

WQ/EC 系列小型潜水排污泵

WQ/EC Series Small Submersible Sewage Pump

Where there is Kaiquan, there is water!



- **The Flow Channel is Smooth and Not Easy to Block**
The channel-type impeller is used to discharge solids and has good anti-winding performance
- **Unique Mechanical Seal and Bearing Combination**
Unique mechanical seal and bearing combination, Short shaft extension and high rigidity
- **Electric Pump Protection Device**
The electric pump is equipped with motor winding overheat protection element and water leakage probe
- **Mechatronics**
Water pump and motor are directly connected into one body, directly into the medium, disassembly, maintenance is convenient, reliable use
- **Various Installation Methods**
There are multiple installation methods, and users can choose flexibly



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



YB/KAIQUAN WQ/EC-20190716



ISO9001 2015 版国际质量体系认证
ISO9001 Certified(version 2015)

Catalogue

| | |
|--|----|
| Overview..... | 01 |
| Main Application | 01 |
| Using Conditions | 01 |
| Structure Description | 02 |
| Pump Model Description | 06 |
| Explanation of Pump Performance Curve and Main Parameters..... | 07 |
| Installation Methods..... | 08 |
| Main Part Materials of the Pump | 09 |
| Rotation Direction | 10 |
| The Mark of the Cable Core | 10 |
| Order Instructions | 10 |
| Supply Scope | 11 |
| Comprehensive Characteristic Curve Charts | 13 |
| WQ/EC New and Old Model Comparison Table and Performance Parameter Table..... | 14 |
| Supporting Control Cabinet Products | 15 |
| Performance Curves, Main Parameters and Installation Dimension Diagrams of Each Pump..... | 18 |

Overview

The WQ/EC small submersible sewage pump newly launched by Shanghai Kaiquan 7.5kW and below has the function of winding overheating and water leakage protection. Absorbing the advantages of similar products at home and abroad, based on years of experience in the use of Kaiquan's products in the market, comprehensive optimization design has been carried out in hydraulic models, mechanical structure and sealing, etc., and the performance of solids discharging and anti-winding is good. High efficiency and energy saving, strong reliability; simplified structure, easier disassembly, maintenance and control, more economical and practical; diverse installation methods, simplified pumping station, and saved investment.

Main Application

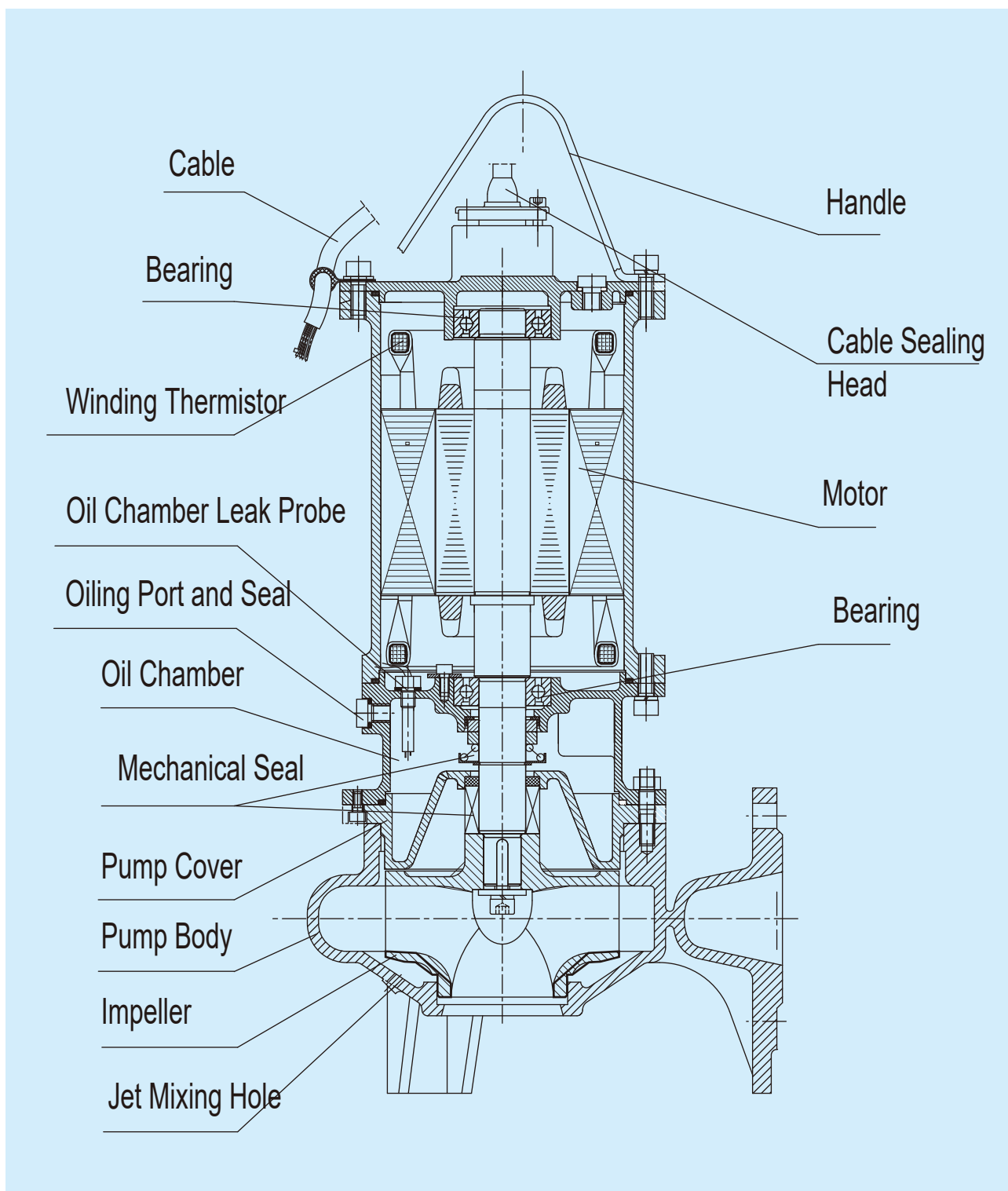
WQ/EC small submersible sewage pump is mainly used in municipal engineering, building construction, industrial sewage and sewage treatment occasions, discharge containing solid and short fiber sewage, waste water, rain water.

Using Conditions

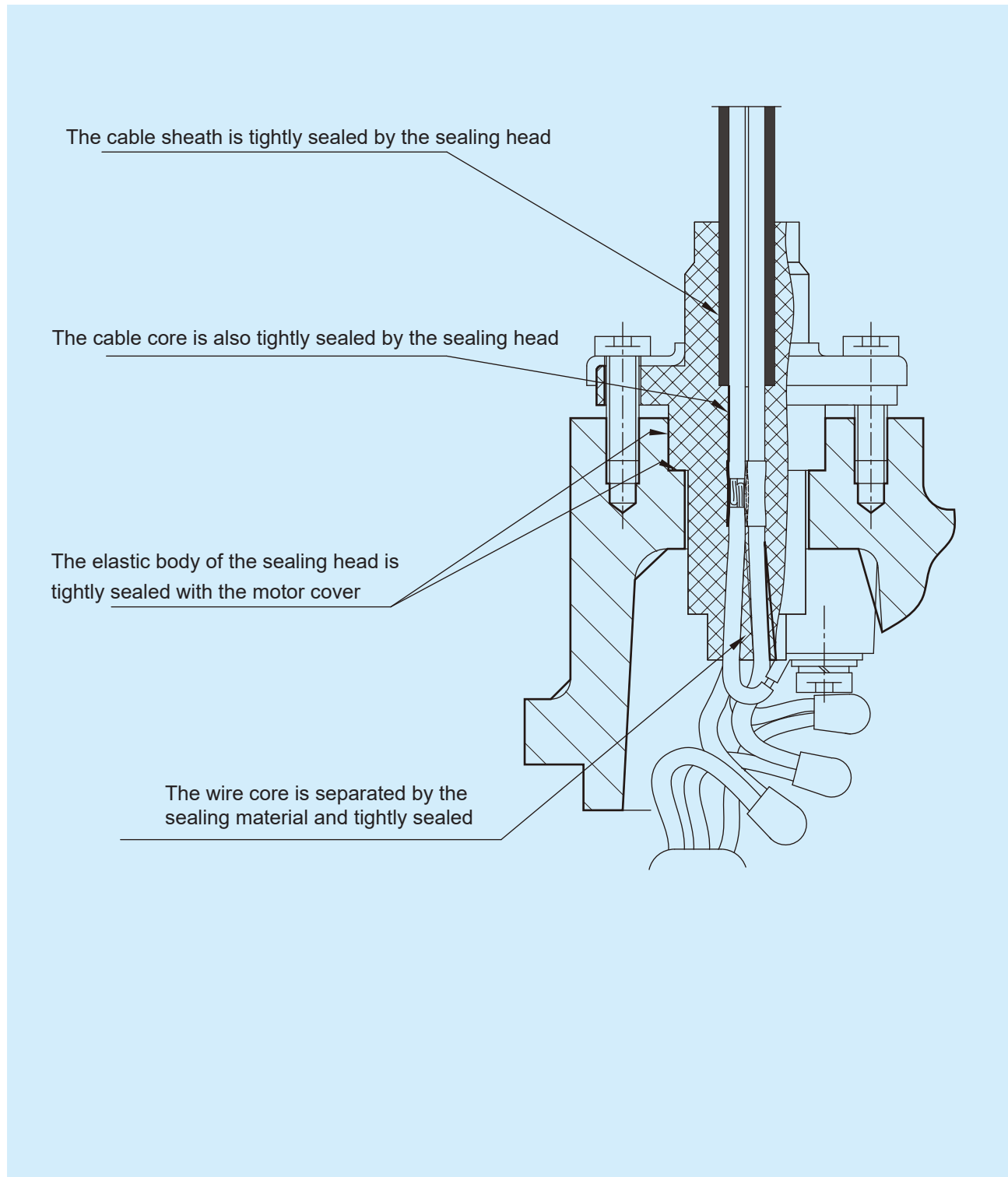
1. The power supply is 380V, three-phase and 50Hz.
2. The temperature of the medium is not more than 40℃, the pH value is 4-10, the density of the medium is less than 1050kg/m³.
3. The lowest liquid level should conform to the installation size diagram with "▽" marked liquid level.
4. Can not be used for strong corrosive and containing strong abrasive solid particles medium.
5. The diameter of the solid material in the medium is not greater than 80% of the minimum flow channel size of the pump. The flow channel size is shown in the "main parameters" of the following pumps. The length of the fiber in the medium is not greater than the discharge diameter of the pump.

Structure Description

Structural Diagram :



The cable sealing head is completely sealed with the cable



Features of WQ/EC Small Submersible Pumps:

1. Selected pump body and impeller

The CAD technology is used to repeatedly modify the design, so that the pump body and impeller are optimally matched, and the fibers and debris are easy to pass without being entangled and blocked. The impeller is strictly balanced, so that the pump has low vibration and stable operation.

2. Highly reliable submersible motor

Specially designed and manufactured submersible motor, the protection level is IP68, the stator winding is F-class insulation, due to the good cooling effect of submersible operation, the actual temperature rise of the winding is low, so the motor is more durable.

The motor dissipates heat through the casing, and the medium can operate reliably and safely as long as the medium submerges half of the height of the motor stator. The more submerged, the more conducive to the cooling of the motor.

The cable is a heavy-duty sewage-resistant rubber-sheathed flexible cable. The cross-section of the cable core is selected for continuous full-load operation at an ambient temperature of 40 °C, which is very reliable. The cable is fixed twice on the handle to avoid damage during transportation, installation and use.

3. The motor has tight seals and strict inspections

1) Seal of the shaft

Two independent single-end mechanical seals are arranged on the pump side and the motor side respectively to form two shaft seals. The leakage is only ten percent of the double-end mechanical seal. One below. The lubricating oil in the oil chamber lubricates and cools the friction pair of the motor side seal. The mechanical seal on the pump side that is in contact with the medium uses a silicon carbide/silicon carbide "hard-to-hard" friction pair, which has high hardness and low friction coefficient, which is not easy to wear and fail; the motor side mechanical seal that is immersed in oil is graphite/carbonized Silicon "soft versus hard" friction pair has a low friction coefficient and is easy to "run-in", and the seal is reliable. The small gap between the impeller and the pump cover can prevent impurities from entering the shaft seal cavity while maintaining good working conditions of the mechanical seal. The rubber parts of the mechanical seal are made of nitrile rubber with excellent oil resistance, and the springs and other structural parts are made of stainless steel.

2) Full sealing of the cable

The cable of WQ/EC pump motor adopts a fully sealed structure with the casting head. The cable sheath, the cable core and the casting head are vulcanized into a whole to ensure that water will not enter the motor cavity through the gap between the cable sheath or the core. But the cable end should not contact water, water into the cable after all, the cable insulation resistance will be seriously reduced and affect the safety.

3) Sealing between parts

The O - ring sealing ring is used as a reliable static seal between the parts.

4) Tightness inspection

The parts can only be assembled after passing the pressure test. Each pump is subjected to strict air pressure test during and after the assembly to ensure the tightness of the motor.

4. Reliable bearing configuration

Selects the famous brand high quality deep groove ball bearing, all has the sufficient load margin, ensures the product reliable operation.

5. Spray stirring function

Injection stir holes on the pump body, when the pump is running, the pressure inside the pump water jet hole high-speed jet to form strong agitation, the larger range of impurities is suspended by pump suction go back, it does not result in a wide range precipitation, than just at the entrance to pump suction under mechanical agitation more superior.

