



水泵行业全产业链整合研发与制造集团  
The complete integration of R&Dt with manufacturing within  
the pump industrial chain



# WQ系列立式污水污物潜水电泵

WQ Series Vertical Submersible Sewage Pump

50Hz



国家一级能效产品



## 上海天泉泵业集团有限公司

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注：本公司保留对产品设计更改权利，个别尺寸如有变动恕不事前通知。  
Note: our Co. reserves the right to modify the product design so as to  
change some of the dimensions without a prior notice.

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# 企业简介

## Introduction

上海天泉泵业集团有限公司成立于上世纪八十年代末，经过三十多年的市场磨炼，现已发展成为国内领先的集研究、生产、销售各类水泵、智慧成套供水设备以及电气控制系统的大型现代化集团企业。

天泉集团旗下已拥有一个产品研发中心以及铸造厂、水泵厂、压力容器厂、电机厂四大工业生产基地。集团注册资金一亿元，总资产人民币14.5亿元，总占地面积四十余万平方米，总部位于上海市青浦区。

天泉集团先后获得多项专业认证及荣誉，包括三大管理体系认证、中国著名品牌、中国水泵行业十大品牌、企业信用AAA级、中国工程建设推荐产品、政府采购优秀供应商、绿色环保首选品牌、无负压产品节水节能认证、中国二次供水行业首选品牌、上海消防协会会员以及多项实用新型专利。

Shanghai Tianquan Pump Group Co, Ltd. was founded in the late 1990s, and after 30-year development, has developed into a state-certified high-tech enterprise in China. We are a leading professional industrial pump solution provider and specialized in the research and production of industrial pumps, submersible motors, and electrical control systems.

With a registered capital of 100 million RMB and total assets of 1.45 billion yuan, the group covers a total area of more than 550,000 square meters and is headquartered in Qingpu District, Shanghai. The company now has four factories, which are located in Shanghai, Anhui, and Jiangsu provinces: Shanghai factory has one research center and focuses on pump assembling and testing; the Anhui factory focuses on casting and motor research and manufacturing; the Jiangsu factory focuses on the water pressure tank

The group currently has more than 2,000 sets of advanced domestic and imported production and testing equipment, such as a large pump testing center, trilinear-coordinates measuring instrument, impeller dynamic balance meter, laser rapid prototyping meter, malfunction blasting machine, automatic welding machine, large vertical lathe, large grinding machine, and CNC machine tools, etc.



▲ 上海天泉集团总部 Shanghai Tianquan Pump Group Headquarters

▼ 广德正富生产基地 Guangde Zhengfu production base



# 企业简介

## Introduction

天泉集团极其注重技术力量的储备和生产设备的更新改造，目前拥有国家Ⅱ级标准水泵测试中心、五轴联动加工中心、大型镗床、大型立式车床、全自动数控多孔钻床、自动氩弧焊机、机械无箱造型机、全自动机械化压机、全自动阴极电泳线、全自动下线流水线以及动静平衡测量仪等国内外先进的生产测量设备，保证了每一台产品的出厂品质。集团建有完善的销售服务网络，在全国设有80余家分支机构，拥有1800多人的专业销售团队，为广大用户提供了优质的售前、售中和售后服务。

技术创新是企业发展的源动力，天泉集团拥有一支由行业技术专家、中高级工程师和专业技术人才组成的30余人的精干技术团队，引入世界先进的CFD流体力学专业内流场分析、SOLIDWORKS、Pro/E等研究设计软件系统，拥有国家各项专利15项。目前公司每年投入销售总额的5%以上，用于技术创新和新产品研发。

天泉凭借合理的价格以及优良的服务，深受用户青睐，畅销全国34个省、市、自治区，并出口中东、东南亚等地区。产品广泛应用于建筑、消防、环保、给排水、暖通、石油、化工、冶金、造纸、电力、医药等领域。截止目前，已经成功的为碧桂园集团、绿地集团、顶新（国际）集团、三星电机、伊利集团、中国石化、东风汽车、上海外高桥保税区、京张高铁、清华大学等提供优良的产品与服务，屡次荣获优秀供应商称号。

The company has 4 categories industrial pumps, covering more than 3000 models. We only research and develop energy-saving product conform to Chinese energy conservative standard. About 50% of pump models are equipped with lower motor power compare with national counterparts. Our featured products are circulating pumps, submersible sewage pumps, fire-fighting pump and water

supply pump and are widely used in construction, environmental protection, HVAC, chemical industry, water supply and drainage, paper making, power plant, medical making and other fields.

Due to our whole industry chain production layout and energy-saving product principle, our products are featured with competitive price, energy-saving and reliable quality. Up to now, Tianquan products are selling well in 34 provinces national wide, and exported to the Middle East, Southeast Asia, and Eastern Europe.

We are strive to be the most influential manufacturer with energy-saving product in the industrial pump area. Hope we can bring you good quality product and be your best pump solution partner.



▼ 自动定子嵌线流水线 Automatic stator line embedding pipeline



▲ 智慧云监控中心 Smart cloud monitoring center

▲ 供水设备生产车间 Water supply equipment production workshop



▶ 电控柜生产车间  
Electric control cabinet  
production workshop

▲ 铸件仓库  
Casting  
workshop

◀ 排污泵装配流水线  
Assembly line of  
submersible sewage  
pump

# 生产实力

## Production Capability



### 研发

#### Research and development

30人精干专业团队，国内一流专家和高级技术人员组成，获得国家各项专利15项。

先进的CFD流体力学专业内流场分析软件系统，不断升级水力模型。

TQ has a capable professional team of 30 people, domestic first-class experts and senior technical personnel, and has obtained 15 national patents.

Advanced CDF fluid mechanics major internal flow field analysis software system, constantly upgrade the hydraulic model.



### 铸造

#### Casting

行业内极少数拥有自主铸造生产能力，采用先进覆膜砂芯工艺，拥有5台百万级的机械无箱造型机，告别传统人工，生产效率高，铸件品质和精度大大优于同类产品。

Very few in our industry have independent casting production capacity, using advanced coated sand core process, has 5 million-level mechanical boxless modeling machine, farewell to the traditional labor, high production efficiency, casting quality and precision is much better than similar products.



### 电机

#### Motor

拥有电机全套自主生产线，是行业内知名电机及电机部件供应商。

拥有全自动机械化压机、自动定子嵌线机、高速冲床等先进的加工装备，自动流水线装配，电机质量可靠，性价比高。

With a full set motor independent production line, it is a well-known motor and motor parts supplier in the industry. With automatic mechanized press, automatic stator wiring machine, high-speed punch and other advanced processing equipment, automatic line assembly, reliable motor quality, cost-effective.



### 加工

#### Machining

装备了4台国外进口高精度五轴联动加工中心，以及数十台（套）精密数控加工设备，确保零部件加工的高精度、高效率；

采用模块化、流水线生产模式，大大提升生产效率，保障品质稳定。

Equipped with 4 sets of foreign imported high-precision five-axis linkage machining center, as well as dozens of sets (units) of precision CNC machining equipment, to ensure the high precision and high efficiency of parts processing;

Adopt modular and assembly line production mode to greatly improve production efficiency and ensure quality stability.



### 涂刷和装配

#### Shelling-out and assembling

采用电泳工艺处理，表面坚硬、镀层致密牢固、抗腐耐磨。

装配工序规范合理，装配人员均经过长期严格的专业培训。

Using electrophoresis process, the surface is hard, dense and firm, corrosion and wear resistance.

The assembly process is standardized and reasonable, and the assembly personnel have undergone long-term and strict professional training.



### 检测

#### Check and test

拥有国家II级水泵综合性测试台、光谱测试仪、动平衡机等检测设备。

专业的品控团队严格执行“三检”要求，每项来料必检，每道工序抽检，每台出厂必检，层层把关产品质量，产品合格率保持在98%以上。

It has the national water pump comprehensive performance test bench, spectrum tester, dynamic balance machine and other testing equipment. The professional quality control team strictly implements the requirements of "three inspections", every incoming material must be inspected, every process is inspected, every pump must be inspected, the product quality is checked layer by layer, and the qualified rate of products is maintained above 98%.

▼ 五轴联动加工中心 Five-axis linkage machining center



▼ 机械无箱造型 Mechanical box-free shape



▼ 电泳自动线 Electrophoresis automatic line



▼ 成品电机装配流水线 Assembly line of finished motor



▼ 国家级综合性测试台 National comprehensive performance test bench



▼ 动平衡测试机 Dynamic balance test machine



## 产品概述

## Product overview

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## 系列产品技术特色简述

上海天泉按照GB/T24674-2021《污水污物潜水电泵》最新标准，并在充分调研国内外生产厂家和市场及深度总结老产品使用中存在的各种问题基础上研发的量大的改进型WQ系列污水污物潜水电泵，分为 $\leq 7.5\text{kW}$ 小型污水污物潜水电泵和 $\geq 11\text{kW}$ 标准智能型污水污物潜水电泵两个子系列，系列规划性能更加合理满足市场需求，采用了最先进的水力优化设计，兼顾了高效、抗缠绕、大通流、更优的通用性、更好的可靠性，并且配置更适合市政建设、污水处理厂、工业排污等实际需要，泵组结构和安装更简化，拆装、维护、控制更容易，使客户降低采购成本且节省投资。

WQ系列污水污物潜水电泵的叶轮根据具体性能参数和几何尺寸设计为宽出口闭式双流道、双叶片或多叶片离心式，未包含旋流式和轴流式叶轮，泵体为宽蜗室单蜗壳灰铁或球墨铸铁。

本子系列产品尤其更适于污水处理和工业排污。

本系列未含带清洁功能的半开式双叶片叶轮和切割刀盘及高洛铸铁或沉淀硬化不锈钢等材料的配套泵，如用户需要这类泵，天泉另行提供相关资料。

## 用途

- 市政、自来水厂、污水提升泵站
- 环保
- 污水处理
- 轻工
- 化工
- 矿山
- 石油
- 水利、引水工程、一体化泵站
- 冶金

## Brief description of technical features of series products

Shanghai Tianquan, according to the latest standard of GB / T24674-2021, And in the full investigation of domestic and foreign manufacturers and markets and in-depth summary of various problems existing in the use of old products on the basis of research and development of a large range of improved WQ series sewage submersible pump, It is divided into three sub-series: 7.5kW small sewage submersible pump and  $\geq 11\text{kW}$  standard intelligent sewage submersible pump, Series of planning performance is more reasonable to meet the market demand, Using a state-of-the-art hydraulic optimization design, Taking into account the high efficiency, anti-winding, chase flow, better versatility, better reliability, And the configuration is more suitable for municipal construction, sewage treatment plants, industrial sewage and other actual needs, Simpsimplified construction and installation, Easier to disassemble, maintain, control, For customers to reduce procurement costs and save investment.

This series of products is especially more suitable for sewage treatment and industrial sewage discharge.

The impeller of WQ pump is designed as wide outlet closed double flow channel, double blade or multi-blade centrifugal type according to specific performance parameters and geometric size, without cyclone and axial flow impeller. The pump body is single volute gray iron or ductile cast iron in wide worm chamber.

This series does not contain semi-open double blade impeller, cutting cutter head and high pump, cast iron or precipitated hardened stainless steel. If the user needs this kind of pump, Tianquan will provide relevant information separately.

## Application

- City planning, waterworks, Sewage lifting pump station
- Environmental protection
- Sewage treatment
- Light industry
- Chemical industry
- Hacienda
- Petroleum
- Water conservancy, diversion works, Integrated pumping station
- Metallurgy

# 产品概述

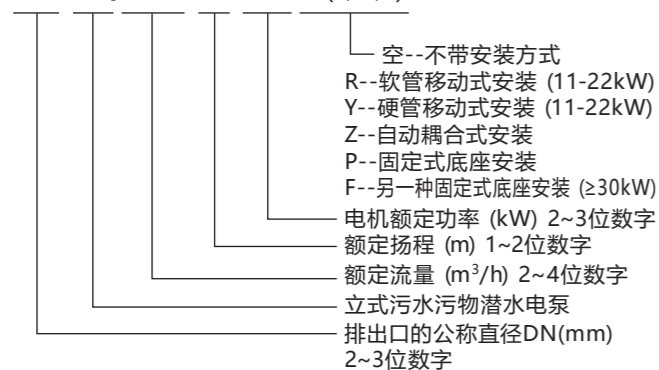
## Product overview

### 输送介质

- 生活雨水、污水、污物
- 工业废水
- 泥浆
- 灰渣
- 粮食
- 鱼虾
- 流程中含有固体颗粒悬浮物和纤维状悬浮物的液体

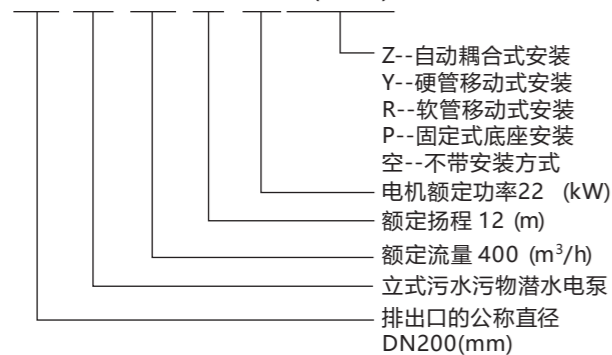
### 型号说明

XXX WQ XXXX-XX-XXX Z (Y, R, P)



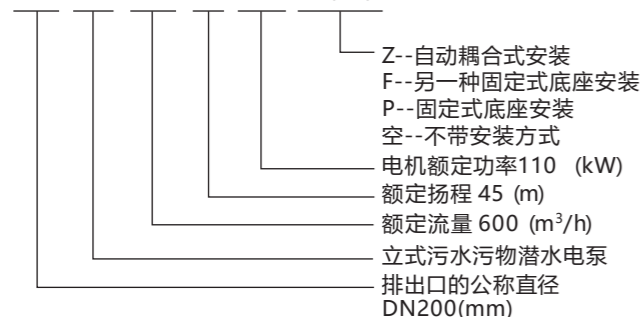
### 型号示例

200 WQ 400-12-22 Z (Y, R, P)



### 型号示例

200 WQ 600-45-110 Z (P, F)

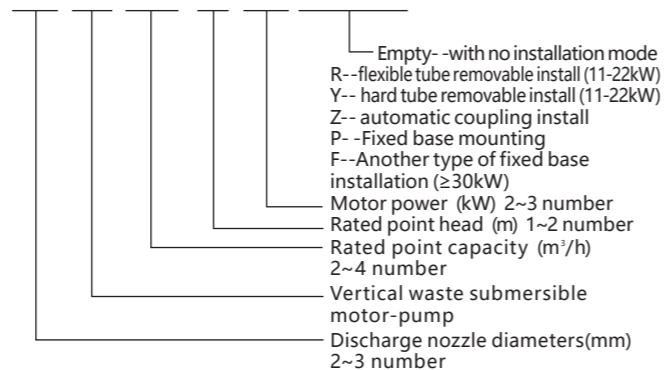


### Medium

- Domestic rainwater, sewage, sewage
- Industrial waste water
- Mud
- Ash
- Foodstuff
- Fishes and shrimps
- Fluid containing solid particles and fibrous suspension

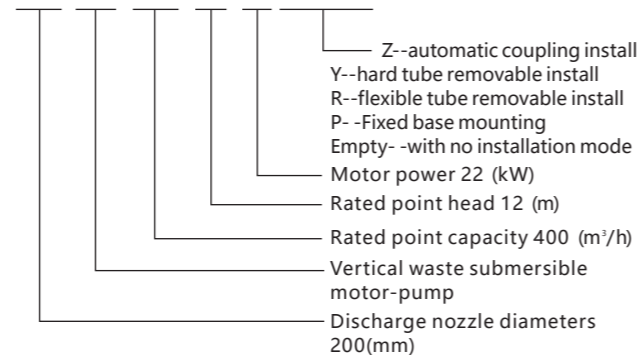
### Type Definition

XXX WQ XXXX-XX-XXX Z (Y, R, P)



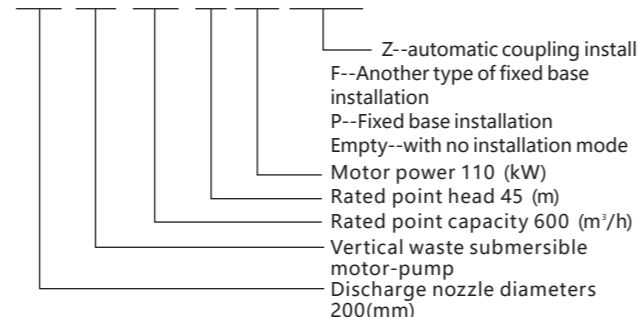
### Model example

200 WQ 400-12-22 Z (Y, R, P)



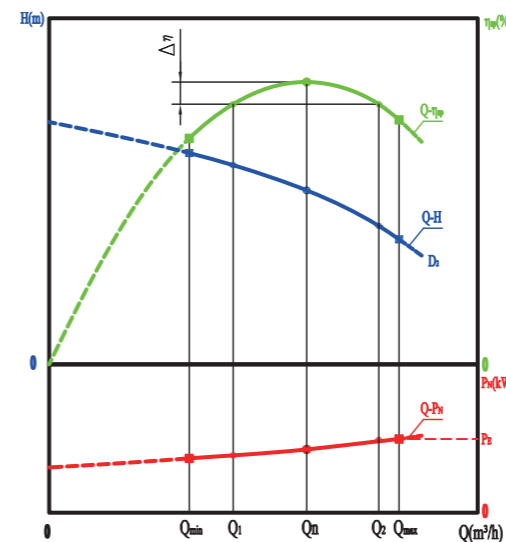
### Model example

200 WQ 600-45-110 Z (P, F)



### 性能曲线标示解读

#### Performance curve interpretation



注:

1. Q<sub>n</sub>——最佳运行工况流量点;
2. Q<sub>1</sub>~Q<sub>2</sub>——高性能(优先)工作范围;
3. Q<sub>min</sub>~Q<sub>max</sub>——允许工作范围;
4. Δη——为5%η<sub>n</sub>(η<sub>n</sub>为最佳运行工况点泵效率);
5. Q<sub>min</sub>——一般为0.5Q<sub>n</sub>或η<sub>n</sub>降低15%之中的较大者;
6. D<sub>2</sub>——叶轮直径。

Note:

1. Q<sub>n</sub>——Optimum operating condition flow point;
2. Q<sub>1</sub>~Q<sub>2</sub>——High-performance (priority) scope of work;
3. Q<sub>min</sub>~Q<sub>max</sub>——Permissible operating range;
4. Δη——5%η<sub>n</sub>(η<sub>n</sub> is the optimum operating point pump efficiency);
5. Q<sub>min</sub>——Generally the greater of 0.5Q<sub>n</sub> or a 15% reduction in;
6. D<sub>2</sub>——Impeller diameter.

