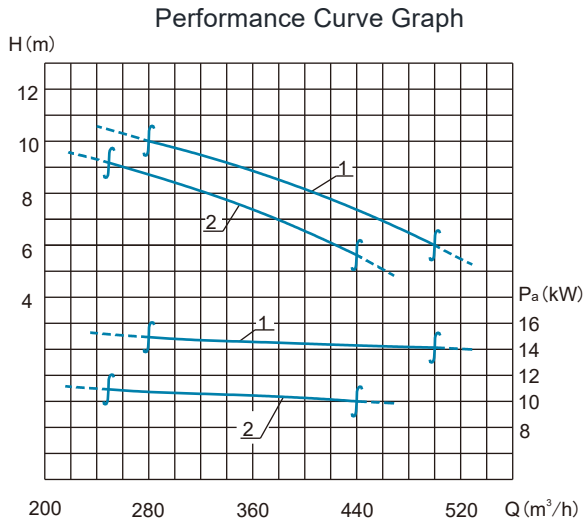
P Fixed Base Installation



View M

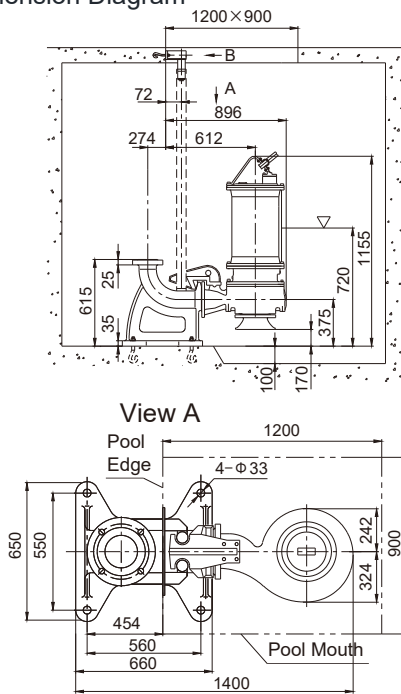


Main Parameter Outlet Diameter 200mm



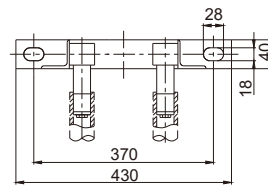
No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	200WQ400-8-15	WQ2260-4155	100	1460	270
2	200WQ380-7-11	WQ2260-4154	100	1460	254
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency (%)	Rated Torque Block Torque /
1	15	30	0.85	89.4	2.6
2	11	23	0.85	88	2.4
Capacity-Head		Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m³/h-m	280-10	400-8	500-6	
2		250-9	380-7	440-5.5	

Installation Dimension Diagram

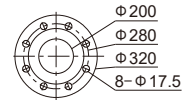


Z Automatic Coupling Installation

View B

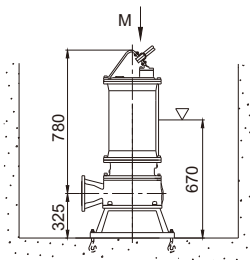


Flange Dimension

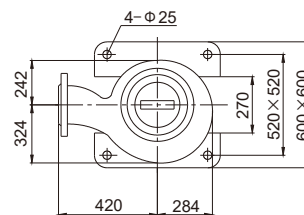


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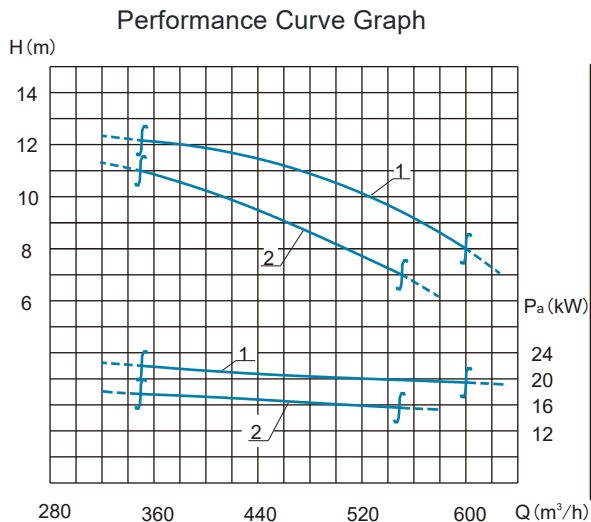
P Fixed Base Installation



View M

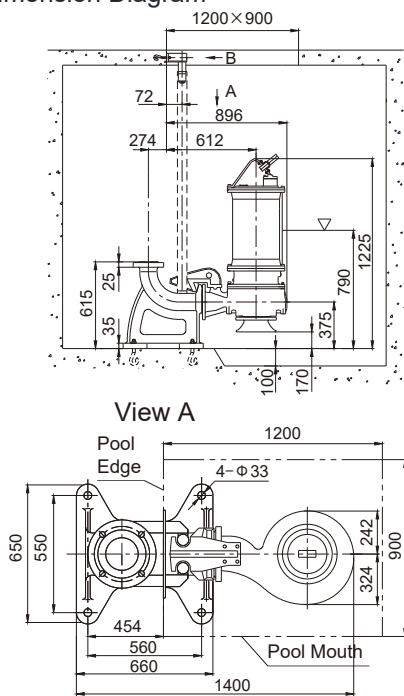


Main Parameter
Outlet Diameter 200mm

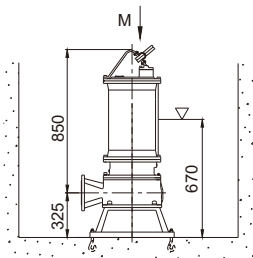


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	200WQ520-10-22	WQ2260-4157	100	1470	298
2	200WQ500-8-18.5	WQ2260-4156	100	1470	286
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	22	42	0.87	91.2	2.2
2	18.5	36	0.87	90.7	2.2
	Capacity-Head	Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m³/h-m	350-12	520-10	600-8	
2		350-11	500-8	550-7	

Installation Dimension Diagram

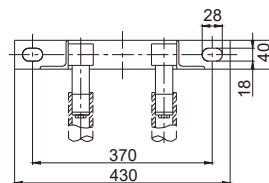


P Fixed Base Installation

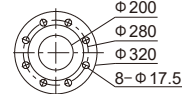


Z Automatic Coupling Installation

View B

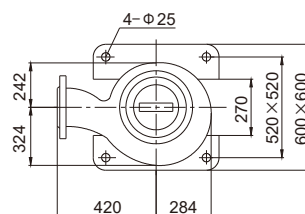


Flange Dimension

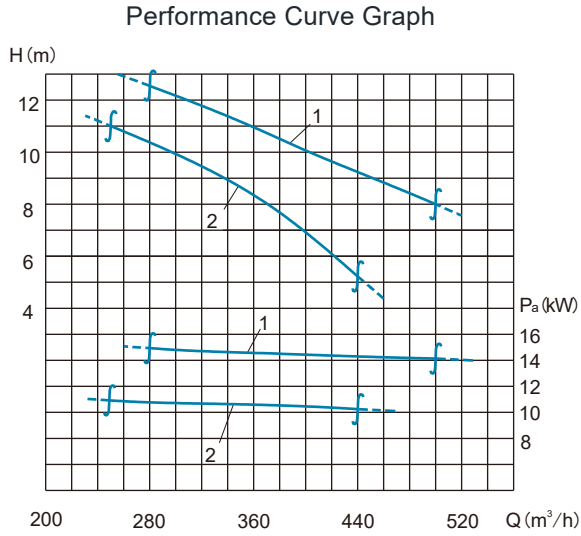


According to GB/T17241.6PN6 Standard Flange

View M

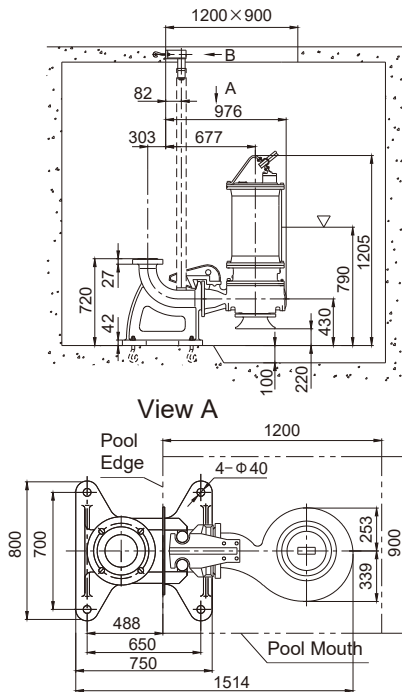


Main Parameter Outlet Diameter 250mm

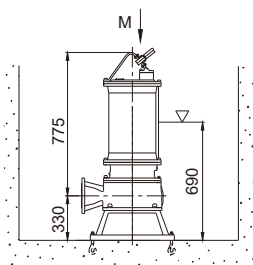


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	250WQ400-10-15	WQ2260-4158	100	1460	310
2	250WQ370-8-11	WQ2260-4158A	100	1460	290
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	15	30	0.85	89.4	2.6
2	11	23	0.85	88	2.4
Capacity-Head		Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m³/h-m	280-12.5	400-10	500-8	
2		250-11	370-8	440-5.2	

Installation Dimension Diagram

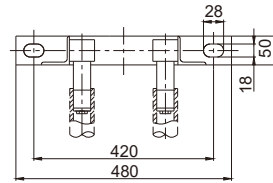


P Fixed Base Installation

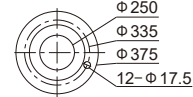


Z Automatic Coupling Installation

View B

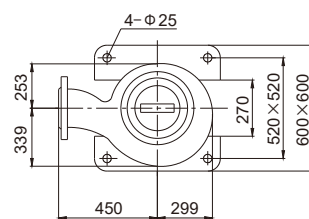


Flange Dimension

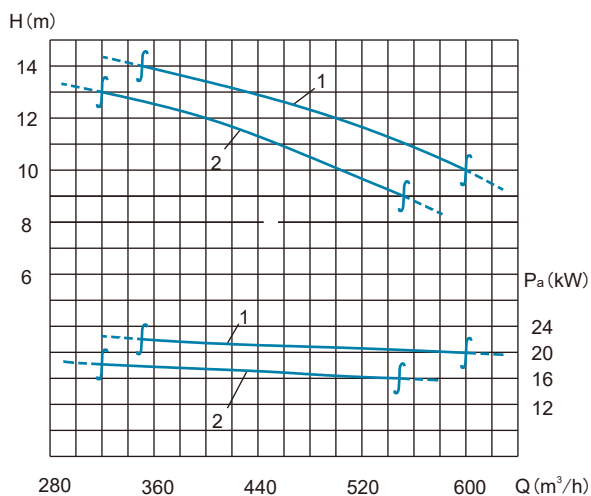


According to
GB/T17241.6PN6 Standard Flange

View M



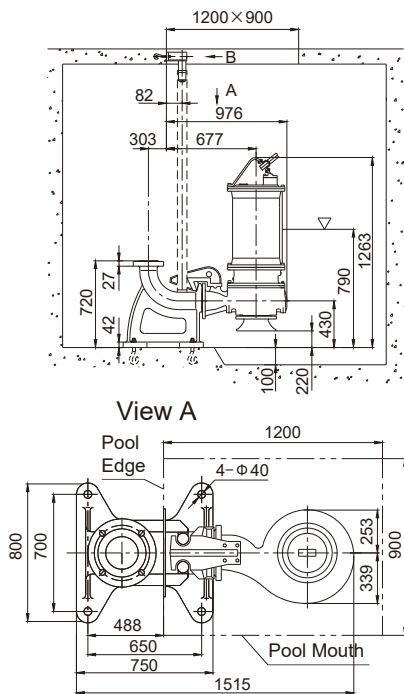
Performance Curve Graph



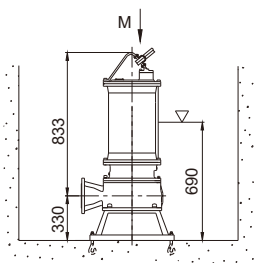
Main Parameter
Outlet Diameter 250mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	250WQ500-12-22	WQ2260-4159	100	1470	350
2	250WQ500-10-18.5	WQ2260-4159A	100	1470	325
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	22	42	0.87	91.2	2.2
2	18.5	36	0.87	90.7	2.2
	Capacity-Head	Small Capacity Point	Middle Capacity Point	Huge Capacity Point	
1	m³/h-m	350-14	500-12	600-10	
2		320-13	500-10	550-9	

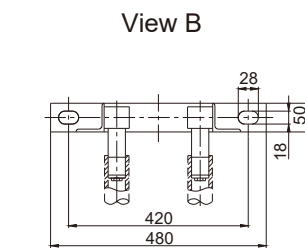
Installation Dimension Diagram



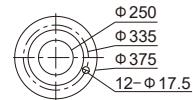
P Fixed Base Installation



Z Automatic Coupling Installation

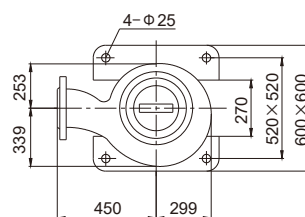


Flange Dimension

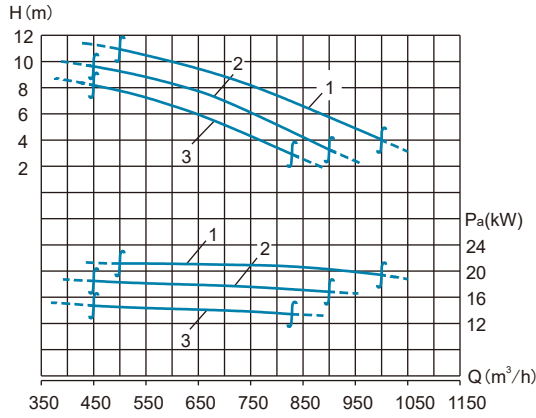


According to GB/T17241.6PN6 Standard Flange

View M



Performance Curve Graph



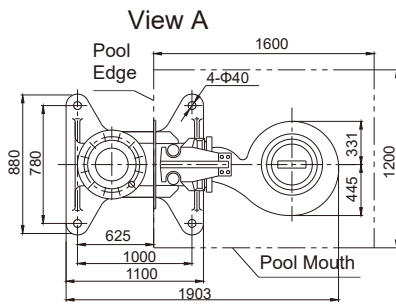
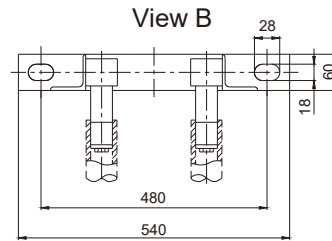
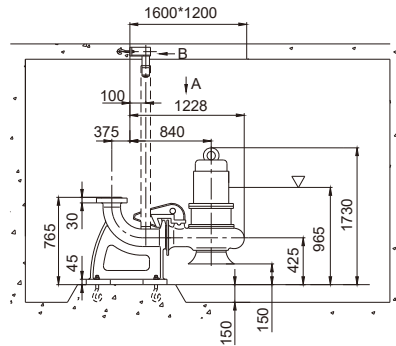
Main Parameter
Outlet Diameter 300mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	300WQ750-8-22	WQ2290-6157	113	980	570
2	300WQ700-7-18.5	WQ2290-6156	113	980	550
3	300WQ650-6-15	WQ2290-6155	113	980	530

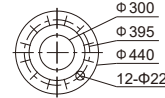
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency (%)	Rated Torque Block Torque /
1	22	45	0.83	90.5	2.1
2	18.5	38	0.82	90	2.1
3	15	31	0.83	90	2.1

Installation Dimension Diagram

Z Automatic Coupling Installation

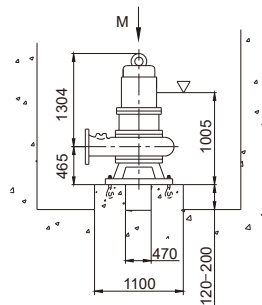


Flange Dimension

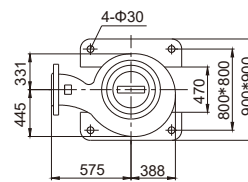


According to
GB/T17241.6PN6 Standard Flange

P Fixed Base Installation



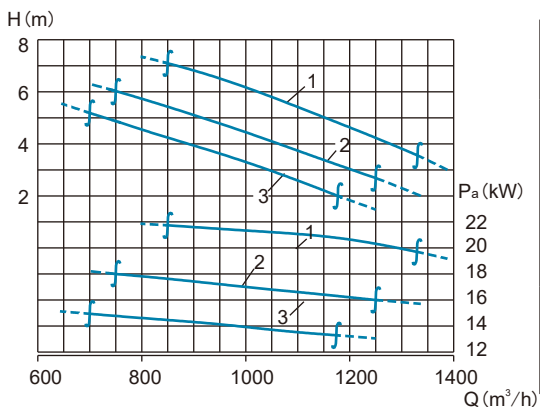
View M



Main Parameter

Outlet Diameter 350mm

Performance Curve Graph

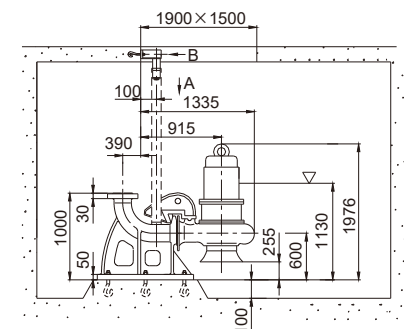


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	350WQ1150-5-22	WQ2368-8154	91	730	800
2	350WQ1050-4-18.5	WQ2368-8153	91	730	780
3	350WQ900-4-15	WQ2368-8152	91	730	760

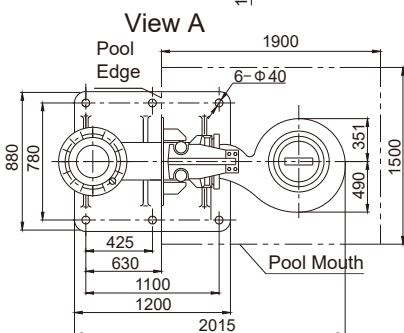
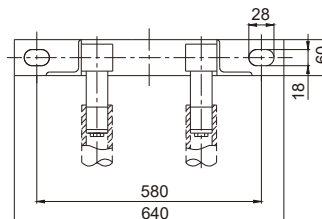
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	22	47	0.8	90.7	2.0
2	18.5	40	0.77	90.1	2.0
3	15	35	0.76	88.5	2.0

Installation Dimension Diagram

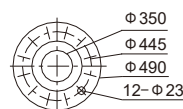
Z Automatic Coupling Installation



View B

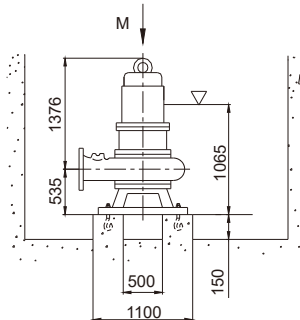


Flange Dimension

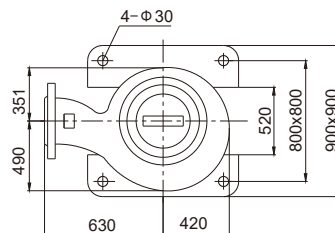


According to GB/T17241.6PN6 Standard Flange

P Fixed Base Installation



View M



Catalogue

Product Overview	01
Main Applications	01
Usage Conditions	01
Features and Advantages	01
Structure and Technical Description.....	02
Main Parts Material.....	04
Installation Methods.....	05
Technical Specifications	06
Main and Control Cables Standard Wiring Diagram.....	10
Motor Protection System Components Monitoring Performance Comparison Table	11
Special Electric Control Cabinet Product Introduction and Selection	12
(Liquid Level) Float Switch, Terminal Box, Threading Pipe and Cable Models	22
Ordering Instructions	25
Supply List.....	26
Comprehensive Characteristic Curve Charts	27
Performance Parameters Table	31
Performance Curves, Parameter Data, Installation Dimension Diagrams.....	34
All Accessories Description	77

Product Overview

The WQ(30KW and above) series submersible sewage pump developed by Shanghai Kaiquan is in accordance with the national standard GB/T24674-2009 "submersible sewage pump for sewage". It is to absorb the advantages of similar products at home and abroad, and integrate the existing sewage pump series. The non-overload hydraulic model has been developed and innovated. It is a real full head submersible pump.

At the same time in the mechanical structure, sealing, online monitoring, intelligent control and other aspects of the comprehensive optimization design, so that has a higher configuration, better hydraulic performance, stronger versatility, better reliability.

Kaiquan WQ(30KW and above) series submersible sewage pump as a part of Kaiquan intelligent products, the purpose is to provide professional diagnostic services for submersible sewage pump users, help enterprises to improve production efficiency, avoid potential crisis, reduce production and operation costs.

Main Applications

Mainly used in sewage treatment plants, municipal sewage lifting pumping stations, water plants, water conservancy drainage and irrigation, water diversion projects, integrated pumping stations, etc. to discharge sewage, waste water, rainwater containing solids and long fibers.

Usage Conditions

1. The temperature of the medium does not exceed 40℃, the density of the medium $\leq 1050\text{kg/m}^3$, and the PH value is in the range of 4-10.
2. The liquid level of the pump during operation shall not be lower than the "▽" dimension in the installation dimension drawing.
3. The main parts of the pump are made of gray cast iron and nodular cast iron, so it is not possible to pump the medium with strong corrosive or strong abrasive solid particles.
4. The diameter of the solids in the medium should be smaller than the minimum size of the flow channel. For the specific solids size, see "WQ (30kW and above) series submersible sewage pump performance parameter table".
5. The length of the fiber in the medium should be smaller than the outlet diameter of the pump.

Features and Advantages

1. Intelligent water pump, cloud remote monitoring

The pump is internally integrated with vibration sensor, bearing temperature measurement PT100, winding temperature measurement PT100, oil chamber leakage, motor cavity leakage and other protection components, which can monitor the operation of the pump in an all-round way, and realize real-time data display, automatic operation of alarm or shutdown through intelligent control cabinet. At the same time, log in to Shanghai Kaiquan smart cloud remote monitoring operation and maintenance platform for monitoring and operation and maintenance.

2. Unique non overload hydraulic design, innovative technology of sewage treatment pump

Innovative high efficiency non overload hydraulic model design concept, while taking into account the capacity of sewage pump design. Completely solve the operation of the pump worries.

No overload hydraulic model technical characteristics, the maximum power point appears in the high efficiency area, smooth operation, no vibration.

Impeller through capacity: through a lot of CFD Research and analysis and testing, the impeller blade and solid through capacity has achieved the best balance, the unique design of flow parts ensures the solid through capacity and fiber anti winding.

3. Unique pump seal design ensures long-term reliable operation of the pump

In addition to the motor seal at the outlet of the motor, the internal lead wire has one more lead wire seal at the upper end cover of the motor, and two more cable seals to ensure that the stator cavity will not be damaged by water.

4. Excellent mechanical seal

The imported Bergman mechanical seal is adopted, and the material of pump head mechanical seal is silicon carbide, which provides the maximum anti-wear ability. The designed service life of mechanical seal is 15000 hours.

5. Self cleaning technology of mechanical seal

Two single face mechanical seals are installed in series, and special spiral grooves or small gaps are used at the

pump cover to prevent solid particles from depositing on the mechanical seal at the pump side, so as to achieve the self-cleaning function of the mechanical seal and prolong the service life of the mechanical seal.

6. Short shaft extension design

The short shaft extension design can significantly eliminate the eccentricity error of the shaft. Reduce the center of gravity of the pump, reduce the running vibration of the pump, extend the service life of the mechanical seal and bearing.

7. Bearing design

The bearing is designed according to the minimum service life of 100000 hours to ensure the normal operation of the pump.

8. Reliability design of submersible motor

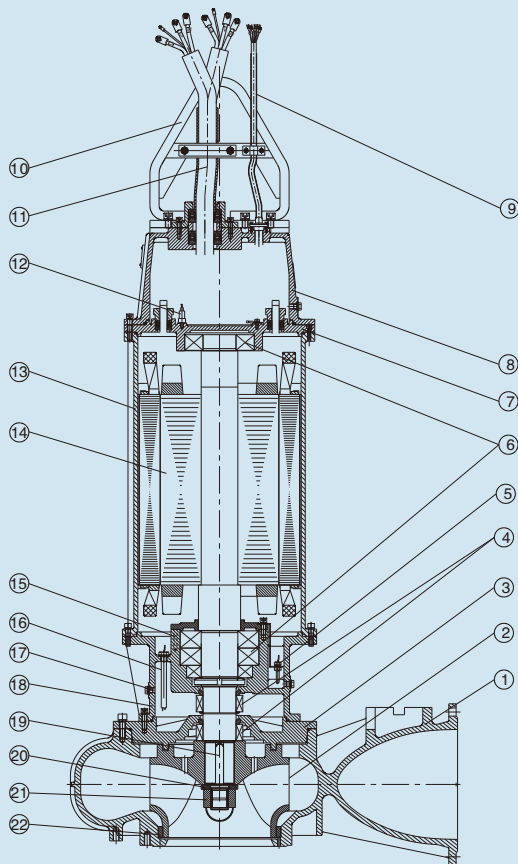
The insulation grade of the motor is grade H, and the maximum allowable temperature is 180℃. Compared with grade F, the motor can withstand higher temperature and is more durable.

9. General pump installation design

There are various installation methods, including automatic coupling installation. The pump and the outlet pipe are connected through the outlet pipe seat of the coupling device, without conventional fasteners. When the pump and the outlet pipe seat are connected or disconnected, it only needs to simply put down and lift the pump along the guide rod, which is very convenient, trouble-saving and time-saving.

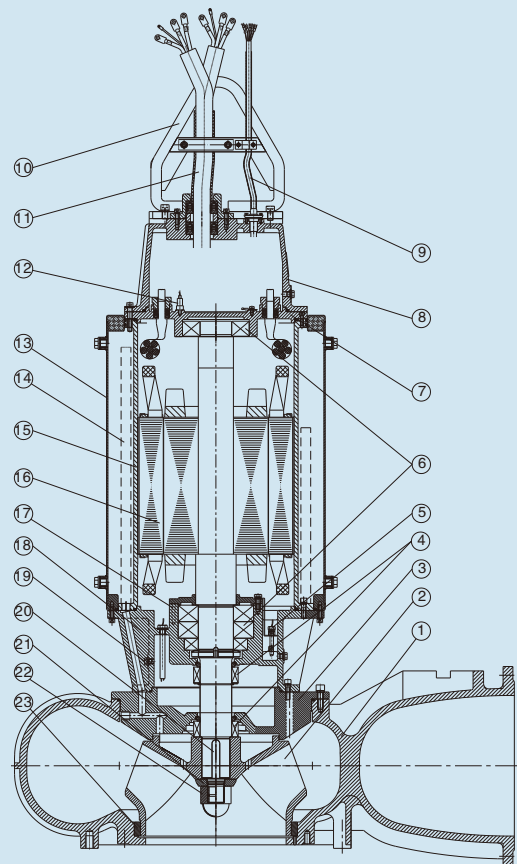
Structure and Technical Description

Structural Diagram



- 1.Casing 2.Impeller 3.Casing Cover 4.Mechanical Seal 5.Leakage Probe 6.Bearing 7.Upper End Cover 8.Junction Box 9.Control Cable 10.Lifting Frame 11.Power Cable 12.Vibration Sensor 13.Housing 14.Motor 15.Bearing Temperature 16.Leakage Probe 17.Bolt and Water Injection Hole 18.Connecting Seat 19.Key 20.Impeller Pressing Plate 21.Impeller Lock Nut 22. Sealing Ring

Structural Diagram of Cooling Sleeve



- 1.Casing 2.Impeller 3.Casing Cover 4.Mechanical Seal 5.Water Leakage Probe 6.Bearing 7.Upper End Cover 8.Junction Box 9.Control Cable 10.Lifting Frame 11.Power Cable 12.Vibration Sensor 13.Cooling Sleeve 14.Cooling Water Pipe 15.Housing 16.Motor 17.Bearing Temperature Measurement PT100 18.Connecting Seat 19.Screw Plug and Oil Filling Hole 20.Key 21.Impeller Pressing Plate 22.Impeller Lock Nut 23. Sealing Ring

Technical Description

Casing and Impeller

CFD technology is adopted to optimize the design, wide outlet high efficiency non overload impeller is adopted, non overload hydraulic design and the best balance of high throughput are adopted, the flow channel is wide, and the pollutant trafficability is the best. Through strict dynamic balance detection of impeller, the vibration is reduced to the minimum and the life of bearing and mechanical seal is extended to the maximum.

Casing Cover

The Casing cover is designed with self-cleaning technology. There is a ring-shaped slot structure on the pump cover. When the medium particles rotate at the pump cover, they are thrown outward by centrifugal force, which can avoid the particles gathering in the sealing cavity and achieve the self-cleaning effect of the mechanical seal.

Motor

The submersible motor is specially designed and manufactured, the protection grade is IP68, the stator winding is H-class insulation, the limit working temperature of the insulation material is 180 ℃, and the temperature of the winding is PT100, which protects the motor through the electric control cabinet.

Cooling of Motor

The motor is cooled by the pumped medium through the heat sink on the stator shell. The medium needs to submerge the motor. The lowest pump stop position should not be lower than the liquid level marked with "▽" in the installation dimension drawing.

The electric pump can be specially equipped with a motor cooling system to cool the motor. The cooling medium flows between the stator housing and the cooling sleeve. The cooling medium can be pumped medium or external cooling water. The cooling channel is different between the pumped medium cooling and the external cooling water cooling. Therefore, when the user wants to install the cooling system, he should specify in the order whether to use the pumped medium cooling or the external cooling water cooling. When the cooling medium is pumped, the structure of the pump can prevent large particles from entering the cooling channel. After a long period of operation, small particles may deposit in the sleeve, which can be flushed by external flushing fluid through the pipe joint on the cooling sleeve.

Mechanical Seal

Bergman mechanical seal is adopted. The friction pair material with low friction coefficient and wear resistance is selected for mechanical seal. The rubber parts are oil-resistant nitrile rubber and the metal parts are stainless steel. The mechanical seal on the pump side is matched with SiC / WC, and the designed service life is 15000 hours.

Oil Chamber

The oil in the oil chamber adopts 32# anti-wear hydraulic oil, and the executive standard is gb111-1-2011. In addition to lubricating the mechanical seal, it can also take away the heat of the bearing, and the oil chamber also has the additional safety function of preventing liquid penetration. The oil chamber is equipped with a leakage probe. When the medium on the pump side leaks into the oil chamber, the leakage probe will stop the pump through the electric control cabinet to remind the operator of maintenance.

The oil filling amount is to overflow oil from the oil filling hole, and it can ensure that there is a certain volume of air in the oil chamber, so that the pressure in the oil chamber will not rise significantly after the oil temperature rises, so as to avoid excessive wear or leakage of the mechanical seal.

Bearing

SKF Bearing imported from the original is adopted as the standard configuration of the whole system. The upper bearing is deep groove ball bearing or cylindrical roller bearing, which is used to bear radial force. The lower bearing is used to bear the radial force and axial force. According to the different radial force and axial force, some pumps are designed as a double row angular contact ball bearing, some as a pair of pin contact ball bearing and a cylindrical roller bearing, all of which have sufficient load margin. The designed service life of the bearing is 100000 hours, and it is lubricated with 3# lithium grease.

Sealing of Cable and Motor

Heavy duty rubber sheathed flexible cable with sewage resistance is selected, which has superior mechanical strength and oil resistance. The cross-sectional area and current carrying capacity of cable conductor are selected according to the condition of long-term continuous operation at ambient temperature of 40 ℃. Therefore, under normal service conditions, the current carrying capacity of cable has sufficient margin and longer service life.

The cable gland compresses the cable sealing ring to realize reliable sealing between the cable and the wiring cavity. Fix the cable to prevent it from pulling off. The cable adopts color mark and digital mark, which makes the identification and connection of the cable easier. The motor wiring cavity and the electric control cabinet are equipped with grounding marks and grounding fasteners, and the cables are strictly grounded, which is safe and reliable.

In the process of assembly, the O-ring, cable seal and mechanical seal of each pump should be strictly tested to ensure the reliable sealing of motor cavity including wiring cavity.

Intelligent Protection Device

The pump is equipped with motor winding overheat PT100, bearing temperature measurement PT100, pump vibration sensor, motor cavity leakage probe and oil chamber leakage probe. At the same time, it is equipped with intelligent signal acquisition box or intelligent control cabinet of drainage pump to realize real-time display monitoring and fault early warning of pump status. When the user provides the electric control cabinet, the intelligent signal acquisition box of drainage pump must be equipped.

Description of Protective Devices

Platinum Thermistor Pt100

Platinum thermistor PT100 is installed in two places in the water pump, one is embedded in the motor stator winding, the other is installed in the bearing. The real-time data is displayed on the display screen of the electric control cabinet. When the winding temperature or bearing temperature rises to the set value under the abnormal operation of the water pump, the "winding overheating" or "bearing overheating" indicator light of the control cabinet lights up and automatically stops the motor to remind the operator to check and find out the cause of motor overheating.

When the fault temperature drops, the motor will return to the start-up state.

Leakage Probe

The water leakage probe is used for water detection in oil chamber and motor chamber.

The water leakage probe in the oil chamber is referred to as the oil probe. When the mechanical seal on the impeller side is damaged and the water in the leakage chamber reaches a certain level, the two electrodes of the leakage probe are connected, and an alarm signal (indicator light is on) is sent out through the electric control cabinet to remind the operator to check the mechanical seal or replace the oil in the oil chamber in time.

The leakage probe in the motor cavity is called water probe for short. It is installed in the cavity under the motor cavity and beside the bearing, and the cavity is communicated with the bearing chamber through a hole. When the mechanical seal of the motor fails, the oil in the oil chamber enters into the cavity through the bearing chamber, or the water flowing into the motor enters into the cavity, the two electrodes of the water leakage probe will be connected, and the alarm signal (indicator light on) will be sent out through the electric control cabinet, and the pump will stop running automatically to remind the operator to repair the pump.



Lifting Device

The lifting frame of the pump is made of 304 material, and it is designed with large space, which is convenient for the hook to hang in, making the lifting convenient and durable.

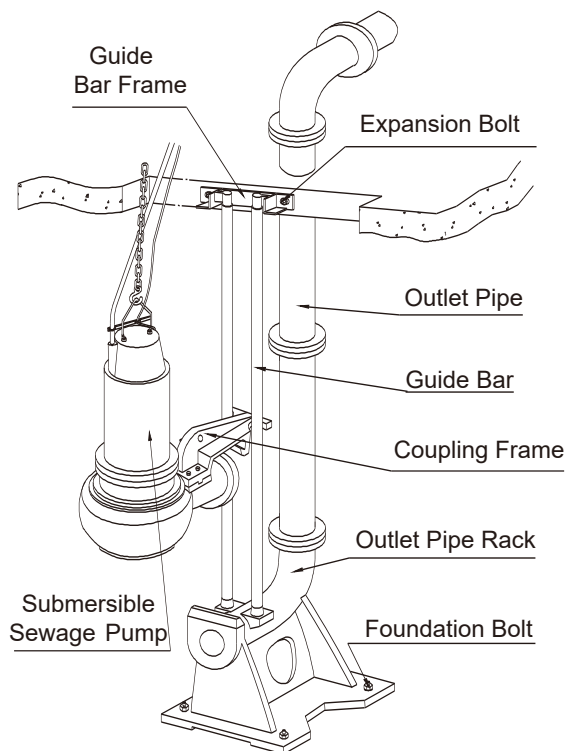
Main Parts Material

No.	Name		Material
1	Impeller, casing cover		QT500
2	Casing, terminal box cover, connection base		HT250
3	Shaft		2Cr13/3Cr13
4	Sealing ring		HT250
5	Motor insulation		180°C class h insulation
6	Bearing brand		SKF
7	Mechanical seal	Brand	Burgmann
		Motor side friction pair	Graphite / Silicon Carbide
		Pump side friction pair	Silicon Carbide / Tungsten Carbide
8	O-ring		Nitrile 40
9	Cable sealing ring		

Installation Methods

WQ series submersible sewage pump has automatic coupling installation (Z), fixed base installation (P), fixed base installation (F), hose movable installation (R) and hard pipe movable installation (Y). It's easy to install either way. The following are respectively introduced.

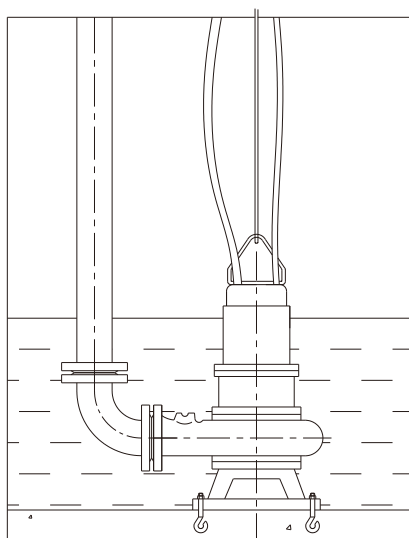
Automatic Coupling Installation (Z)



Automatic coupling installation is actually using coupling device to connect pump and pipeline. With the coupling device, the pump and the outlet pipe are independent of each other, and there is no need to connect with conventional fasteners, so the connection and separation of the pump and the outlet pipe are very easy. In fact, the coupling device is very simple. There are only such things as outlet pipe seat, guide bar frame and coupling frame. The guide bar only plays a guide bar and does not bear any force. It is OK to use ordinary water pipe or steel pipe. The user can provide it by himself, and it can be easily cut into the required length according to the depth of the pool. When installing, install the outlet pipe seat, guide bar and guide bar frame, install the coupling frame on the pump body, lift the pump, put the semicircular orifice on the coupling frame into the guide bar, and slide the pump down to the bottom along the guide bar, the coupling frame will fasten the pump body and outlet pipe seat, at the same time, the outlet of the pump body and the inlet of the outlet pipe seat will be aligned automatically, and the flange end face will be attached automatically. When the pump needs to be repaired, just lift the pump up, and the pump body and outlet pipe seat will be separated. This installation method is really easy, labor-saving and trouble-free.