6. Protective device

The motor windings are equipped with overheat protection elements, when the winding temperature exceeds the specified temperature, the overheat protection elements through the electric control cabinet to make the "overheat" indicator light and automatically stop. Remind the operator to check and find out why the motor is overheating. When the winding temperature drops, the overheat protection element will reset automatically, and the motor will return to the starting state, but it shall not be started until the fault causing the winding overheating is eliminated.

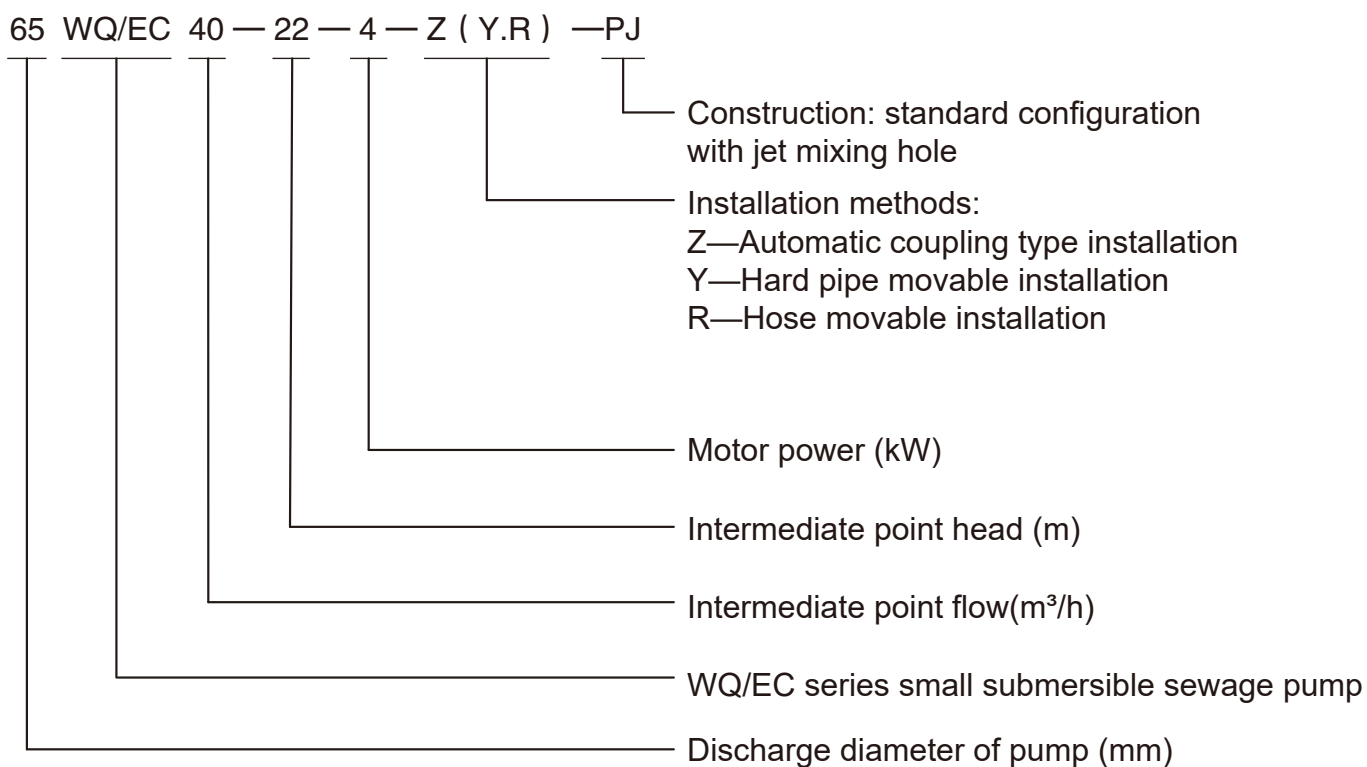
Leakage probe is installed in the oil chamber. When the impeller side mechanical seal is damaged and the water in the leakage oil chamber reaches a certain degree, the two electrodes of the leakage probe conduct through the electric control cabinet to issue an alarm signal (indicating light) to remind the operator to check the mechanical seal or replace the oil in the oil chamber in time.

For power 5.5KW and 7.5KW, water leakage probe is installed in the lower chamber of the motor. When the mechanical seal of the motor side fails, the oil or water in the oil chamber enters the inner cavity of the motor through the bearing chamber. The leakage probe installed in the lower cavity of the motor sends an alarm signal through the electric control cabinet (the leakage indicator light is on) and makes the pump stop running automatically, reminding the operator to repair the pump.

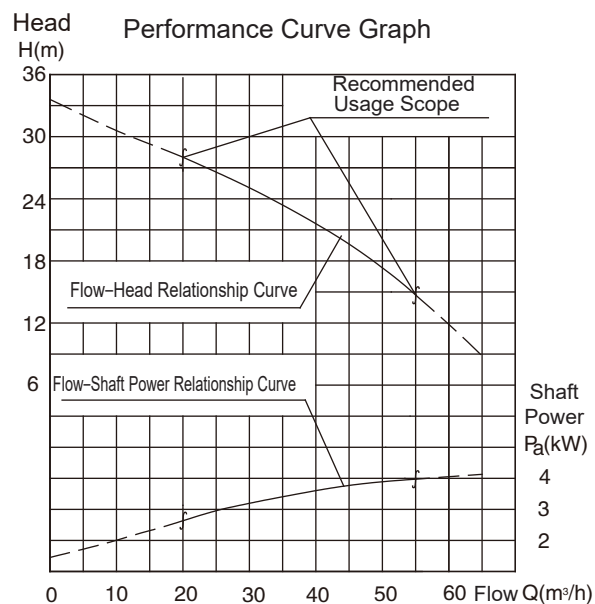
List of motor protection components installed in the pump:

| Power (kW) | Oil Chamber Leak Probe | Winding Thermal Sensing Element | Leakage Probe in Lower Chamber of Motor |
|------------|--|--|--|
| ≤ 4 | When the water content of oil chamber exceeds the limit, make the electric control cabinet light up and alarm, stop the pump and give an alarm | When the winding overheats, make the electric control cabinet light up and alarm and stop the pump | None |
| 5.5, 7.5 | | | When water enters the motor chamber, the electric control cabinet lights up to alarm and stop the pump |

Pump Model Description



Explanation of Pump Performance Curve and Main Parameters



Main Parameter

| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|--------------------------------|------------------------|-----------------------------|
| 65WQ/EC40-22-4 | 65WQ/EC248-4 | Oval 33×40 | 2890 | 44 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor $\cos \phi$ | Motor Efficiency(%) | Block Torque / Rated Torque |
| 4 | 8.2 | 0.87 | 85.5 | 2.2 |

The solid line part of the curve on the graph indicates the recommended use range of the pump. The user should carefully calculate the required flow head when selecting the model, so that the selected pump can work within the recommended use range.

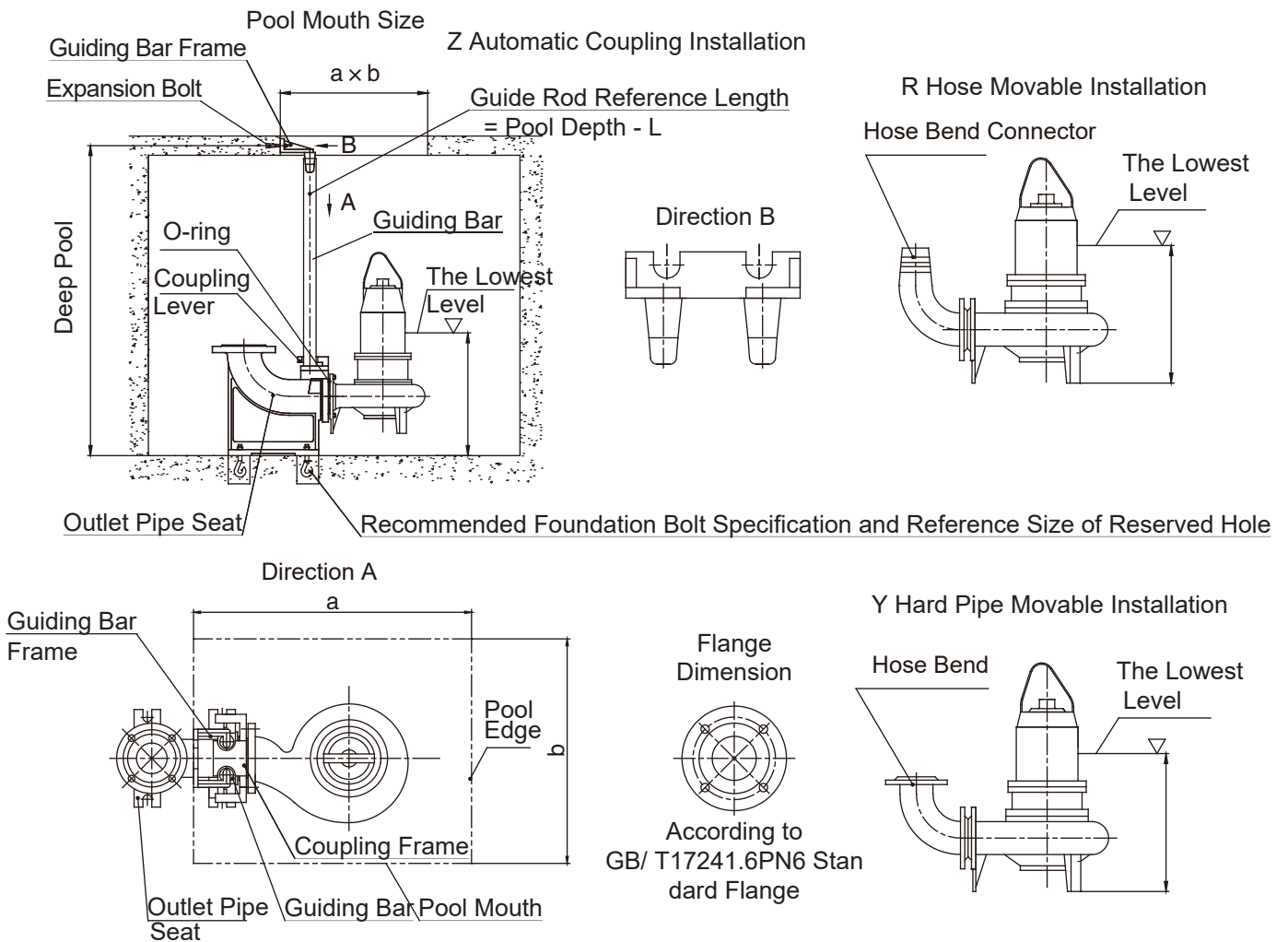
The diameter of solids in the medium should not be greater than the minimum size of the flow channel, and it is recommended to be less than 80% of the minimum size of the flow channel. For example, for the 65WQ/EC40-22-4 pump shown in the figure, the diameter of the solids should not be greater than $33 \times 0.8 \approx 26$ mm.

Pump weight does not include accessories for various installation methods, such as coupling devices, bend connectors, hose bend connectors, etc.

Installation Methods

WQ/EC type pump has three installation methods: automatic coupling installation (Z), hose movable installation (R) and hard pipe movable installation (Y). The movable installation of the hose and the movable installation of the hard tube are very simple and need not be detailed.

The following is an introduction to the automatic coupling installation:



The automatic coupling installation does not require the use of conventional fasteners to connect the pump to the pipe. Coupling device only outlet pipe seat, guide rod, guide rod frame, coupling frame these four parts. Guide rod only plays a guiding role, no force, with ordinary water pipe or steel pipe according to the depth of the pool cut into the required length can be, so the user can provide. When installing, the outlet pipe seat, guide rod and guide rod frame are installed, the coupling frame is installed on the pump body, the pump is lifted, the semicircle orifice on the coupling frame is inserted into the guide rod, the pump is slipped down along the guide rod to the end, the coupling frame will be aligned with the outlet pipe seat buckle. When the pump needs to be repaired, just lift the pump up and the pump is disengaged from the outlet pipe seat. This installation is very convenient for pump maintenance.

Because the coupling device and the pump are relatively independent, so if your pump station needs to change to a low or high lift pump of the same caliber due to changes in the situation, you can still use the original coupling device.

Related Dimensions for Automatic Coupling Installation Hose Dimensions for Movable Installation

Unit: mm except for inches

| Pump Discharge Diameter Project | 50 | 65 | 80 | 100 | 150 | 200 | |
|---|---|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| Guiding bar | 1 "Water Pipe /32×3.5 Seamless Steel Tube | | | | 2" /60×5 | | |
| Guiding bar length | Deep Pool- 255 | Deep Pool- 268 | Deep Pool- 303 | Deep Pool- 353 | Deep Pool- 435 | Deep Pool- 540 | |
| Quantity and specification of foundation bolts | 4-M16×220 | | 4-M20×300 | | | 4-M24×300 | |
| Quantity and specification of expansion bolts | 2-M16×150 I | | | | | | |
| Foundation bolts reserved hole dimension | 80×80×270 | | 100×100×350 | | | | |
| Specification for hose bend joints to be fitted | 50-6 | 50×65-6 | 65-6 | 80-6 | 100-6 | 150-6 | none |
| The inner diameter of the hose when the hose is installed | 64 | 76 | 76 | 89 | 102 | 152 | none |

Main Part Materials of the Pump

| Parts | Impeller, Underneath Pump Cover | Motor Crashing | Shaft | Mechanical Seal Material | | | |
|----------|---------------------------------------|-------------------|-------|--|---|---------------------------------------|-------------------|
| | | | | Motor Side Mechanical Seal Friction Pair | Pump Side Mechanical Seal Friction Pair | Springs and Structural Parts | Rubber Parts |
| Material | HT200 | HT200 | 2Cr13 | Silicon Carbide | Silicon Carbide Tungsten Carbide | Stainless Steel | Nitrile Rubber |

Note: if the user requires to make the main parts into ductile iron or other materials, such as 2Cr13, 304, etc., and has other special requirements, please contact the sewage pump research group of the technical department

Rotation Direction

From the pump inlet, the impeller is counterclockwise rotation.