### 主要参数说明

#### Description of the main parameter table

序号 No.	泵型号 Pump type	叶轮最小流道断面 Min size of section A×B (mm×mm)	最大颗粒直径 max. Dia. of particle Φ (mm)	转速 n (r/min)	泵组重 Weight G (kg)
1	原型 prototype			工作 Operating	泵组总重 Total
2	第一次切割后 After 1st cut		≤80%Min size		
3	第二次切割后 After 2nd cut				
序号 No.	电机型号 Motor type	电机功率 Motor power P <sub>E</sub> (kW)	额定电流 Rated current I (A)	功率因数 Power factor CosΦ	电机效率 Motor efficiency η <sub>D</sub> (%)
1					
2					
3					
序号 No.	流量 Flow Q (m <sup>3</sup> /h)	扬程 Head H (m)	轴功率 Shaft power P <sub>N</sub> (kW)	泵效率 Pump efficiency η <sub>SP</sub> (%)	泵组效率 Unit efficiency η <sub>DB</sub> (%)
1	Q <sub>min</sub> ~Q <sub>n</sub> ~Q <sub>max</sub>	H <sub>max</sub> +H~H <sub>min</sub>			
2					
3					

P<sub>N</sub> -- 轴功率  
I -- 额定电流  
CosΦ -- 额定功率因数  
η<sub>D</sub> -- 电机效率  
η<sub>SP</sub> -- 泵效率  
η<sub>DB</sub> -- 泵组总效率  
图中曲线实线部分表示所推荐的泵运行范围。  
泵重不包括各种安装附件, 如耦合装置、弯管、软管、接头等。

#### • Description of the main items and symbols

A×B -- Minimum flow section  
The radial ellipse outlet of the impeller  
A blade inlet and adjacent blade radial perpendicular to the streamline direction approximate parallel ogram cross section side long side long  
Φ -- Maximum particle diameter  
equivalent diameter not greater than 80% of the minimum overcurrent section area  
P<sub>E</sub> -- power rating  
P<sub>N</sub> -- shaft power  
I -- current  
CosΦ -- power factor  
η<sub>D</sub> -- motor efficiency  
η<sub>SP</sub> -- pump efficiency  
η<sub>DB</sub> -- total efficiency  
The solid line of the curve shows the recommended pump operation range.  
Pump weight does not include various installation accessories, such as coupling devices, bends, hoses, joints, etc.

#### • 主要项目和符号说明

A×B -- 叶轮最小流道断面  
双流道叶轮内流道径向椭圆出口长轴×短轴  
叶片式叶轮相邻叶片径向垂直于流线方向近似平行四边形过流断面边长×边长  
Φ -- 最大颗粒直径  
不大于80%最小过流断面面积的当量直径  
P<sub>E</sub> -- 额定功率

# 安装方式说明

## Description of Installation method

### 安装方式的说明

WQ系列泵有自动耦合式安装 (Z)、软管移动式安装 (R)、硬管移动式安装 (Y)、固定式底座安装 (P)、另一种固定式底座安装 (F) 5种方式。

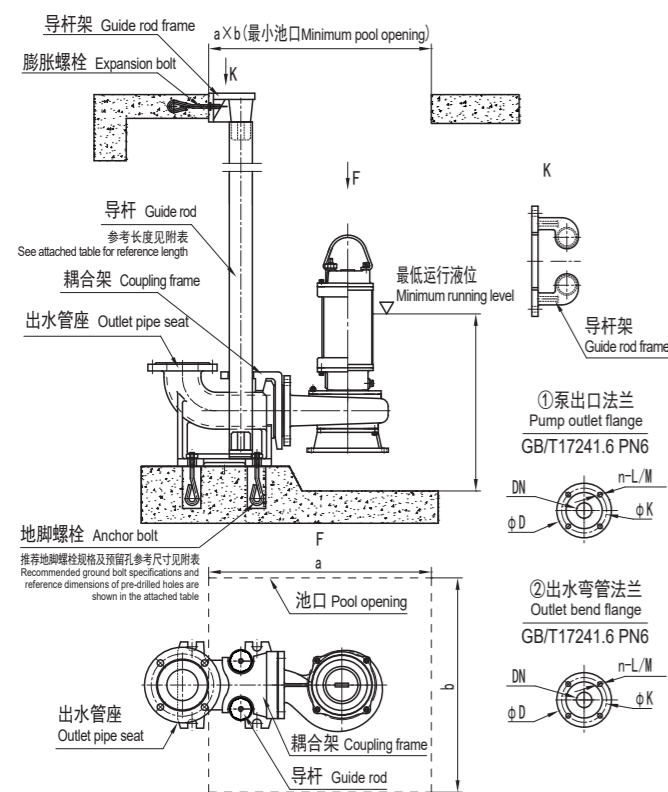
#### ● 自动耦合式安装 (Z)

自动耦合式安装无须用常规的紧固件来连接泵和管道。耦合装置只有出水管座、导杆、导杆架、耦合架四种部件。导杆只起导向作用，不受力，用普通自来水管或钢管按池深切割成需要的长度即可，用户也可以自备。安装时，将出水管座、导杆、导杆架装好；将耦合架同泵体法兰把合；吊起泵，将耦合架上的半圆孔口穿入导杆，再将泵沿导杆向下滑到底，耦合架就会与出水管座对齐扣紧。需要维修时，只需把泵向上提拉，泵与出水管座就脱开了。

由于耦合装置与泵是相对独立的，所以，如果用户在相同使用场所因情况变化更换同口径的低扬程或高扬程的泵时，仍可以使用原来的耦合装置。

#### ● 自动耦合式安装 (Z)

##### Automatic coupling installation (Z)



### Description of the installation method

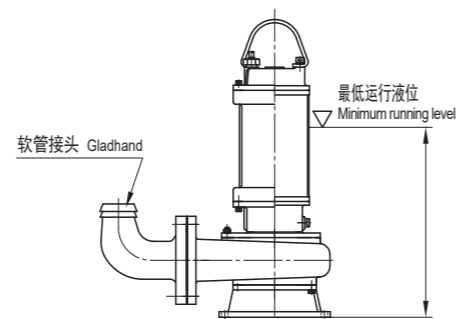
WQ pump has five ways: automatic coupling installation (Z), hose mobile installation (R) and hard tube mobile installation (Y)

#### ● Automatic coupling installation (Z)

Automatic coupling installation does not need to connect pumps and pipes with conventional fasteners. The coupling device has only four parts: outlet pipe seat, guide rod, guide rod frame and coupling frame. The guide rod only plays a guiding role, not by the force, with ordinary water pipe or steel pipe according to the depth of the pool cut into the required length, users can also bring themselves. During installation, install the outlet pipe seat, guide rod and guide rod frame; close the coupling frame with the pump flange; lift the pump, push the half-circular hole on the coupling frame into the guide rod, and slide the pump along the guide rod, and the coupling frame will be aligned with the outlet pipe seat. When repairs are needed, just pull the pump up and the pump and the outlet pipe are off. Since the coupling device is relatively independent from the pump, the original coupling device can still be used if the user changes the low head or high head pump in the same diameter in the same use place.

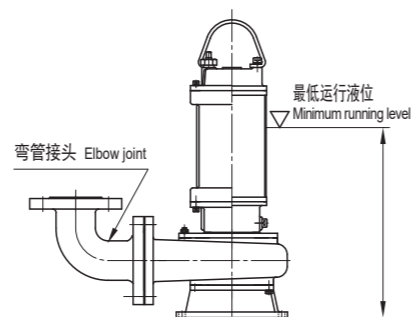
#### ● 软管移动式安装 (R)

##### Hose mobile installation (R)



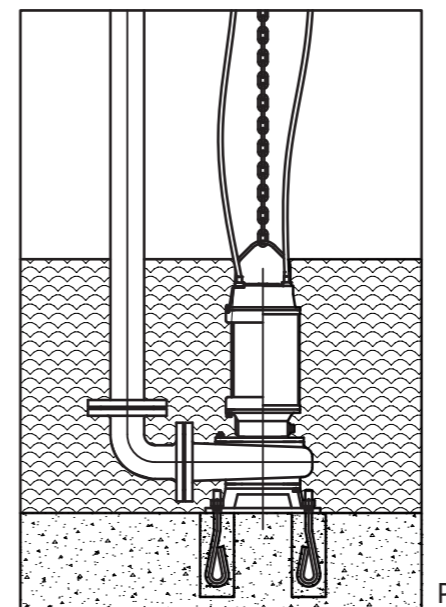
#### ● 硬管移动式安装 (Y)

##### Hard-tube mobile installation (Y)



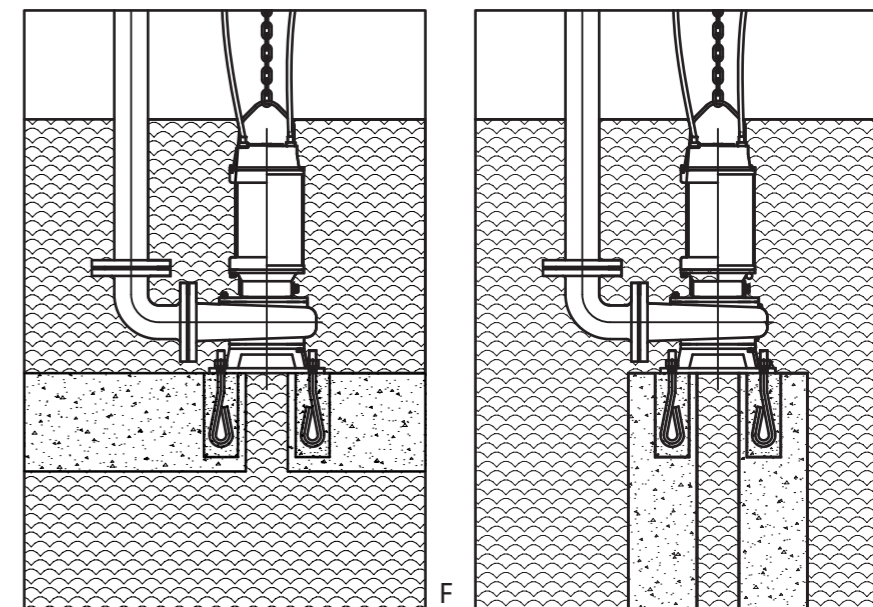
#### ● 固定式底座安装 (P)

##### Fixed base installation (P)



#### ● 固定式底座安装 (F)

##### Another type of fixed base installation (F)



在基础上用地脚螺栓固定好支撑底座，连接好出水管即可运行。  
Fix the support base with foot bolts on the foundation and connect the outlet pipe to run.

### 使用条件 Operation conditions

#### ● 电源

· 380V、50Hz、三相

#### ● Electrical source

· 380V、50Hz、3-phase

#### ● 介质

- $\leq 40^{\circ}\text{C}$ 、 $\text{PH}=4\sim 10$ 、 $\rho \leq 1050\text{kg}/\text{m}^3$
- 不能用于强腐蚀性和含强腐蚀性固体颗粒的液体
- 固体物直径 $\leq 80\%$ 最小流道尺寸 (详见后面各泵的“主要参数”)
- 纤维长度 $\leq$ 排出口径

#### ● Medium

- $\leq 40^{\circ}\text{C}$ 、 $\text{PH}=4\sim 10$ 、 $\rho \leq 1050\text{kg}/\text{m}^3$
- Should not be used for highly corrosive and liquids containing highly corrosive solid particles
- 80% min. Flow size (see “main parameters” for subsequent pumps)
- Fiber length less than discharge diameter

#### ● 最低液位

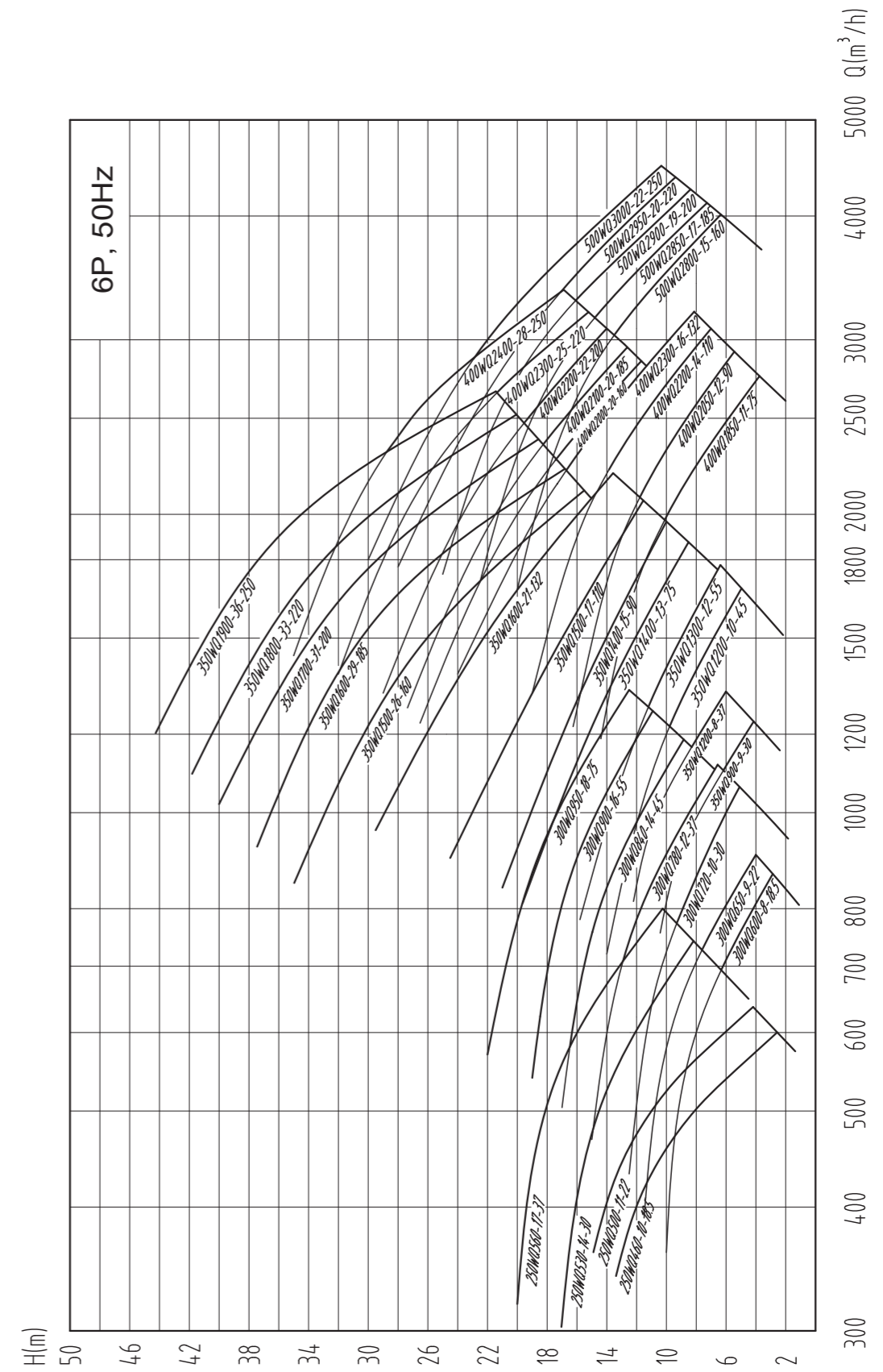
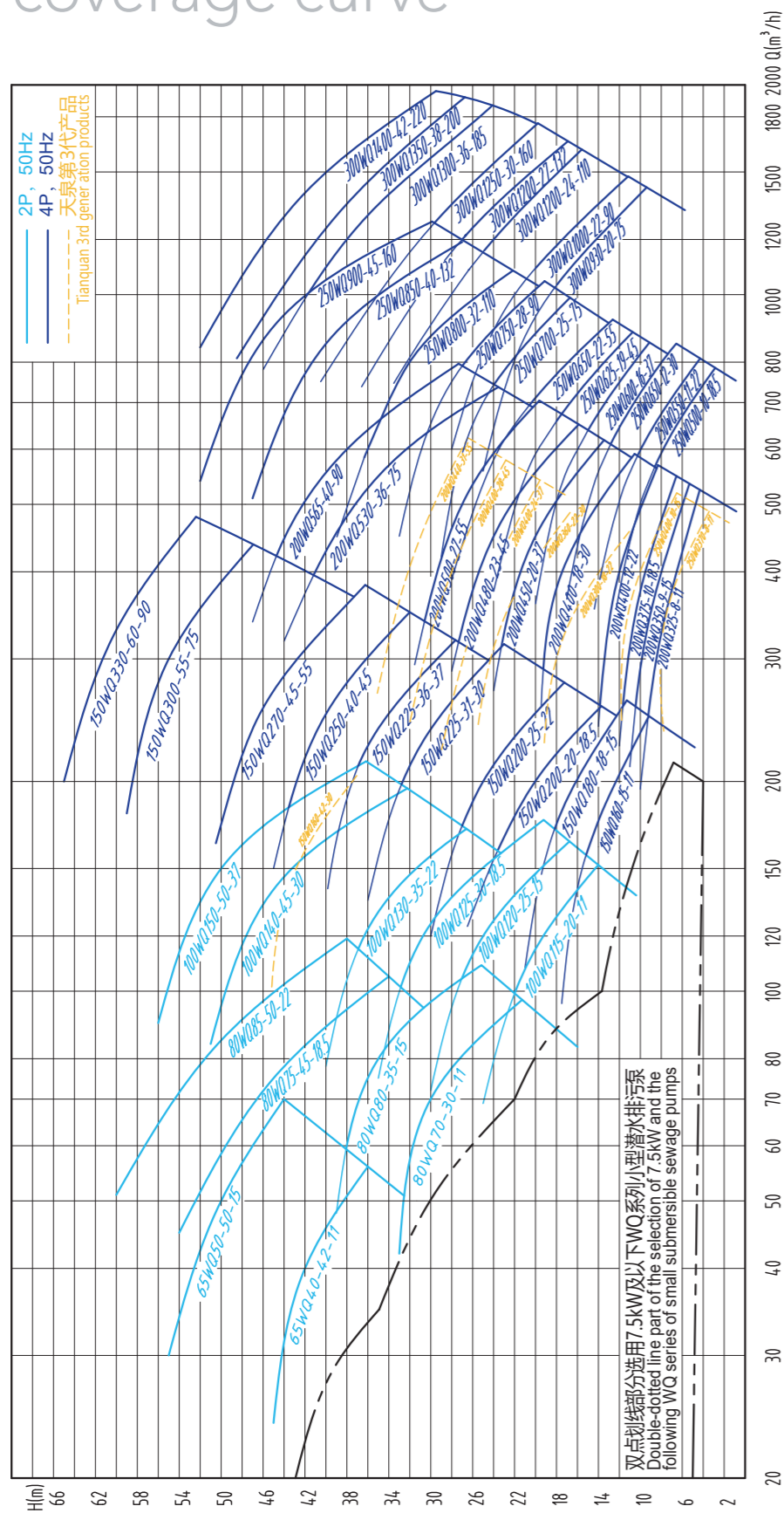
· 应符合安装尺寸图中“▽”标记以上