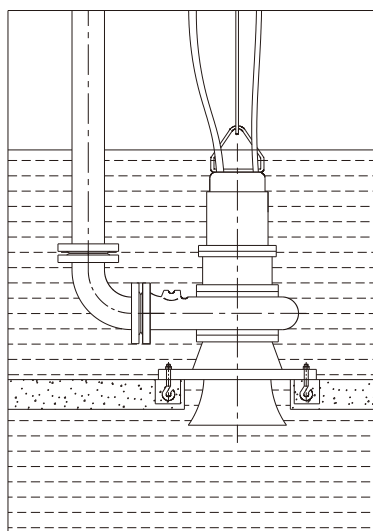
Since the coupling device and the pump are relatively independent, if your pump station needs to use the same caliber low head or high head pump due to the change of situation, you can still use the original coupling device.

Fixed Base Installation (P)

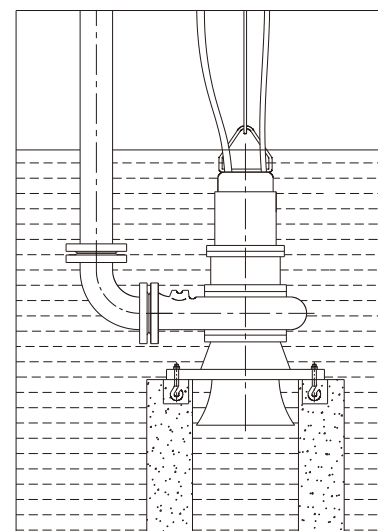


P

Fixed Base Installation (F)



F



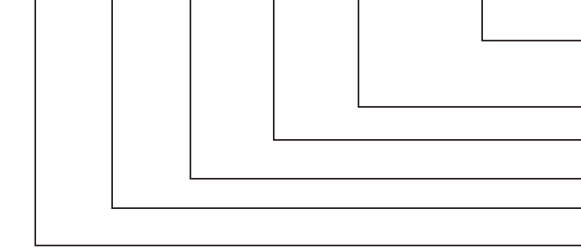
F

Fix the support bottom on the foundation and connect the outlet pipe. The bottom needs to be fixed with foundation bolts.

Technical Specifications

Model Description

200 WQ 440 - 31 - 55 - Z(P, F)



Installation method Z: Automatic coupling installation
 P: Fixed base installation
 F: Another fixed base installation
 Empty: Without installation

Supporting motor power 55kW

Head 31m

Capacity 440m³ /h

WQ (30kW and above) series submersible sewage pump

Discharge Caliber 200mm

Rated Voltage. Rated Frequency

The rated voltage of the motor is 380V and the rated frequency is 50Hz.

Connection Method

The connection method of motor winding wiring:

55KW and below with triangle (Δ) connection method, pump factory, the wiring cavity has been connected according to this. According to the field conditions, direct start, auto-step-down start or external electronic soft starter can be used.

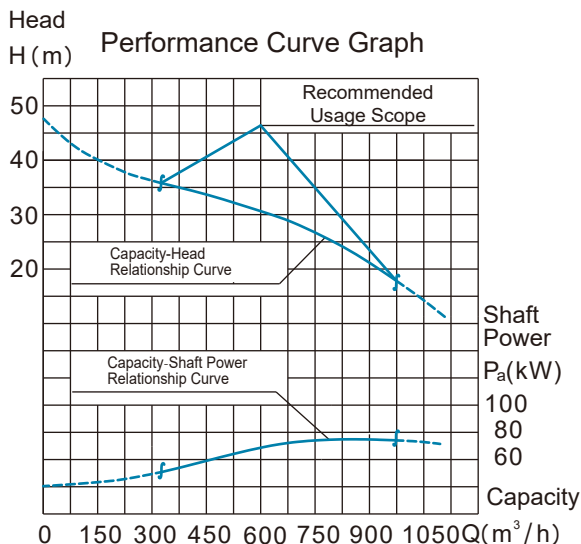
75KW and above, the 6 leading wires of the winding are directly connected with the 6 power wire cores of the two main cables, and then the outer triangle (Δ) connection method is used

Connecting winding, suitable for auto step-down start or external electronic soft starter start.

Direction of Rotation

Seen from the pump inlet, the impeller rotates counterclockwise.

Description of Performance Curves and Main Parameters



Main Parameter
Outlet Diameter 250mm

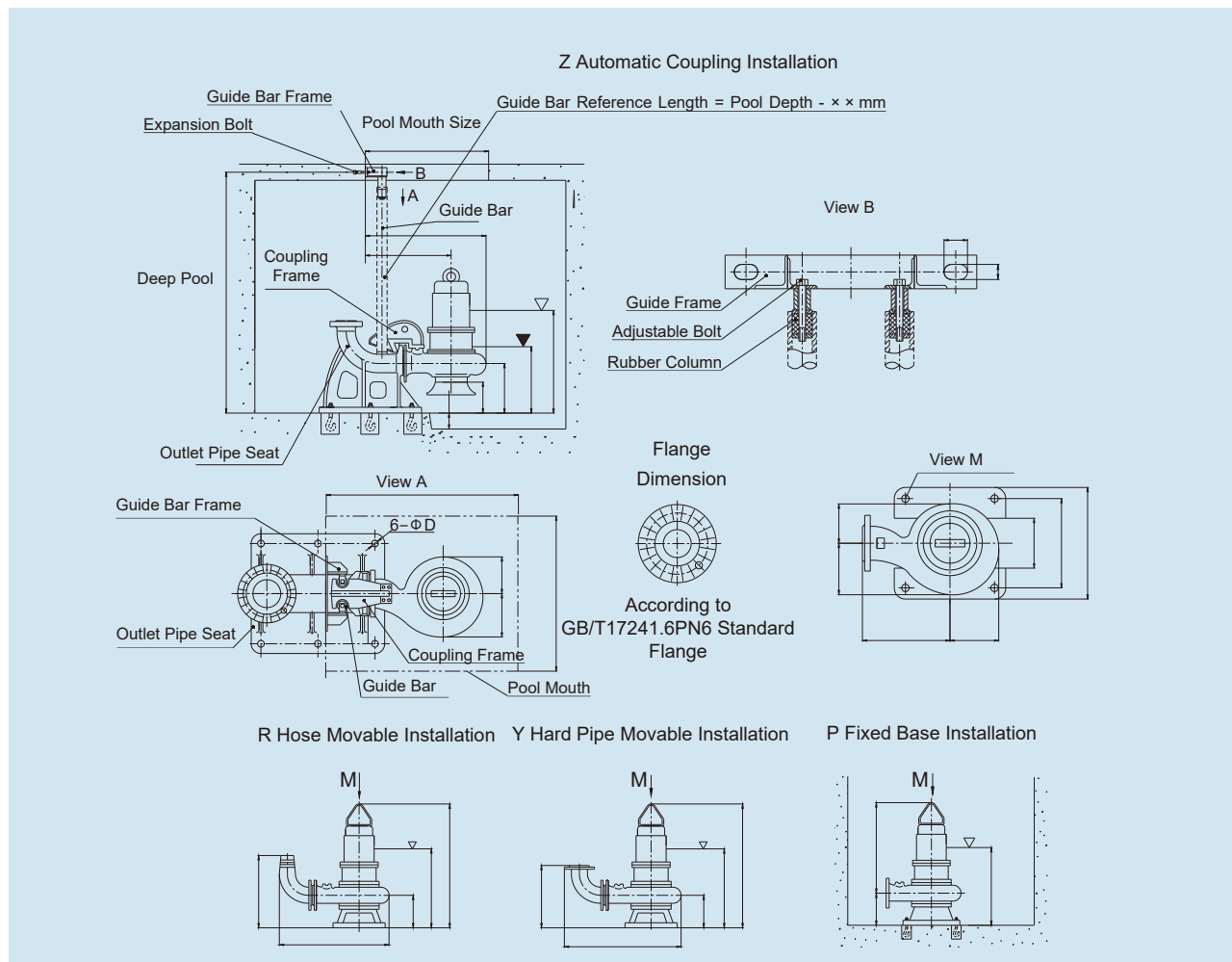
New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
250WQ600-30-75	WQ2368-4149	138	1485	850
Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos ϕ	Motor Efficiency(%)	Rated Torque Block Torque /
75	140	0.87	93.8	2.2

The solid line of the curve on the figure shows the recommended range of the pump. Shaft power increases to a certain value will not increase, no overload pump generally no danger of overload, even if there is a little overloading is limited, so such a pump in any flow when the motor is safe. However, it is best to use it within the recommended range, because the efficiency of the pump is higher within the recommended range, and it is more economical to use the pump. When the flow is less than the limit on the left, the unit efficiency is very low, resulting in large radial force, resulting in rolling key and shaft breaking. When the flow is greater than the right limit, the pump vibration, noise and other problems.

Refer to "WQ (30KW and above) series submersible sewage pump performance parameter table" for the maximum size of solid.

Pump weight does not include accessories for various installation methods, such as coupling device, base, elbow joint, hose elbow joint, etc.

Installation Dimension Diagram Description



1. All the guide bars can be fixed with the M16×150 I expansion bolts. Expansion bolts are easy to purchase and can be supplied or ordered from our company.

Function of the rubber column on the guide bar frame: tightening the regulating bolt of the rubber column can make the rubber column tighten the inner hole of the guide bar, make the guide bar stable, and avoid the vibration and sound of the guide bar.

2. The length of the guide bar shall be calculated according to the "pool depth" shown on the diagram. Information on guide bars is shown in Schedule 1.

3. No water inlet horn pipe pump coupling installation, the bottom of the pool made flat, the height of the outlet pipe seat can ensure that the pump suction inlet to the bottom of the pool has enough height, so that the pump has good suction conditions, so there is no need to make concrete boss for the outlet pipe seat, so that you can save the trouble in construction.

Coupling installation of pumps with inlet horn tube. In order to ensure sufficient height of horn tube to the bottom of the pool, concrete lugs with certain strength should be made for the outlet pipe base. The minimum height of lugs is given in the installation dimension diagram of each pump.

4. "▽" means the lowest liquid level at which the pump operates. The liquid level of the pump should be higher than the lowest liquid level. It is best to submerge the pump completely so that the motor can be fully cooled. The lowest liquid level can be controlled by a float switch. Our submersible sewage pump special electric control cabinets are liquid level control type, are equipped with a certain number of float switches.

5. Movable installation pump, hose elbow or elbow are provided by our company. For hose movable installation, the inner diameter of applicable hose for pumps with various diameters is shown in Table 2.

6. For the same type of pump, the fixed base installation and the movable base installation are the same. The shape and dimensions of the base are shown in the M direction view.

7. Flange size refers to the outlet flange of the pump and the outlet pipe seat flange. The flange dimension of GB/TL72416-2008/XGI - 2011 standard.

Schedule 1 Specifications and Dimensions of Pump Guide Bars

Pump Discharge Diameter (mm)	Guide Bar Specification (GB/T17395-2008) Water Pipe/Seamless Steel Pipe	Guide Bar Reference Length = (1 L Deep Pool) ±15mm The Following are L Dimensions
50	1" / 32×3.5	300
65		305
80		425
100		410
150	2" / 60×5	435
200		540
250		630
300	3" / 89×5	655
350		900
400		900
500		1035
600		1150
700		1150
800		1150
900		1320
1000		1320

Schedule 2 Pump Hose

Pump outlet diameter (mm)	50	65	80	100	150	
Specification of hose elbow joint	50-6	50×65-6	65-6	80-6	100-6	150-6
Inner diameter of matching hose (mm)	64	76	76	89	102	152

Schedule 3 Foundation Bolt of Self Coupling Installation Outlet Pipe Base

Pump Discharge Diameter (mm)	Foundation Bolt (GB/T799-1988)		
	Specification	Quantity	Reference Dimensions of Reserved Holes Length × Width × Depth (m)
50	M16 × 220	4	80 × 80 × 270
65			
80			
100	M20 × 300		100 × 100 × 350
150			
200			
250	M30 × 400		160 × 160 × 450
300			
350			
400			
500	M36 × 500	160 × 160 × 550	
600			
700			
800	M42 × 700	200 × 200 × 750	
900			
1000	M48 × 800	8	230 × 230 × 900

Schedule 4 Foundation Bolts for Pump Fixed Base Installation

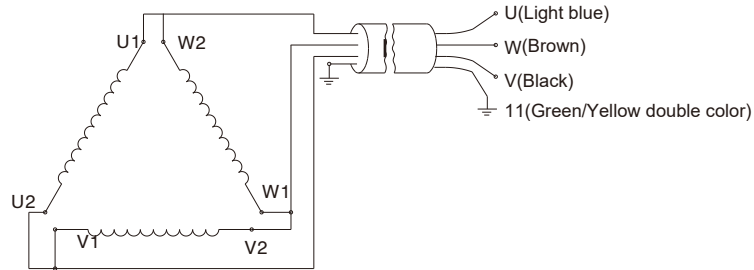
Base Aperture	Foundation Bolt (GB / T799-1988)	
	Specification	Reference Dimensions of Reserved Holes Length × Width × Depth (m)
Φ18、Φ20	M16×220	80×80×270
Φ25、Φ26	M20×300	100×100×350
Φ30	M24×300	
Φ36、Φ40	M30×400	130×130×450
Φ46、Φ48	M36×500	160×160×550
Φ52	M42×700	200×200×750
Φ56	M48×800	230×230×900

Schedule 5 Weight Table of Coupling Device

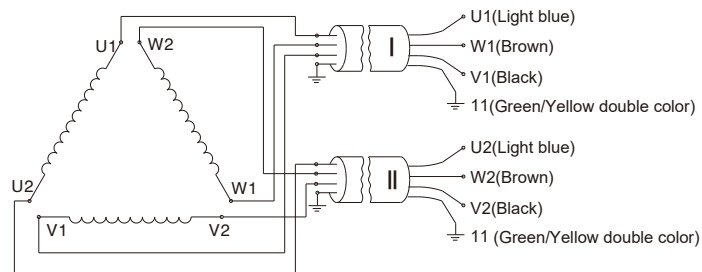
Pump Caliber (mm)	Coupling Device		
	Outlet Pipe Seat (kg)	Coupling Frame (kg)	Guide bar
50	21.5	6	2.45kg/m
65	27.5	7.1	
80	41.3	8.1	
100	37	9.3	6.78kg/m
150	74.3	20	
200	119	24	
250	232	46	10.36kg/m
300	334	64	
350	428	106	
400	510	106	
500	795	114	
600	1075	153	
700	2461	264	
800	3589	382	
900	4610	557	
1000	5400	685	

Main and Control Cables Standard Wiring Diagram

30-55kW stator lead wire and main cable wiring diagram (namely inner delta connection)

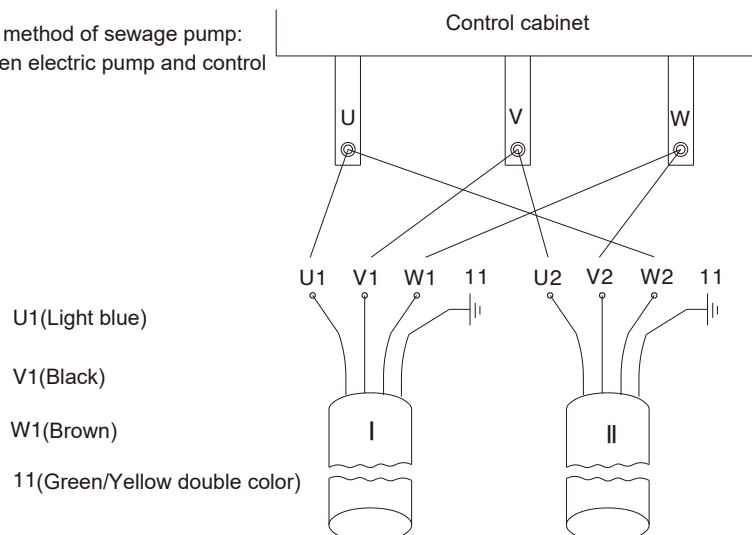


75-315kW stator lead wire and main cable wiring diagram (namely outer delta connection)



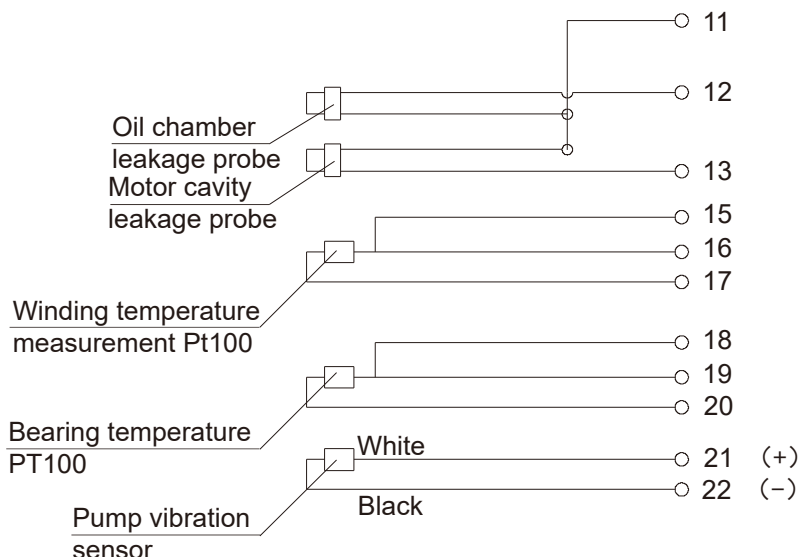
75-315kW sewage pump and on-site control cabinet wiring method, outer delta wiring (standard configuration)

Standard configuration wiring method of sewage pump:
Outer delta connection between electric pump and control cabinet

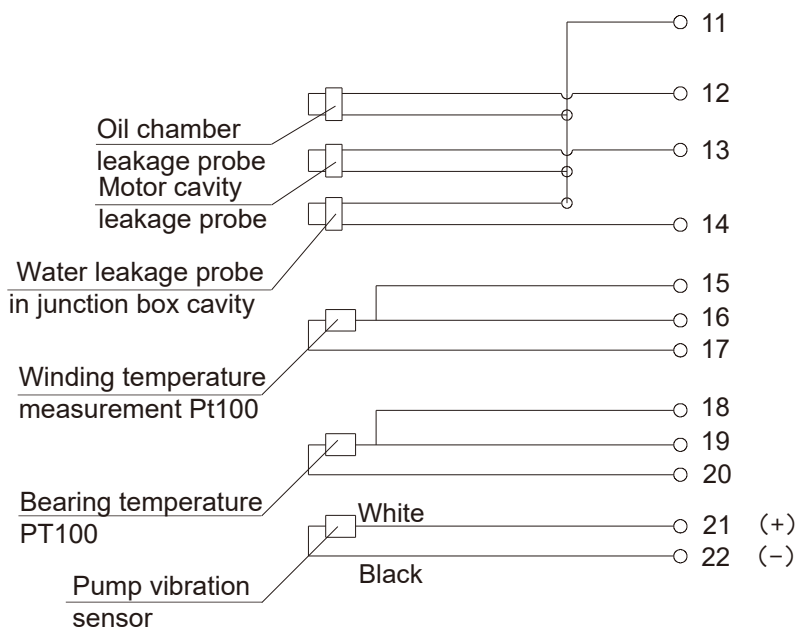


Judgment method: any two phases of U, V, and W of the same main cable are not connected, that is, the two cables of the water pump and the control cabinet are outer delta connection.

Y290-Y445 base submersible motor control cable YVC12x1 wiring diagram



Y520-Y590 base submersible motor control cable YVC12x1 wiring diagram



Notice: The vibration sensor wiring should be divided into positive and negative poles, and the shielding wire should be grounded.

Motor Protection System Components Monitoring Performance Comparison Table

Protection Element Name	Oil Chamber Leakage Probe	Leakage Probe under Motor Inner Cavity	Leakage Probe on Junction Box Inner Cavity	Winding Temperature Pt100	Bearing Temperature Pt100
Control cable label	11-12	11-13	11-14	15、16、17	18、19、20
Normal state (Ω)	$\geq 15K\Omega$	$\geq 30K\Omega$	$\geq 30K\Omega$	At 0°C, about 100 Ω	At 0°C, about 100 Ω
Fault status (Ω)	$< 15K\Omega$	$< 30K\Omega$	$< 30K\Omega$	At 135°C, about 151 Ω	At 95°C, about 136 Ω

KQK-DZC Drainage Pump Intelligent Signal Acquisition Box and KQK-B(Z) Series Control Cabinet Selection

Overview

WQ (30kW and above) series submersible sewage pumps have built-in sensing elements such as leakage, temperature, vibration, etc., and cooperate with the on-site drainage pump smart signal acquisition box or control cabinet to realize real-time display, monitoring and fault warning of the pump status. Through the real-time monitoring data, the diagnostic engineer regularly browses and analyzes, and realizes the comprehensive monitoring coverage of the unit through various forms such as the operation and maintenance system of the Kaiquan Smart Cloud Platform, real-time SMS push, and mobile APP push in a timely manner.

When the WQ (30kW and above) series submersible sewage pump is abnormal, the diagnostic service engineer will start to analyze the abnormal situation, contact the customer in time, and conduct in-depth analysis and feedback based on the actual situation on the site. With the cooperation of the customer, the diagnostic service engineer will provide abnormal handling advice and continue to track the abnormal situation until the problem is solved.

According to the status data of the unit, the life cycle of the unit, the failure mechanism, the scope of the failure, etc., experts from different professions and departments are brought together for analysis and diagnosis. Through remote monitoring of WQ (30kW and above) series submersible sewage pumps, it can be sensitive to changes in unit status, start service procedures early and quickly, and provide scientific service decisions. Provide users with professional, targeted, scientific and efficient services.

KQK-DZC4-WQ Ordinary Drainage Pump Smart Signal Collection Box, KQK-DZC5-WQ Outdoor Drainage Pump Smart Signal Collection Box

When the start-stop control cabinet and the signal acquisition cabinet of the WQ (30kW and above) series submersible sewage pumps are independently set up, the signal acquisition must be used with the Kaiquan KQK-DZC drainage pump smart signal acquisition box. KQK-DZC4(5) drainage pump smart signal acquisition box is a high-tech multifunctional condition monitoring protection device specially designed for WQ (30kW and above) series submersible sewage pumps. It uses intelligent digital instruments, which have incomparable advantages over traditional online monitoring instruments. The terminal box is suitable for online monitoring and protection of Kaiquan smart submersible sewage pump and other products.

The drainage pump smart signal acquisition box can continuously measure and monitor safety-related process parameters such as water leakage, winding temperature, bearing temperature, water pump vibration, etc. It can also be equipped with additional power meters for electrical parameter collection, including collection of water pump voltage, current, power, etc. Electrical parameters. Using this collection terminal, the abnormal state of the water pump can be identified in time to ensure the safe and reliable operation of the equipment. It has important practical significance for understanding the operating status of the unit and early diagnosis of common mechanical failures.



Function

- 1.It adopts Chinese-style display with a backlit color LCD screen, with multiple display modes such as bar graphs, trend curves, numbers, etc., with rich and intuitive screens, which can simultaneously display pump group information, acquisition time, channel name, sensor status, channel alarm status, etc. Kind of information.
- 2.It is composed of box frame and various meters, man-machine interface, programmable controller and communication module. The system can be installed with two measuring meters. The power meter (as an option) can achieve three-phase voltage, current, power, and frequency. , Energy consumption and other measurements. The temperature meter can realize 8-channel temperature measurement and touring display. PLC has switch input and output terminals and 4 analog input channels.
- 3.Flexible setting and configuration. The range, sensitivity, alarm value, alarm delay time, alarm logic, zero position, etc. of any channel can be directly set by the user through the Chinese menu on the screen, which is convenient and quick.
- 4.The system has built-in self-checking and channel self-checking functions to ensure that the relay does not malfunction when the system fails or the sensor circuit fails.
- 5.Built-in large-capacity memory card interface with power-off protection to ensure sufficient storage space and save the trouble of frequent data backup. Historical data can be easily backed up through the USB interface and network communication interface, which is conducive to the establishment of equipment documentation and provides a powerful analysis method for accidents.
- 6.Through the trend analysis, accident recall, statistical analysis and other functions of the cloud platform, the maximum, minimum, average, alarm times and cumulative alarm time of any channel in a certain period of time can be easily calculated.

7. It can provide a very flexible state network, serial port connection (Rs232/Rs485) and USB interface. It adopts standard communication protocol and can easily exchange data with other systems to form a remote state monitoring network.

8. It can accept variable input from any other standard signal such as eddy current sensor, speed sensor, acceleration sensor, temperature sensor, pressure transmitter, etc.

9. The intelligent signal collection box of the drainage pump provides an independent alarm relay output, and the alarm logic and alarm action delay time can be set by software. The passive contact signal output can be used for the alarm and fault shutdown control of the water pump control cabinet supplied by the third party.

Technical Parameters

1. Display mode: 4.3-inch true color touch screen display

2. Measurement range: Vibration channel Measurement range

Amplitude: 0~50 μ m (peak-to-peak value)

Intensity: 0~50mm/s (True effective value)

Temperature: -50~200 $^{\circ}$ C

3. Measurement accuracy: ± 0.5 grade linear error $\leq 1\%$ FS (full scale)

4. Input mode: vibration channel input signal: various vibration sensor signals; temperature channel input signal: thermal resistance.

5. Output mode: passive contact, load capacity DC24V/2A or AC250V/5A

6. Ambient temperature: -20 $^{\circ}$ C ~65 $^{\circ}$ C (relative humidity: $\leq 90\%$)

7. Power supply voltage: AC220V/50Hz $\pm 10\%$

8. Installation method: wall-mounted

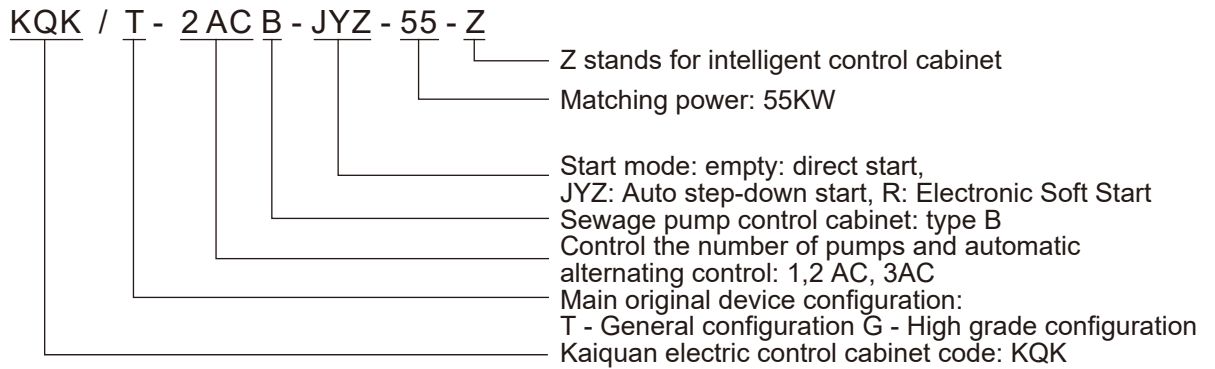
9. Dimensions: 600 \times 400 \times 200mm(height \times width \times thickness)

WQ (30kW and above) Series Submersible Sewage Pump

KQK-B (Z) series control cabinet introduction and selection WQ (30kW and above) series submersible sewage pump supporting KQK-B (Z) type control cabinet is an economical and applicable, Safe, reliable, and easy to maintain automatic control system. The control cabinet adopts low-voltage electrical appliances and liquid level sensors of well-known brands at home and abroad. It has protection functions such as short circuit, phase loss, overload, vibration parameters, temperature changes, motor cavity water leakage, oil chamber water leakage and winding overheating. The control cabinet can be equipped with floating Various liquid level sensors such as ball liquid level switch, drop-in or ultrasonic can automatically control the start and stop of the pump according to the level of the liquid when unattended. Except for single-control products, all products with main and standby pump control have the function of automatically shutting down the faulty pump and automatically turning on the standby pump. The two-pump and three-pump control cabinet can realize automatic stop or cyclic operation to realize equal running time of each pump.

Commonly configured control cabinets are mainly domestic well-known brands such as Tianzheng, Chint, and Delixi; high-end configuration control cabinet components are mainly internationally renowned brands such as Schneider, Siemens, and ABB.

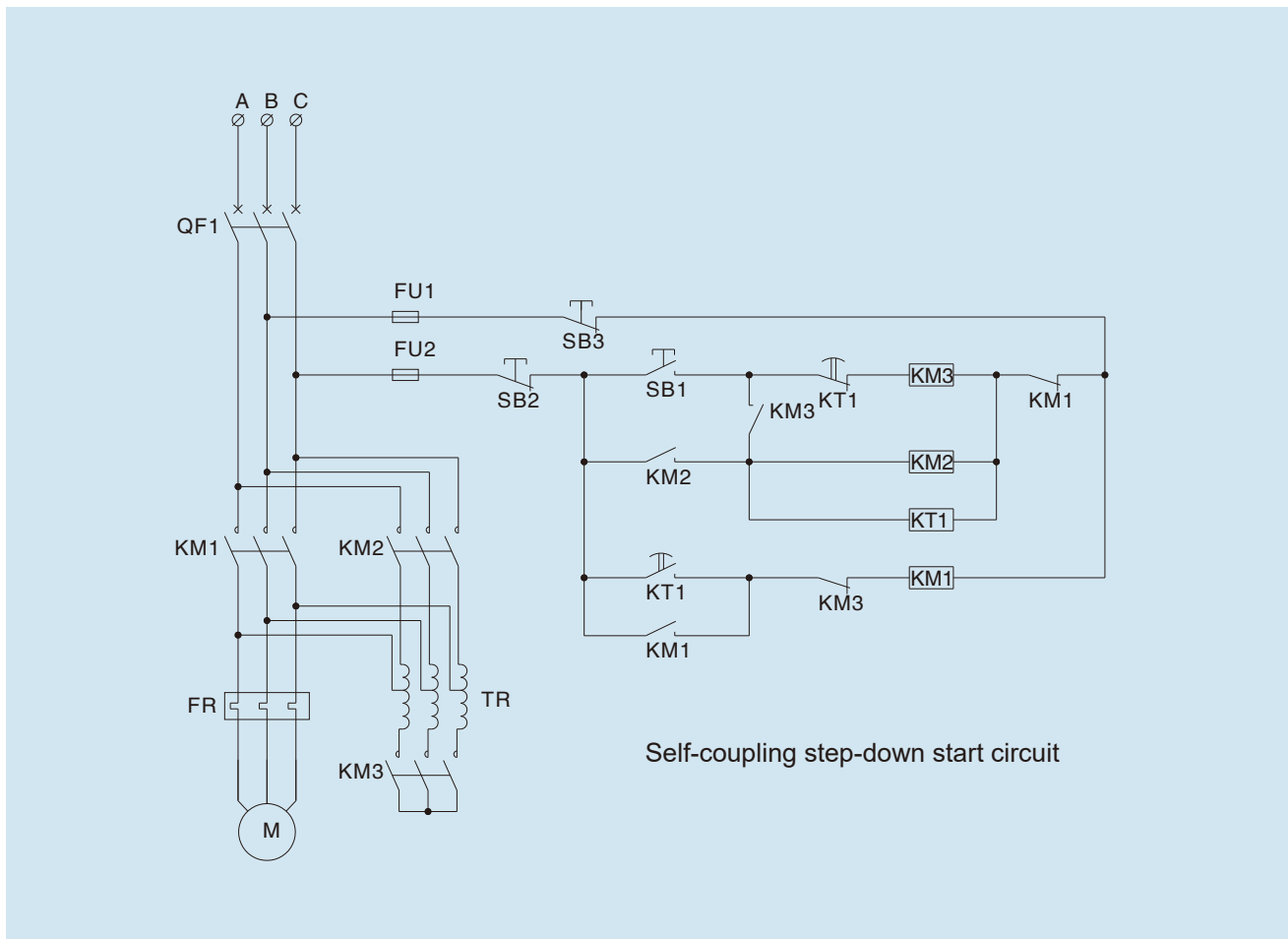
WQ(30KW and above) series submersible sewage pump special KQK-B(Z) control cabinet naming method



WQ(30KW and above) series submersible sewage pump special KQKQ-B(Z) control cabinet selection and description

Self-coupling step-down start

It refers to the use of an autotransformer to reduce the starting voltage applied to the stator winding of the motor when starting. After the motor starts, the motor is separated from the autotransformer, so as to run normally under full pressure.



Different taps of autotransformer can be selected according to allowable starting current and required starting torque to realize step-down starting, and it can be used no matter the stator winding of motor adopts Y or Δ connection method.