The Mark of the Cable Core

Light blue (U), black (V) and brown (W) are three-phase power lines.

The yellow/green double color line (11) is the ground line and the signal common line.

White (14) is the stator winding thermistor signal line.

Purple (12) is the oil chamber leak probe signal line.

Pink (13) is the probe signal line for leakage under the motor cavity (5.5kW and 7.5kW only).

Order Instructions

1. Product name, model, installation form, optional parts, spare parts, etc., should be indicated when ordering. The influence of medium weight on power should be taken into account when selecting the type. We warmly welcome users to consult our technical department for technical problems.
2. The motor cable length standard configuration is 5m, can be optional with a length unit of 5m increase (such as 10m, 15m.....), the optional cable length should be stated and indicated on the order.
3. Complete sets of supplies are supplied according to the installation method selected by users. The selected parts and spare parts must be ordered separately by the user.
4. Because of the simple design of the coupling device, the guide rod only needs to use the general 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 previous section. Users only need to purchase the water pipe or steel pipe by themselves and cut it into the required length to use it. Therefore, the guide rod is not used as the complete set of supply parts for coupling installation. If the user needs to provide the guide rod by our company, he/she must order and write the order.

Supply Scope

| Installation Method | Complete Supply | Options | | Spare Parts |
|---------------------------------|--|--|---|---|
| Mobile hose installation | Main pump, hose bend connector (one for each pump) | Hose | Electric control device, terminal box, gate (butterfly) valve, check valve, wire rope and rope clip or chain for lifting pump, grille (custom), hoist (custom), rectangular gate (custom) | Impeller Bearing Mechanical seal O-ring Impeller fastener |
| Mobile hard pipe installation | Main pump, bend joint (one for each pump) | | | |
| Automatic coupling installation | Main pump, automatic coupling device (one set for each pump) | Guiding rod Foundation bolt Expansion bolt | | |

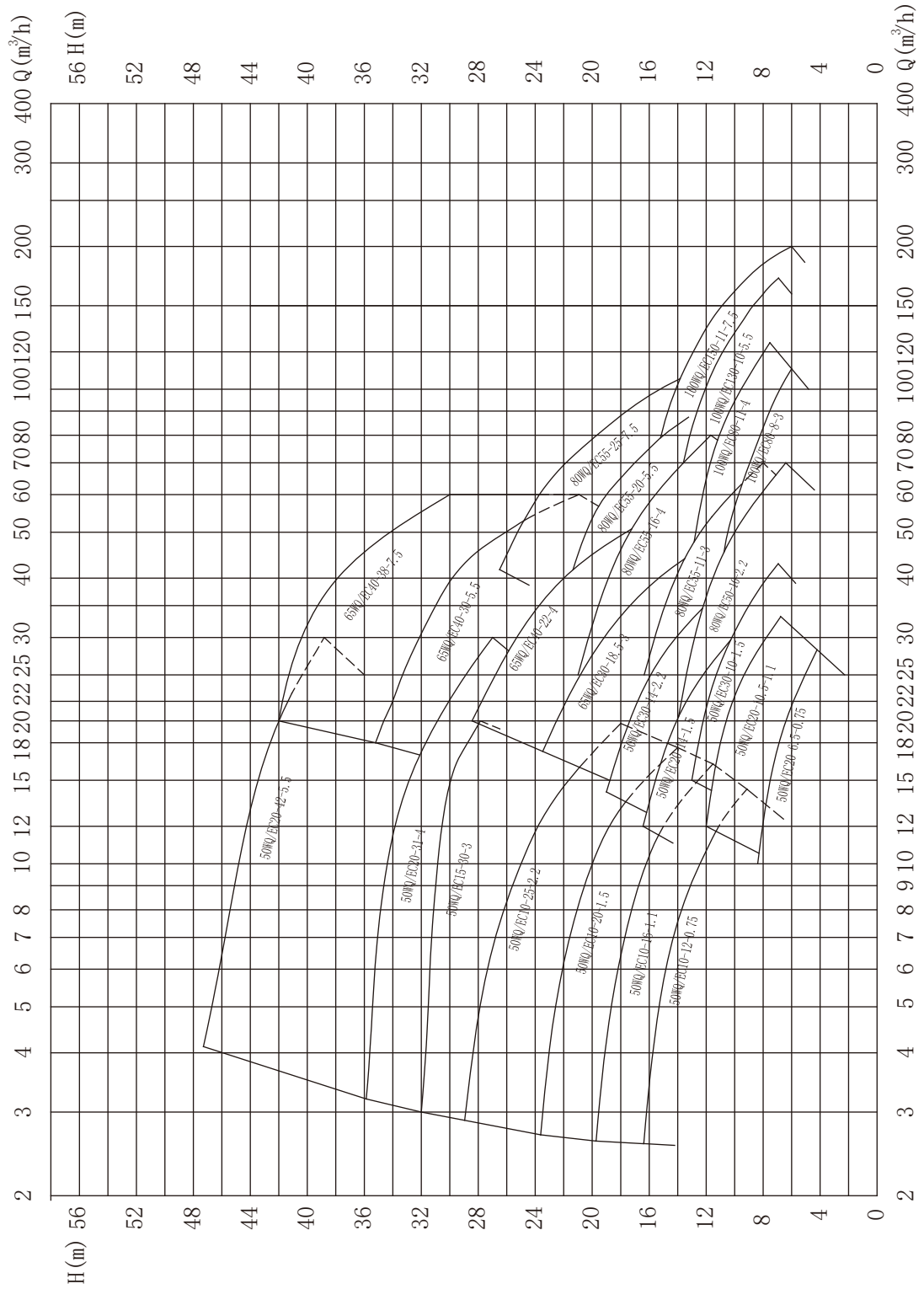


Spare Parts Specification and Model List

| | | | | | | | |
|--|---|--|--|---|---|--|---------|
| Power | 0.75、1.1 | 1.5、2.2 | 3 | | 4 | | 5.5、7.5 |
| Motor Pole Number | 2P | 2P | 2P | 4P | 2P | 4P | 4P |
| Cable Type | YVC7 x 1 | | YVC3 x 1.5+4 x 1 | | YVC3 x 2.5+4 x 1.5 | | |
| Upper Bearing | 6203-2Z | 6205-2Z | 6206-2Z | | 6306-2Z/C3 | | |
| Lower Bearing | 6204-2Z | 6205-2Z | 6206-2Z | | 3307-2Z/C3 | | |
| Pump Side Mechanical Seal | FU1/20-G60 Q1Q1PGG | FU1/25-G60 Q1Q1PGG | FU1/30-G60 Q1Q1PGG | | FU1/35-G60 Q1Q1PGG | | |
| Motor Side Mechanical Seal | FD-20-G60 AQ1PGG | FD-25-G60 AQ1PGG | FD-30-G60 AQ1PGG | | FD-35-G60 AQ1PGG | | |
| O-ring Seal for Each Pump | 1-106 x 3.55 2-122 x 3.55 2-10 x 2.65 | 1-122 x 3.55 2-132 x 3.55 2-10 x 2.65 | 1-155 x 3.55 2-160 x 3.55 2-10 x 2.65 | 1-155 x 3.55 2-160 x 3.55 2-10 x 2.65 | 1-155 x 3.55 2-180 x 3.55 2-10 x 2.65 | 1-200 x 5.3 2-180 x 3.55 2-10 x 2.65 | |
| The O-ring is made of oil-resistant rubber | | | | | | | |
| Impeller Fastener | The O-ring is made of oil-resistant lemon glue Nut M10 x 1.25 Spring washer 10 Impeller pressure plate WQB07-01A | Screw the M8 x 25 Spring washer 8 Impeller pressure plate WQB07-10 | Screw M10 x 25 Spring washer 10 Impeller pressure plate WQB07-16 | | Screw M10 x 30 Spring washer 10 Impeller pressure plate WQB07-02B | | |

Comprehensive Characteristic Curve Charts

WQ/EC Miniature Submersible Pump Comprehensive Characteristic Curve Charts



WQ/EC New and Old Model Comparison Table and Performance Parameter Table

| No. | New Model | Original Model | Diameter | Flow | Head | Speed | Matching Power | Maximum Pass Particle | Weight |
|-----|--------------------|-----------------|----------|-------------------|------|-------|----------------|-----------------------|--------|
| | | | mm | m ³ /h | m | r/min | kw | mm | kg |
| 1 | 50WQ/EC10-12-0.75 | 50WQ/EC256-0.75 | 50 | 10 | 12 | 2825 | 0.75 | 15 | 22 |
| 2 | 50WQ/EC10-16-1.1 | 50WQ/EC257-1.1 | 50 | 10 | 16 | 2825 | 1.1 | 15 | 23 |
| 3 | 50WQ/EC10-20-1.5 | 50WQ/EC258-1.5 | 50 | 10 | 20 | 2840 | 1.5 | 14 | 26 |
| 4 | 50WQ/EC10-25-2.2 | 50WQ/EC259-2.2 | 50 | 10 | 25 | 2840 | 2.2 | 14 | 30 |
| 5 | 50WQ/EC15-30-3 | 50WQ/EC254-3 | 50 | 15 | 30 | 2880 | 3 | 21 | 40 |
| 6 | 50WQ/EC20-6.5-0.75 | 50WQ/EC240-0.75 | 50 | 20 | 6.5 | 2825 | 0.75 | 21 | 22 |
| 7 | 50WQ/EC20-10.5-1.1 | 50WQ/EC249-1.1 | 50 | 20 | 10.5 | 2825 | 1.1 | 21 | 23 |
| 8 | 50WQ/EC20-14-1.5 | 50WQ/EC242-1.5 | 50 | 20 | 14 | 2840 | 1.5 | 24 | 26 |
| 9 | 50WQ/EC20-31-4 | 50WQ/EC255-4 | 50 | 20 | 31 | 2890 | 4 | 21 | 42 |
| 10 | 50WQ/EC20-42-5.5 | 50WQ/EC262-5.5 | 50 | 20 | 42 | 2920 | 5.5 | 20 | 64.5 |
| 11 | 50WQ/EC30-10-1.5 | 50WQ/EC241-1.5 | 50 | 30 | 10 | 2840 | 1.5 | 25 | 29 |
| 12 | 50WQ/EC30-14-2.2 | 50WQ/EC243-2.2 | 50 | 30 | 14 | 2840 | 2.2 | 28 | 32 |
| 13 | 65WQ/EC30-18.5-3 | 65WQ/EC251-3 | 65 | 30 | 18.5 | 2880 | 3 | 26 | 42 |
| 14 | 65WQ/EC40-22-4 | 65WQ/EC248-4 | 65 | 40 | 22 | 2890 | 4 | 26 | 44 |
| 15 | 65WQ/EC40-30-5.5 | 65WQ/EC245-5.5 | 65 | 40 | 30 | 2920 | 5.5 | 26 | 63 |
| 16 | 65WQ/EC40-38-7.5 | 65WQ/EC250-7.5 | 65 | 40 | 38 | 2920 | 7.5 | 26 | 73 |
| 17 | 80WQ/EC50-10-2.2 | 80WQ/EC244-2.2 | 80 | 50 | 10 | 2840 | 2.2 | 28 | 35 |
| 18 | 80WQ/EC55-11-3 | 80WQ/EC261-3 | 80 | 55 | 11 | 2880 | 3 | 32 | 44 |
| 19 | 80WQ/EC55-16-4 | 80WQ/EC260-4 | 80 | 55 | 16 | 2890 | 4 | 32 | 45 |
| 20 | 80WQ/EC55-20-5.5 | 80WQ/EC252-5.5 | 80 | 55 | 20 | 2920 | 5.5 | 31 | 64.5 |
| 21 | 80WQ/EC55-25-7.5 | 80WQ/EC246-7.5 | 80 | 55 | 25 | 2920 | 7.5 | 31 | 73 |
| 22 | 100WQ/EC80-8-3 | 100WQ/EC477-3 | 100 | 80 | 8 | 1420 | 3 | 48 | 61 |
| 23 | 100WQ/EC80-11-4 | 100WQ/EC472-4 | 100 | 80 | 11 | 1440 | 4 | 48 | 65 |
| 24 | 100WQ/EC130-10-5.5 | 100WQ/EC473-5.5 | 100 | 130 | 10 | 1440 | 5.5 | 51 | 101 |
| 25 | 100WQ/EC150-11-7.5 | 100WQ/EC478-7.5 | 100 | 150 | 11 | 1440 | 7.5 | 51 | 113 |