#### ● Min. Liquid level

· It shall be above the “▽” mark in the installation dimension drawing

# 产品型谱图

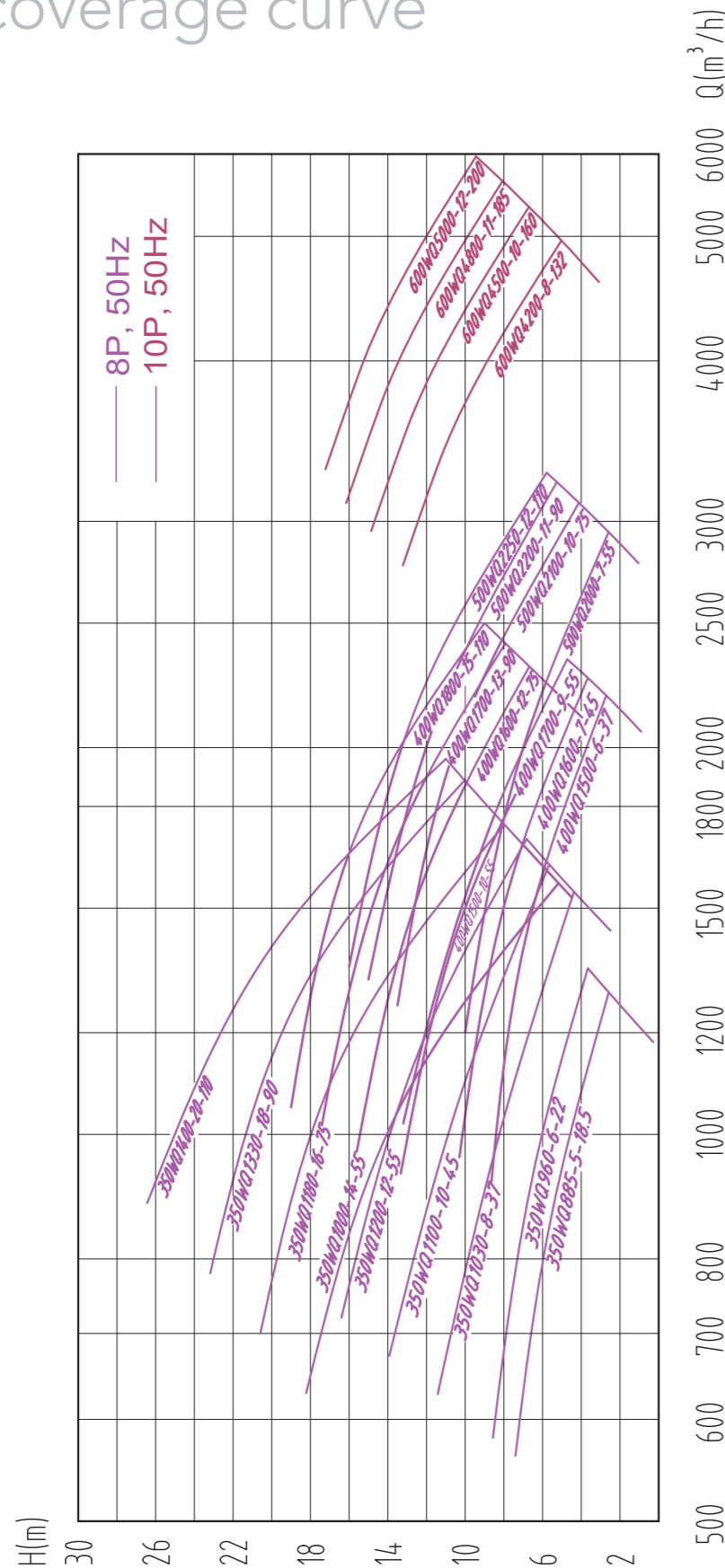
## Product hydraulic coverage curve





# 产品型谱图

## Product hydraulic coverage curve



# 泵组结构说明

## Pump unit structure instruction

### 产品优势

- 泵组总体结构成熟、电机机壳分档合理。短轴伸悬臂设计，装叶轮处轴颈偏心小，泵组中心低，运行更可靠
- 创新独有的无过载水力设计，泵运行区间宽、高效节能、振动小、运行平稳，且保证了固体物的通过性及纤维的抗缠绕性
- 优异的两个单端面串联安装机封及泵盖自清洁水封功能，确保两机封寿命均在15000小时以上
- 高可靠性的潜水电机，F级绝缘等级，最高工作温度150°C。另外，≥30kW电机机壳除标准型外还设计了带冷却夹套结构的筒体供选装
- 泵组内部集成轴承测温PT100、绕组测温PT100、油室和电机腔漏水等保护元器件，全方位监控泵组运行，可以通过智能控制柜进行实时数据显示及报警或停机的自动操作
- 轴承按10万小时设计配置
- 叶轮更好的动平衡
- 泵体、泵盖、油室铸件经过电泳处理或涂漆改善耐腐蚀性能
- 泵组五种安装方式，拆检、维护方便，省心、省事、省时

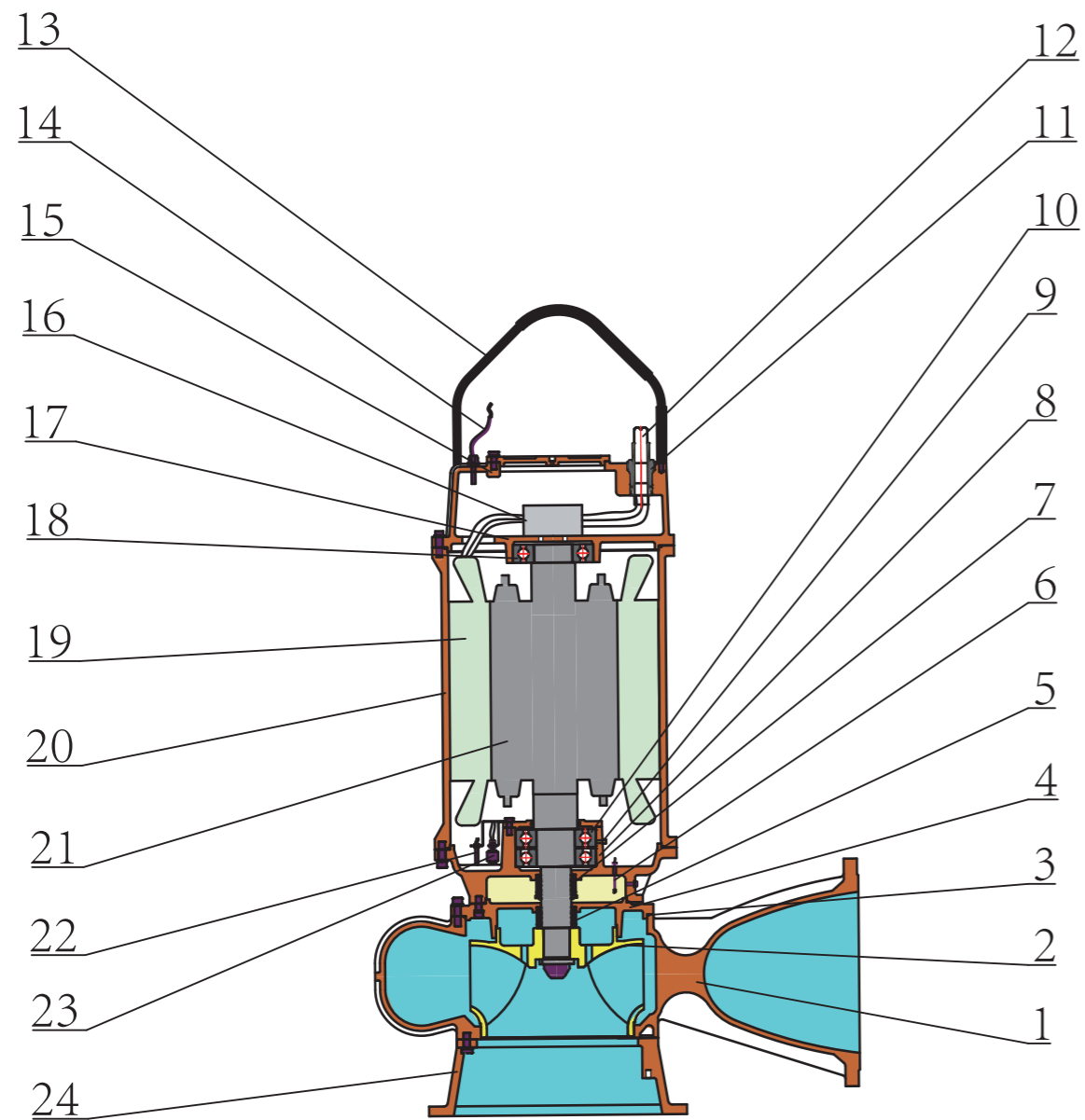
### Product superiority

- The overall structure of the pump group is mature and the motor case is reasonable. Short shaft extension cantilever design, impeller at small eccentric, low pump group center, more reliable operation
- Innovative and unique overload-free hydraulic design, pump operation of wide range, high efficiency and energy saving, small vibration, smooth operation, and ensure the passability of solid materials and fiber winding resistance
- Excellent two single-end face series installation machine sealing and pump cover self-cleaning lower water sealing function, to ensure that the sealing life of the two machines is more than 15,000 hours
- High reliability submersible motor, class F insulation grade, maximum operating temperature of 150°C. In addition, 30kW motor case in addition to the standard type also designed with cooling jacket structure for optional assembly
- The interior of the pump group integrates bearing temperature measurement PT 100, winding temperature measurement PT 100, oil chamber and motor cavity leakage and other protective components, monitoring the operation of the pump group in a comprehensive way, can carry out real-time data display and automatic operation of alarm or shutdown through the intelligent control cabinet
- The bearing is designed for 100,000 hours
- Better dynamic balance for the impeller
- Pump body, pump cover, oil chamber castings after electro-phoretic treatment or painting to improve the corrosion resistance
- Pump group five installation methods, disassembly inspection, maintenance convenient, worry, trouble, time saving

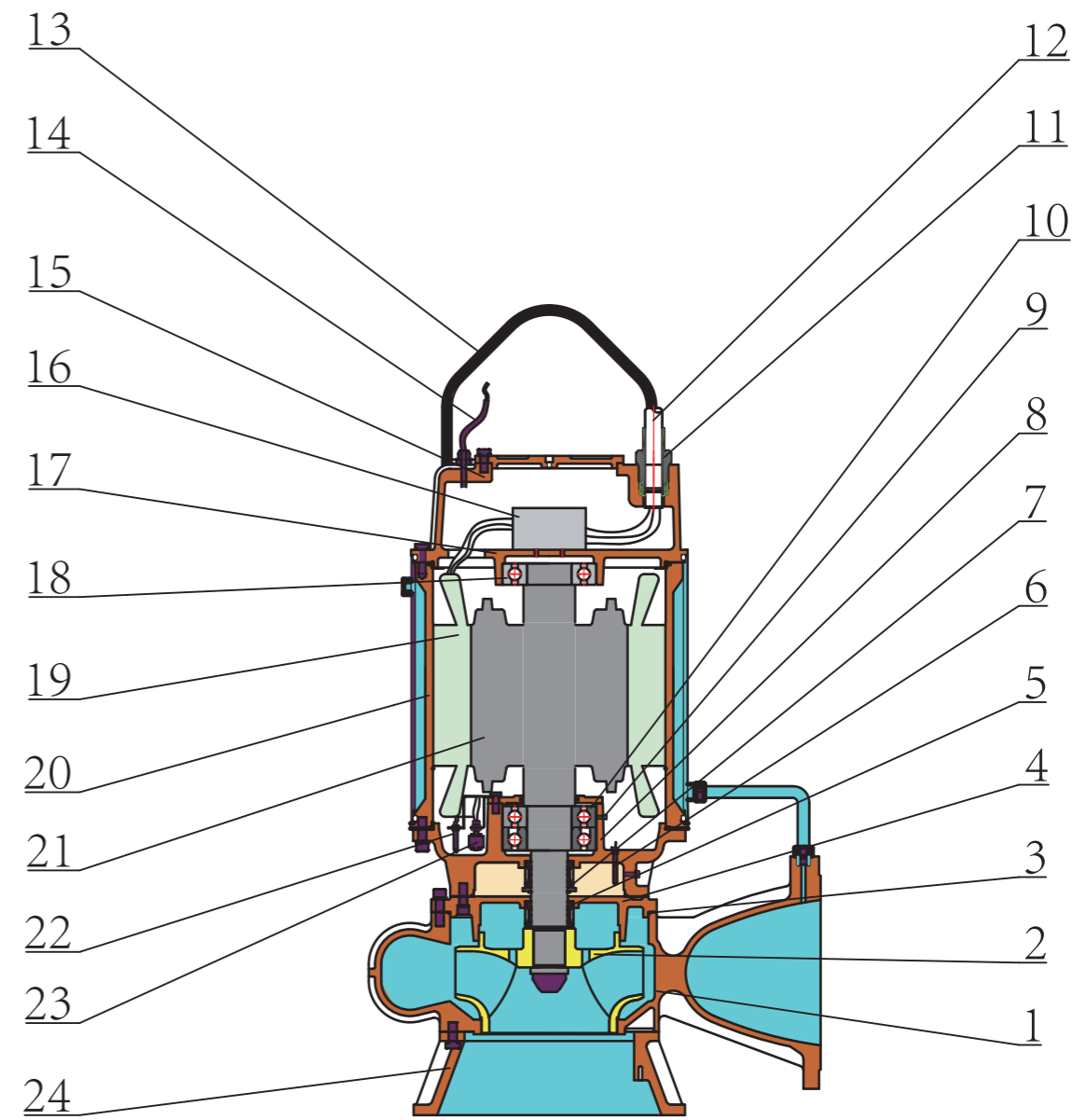
# 泵组结构说明

## Pump unit structure instruction

11-315kW泵组主剖面图 11-315kW Main section diagram



30-315kW泵组主剖面图 30-315kW Main section diagram



# 泵组结构说明

## Pump unit structure instruction

### 泵材质说明 Material instruction

序号 No.	零部件 Components & parts	材料 Material	标准 Standard	应用 Application
1	泵体 Pump casing	铸铁 HT250 Grey-cast iron HT250	GB/T9439-2010	PN6/PN10 PN6/PN10 Standard configuration
		球墨铸铁 QT500 Ductile iron QT 500	GB1348-2019	选配 Optional
2	叶轮 Impeller	铸铁 HT200 Cast iron HT200	GB/T9439-2010	标配 Standard configuration
		球墨铸铁 QT500 Ductile iron QT500	GB1348-2019	选配 Optional
3	O形圈 O - ring	17-4PH (oCr17Ni4Cu4Nb)	GB/T1220-2007	选配 Optional
		NBR (FKM) NBR	GB/T3452.1-2005	泵端 Pump end 电机端 Motor end
4	泵盖 Pump casing cover	铸铁 HT250 Grey-cast iron HT250	GB/T9439-2010	标配 Standard configuration
		球墨铸铁 QT500 Ductile iron QT 500	GB1348-2019	选配 Optional
5	水封 Water seal	动环 Rotary ring	SiC	WM109型单端面、大弹簧、橡胶波纹管机械密封 45/55/70/75/100 WM 109 single end surface, large spring, rubber bellows mechanical seal 45/55/70/75/100
		静环 Stationary ring	WC	
		弹簧 Spring	弹簧钢 Spring Steel	
		波纹管 Bellows	丁晴橡胶 NBR	
6	油室油水探头 Oil and water probe in oil chamber	/		选配, 外购 Optional, outsourcing
7	油封 Oil seal	动环 Rotary ring	C	WM109型单端面、大弹簧、橡胶波纹管机械密封 45/55/70/75/100 WM 109 single end surface, large spring, rubber bellows mechanical seal 45/55/70/75/100
		静环 Stationary ring	SiC	
		弹簧 Spring	弹簧钢 Spring Steel	
		波纹管 Bellows	丁晴橡胶 NBR	
8	油室 Oil chamber	HT250	GB/T9439-2010	标配 Standard configuration
9	轴承测温 Bearing temperature measurement			选配 Optional
10	下轴承 lower bearing	/		C&U(标配 Standard configuration)/NSK、SKF、FAG(选配Optional)
11	电缆密封头 Cable sealing head	/		标配 Standard configuration
12	动力电缆 Power cable	/		8m长 Length 8m 可按用户要求选配 Optional according to user requirements
13	提升架 Hoisting frame	镀锌钢板 Galvanised steel plate		标配 Standard configuration
		不锈钢板 Stainless steel plate		选配 Optional
14	控制电缆 Control cable			根据订单 According to the order
15	电机盖 Motor cover	HT250	GB/T9439-2010	标配 Standard configuration
16	接线托板 Wiring tray			标配 Standard configuration
17	上轴承座 Top chock	HT250	GB/T9439-2010	标配 Standard configuration
18	上轴承 Upper bearing	/		C&U(标配 Standard configuration)/NSK、SKF、FAG(选配Optional)
19	电机定子部件 Motor stator parts	/		标配 Standard configuration
20	电机壳 Motor casing	HT250	GB/T9439-2010	标配 Standard configuration ≥30kW可选配水冷夹套电机壳 ≥30kW with water-cooled jacketed motor housing as an option
21	电机转子部件 Motor rotor parts	/		标配 Standard configuration
22	电机腔漏水探头 leaking water probe in motor chamber			选配 Optional
23	浮子开关 Float switch			选配 Optional
24	底座 Pedestal	铸铁 HT250 Grey-cast iron HT250	GB/T9439-2010	移动式安装标配 Standard equipment for mobile installation

# 主要特点

## Main features

### 产品设计说明及主要技术特点

#### • 总体结构

潜水电泵为合理、成熟的立式机泵直联泵组，采用专用特殊轴伸潜水电机在顶部，泵在下部，泵送介质从底部轴向吸入、流经叶轮增压、再经泵体侧向排出口、最后经弯管及直管排出。叶轮通过内六角螺钉固定在电机轴伸上，与电机轴、叠片等组成共同转子部件，短轴伸、小悬臂比，显著减小转子各零件之间的偏心偏差、降低泵组重心、减小振动、延长机封和轴承的使用寿命。泵体、泵盖共同组成承压边界，设计温度为40℃，扬程40m以下的泵设计压力为0.6MPa，扬程≥40m的泵设计压力为1.0MPa。零件之间连接处采用O形圈作为可靠的静密封。装配过程中对每台泵组泵的静密封、电缆密封、机械密封和电机腔都要进行严格的密封性试验检测，确保安全、可靠

#### • 先进、优化的水力设计

先进、优化的泵水力部件设计吸收了高校和研究院所最新成果及行业厂同类产品的先进经验。

叶轮根据进口直径和流道几何尺寸采用多叶片式或双流道式，高效、宽出口，使无过载和高通过性及抗缠绕能力达到最佳平衡，叶轮模具由数控加工中心加工，确保铸件尺寸精度要求，铸件经熔模砂机器造型。高扬程或大功率泵叶轮上带有平衡孔，一是平衡转子轴向力，二是降低水封腔压力并将水封动静环摩擦产生的热量带走。

泵体流道宽阔、出口扩散角合理、水力损失小、污物通过性好。

叶轮和泵体经过CFD分析并经试验验证，泵效率及泵组效率均远高于GB/T24674-2021污水污物潜水电泵所规定的指标，高效节能的同时兼顾了固体物或长纤维物的通过性及抗缠绕性；Q-H曲线相对较陡、Q-P曲线较平坦，实现了无过载设计目标，泵运行流量区间宽、效率高、振动小、运行平稳。

#### • 水室机封腔自清洁设计

采用自清洁技术设计，泵盖上设置环状的螺旋线槽结构，且与叶轮之间形成很小的径向间隙，在泵运转时槽中介质颗粒在旋转叶轮离心力的作用下向外甩，阻止固体污物进入或避免颗粒物沉积在机封腔，损伤转动件。

#### • 可靠的机封

泵腔与油室之间设置水腔和单端面、大弹簧、橡胶波纹管水润滑机械密封，动、静环采用摩擦系数很低的碳化硅对碳化钨“硬对硬”接触，更耐磨，金属件为不锈钢材质，保证了水封15000小时使用寿命；水室与上面电机下轴承之间

### Product design description and main technical characteristics

#### • The overall structure is reasonable and mature

The submersible pump is a reasonable and mature vertical pump direct connection pump group, using special shaft-extension submersible motor at the top, the pump in the lower part, the pumping medium from the bottom axial suction, flow through the impeller pressurization, and then through the pump body side row outlet, and finally through the bending pipe and straight pipe discharge. The impeller is fixed on the motor shaft extension through the inner hexagon screw, and forms the common rotor parts with the motor shaft and lamination. The short shaft extension and small cantilever ratio can significantly reduce the eccentric deviation between the rotor parts, reduce the center of gravity of the pump group, reduce the vibration, and extend the service life of the machine seal and bearing. The pump body and the pump cover jointly form the pressure boundary, the design temperature is 40°C, the design pressure of the pump below 40m is 0.6MPa, and the design pressure of the pump above 40m is 1.0MPa. O-ring is used as reliable static seal between parts. During the assembly process, the static seal, cable seal, mechanical seal and motor chamber should be strictly tested to ensure safety and reliability.