The following table lists the type and dimension of the control cabinet for the self coupling step-down start of the submersible sewage pump

WQ(30kW and above) Series Submersible Sewage Pump(One Control One)-Self-Coupling Step-Down Start

No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height x Width x Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	30	2 Poles	56	KQK/T-1B-JYZ-30Z	KQK/G-1B-JYZ-30Z	1600×600×400	130
2		4 Poles	58				
3		6 Poles	58				
4		8 Poles	63				
5	37	2 Poles	68	KQK/T-1B-JYZ-37Z	KQK/G-1B-JYZ-37Z	1600×600×400	130
6		4 Poles	70				
7		6 Poles	71				
8		8 Poles	78				
9	45	4 Poles	85	KQK/T-1B-JYZ-45Z	KQK/G-1B-JYZ-45Z	1600×600×400	140
10		6 Poles	86				
11		8 Poles	95				
12	55	4 Poles	103	KQK/T-1B-JYZ-55Z	KQK/G-1B-JYZ-55Z	1600×600×400	140
13		6 Poles	105				
14		8 Poles	115				
15	75	4 Poles	140	KQK/T-1B-JYZ-75Z	KQK/G-1B-JYZ-75Z	1600×600×400	150
16		6 Poles	142				
17		8 Poles	150				
18		10 Poles	163				
19	90	4 Poles	167	KQK/T-1B-JYZ-90Z	KQK/G-1B-JYZ-90Z	1700×700×500	150
20		6 Poles	170				
21		8 Poles	180				
22		10 Poles	191				
23	110	4 Poles	201	KQK/T--1B-JYZ-110Z	KQK/G--1B-JYZ-110Z	1700×700×500	160
24		6 Poles	207				
25		8 Poles	220				
26		10 Poles	230				
27	132	4 Poles	242	KQK/T--1B-JYZ-132Z	KQK/G--1B-JYZ-132Z	2200×800×600	200
28		6 Poles	245				
29		8 Poles	265	KQK/T--1B-JYZ-160Z	KQK/G--1B-JYZ-160Z	2200×800×600	220
30		10 Poles	275				
31	160	4 Poles	294	KQK/T--1B-JYZ-160Z	KQK/G--1B-JYZ-160Z	2200×800×600	220
32		6 Poles	291				
33		8 Poles	315	KQK/T--1B-JYZ-200Z	KQK/G--1B-JYZ-200Z	2200×800×600	250
34		10 Poles	333				

WQ(30kW and above) Series Submersible Sewage Pump(One Control Two)-Self-Coupling Step-Down Start

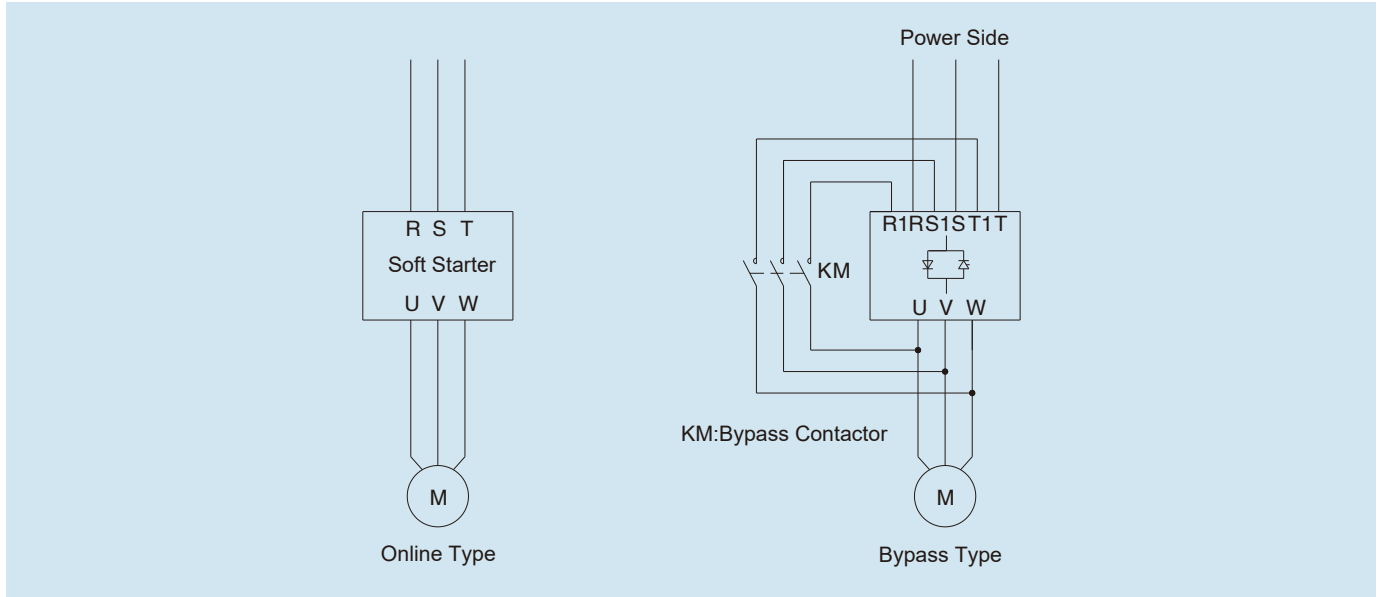
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height × Width × Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	30	2 Poles	56	KQK/T-2ACB-JYZ-30Z	KQK/G-2ACB-JYZ-30Z	1700 × 700 × 500	170
2		4 Poles	58				
3		6 Poles	58				
4		8 Poles	63				
5	37	2 Poles	68	KQK/T-2ACB-JYZ-37Z	KQK/G-2ACB-JYZ-37Z	1700 × 700 × 500	170
6		4 Poles	70				
7		6 Poles	71				
8		8 Poles	78				
9	45	4 Poles	85	KQK/T-2ACB-JYZ-45Z	KQK/G-2ACB-JYZ-45Z	1700 × 700 × 500	180
10		6 Poles	86				
11		8 Poles	95				
12	55	4 Poles	103	KQK/T-2ACB-JYZ-55Z	KQK/G-2ACB-JYZ-55Z	1700 × 700 × 500	180
13		6 Poles	105				
14		8 Poles	115				
15	75	4 Poles	140	KQK/T-2ACB-JYZ-75Z	KQK/G-2ACB-JYZ-75Z	1800 × 800 × 500	195
16		6 Poles	142				
17		8 Poles	150				
18		10 Poles	163				
19	90	4 Poles	167	KQK/T-2ACB-JYZ-90Z	KQK/G-2ACB-JYZ-90Z	1800 × 800 × 500	195
20		6 Poles	170				
21		8 Poles	180				
22		10 Poles	191				
23	110	4 Poles	201	KQK/T-2ACB-JYZ-110Z	KQK/G-2ACB-JYZ-110Z	2000 × 800 × 600	210
24		6 Poles	207				
25		8 Poles	220				
26		10 Poles	230				
27	132	4 Poles	242	KQK/T-2ACB-JYZ-132Z	KQK/G-2ACB-JYZ-132Z	2200 × 1000 × 600	260
28		6 Poles	245				
29		8 Poles	265				
30		10 Poles	275				
31	160	4 Poles	294	KQK/T-2ACB-JYZ-160Z	KQK/G-2ACB-JYZ-160Z	2200 × 1000 × 600	285
32		6 Poles	291				
33		8 Poles	315				
34		10 Poles	333				

WQ(30kW and above) Series Submersible Sewage Pump(One Control Three)-Self-Coupling Step-Down Start

No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height × Width × Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	30	2 Poles	56	KQK/T-3ACB-JYZ-30Z	KQK/G-3ACB-JYZ-30Z	1800 × 800 × 500	230
2		4 Poles	58				
3		6 Poles	58				
4		8 Poles	63				
5	37	2 Poles	68	KQK/T-3ACB-JYZ-37Z	KQK/G-3ACB-JYZ-37Z	1800 × 800 × 500	230
6		4 Poles	70				
7		6 Poles	71				
8		8 Poles	78				
9	45	4 Poles	85	KQK/T-3ACB-JYZ-45Z	KQK/G-3ACB-JYZ-45Z	1800 × 800 × 500	240
10		6 Poles	86				
11		8 Poles	95				
12	55	4 Poles	103	KQK/T-3ACB-JYZ-55Z	KQK/G-3ACB-JYZ-55Z	1800 × 800 × 500	240
13		6 Poles	105				
14		8 Poles	115				
15	75	4 Poles	140	KQK/T-3ACB-JYZ-75Z	KQK/G-3ACB-JYZ-75Z	2200 × 1000 × 600	260
16		6 Poles	142				
17		8 Poles	150				
18		10 Poles	163				
19	90	4 Poles	167	KQK/T-3ACB-JYZ-90Z	KQK/G-3ACB-JYZ-90Z	2200 × 1000 × 600	260
20		6 Poles	170				
21		8 Poles	180				
22		10 Poles	191				
23	110	4 Poles	201	KQK/T-3ACB-JYZ-110Z	KQK/G-3ACB-JYZ-110Z	2200 × 1000 × 600	285
24		6 Poles	207				
25		8 Poles	220				
26		10 Poles	230				
27	132	4 Poles	242	KQK/T-3ACB-JYZ-132Z	KQK/G-3ACB-JYZ-132Z	2200 × 1000 × 600	350
28		6 Poles	245				
29		8 Poles	265				
30		10 Poles	275				
31	160	4 Poles	294	KQK/T-3ACB-JYZ-160Z	KQK/G-3ACB-JYZ-160Z	2200 × 1000 × 600	385
32		6 Poles	291				
33		8 Poles	315				
34		10 Poles	333				

Electronic Soft Start

The soft starter, which is connected in series between the power supply and the controlled motor, controls the conduction angle of the internal semiconductor (thyristor), so that the input voltage of the motor gradually rises from zero with a preset function relationship, until the start is completed, and the motor is fully charged. The voltage is gradually increased from zero to the rated voltage, so that the starting current of the motor during starting will change from uncontrollable overload impulse current to controllable and the starting current can be adjusted according to needs.



During the whole starting process, the motor can be started smoothly without impact torque. Various parameters in the starting process can be adjusted according to the characteristics of the motor load, such as current limit value, starting time, etc. It can also realize soft parking. Due to the use of semiconductor converter technology, high-order harmonics will be generated, causing pollution to the power grid.

The following table lists the type and dimension of the control cabinet selected for the electronic soft start of the supporting submersible sewage pump

WQ (30kW and above) Series Submersible Sewage Pump (One Control One) - Electronic Soft Start							
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height × Width × Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	30	2 Poles	56	KQK/T-1B-R1-30Z	KQK/G-1B-R1-30Z	1700 × 700 × 500	75
2		4 Poles	58				
3		6 Poles	58				
4		8 Poles	63				
5	37	2 Poles	68	KQK/T-1B-R1-37Z	KQK/G-1B-R1-37Z	1700 × 700 × 500	75
6		4 Poles	70				
7		6 Poles	71				
8		8 Poles	78				
9	45	4 Poles	85	KQK/T-1B-R1-45Z	KQK/G-1B-R1-45Z	1700 × 700 × 500	85
10		6 Poles	86				
11		8 Poles	95				
12	55	4 Poles	103	KQK/T-1B-R1-55Z	KQK/G-1B-R1-55Z	1700 × 700 × 500	85
13		6 Poles	105				
14		8 Poles	115				
15	75	4 Poles	140	KQK/T-1B-R1-75Z	KQK/G-1B-R1-75Z	1700 × 700 × 500	90
16		6 Poles	142				
17		8 Poles	150				
18		10 Poles	163				
19	90	4 Poles	167	KQK/T-1B-R1-90Z	KQK/G-1B-R1-90Z	2000 × 800 × 600	100
20		6 Poles	170				
21		8 Poles	180				
22		10 Poles	191				
23	110	4 Poles	201	KQK/T-1B-R1-110Z	KQK/G-1B-R1-110Z	2000 × 800 × 600	100
24		6 Poles	207				
25		8 Poles	220				
26		10 Poles	230				
27	132	4 Poles	242	KQK/T-1B-R1-132Z	KQK/G-1B-R1-132Z	2000 × 800 × 600	120
28		6 Poles	245				
29		8 Poles	265				
30		10 Poles	275				
31	160	4 Poles	294	KQK/T-1B-R1-160Z	KQK/G-1B-R1-160Z	2000 × 800 × 600	130
32		6 Poles	291				
33		8 Poles	315				
34		10 Poles	333				
35	185	4 Poles	340	KQK/T-1B-R1-200Z	KQK/G-1B-R1-200Z	2200 × 800 × 600	150
36		6 Poles	337				
37		8 Poles	360				
38		10 Poles	386				
39	200	12 Poles	392	KQK/T-1B-R1-200Z	KQK/G-1B-R1-200Z	2200 × 800 × 600	150
40		4 Poles	363				
41		6 Poles	370				
42		8 Poles	386				
43	220	12 Poles	438	KQK/T-1B-R1-250Z	KQK/G-1B-R1-250Z	2200 × 800 × 600	170
44		4 Poles	396				
45		6 Poles	398				
46		8 Poles	446				
47	250	12 Poles	479	KQK/T-1B-R1-250Z	KQK/G-1B-R1-250Z	2200 × 800 × 600	170
48		4 Poles	450				
49		6 Poles	453				
50		8 Poles	504				
51	280	12 Poles	537	KQK/T-1B-R1-335Z	KQK/G-1B-R1-335Z	2200 × 800 × 600	200
52		4 Poles	495				
53		6 Poles	507				
54		8 Poles	562				
55	315	12 Poles	597	KQK/T-1B-R1-335Z	KQK/G-1B-R1-335Z	2200 × 800 × 600	200
56		8 Poles	632				
57		12 Poles	671				

WQ (30kW and above) Series Submersible Sewage Pump (One Control Two) - Electronic Soft Start							
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height × Width × Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	30	2 Poles	56	KQK/T-2ACB-R2-30Z	KQK/G-2ACB-R2-30Z	1800 × 800 × 500	105
2		4 Poles	58				
3		6 Poles	58				
4		8 Poles	63				
5	37	2 Poles	68	KQK/T-2ACB-R2-37Z	KQK/G-2ACB-R2-37Z	1800 × 800 × 500	105
6		4 Poles	70				
7		6 Poles	71				
8		8 Poles	78				
9	45	4 Poles	85	KQK/T-2ACB-R2-45Z	KQK/G-2ACB-R2-45Z	1800 × 800 × 500	120
10		6 Poles	86				
11		8 Poles	95				
12	55	4 Poles	103	KQK/T-2ACB-R2-55Z	KQK/G-2ACB-R2-55Z	1800 × 800 × 500	120
13		6 Poles	105				
14		8 Poles	115				
15	75	4 Poles	140	KQK/T-2ACB-R2-75Z	KQK/G-2ACB-R2-75Z	1800 × 800 × 500	125
16		6 Poles	142				
17		8 Poles	150				
18		10 Poles	163				
19	90	4 Poles	167	KQK/T-2ACB-R2-90Z	KQK/G-2ACB-R2-90Z	2200 × 1000 × 600	140
20		6 Poles	170				
21		8 Poles	180				
22		10 Poles	191				
23	110	4 Poles	201	KQK/T-2ACB-R2-110Z	KQK/G-2ACB-R2-110Z	2200 × 1000 × 600	140
24		6 Poles	207				
25		8 Poles	220				
26		10 Poles	230				
27	132	4 Poles	242	KQK/T-2ACB-R2-132Z	KQK/G-2ACB-R2-132Z	2200 × 1000 × 600	170
28		6 Poles	245				
29		8 Poles	265				
30		10 Poles	275				
31	160	4 Poles	294	KQK/T-2ACB-R2-160Z	KQK/G-2ACB-R2-160Z	2200 × 1000 × 600	180
32		6 Poles	291				
33		8 Poles	315				
34		10 Poles	333				
35	185	4 Poles	340	KQK/T-2ACB-R2-200Z	KQK/G-2ACB-R2-200Z	2200 × 1000 × 600	210
36		6 Poles	337				
37		8 Poles	360				
38		10 Poles	386				
39		12 Poles	392				
40	200	4 Poles	363	KQK/T-2ACB-R2-200Z	KQK/G-2ACB-R2-200Z	2200 × 1000 × 600	210
41		6 Poles	370				
42		8 Poles	386				
43		12 Poles	438				
44	220	4 Poles	396	KQK/T-2ACB-R2-250Z	KQK/G-2ACB-R2-250Z	2200 × 1000 × 600	240
45		6 Poles	398				
46		8 Poles	446				
47		12 Poles	479				
48	250	4 Poles	450	KQK/T-2ACB-R2-250Z	KQK/G-2ACB-R2-250Z	2200 × 1000 × 600	240
49		6 Poles	453				
50		8 Poles	504				
51		12 Poles	537				
52	280	4 Poles	495	KQK/T-2ACB-R2-335Z	KQK/G-2ACB-R2-335Z	2200 × 1000 × 600	280
53		6 Poles	507				
54		8 Poles	562				
55		12 Poles	597				
56	315	8 Poles	632	—	—	—	—
57		12 Poles	671	—	—	—	—

WQ (30kW and above) Series Submersible Sewage Pump (One Control Three) - Electronic Soft Start							
No.	Power (kW)	Motor Pole Number	Current (A)	Control Cabinet Mode		Cabinet Dimension (Height x Width x Thickness)	Weight (kg)
				General Configuration	High Grade Configuration		
1	30	2 Poles	56	KQK/T-3ACB-R3-30Z	KQK/G-3ACB-R3-30Z	1800 x 800 x 500	145
2		4 Poles	58				
3		6 Poles	58				
4		8 Poles	63				
5	37	2 Poles	68	KQK/T-3ACB-R3-37Z	KQK/G-3ACB-R3-37Z	1800 x 800 x 500	145
6		4 Poles	70				
7		6 Poles	71				
8		8 Poles	78				
9	45	4 Poles	85	KQK/T-3ACB-R3-45Z	KQK/G-3ACB-R3-45Z	2000 x 800 x 600	170
10		6 Poles	86				
11		8 Poles	95				
12	55	4 Poles	103	KQK/T-3ACB-R3-55Z	KQK/G-3ACB-R3-55Z	2000 x 800 x 600	170
13		6 Poles	105				
14		8 Poles	115				
15	75	4 Poles	140	KQK/T-3ACB-R3-75Z	KQK/G-3ACB-R3-75Z	2000 x 800 x 600	175
16		6 Poles	142				
17		8 Poles	150				
18		10 Poles	163				
19	90	4 Poles	167	KQK/T-3ACB-R3-90Z	KQK/G-3ACB-R3-90Z	2200 x (1000+800) x 600	235
20		6 Poles	170				
21		8 Poles	180				
22		10 Poles	191				
23	110	4 Poles	201	KQK/T-3ACB-R3-110Z	KQK/G-3ACB-R3-110Z	2200 x (1000+800) x 600	235
24		6 Poles	207				
25		8 Poles	220				
26		10 Poles	230				
27	132	4 Poles	242	KQK/T-3ACB-R3-132Z	KQK/G-3ACB-R3-132Z	2200 x (1000+800) x 600	290
28		6 Poles	245				
29		8 Poles	265				
30		10 Poles	275				
31	160	4 Poles	294	KQK/T-3ACB-R3-160Z	KQK/G-3ACB-R3-160Z	—	—
32		6 Poles	291				
33		8 Poles	315				
34		10 Poles	333				
35	185	4 Poles	340	KQK/T-3ACB-R3-200Z	KQK/G-3ACB-R3-200Z	—	—
36		6 Poles	337				
37		8 Poles	360				
38		10 Poles	386				
39		12 Poles	392				
40	200	4 Poles	363	KQK/T-3ACB-R3-200Z	KQK/G-3ACB-R3-200Z	—	—
41		6 Poles	370				
42		8 Poles	386				
43		12 Poles	438				
44	220	4 Poles	396	KQK/T-3ACB-R3-250Z	KQK/G-3ACB-R3-250Z	—	—
45		6 Poles	398				
46		8 Poles	446				
47		12 Poles	479				
48	250	4 Poles	450	KQK/T-3ACB-R3-250Z	KQK/G-3ACB-R3-250Z	—	—
49		6 Poles	453				
50		8 Poles	504				
51		12 Poles	537				
52	280	4 Poles	495	KQK/T-3ACB-R3-335Z	KQK/G-3ACB-R3-335Z	—	—
53		6 Poles	507				
54		8 Poles	562				
55		12 Poles	597				
56	315	8 Poles	632	—	—	—	—
57		12 Poles	671	—	—	—	—

Instruction for selection of electronic soft start

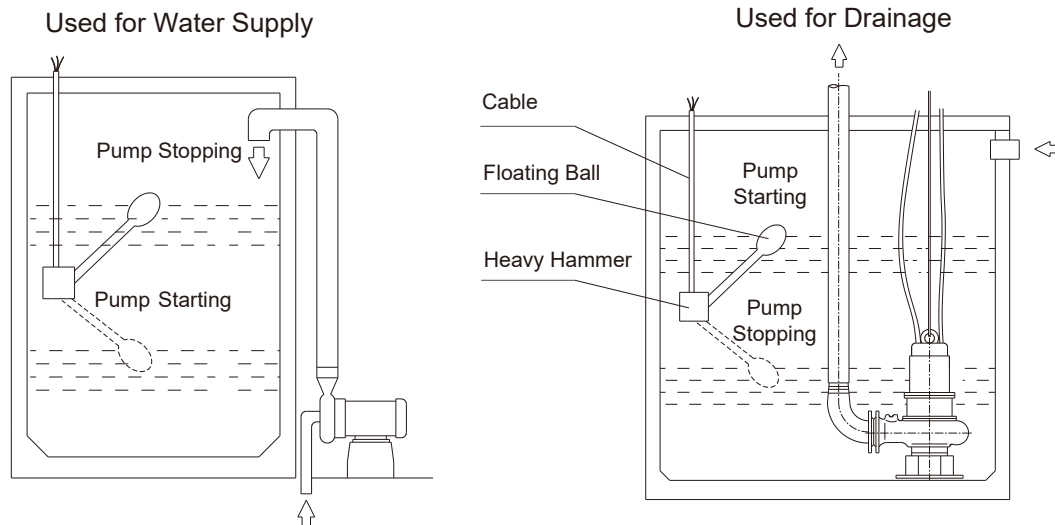
The main brands of low-voltage electrical appliances (mainly AC Contactors) with power above 110KW are 132kw, 160KW, 200kW, 250KW and 335kw, and the corresponding contactor current values are 250A, 300A, 400A, 500A and 630A respectively. There are no 185KW, 220kw, 280KW, 315KW power levels.

The low-voltage electrical appliances of the control cabinet are selected according to their actual working current. In practical application, the control cabinet models of 185KW, 220kw, 280KW and 315KW water pumps may be 200kW, 250KW and 355KW.

(Liquid Level) Float Switch, Terminal Box, Threading Pipe and Cable Models

(Liquid Level) Float Switch

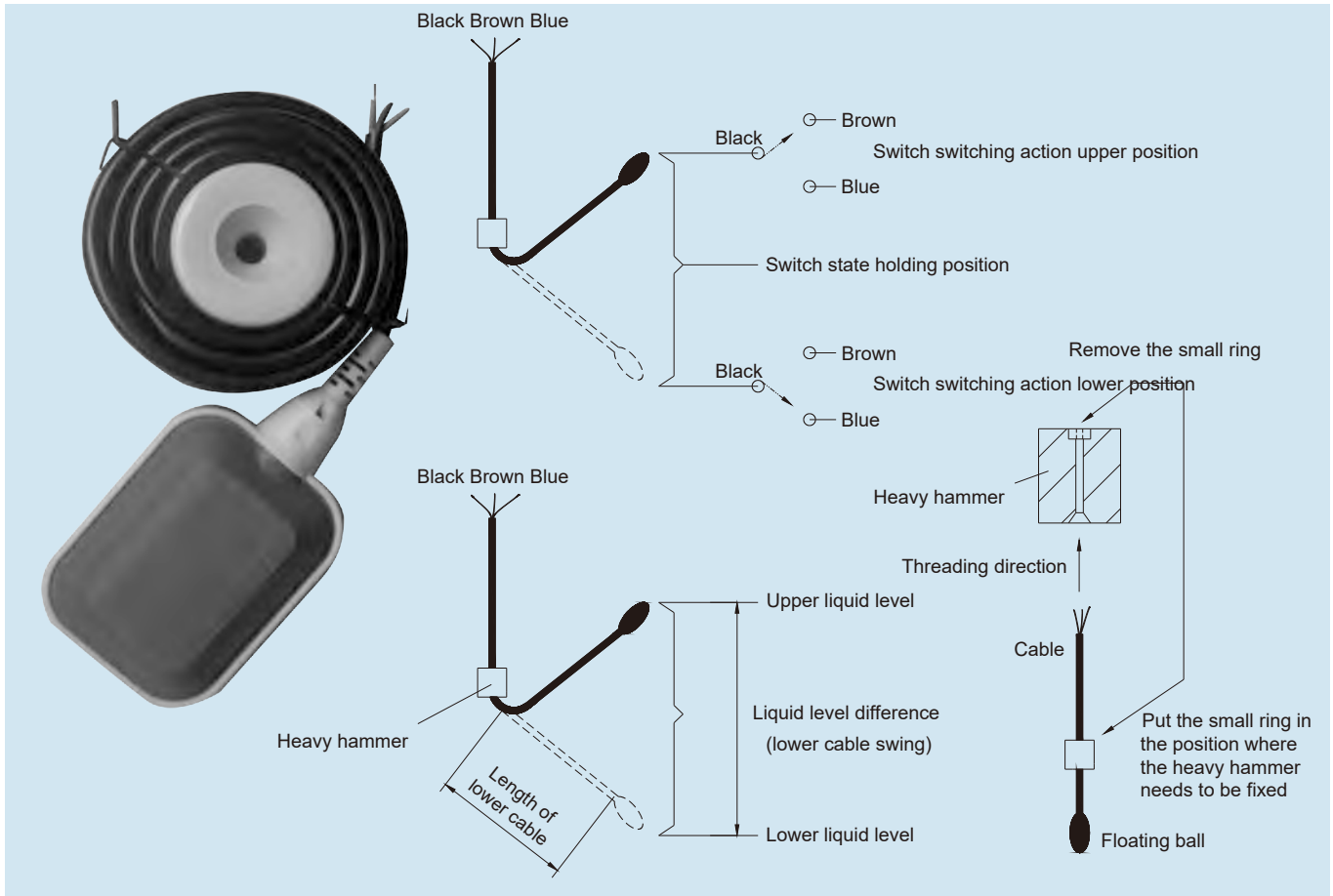
(Liquid Level) Schematic Diagram of Float Switch



The minimum liquid level is indicated on the sample and instruction manual of submersible sewage pump. "▽" means that half of the liquid level of the stator part of the motor is submerged by the medium.

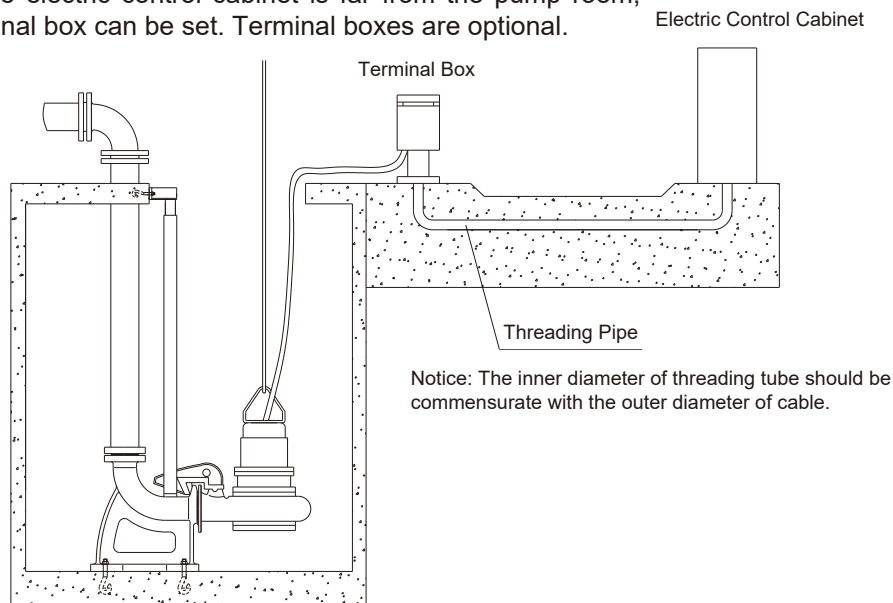
The liquid level float switch is used when the electric control cabinet is in the automatic position.

Wiring and setting of liquid level float switch: there are black, brown and blue cores in the cable of liquid level float switch. When the floating ball floats, the internal contact of the floating ball connects the black and brown cores and disconnects the black and blue cores; when the floating ball droops, on the contrary, the internal contact connects the black and blue cores and disconnects the black and brown cores. When the float ball is in the middle position, the internal switch is in the original position. Only when the float and droop positions are shown in the figure, the internal switch will change action. In the case of drainage, the black and brown cores must be connected to the electric control cabinet, and the blue core must be wrapped and insulated; in the case of water supply, the black and blue cores must be connected to the electric control cabinet, and the brown core must be wrapped and insulated. If a float switch is used to control the two liquid levels of starting and stopping the pump, the position of re sleeping on the cable can be adjusted, and the liquid level difference between starting and closing the pump can be determined. Therefore, in principle, a float switch can realize the starting and stopping control of a group of up and down liquid levels. However, if the liquid level difference is large, the length of floating ball swing arm will increase, and the dead weight of the cable from heavy sleep to floating ball will affect the accuracy of liquid level control. Therefore, our special electric control cabinet for submersible sewage pump is equipped with floating ball switch as follows: for the main pump or large pump, two floating ball switches are used to control the starting and stopping liquid level respectively; for small pump or extra high water level standby pump, one floating ball switch is used Switch to control the pump, stop the pump two levels. When users need more than the specified number of float switches or do not order our special electric control cabinet for submersible sewage pump, they can also order float switches from us.



Terminal Box and Threading Tube

When the electric control cabinet is far from the pump room, the terminal box can be set. Terminal boxes are optional.



This diagram is suggestive only and does not represent a design specification. Matters relating to pump station design and safety shall be dealt with in accordance with relevant standards and codes.

When the threading pipe is to be installed (the threading pipe is provided by the user), the inner diameter of the threading pipe should be determined according to the outer diameter of the cable.

Choose the threading pipe according to the size and installation quantity in the table below.

WQ(30KW and above) Series Submersible Sewage Pump Cable Type and Dimension Table

WQ(30KW and above) Series Submersible Sewage Pump Cable Type and Dimension Table							
No.	Frame No.	Motor Model	Main Cable	Control Cable	Single Main Cable Outside Diameter/mm	Control Cable Outside Diameter/mm	
1	Y290	WQ/Z30-2P	1 thread of YCW3×16+1×6	YVC12×1	28	17.5	
2		WQ/Z37-2P					
3		WQ/Z30-4P					
4		WQ/Z37-4P					
5		WQ/Z45-4P	1 thread of YCW3×25+1×10				33
6		WQ/Z55-4P					
7	Y368	WQ/Z75-4P	2 thread of YCW3×25+1×10		33		
8		WQ/Z90-4P	1 thread of YCW3×16+1×6		28		
9		WQ/Z30-6P					
10		WQ/Z37-6P					
11		WQ/Z45-6P	1 thread of YCW3×25+1×10		33		
12		WQ/Z55-6P	1 thread of YCW3×35+1×10		38		
13		WQ/Z30-8P	1 thread of YCW3×16+1×6		28		
14		WQ/Z37-8P					
15		WQ/Z45-8P	1 thread of YCW3×25+1×10		33		
16		WQ/Z55-8P	1 thread of YCW3×35+1×10		38		
17		Y445	WQ/Z110-4P		2 thread of YCW3×50+1×16		43
18			WQ/Z132-4P		2 thread of YCW3×70+1×25		48
19			WQ/Z160-4P				
20			WQ/Z75-6P		2 thread of YCW3×25+1×10		33
21	WQ/Z90-6P		2 thread of YCW3×35+1×10		38		
22	WQ/Z110-6P		2 thread of YCW3×50+1×16		43		
23	WQ/Z132-6P						
24	Y520	WQ/Z185-4P	2 thread of YCW3×70+1×25		48		
25		WQ/Z200-4P	2 thread of YCW3×95+1×35		54		
26		WQ/Z220-4P					
27		WQ/Z250-4P	2 thread of YCW3×120+1×35		57		
28		WQ/Z280-4P					
29		WQ/Z160-6P	2 thread of YCW3×70+1×25		48		
30		WQ/Z185-6P	2 thread of YCW3×95+1×35		54		
31		WQ/Z200-6P					
32		WQ/Z75-8P	2 thread of YCW3×25+1×10		33		
33		WQ/Z90-8P	2 thread of YCW3×35+1×10		38		
34		WQ/Z110-8P	2 thread of YCW3×50+1×16		43		
35		WQ/Z132-8P					
36		WQ/Z160-8P	2 thread of YCW3×70+1×25		48		
37		WQ/Z75-10P	2 thread of YCW3×25+1×10		33		
38		WQ/Z90-10P	2 thread of YCW3×35+1×10		38		
39		WQ/Z110-10P	2 thread of YCW3×50+1×16		43		
40	WQ/Z132-10P						
41	Y590	WQ/Z220-6P	2 thread of YCW3×95+1×35		54		
42		WQ/Z250-6P	2 thread of YCW3×120+1×35		57		
43		WQ/Z280-6P					
44		WQ/Z185-8P	2 thread of YCW3×70+1×25	48			
45		WQ/Z200-8P	2 thread of YCW3×95+1×35	54			
46		WQ/Z220-8P					
47		WQ/Z250-8P	2 thread of YCW3×120+1×35	57			
48		WQ/Z280-8P					
49		WQ/Z315-8P	2 thread of YCW3×150+1×50	63			

Ordering Instructions

In order to make your pump more applicable, we warmly welcome customers to consult our technical department.

1. When ordering, please indicate: serial number, impeller number, material of flow passage parts, installation method and discharge diameter.

2. The installation method of water pump is subject to the installation drawing on the sample.

3. Due to the excellent design of the coupling frame in the coupling device, the guide rod only needs ordinary water pipe or steel pipe. We have provided the specification and length calculation method of the water pipe or steel pipe used as the guide rod in the sample. The user only needs to purchase the water pipe or steel pipe and cut it into the required length, so the guide rod is not included in the coupling device.

4. This series of pumps are not equipped with motor cooling system. If cooling sleeve is required, it is a special order and the delivery time will be extended.

5. Standard configuration, motor cable is provided by 10m. When the user needs other length, it should be indicated on the order.

6. Complete sets of supply parts are supplied according to the installation mode selected by users.

7. When you don't buy Kaiquan intelligent control cabinet, you must buy the intelligent signal of drainage pump, collect the sensor data of sewage pump, and transmit it to Kaiquan intelligent cloud platform to realize remote monitoring, otherwise you can't realize the intelligent function of remote monitoring. If you buy Kaiquan intelligent control cabinet, you don't need to buy drainage pump intelligent signal acquisition box.

8. Optional parts and spare parts need to be ordered separately.

9. For mobile installation of hard pipe y, one elbow joint is supplied for each pump; for mobile installation of flexible pipe R, one elbow joint is supplied for each pump. When more than one elbow joint or hose elbow joint is required for the mobile pump, it must be ordered separately.

10. The diameter of elbow joint is: 50, 65, 80, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600.

11. The diameter of hose bend joint is 50 (with 64 hose), 50 × 65 (with 76 hose), 65 (with 76 hose), 80 (with 89 hose), 100 (with 102 hose) and 150 (with 152 hose).

12. Taper pipe is an optional part. The diameters of its two ends are: 50 × 65, 50 × 80, 65 × 80, 80 × 100, 100 × 150, 150 × 200, 200 × 250, 250 × 300, 300 × 350, 350 × 400, 400 × 450, 450 × 500, 500 × 600. The taper pipe installed on the discharge pipe should be used for diffusion, not for contraction.

When the taper pipe and elbow joint on the discharge pipeline are connected with each other, the diameter of the elbow joint should be consistent with the diameter of the big end of the taper pipe, that is, the principle of "diffusion first and then turn" should be followed, so that the pipeline loss is less than "turn first and then spread".

13. If the diameter of the discharge pipe is larger than that of the pump, the taper pipe can be installed on the outlet pipe seat. The diameter of the taper pipe should be the same as that of the outlet pipe seat, that is, the diameter of the pump.

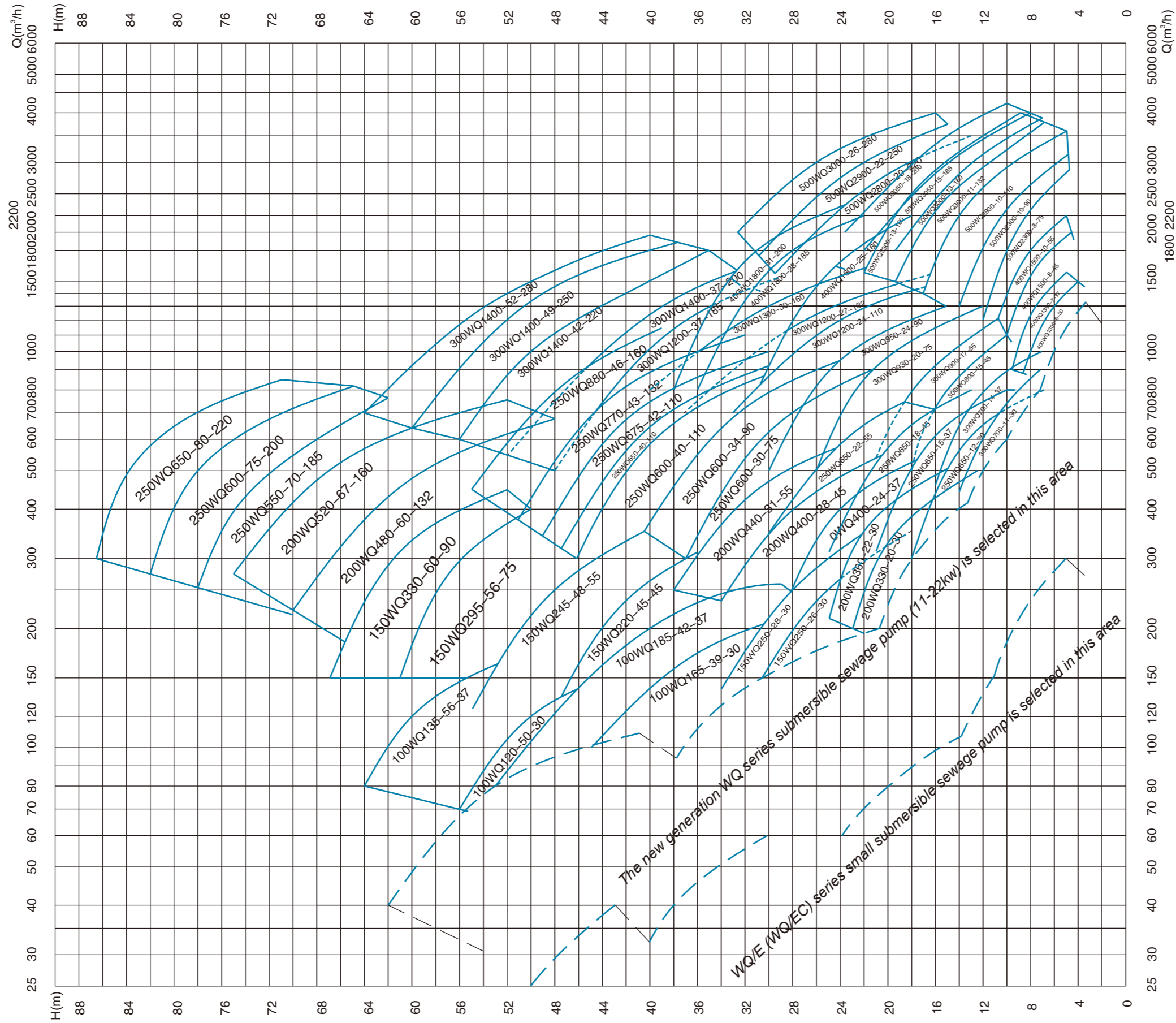
14. The specification, nominal pressure and size of elbow joint, hose elbow joint and taper pipe are shown in the "description of accessories" at the end of the sample.