Supporting Control Cabinet Products

1. Overview of control cabinet products

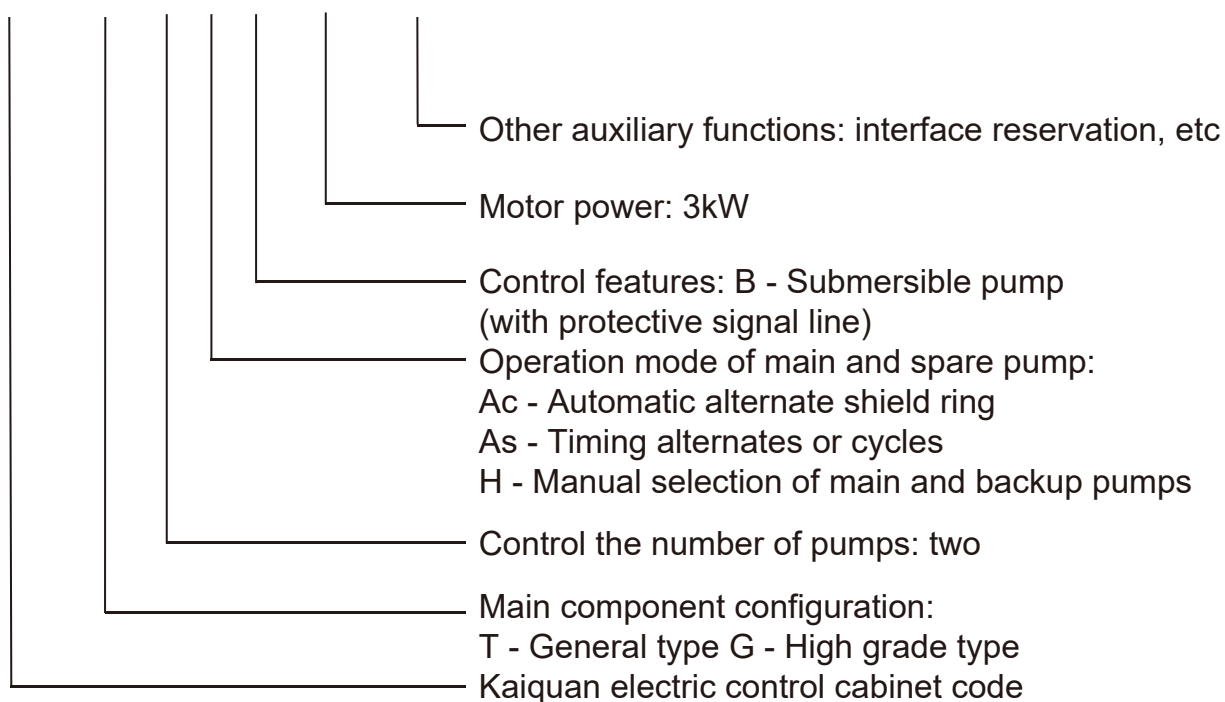
This series of submersible sewage pump supporting KQK-B electric control cabinet is an economical, safe and reliable, easy to maintain automatic control system. With oil chamber water inlet, motor cavity water inlet, winding overheating and other protection functions. When the motor enters water or the winding overheats, the fault light of the control cabinet will light up to alarm and stop the pump.

The control cabinet is made of low-voltage electrical appliances and liquid level sensors of well-known brands at home and abroad, with protection functions such as short circuit, phase loss and overload. The control cabinet can be controlled by ordinary relay or panel controller, and equipped with liquid level sensors such as floating ball level switch and water level electrode. In the case of unwatched, it can automatically control the start and stop of the pump according to the level of the liquid. In addition to single control products, all the products with main and spare pump control have the function of shutting down the fault pump by itself and putting in the spare pump automatically. The control cabinet of two pumps and three pumps can realize automatic alternating or circulating operation, so as to realize the equal running time of each pump.

The control cabinet components of the general configuration are mainly famous domestic brands such as Tianzheng, Zhengtai, Delixi, etc. High-grade control cabinet components are mainly Schneider, Siemens, ABB and other international well-known brands. For the one-control two-control cabinet, if the panel controller scheme is adopted, the size of the box is 400×300×200 (height × width × thickness).

2. Control cabinet model naming method

KQK / T – 2 Ac B – 3 – 001



3. Model Selection of Supporting Control Cabinet

Table1

| Supporting WQ/EC Pump (One Control One) | | | | |
|---|------------|-----------------------|--------------------------|---|
| No. | Power (kW) | Control Cabinet Mode | | Cabinet Dimension (Height × Width × Thickness) |
| | | General Configuration | High Grade Configuration | |
| 1 | 0.75 | KQK/T-1B-0.75 | KQK/G-1B-0.75 | 400 × 300 × 200 |
| 2 | 1.1 | KQK/T-1B-1.1 | KQK/G-1B-1.1 | 400 × 300 × 200 |
| 3 | 1.5 | KQK/T-1B-1.5 | KQK/G-1B-1.5 | 400 × 300 × 200 |
| 4 | 2.2 | KQK/T-1B-2.2 | KQK/G-1B-2.2 | 400 × 300 × 200 |
| 5 | 3 | KQK/T-1B-3 | KQK/G-1B-3 | 400 × 300 × 200 |
| 6 | 4 | KQK/T-1B-4 | KQK/G-1B-4 | 400 × 300 × 200 |
| 7 | 5.5 | KQK/T-1B-5.5 | KQK/G-1B-5.5 | 400 × 300 × 200 |
| 8 | 7.5 | KQK/T-1B-7.5 | KQK/G-1B-7.5 | 400 × 300 × 200 |
| 9 | 5.5 | KQK/T-1B-5.5 | KQK/G-1B-5.5 | 400 × 300 × 200 |
| 10 | 7.5 | KQK/T-1B-7.5 | KQK/G-1B-7.5 | 400 × 300 × 200 |

Table2

| Supporting WQ/EC Pump (One Control Two) | | | | |
|---|------------|-----------------------|--------------------------|---|
| No. | Power (kW) | Control Cabinet Mode | | Cabinet Dimension (Height × Width × Thickness) |
| | | General Configuration | High Grade Configuration | |
| 1 | 0.75 | KQK/T-2AcB-0.75 | KQK/G-2AcB-0.75 | 500 × 400 × 200 |
| 2 | 1.1 | KQK/T-2AcB-1.1 | KQK/G-2AcB-1.1 | 500 × 400 × 200 |
| 3 | 1.5 | KQK/T-2AcB-1.5 | KQK/G-2AcB-1.5 | 500 × 400 × 200 |
| 4 | 2.2 | KQK/T-2AcB-2.2 | KQK/G-2AcB-2.2 | 500 × 400 × 200 |
| 5 | 3 | KQK/T-2AcB-3 | KQK/G-2AcB-3 | 500 × 400 × 200 |
| 6 | 4 | KQK/T-2AcB-4 | KQK/G-2AcB-4 | 500 × 400 × 200 |
| 7 | 5.5 | KQK/T-2AcB-5.5 | KQK/G-2AcB-5.5 | 500 × 400 × 200 |
| 8 | 7.5 | KQK/T-2AcB-7.5 | KQK/G-2AcB-7.5 | 500 × 400 × 200 |
| 9 | 5.5 | KQK/T-2AcB-5.5 | KQK/G-2AcB-5.5 | 500 × 400 × 200 |
| 10 | 7.5 | KQK/T-2AcB-7.5 | KQK/G-2AcB-7.5 | 500 × 400 × 200 |

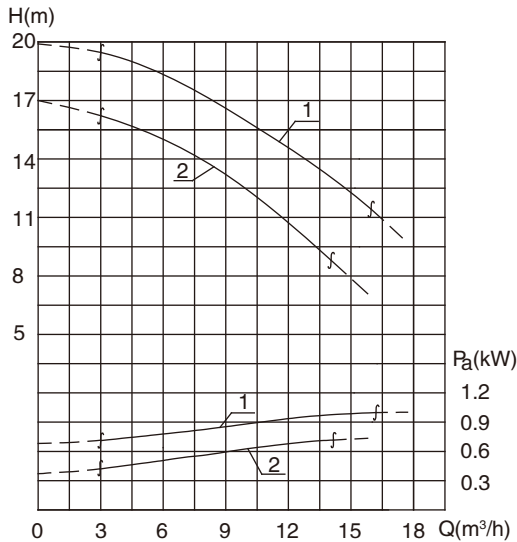
Table3

| Supporting WQ/EC Pump (One Control Three) | | | | |
|---|------------|-----------------------|--------------------------|--|
| No. | Power (kW) | Control Cabinet Mode | | Cabinet Dimension (Height × Width × Thickness) |
| | | General Configuration | High Grade Configuration | |
| 1 | 0.75 | KQK/T-3AcB-0.75 | KQK/G-3AcB-0.75 | 800 × 600 × 200 |
| 2 | 1.1 | KQK/T-3AcB-1.1 | KQK/G-3AcB-1.1 | 800 × 600 × 200 |
| 3 | 1.5 | KQK/T-3AcB-1.5 | KQK/G-3AcB-1.5 | 800 × 600 × 200 |
| 4 | 2.2 | KQK/T-3AcB-2.2 | KQK/G-3AcB-2.2 | 800 × 600 × 200 |
| 5 | 3 | KQK/T-3AcB-3 | KQK/G-3AcB-3 | 800 × 600 × 200 |
| 6 | 4 | KQK/T-3AcB-4 | KQK/G-3AcB-4 | 800 × 600 × 200 |
| 7 | 5.5 | KQK/T-3AcB-5.5 | KQK/G-3AcB-5.5 | 800 × 600 × 200 |
| 8 | 7.5 | KQK/T-3AcB-7.5 | KQK/G-3AcB-7.5 | 800 × 600 × 200 |
| 9 | 5.5 | KQK/T-3AcB-5.5 | KQK/G-3AcB-5.5 | 700 × 500 × 200 |
| 10 | 7.5 | KQK/T-3AcB-7.5 | KQK/G-3AcB-7.5 | 700 × 500 × 200 |

Performance Curves, Main Parameters and Installation Dimension Diagrams of Each Pump

50WQ/EC10-16-1.1 50WQ/EC10-12-0.75

Performance Curve Graph



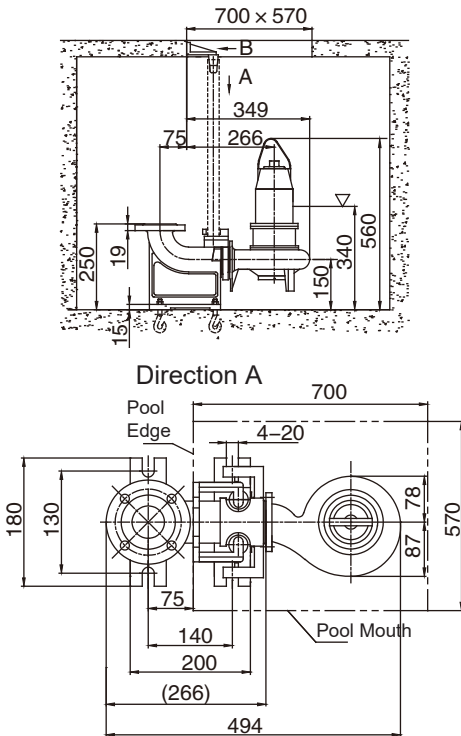
Main Parameter

Outlet Diameter 50mm

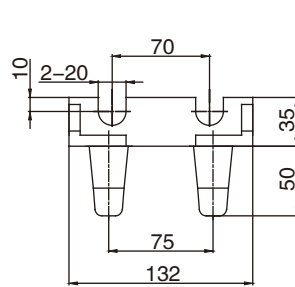
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 50WQ/EC10-16-1.1 | 50WQ/EC257-1.1 | Oval 19 × 24 | 2825 | 23 |
| 50WQ/EC10-12-0.75 | 50WQ/EC256-0.75 | Oval 19 × 24 | 2825 | 22 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency(%) | Block Torque / Rated Torque |
| 1.1 | 2.5 | 0.86 | 77 | 2.2 |
| 0.75 | 1.8 | 0.84 | 75 | 2.2 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m³/h—m | 3-19.5 | 10-16 | 16-11.5 | |
| | 3-16 | 10-12 | 14-9 | |

Installation Dimension Diagram

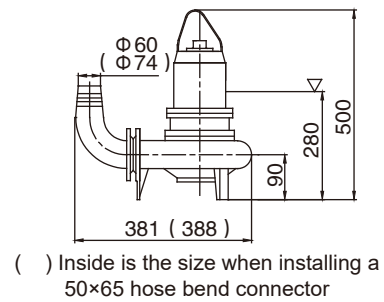
Z Automatic Coupling Installation



Direction B

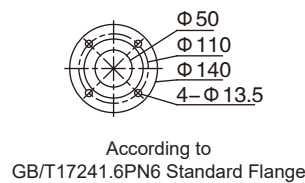


R Hose Movable Installation

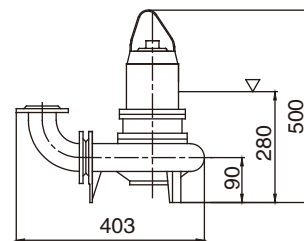


Direction A

Flange Dimension

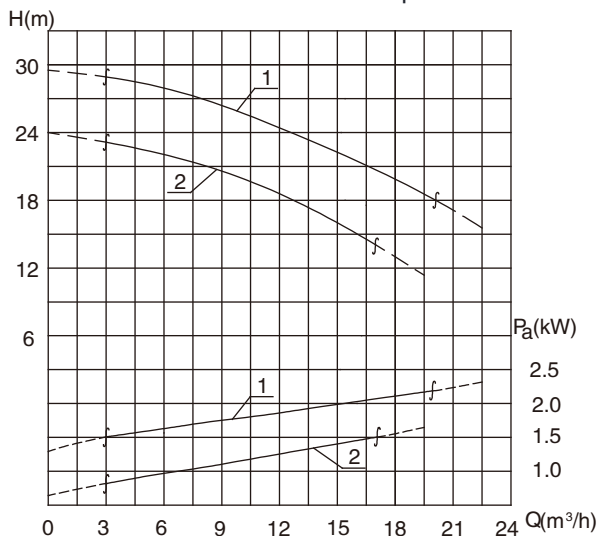


Y Hard Pipe Movable Installation



50WQ/EC10-25-2.2 50WQ/EC10-20-1.5

Performance Curve Graph



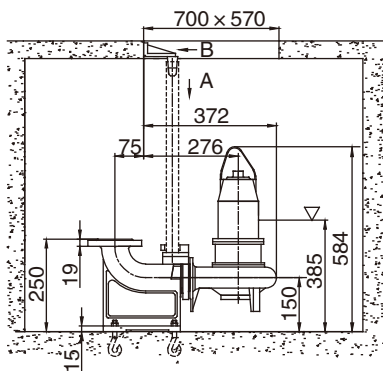
Main Parameter

Outlet Diameter 50mm

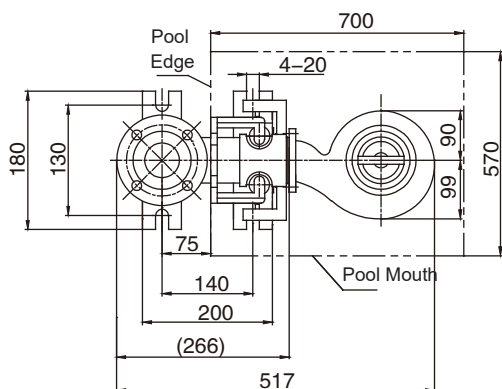
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 50WQ/EC10-25-2.2 | 50WQ/EC259-2.2 | Oval 36×27 | 2840 | 30 |
| 50WQ/EC10-20-1.5 | 50WQ/EC258-1.5 | Oval 36×27 | 2840 | 26 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency (%) | Block Torque / Rated Torque |
| 2.2 | 4.7 | 0.86 | 82 | 2.2 |
| 1.5 | 3.4 | 0.85 | 78 | 2.2 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m ³ /h—m | 3-29 | 10-25 | 20-18 | |
| | 3-23 | 10-20 | 17-14 | |