#### • Advanced, optimized hydraulic design

The advanced and optimized design of pump hydraulic components absorbs the latest achievements of universities and research institutes and the advanced experience of similar products in the industry factory. According to the inlet diameter and flow geometry, the impeller adopts multi-blade or double-channel type, with high efficiency and wide outlet, achieving the best balance of no overload and high passability and anti-winding ability. The impeller mold is processed by the CNC machining center to ensure the dimensional accuracy of the casting, and the casting is shaped by the mold sand machine. The high head or high power pump impeller has a balance hole, one is to balance the axial force of the rotor, the other is to reduce the water sealing chamber pressure and take away the heat generated by the friction of the water sealing ring. The pump body is wide, with reasonable outlet diffusion Angle, small hydraulic loss and good dirt passage. The pump efficiency and pump group efficiency are much higher than the indexes specified in GB / T24674-2021 sewage submersible pump, and the passing and winding resistance; Q-H curve is relatively steep, Q-P curve is flat, the no-overload design goal, and the pump running flow range is wide, high efficiency, low vibration and smooth operation is realized.

#### • Self-cleaning design of water chamber

The self-cleaning technology is designed, and the circular spiral groove structure is set on the pump cover, and a small radial gap is formed between the impeller. During the pump operation, the medium particles in the groove are thrown outward under the action of the centrifugal force of the rotating impeller, so as to prevent solid dirt from entering or avoid the deposition of particles in the sealing chamber and damage the rotating parts. Reliable machine seal

Between the pump chamber and the oil chamber, water chamber and single end surface, large spring, rubber bellows water lubrication mechanical seal, dynamic and static ring with the friction coefficient of silicon carbide with low friction to

# 主要特点

## Main features

设置油室，安装有单端面油封，橡胶件选用耐油的丁腈橡胶，摩擦副动、静环采用石墨对碳化硅“软对硬”浸在油室的润滑油中，寿命比水封更长，且不易失效。

### ● 油室

油室内的油为32#抗磨液压油(GB11118.1-2011)，除了润滑油封，还可以将轴承摩擦所产生的热量带走以及阻止介质渗透的附加安全功能。加油量以从注油孔溢出油为止，而且能保留油室内留有一定体积的空气，使得油温升高后油室内压不致大幅度上升，从而避免机封过度磨损或泄漏。

油室中还安装了油水混合探头和浮子开关，当泵侧介质渗漏到油室时，漏水探头可检测到水室中水是已进入油室并通过电控柜报警停泵；浮子开关上浮且电机断电表表明介质液位已低于最低液位。

### ● 高可靠性的潜水电机

标配WQD三相异步交流电机，额定电压380V，额定频率50Hz或60Hz。

B5或V1型式(机座号160~355)

绝缘等级：F级，电机工作温度可达150℃

绕组内嵌有过热保护PT100元件，通过电控柜对电机进行保护

防护等级：IP68

电机接线腔内和电控柜设有接地标志和接地紧固件，电缆严格接地、安全可靠

从电机顶部向下方看，转子为顺时针方向旋转

### ● 电机的冷却

电机是通过定子外壳上的散热片由泵送介质冷却，介质淹没或大部分淹没电机，根据外形图中“▽”标记的液位设定最低液位及停泵。

电泵还可以选配特殊装配的电机冷却系统，冷却介质即可从泵体高压区也可从外界冷却水引入到定子外壳与冷却套之间，再到池中。用户应在订单中注明是否外接冷却水系统，否则即默认冷却介质为泵送介质。当冷却介质为泵送介质时，泵的结构可以防止大的颗粒进入冷却通道，但长期运行后，套筒中可能形成小颗粒或沉淀物淤积，可以通过套筒上的管接头外接冲洗液进行冲洗。

### ● 电缆

采用耐污水重型橡胶套软电缆，其机械强度和耐油污性优越。电缆导线截面积和载流能力是按40℃环境下满载连续运行条件选定的，因而在通常的使用条件下，电缆的载流能力裕度足够，寿命更长。

电缆压盖压紧电缆密封圈，使电缆与接线腔之间实现可靠的密封。在提手上设置卡子对电缆进行固定，防止拉脱。电缆采用颜色标志+数码标志，使电缆的识别和连接更加容易。

tungsten carbide "hard to hard" contact, more wear-resistant, ensure the service life of 15000 hours; between the water chamber and the bearing under the motor oil chamber, installed with single end surface oil seal, friction auxiliary movement and static ring with graphite in the oil chamber, the life is longer than the water seal, and not easy to fail.

### ● oil chamber

The oil in the oil room is 32 # anti-wear hydraulic oil (GB11118.1-2011). In addition to the lubricating oil seal, it can also carry away the heat generated by the bearing friction and the additional safety functions to prevent the penetration of the medium. The refueling amount overflows the oil from the injection hole, and can retain a certain volume of air in the oil room, so that the oil room pressure does not rise greatly after the oil temperature rises, so as to avoid excessive wear or leakage of the machine seal. The oil-water mixing probe and float switch are also installed in the oil chamber. When the pump side medium leaks into the oil chamber, the leakage probe can detect the water in the water chamber that it has entered the oil chamber and stops the pump through the electric control cabinet; the floating switch and the power off of the motor indicate that the medium liquid level is below the lowest liquid level.

### ● High reliability of the diving motor

Standard WQD three-phase asynchronous AC motor, rated voltage 380V, rated frequency 50Hz

Type B5 or V1 (seat number 80-355)

Insulation grade: H, operating temperature of motor reaching 180℃

The winding is embedded with overheating protection elements, which protects the motor through the electric control cabinet

Protection level: IP68

Ground marks and grounding fasteners are provided in the motor wiring cavity and the electric control cabinet, and the cables are strictly grounded, safe and reliable

The rotor rotates in the clockwise direction from the top of the motor

### ● Cooling of motor

The motor is cooled by the pumping medium through the heat sink on the stator shell, and the medium is submerged or most submerged the motor. The minimum liquid level and stop pump are set according to the liquid level marked by "▽" in the shape diagram.

The electric pump can also be equipped with a special assembly motor cooling system, and the cooling medium can be introduced from the high pressure area of the pump body to the external cooling water between the stator shell and the cooling sleeve, and then to the pool. The user should indicate in the order whether the external cooling water system, otherwise the default cooling medium is the pumping medium. When the cooling medium is the pumping medium, the structure of the pump can prevent large particles from entering the cooling channel, but after long-term operation, small particles or sediment deposition may form in the sleeve, which can be washed by connecting the pipe joint to the flushing liquid on the sleeve.

### ● Electric cable

Using sewage resistant heavy rubber sleeve flexible cable, its mechanical strength and oil resistance is superior. The cross-sectional area and carrying capacity are selected according to the continuous operating conditions of full load in 40℃ environment, so the load capacity margin of the cable is

### ● 接线方法

11-55kW采用三角形(△)接法，泵出厂时在接线腔内已接好。可以根据现场情况采用直接启动、自耦降压启动或外接电子软启动器启动。

≥75kW绕组的6条引接线用两根主电缆中的6条动力线芯分别直接连接引出，外三角(△)接法连接绕组，适用于自耦降压启动或外接法电子软启动器启动。

### ● NSK品牌轴承的选用

全系采用NSK原装轴承，电机上部轴承均为单列深沟球轴承或者圆柱滚子轴承，用于承受径向力，下部采用一个双列角接触向心球轴承或一对角接触球轴承加一个圆柱滚子轴承，按10万小时设计，负载裕度充分，轴承采用3#锂基脂润滑。

### ● 密封性检测

泵体、泵盖承压边界进行1.5倍设计压力的水压试验。

电缆压盖压紧电缆密封圈，使电缆与接线腔之间实现可靠的密封。在提手上设置卡子对电缆进行固定，防止拉脱。电缆采用颜色标志+数码标志，使电缆的识别和连接更加容易。

电机腔及O形圈需进行0.3MPa气压试验。

机械密封应进行抽检。

### ● 保护装置

水泵设有电机绕组过热保护元件PT100、轴承测温PT100、电机腔漏水探头、油室腔漏水探头，同时配套泵智能信号采集箱或者智能控制柜，实现泵状态的实时显示监测与故障预警。用户自备电控柜时，必须配套排污泵智能信号采集箱。为了您的泵能安全可靠运行，若您自备电控柜，有关电气技术问题特别是保护装置的技术问题，请务必与本公司电控柜专业技术人员联系。

#### 保护装置具体说明如下

· 电机绕组过热保护元件铂热电阻PT100

PT100安装于两处，一是嵌装于电机定子绕组内，二是装在轴承处。在电控柜显示屏显示实时数据，在泵不正常运行状况下，绕组温度或轴承温度上升到设定值时，电控柜的“绕组过热”或“轴承过热”指示灯亮并自动停止电机，提醒操作人员进行检查，找出电机过热原因。当温度下降后，电机恢复恢复到可开机状态。



sufficient and the life is longer under normal service conditions. Press the cable sealing ring to achieve reliable sealing between the cable and the wiring cavity. Set clips on the handle to fix the cable to prevent traction. The cable adopts color logo + digital logo to make it easier to identify and connect the cable.

### ● Wiring method

11-55kW Using the triangle (△) connection method, the pump has been connected in the wiring cavity when leaving the factory. According to the field situation, direct start, automatic step-down start or external electronic soft starter can start.

The 6 lead wires of the ≥75kW winding are led out by direct connection of the 6 power cores in each of the two main cables, and the outer triangular (△) connection is connected to the winding, which is suitable for Y-△ starting, aut耦coupler step-down starting, or starting by the outer connection of the electronic soft starter.

### ● Selection of NSK brand bearings

The whole system using NSK original bearing, the upper motor bearing are single column deep groove ball bearing or cylindrical roller bearing, used to bear the radial force, the lower part of a double column angle contact centripetal ball bearing or a pair of angle contact ball bearing and a cylindrical roller bearing, according to 100000 hours design, full load margin, bearing with 3 # lithium grease lubrication.

### ● Protector

The pump is equipped with motor winding overheating protection element PT 100, bearing temperature measurement PT 100, motor cavity leakage probe, oil chamber cavity leakage probe, at the same time, supporting the pump intelligent signal acquisition box or intelligent control cabinet, to realize the real-time display and monitoring and fault warning of the pump state. When the user brings the electric control cabinet, it must support the sewage pump intelligent signal collection box. For the safe and reliable operation of your pump, if you bring your own electric control cabinet, and for the electrical technical problems, especially the protection device, please contact the professional technicians of the electric control cabinet.

· Motor winding overheat protection element PT 100

PT 100 is installed in two places, one is embedded in the motor stator winding, the other is installed in the bearing place. The real-time data is displayed on the display screen of the electric control cabinet. Under the abnormal operation of the pump, when the winding temperature or the bearing temperature rises to the set value, the "winding overheat" or "bearing overheat" indicator light of the electric control cabinet lights on and automatically stop the motor to remind the operator to check and find out the cause of the motor overheating. When the temperature drops, the power opportunity returns to the boot state.



## 主要特点 Main features

### · 电机腔漏水探头

在电机腔中的油水探头被简称为水探头。安装于电机腔下侧、轴承旁的空腔内，空腔有孔与轴承室相通。当电机侧机封失效，油室内的油通过轴承室进入空腔，或者进入电机腔的水流入空腔，都会使漏水探头的两个电极导通，通过电控柜发出报警信号（指示灯亮）并使泵自动停止运行，提醒操作人员检修泵。

### · 油室腔漏水探头

在油室中的漏水探头被简称为油探头。当叶轮侧机封发生损坏，泄漏油室内的水达到一定程度时，漏水探头的两个电极导通，通过电控柜发出报警信号（指示灯亮），提醒操作人员及时检查机封或更换油室内的油。



### ● 起吊装置

泵的提升架标配为镀锌钢板，可根据客户要求做成不锈钢材质，设计有较大的空间，方便挂入挂钩且经久耐用。

### ● 电控柜

本系列潜污泵配套的TQK-B经济型或TQK-B (Z) 智能型控制柜是一种经济适用、安全可靠、维护方便的自动控制柜。控制柜选用国内知名品牌的低压电器和液位传感器，具有短路、缺相、过载和电机腔漏水、油室漏水及绕组超热等保护功能。控制柜可配套浮球液位开关、投入式或超声波等各种液位传感器，在无人值守的情况下可根据液位的高低自动控制水泵的启停。除单控型产品外，凡有主备泵控制的产品，均具有故障泵自行关闭、备用泵自动投入的功能。两泵和三泵控制柜可实现各泵自动交替或循环运行，以实现各泵运行时间均等。

通用配置的控制柜元器件以天正、正泰、德力西等国内知名品牌为主；高档配置以施耐德、西门子、ABB等国际知名品牌为主。

### · Motor chamber for leaking probe

The oil-water probe in the motor chamber is simply referred to as the water probe. It is installed in the cavity on the lower side of the motor chamber and beside the bearing, with holes in the bearing chamber. When the motor side seal fails, the oil in the oil chamber enters the chamber through the bearing chamber, or the water into the motor flows into the cavity, the two electrodes of the leakage probe will turn on, send an alarm signal through the electric control cabinet (the indicator light is on) and make the pump automatically stop running, to remind the operator to repair the pump.

### · Oil chamber cavity is leaking probe

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

### ● Lift device

The lift frame of the pump is galvanised steel as standard, and can be made of stainless steel according to customer requirements, the design has a large space, convenient to hang into the hook and durable.

### ● Electric control cabinet

TQK-B economical or TQK-B (Z) intelligent control cabinet supporting this series of submersible sewage pump is an economical, safe and reliable automatic control system. The control cabinet selects the low-voltage electrical appliances and liquid level sensors of the well-known domestic brands, and has the protection functions such as short circuit, phase deficiency, overload and motor cavity leakage, oil chamber leakage and overheating winding. The control cabinet can be equipped with floating ball level switch, input or ultrasonic level sensors, and can automatically control the start and stop of the pump according to the level of the unattended situation. Except for single control products, all products controlled by the main and standby pump have the function of automatic shutdown of the faulty pump and automatic input of the standby pump. Two pumps and three pump control cabinets can realize automatic alternating or circulation operation of each pump to achieve equal operation time of each pump.

The control cabinet components are mainly Tianzheng, Chint and Delixi, and the high-known brands are mainly Schneider, Siemens and ABB.