Supply List

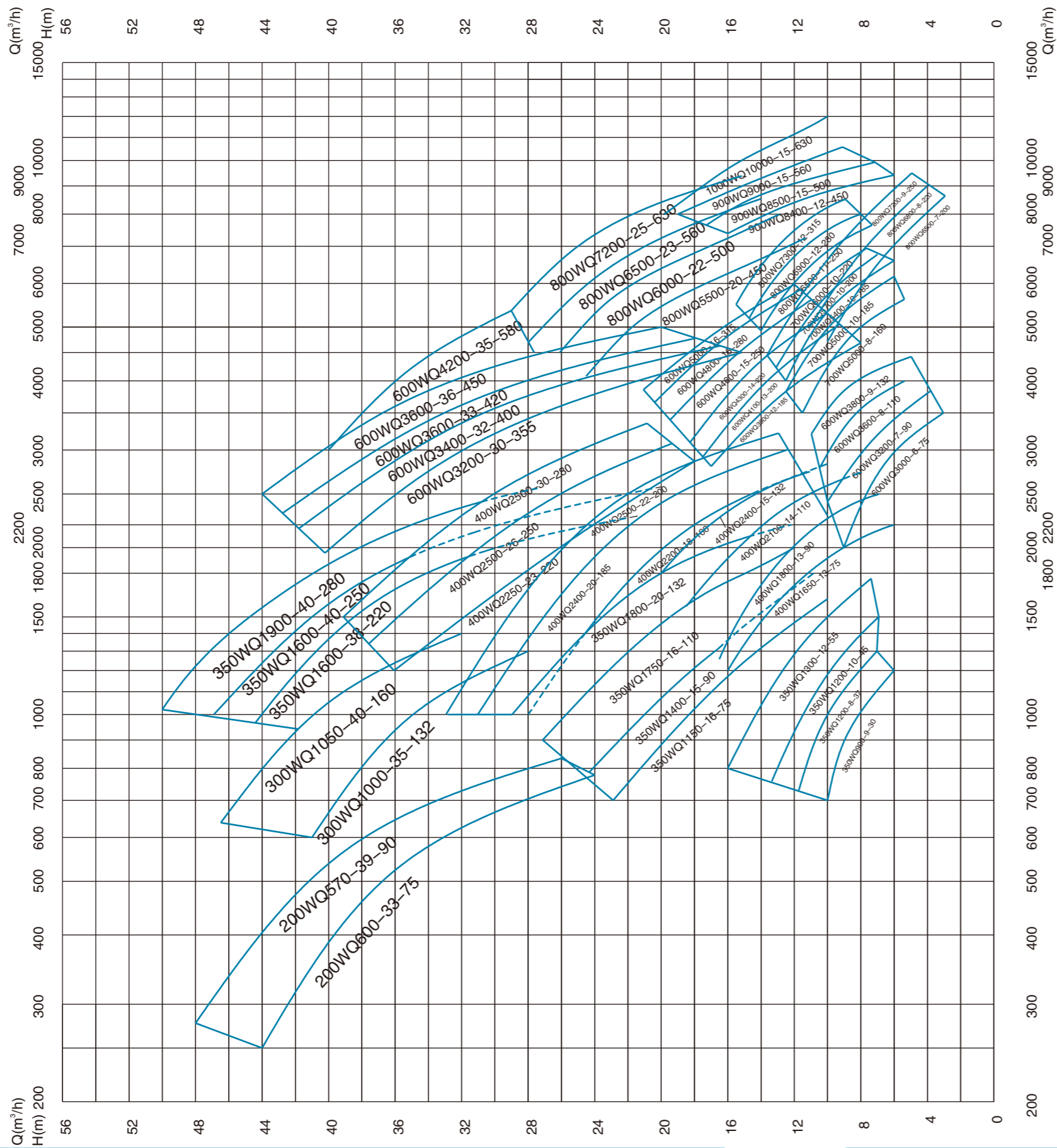
Supply Selection		Installation Methods	Wet Installation					
			Automatic Coupling Installation	Fixed Base Installation	Hose Movable Installation	Hard Pipe Movable Installation	Single Pump	
			Z	P	R	Y		
Supply Model								
Package supply	Main pump (10m cable length)		✓	✓	✓	✓	✓	
	Automatic coupling device	Outlet pipe seat	✓					
		Coupling frame	✓					
		Positioning plate	✓					
	Base			✓	✓	✓		
	Elbow joint + connecting accessories					✓		
	Hose Elbow joint + connecting accessories				✓			
Essential	Guide bar		✓					
	Expansion bolts		✓					
	Foundation bolts		✓	✓				
	Intelligent control cabinet (including signal acquisition function)		✓	✓	✓	✓	✓	
	Drainage pump smart signal collection box		When not buying Kaiquan intelligent control cabinet, you must purchase the drainage pump intelligent signal collection box					
Options	Elbow joint + connecting accessories			✓				
	Hose bend joint + connecting accessories			✓				
	Stainless steel lifting rope and clamp for lifting pump		✓	✓	✓	✓	✓	
	Chain and shackle for lifting pump		✓	✓	✓	✓	✓	
	Taper Pipe		✓	✓		✓	✓	
	Mating flange		✓	✓		✓	✓	
Optional spare parts	Impeller		✓	✓	✓	✓	✓	
	Bearing		✓	✓	✓	✓	✓	
	Mechanical seal		✓	✓	✓	✓	✓	
	O-ring		✓	✓	✓	✓	✓	
	Seal ring		✓	✓	✓	✓	✓	

WQ(30kW and above) Series Submersible Sewage Pump Comprehensive Characteristic Curve Chart (2 Parts) and Description

Comprehensive Characteristic Curve Chart Part 1



Comprehensive Characteristic Curve Chart Part 2



Description of the Comprehensive Characteristic Curve Chart:

1. In order to make the type spectrum clean, the Comprehensive Characteristic Curve Chart lists the general range of most models, which can be used for preliminary selection. However, the complete pump curve and parameters must refer to the single page performance curve described later.
2. For details of WQ / E and WQ / EC Series in the figure, please refer to samples of WQ / E series small submersible sewage pump and WQ / EC series small submersible sewage pump.

Performance Parameters Table

No.	New Model	Original Model	Caliber mm	Capacity m ³ /h	Head m	Speed r/min	Matching Power kW	Maximum Pass Particle mm	Weight kg
1	100WQ120-50-30	WQ2290-2125-100	100	120	50	2945	30	40	360
2	100WQ135-56-37	WQ2290-2126-100		135	56	2945	37	40	380
3	100WQ165-39-30	WQ2290-2131-100	100	165	39	2945	30	40	365
4	100WQ185-42-37	WQ2290-2132-100		185	42	2945	37	40	385
5	150WQ160-38-30	WQ2290-4135B-150	150	160	38	1470	30	62	435
6	150WQ160-40-30	WQ2290-4135A-150		160	40	1470	30	62	440
7	150WQ160-42-30	WQ2290-4135-150		160	42	1470	30	62	445
8	150WQ250-26-30	WQ2290-4134A-150	150	250	26	1470	30	60	440
9	150WQ250-28-30	WQ2290-4134-150		250	28	1475	30	60	445
10	150WQ220-45-45	WQ2290-4170-150	150	220	45	1475	45	60	520
11	150WQ245-48-55	WQ2290-4171-150		245	48	1475	55	60	550
12	150WQ295-56-75	WQ2368-4165-150	150	295	56	1485	75	60	790
13	150WQ330-60-90	WQ2368-4166-150		330	60	1485	90	60	820
14	200WQ330-20-30	WQ2290-4172A-200		330	20	1470	30	90	475
15	200WQ360-22-30	WQ2290-4172-200	200	360	22	1470	30	90	480
16	200WQ400-24-37	WQ2290-4173-200		400	24	1470	37	90	500
17	200WQ400-28-45	WQ2290-4174-200		400	28	1470	45	90	530
18	200WQ440-31-55	WQ2290-4175-200		440	31	1470	55	90	560
19	200WQ600-33-75	WQ2368-4145-200	200	600	33	1485	75	80	780
20	200WQ570-39-90	WQ2368-4146-200		570	39	1485	90	80	810
21	200WQ480-60-132	WQ2445-4147-200	200	480	60	1485	132	80	1400
22	200WQ520-67-160	WQ2445-4148-200		520	67	1485	160	80	1500
23	250WQ650-12-30	WQ2290-4109-250	250	650	12	1470	30	100	500
24	250WQ650-15-37	WQ2290-4110-250		650	15	1470	37	100	520
25	250WQ650-18-45	WQ2290-4112-250		650	18	1470	45	100	550
26	250WQ650-22-55	WQ2290-4168-250		650	22	1470	55	100	580
27	250WQ600-30-75	WQ2368-4149-250	250	600	30	1485	75	100	850
28	250WQ600-34-90	WQ2368-4150-250		600	34	1485	90	100	880
29	250WQ600-40-110	WQ2445-4151A-250	250	600	40	1485	110	100	1200
30	250WQ650-40-110	WQ2445-4151-250		650	40	1485	110	100	1205
31	250WQ675-42-110	WQ2445-4152A-250		675	42	1485	110	100	1210
32	250WQ770-43-132	WQ2445-4152-250		770	43	1485	132	100	1300
33	250WQ880-46-160	WQ2445-4153-250		880	46	1485	160	100	1400
34	250WQ550-70-185	WQ2520-4165-250	250	550	70	1485	185	60	1850
35	250WQ600-75-200	WQ2520-4166-250		600	75	1485	200	60	1900
36	250WQ650-80-220	WQ2520-4167-250		650	80	1485	220	60	2000
37	300WQ700-11-30	WQ2290-4115-300		300	700	11	980	30	100
38	300WQ700-14-37	WQ2290-4116-300	750		13	980	37	100	720
39	300WQ800-15-45	WQ2290-4117-300	800		15	980	45	100	770
40	300WQ900-17-55	WQ2290-4118-300	900		17	980	55	100	800
41	300WQ930-20-75	WQ2368-4120A-300	930		20	1485	75	120	870
42	300WQ950-24-90	WQ2368-4120-300	300	950	24	1485	90	120	900
43	300WQ1000-22-90	WQ2368-4121-300		1000	22	1485	90	120	902

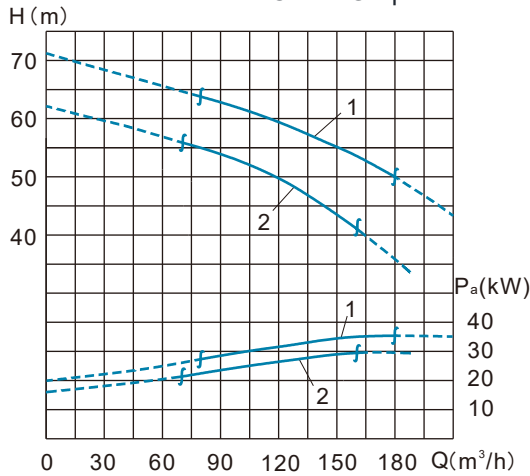
No.	New Model	Original Model	Caliber	Capacity	Head	Speed	Matching Power	Maximum Pass Particle	Weight
			mm	m ³ /h	m	r/min	kW	mm	kg
44	300WQ1200-24-110	WQ2445-4139-300	300	1200	24	1485	110	120	1430
45	300WQ1200-27-132	WQ2445-4140A-300		1200	27	1485	132	120	1500
46	300WQ1300-30-160	WQ2445-4140-300		1300	30	1485	160	120	1600
47	300WQ1000-35-132	WQ2445-4141A-300	300	1000	35	1485	132	120	1520
48	300WQ1050-40-160	WQ2445-4141-300		1050	40	1485	160	120	1615
49	300WQ1200-37-185	WQ2520-4160-300	300	1200	37	1485	185	80	2000
50	300WQ1400-37-200	WQ2520-4161-300		1400	37	1485	200	80	2050
51	300WQ1400-42-220	WQ2520-4162-300		1400	42	1485	220	80	2150
52	300WQ1400-49-250	WQ2520-4163-300		1400	49	1485	250	80	2300
53	300WQ1400-52-280	WQ2520-4164-300		1400	52	1485	280	80	2500
54	350WQ900-9-30	WQ2368-6158-350	350	900	9	980	30	91	850
55	350WQ1200-8-37	WQ2368-6159-350		1200	8	980	37	91	880
56	350WQ1200-10-45	WQ2368-6160-350		1200	10	980	45	91	920
57	350WQ1300-12-55	WQ2368-6161-350		1300	12	980	55	91	960
58	350WQ1150-16-75	WQ2445-6121-350	350	1150	16	990	75	105	1570
59	350WQ1400-15-90	WQ2445-6122-350		1400	15	990	90	105	1600
60	350WQ1750-16-110	WQ2445-6123-350		1750	16	990	110	105	1650
61	350WQ1800-20-132	WQ2445-6124-350		1800	20	990	132	105	1700
62	350WQ1600-38-220	WQ2590-6113-350	350	1600	38	990	220	140	3200
63	350WQ1600-40-250	WQ2590-6114-350		1600	40	990	250	140	3300
64	350WQ1900-40-280	WQ2590-6115-350		1900	40	990	280	140	3400
65	400WQ1300-6-30	WQ2368-8155-400		400	1300	6	735	30	80
66	400WQ1350-7-37	WQ2368-8156-400	1350		7	735	37	80	1200
67	400WQ1500-8-45	WQ2368-8157-400	1500		8	735	45	80	1250
68	400WQ1500-10-55	WQ2368-8158-400	1500		10	735	55	80	1300
69	400WQ1650-13-75	WQ2445-6162-400	400	1650	13	990	75	110	1730
70	400WQ1800-13-90	WQ2445-6163-400		1800	13	990	90	110	1750
71	400WQ2100-14-110	WQ2445-6164-400		2100	14	990	110	110	1800
72	400WQ2400-15-132	WQ2445-6165-400		2400	15	990	132	110	1850
73	400WQ1600-25-160	WQ2520-6101-400	400	1600	25	990	160	130	2320
74	400WQ1800-28-185	WQ2520-6102-400		1800	28	990	185	130	2360
75	400WQ1800-31-200	WQ2520-6103-400		1800	31	990	200	130	2400
76	400WQ2200-18-160	WQ2520-6104-400		2200	18	990	160	130	2340
77	400WQ2400-20-185	WQ2520-6125-400	400	2400	20	990	185	130	2380
78	400WQ2500-22-200	WQ2520-6126-400		2500	22	990	200	130	2420
79	400WQ2250-23-220	WQ2590-6105-400	400	2250	23	990	220	150	3830
80	400WQ2500-26-250	WQ2590-6106-400		2500	26	990	250	150	3900
81	400WQ2500-30-280	WQ2590-6107-400		2500	30	990	280	150	4000
82	500WQ2300-8-75	WQ2520-8159-500		500	2300	8	735	75	140
83	500WQ2300-10-90	WQ2520-8160-500	2300		10	735	90	140	2860
84	500WQ2900-10-110	WQ2520-8161-500	2900		10	735	110	140	2900
85	500WQ3000-11-132	WQ2520-8162-500	3000		11	745	132	140	2940
86	500WQ3300-13-160	WQ2520-8163-500	3300		13	745	160	140	3000

No.	New Model	Original Model	Caliber	Capacity	Head	Speed	Matching Power	Maximum Pass Particle	Weight
			mm	m ³ /h	m	r/min	kW	mm	kg
87	500WQ3000-13-160	WQ2520-6108-500	500	3000	13	990	160	130	2920
88	500WQ3050-15-185	WQ2520-6109-500		3050	15	990	185	130	2960
89	500WQ3050-18-200	WQ2520-6110-500		3050	18	990	200	130	3000
90	500WQ2800-20-220	WQ2590-6117-500	500	2800	20	990	220	150	4150
91	500WQ2900-22-250	WQ2590-6118-500		2900	22	990	250	150	4210
92	500WQ3000-26-280	WQ2590-6119-500		3000	26	990	280	150	4300
93	600WQ3000-6-75	WQ2520-1054-600	600	3000	6	590	75	160	4570
94	600WQ3200-7-90	WQ2520-1055-600		3200	7	590	90	160	4610
95	600WQ3600-8-110	WQ2520-1056-600		3600	8	590	110	160	4670
96	600WQ3800-9-132	WQ2520-1057-600		3800	9	590	132	160	4730
97	600WQ3200-30-355	WQ2740-6170C-600	600	3200	30	980	355	100	5800
98	600WQ3400-32-400	WQ2740-6170B-600		3400	32	980	400	100	6000
99	600WQ3600-33-420	WQ2740-6170A-600		3600	33	980	420	100	6200
100	600WQ3600-36-450	WQ2740-6170-600		3600	36	980	450	100	6300
101	600WQ4200-35-580	WQ2850-8175-600	600	4200	35	745	580	100	9800
102	600WQ3900-12-185	WQ2590-8164-600	600	3900	12	745	185	150	4200
103	600WQ4100-13-200	WQ2590-8165-600		4100	13	745	200	150	4350
104	600WQ4300-14-220	WQ2590-8166-600		4300	14	745	220	150	4470
105	600WQ4600-15-250	WQ2590-8167-600		4600	15	745	250	150	4550
106	600WQ4800-16-280	WQ2590-8168-600		4800	16	745	280	150	4620
107	600WQ5000-16-315	WQ2590-8169-600		5000	16	745	315	150	4800
108	700WQ5000-8-160	WQ2590-1058-700	700	5000	8	590	160	170	6200
109	700WQ5000-10-185	WQ2590-1059-700		5000	10	590	185	170	6500
110	700WQ5400-10-185	WQ2590-1250-700	700	5400	10	495	185	176	6800
111	700WQ5700-10-200	WQ2590-1251-700		5700	10	495	200	176	7100
112	700WQ6000-10-220	WQ2590-1252-700		6000	10	495	220	176	7400
113	800WQ6500-7-200	WQ2670-1601-800	800	6500	7	370	200	240	8000
114	800WQ6800-8-220	WQ2670-1602-800		6800	8	370	220	240	8300
115	800WQ7200-9-250	WQ2670-1603-800		7200	9	370	250	240	8500
116	800WQ6500-11-250	WQ2670-1253-800	800	6500	11	495	250	200	8000
117	800WQ6900-12-280	WQ2670-1254-800		6900	12	495	280	200	8400
118	800WQ7300-12-315	WQ2670-1255-800		7300	12	495	315	200	8800
119	800WQ5500-20-450	WQ2850-8173A-800	800	5500	20	745	450	220	8000
120	800WQ6000-22-500	WQ2850-8173-800		6000	22	745	500	220	8200
121	800WQ6500-23-560	WQ2850-8174A-800		6500	23	745	560	220	8500
122	800WQ7200-25-630	WQ2850-8174-800		7200	25	745	630	220	8700
123	900WQ8400-12-450	WQ2850-8170-900	900	8400	12	745	450	200	9100
124	900WQ8500-15-500	WQ2850-8171-900		8500	15	745	500	200	9300
125	900WQ9000-15-560	WQ2850-8172-900		9000	15	745	560	200	9600
126	1000WQ10000-15-630	WQ2850-1062-1000	1000	10000	15	590	630	250	10500

Notice: There is a one-to-one correspondence between the new model name and the original model name

Performance Curves, Parameter Data, Installation Dimension Diagrams

Performance Curve Graph



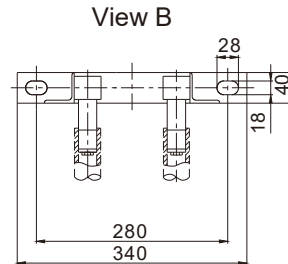
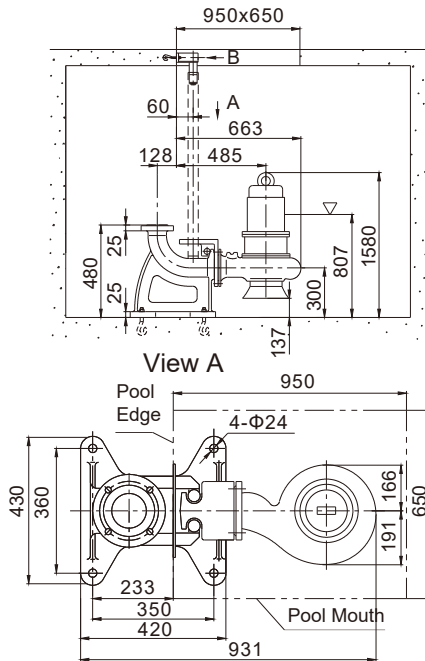
Main Parameter Outlet

Diameter 100mm

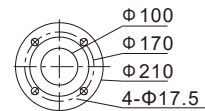
No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	100WQ135-56-37	WQ2290-2126	48	2945	420
2	100WQ120-50-30	WQ2290-2125	48	2945	400
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor $\cos \phi$	Motor Efficiency (%)	Rated Torque Block Torque /
1	37	68	0.90	92.0	2.2
2	30	56	0.90	91.2	2.1

Installation Dimension Diagram

Z Automatic Coupling Installation

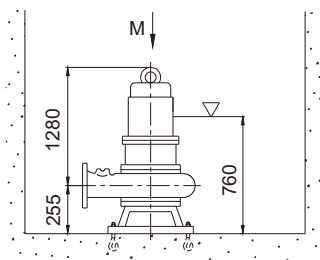


Flange Dimension

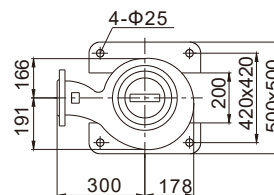


According to
GB/T17241.6PN6 Standard Flange

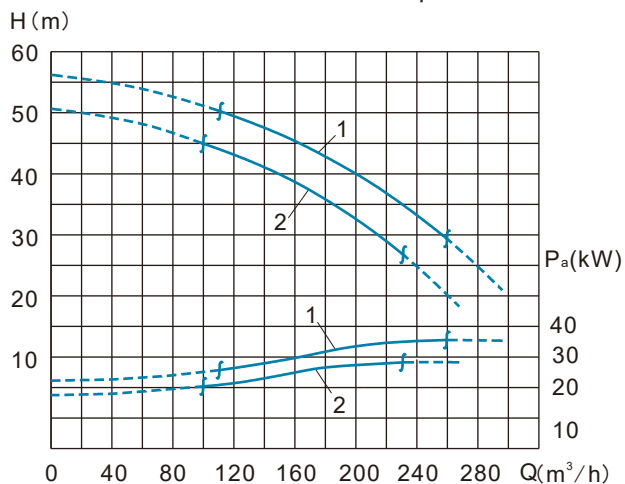
P Fixed Base Installation



View M



Performance Curve Graph



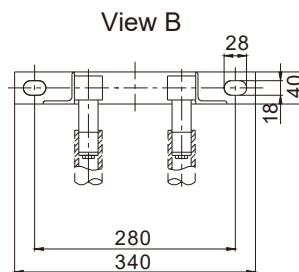
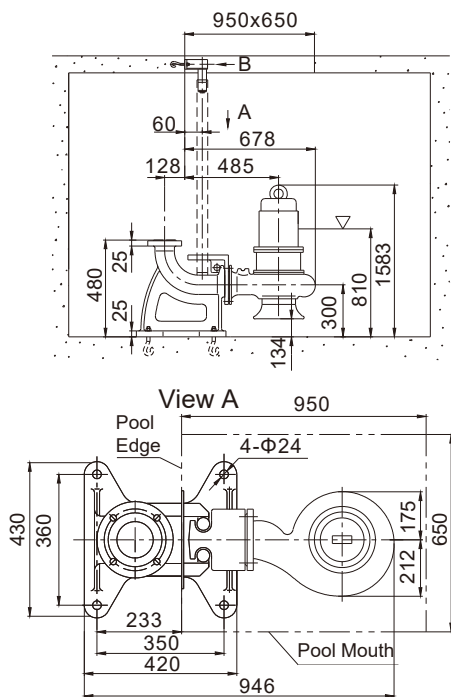
Main Parameter

Outlet Diameter 100mm

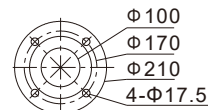
No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	100WQ185-42-37	WQ2290-2132	48	2945	430
2	100WQ165-39-30	WQ2290-2131	48	2945	410
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor $\cos \phi$	Motor Efficiency (%)	Rated Torque Block Torque /
1	37	68	0.90	92.0	2.2
2	30	56	0.90	91.2	2.1

Installation Dimension Diagram

Z Automatic Coupling Installation

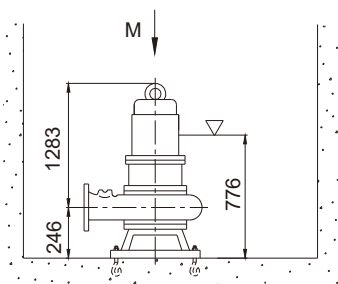


Flange Dimension

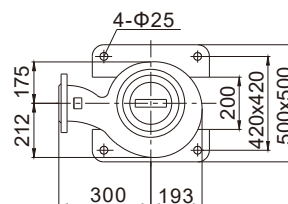


According to GB/T17241.6PN6 Standard Flange

P Fixed Base Installation



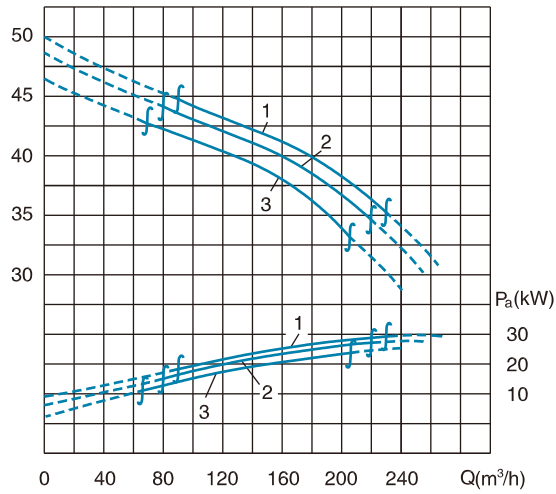
View M



Main Parameter

Outlet Diameter 150mm

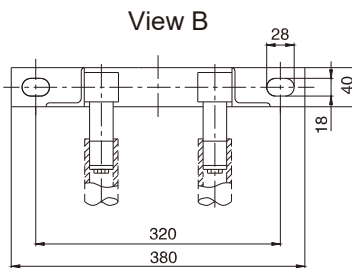
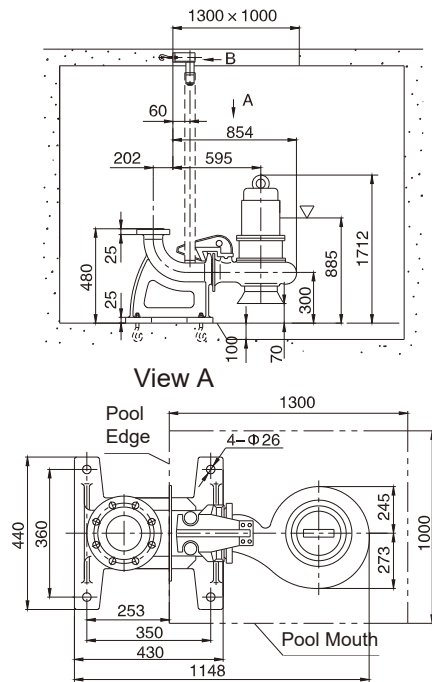
Performance Curve Graph



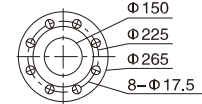
No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	150WQ160-42-30	WQ2290-4135	89	1470	445
2	150WQ160-40-30	WQ2290-4135A	89	1470	440
3	150WQ160-38-30	WQ2290-4135B	89	1470	435
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency (%)	Rated Torque Block Torque /
1	30	58	0.86	92	2.2
2	30	58	0.86	92	2.2
3	30	58	0.86	92	2.2

Installation Dimension Diagram

Z Automatic Coupling Installation

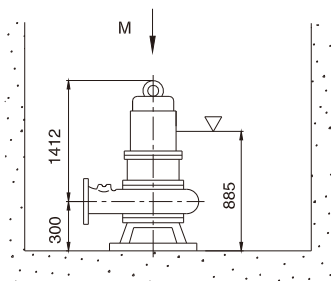


Flange Dimension

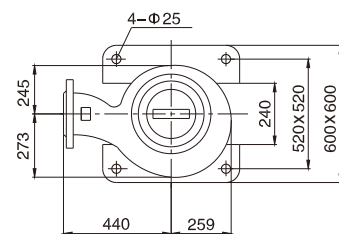


According to GB/T17241.6PN6 Standard Flange

P Fixed Base Installation



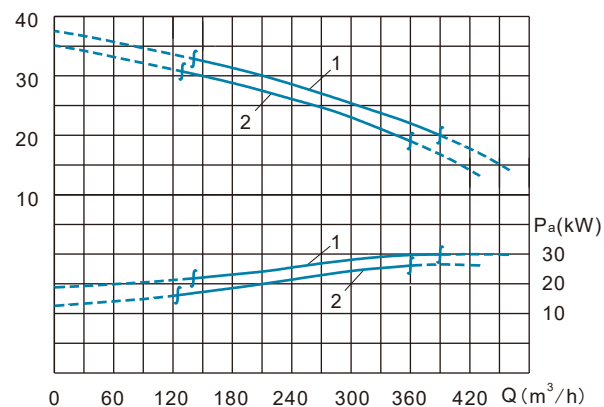
View M



Main Parameter

Outlet Diameter 150mm

Performance Curve Graph

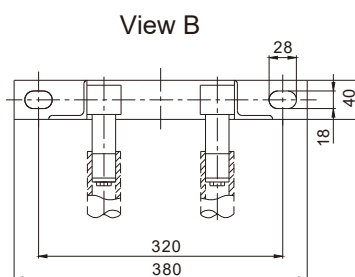
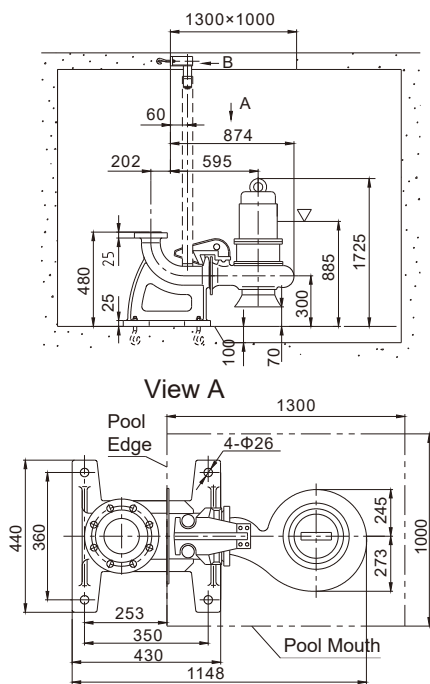


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	150WQ250-28-30	WQ2290-4134	76	1475	445
2	150WQ250-26-30	WQ2290-4134A	76	1475	440

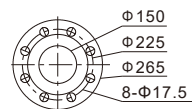
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	30	58	0.86	92	2.2
2	30	58	0.86	92	2.2

Installation Dimension Diagram

Z Automatic Coupling Installation

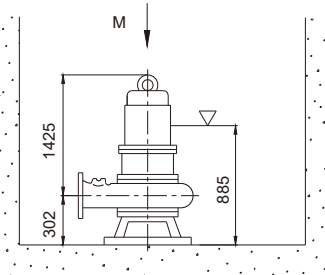


Flange Dimension

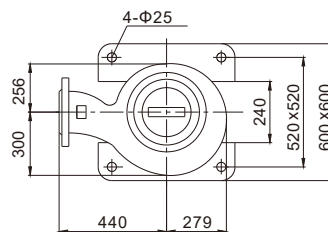


According to GB/T17241.6PN6 Standard Flange

P Fixed Base Installation

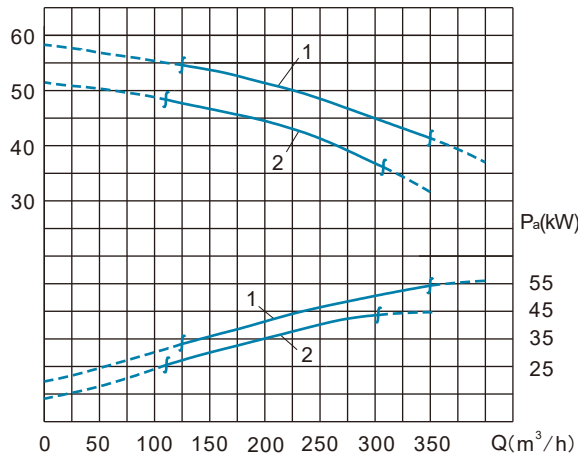


View M



Main Parameter
Outlet Diameter 150mm

Performance Curve Graph

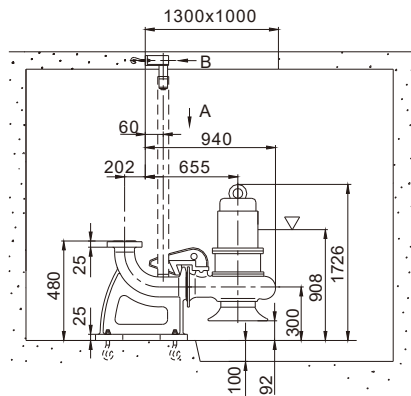


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	150WQ245-48-55	WQ2290-4171	76	1475	550
2	150WQ220-45-45	WQ2290-4170	76	1475	520

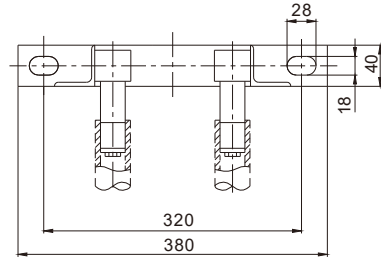
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	55	103	0.87	93.2	2.2
2	45	85	0.87	93	2.2

Installation Dimension Diagram

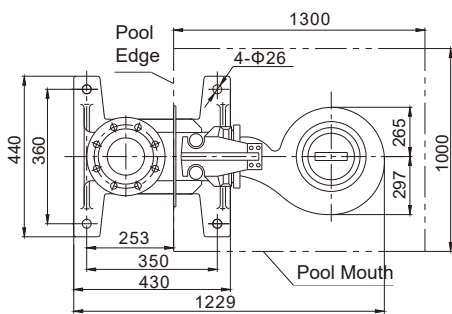
Z Automatic Coupling Installation



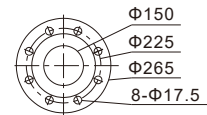
View B



View A

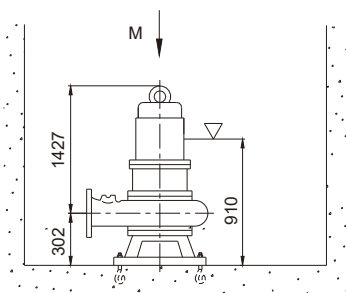


Flange Dimension

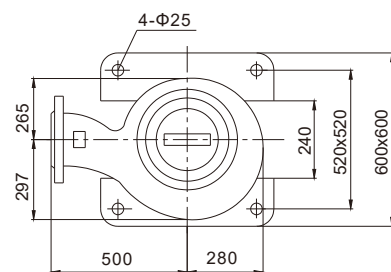


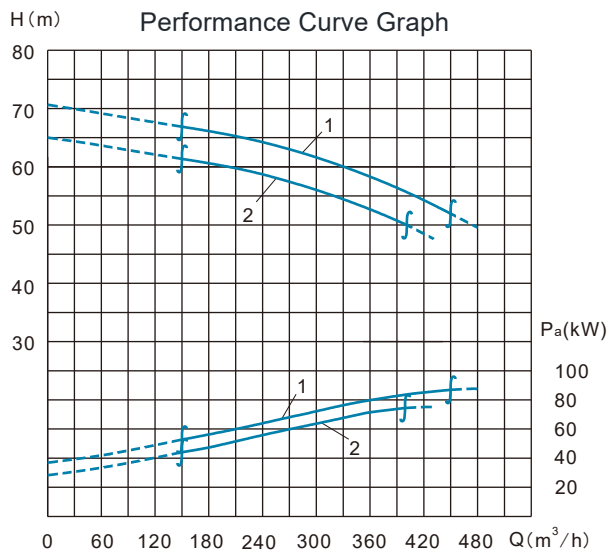
According to
GB/T17241.6PN6 Standard Flange

P Fixed Base Installation



View M





Main Parameter

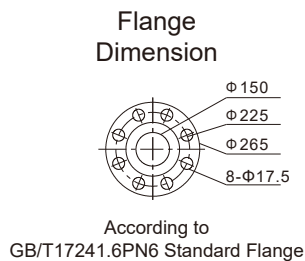
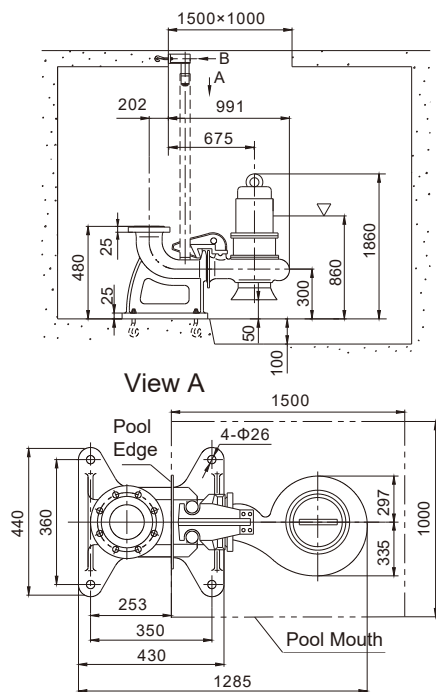
Outlet Diameter 150mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	150WQ330-60-90	WQ2368-4166	82	1485	820
2	150WQ295-56-75	WQ2368-4165	82	1485	790

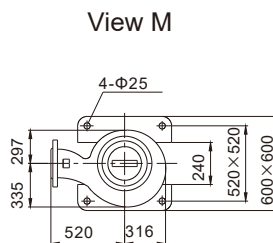
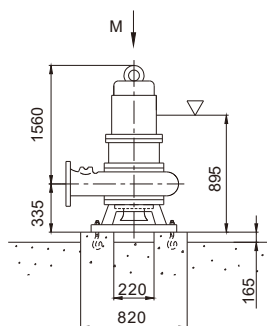
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	90	167	0.87	94.2	2.2
2	75	140	0.87	93.8	2.2