Installation Dimension Diagram

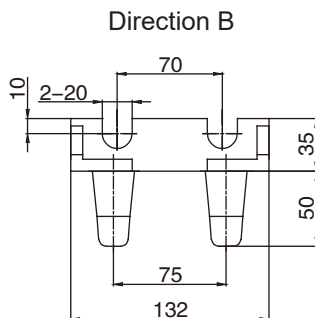
Z Automatic Coupling Installation



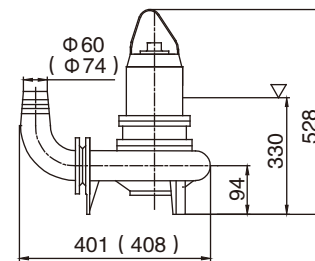
Direction A



R Hose Movable Installation



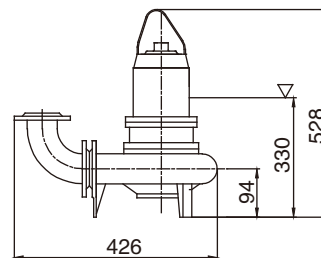
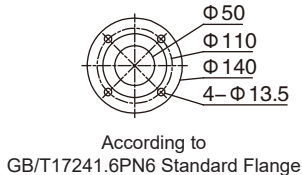
Direction B



() Inside is the size when installing a 50×65 hose bend connector

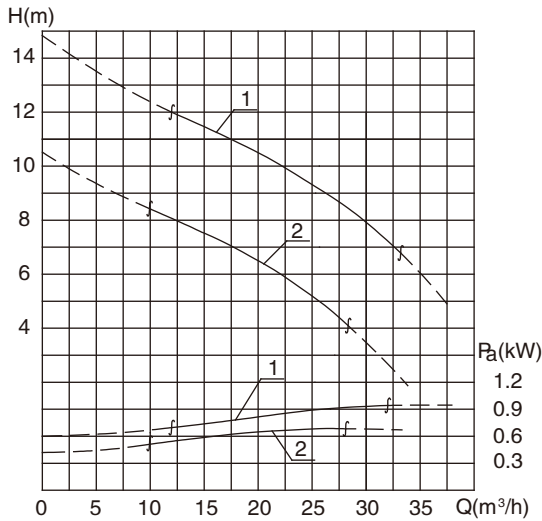
Y Hard Pipe Movable Installation

Flange Dimension



50WQ/EC20-10.5-1.1 50WQ/EC20-6.5-0.75

Performance Curve Graph



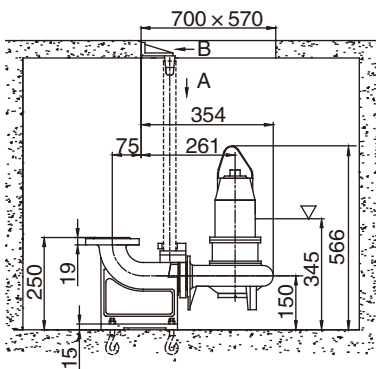
Main Parameter

Outlet Diameter 50mm

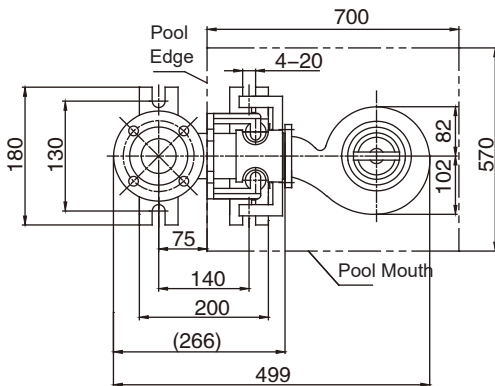
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 50WQ/EC20-10.5-1.1 | 50WQ/EC249-1.1 | Oval 36×27 | 2825 | 23 |
| 50WQ/EC20-6.5-0.75 | 50WQ/EC240-0.75 | Oval 36×27 | 2825 | 22 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency (%) | Block Torque / Rated Torque |
| 1.1 | 2.5 | 0.86 | 77 | 2.2 |
| 0.75 | 1.8 | 0.83 | 75 | 2.2 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| | m³/h—m | 12-12 | 20-10.5 | 33-6.8 |
| | | 10-8.4 | 20-6.5 | 28-4.1 |

Installation Dimension Diagram

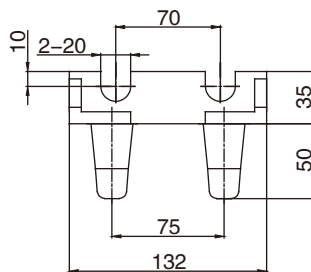
Z Automatic Coupling Installation



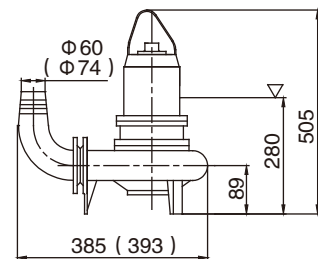
Direction A



Direction B

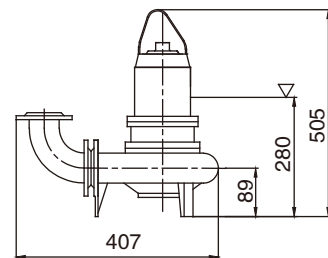


R Hose Movable Installation

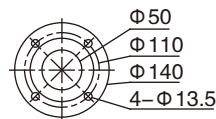


() Inside is the size when installing a 50×65 hose bend connector

Y Hard Pipe Movable Installation



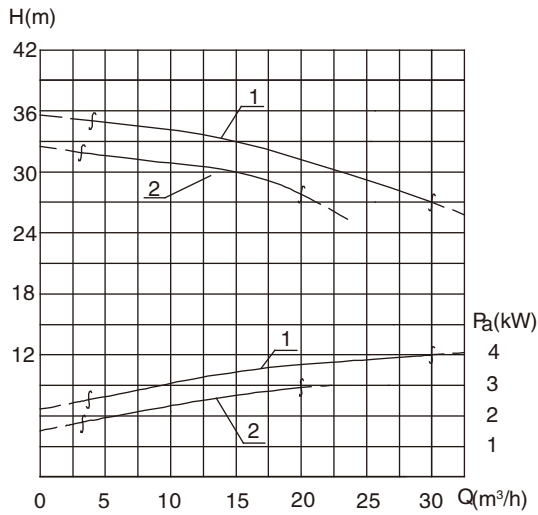
Flange Dimension



According to GB/T17241.6PN6 Standard Flange

50WQ/EC20-31-4 50WQ/EC15-30-3

Performance Curve Graph



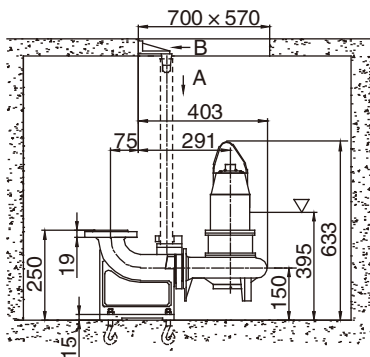
Main Parameter

Outlet Diameter 50mm

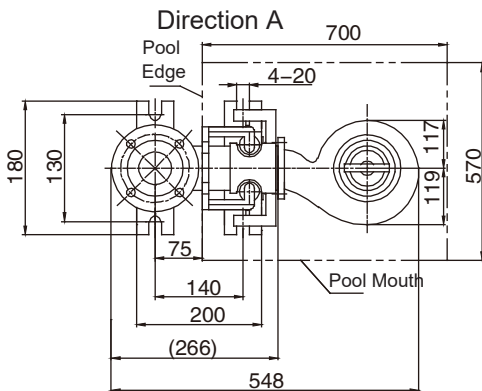
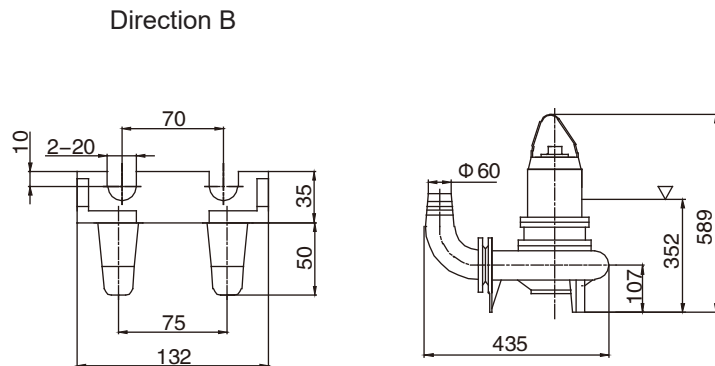
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 50WQ/EC20-31-4 | 50WQ/EC255-4 | Oval 26.5×34 | 2890 | 42 |
| 50WQ/EC15-30-3 | 50WQ/EC254-3 | Oval 26.5×34 | 2880 | 40 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency(%) | Block Torque / Rated Torque |
| 4 | 8.2 | 0.87 | 85.5 | 2.2 |
| 3 | 6.4 | 0.87 | 82 | 2.2 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m ³ /h—m | 4-35 | 20-31 | 30-27 | |
| | 4-32 | 15-30 | 20-28 | |

Installation Dimension Diagram

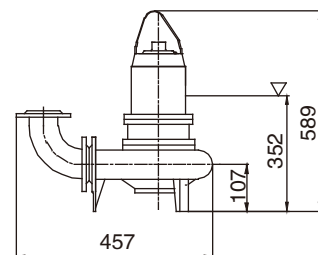
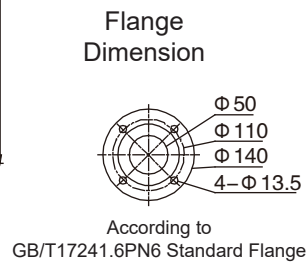
Z Automatic Coupling Installation



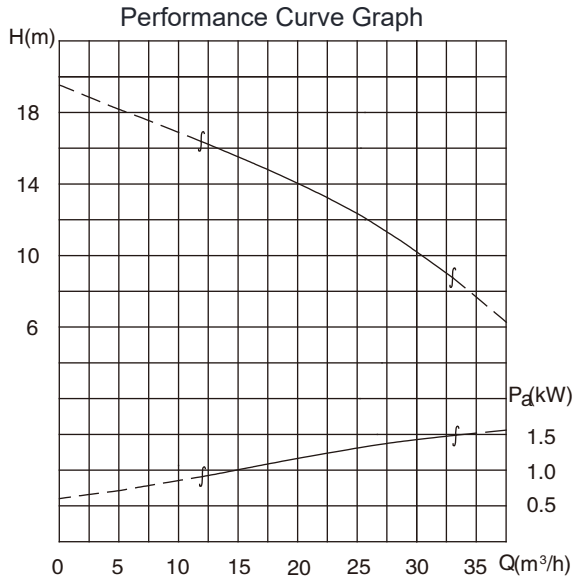
R Hose Movable Installation



Y Hard Pipe Movable Installation



50WQ/EC20-14-1.5



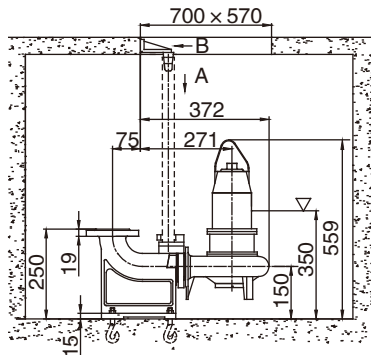
Main Parameter

Outlet Diameter 50mm

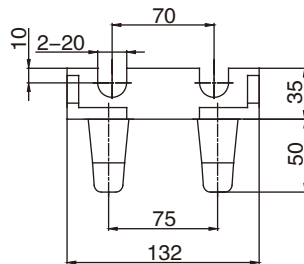
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 50WQ/EC20-14-1.5 | 50WQ/EC242-1.5 | Oval 31×39 | 2840 | 26 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency(%) | Rated Torque Block Torque / |
| 1.5 | 3.4 | 0.85 | 78 | 2.2 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m³/h—m | 12-16 | 20-14 | 33-8.6 | |