## 规格表

## Specification table

WQ中型排污水 (11~22kW/380V/50Hz) 规格表 注: *—— $\rho=1050\text{kg/m}^3$ Specification of WQ medium sewage pump (11~22kW/380V/50Hz) Note:*—— $\rho=1050\text{kg/m}^3$											
序号 No.	型号 Type	流量 Flow ( $\text{m}^3/\text{h}$ )	扬程 Head (m)	转速 Speed (r/min)	泵效率 Pump efficiency (%)	电机效率 Motor efficiency (%)	泵组效率 Pump unit efficiency (%)	轴功率* Shaft Power* (kW)	电机 功率 motor Power (kW)	颗粒最大 直径 Max. Dia. of particle (mm)	重量 Weight (kg)
1	65WQ40-42-11	24.0	45.0	2930	40.0	88.0	35.2	7.725	11	28	126
		40.0	42.0		53.0	88.0	46.6	9.070			
		56.0	36.0		54.0	88.0	47.5	10.682			
2	65WQ50-50-15	30.0	55.0	2930	47.0	89.0	41.8	10.045	15	28	136
		50.0	50.0		61.0	89.0	54.3	11.726			
		70.0	44.0		59.0	89.0	52.5	14.937			
3	80WQ70-30-11	42.0	32.0	2930	49.0	88.0	43.1	7.848	11	32	128
		70.0	30.0		63.0	88.0	55.4	9.538			
		98.0	22.0		59.0	88.0	51.9	10.456			
4	80WQ80-35-15	48.0	39.0	2930	49.0	89.0	43.6	10.931	15	32	138
		80.0	35.0		64.0	89.0	57.0	12.518			
		112.0	23.0		53.0	89.0	47.2	14.511			
5	80WQ75-45-18.5	45.0	54.0	2930	46.0	90.0	41.4	15.115	18.5	30	185
		75.0	45.0		58.0	90.0	52.2	16.650			
		105.0	38.0		61.0	90.0	54.9	18.715			
6	80WQ85-50-22	51.0	60.0	2940	47.0	90.5	42.5	18.629	22	30	200
		85.0	50.0		59.0	90.5	53.4	20.611			
		119.0	38.0		62.0	90.5	56.1	20.869			
7	100WQ115-20-11	69.0	25.0	2930	50.0	88.0	44.0	9.871	11	42	200
		115.0	20.0		62.0	88.0	54.6	10.614			
		161.0	12.5		53.0	88.0	46.6	10.873			
8	100WQ120-25-15	72.0	30.0	2930	52.0	89.0	46.3	11.885	15	42	210
		120.0	25.0		63.0	89.0	56.1	13.625			
		168.0	17.0		53.0	89.0	47.2	15.418			
9	100WQ125-30-18.5	75.0	35.0	2930	53.0	90.0	47.7	14.171	18.5	42	216
		125.0	30.0		64.0	90.0	57.6	16.765			
		175.0	19.0		52.0	90.0	46.8	18.295			
10	100WQ130-35-22	78.0	40.0	2940	55.0	90.5	49.8	16.231	22	37	222
		130.0	35.0		64.0	90.5	57.9	20.342			
		182.0	24.0		58.0	90.5	52.5	21.548			
11	150WQ160-15-11	96.0	17.5	1460	57.0	88.0	50.2	8.433	11	60	226
		160.0	15.0		75.0	88.0	66.0	9.156			
		224.0	10.7		63.0	88.0	55.4	10.885			
12	150WQ180-18-15	108.0	21.0	1460	60.0	89.0	53.4	10.816	15	60	242
		180.0	18.0		75.0	89.0	66.8	12.086			
		252.0	12.0		58.0	89.0	51.6	14.918			
13	150WQ200-20-18.5	120.0	24.0	1470	55.0	90.5	49.8	14.983	18.5	52	258
		200.0	20.0		73.0	90.5	66.1	15.678			
		280.0	14.0		60.7	90.5	54.9	18.478			
14	150WQ200-25-22	120.0	30.0	1470	56.0	91.0	51.0	18.394	22	52	268
		200.0	25.0		74.0	91.0	67.3	19.333			
		280.0	17.0		64.0	91.0	58.2	21.281			

# 规格表

## Specification table

WQ中型排污泵 (11~22kW/380V/50Hz) 规格表 注: *——ρ=1050kg/m <sup>3</sup>											
Specification of WQ medium sewage pump (11~22kW/380V/50Hz) Note:*——ρ=1050kg/m <sup>3</sup>											
序号 No.	型号 Type	流量 Flow (m <sup>3</sup> /h)	扬程 Head (m)	转速 Speed (r/min)	泵效率 Pump efficiency (%)	电机效率 Motor efficiency (%)	泵组效率 Pump unit efficiency (%)	轴功率* Shaft Power* (kW)	电机 功率 motor Power (kW)	颗粒最大 直径 Max. Dia.of particle (mm)	重量 Weight (kg)
15	200WQ325-8-11	195.0	10.0	1460	65.0	88.0	57.2	8.584	11	72	259
		325.0	8.0		71.0	88.0	62.5	10.478			
		455.0	5.5		65.0	88.0	57.2	11.016			
16	200WQ350-9-15	210.0	11.0	1460	65.0	89.0	57.9	10.168	15	72	273
		350.0	9.0		71.0	89.0	63.2	12.694			
		490.0	7.0		65.0	89.0	57.9	15.099			
17	200WQ375-10-18.5	225.0	12.0	1460	65.0	90.5	58.8	11.885	18.5	72	292
		375.0	10.0		71.0	90.5	64.3	15.112			
		525.0	7.0		65.0	90.5	58.8	16.177			
18	200WQ400-12-22	240.0	16.0	1460	67.0	91.0	61.0	16.399	22	72	305
		400.0	12.0		72.0	91.0	65.5	19.075			
		560.0	8.0		65.0	91.0	59.2	19.721			
19	200WQ300-18-22※	180.0	20.0	1460	63.0	91.0	57.3	16.350	22	70	306
		300.0	18.0		71.0	91.0	64.6	21.762			
		420.0	13.0		67.0	91.0	61.0	23.317			
20	250WQ370-8-11※	222.0	11.6	1460	63.0	88.0	55.4	11.696	11	52	290
		370.0	8.0		74.3	88.0	65.4	11.399			
		518.0	4.6		62.0	88.0	54.6	10.996			
21	250WQ400-10-15※	240.0	13.7	1460	64.0	89.0	57.2	14.631	15	52	310
		400.0	10.0		77.0	89.0	68.1	14.961			
		560.0	5.8		62.0	89.0	55.2	14.989			
22	250WQ500-10-18.5	300.0	12.0	1460	65	90.5	58.8	15.847	18.5	50	440
		500.0	10.0		73	90.5	66.1	18.422			
		700.0	6.0		65	90.5	58.8	18.488			
23	250WQ550-11-22	330.0	15.0	1460	67	91.0	61.0	21.139	22	50	460
		550.0	11.0		74	91.0	67.3	21.904			
		770.0	6.5		65	91.0	59.2	22.032			
24	250WQ460-10-18.5	275.0	13.5	980	56.3	90.0	50.7	18.867	18.5	72	530
		460.0	10.0		77.0	90.0	69.3	17.093			
		645.0	5.6		70.0	90.0	63.0	14.764			
25	250WQ500-11-22	300.0	14.5	980	55.3	90.0	49.8	22.507	22	72	560
		500.0	11.0		77.0	90.0	69.3	20.438			
		700.0	6.7		70.0	90.0	63.0	19.170			
26	300WQ600-8-18.5	360	10.0	980	55.0	90.0	49.5	18.728	18.5	90	550
		600	8.0		77.0	90.0	69.3	17.836			
		840	3.4		52.0	90.0	46.8	15.715			
27	300WQ650-9-22	390	11.0	980	56.0	90.0	50.4	21.919	22	90	570
		650	9.0		78.0	90.0	70.2	21.459			
		910	3.5		54.0	90.0	48.6	16.876			
28	350WQ885-5-18.5	530	7.6	730	72.0	88.0	63.4	16.007	18.5	70	600
		885	5.0		77.0	88.0	67.8	17.758			
		1240	2.9		59.0	88.0	51.9	17.439			
29	350WQ960-6-22	575	8.6	730	69.0	88.5	61.1	20.506	22	70	620
		960	6.0		79.0	88.5	69.9	21.905			
		1340	3.7		67.0	88.5	59.3	21.173			

注: 带“※”的规格为天泉第3代产品。 Note: Specifications with “※” are Tianquan 3rd generation products.

WQ系列≥30kW智能型污水污物潜水电泵规格表380V 50Hz 注: *——ρ=1050kg/m <sup>3</sup>											
WQ series ≥30kW intelligent sewage & waste submersible motor pump specification table 380V 50Hz Note:*——ρ=1050kg/m <sup>3</sup>											
序号 No.	型号 Type	流量 Flow (m <sup>3</sup> /h)	扬程 Head (m)	转速 Speed (r/min)	泵效率 Pump efficiency (%)	电机效率 Motor efficiency (%)	泵组效率 Pump unit efficiency (%)	轴功率* Shaft Power* (kW)	电机 功率 motor Power (kW)	颗粒最大 直径 Max. Dia.of particle (mm)	重量 Weight (kg)
1	100WQ140-45-30	84.0	51.0	2950	55.0	91.2	50.2	22.287	30	37	400
		140.0	45.0		65.0	91.2	59.3	27.732			
		196.0	32.0		60.0	91.2	54.7	29.910			
2	100WQ150-50-37	90.0	56.0	2950	56.0	92.0	51.5	25.751	37	37	420
		150.0	50.0		66.0	92.0	60.7	32.514			
		210.0	36.0		59.0	92.0	54.3	36.663			
3	150WQ160-42-30※	96.0	48.8	1470	49.2	92.0	45.3	27.245	30	52	363
		160.0	42.0		70.0	92.0	64.4	27.468			
		224.0	32.4		68.5	92.0	63.0	30.315			
4	150WQ225-31-30	135.0	36.0	1470	56.0	92.0	51.5	24.832	30	52	363
		225.0	31.0		75.0	92.0	69.0	26.610			
		315.0	23.0		69.0	92.0	63.5	30.043			
5	150WQ225-36-37	135.0	40.0	1475	60.0	92.5	55.5	25.751	37	56	376
		225.0	36.0		75.0	92.5	69.4	30.902			
		315.0	28.0		67.0	92.5	62.0	37.666			
6	150WQ250-40-45	150.0	45.0	1475	62.0	92.8	57.5	31.151	45	56	420
		250.0	40.0		75.0	92.8	69.6	38.150			
		350.0	32.0		71.0	92.8	65.9	45.135			
7	150WQ270-45-55	170.0	49.0	1475	57.0	93.0	53.0	41.814	55	56	500
		270.0	45.0		75.0	93.0	69.8	46.352			
		390.0	37.0		74.5	93.0	69.3	55.420			
8	150WQ300-55-75	180.0	59.0	1485	60.0	93.8	56.3	50.644	75	58	790
		300.0	55.0		75.0	93.8	70.4	62.948			
		420.0	48.0		76.0	93.8	71.3	75.898			
9	150WQ330-60-90	200.0	65.0	1485	62.0	94.2	58.4	59.994	90	58	820
		330.0	60.0		75.0	94.2	70.7	75.537			
		460.0	51.0		76.0	94.2	71.6	88.322			
10	200WQ360-22-30※	220.0	25.5	1470	55.3	92.0	50.9	29.026	30	72	480
		360.0	22.0		75.0	92.0	69.0	30.215			
		520.0	14.5		67.9	92.0	62.5	28.569			
11	200WQ400-18-30	252.0	21.0	1470	53.0	92.0	48.8	29.231	30	72	470
		400.0	18.0		74.0	92.0	68.1	28.040			
		588.0	11.0		66.0	92.0	60.7	30.076			
12	200WQ400-24-37※	230.0	28.0	1475	55.0	92.5	50.9	33.503	37	68	500
		400.0	24.0		76.0	92.5	70.3	36.142			
		580.0	15.0		58.4	92.5	54.0	42.625			
13	200WQ400-28-45※	230.0	33.0	1475	57.6	92.8	53.5	37.703	45	68	530
		400.0	28.0		74.0	92.8	68.7	43.305			
		600.0	17.0		57.0	92.8	52.9	51.201			
14	200WQ440-31-55※	250.0	37.0	1480	57.6	93.2	53.7	45.949	55	68	560
		440.0	31.0		74.0	93.2	69.0	52.740			
		640.0	20.0		57.0	93.2	53.1	64.253			
15	200WQ450-20-37	270.0	24.0	1475	57.0	92.5	52.7	32.528	37	64	490
		450.0	20.0		75.0	92.5	69.4	34.335			
		630.0	13.0		66.0	92.5	61.1	35.506			
16	200WQ480-23-45	288.0	28.0	1475	58.0	92.8	53.8	39.781	45	64	520
		480.0	23.0		75.0	92.8	69.6	42.118			
		672.0	15.0		66.0	92.8	61.2	43.699			

# 规格表

## Specification table

WQ系列≥30kW智能型污水污物潜水电泵规格表380V 50Hz 注: *——ρ=1050kg/m <sup>3</sup>											
WQ series ≥30kW intelligent sewage & waste submersible motor pump specification table 380V 50Hz Note:*——ρ=1050kg/m <sup>3</sup>											
序号 No.	型号 Type	流量 Flow (m <sup>3</sup> /h)	扬程 Head (m)	转速 Speed (r/min)	泵效率 Pump efficiency (%)	电机效率 Motor efficiency (%)	泵组效率 Pump unit efficiency (%)	轴功率* Shaft Power* (kW)	电机 功率 motor Power (kW)	颗粒最大 直径 Max. Dia.of particle (mm)	重量 Weight (kg)
17	200WQ500-27-55	300.0	34.0	1480	58.0	93.2	54.1	50.319	55	64	750
		500.0	27.0		75.0	93.2	69.9	51.503			
		700.0	19.5		71.0	93.2	66.2	55.009			
18	200WQ530-36-75	318	44.0	1480	57.0	93.8	53.5	70.236	75	42	780
		530	36.0		76.0	93.8	71.3	71.832			
		742	25.0		71.0	93.8	66.6	74.755			
19	200WQ565-40-90	339	47.0	1480	55.3	94.0	52.0	82.438	90	42	810
		565	40.0		77.0	94.0	72.4	83.980			
		791	27.0		70.0	94.0	65.8	87.297			
20	250WQ650-12-30	390.0	15.3	1475	57.0	92.0	52.4	29.953	30	50	490
		650.0	12.0		75.0	92.0	69.0	29.757			
		910.0	7.5		66.0	92.0	60.7	29.588			
21	250WQ600-16-37	360.0	18.0	1475	67.0	92.5	62.0	27.673	37	66	520
		600.0	16.0		80.0	92.5	74.0	34.335			
		840.0	8.0		55.0	92.5	50.9	34.959			
22	250WQ625-19-45	375.0	22.0	1475	65.0	93.0	60.5	36.316	45	66	550
		625.0	19.0		81.0	93.0	75.3	41.947			
		875.0	10.0		56.0	93.0	52.1	44.707			
23	250WQ650-22-55	390.0	28.0	1480	69.0	93.2	64.3	45.282	55	66	580
		650.0	22.0		82.0	93.2	76.4	49.879			
		910.0	13.0		62.0	93.2	57.8	54.594			
24	250WQ700-25-75	420	33.0	1480	55.3	93.8	51.9	71.712	75	50	850
		700	25.0		77.0	93.8	72.2	65.028			
		980	15.0		70.0	93.8	65.7	60.086			
25	250WQ750-28-90	450	36.0	1480	55.3	94.0	52.0	83.820	90	50	880
		750	28.0		77.0	94.0	72.4	78.034			
		1050	18.0		70.0	94.0	65.8	77.254			
26	250WQ800-32-110	480.0	39.0	1480	55.0	94.2	51.8	97.387	110	48	910
		800.0	32.0		78.0	94.2	73.5	93.908			
		1120.0	19.0		67.0	94.2	63.1	90.877			
27	250WQ850-40-132	510.0	47.0	1485	55.3	94.0	52.0	124.022	132	48	810
		850.0	40.0		77.0	94.0	72.4	126.341			
		1190.0	27.0		70.0	94.0	65.8	131.331			
28	250WQ900-45-160	540.0	52.0	1485	55.0	94.0	51.7	146.080	160	48	840
		900.0	45.0		78.0	94.0	73.3	148.565			
		1260.0	30.0		67.0	94.0	63.0	161.426			
29	250WQ530-14-30	320.0	17.0	980	55.0	91.0	50.1	28.300	30	48	630
		530.0	14.0		78.0	91.0	71.0	27.219			
		740.0	8.4		67.0	91.0	61.0	26.546			
30	250WQ560-17-37	337.0	20.1	980	55.3	90.5	50.0	35.047	37	48	670
		560.0	17.0		77.0	90.5	69.7	35.375			
		785.0	11.4		70.0	90.5	63.4	36.579			
31	300WQ930-20-75	558.0	25.0	1480	58.0	94.0	54.5	68.818	75	90	880
		930.0	20.0		75.0	94.0	70.5	70.959			
		1302.0	12.0		61.0	94.0	57.3	73.286			

WQ系列≥30kW智能型污水污物潜水电泵规格表380V 50Hz 注: *——ρ=1050kg/m <sup>3</sup>											
WQ series ≥30kW intelligent sewage & waste submersible motor pump specification table 380V 50Hz Note:*——ρ=1050kg/m <sup>3</sup>											
序号 No.	型号 Type	流量 Flow (m <sup>3</sup> /h)	扬程 Head (m)	转速 Speed (r/min)	泵效率 Pump efficiency (%)	电机效率 Motor efficiency (%)	泵组效率 Pump unit efficiency (%)	轴功率* Shaft Power* (kW)	电机 功率 motor Power (kW)	颗粒最大 直径 Max. Dia.of particle (mm)	重量 Weight (kg)
32	300WQ1000-22-90	600.0	28.0	1480	57.0	94.2	53.7	84.332	90	90	910
		1000.0	22.0		77.0	94.2	72.5	81.750			
		1400.0	12.0		56.0	94.2	52.8	85.838			
33	300WQ1200-24-110	720.0	32.0	1480	57.0	94.5	53.6	115.655	110	58	1440
		1200.0	24.0		75.0	94.5	70.5	109.872			
		1680.0	12.0		66.0	94.5	66.0	94.681			
34	300WQ1200-27-132	720.0	37.0	1485	57.0	94.7	53.6	133.73	132	58	1500
		1200.0	27.0		75.0	94.7	70.5	123.61			
		1680.0	16.5		66.0	94.7	62.0	120.17			
35	300WQ1250-30-160	750.0	40.5	1485	60.0	94.0	56.4	144.85	160	58	1600
		1250.0	30.0		76.0	94.0	71.4	141.18			
		1750.0	20.0		75.0	94.0	70.5	133.53			
36	300WQ720-10-30	432.0	12.0	980	66.0	89.5	59.1	22.474	30	58	700
		720.0	10.0		78.0	89.5	69.8	26.412			
		1000.0	6.4		61.0	89.5	54.6	30.020			
37	300WQ780-12-37	468.0	15.0	980	67.0	90.5	60.6	29.979	37	58	720
		780.0	12.0		80.0	90.5	72.4	33.477			
		1090.0	7.0		61.0	90.5	55.2	35.789			
38	300WQ1300-36-185	780.0	46.0	1485	61.0	94.0	57.3	168.30	185	80	2000
		1300.0	36.0		77.0	94.0	72.4	173.90			
		1820.0	24.0		75.0	94.0	70.5	166.64			
39	300WQ1350-38-200	810.0	48.0	1485	60.0	94.0	56.4	185.41	200	80	2050
		1350.0	38.0		78.0	94.0	73.3	188.18			
		1890.0	28.0		76.0	94.0	71.4	199.23			
40	300WQ1400-42-220	840.0	52.0	1490	60.0	95.0	57.0	208.30	220	80	2150
		1400.0	42.0		79.0	95.0	75.1	212.96			
		1960.0	29.5		76.0	95.0	72.2	217.68			
41	300WQ840-14-45	504.0	17.0	980	68.0	91.5	62.2	36.052	45	80	770
		840.0	14.0		82.0	91.5	75.0	41.035			
		1174.0	9.0		68.0	91.5	62.2	44.459			
42	300WQ900-16-55	540.0	19.0	980	68.0	92.7	63.0	43.171	55	80	800
		900.0	16.0		83.0	92.7	76.9	49.641			
		1260.0	11.0		73.0	92.7	67.7	54.325			
43	300WQ950-18-75	570.0	22.0	985	67.0	93.4	62.6	53.552	75	80	850
		950.0	18.0		84.0	93.4	78.5	58.247			
		1330.0	12.5		74.0	93.4	69.1	64.281			
44	350WQ900-9-30	540.0	11.0	980	66.0	89.5	59.1	25.751	30	65	730
		900.0	9.0		78.0	89.5	69.8	29.713			
		1260.0	5.0		61.0	89.5	54.6	29.551			
45	350WQ1200-8-37	720.0	10.0	980	67.0	90.5	60.6	30.748	37	65	750
		1200.0	8.0		80.0	90.5	72.4	34.335			
		1680.0	4.6		61.0	90.5	55.2	36.249			
46	350WQ1200-10-45	720.0	14.0	980	70.0	92.0	64.4	41.202	45	76	1030
		1200.0	10.0		79.0	92.0	72.7	43.462			
		1680.0	5.0		57.0	92.0	52.4	42.166			
47	350WQ1300-12-55	780.0	16.0	980	73.0	92.7	67.7	48.916	55	76	1100
		1300.0	12.0		82.0	92.7	76.0	54.434			
		1820.0	7.0		69.0	92.7	64.0	52.829			