Installation Dimension Diagram

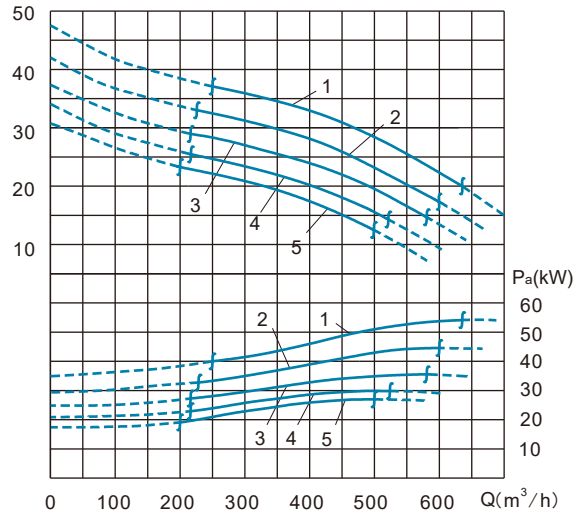
Z Automatic Coupling Installation



P Fixed Base Installation



H (m) Performance Curve Graph

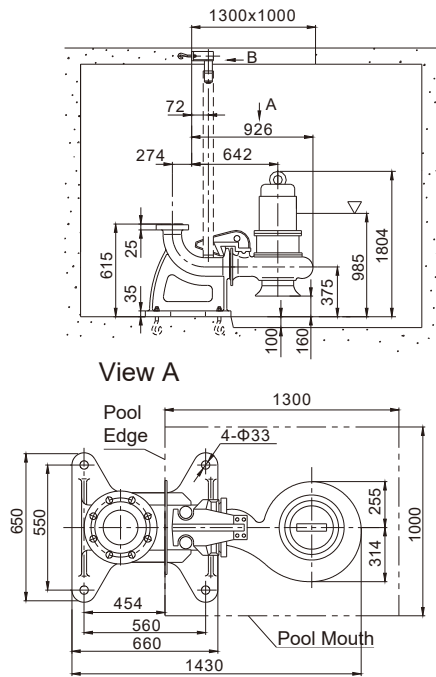


Main Parameter
Outlet Diameter 150mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	200WQ440-31-55	WQ2290-4175	113	1470	560
2	200WQ400-28-45	WQ2290-4174	113	1470	530
3	200WQ400-24-37	WQ2290-4173	113	1470	500
4	200WQ360-22-30	WQ2290-4172	113	1470	480
5	200WQ330-20-30	WQ2290-4172A	113	1470	475
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency (%)	Rated Torque Block Torque /
1	55	103	0.87	93.2	2.2
2	45	85	0.87	93	2.2
3	37	70	0.87	92.5	2.2
4	30	58	0.86	92.0	2.2
5	30	58	0.86	92.0	2.2

Installation Dimension Diagram

Z Automatic Coupling Installation



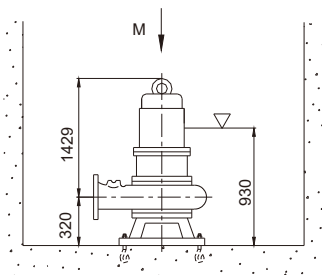
View A

View B

Flange Dimension

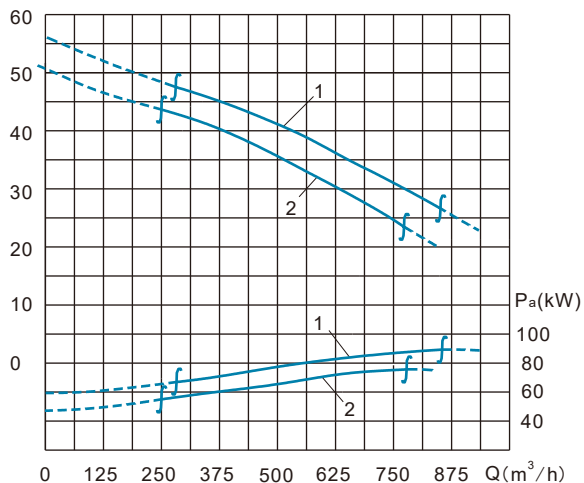
According to GB/T17241.6PN6 Standard Flange

P Fixed Base Installation



View M

Performance Curve Graph



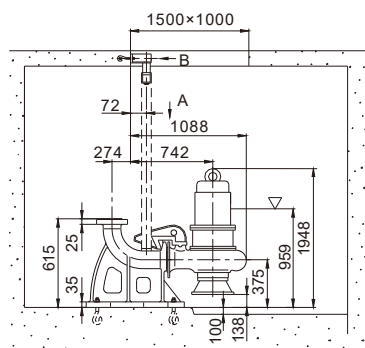
Main Parameter
Outlet Diameter 200mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	200WQ570-39-90	WQ2368-4146	96	1485	810
2	200WQ600-33-75	WQ2368-4145	96	1485	780

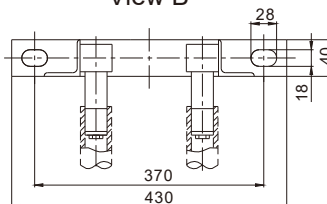
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency (%)	Rated Torque Block Torque /
1	90	167	0.87	94.2	2.2
2	75	140	0.87	93.8	2.2

Installation Dimension Diagram

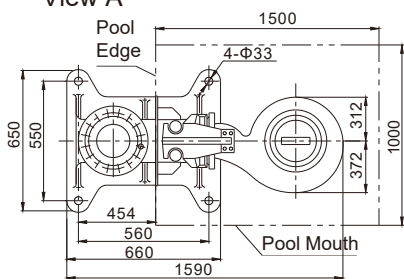
Z Automatic Coupling Installation



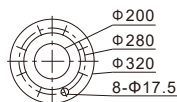
View B



View A

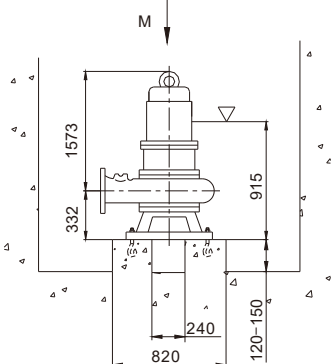


Flange Dimension

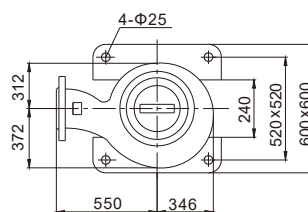


According to GB/T17241.6PN6 Standard Flange

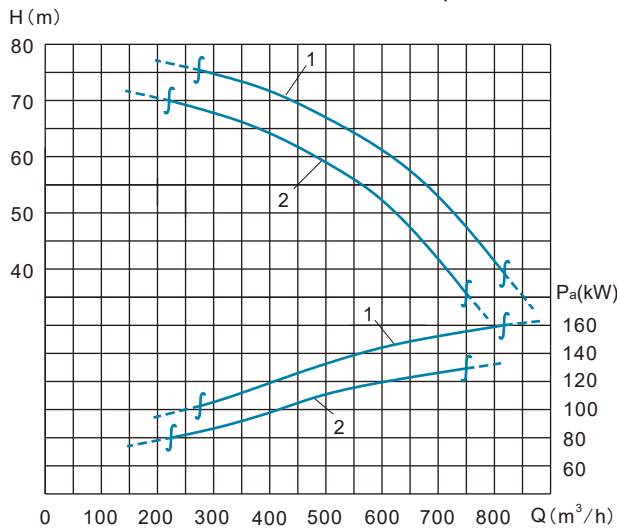
P Fixed Base Installation



View M



Performance Curve Graph



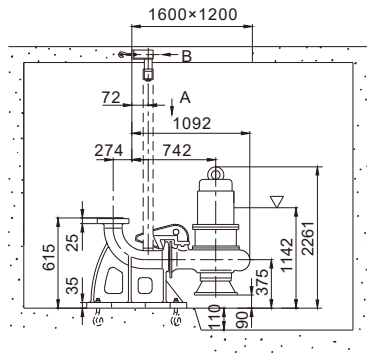
Main Parameter
Outlet Diameter 200mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	200WQ520-67-160	WQ2445-4148	96	1485	1500
2	200WQ480-60-132	WQ2445-4147	96	1485	1400

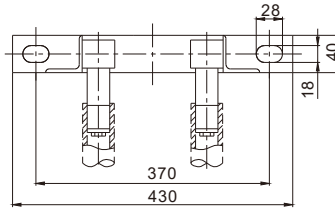
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	160	294	0.88	94	2.2
2	132	242	0.88	94	2.2

Installation Dimension Diagram

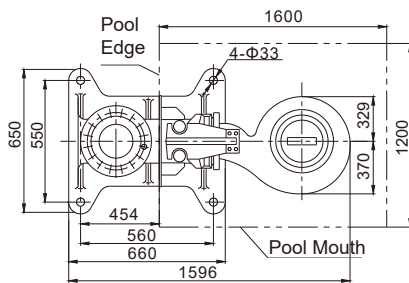
Z Automatic Coupling Installation



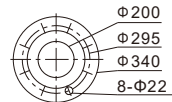
View B



View A

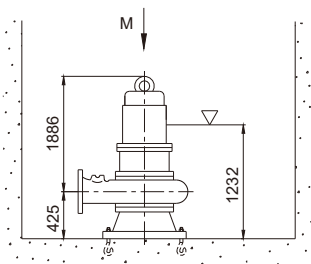


Flange Dimension

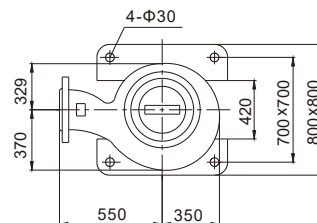


According to
GB/T17241.6PN10 Standard Flange

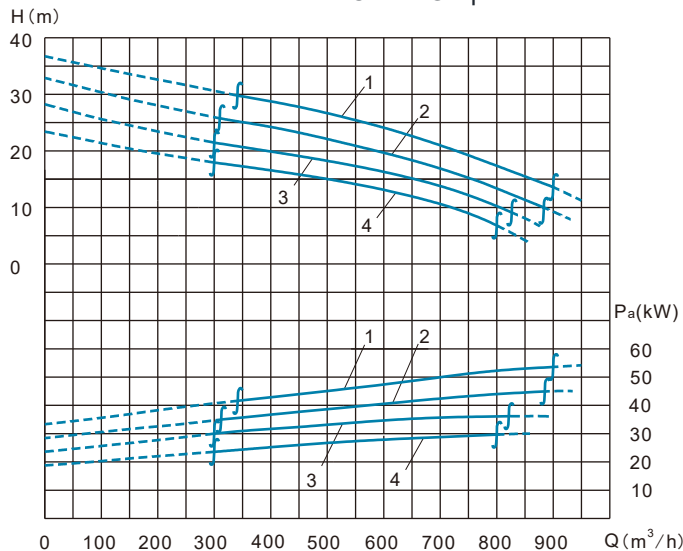
P Fixed Base Installation



View M



Performance Curve Graph



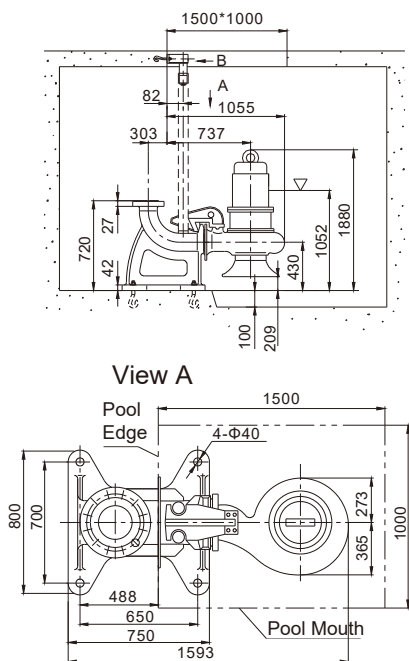
Main Parameter
Outlet Diameter 200mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	250WQ650-22-55	WQ2290-4168	130	1470	580
2	250WQ650-18-45	WQ2290-4112	130	1470	550
3	250WQ650-15-37	WQ2290-4110	130	1470	520
4	250WQ650-12-30	WQ2290-4109	130	1470	500

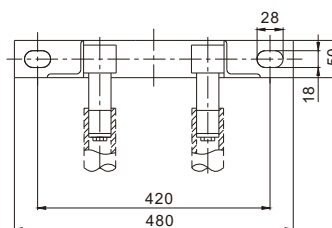
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	55	103	0.87	93.2	2.2
2	45	85	0.87	93	2.2
3	37	70	0.87	92.5	2.2
4	30	58	0.86	92	2.2

Installation Dimension Diagram

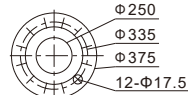
Z Automatic Coupling Installation



View B

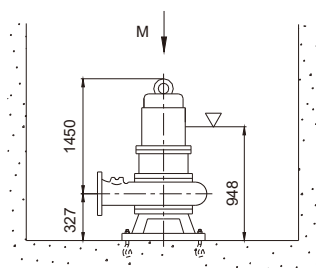


Flange Dimension

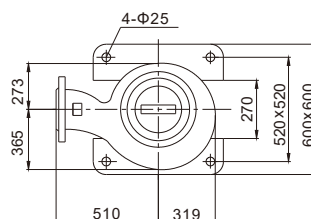


According to GB/T17241.6PN6 Standard Flange

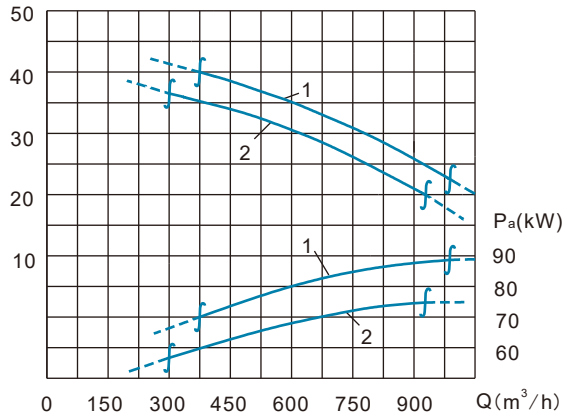
P Fixed Base Installation



View M



Performance Curve Graph



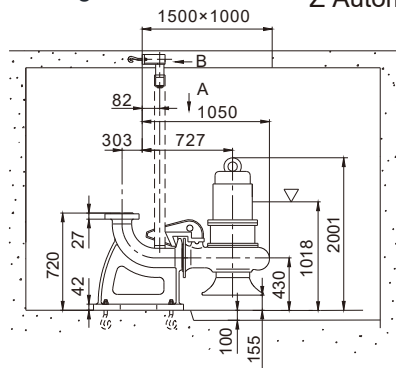
Main Parameter
Outlet Diameter 250mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	250WQ600-34-90	WQ2368-4150	138	1485	880
2	250WQ600-30-75	WQ2368-4149	138	1485	850

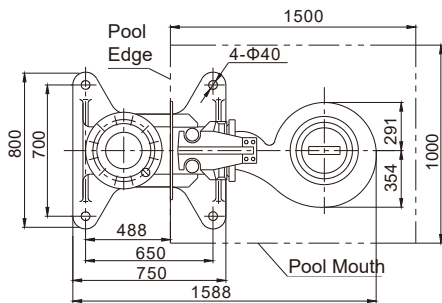
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency (%)	Rated Torque Block Torque /
1	90	167	0.87	94.2	2.2
2	75	140	0.87	93.8	2.2

Installation Dimension Diagram

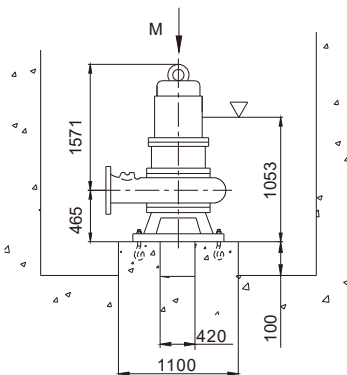
Z Automatic Coupling Installation



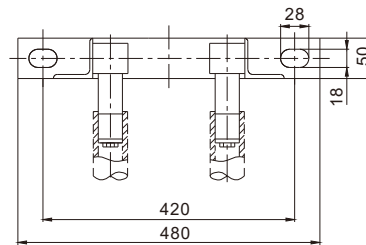
View A



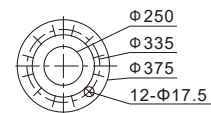
P Fixed Base Installation



View B

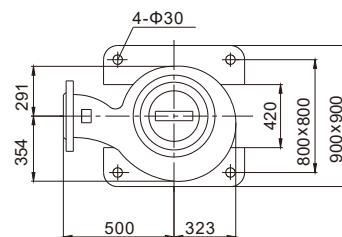


Flange Dimension



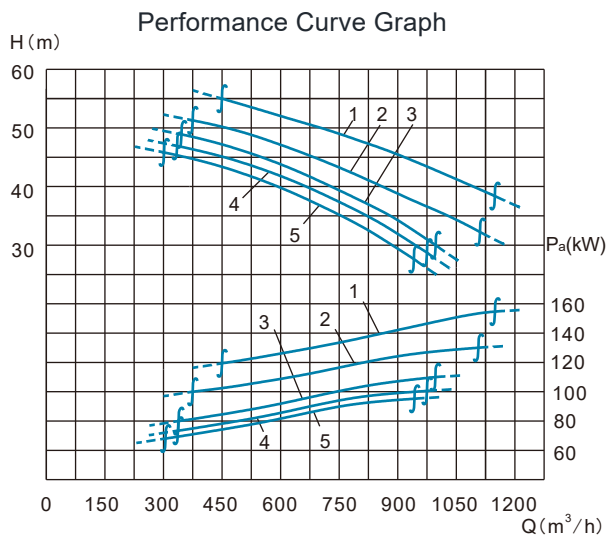
According to GB/T17241.6PN6 Standard Flange

View M



Main Parameter

Outlet Diameter 250mm

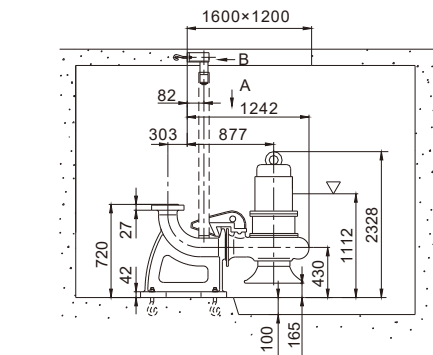


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	250WQ880-46-160	WQ2445-4153	110	1485	1400
2	250WQ770-43-132	WQ2445-4152	110	1485	1300
3	250WQ675-42-110	WQ2445-4152A	110	1485	1210
4	250WQ650-40-110	WQ2445-4151	110	1485	1205
5	250WQ600-40-110	WQ2445-4151A	110	1485	1200

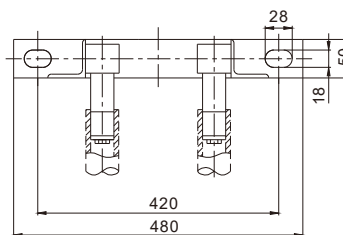
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	160	294	0.88	94	2.1
2	132	242	0.88	94	2.2
3	110	201	0.88	94	2.2
4	110	201	0.88	94	2.2
5	110	201	0.88	94	2.2

Installation Dimension Diagram

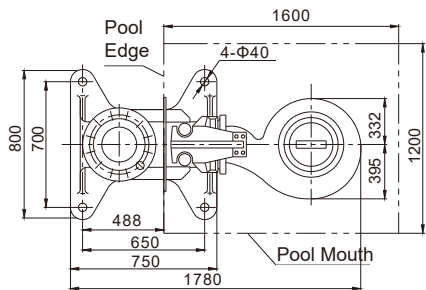
Z Automatic Coupling Installation



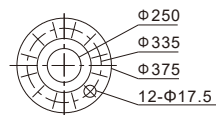
View B



View A

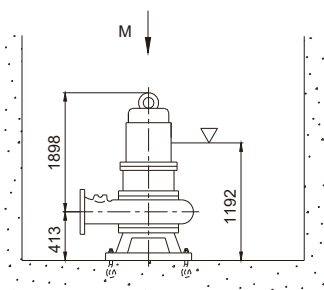


Flange Dimension

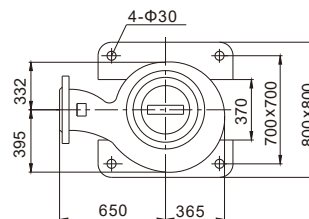


According to GB/T17241.6PN6 Standard Flange

P Fixed Base Installation



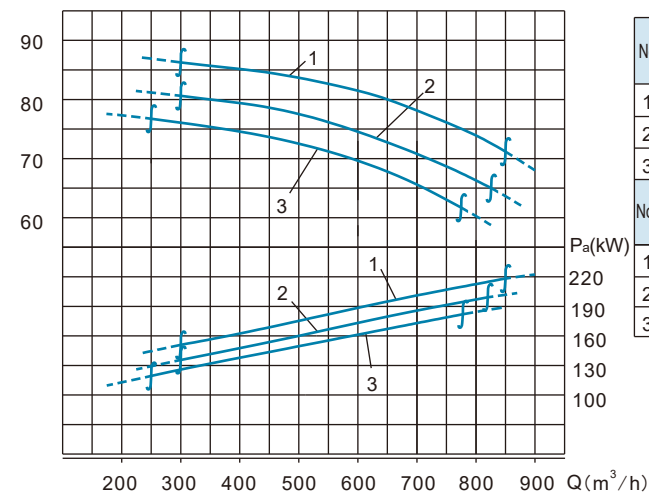
View M



Main Parameter

Outlet Diameter 250mm

Performance Curve Graph

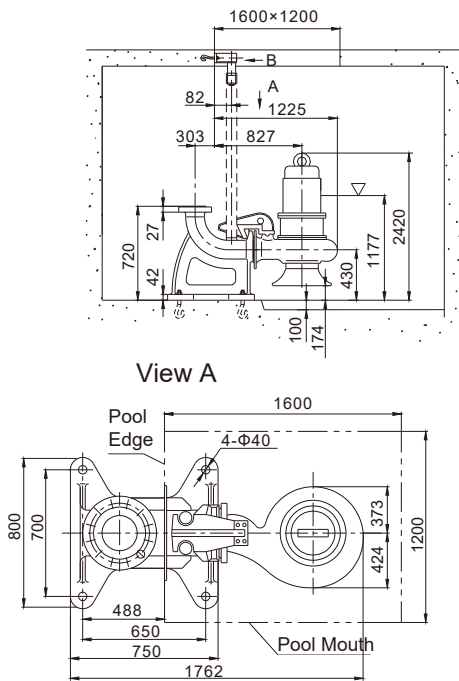


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	250WQ650-80-220	WQ2520-4167	138	1485	2000
2	250WQ600-75-200	WQ2520-4166	138	1485	1900
3	250WQ550-70-185	WQ2520-4165	138	1485	1850

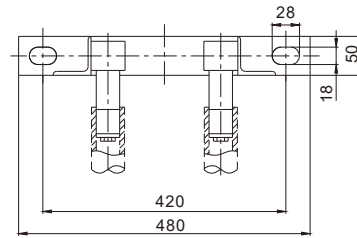
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	220	396	0.89	95	2.2
2	200	363	0.89	94	2.2
3	185	340	0.88	94	2.1

Installation Dimension Diagram

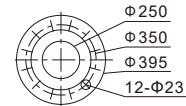
Z Automatic Coupling Installation



View B

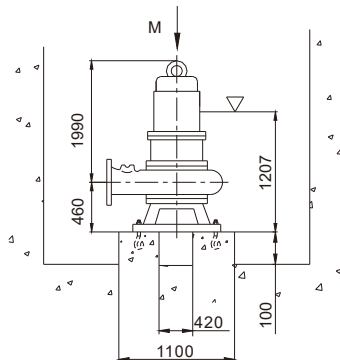


Flange Dimension

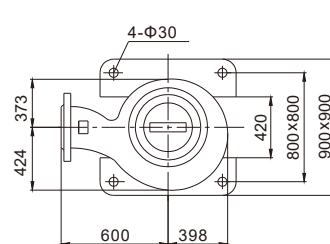


According to GB/T17241.6PN6 Standard Flange

P Fixed Base Installation



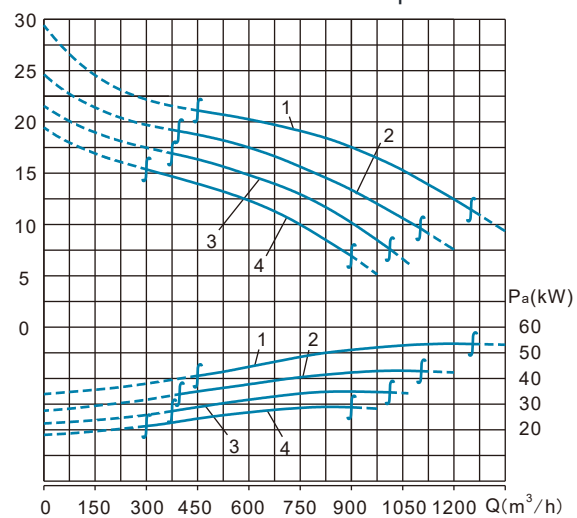
View M



Main Parameter

Outlet Diameter 250mm

Performance Curve Graph

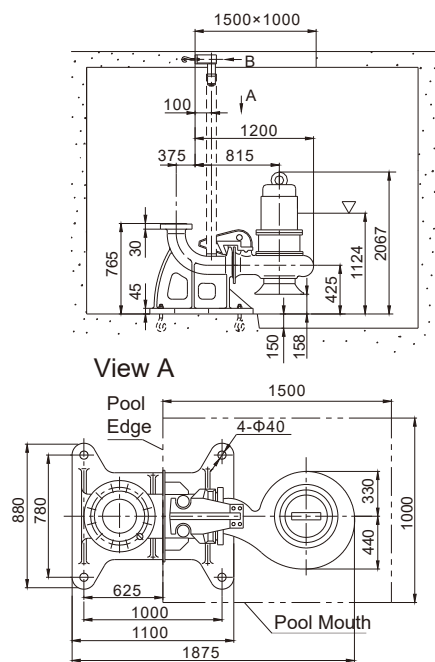


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	300WQ900-17-55	WQ2290-4118	149×136	980	800
2	300WQ800-15-45	WQ2290-4117	149×136	980	770
3	300WQ700-14-37	WQ2290-4116	149×136	980	720
4	300WQ700-11-30	WQ2290-4115	149×136	980	700

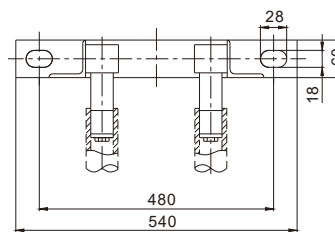
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	55	105	0.86	92.8	2.3
2	45	86	0.86	92.5	2.3
3	37	71	0.86	91.7	2.3
4	30	58	0.85	91.6	2.1

Installation Dimension Diagram

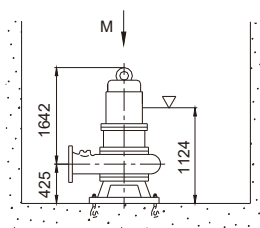
Z Automatic Coupling Installation



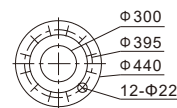
View B



P Fixed Base Installation

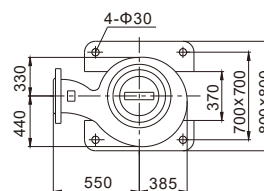


Flange Dimension



According to GB/T17241.6PN6 Standard Flange

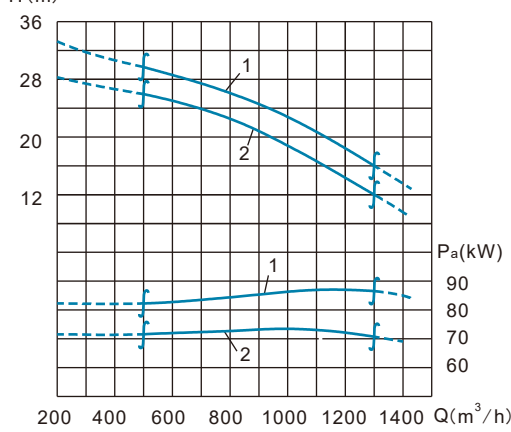
View M



Main Parameter

Outlet Diameter 250mm

Performance Curve Graph

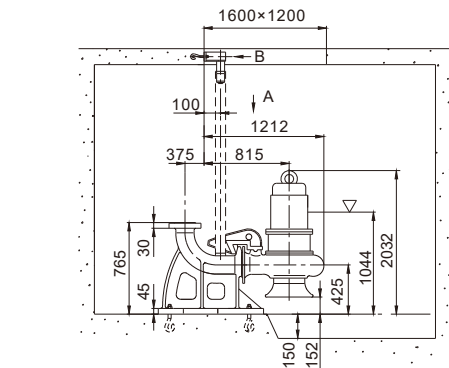


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	300WQ950-24-90	WQ2368-4120	157	1485	900
2	300WQ930-20-75	WQ2368-4120A	157	1485	870

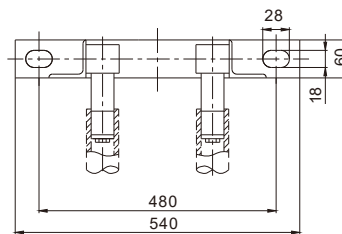
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	90	167	0.87	94.2	2.2
2	75	140	0.87	93.8	2.2

Installation Dimension Diagram

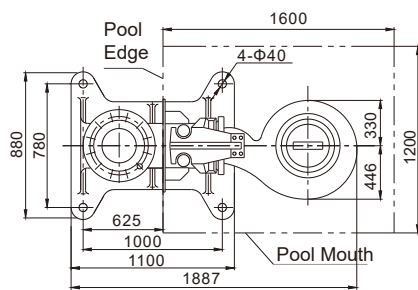
Z Automatic Coupling Installation



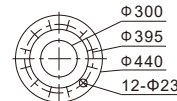
View B



View A

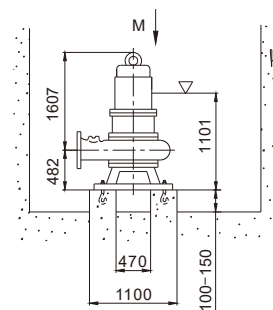


Flange Dimension

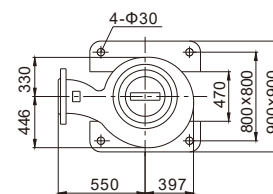


According to GB/T17241.6PN6 Standard Flange

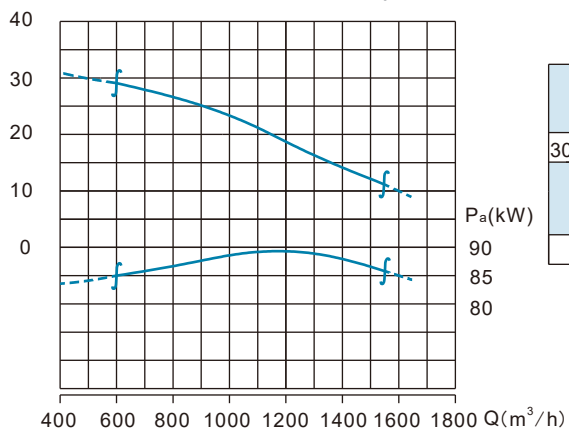
P Fixed Base Installation



View M



Performance Curve Graph

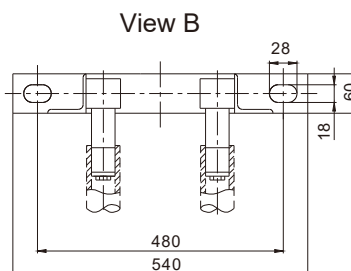
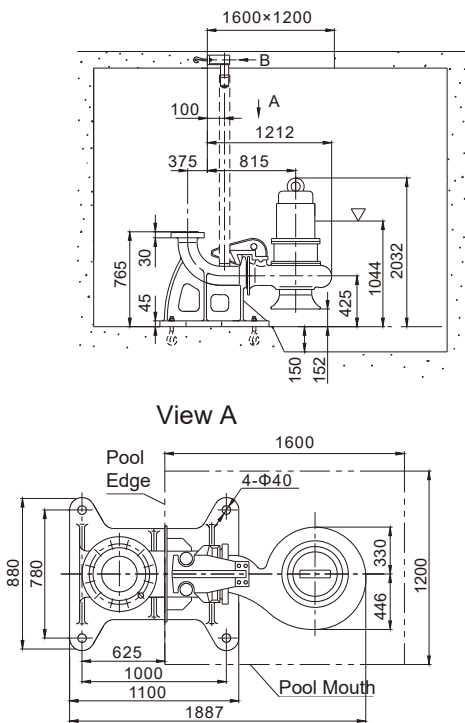


Main Parameter
Outlet Diameter 300mm

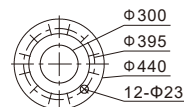
New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
300WQ1000-22-90	WQ2368-4121	157	1485	902
Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
90	167	0.87	94.2	2.2

Installation Dimension Diagram

Z Automatic Coupling Installation

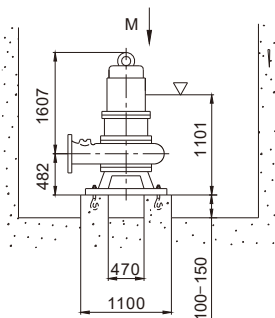


Flange Dimension

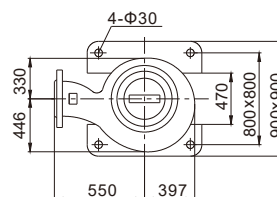


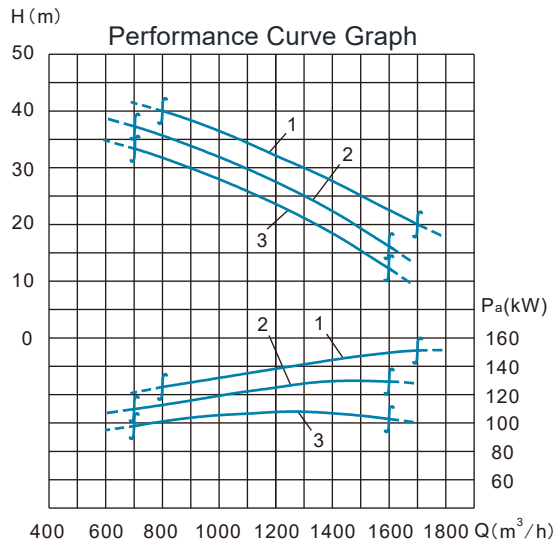
According to GB/T17241.6PN6 Standard Flange

P Fixed Base Installation



View M





Main Parameter

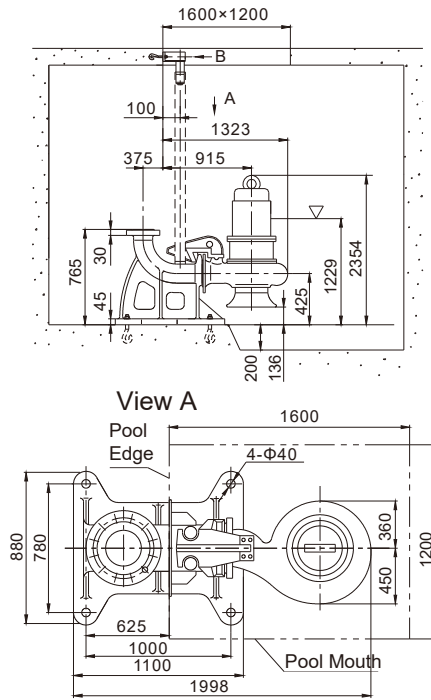
Outlet Diameter 300mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	300WQ1300-30-160	WQ2445-4140	128	1485	1600
2	300WQ1200-27-132	WQ2445-4140A	128	1485	1500
3	300WQ1200-24-110	WQ2445-4139	128	1485	1430

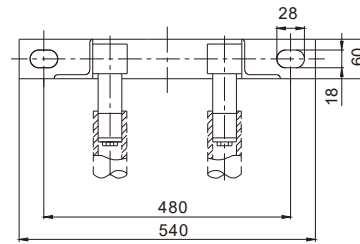
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	160	294	0.88	94	2.1
2	132	242	0.88	94	2.1
3	110	202	0.88	94	2.2

Installation Dimension Diagram

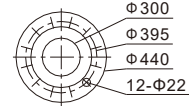
Z Automatic Coupling Installation



View B

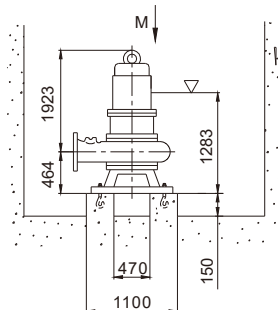


Flange Dimension

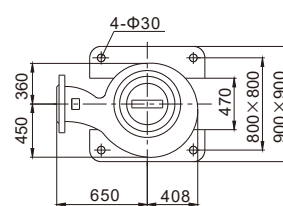


According to GB/T17241.6PN6 Standard Flange

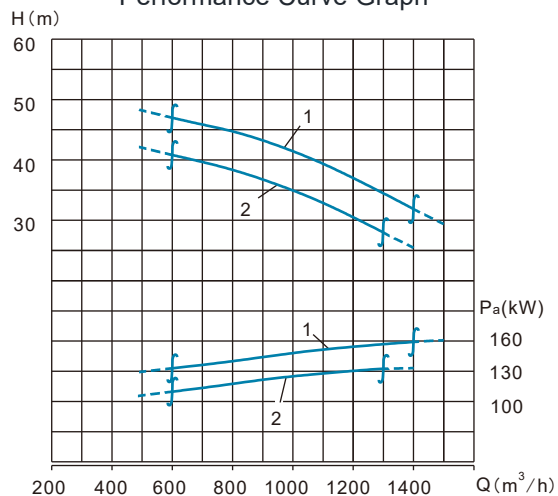
P Fixed Base Installation



View M



Performance Curve Graph



Main Parameter

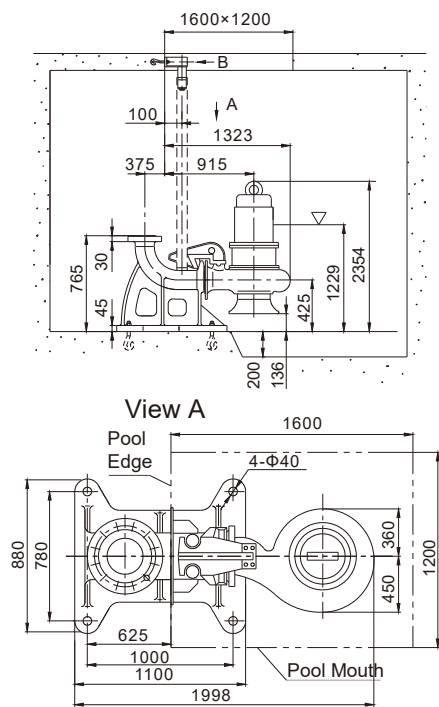
Outlet Diameter 300mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	300WQ1050-40-160	WQ2445-4141	128	1485	1615
2	300WQ1000-35-132	WQ2445-4141A	128	1485	1520

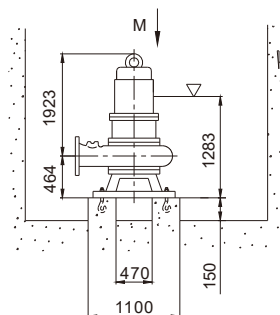
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	160	294	0.88	94	2.1
2	132	242	0.88	94	2.2

Installation Dimension Diagram

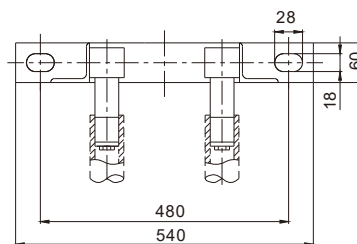
Z Automatic Coupling Installation



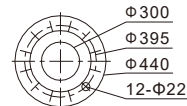
P Fixed Base Installation



View B

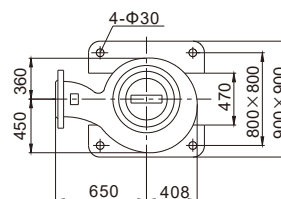


Flange Dimension

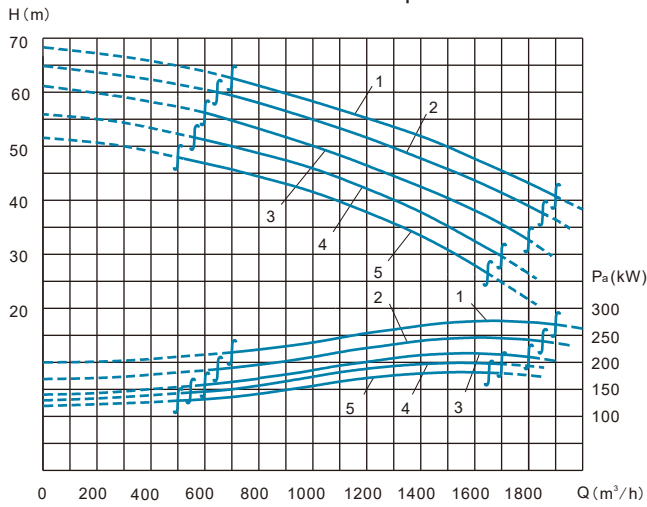


According to GB/T17241.6PN6 Standard Flange

View M



Performance Curve Graph



Main Parameter

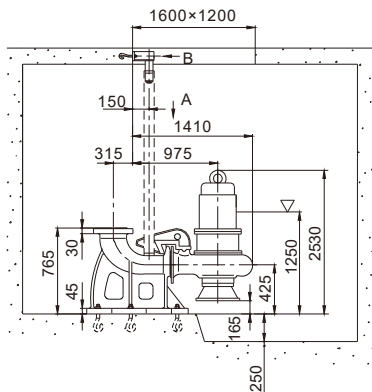
Outlet Diameter 300mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	300WQ1400-52-280	WQ2520-4164	74	1485	2500
2	300WQ1400-49-250	WQ2520-4163	74	1485	2300
3	300WQ1400-42-220	WQ2520-4162	74	1485	2150
4	300WQ1400-37-200	WQ2520-4161	74	1485	2050
5	300WQ1200-37-185	WQ2520-4160	74	1485	2000

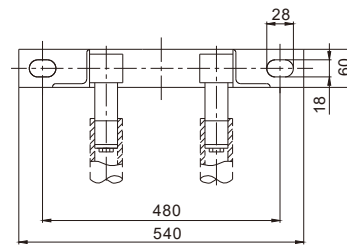
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency (%)	Rated Torque Block Torque /
1	280	495	0.90	95.5	2.2
2	250	450	0.89	95	2.2
3	220	396	0.89	95	2.2
4	200	363	0.89	94	2.2
5	185	340	0.88	94	2.1

Installation Dimension Diagram

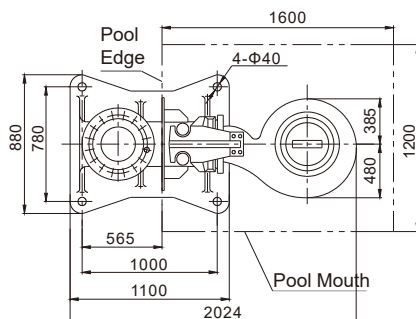
Z Automatic Coupling Installation



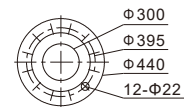
View B



View A

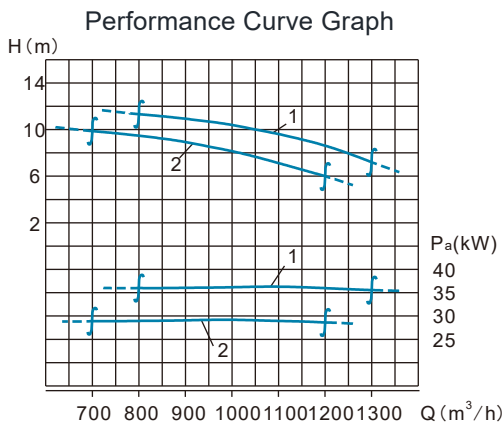


Flange Dimension



According to GB/T17241.6PN6 Standard Flange

Notice: This pump cannot exchange coupling devices with other 300 caliber pumps.