Installation Dimension Diagram

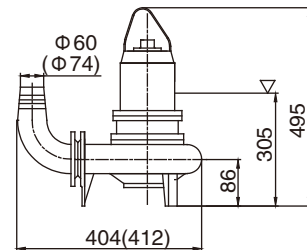
Z Automatic Coupling Installation



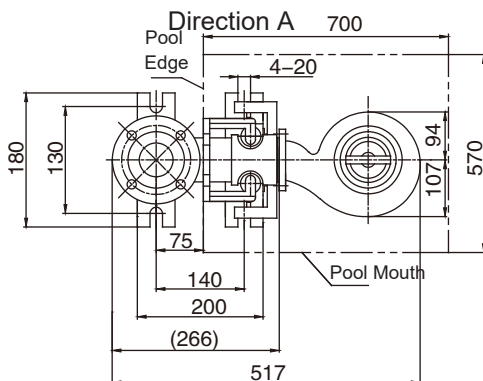
Direction B



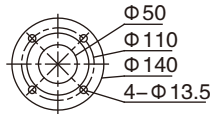
R Hose Movable Installation



() Inside is the size when installing a 50×65 hose bend connector

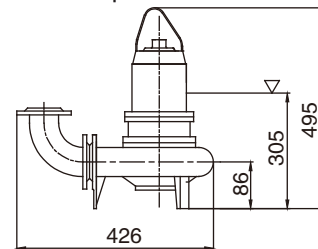


Flange Dimension

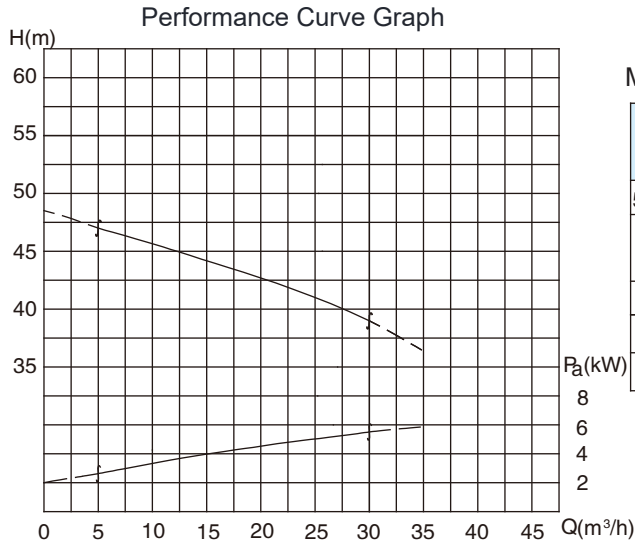


According to GB/T17241.6PN6 Standard Flange

Y Hard Pipe Movable Installation



50WQ/EC20-42-5.5



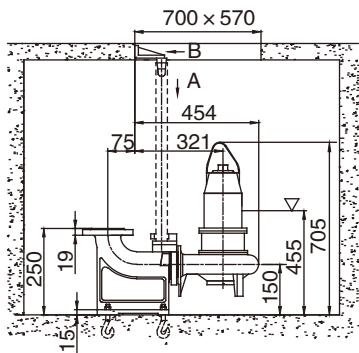
Main Parameter

Outlet Diameter 50mm

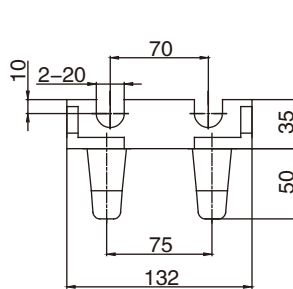
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 50WQ/EC20-42-5.5 | 50WQ/EC262-5.5 | Oval 26×39 | 2920 | 64.5 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency (%) | Rated Torque / Block Torque |
| 5.5 | 11.1 | 0.88 | 85.5 | 2.0 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m³/h—m | 5-47 | 20-42 | 30-39 | |

Installation Dimension Diagram

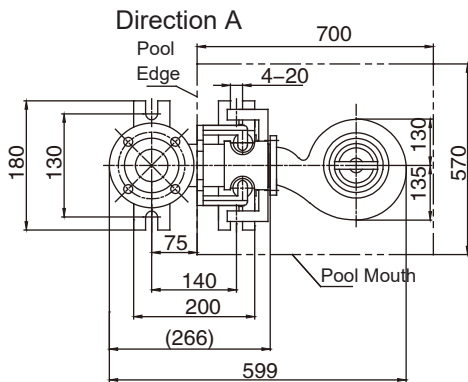
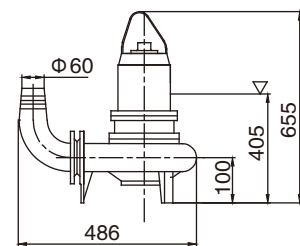
Z Automatic Coupling Installation



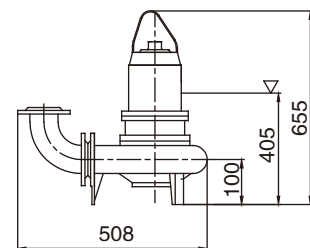
Direction B



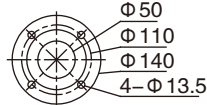
R Hose Movable Installation



Y Hard Pipe Movable Installation

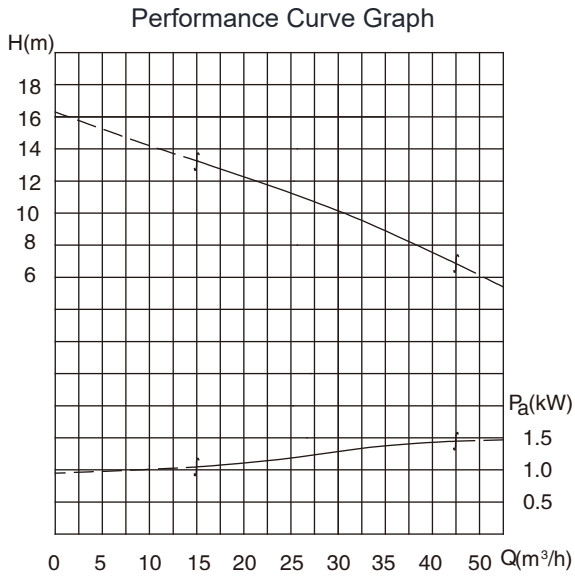


Flange Dimension



According to GB/T17241.6PN6 Standard Flange

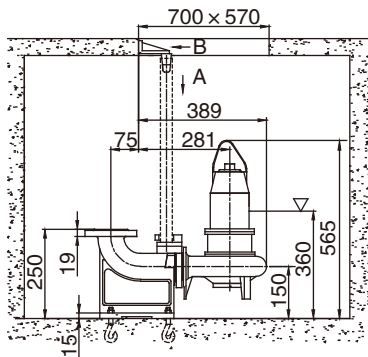
50WQ/EC30-10-1.5



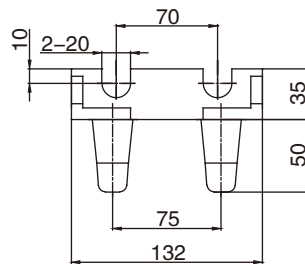
| Main Parameter | | Outlet Diameter 50mm | | |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
| 50WQ/EC30-10-1.5 | 50WQ/EC241-1.5 | Oval 43×32 | 2840 | 29 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency(%) | Rated Torque Block Torque / |
| 1.5 | 3.4 | 0.85 | 78 | 2.2 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m³/h—m | 15-13.2 | 30-10 | 42.5-7 | |

Installation Dimension Diagram

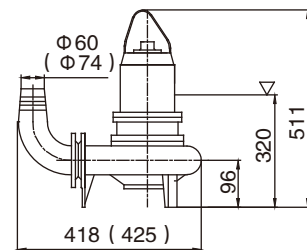
Z Automatic Coupling Installation



Direction B

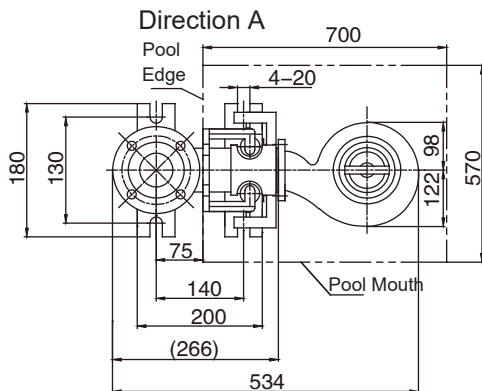


R Hose Movable Installation

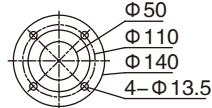


() Inside is the size when installing a 50×65 hose bend connector

Direction A

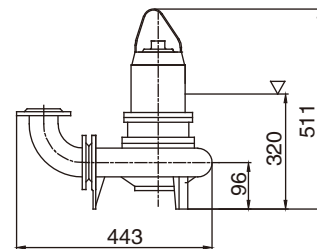


Flange Dimension

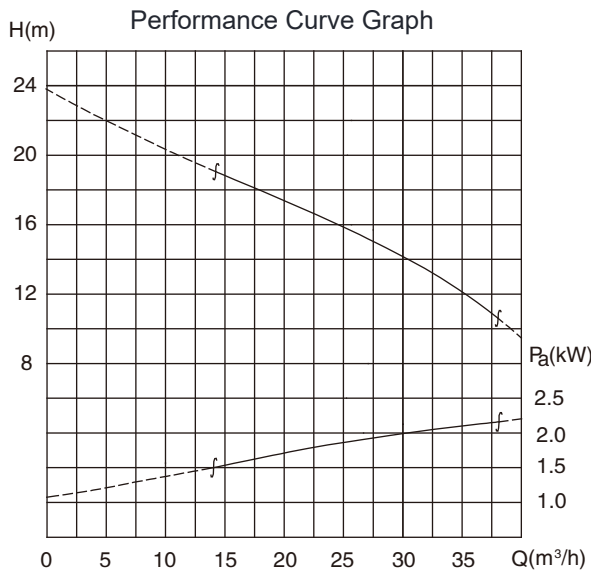


According to GB/T17241.6PN6 Standard Flange

Y Hard Pipe Movable Installation



50WQ/EC30-14-2.2



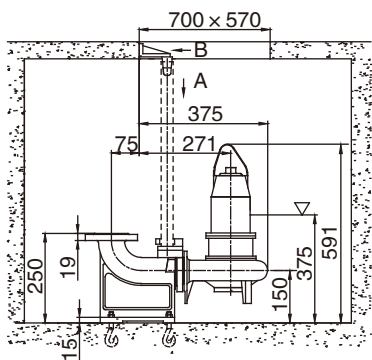
Main Parameter

Outlet Diameter 50mm

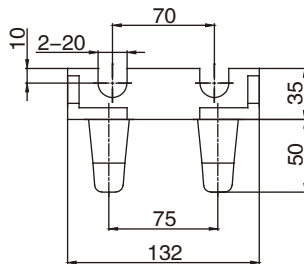
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 50WQ/EC30-14-2.2 | 50WQ/EC243-2.2 | Oval 36×38 | 2840 | 32 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency (%) | Rated Torque Block Torque / |
| 2.2 | 4.7 | 0.86 | 82 | 2.2 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m³/h—m | 14-19 | 30-14 | 38-10.6 | |