# 规格表

## Specification table

WQ系列≥30kW智能型污水污物潜水电泵规格表380V 50Hz 注: \*——ρ=1050kg/m³  
WQ series ≥30kW intelligent sewage & waste submersible motor pump specification table 380V 50Hz Note:\*——ρ=1050kg/m³

序号 No.	型号 Type	流量 Flow (m³/h)	扬程 Head (m)	转速 Speed (r/min)	泵效率 Pump efficiency (%)	电机效率 Motor efficiency (%)	泵组效率 Pump unit efficiency (%)	轴功率* Shaft Power* (kW)	电机 功率 motor Power (kW)	颗粒最大 直径 Max. Dia.of particle (mm)	重量 Weight (kg)
48	350WQ1400-13-75	840.0	20.0	985	72.0	93.4	67.2	66.763	75	74	750
		1400.0	13.0		74.0	93.4	69.1	70.371			
		1960.0	8.0		64.0	93.4	59.8	70.101			
49	350WQ1400-15-90	840.0	24.0	985	73.0	93.8	68.5	79.02	90	74	780
		1400.0	15.0		75.0	93.8	70.4	80.12			
		1960.0	10.0		65.0	93.8	61.0	86.28			
50	350WQ1500-17-110	900.0	26.0	985	72.0	94.0	67.7	92.99	110	74	810
		1500.0	17.0		77.0	94.0	72.4	94.76			
		2100.0	11.0		61.0	94.0	57.3	108.35			
51	350WQ1600-21-132	960.0	29.5	985	69.0	94.2	65.0	117.44	132	74	490
		1600.0	21.0		79.0	94.2	74.4	121.69			
		2240.0	12.0		61.0	94.2	57.5	126.08			
52	350WQ1030-8-37	620.0	11.4	735	68.0	90.5	61.5	29.740	37	74	520
		1030.0	8.0		78.0	90.5	70.6	30.227			
		1445.0	5.2		60.0	90.5	54.3	35.832			
53	350WQ1100-10-45	665.0	14.0	735	68.0	90.9	61.8	39.174	45	74	550
		1100.0	10.0		79.0	90.9	71.8	39.840			
		1550.0	6.2		61.0	90.9	55.4	45.076			
54	350WQ1200-12-55	720.0	16.4	735	68.0	92.7	63.0	49.685	55	74	580
		1200.0	12.0		80.0	92.7	74.2	51.503			
		1680.0	7.0		62.0	92.7	57.5	54.271			
55	350WQ1500-26-160	960.0	34.0	990	61.0	94.5	57.6	153.100	160	80	850
		1500.0	26.0		78.0	94.5	73.7	143.063			
		2240.0	14.0		59.0	94.5	55.8	152.083			
56	350WQ1600-29-185	960.0	37.0	990	61.0	94.9	57.9	166.609	185	80	880
		1600.0	29.0		78.0	94.9	74.0	170.208			
		2240.0	17.0		59.0	94.9	56.0	184.672			
57	350WQ1700-31-200	1020.0	41.0	990	65.0	95.0	61.8	184.088	200	80	910
		1700.0	31.0		80.0	95.0	76.0	188.485			
		2380.0	18.0		63.0	95.0	59.9	194.565			
58	350WQ1800-33-220	1080.0	42.0	990	66.0	95.0	62.7	196.646	220	80	810
		1800.0	33.0		82.0	95.0	77.9	207.266			
		2520.0	19.0		65.0	95.0	61.8	210.764			
59	350WQ1900-36-250	1140.0	44.0	990	70.0	95.0	66.5	205.029	250	80	840
		1900.0	36.0		84.0	95.0	79.8	232.988			
		2660.0	20.0		64.0	95.0	60.8	237.841			
60	350WQ1000-14-55	600.0	18.4	735	61.0	92.7	56.5	51.784	55	80	630
		1000.0	14.0		78.0	92.7	72.3	51.356			
		1400.0	7.5		60.0	92.7	55.6	50.072			
61	350WQ1180-16-75	700.0	20.2	735	61.0	93.0	56.7	66.325	75	80	670
		1180.0	16.0		80.0	93.0	74.4	67.526			
		1650.0	9.3		60.0	93.0	55.8	73.176			
62	350WQ1330-18-90	800.0	23.0	735	67.0	93.7	62.8	78.578	90	80	720
		1330.0	18.0		82.0	93.7	76.8	83.535			
		1860.0	10.4		65.0	93.7	60.9	85.151			
63	350WQ1400-20-110	840.0	24.0	735	70.0	94.0	65.8	82.404	110	80	880
		1400.0	20.0		84.0	94.0	79.0	95.375			
		1960.0	11.0		64.0	94.0	60.2	96.388			

WQ系列≥30kW智能型污水污物潜水电泵规格表380V 50Hz 注: \*——ρ=1050kg/m³  
WQ series ≥30kW intelligent sewage & waste submersible motor pump specification table 380V 50Hz Note:\*——ρ=1050kg/m³

序号 No.	型号 Type	流量 Flow (m³/h)	扬程 Head (m)	转速 Speed (r/min)	泵效率 Pump efficiency (%)	电机效率 Motor efficiency (%)	泵组效率 Pump unit efficiency (%)	轴功率* Shaft Power* (kW)	电机 功率 motor Power (kW)	颗粒最大 直径 Max. Dia.of particle (mm)	重量 Weight (kg)
64	400WQ1850-11-75	1110.0	14.6	990	62.0	93.5	58.0	74.789	75	96	910
		1850.0	11.0		79.0	93.5	73.9	73.704			
		2500.0	5.5		59.0	93.5	55.2	66.682			
65	400WQ2050-12-90	1230.0	16.0	990	64.0	93.8	60.0	87.983	90	96	1440
		2050.0	12.0		80.0	93.8	75.0	87.983			
		2870.0	5.8		57.0	93.8	53.5	83.559			
66	400WQ2200-14-110	1320.0	19.0	990	65.5	94.0	61.6	109.557	110	96	1500
		2200.0	14.0		81.0	94.0	76.1	108.798			
		3080.0	7.0		58.0	94.0	54.5	106.360			
67	400WQ2300-16-132	1380.0	24.0	990	72.0	94.2	67.8	131.618	132	96	1600
		2300.0	16.0		82.0	94.2	77.2	128.407			
		3220.0	8.0		59.0	94.2	55.6	124.925			
68	400WQ1500-6-37	900.0	8.7	735	65.0	90.5	58.8	34.467	37	96	700
		1500.0	6.0		80.0	90.5	72.4	34.871			
		2100.0	3.2		66.0	90.5	59.7	29.133			
69	400WQ1600-7-45	960.0	10.3	735	67.0	90.9	60.9	42.227	45	96	720
		1600.0	7.5		82.0	90.9	74.5	41.872			
		2240.0	3.8		65.0	90.9	59.1	37.469			
70	400WQ1700-9-55	1020.0	13.2	735	73.0	92.7	67.7	52.772	55	96	2000
		1700.0	9.0		83.0	92.7	76.9	52.744			
		2380.0	4.5		64.0	92.7	59.3	47.881			
71	400WQ2000-20-160	1200.0	27.0	990	64.0	94.6	60.5	144.851	160	120	2050
		2000.0	20.0		78.0	94.6	73.8	146.731			
		2800.0	12.0		61.0	94.6	57.7	157.603			
72	400WQ2100-20-185	1260.0	28.0	990	64.0	94.6	60.5	157.726	185	120	2150
		2100.0	21.0		78.0	94.6	73.8	161.771			
		2940.0	13.0		61.0	94.6	57.7	179.274			
73	400WQ2200-22-200	1320.0	30.0	990	65.0	94.7	61.6	174.316	200	120	770
		2200.0	23.0		80.0	94.7	75.8	180.974			
		3080.0	14.2		63.0	94.7	59.7	198.634			
74	400WQ2300-25-220	1380.0	32.0	990	66.0	94.8	62.6	191.444	220	120	800
		2300.0	25.0		82.0	94.8	77.7	200.636			
		3220.0	15.0		65.0	94.8	61.6	212.613			
75	400WQ2400-28-250	1440.0	35.0	990	70.0	94.9	66.4	206.010	250	120	850
		2400.0	28.0		84.0	94.9	79.7	228.900			
		3360.0	17.0		66.0	94.9	62.6	247.628			
76	400WQ1500-10-55	900	13.6	735	65.0	92.8	60.3	53.880	55	120	730
		1500	10.0		80.0	92.8	74.2	53.648			
		2100	5.5		66.0	92.8	61.2	50.072			
77	400WQ1600-12-75	970.0	15.6	735	65.0	93.0	60.5	66.610	75	120	750
		1600.0	12.0		80.0	93.0	74.4	68.670			
		2200.0	7.5		66.0	93.0	61.4	71.531			
78	400WQ1700-13-90	1000.0	17.5	735	67.0	93.1	62.4	74.734	90	120	1030
		1700.0	13.0		82.0	93.1	76.3	80.080			
		2400.0	8.0		65.0	93.1	60.5	84.517			
79	400WQ1800-15-110	1050.0	19.0	735	70.0	94.0	65.8	81.546	110	120	1100
		1800.0	15.0		84.0	94.0	79.0	91.969			
		2500.0	9.0		64.0	94.0	60.2	100.591			



# 规格表 Specification table

WQ系列≥30kW智能型污水污物潜水电泵规格表380V 50Hz 注: \*——ρ=1050kg/m³  
WQ series ≥30kW intelligent sewage & waste submersible motor pump specification table 380V 50Hz Note: \*——ρ=1050kg/m³

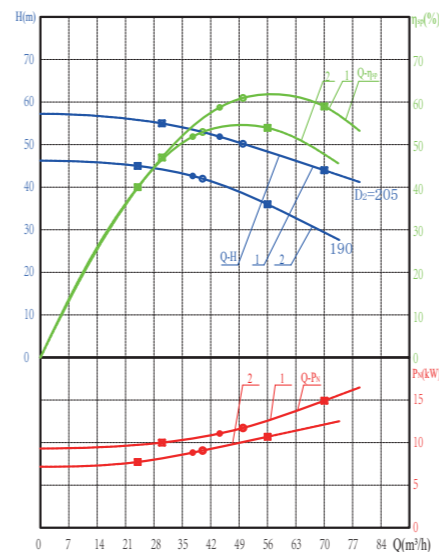
序号 No.	型号 Type	流量 Flow (m³/h)	扬程 Head (m)	转速 Speed (r/min)	泵效率 Pump efficiency (%)	电机效率 Motor efficiency (%)	泵组效率 Pump unit efficiency (%)	轴功率* Shaft Power* (kW)	电机 功率 motor Power (kW)	颗粒最大 直径 Max. Dia. of particle (mm)	重量 Weight (kg)
80	500WQ2800-15-160	1680.0	20.0	990	63.0	94.6	59.6	152.600	160	120	2920
		2800.0	15.0		77.0	94.6	72.8	156.068			
		3920.0	7.0		60.0	94.6	56.8	130.855			
81	500WQ2850-17-185	1710.0	22.5	990	64.0	94.6	60.5	172.010	185	120	3100
		2850.0	17.0		78.0	94.6	73.8	177.728			
		3990.0	8.0		61.0	94.6	57.7	149.723			
82	500WQ2900-19-200	1740.0	25.0	990	65.0	94.7	61.8	191.484	200	120	3200
		2900.0	19.0		80.0	94.7	75.8	197.069			
		4060.0	9.5		63.0	94.7	59.9	175.172			
83	500WQ2950-20-220	1770.0	28.0	990	66.0	94.8	62.7	214.854	220	120	3300
		2950.0	20.0		82.0	94.8	77.7	205.870			
		4130.0	11.5		65.0	94.8	61.8	209.069			
84	500WQ3000-22-250	1800.0	30.0	990	72.4	94.9	68.8	213.408	250	120	3400
		3000.0	22.0		82.0	94.9	77.9	230.296			
		4200.0	12.5		60.2	94.9	57.2	249.528			
85	500WQ2000-7-55	1200.0	10.0	735	64.0	92.7	59.3	53.648	55	120	1300
		2000.0	7.0		80.0	92.7	74.2	50.072			
		2800.0	3.2		61.0	92.7	56.5	42.028			
86	500WQ2100-10-75	1260.0	13.5	735	65.0	93.0	60.5	74.877	75	120	1330
		2100.0	10.0		81.0	93.0	75.3	74.181			
		2940.0	5.0		63.0	93.0	58.6	66.763			
87	500WQ2200-11-90	1320.0	15.0	735	66.0	93.1	61.4	85.838	90	120	1370
		2200.0	11.0		81.5	93.1	75.9	84.960			
		3080.0	6.0		65.0	93.1	60.5	81.348			
88	500WQ2250-12-110	1350.0	16.0	735	72.4	94.0	68.1	85.363	110	120	1420
		2250.0	12.0		82.0	94.0	77.1	94.212			
		3150.0	6.5		60.2	94.0	56.6	97.316			
89	600WQ4200-8-132	2520.0	13.0	590	61.0	93.5	57.0	153.663	132	160	3400
		4200.0	8.0		77.0	93.5	72.0	124.855			
		5880.0	3.0		56.0	93.5	52.4	90.129			
90	600WQ4500-10-160	2700.0	15.6	590	66.0	93.5	61.7	182.600	160	160	3500
		4500.0	10.0		81.0	93.5	75.7	158.958			
		6300.0	4.0		60.0	93.5	56.1	120.173			
91	600WQ4800-11-185	2880.0	17.0	590	71.0	93.8	66.6	197.305	185	160	3720
		4800.0	11.0		83.0	93.8	77.9	182.017			
		6720.0	5.0		62.0	93.8	58.2	155.061			
92	600WQ5000-12-200	3000.0	18.0	590	75.0	94.0	70.5	206.010	200	160	3850
		5000.0	12.0		84.0	94.0	79.0	204.375			
		7000.0	6.0		63.0	94.0	59.2	190.750			

注: 带“※”的规格为天泉第3代产品。

Note: Specifications with “※” are Tianquan 3rd generation products.

# 性能曲线、主要参数 及安装尺寸 Parameter&Size

## 性能曲线 Performance curve



## 主要参数 Main parameter

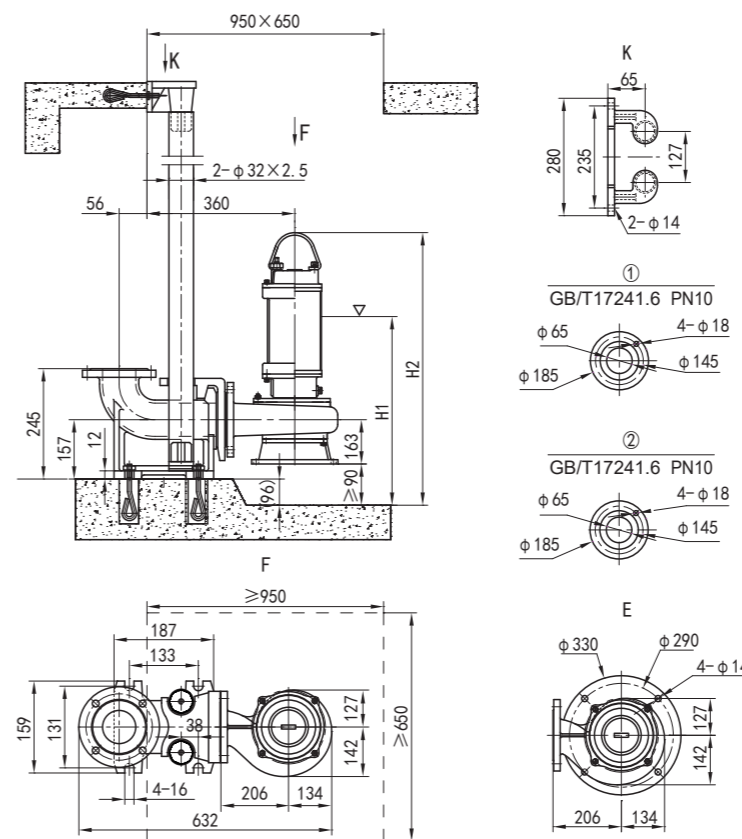
序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	65WQ50-50-15	37×35	28	2930	136
2	65WQ40-42-11			2930	126

序号 No.	电机型号 Motor type	Pe (kW)	I (A)	Cos Φ	ηD (%)
1	WQD-160-15/2	15	28.8	0.89	89.0
2	WQD-160-11/2	11	21.3	0.89	88.0

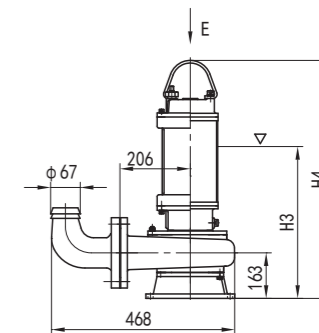
序号 No.	Q (m³/h)	H (m)	PN (kW)	ηSP (%)	ηDB (%)
1	30-50-70	55-50-44	10.05-11.73-14.94	47-61-59	41.8-54.3-52.5
2	24-40-56	45-42-36	7.73-9.07-10.68	40-53-54	35.2-46.6-47.5