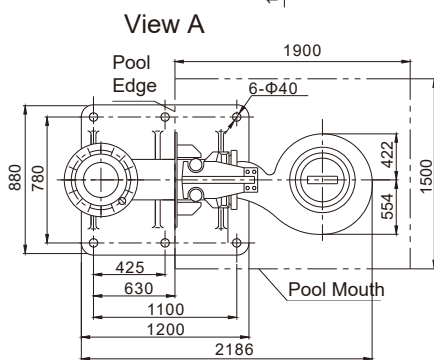
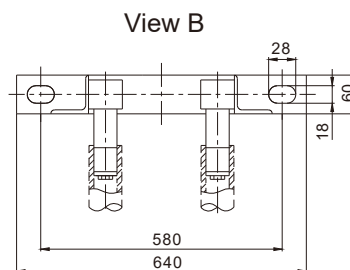
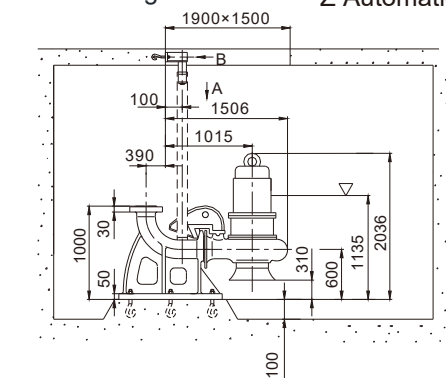
Main Parameter Outlet Diameter 350mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	350WQ1200-8-37	WQ2368-6159	114	980	880
2	350WQ900-9-30	WQ2368-6158	114	980	850

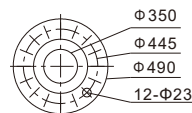
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	37	71	0.86	91.7	2.3
2	30	58	0.85	91.6	2.1

Installation Dimension Diagram

Z Automatic Coupling Installation

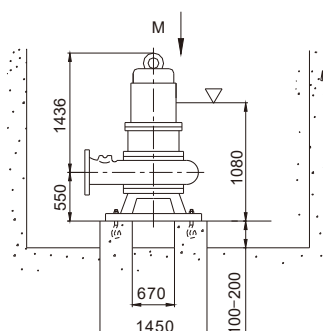


Flange Dimension

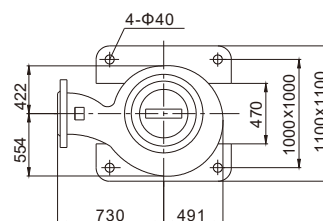


According to GB/T17241.6PN6 Standard Flange

P Fixed Base Installation

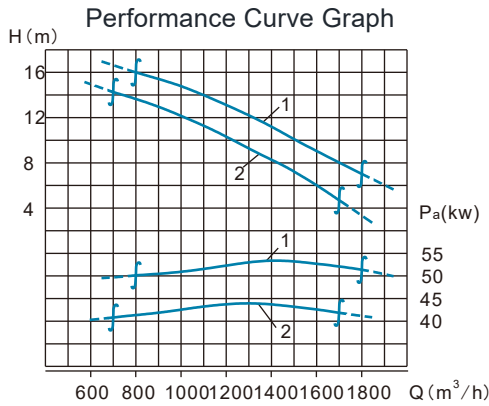


View M



Main Parameter

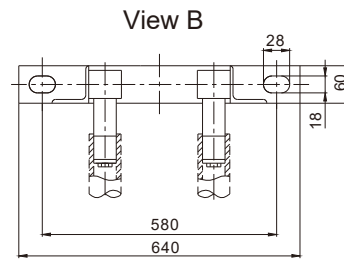
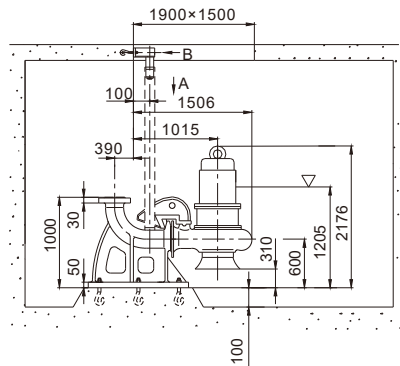
Outlet Diameter 350mm



No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	350WQ1300-12-55	WQ2368-6161	114	980	960
2	350WQ1200-10-45	WQ2368-6160	114	980	920
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	55	105	0.86	92.8	2.3
2	45	86	0.86	92.5	2.3

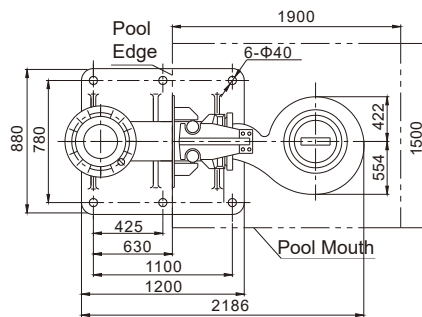
Installation Dimension Diagram

Z Automatic Coupling Installation

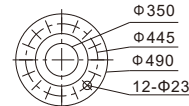


View A

View B

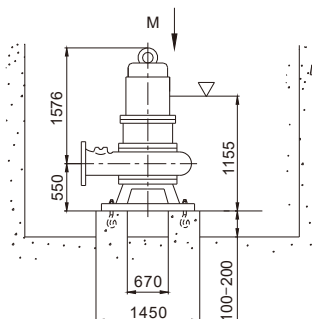


Flange Dimension

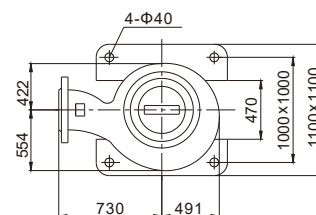


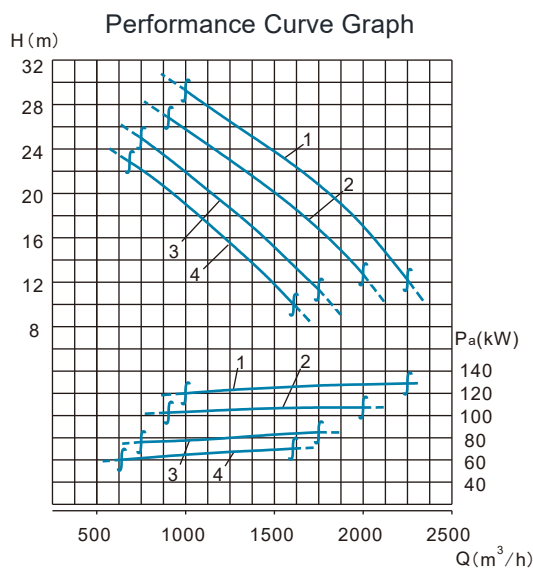
According to
GB/T17241.6PN6 Standard Flange

P Fixed Base Installation



View M





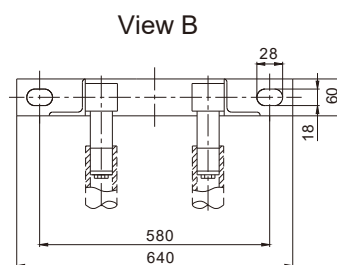
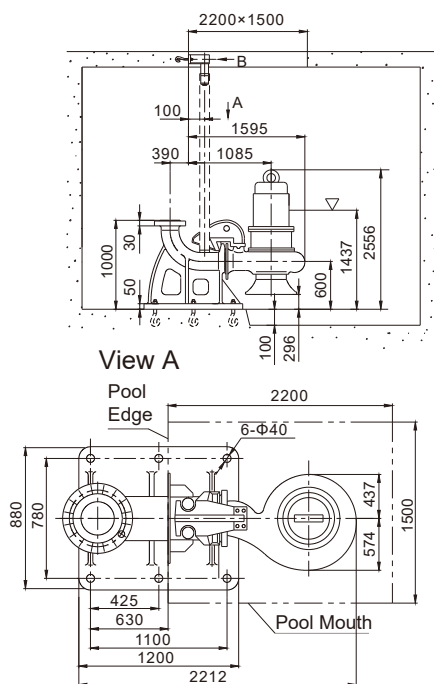
Main Parameter Outlet Diameter 350mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	350WQ1800-20-132	WQ2445-6124	130	990	1700
2	350WQ1750-16-110	WQ2445-6123	130	990	1650
3	350WQ1400-15-90	WQ2445-6122	130	990	1600
4	350WQ1150-16-75	WQ2445-6121	130	990	1570

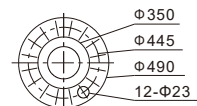
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	132	245	0.87	94.2	2.1
2	110	207	0.86	94	2.1
3	90	170	0.86	93.8	2.0
4	75	142	0.86	93.5	2.0

Installation Dimension Diagram

Z Automatic Coupling Installation

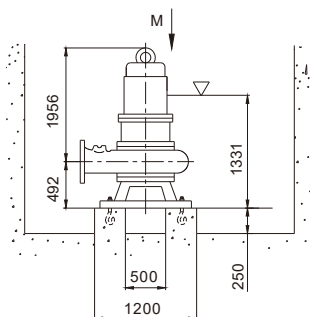


Flange Dimension

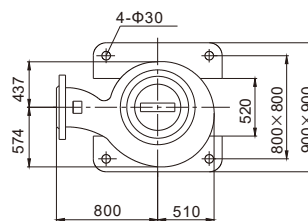


According to GB/T17241.6PN6 Standard Flange

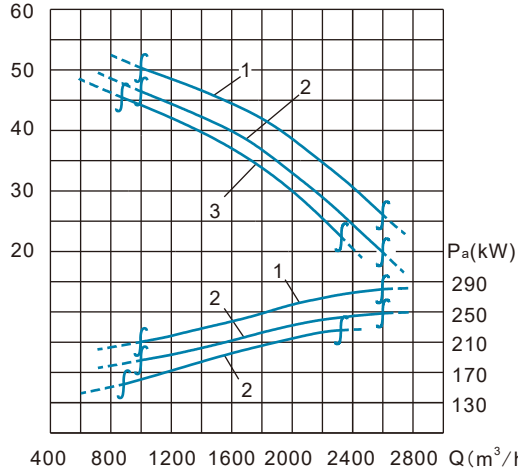
P Fixed Base Installation



View M



H (m) Performance Curve Graph



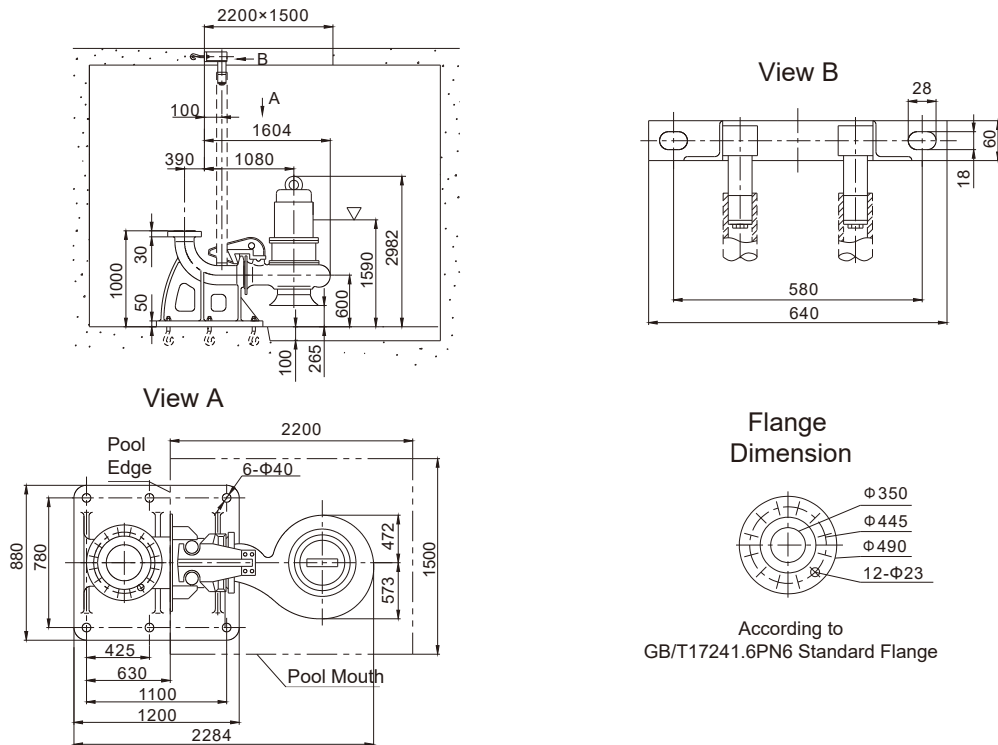
Main Parameter
Outlet Diameter 350mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	350WQ1900-40-280	WQ2590-6115	169	990	3400
2	350WQ1600-40-250	WQ2590-6114	169	990	3300
3	350WQ1600-38-220	WQ2590-6113	169	990	3200

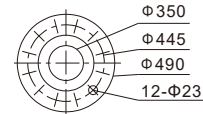
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency (%)	Rated Torque Block Torque /
1	280	507	0.88	95.2	1.5
2	250	453	0.88	95.1	1.45
3	220	398	0.88	95.1	1.52

Installation Dimension Diagram

Z Automatic Coupling Installation

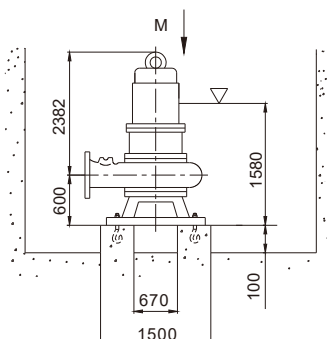


Flange Dimension

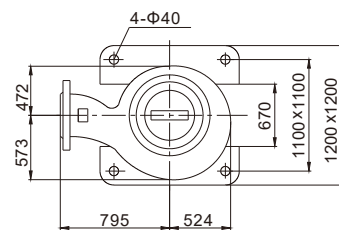


According to
GB/T17241.6PN6 Standard Flange

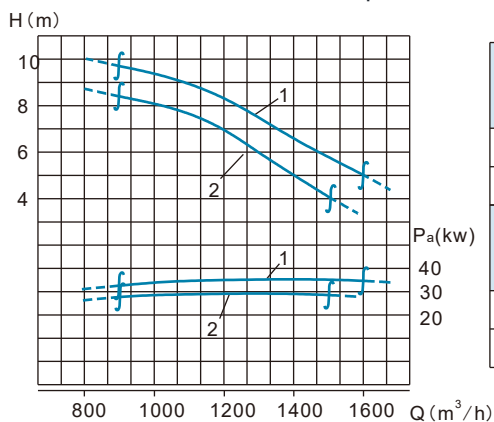
P Fixed Base Installation



View M



Performance Curve Graph



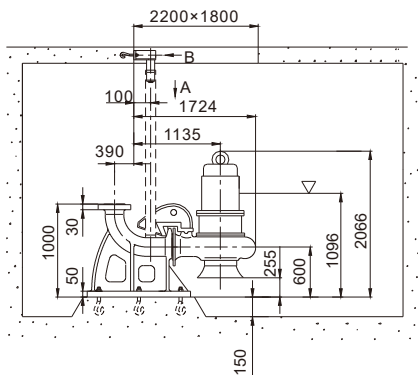
Main Parameter
Outlet Diameter 400mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	400WQ1350-7-37	WQ2368-8156	104	735	1200
2	400WQ1300-6-30	WQ2368-8155	104	735	1180

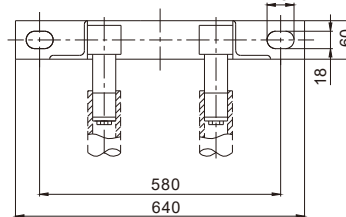
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	37	78	0.79	91.5	2.0
2	30	63	0.8	90.7	1.9

Installation Dimension Diagram

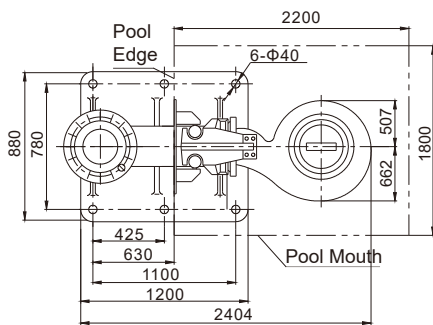
Z Automatic Coupling Installation



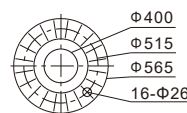
View B



View A

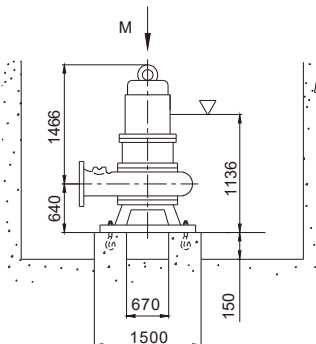


Flange Dimension

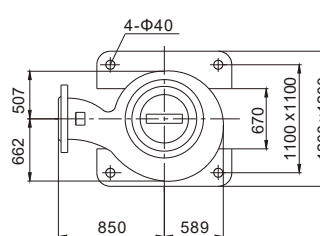


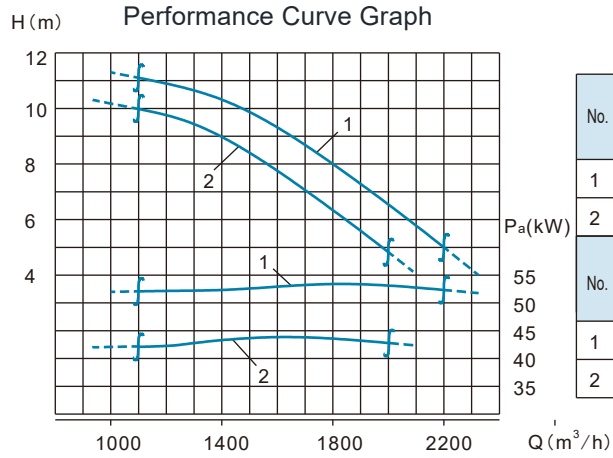
According to GB/T17241.6PN10 Standard Flange

P Fixed Base Installation



View M





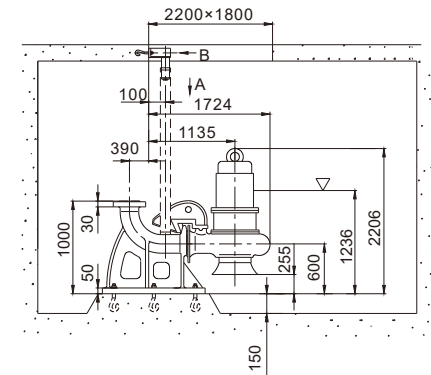
Main Parameter Outlet Diameter 400mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	400WQ1500-10-55	WQ2368-8158	104	735	1300
2	400WQ1500-8-45	WQ2368-8157	104	735	1250

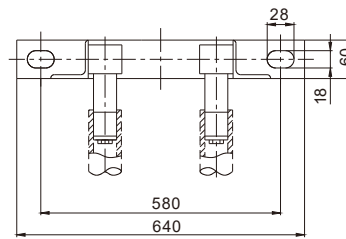
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency (%)	Rated Torque Block Torque /
1	55	115	0.81	92.8	1.8
2	45	95	0.79	92	2.0

Installation Dimension Diagram

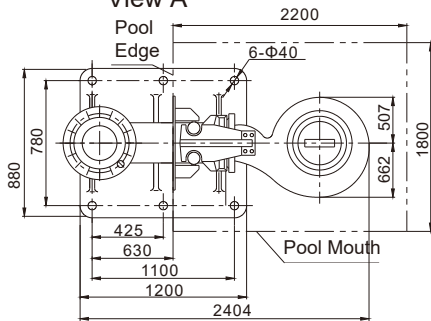
Z Automatic Coupling Installation



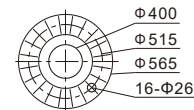
View B



View A

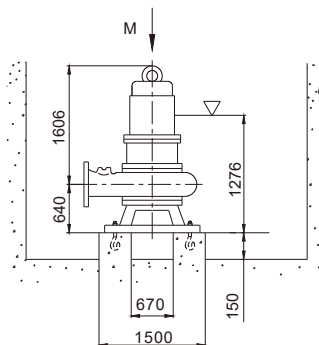


Flange Dimension

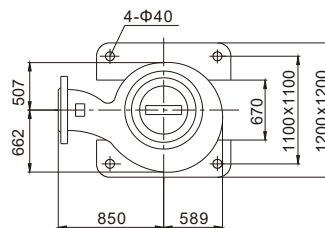


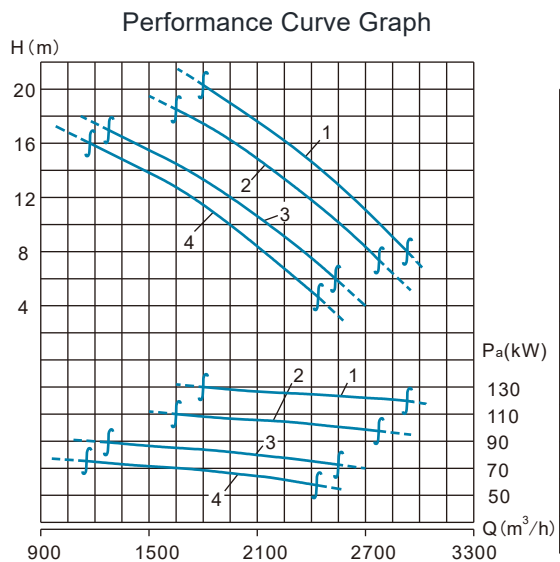
According to
GB/T17241.6PN10 Standard Flange

P Fixed Base Installation



View M





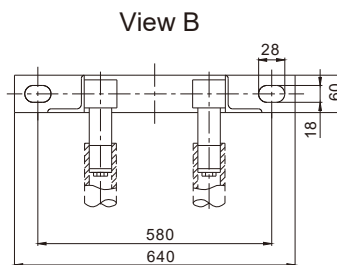
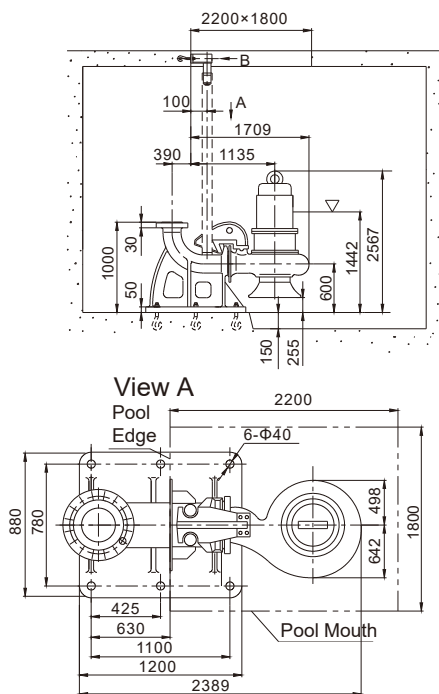
Main Parameter Outlet Diameter 400mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	400WQ2400-15-132	WQ2445-6165	125	990	1850
2	400WQ2100-14-110	WQ2445-6164	120	990	1800
3	400WQ1800-13-90	WQ2445-6163	118	990	1750
4	400WQ1650-13-75	WQ2445-6162	115	990	1730

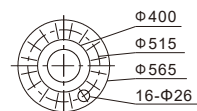
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	132	245	0.87	94.2	2.1
2	110	207	0.86	94	2.1
3	90	170	0.86	93.8	2.0
4	75	142	0.86	93.5	2.0

Installation Dimension Diagram

Z Automatic Coupling Installation

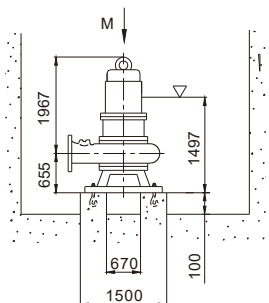


Flange Dimension

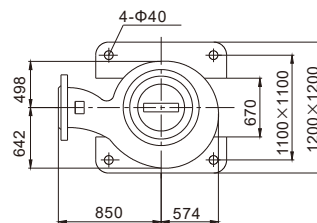


According to GB/T17241.6PN10 Standard Flange

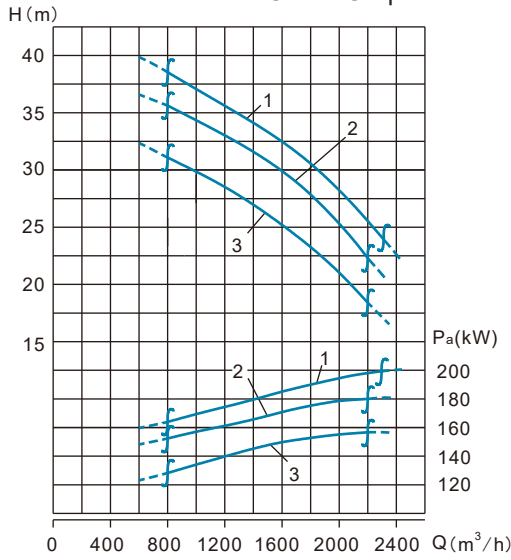
P Fixed Base Installation



View M



Performance Curve Graph

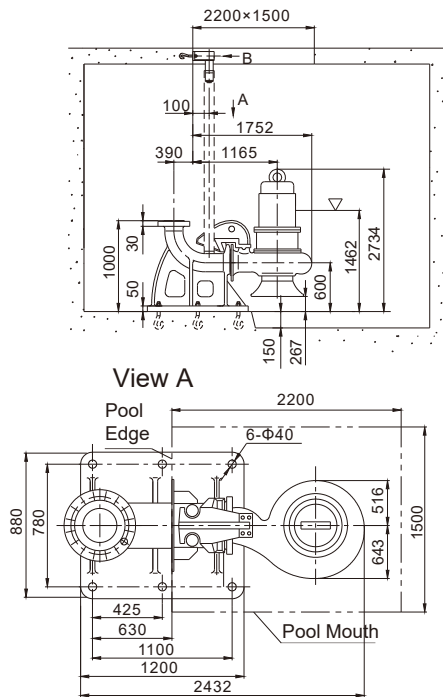


Main Parameter
Outlet Diameter 400mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	400WQ1800-31-200	WQ2520-6103	163	990	2400
2	400WQ1800-28-185	WQ2520-6102	163	990	2360
3	400WQ1600-25-160	WQ2520-6101	163	990	2320
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	200	370	0.88	95	2.0
2	185	337	0.88	94.9	2.0
3	160	291	0.88	94.8	2.0

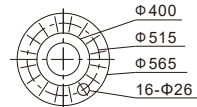
Installation Dimension Diagram

Z Automatic Coupling Installation



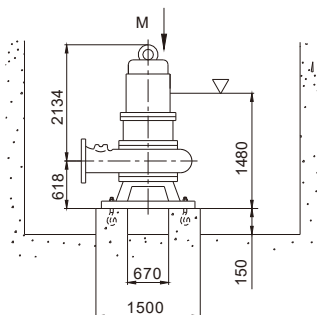
View B

Flange Dimension

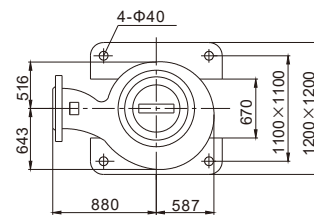


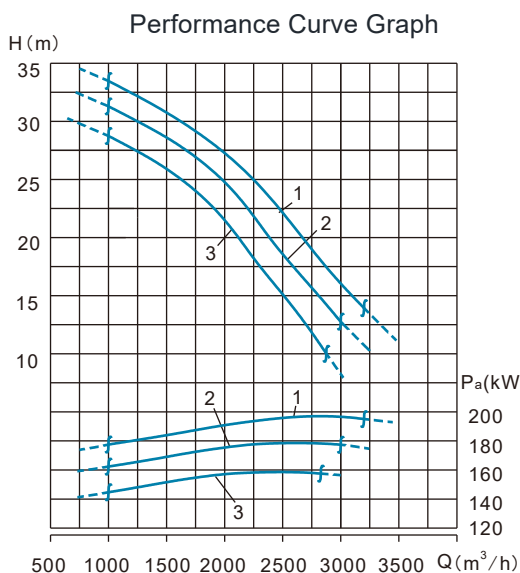
According to GB/T17241.6PN10 Standard Flange

P Fixed Base Installation



View M





Main Parameter

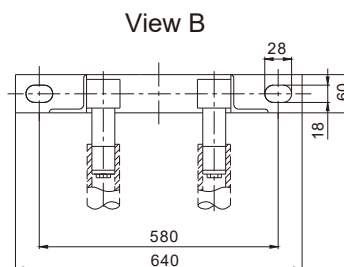
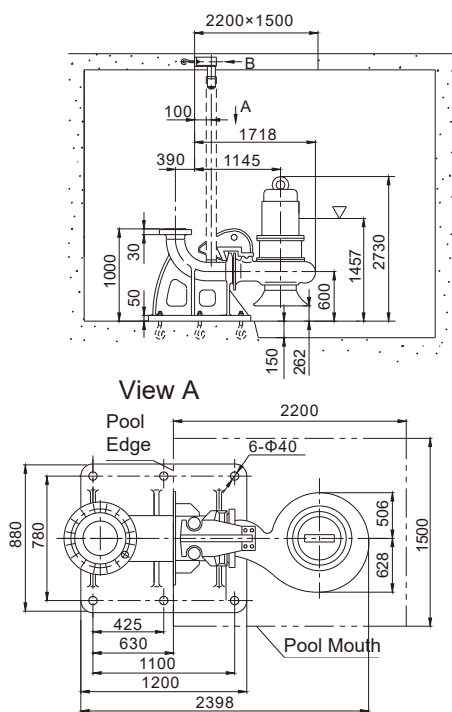
Outlet Diameter 400mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	400WQ2500-22-200	WQ2520-6126	163	990	2420
2	400WQ2400-20-185	WQ2520-6125	163	990	2380
3	400WQ2200-18-160	WQ2520-6104	163	990	2340

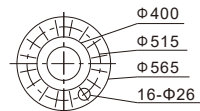
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	200	370	0.88	95	2.0
2	185	337	0.88	94.9	2.0
3	160	291	0.88	94.8	2.0

Installation Dimension Diagram

Z Automatic Coupling Installation

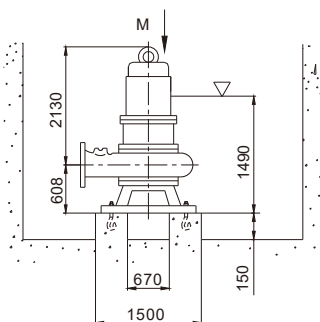


Flange Dimension

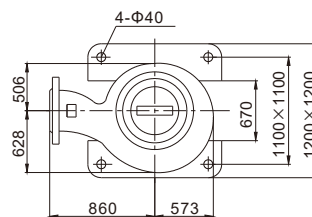


According to GB/T17241.6PN10 Standard Flange

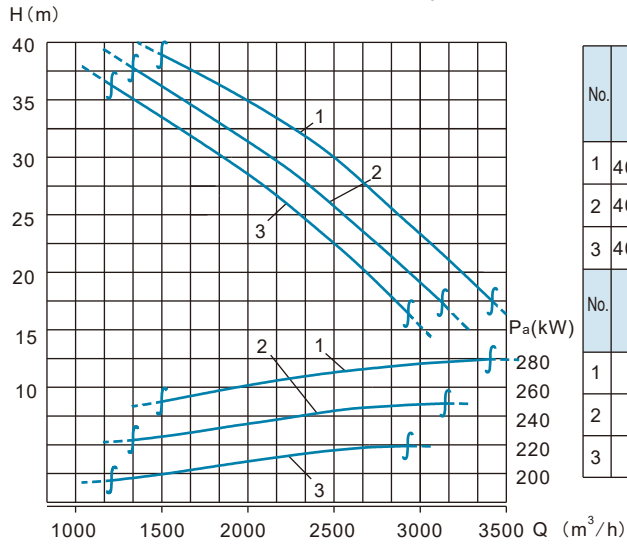
P Fixed Base Installation



View M



Performance Curve Graph



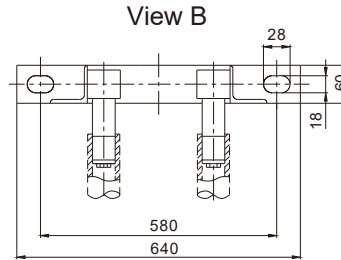
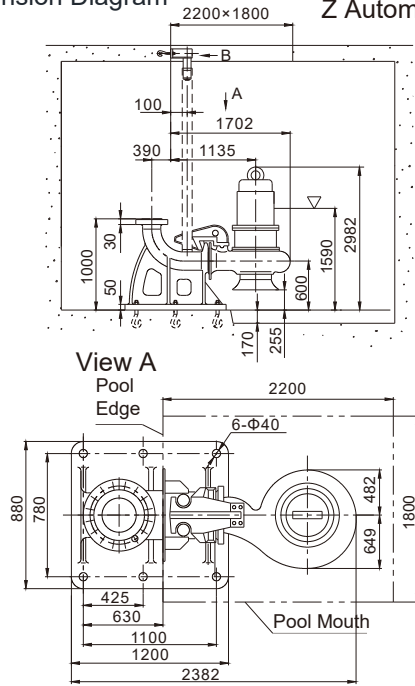
Main Parameter
Outlet Diameter 400mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	400WQ2500-30-280	WQ2590-6107	190	990	4000
2	400WQ2500-26-250	WQ2590-6106	190	990	3900
3	400WQ2250-23-220	WQ2590-6105	190	990	3830