Installation Dimension Diagram

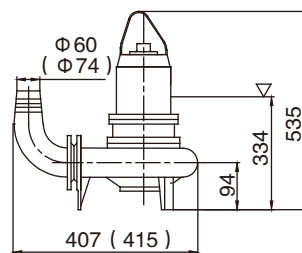
Z Automatic Coupling Installation



Direction B

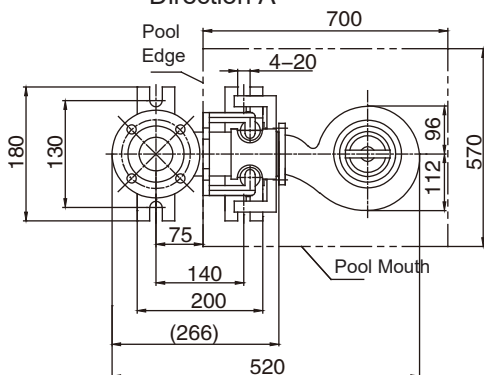


R Hose Movable Installation

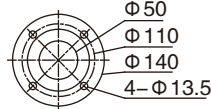


() Inside is the size when installing a 50×65 hose bend connector

Direction A

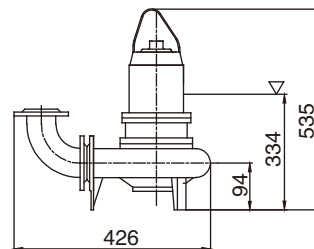


Flange Dimension

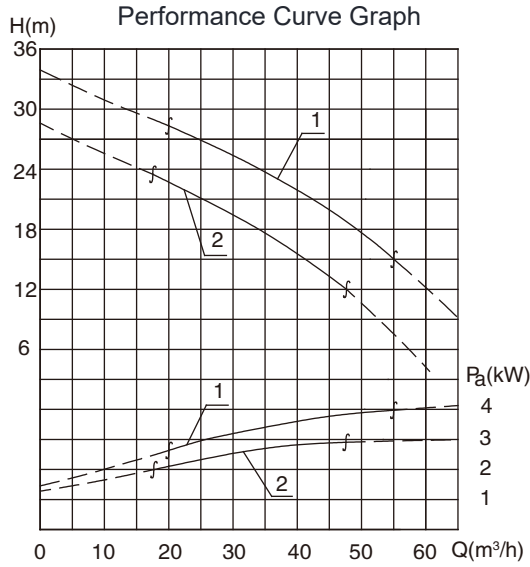


According to GB/T17241.6PN6 Standard Flange

Y Hard Pipe Movable Installation



65WQ/EC40-22-4 65WQ/EC30-18.5-3



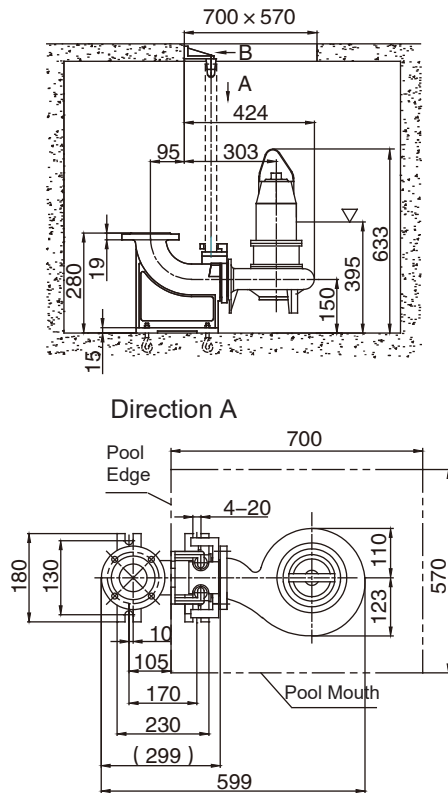
Main Parameter

Outlet Diameter 65mm

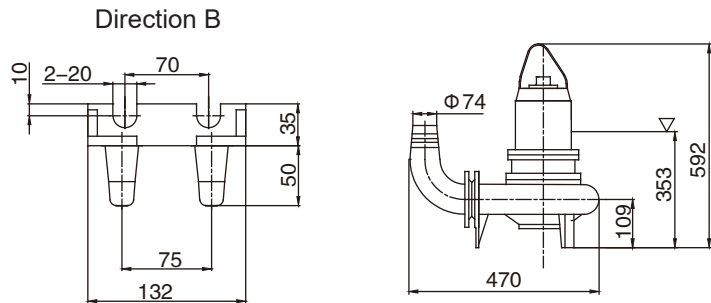
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 65WQ/EC40-22-4 | 65WQ/EC248-4 | Oval 33×40 | 2890 | 44 |
| 65WQ/EC30-18.5-3 | 65WQ/EC251-3 | Oval 33×40 | 2880 | 42 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency(%) | Rated Torque Block Torque / |
| 4 | 8.2 | 0.87 | 85.5 | 2.2 |
| 3 | 6.4 | 0.87 | 82 | 2.2 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m³/h—m | 20-28.4 | 40-22 | 55-15 | |
| | 17.5-23.5 | 30-18.5 | 47.5-12 | |

Installation Dimension Diagram

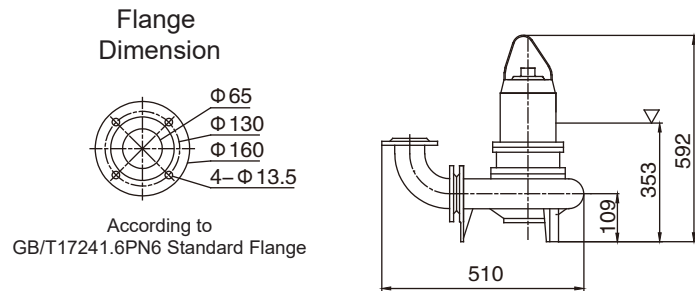
Z Automatic Coupling Installation



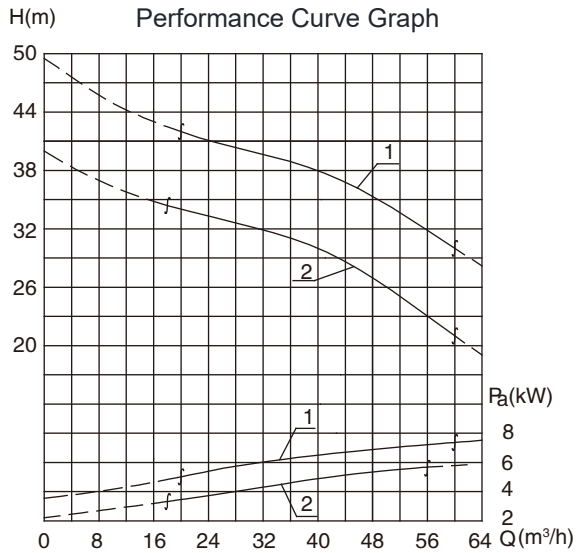
R Hose Movable Installation



Y Hard Pipe Movable Installation



65WQ/EC40-38-7.5 65WQ/EC40-30-5.5



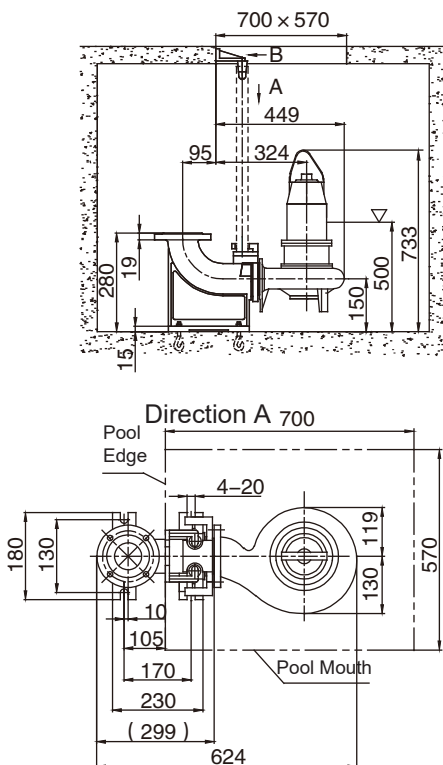
Main Parameter

Outlet Diameter 65mm

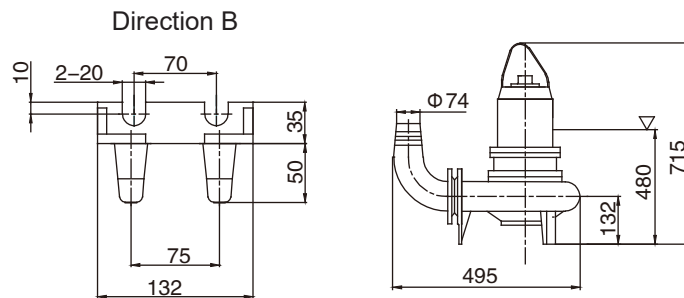
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 65WQ/EC40-38-7.5 | 65WQ/EC250-7.5 | Oval 33×40 | 2920 | 73 |
| 65WQ/EC40-30-5.5 | 65WQ/EC245-5.5 | Oval 33×40 | 2920 | 63 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency (%) | Rated Torque Block Torque / |
| 7.5 | 15 | 0.88 | 86.2 | 2.0 |
| 5.5 | 11.1 | 0.88 | 85.5 | 2.0 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m³/h—m | 20-42 | 40-38 | 60-30 | |
| | 18-35 | 40-30 | 60-21 | |

Installation Dimension Diagram

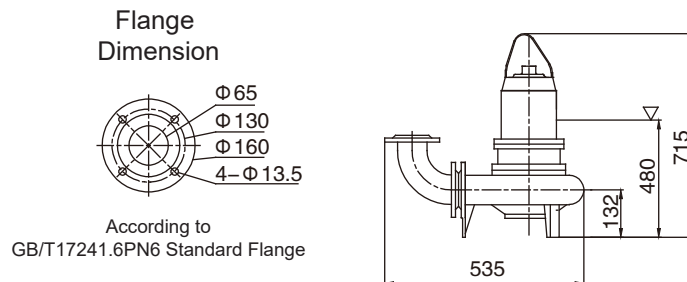
Z Automatic Coupling Installation



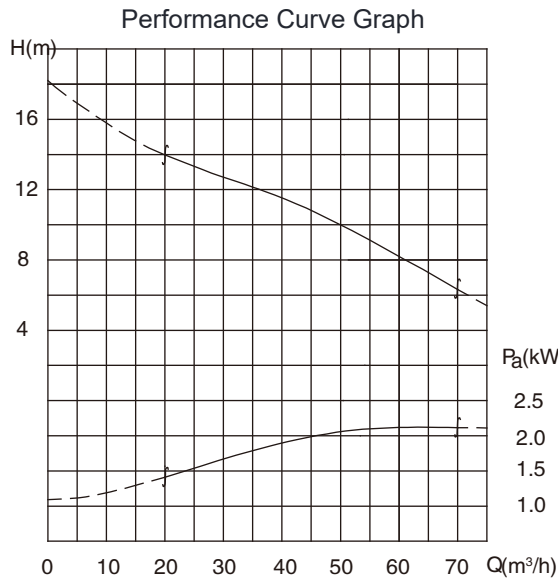
R Hose Movable Installation



Y Hard Pipe Movable Installation



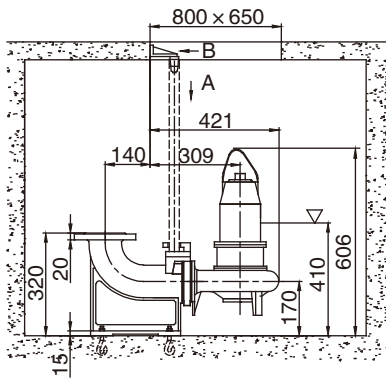
80WQ/EC50-10-2.2



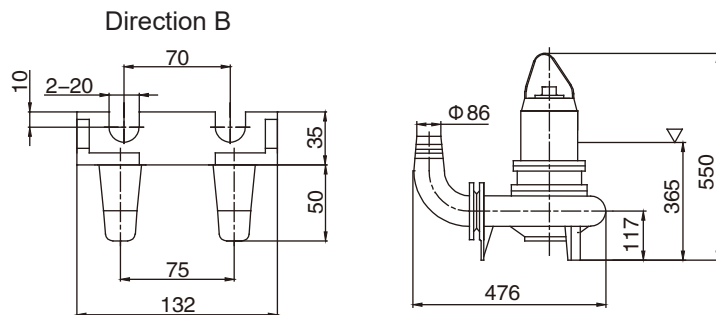
| Main Parameter | | Outlet Diameter 80mm | | |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
| 80WQ/EC50-10-2.2 | 80WQ/EC244-2.2 | Oval 48×36 | 2840 | 35 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency (%) | Rated Torque Block Torque / |
| 2.2 | 4.7 | 0.86 | 82 | 2.2 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m³/h—m | 20—14 | 50—10 | 70—6.3 | |

Installation Dimension Diagram

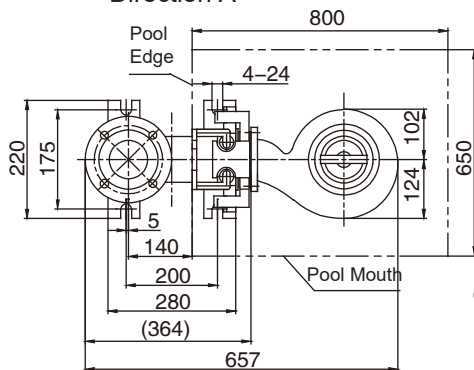
Z Automatic Coupling Installation



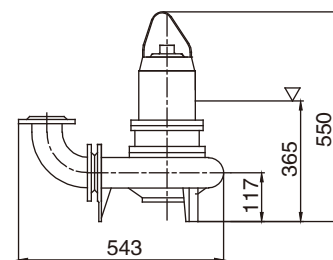
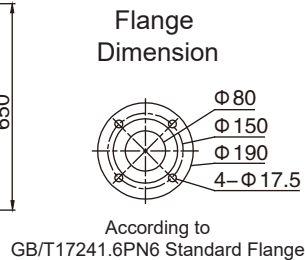
R Hose Movable Installation



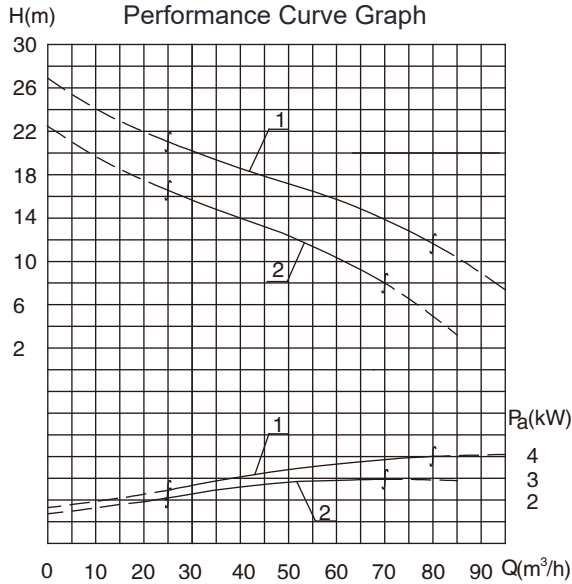
Direction A



Y Hard Pipe Movable Installation



80WQ/EC55-16-4 80WQ/EC55-11-3

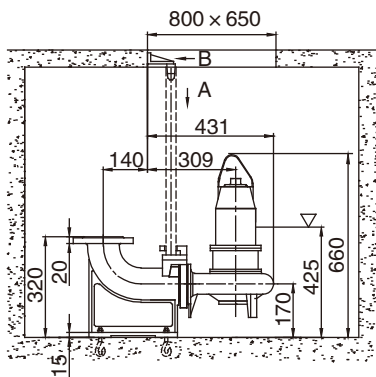


Main Parameter Outlet Diameter 80mm

| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 80WQ/EC55-16-4 | 80WQ/EC260-4 | Oval 45×40 | 2890 | 45 |
| 80WQ/EC55-11-3 | 80WQ/EC261-3 | Oval 45×40 | 2880 | 44 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency (%) | Rated Torque Block Torque / |
| 4 | 8.2 | 0.87 | 85.5 | 2.2 |
| 3 | 6.4 | 0.87 | 82 | 2.2 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m ³ /h—m | 25-21 | 55-16 | 80-11.7 | |
| | 25-16.3 | 55-11 | 70-8 | |