## 安装尺寸图 Dimension figure

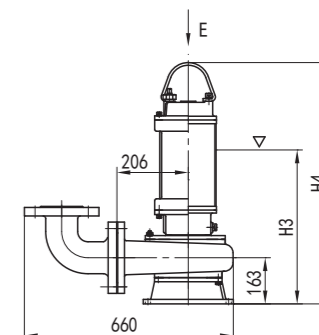
自动耦合式安装 Automatic coupling installation



软管移动式安装 Hose mobile installation



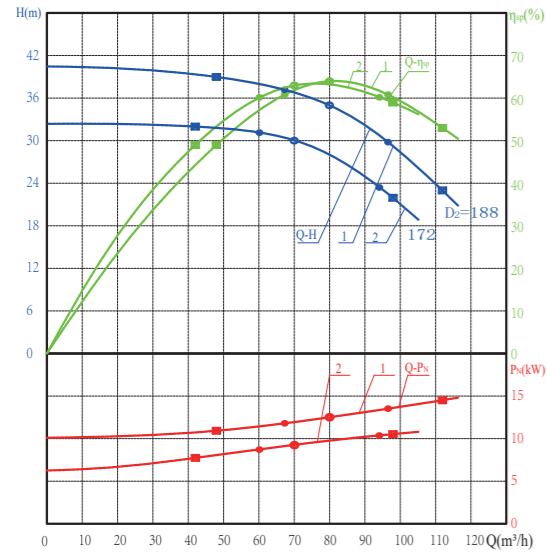
硬管移动式安装 Hard-tube mobile installation



型号 Type	H1	H2	H3	H4
65WQ50-50-15	665	1126	575	1036
65WQ40-42-11	640	1126	550	1036

# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve



## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	80WQ80-35-15	42×40	32	2930	138
2	80WQ70-30-11			2930	128

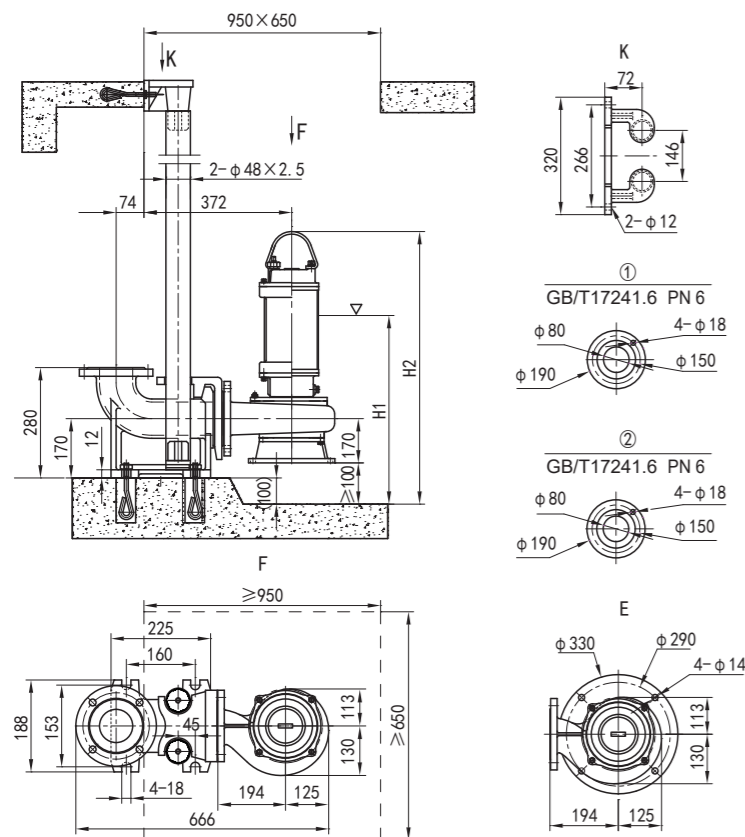
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos Φ	η <sub>D</sub> (%)
1	WQD-160-15/2	15	28.8	0.89	89.0
2	WQD-160-11/2	11	21.3	0.89	88.0

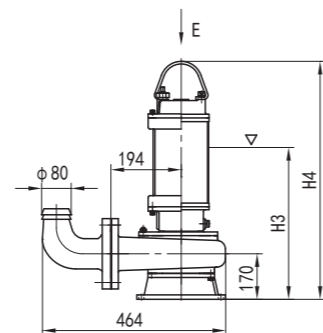
序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	48-80-112	39-35-23	10.93-12.52-14.51	49-64-53	43.6-57.0-47.2
2	42-70-98	32-30-22	7.85-9.54-10.46	49-63-59	43.1-55.4-51.9

## 安装尺寸图 Dimension figure

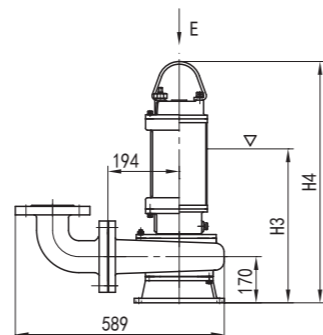
自动耦合式安装 Automatic coupling installation



软管移动式安装 Hose mobile installation

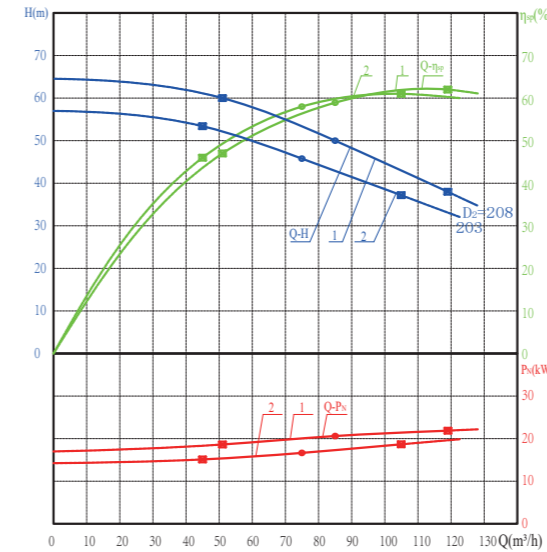


硬管移动式安装 Hard-tube mobile installation



型号 Type	H1	H2	H3	H4
80WQ80-35-15	684	1145	584	1045
80WQ70-30-11	659	1145	559	1045

## 性能曲线 Performance curve



## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	80WQ85-50-22	50×38	30	2940	200
2	80WQ75-45-18.5			2930	185

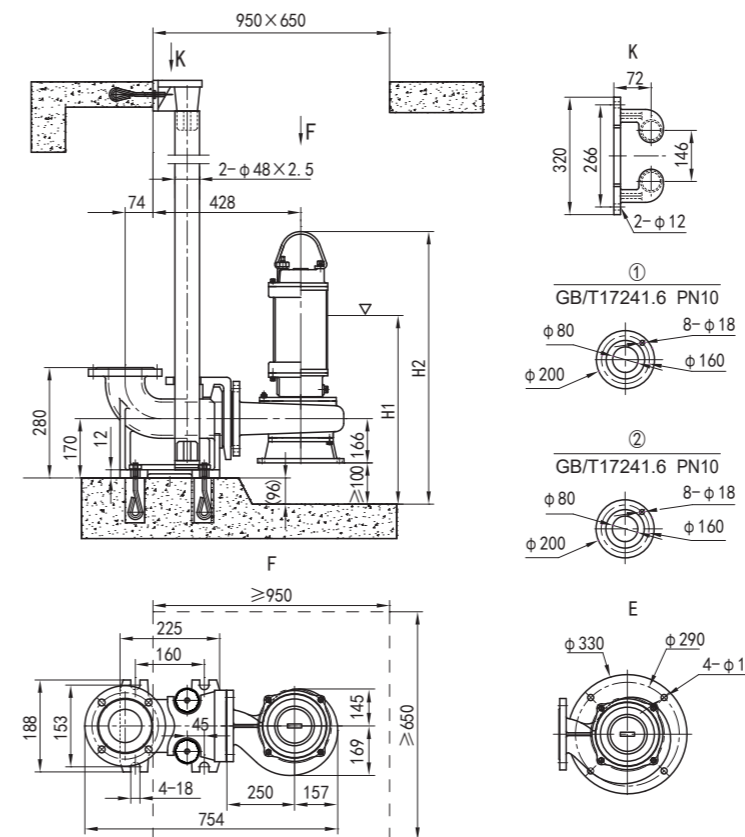
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos Φ	η <sub>D</sub> (%)
1	WQD-180-22/2	22	41.0	0.9	90.5
2	WQD-160-18.5/2	18.5	34.7	0.9	90.0

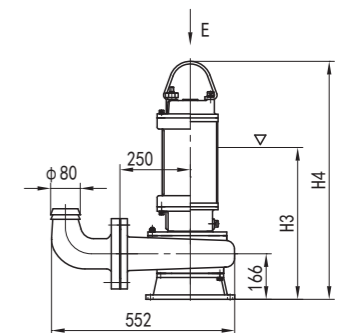
序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	51-85-119	60-50-38	18.63-20.61-20.86	47-59-62	42.5-53.4-56.1
2	45-75-105	54-45-38	15.12-16.65-18.72	46-58-61	41.4-52.2-54.9

## 安装尺寸图 Dimension figure

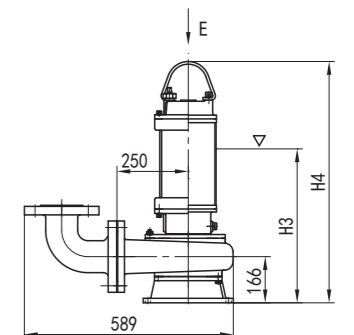
自动耦合式安装 Automatic coupling installation



软管移动式安装 Hose mobile installation



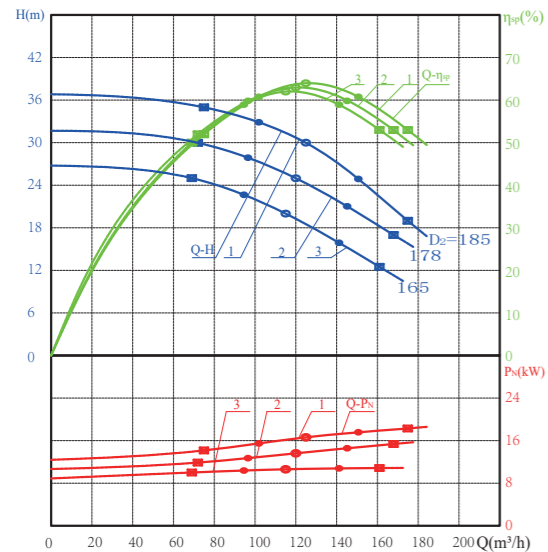
硬管移动式安装 Hard-tube mobile installation



型号 Type	H1	H2	H3	H4
80WQ85-50-22	725	1237	625	1137
80WQ75-45-18.5	700	1131	600	1031

# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve

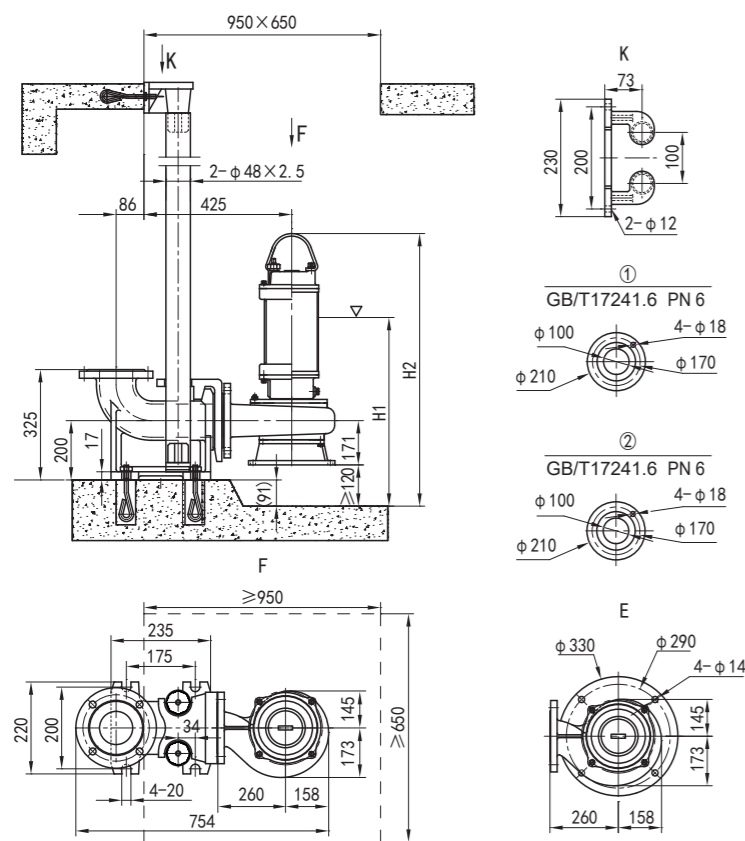


## 主要参数 Main parameter

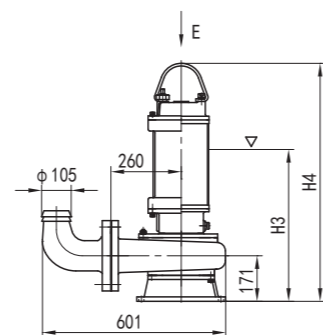
序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	100WQ125-30-18.5	53×52	42	2930	222
2	100WQ120-25-15			2930	210
3	100WQ115-20-11			2930	200
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos Φ	η <sub>D</sub> (%)
1	WQD-160-18.5/2	18.5	34.7	0.9	90.0
2	WQD-160-15/2	15	28.8	0.89	89.0
3	WQD-160-11/2	11	21.3	0.89	88.0
序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	75-125-175	35-30-19	14.17-16.77-18.30	53-64-52	47.7-57.6-46.8
2	72-120-168	30-25-17	11.89-13.63-15.42	52-63-53	46.3-56.1-47.2
3	69-115-161	25-20-12.5	9.87-10.61-10.87	50-62-53	44.0-54.6-46.6

## 安装尺寸图 Dimension figure

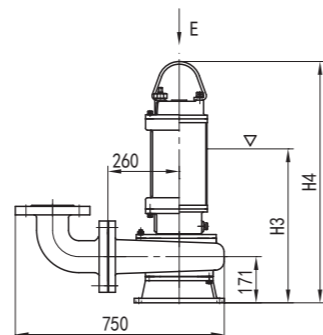
自动耦合式安装 Automatic coupling installation



软管移动式安装 Hose mobile installation

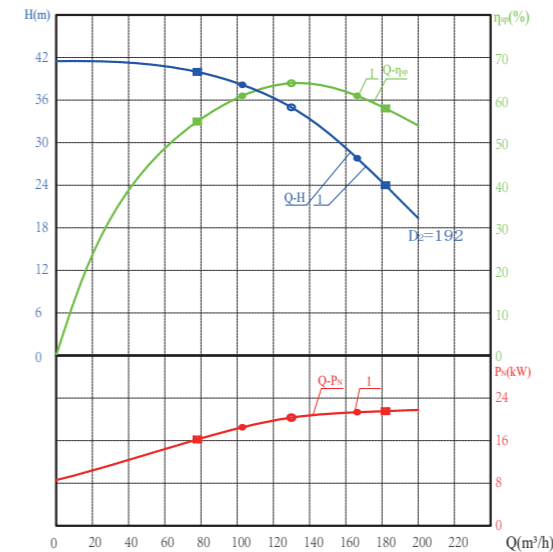


硬管移动式安装 Hard-tube mobile installation



型号 Type	H1	H2	H3	H4
100WQ125-30-18.5	725	1156	605	1036
100WQ120-25-15	695	1156	575	1036
100WQ115-20-11	670	1156	550	1036

## 性能曲线 Performance curve

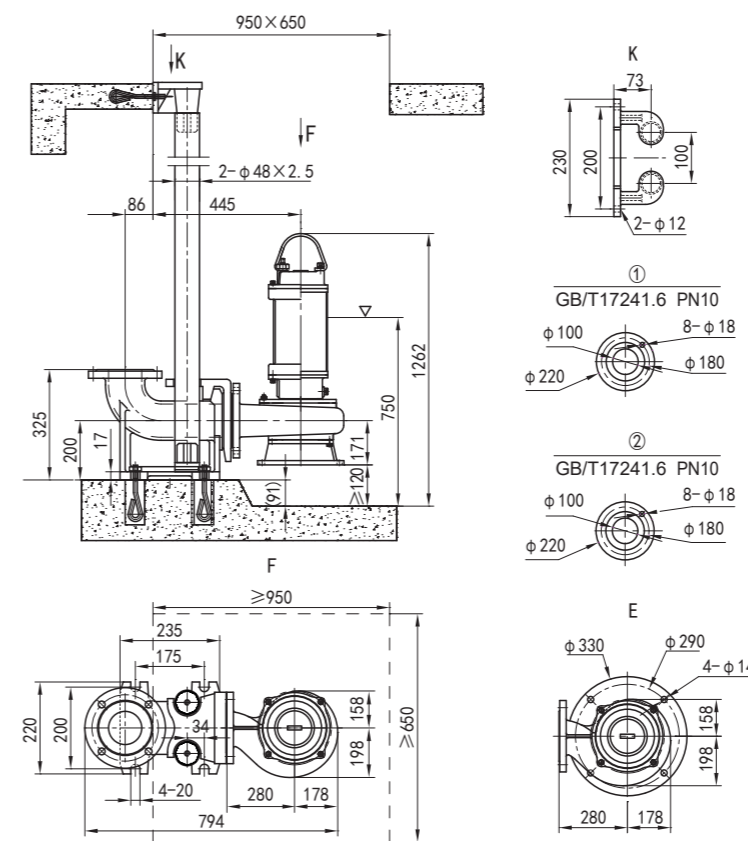


## 主要参数 Main parameter

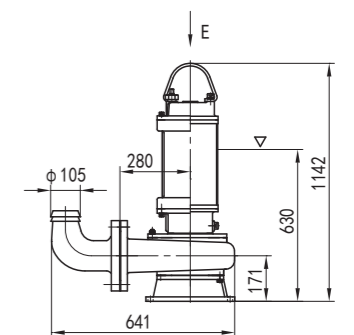
序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	100WQ130-35-22	56×46	37	2940	222
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos Φ	η <sub>D</sub> (%)
1	WQD-180-22/2	22	41.0	0.9	90.5
序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	78-130-182	40-35-24	16.23-20.34-21.55	55-64-58	49.8-57.9-52.5