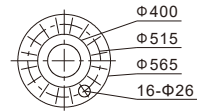
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency (%)	Rated Torque Block Torque /
1	280	507	0.88	95.2	1.5
2	250	453	0.88	95.1	1.45
3	220	398	0.88	95.1	1.52

Installation Dimension Diagram

Z Automatic Coupling Installation

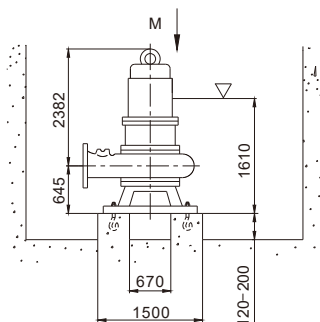


Flange Dimension

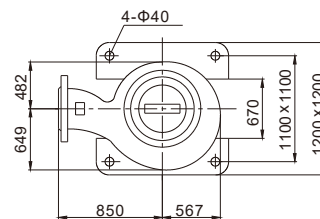


According to
GB/T17241.6PN10 Standard Flange

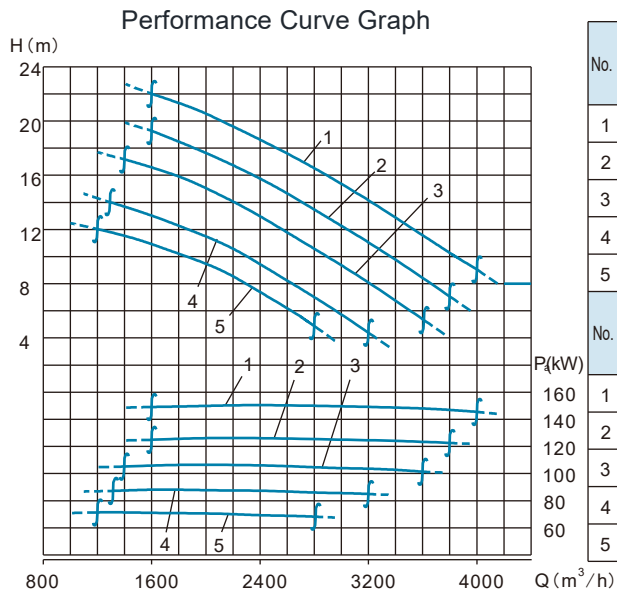
P Fixed Base Installation



View M



Main Parameter
Outlet Diameter 500mm

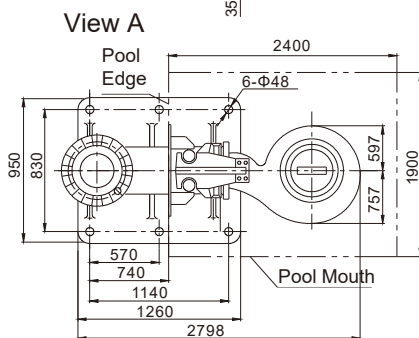
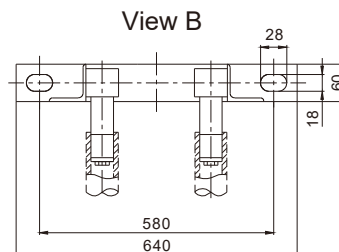
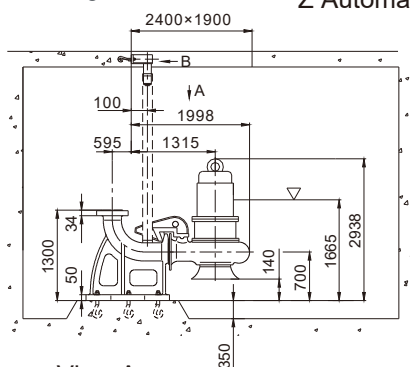


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	500WQ3300-13-160	WQ2520-8163	174	745	3000
2	500WQ3000-11-132	WQ2520-8162	174	745	2940
3	500WQ2900-10-110	WQ2520-8161	174	735	2900
4	500WQ2300-10-90	WQ2520-8160	174	735	2860
5	500WQ2300-8-75	WQ2520-8159	174	735	2820

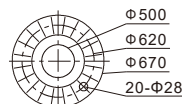
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	160	315	0.83	93.5	1.9
2	132	265	0.82	93.5	1.9
3	110	220	0.82	94	1.9
4	90	180	0.82	93.8	1.8
5	75	150	0.81	93	1.8

Installation Dimension Diagram

Z Automatic Coupling Installation

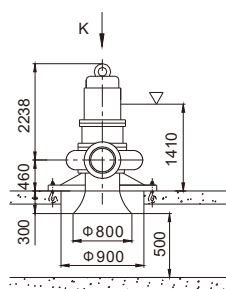


Flange Dimension

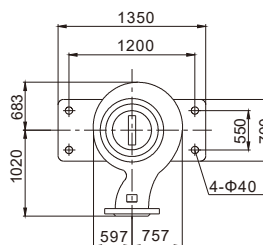


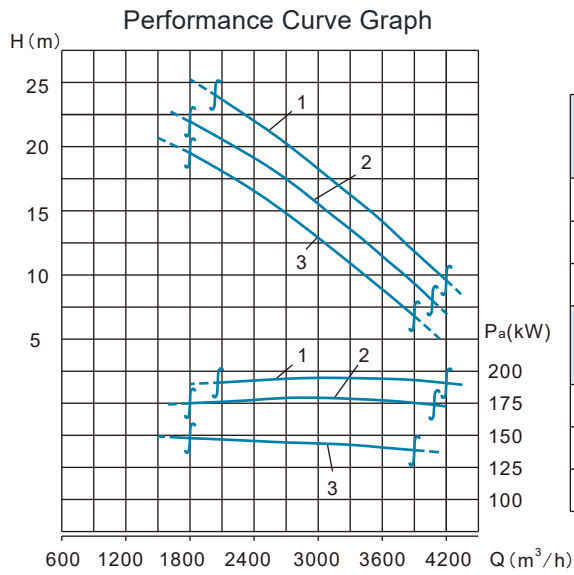
According to GB/T17241.6PN10 Standard Flange

F Fixed Base Installation



View M





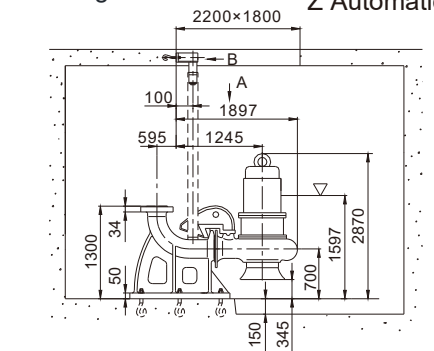
Main Parameter Outlet Diameter 500mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	500WQ3050-18-200	WQ2520-6110	163	990	3000
2	500WQ3050-15-185	WQ2520-6109	163	990	2960
3	500WQ3000-13-160	WQ2520-6108	163	990	2920

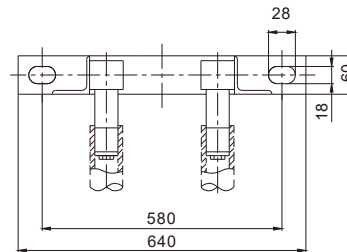
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	200	370	0.88	95	2.0
2	185	337	0.88	94.9	2.0
3	160	291	0.88	94.8	2.0

Installation Dimension Diagram

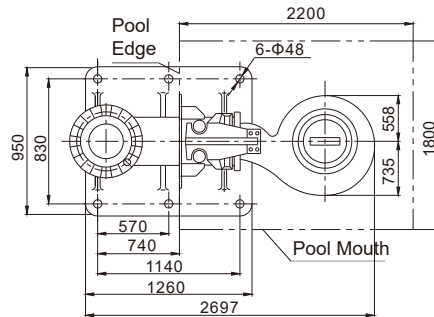
Z Automatic Coupling Installation



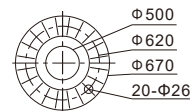
View B



View A

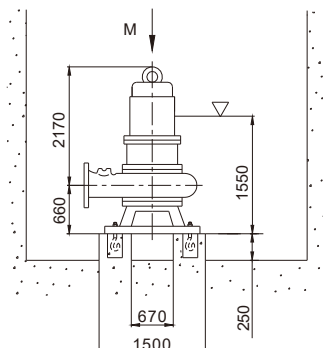


Flange Dimension

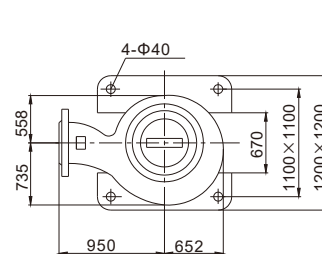


According to
GB/T17241.6PN10 Standard Flange

P Fixed Base Installation

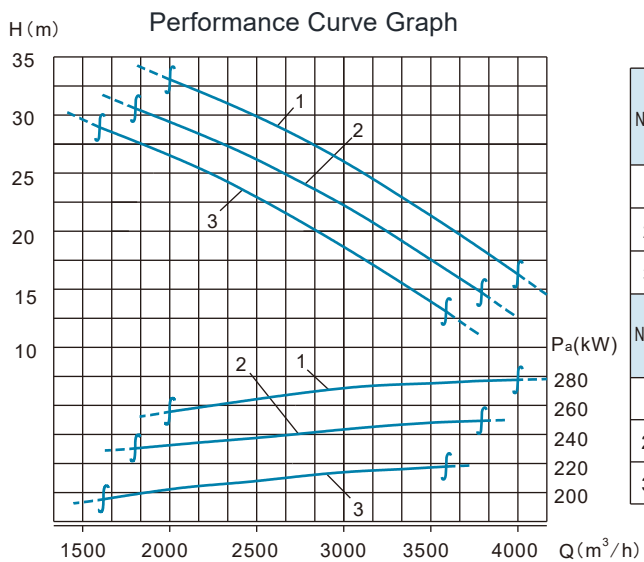


View M



Main Parameter

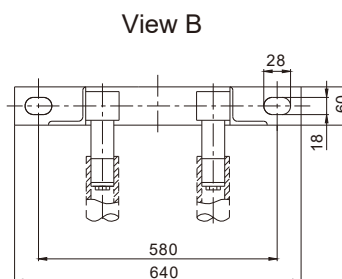
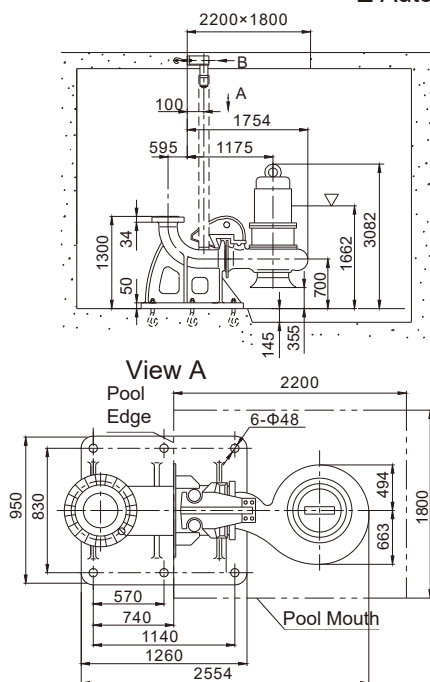
Outlet Diameter 500mm



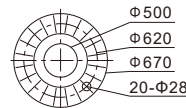
No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	500WQ3000-26-280	WQ2590-6119	190	990	4300
2	500WQ2900-22-250	WQ2590-6118	190	990	4210
3	500WQ2800-20-220	WQ2590-6117	190	990	4150
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	280	507	0.88	95.2	1.5
2	250	453	0.88	95.1	1.45
3	220	398	0.88	95.1	1.52

Installation Dimension Diagram

Z Automatic Coupling Installation

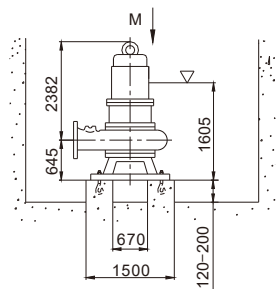


Flange Dimension

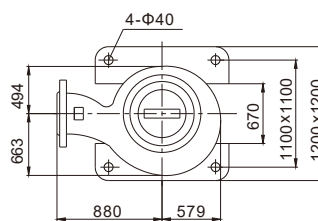


According to GB/T17241.6PN10 Standard Flange

P Fixed Base Installation

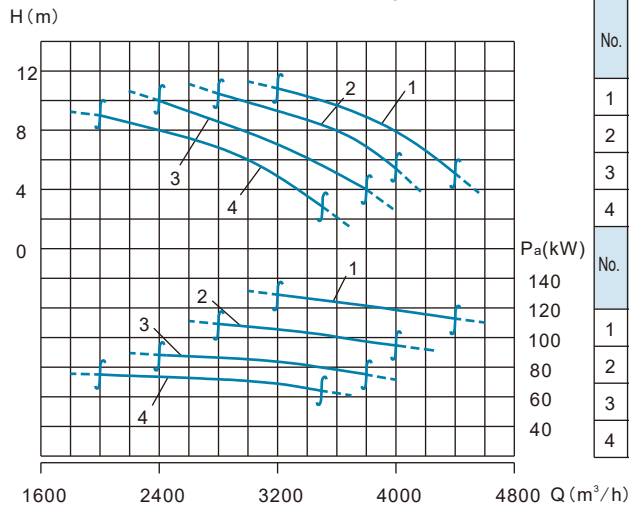


View M



Main Parameter
Outlet Diameter 600mm

Performance Curve Graph

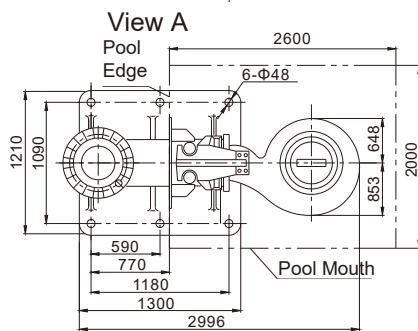
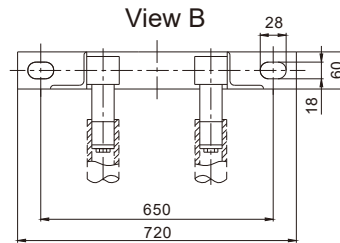
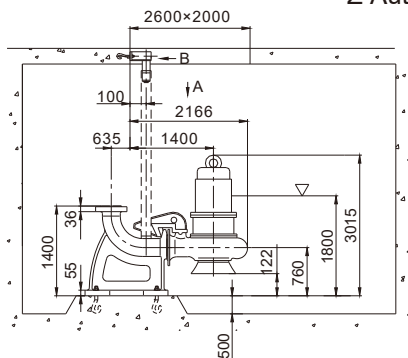


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	600WQ3800-9-132	WQ2520-1057	200	590	4730
2	600WQ3600-8-110	WQ2520-1056	200	590	4670
3	600WQ3200-7-90	WQ2520-1055	200	590	4610
4	600WQ3000-6-75	WQ2520-1054	200	590	4570

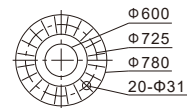
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency (%)	Rated Torque Block Torque /
1	132	275	0.78	93.5	1.3
2	110	230	0.78	93.2	1.3
3	90	191	0.77	93	1.5
4	75	163	0.76	92.5	1.5

Installation Dimension Diagram

Z Automatic Coupling Installation

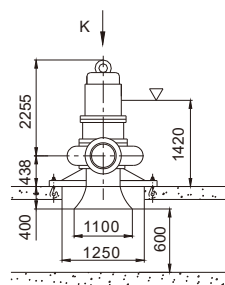


Flange Dimension

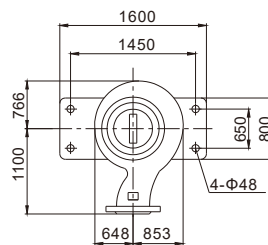


According to GB/T17241.6PN10 Standard Flange

F Fixed Base Installation



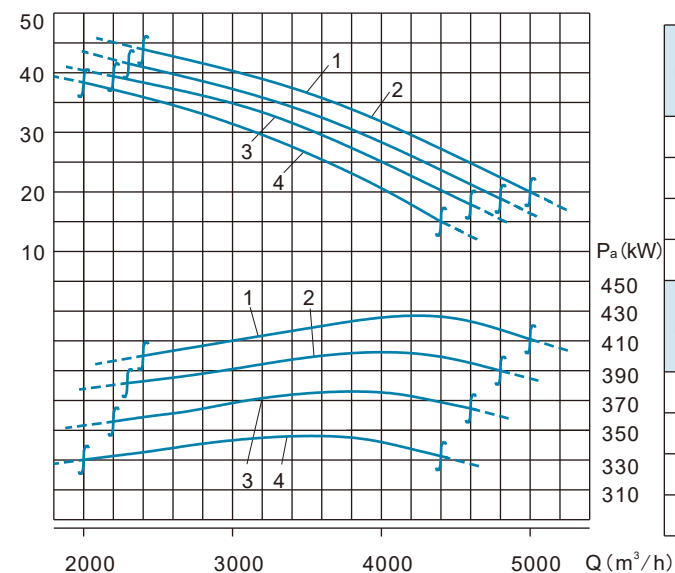
View M



Main Parameter

Outlet Diameter 600mm

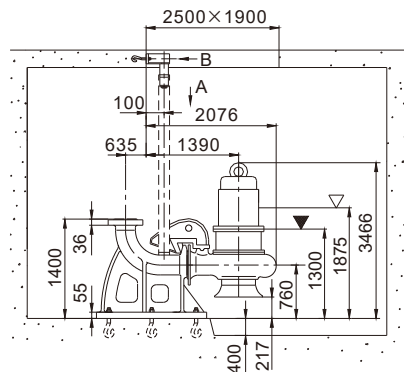
Performance Curve Graph



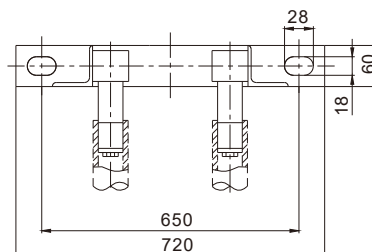
No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	600WQ3600-36-450	WQ2740-6170	125	980	6300
2	600WQ3600-33-420	WQ2740-6170A	128	980	6200
3	600WQ3400-32-400	WQ2740-6170B	130	980	6000
4	600WQ3200-30-355	WQ2740-6170C	130	980	5800
No.	Rated Motor Power (kW)				
1	450				
2	420				
3	400				
4	355				

Installation Dimension Diagram

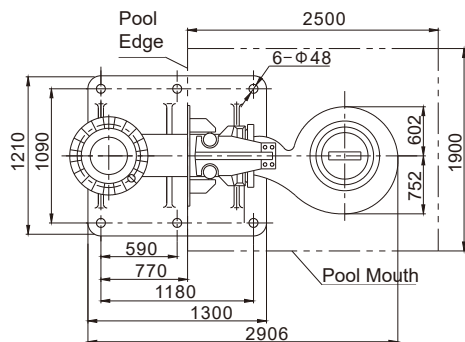
Z Automatic Coupling Installation



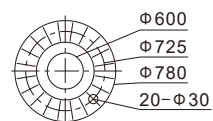
View B



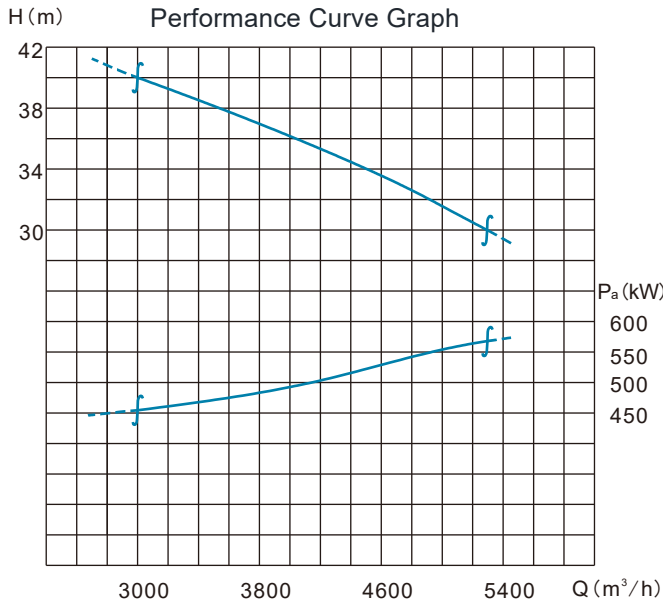
View A



Flange Dimension



According to GB/T17241.6PN10 Standard Flange

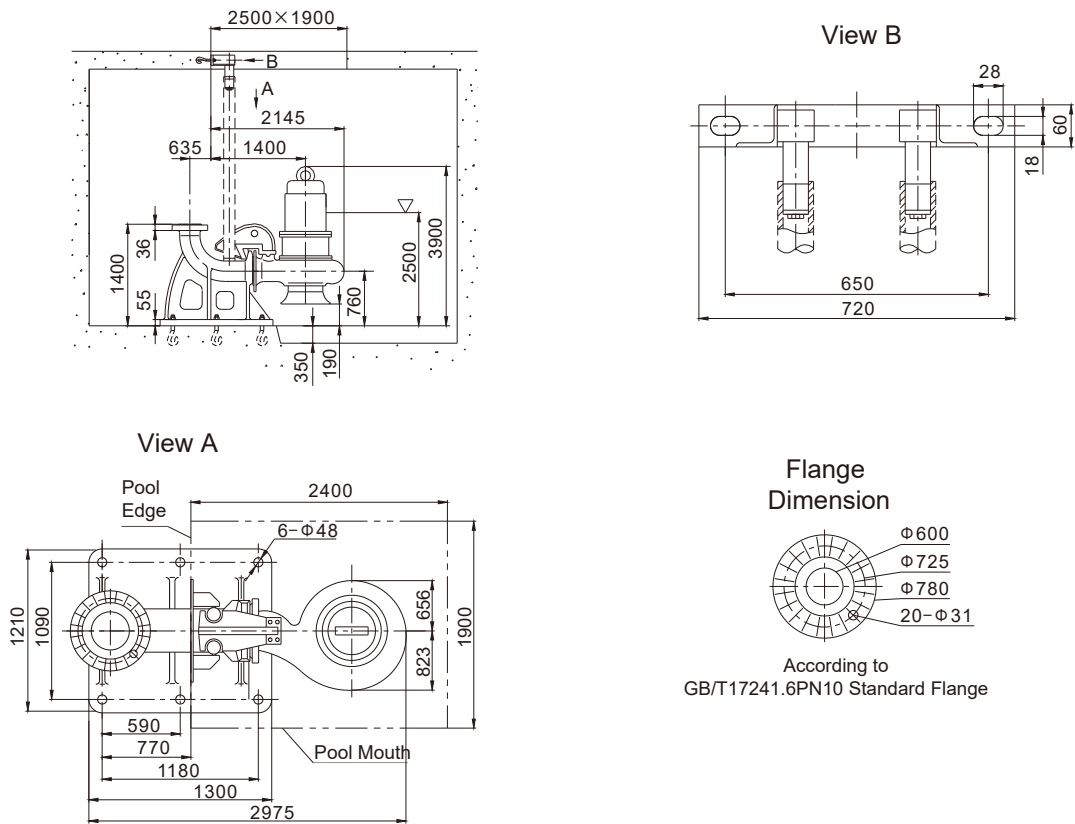


Main Parameter
Outlet Diameter 600mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	600WQ4200-35-580	WQ2850-8175	140	745	7500
No.	Rated Motor Power (kW)				
1	580				

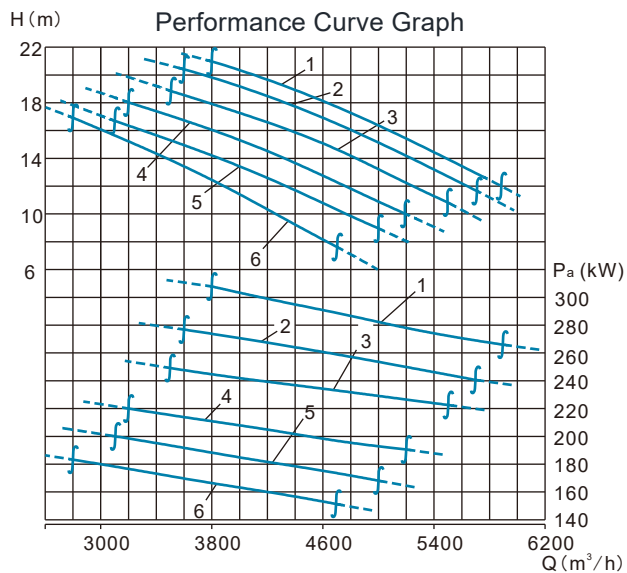
Installation Dimension Diagram

Z Automatic Coupling Installation



Main Parameter

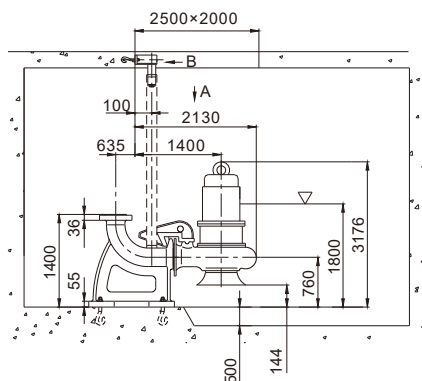
Outlet Diameter 600mm



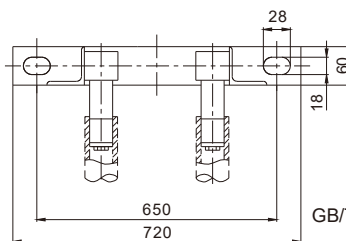
No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	600WQ5000-16-315	WQ2590-8169	190	745	4800
2	600WQ4800-16-280	WQ2590-8168	190	745	4620
3	600WQ4600-15-250	WQ2590-8167	190	745	4550
4	600WQ4300-14-220	WQ2590-8166	190	745	4470
5	600WQ4100-13-200	WQ2590-8165	190	745	4350
6	600WQ3900-12-185	WQ2590-8164	190	745	4200
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	315	632	0.81	93.5	1.0
2	280	562	0.81	93.5	1.0
3	250	504	0.81	93	1.0
4	220	446	0.81	92.5	1.0
5	200	386	0.83	94.8	1.9
6	185	360	0.83	94	1.9

Installation Dimension Diagram

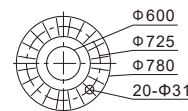
Z Automatic Coupling Installation



View B

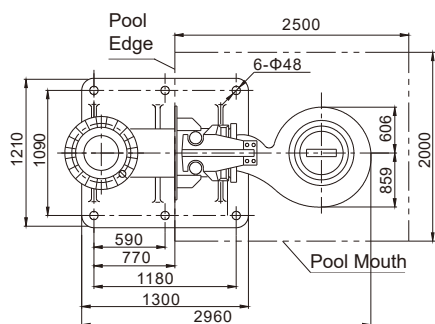


Flange Dimension

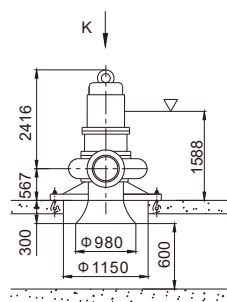


According to GB/T17241.6PN10 Standard Flange

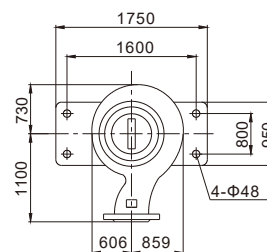
View A



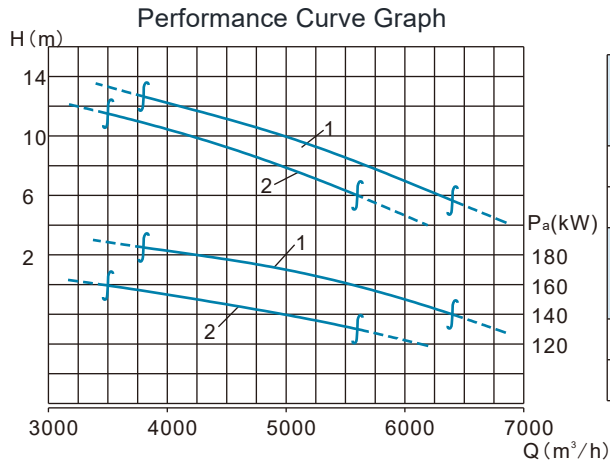
F Fixed Base Installation



Direction K



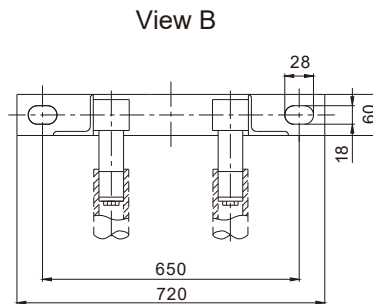
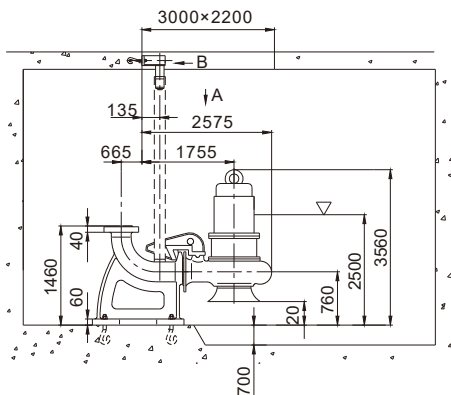
Main Parameter Outlet Diameter 700mm



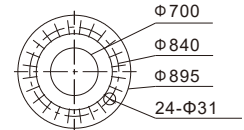
	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	700WQ5000-10-185	WQ2590-1059	215	590	6500
2	700WQ5000-8-160	WQ2590-1058	215	590	6200
	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	185	386	0.8	94	1.54
2	160	333	0.78	93.5	1.3

Installation Dimension Diagram

Z Automatic Coupling Installation

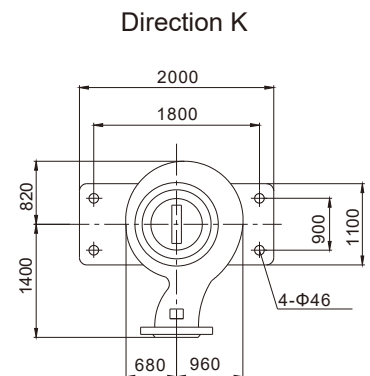
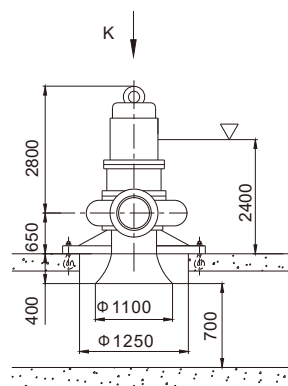
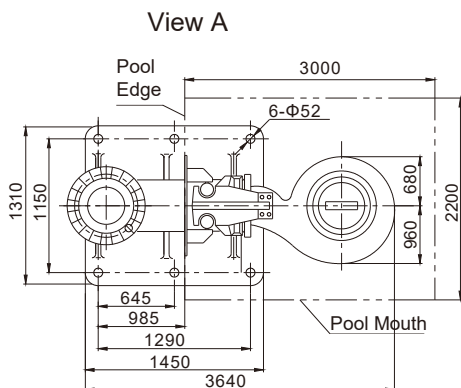


Flange Dimension

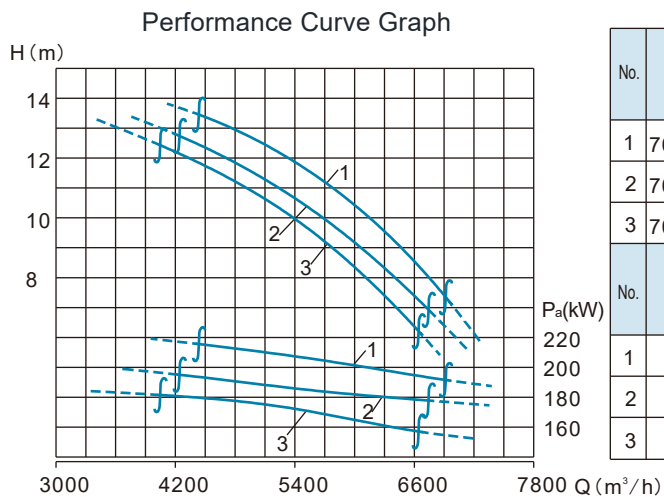


According to
GB/T17241.6PN10 Standard Flange

F Fixed Base Installation



Main Parameter
Outlet Diameter 700mm

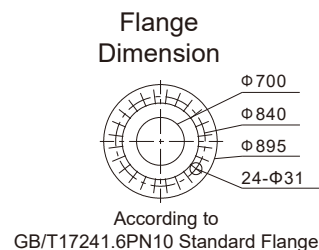
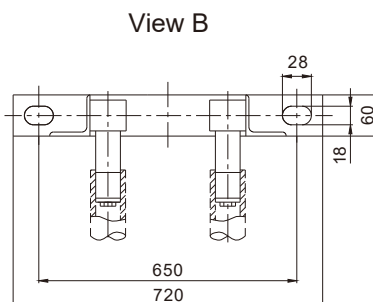
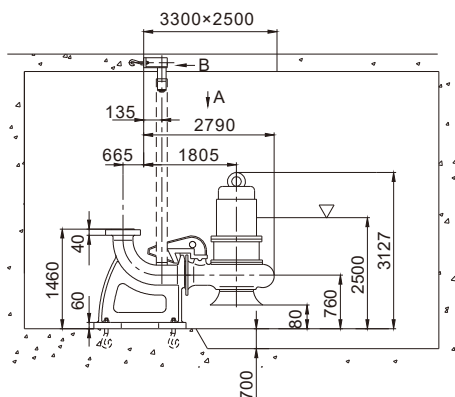


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	700WQ6000-10-220	WQ2590-1252	220	495	7400
2	700WQ5700-10-200	WQ2590-1251	220	495	7100
3	700WQ5400-10-185	WQ2590-1250	220	490	6800

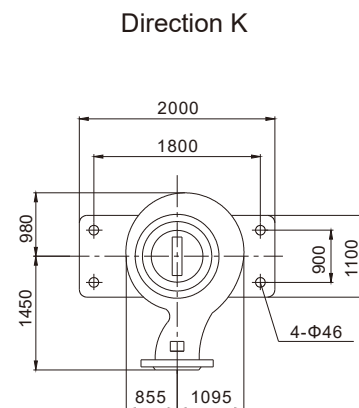
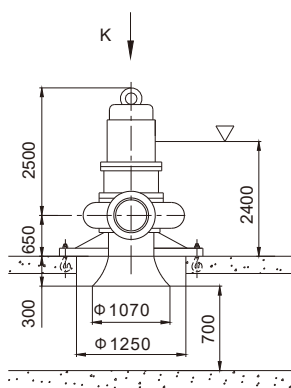
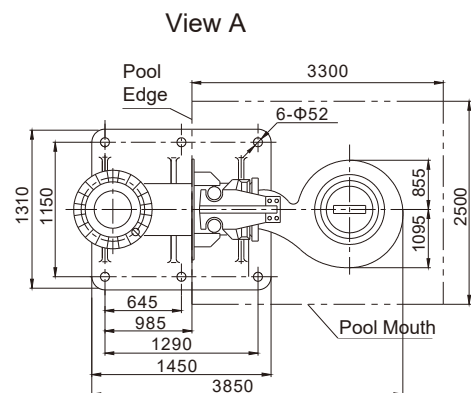
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	220	479	0.755	92.5	0.8
2	200	438	0.755	92	0.8
3	185	392	0.78	92	1.0

Installation Dimension Diagram

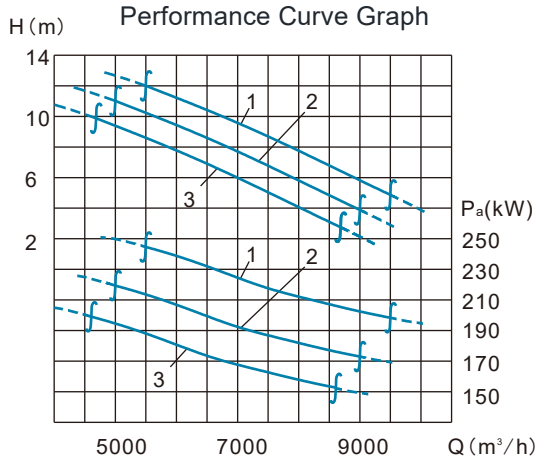
Z Automatic Coupling Installation



F Fixed Base Installation



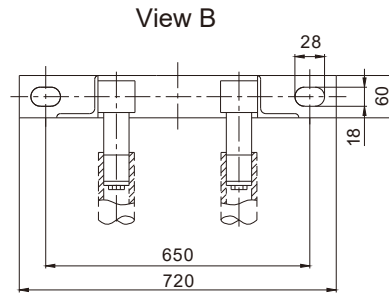
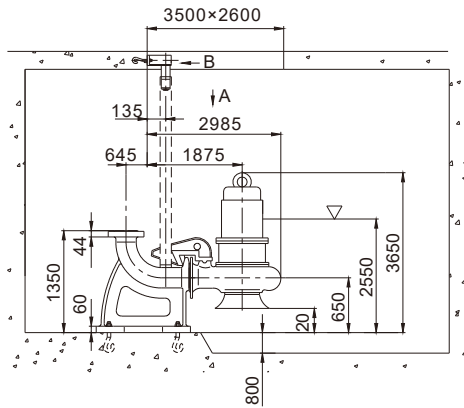
Main Parameter
Outlet Diameter 800mm