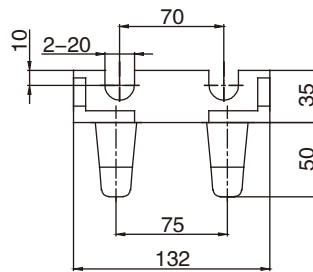
Installation Dimension Diagram

Z Automatic Coupling Installation

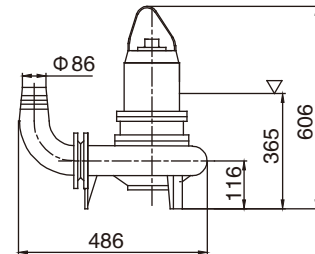


Direction A

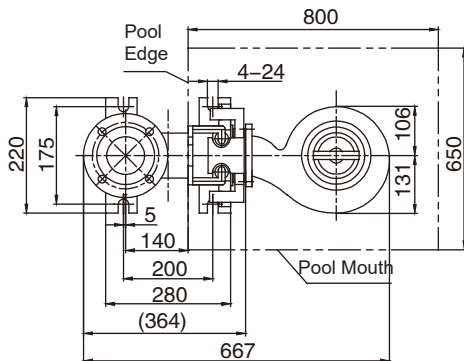
Direction B



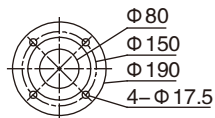
R Hose Movable Installation



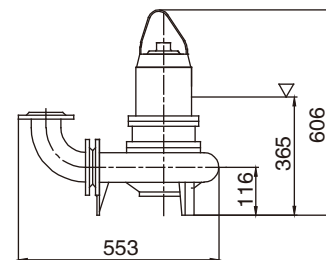
Y Hard Pipe Movable Installation



Flange Dimension

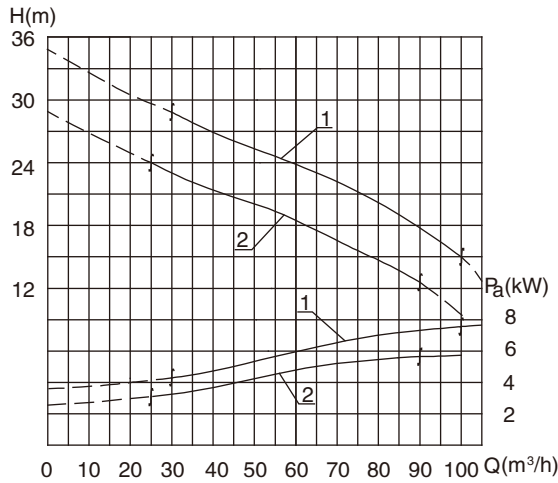


According to GB/T17241.6PN6 Standard Flange



80WQ/EC55-25-7.5 80WQ/EC55-20-5.5

Performance Curve Graph



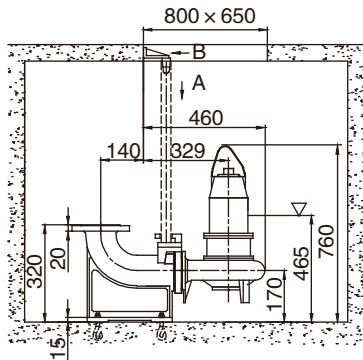
Main Parameter

Outlet Diameter 80mm

| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 80WQ/EC55-25-7.5 | 80WQ/EC246-7.5 | Oval 49×39 | 2920 | 73 |
| 80WQ/EC55-20-5.5 | 80WQ/EC252-5.5 | Oval 49×39 | 2920 | 64.5 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency(%) | Rated Torque Block Torque / |
| 7.5 | 15 | 0.88 | 86.2 | 2.0 |
| 5.5 | 11.1 | 0.88 | 85.5 | 2.0 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m³/h—m | 30-29 | 55-25 | 100-15 | |
| | 25-24 | 55-20 | 90-13 | |

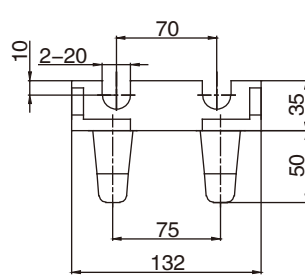
Installation Dimension Diagram

Z Automatic Coupling Installation

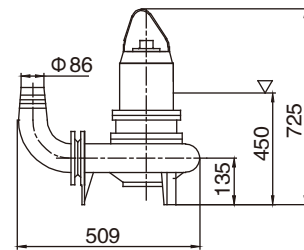


Direction A

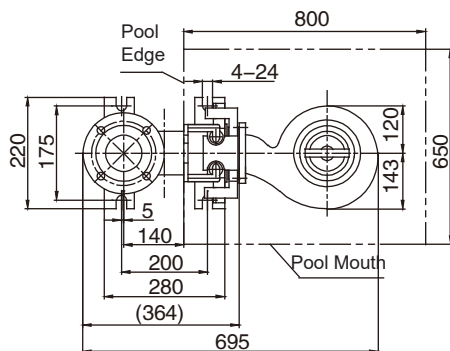
Direction B



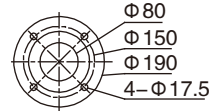
R Hose Movable Installation



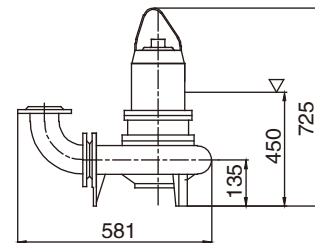
Y Hard Pipe Movable Installation



Flange Dimension

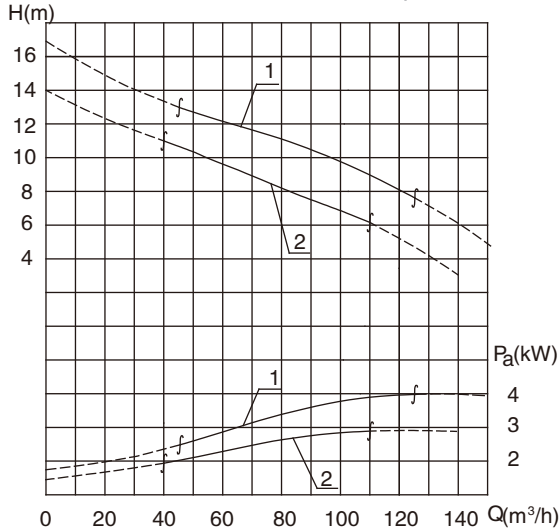


According to GB/T17241.6PN6 Standard Flange



100WQ/EC80-11-4 100WQ/EC80-8-3

Performance Curve Graph



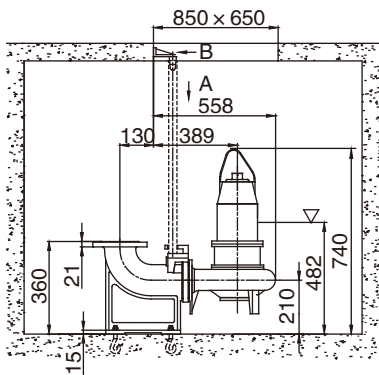
Main Parameter

Outlet Diameter 100mm

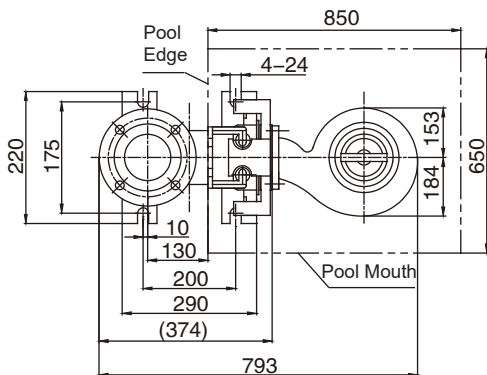
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 100WQ/EC80-11-4 | 100WQ/EC472-4 | Oval 61×63 | 1440 | 65 |
| 100WQ/EC80-8-3 | 100WQ/EC477-3 | Oval 61×63 | 1420 | 61 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency (%) | Rated Torque Block Torque / |
| 4 | 8.8 | 0.82 | 84.5 | 2.2 |
| 3 | 6.8 | 0.81 | 82.5 | 2.2 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m³/h—m | 45-13 | 80-11 | 125-7.6 | |
| | 40-11 | 80-8 | 110-6.1 | |

Installation Dimension Diagram

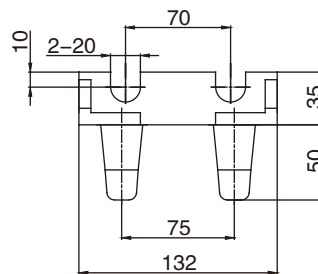
Z Automatic Coupling Installation



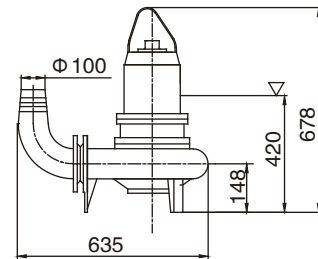
Direction A



Direction B

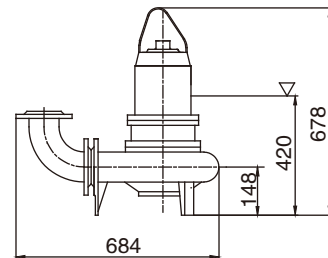
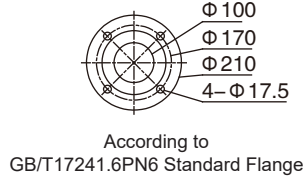


R Hose Movable Installation

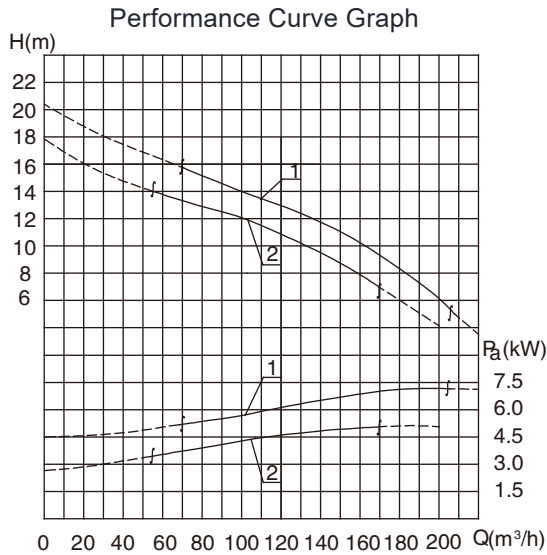


Y Hard Pipe Movable Installation

Flange Dimension



100WQ/EC150-11-7.5 100WQ/EC130-10-5.5



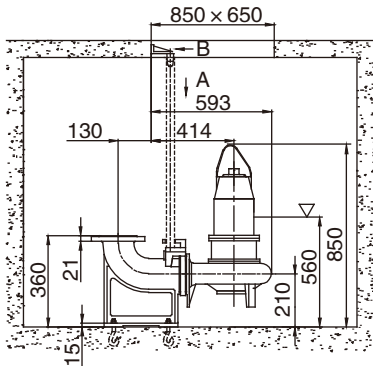
Main Parameter

Outlet Diameter 100mm

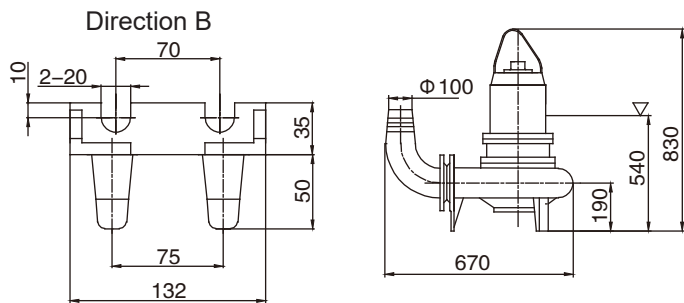
| New Model | Original Model | Flow Channel Dimension (mm) | Rotation Speed (r/min) | Weight (kg) |
|------------------------|-------------------|-----------------------------|------------------------|-----------------------------|
| 100WQ/EC150-11-7.5 | 100WQ/EC478-7.5 | Oval 72×64 | 1440 | 113 |
| 100WQ/EC130-10-5.5 | 100WQ/EC473-5.5 | Oval 72×64 | 1440 | 101 |
| Rated Motor Power (kW) | Rated Current (A) | Motor Power Factor cos φ | Motor Efficiency (%) | Rated Torque Block Torque / |
| 7.5 | 15.4 | 0.85 | 87 | 2.2 |
| 5.5 | 11.6 | 0.84 | 85.5 | 2.2 |
| Flow-Head | Small Flow Point | Middle Flow Point | Huge Flow Point | |
| m³/h—m | 70-16 | 150-11 | 200-6 | |
| | 55-14 | 130-10 | 170-7 | |

Installation Dimension Diagram

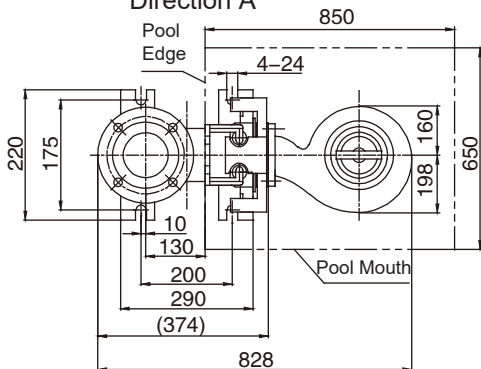
Z Automatic Coupling Installation



R Hose Movable Installation



Direction A



Y Hard Pipe Movable Installation