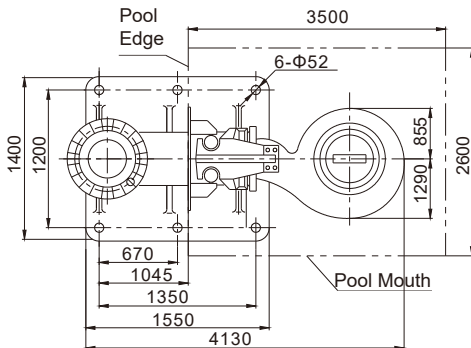
No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	800WQ7200-9-250	WQ2670-1603	310	370	8500
2	800WQ6800-8-220	WQ2670-1602	310	370	8300
3	800WQ6500-7-200	WQ2670-1601	310	370	8000
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	250	615	0.74	83.5	0.8
2	220	541	0.74	83.5	0.8
3	200	492	0.74	83.5	0.8

Installation Dimension Diagram

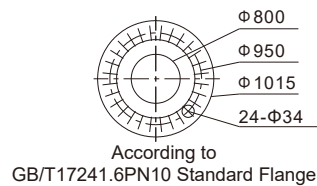
Z Automatic Coupling Installation



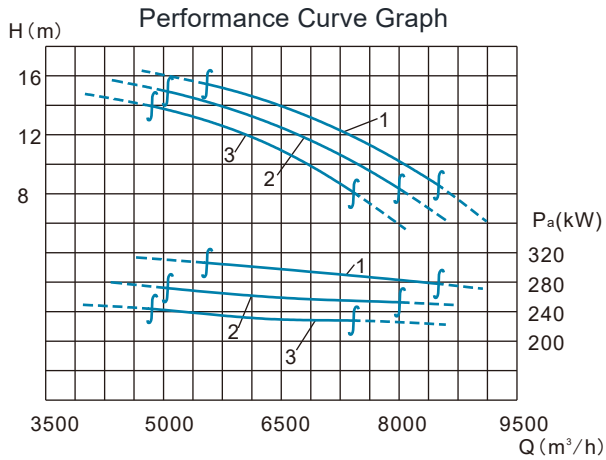
View A



Flange Dimension



Main Parameter
Outlet Diameter 800mm

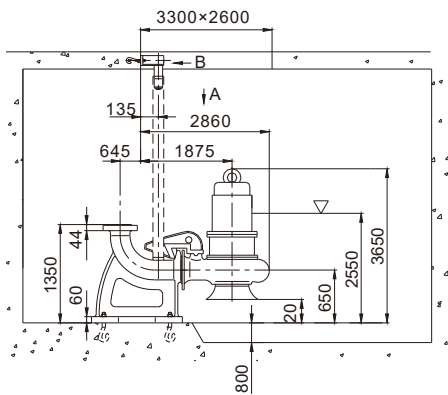


No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	800WQ7300-12-315	WQ2670-1255	250	495	8800
2	800WQ6900-12-280	WQ2670-1254	250	495	8400
3	800WQ6500-11-250	WQ2670-1253	250	495	8000

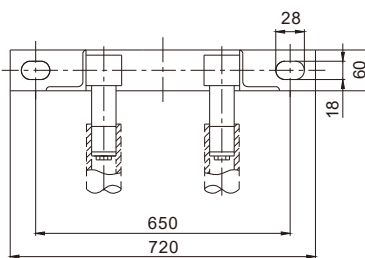
No.	Rated Motor Power (kW)	Rated Current (A)	Motor Power Factor cos φ	Motor Efficiency(%)	Rated Torque Block Torque /
1	315	671	0.76	93.8	0.8
2	280	597	0.76	93.8	0.8
3	250	537	0.76	93	0.8

Installation Dimension Diagram

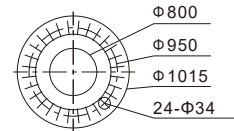
Z Automatic Coupling Installation



View B



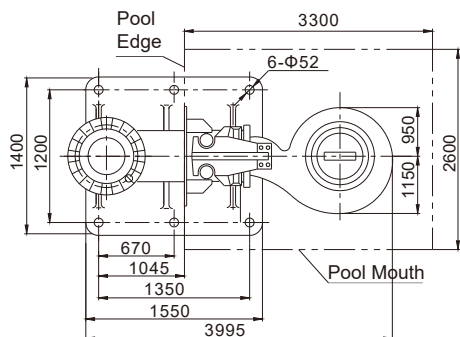
Flange Dimension



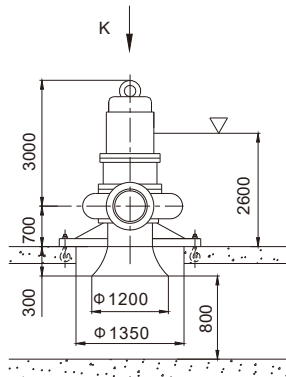
According to GB/T17241.6PN10 Standard Flange

F Fixed Base Installation

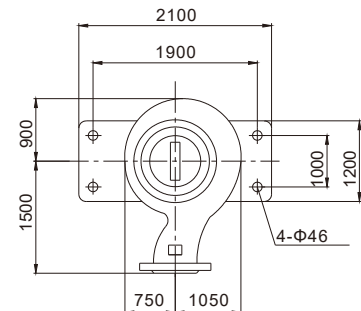
View A

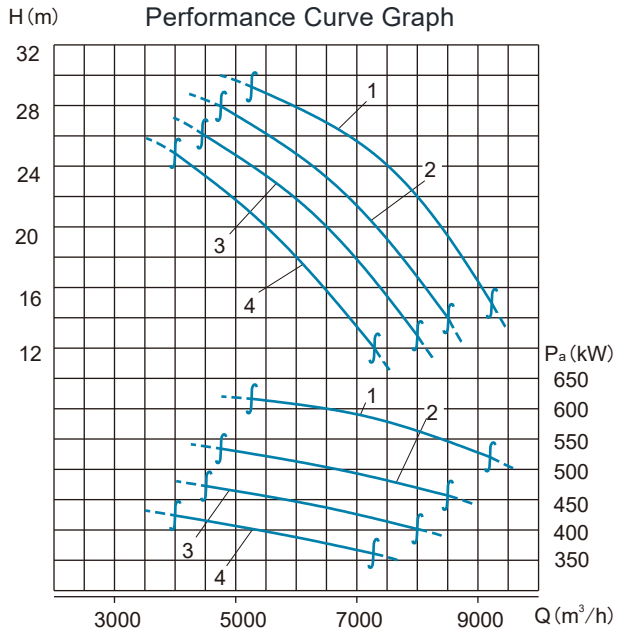


Direction K



Direction K





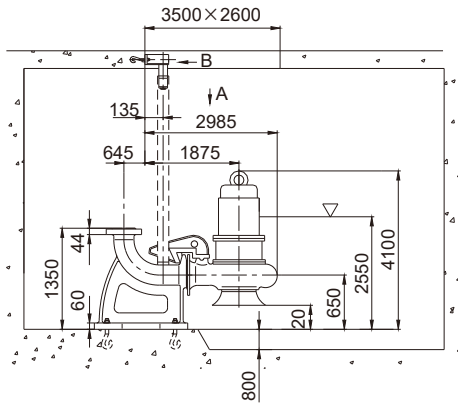
Main Parameter
Outlet Diameter 800mm

No.	New Model	Original Model	Flow Channel Dimension (mm)	Rotation Speed (r/min)	Weight (kg)
1	800WQ7200-25-630	WQ2850-8174	275	745	8700
2	800WQ6500-23-560	WQ2850-8174A	275	745	8500
3	800WQ6000-22-500	WQ2850-8173	275	745	8200
4	800WQ5500-20-450	WQ2850-8173A	275	745	8000

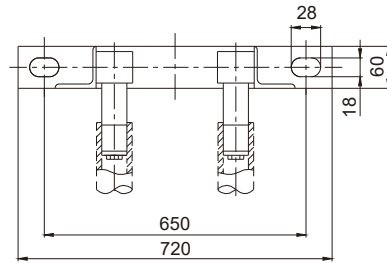
No.	Rated Motor Power (kW)
1	630
2	560
3	500
4	450

Installation Dimension Diagram

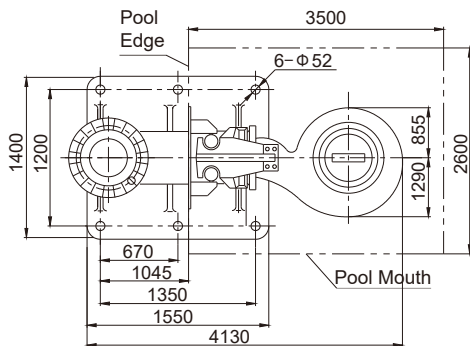
Z Automatic Coupling Installation



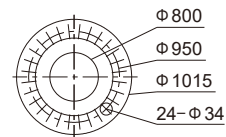
View B



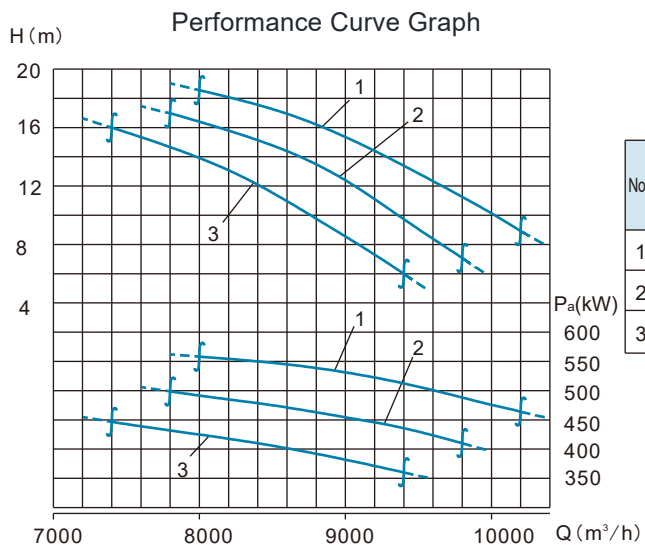
View A



Flange Dimension



According to GB/T17241.6PN10 Standard Flange

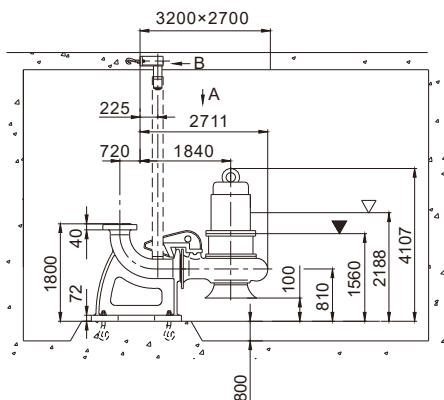


Main Parameter
Outlet Diameter 900mm

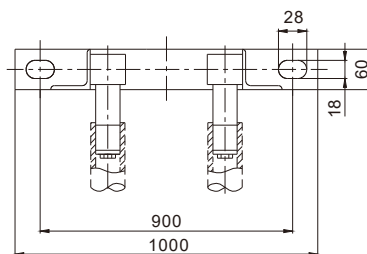
No.	New Model	Original Model	Flow Channel Dimension (mm)	Rated Motor Power (kW)	Rotation Speed (r/min)	Weight (kg)
1	900WQ9000-15-560	WQ2850-8172	258	560	745	9600
2	900WQ8500-15-500	WQ2850-8171	263	500	745	9300
3	900WQ8400-12-450	WQ2850-8170	267	450	745	9100

Installation Dimension Diagram

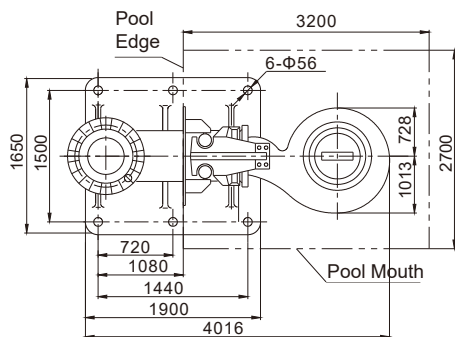
Z Automatic Coupling Installation



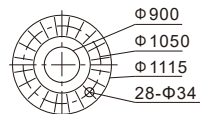
View B



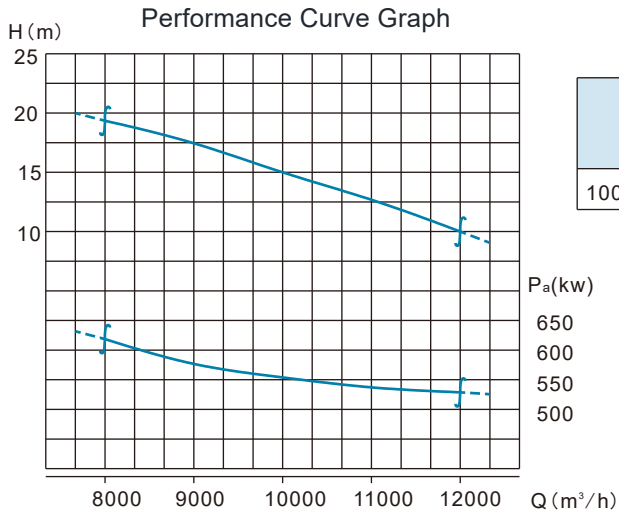
View A



Flange Dimension



According to
GB/T17241.6PN10 Standard Flange



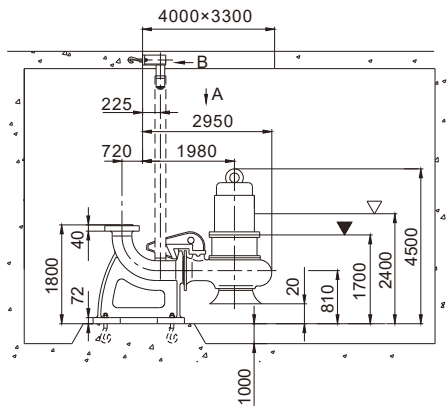
Main Parameter

Outlet Diameter 900mm

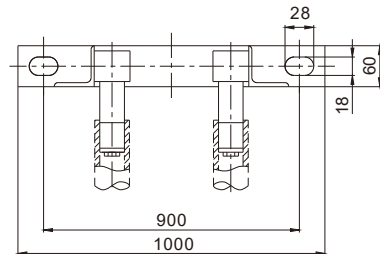
New Model	Original Model	Flow Channel Dimension (mm)	Rated Motor Power (kW)	Rotation Speed (r/min)	Weight (kg)
1000WQ10000-15-630	WQ2850-1062	313	630	590	10500

Installation Dimension Diagram

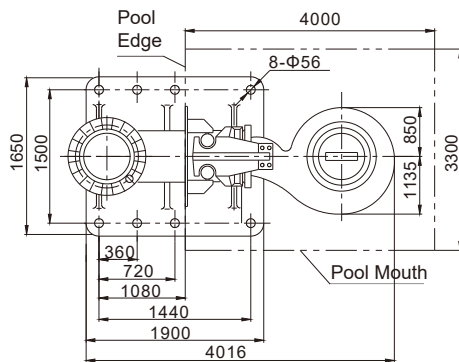
Z Automatic Coupling Installation



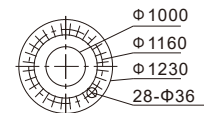
View B



View A



Flange Dimension



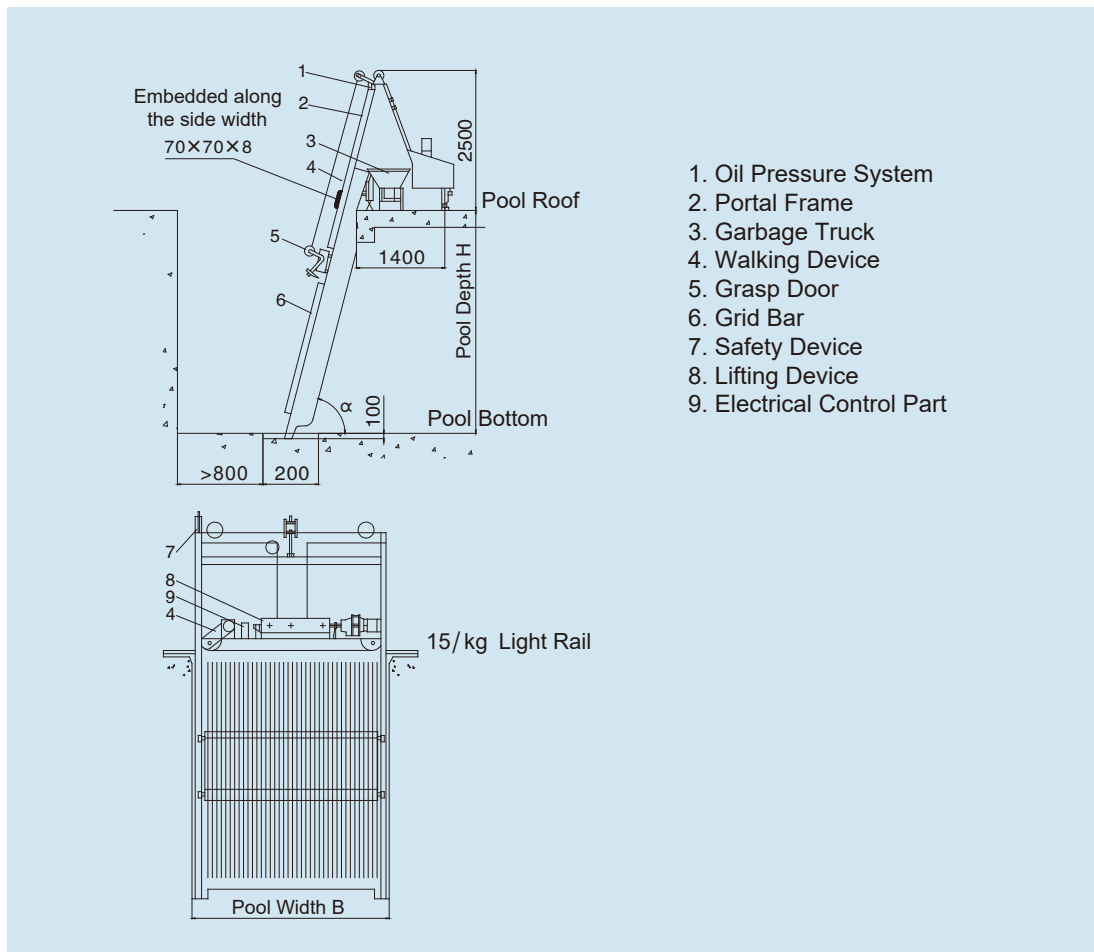
According to
GB/T17241.6PN10 Standard Flange

All Accessories Description

Trash Rack

Depending on the scale of the pumping station, there are a variety of series of automatic decontamination (removing impurities on the fence) for users to choose, and the size needs to be determined on site.

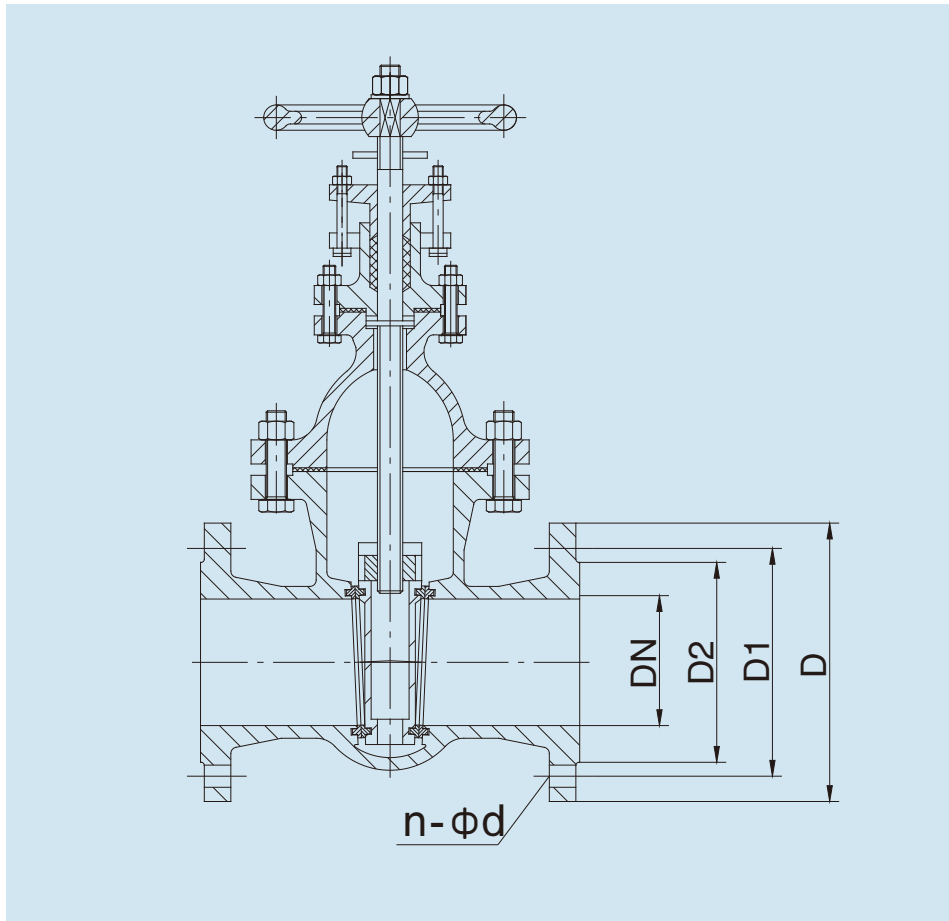
Grille decontamination machine as shown below



Main Specifications and Technical Parameters

Model	Grille Width (mm)	Derrick (m)	Gate Bar Distance (mm)	Installation Angle	Power
GS GSE -1000	1000	2-12	20-1000	60° to 70° Under special circumstances, the power supply can be 90°	Lifting motor 1.1-1.5kw Control motor 0.75kw Traveling motor 0.8/0.4kw (two speed)
GS GSE -1250	1250				
GS GSE -1500	1500				
GS GSE -1750	1750				
GS GSE -2000	2000				

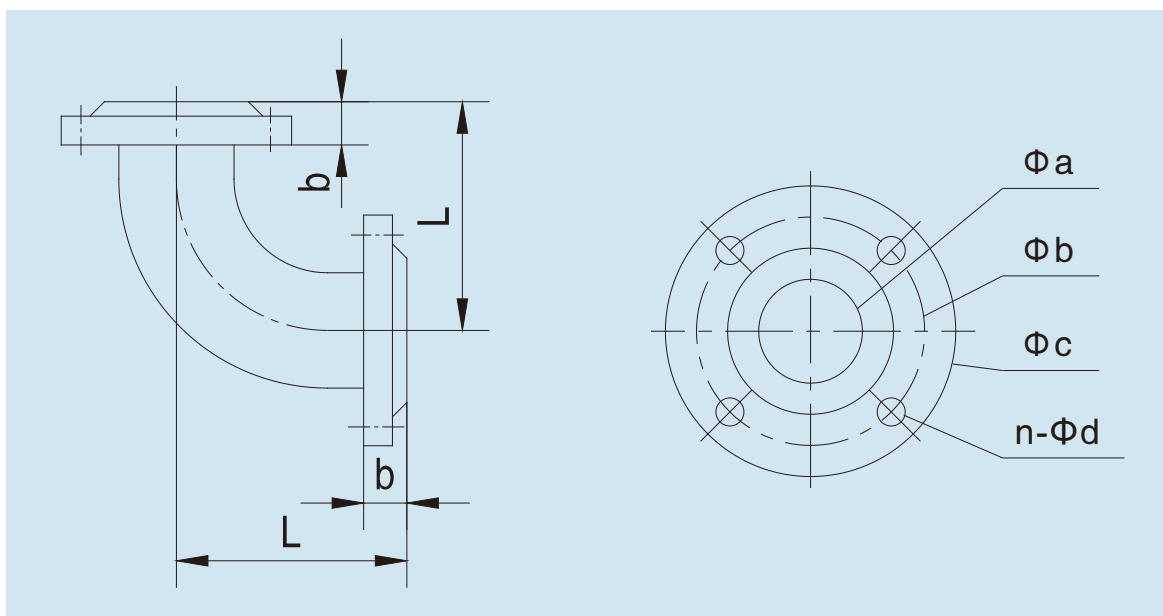
Valve



Nominal Pressure	Nominal Diameter DN (mm)	Dimension(mm)			
		D	D1	D2	n-φd
1.0 (Mpa)	50	165	125	102	4-φ18
	65	185	145	122	4-φ18
	80	200	160	133	8-φ18
	100	220	180	158	8-φ18
	125	250	210	184	8-φ18
	150	285	240	212	8-φ22
	200	340	295	268	8-φ22
	250	395	350	320	12-φ22
	300	445	400	370	12-φ22
	350	505	460	430	16-φ22
	400	565	515	482	16-φ26
	450	615	565	532	20-φ26
	500	670	620	585	20-φ26
	600	780	725	685	20-φ30
	700	895	840	794	24-φ30
	800	1015	950	901	24-φ33
900	1115	1050	1001	28-φ33	

Elbow Joint

(Our company can provide users with two kinds of elbow joints, one is flange with nominal pressure of 0.6MPa, the other is 1.0MPa, which is suitable for direct connection with discharge flange of submersible sewage pump body, and can also be connected with flange of other pipelines with the same diameter and nominal pressure. The user can choose according to the actual flange size (DN, PN value). In order to avoid confusion, please write down the elbow joint specification when ordering)



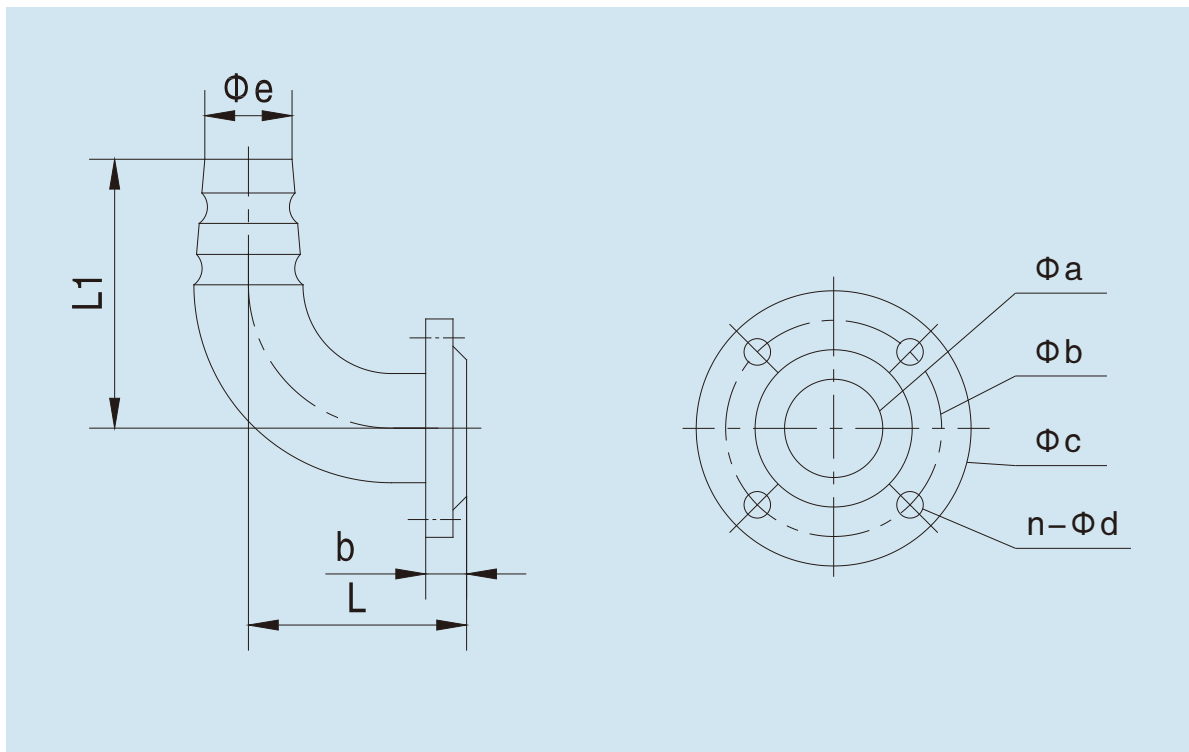
Elbow joint with flange nominal pressure consistent with pump body flange

Elbow Joint Specifications	Φa	Φb	Φc	n-Φd	b	Flange Standard	L
50-6	50	110	140	4-13.5	16	According to the G8 / T17241.6 PN6 (0.6 MPa) standard	105
65-6	65	130	160	4-13.5	16		130
80-6	80	150	190	4-17.5	18		155
100-6	100	170	210	4-17.5	18		160
150-6	150	225	265	8-17.5	20		220
200-6	200	280	320	8-17.5	22		270
250-6	250	335	375	12-17.5	24		320
300-6	300	395	440	12-22	24		370
350-6	350	445	490	12-22	26		420
400-10	400	515	565	16-26	32	According to the G8 / T17241.6 PN10(1.6 MPa) standard	460
450-10	450	565	615	20-26	32		500
500-10	500	620	670	20-26	34		540
550-10	550	675	730	20-30	35		590
600-10	600	725	780	20-30	36		640

Elbow joint with caliber 50-350 and nominal flange pressure PN10 (1.0MPa)

Elbow Joint Specifications	Φa	Φb	Φc	$n-\Phi d$	b	Flange Standard	L
50-10	50	125	165	4-17.5	20	According to the GB/T17241.6 PN10(1.0MPa) standard	140
65-10	65	145	185	4-17.5	20		160
80-10	80	160	200	8-17.5	22		180
100-10	100	180	220	8-17.5	24		200
150-10	150	240	285	8-22	26		230
200-10	200	295	340	8-22	28		280
250-10	250	350	395	12-22	28		330
300-10	300	400	445	12-22	28		380
350-10	350	460	505	16-22	30		440

Hose elbow joint



Hose elbow joint dimension table (the flange diameter and nominal pressure of the hose elbow joint are consistent with the casing flange)

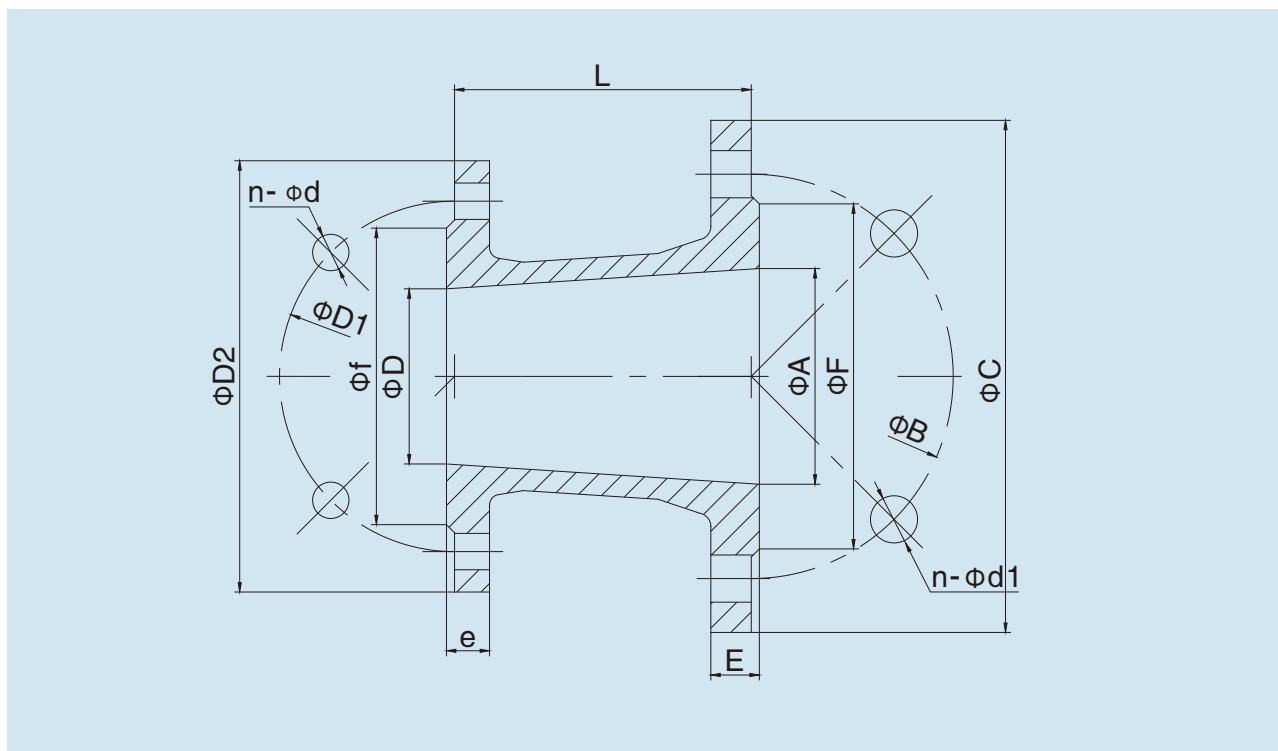
Elbow Joint Specifications	Φa	Φb	Φc	$n-\Phi d$	b	Flange Standard	L	L1	Φe	Inner diameter of matching hose Φ
50-6	50	110	140	4-13.5	16	According to the GB/T17241.6 PN6(0.6MPa) standard	120	140	60	64
50 × 65-6	50	110	140	4-13.5	16		120	140	74	76
65-6	65	130	160	4-13.5	16		130	160	74	76
80-6	80	150	190	4-17.5	18		135	190	86	89
100-6	100	170	210	4-17.5	18		160	240	100	102
150-6	150	225	265	8-17.5	20		220	320	150	152

Notice:

- 1.The Φa of the hose elbow joint is the same as the pump caliber, but the inner diameter of the equipped hose is different from the pump caliber.
- 2.50 caliber pump can choose 50-6 or 50×65-6 hose elbow joint.
- 3.Please write clear hose elbow joint specifications when ordering.

Taper pipe

(we can provide two kinds of taper pipe, a flange nominal pressure 0.6 MPa, 1.0 MPa, suitable for the submersible sewage pump pump body out during mounting flange, dry type suction pipe bending suction flange, the coupling connected directly to the outlet pipe of the outlet flanges, can also with the same diameter and nominal pressure of other pipeline flange connection. Users can choose according to the actual flange size (DN, PN value) demand. To avoid confusion, please write down the conical pipe specification when ordering) .



Taper Pipe Specifications	ΦD	ΦD1	ΦD2	n-Φd	Φf	e	ΦA	ΦB	ΦC	n-Φd1	ΦF	E	L
50×65-6	50	110	140	4-13.5	90	16	65	130	160	4-13.5	110	16	100
50×80-6	50	110	140	4-13.5	90	16	80	150	190	4-17.5	128	18	150
65×80-6	65	130	160	4-13.5	110	16	80	150	190	4-17.5	128	18	100
80×100-6	80	150	190	4-17.5	128	18	100	170	210	4-17.5	148	18	150
100×150-6	100	170	210	4-17.5	148	18	150	225	265	8-17.5	202	20	250
150×200-6	150	225	265	8-17.5	202	20	200	280	320	8-17.5	258	22	250
200×250-6	200	280	320	8-17.5	258	22	250	335	375	12-17.5	312	24	230
250×300-6	250	335	375	12-17.5	312	24	300	395	440	12-22	365	24	240
300×350-6	300	395	440	12-22	365	24	350	445	490	12-22	415	26	250
(350-6) × (400-10)	350	445	490	12-22	415	26	400	515	565	16-26	482	32	250
400×450-10	400	515	565	16-26	482	32	450	565	615	20-26	532	32	250
450×500-10	450	565	615	20-26	532	32	500	620	670	20-26	585	34	250
500×600-10	500	620	670	20-26	585	34	600	725	780	20-30	685	36	600

Taper pipe with diameter ≤350 and nominal flange pressure PN10

Taper Pipe Specifications	ΦD	ΦD1	ΦD2	n-Φd	Φf	e	ΦA	ΦB	ΦC	n-Φd1	ΦF	E	L
50×65-10	50	125	165	4-17.5	102	20	65	145	185	4-17.5	122	20	150
50×80-10	50	125	165	4-17.5	102	20	80	160	200	8-17.5	133	22	150
65×80-10	65	145	185	4-17.5	122	20	80	160	200	8-17.5	133	22	150
80×100-10	80	160	200	8-17.5	133	22	100	180	220	8-17.5	158	24	150
100×150-10	100	180	220	8-17.5	158	24	150	240	285	8-22	212	26	250
150×200-10	150	240	285	8-22	212	26	200	295	340	8-22	268	28	250
200×250-10	200	295	340	8-22	268	28	250	350	395	12-22	320	28	250
250×300-10	250	350	395	12-22	320	28	300	400	445	12-22	370	28	250
300×350-10	300	400	445	12-22	370	28	350	460	505	16-22	430	30	250
350×400-10	350	460	505	16-22	430	30	400	515	565	16-26	482	32	250