## 安装尺寸图 Dimension figure

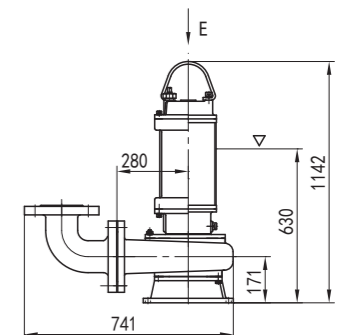
自动耦合式安装 Automatic coupling installation



软管移动式安装 Hose mobile installation

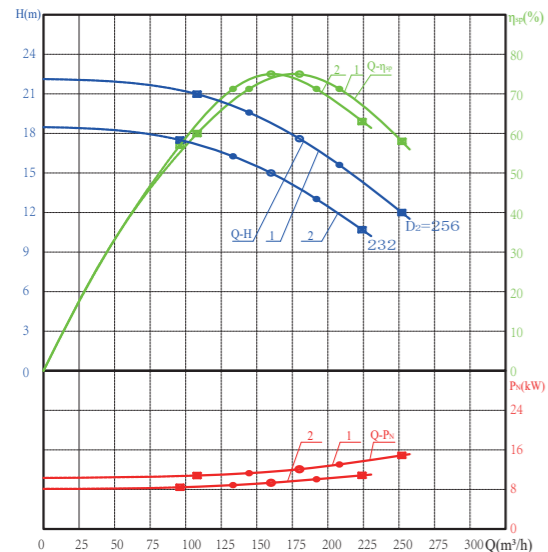


硬管移动式安装 Hard-tube mobile installation



# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve



## 主要参数 Main parameter

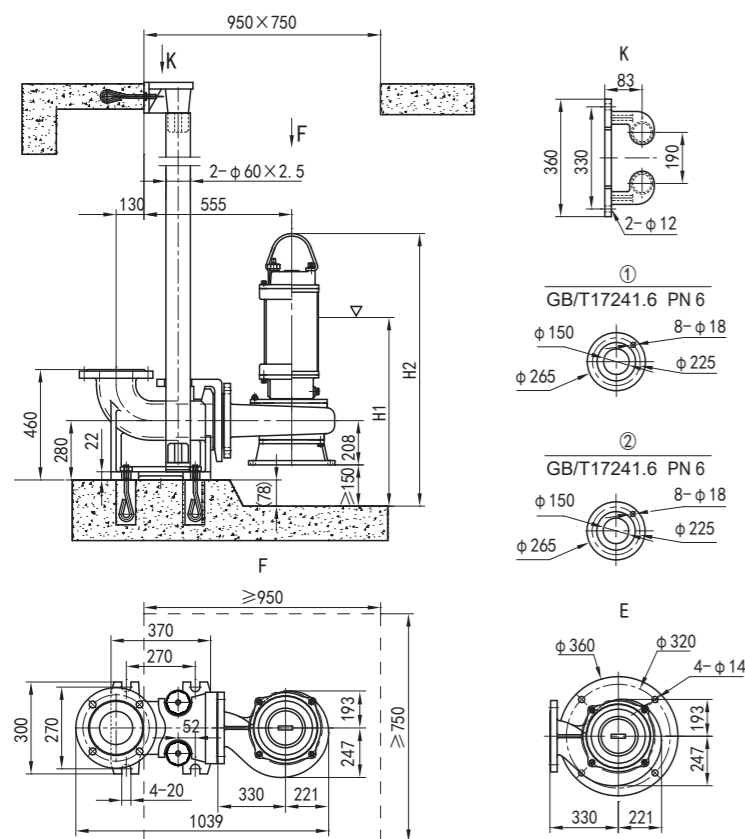
序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	150WQ180-18-15	76×75	60	1460	242
2	150WQ160-15-11			1460	226

序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	Cos Φ	η <sub>D</sub> (%)
1	WQD-160-15/4	15	30.1	0.85	89.0
2	WQD-160-11/4	11	22.3	0.85	88.0

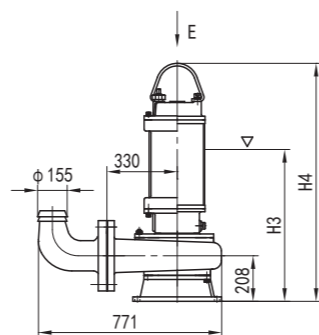
序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	108-180-252	21-17.6-12	10.82-12.09-14.92	60-75-58	53.4-66.8-51.6
2	96-160-224	17.5-15-10.7	8.43-9.16-10.89	57-75-63	50.2-66.0-55.4

## 安装尺寸图 Dimension figure

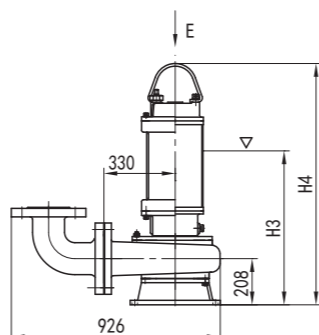
自动耦合式安装 Automatic coupling installation



软管移动式安装 Hose mobile installation

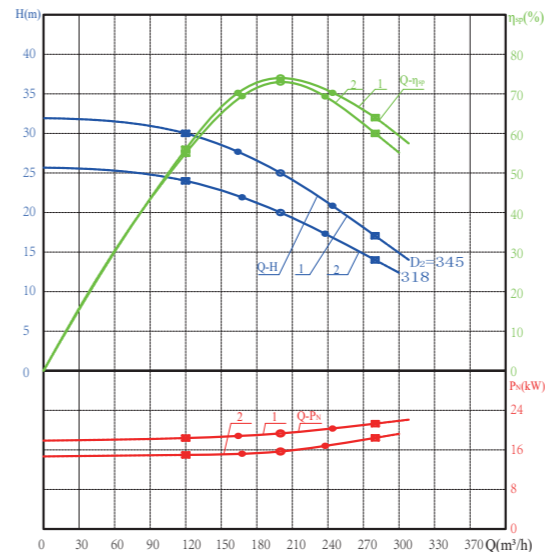


硬管移动式安装 Hard-tube mobile installation



型号 Type	H1	H2	H3	H4
150WQ180-18-15	822	1238	672	1088
150WQ160-15-11	777	1238	627	1088

## 性能曲线 Performance curve



## 主要参数 Main parameter

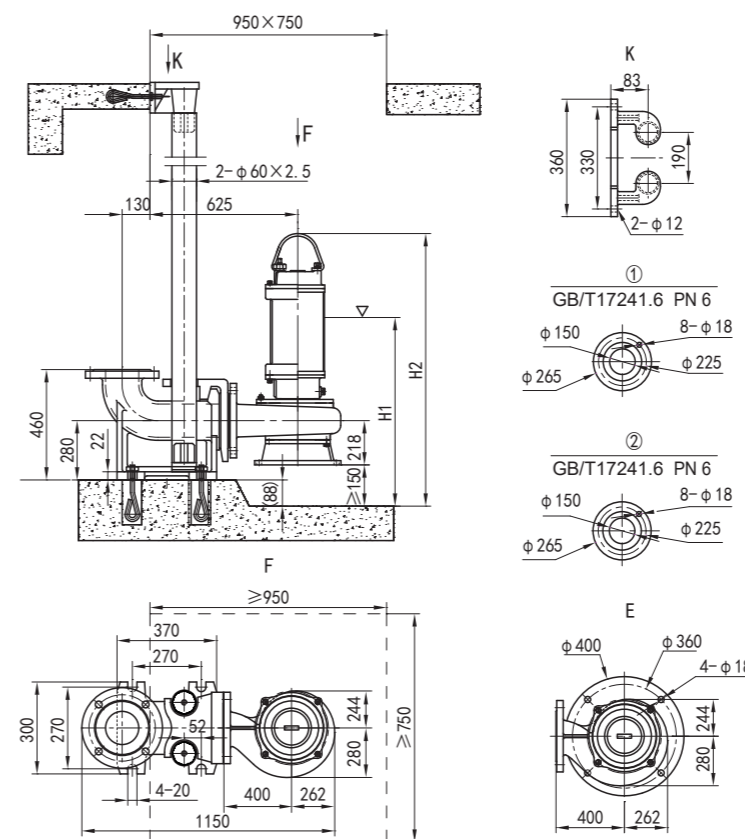
序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	150WQ200-25-22	76×65	52	1470	268
2	150WQ200-20-18.5			1470	258

序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	Cos Φ	η <sub>D</sub> (%)
1	WQD-180-22/4	22	43.2	0.85	91.0
2	WQD-180-18.5/4	18.5	36.5	0.85	90.5

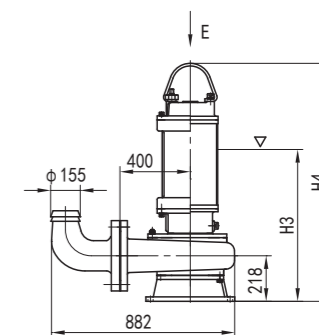
序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	120-200-280	30-25-17	18.39-19.33-21.28	56-74-64	51.0-67.3-58.2
2	120-200-280	24-20-14	14.98-15.68-18.48	55-73-60.7	49.8-66.1-54.9

## 安装尺寸图 Dimension figure

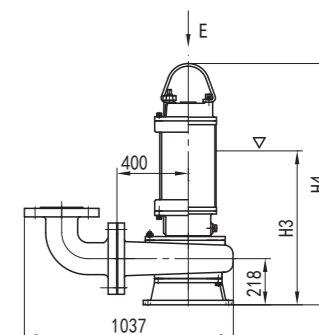
自动耦合式安装 Automatic coupling installation



软管移动式安装 Hose mobile installation



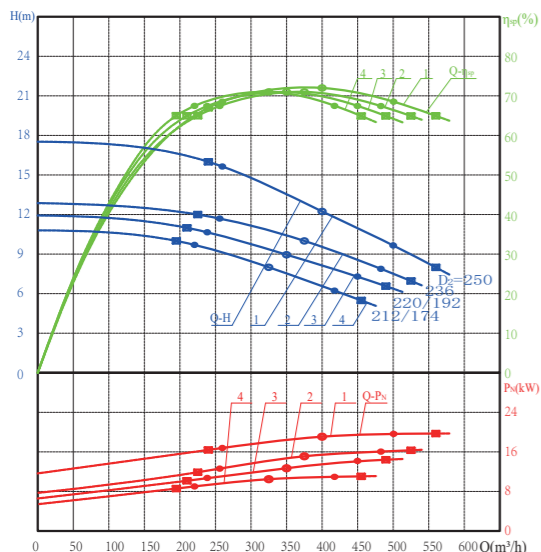
硬管移动式安装 Hard-tube mobile installation



型号 Type	H1	H2	H3	H4
150WQ200-25-22	862	1350	712	1200
150WQ200-20-18.5	842	1350	692	1200

# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve



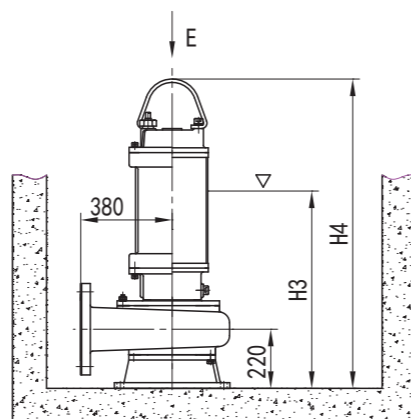
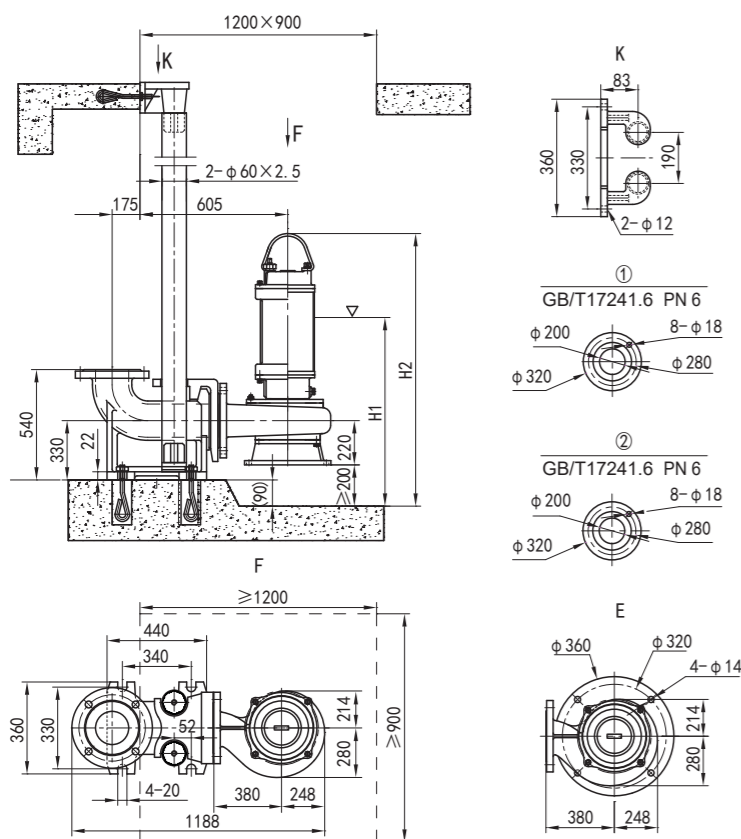
## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	200WQ400-12-22	110×90	72	1460	305
2	200WQ375-10-18.5			1460	292
3	200WQ350-9-15			1460	273
4	200WQ325-8-11			1460	259
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos Φ	η <sub>D</sub> (%)
1	WQD-180-22/4	22	43.2	0.85	91.0
2	WQD-180-18.5/4	18.5	36.5	0.85	90.5
3	WQD-160-15/4	15	30.1	0.85	89.0
4	WQD-160-11/4	11	22.3	0.85	88.0
序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	240-400-560	16-12-8	16.40-19.08-19.72	67-72-65	61.0-65.5-59.2
2	225-375-525	12-10-7	11.89-15.11-16.18	65-71-65	58.8-64.3-58.8
3	210-350-490	11-9-7	10.17-12.69-15.10	65-71-65	57.9-63.2-57.9
4	195-325-455	10-8-5.5	8.58-10.48-11.02	65-71-65	57.2-62.5-57.2

## 安装尺寸图 Dimension figure

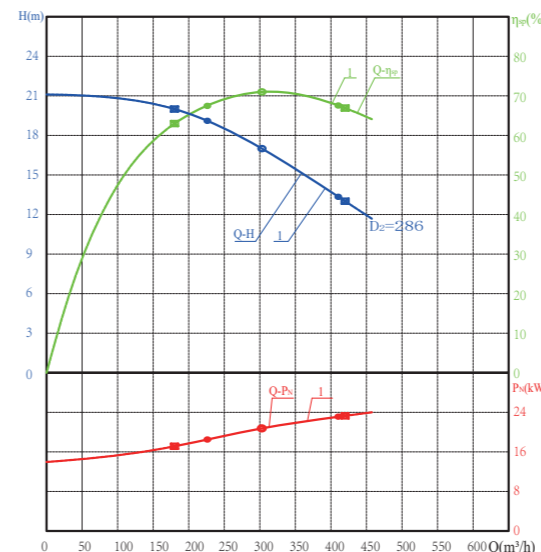
自动耦合式安装 Automatic coupling installation

固定式底座安装 Fixed base installation



型号 Type	H1	H2	H3	H4
200WQ400-12-22	924	1412	724	1212
200WQ375-10-18.5	904	1412	704	1212
200WQ350-9-15	889	1305	689	1105
200WQ325-8-11	844	1305	644	1105

## 性能曲线 Performance curve



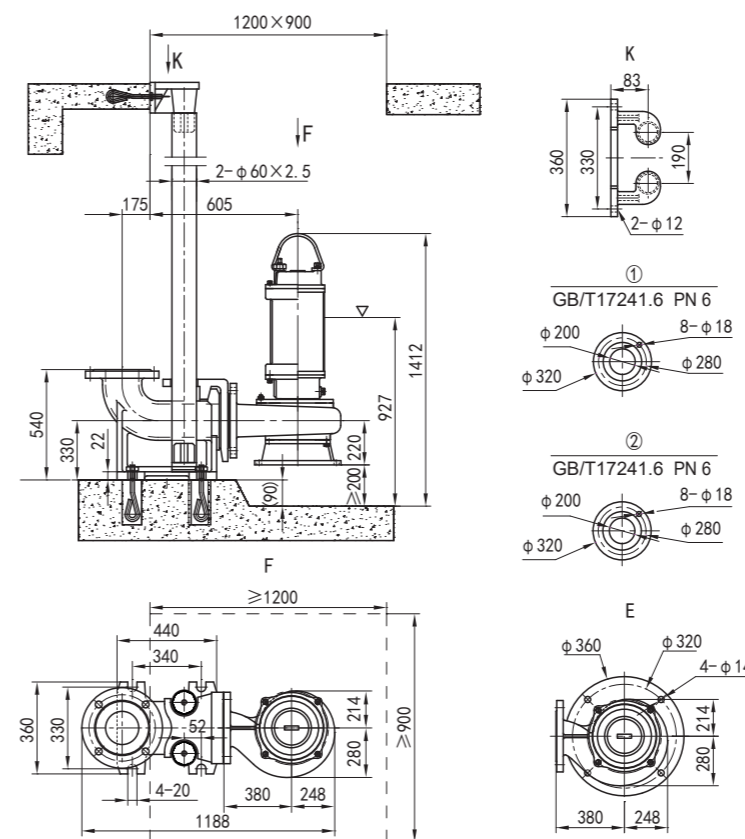
## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	200WQ300-18-22	120×88	70	1460	306
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos Φ	η <sub>D</sub> (%)
1	WQD-180-22/4	22	43.2	0.85	91.0
序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	180-303-420	20-17-13	16.35-20.76-23.32	63-71-67	57.3-64.6-61.0

## 安装尺寸图 Dimension figure

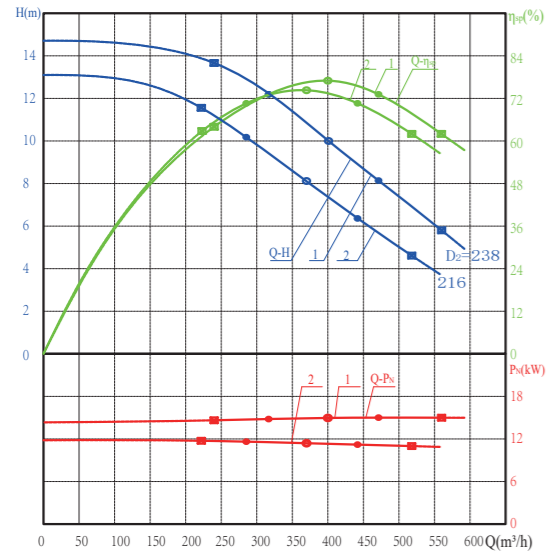
固定式底座安装 Fixed base installation

固定式底座安装 Fixed base installation



# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve



## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	250WQ400-10-15	76×65	52	1460	310
2	250WQ370-8-11			1460	290

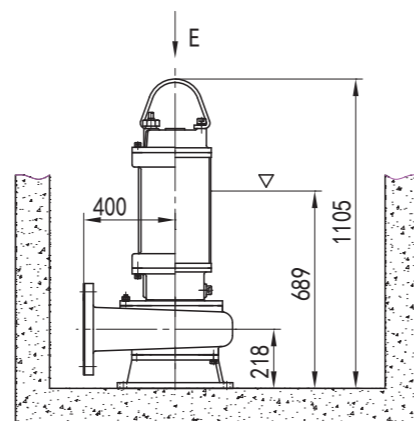
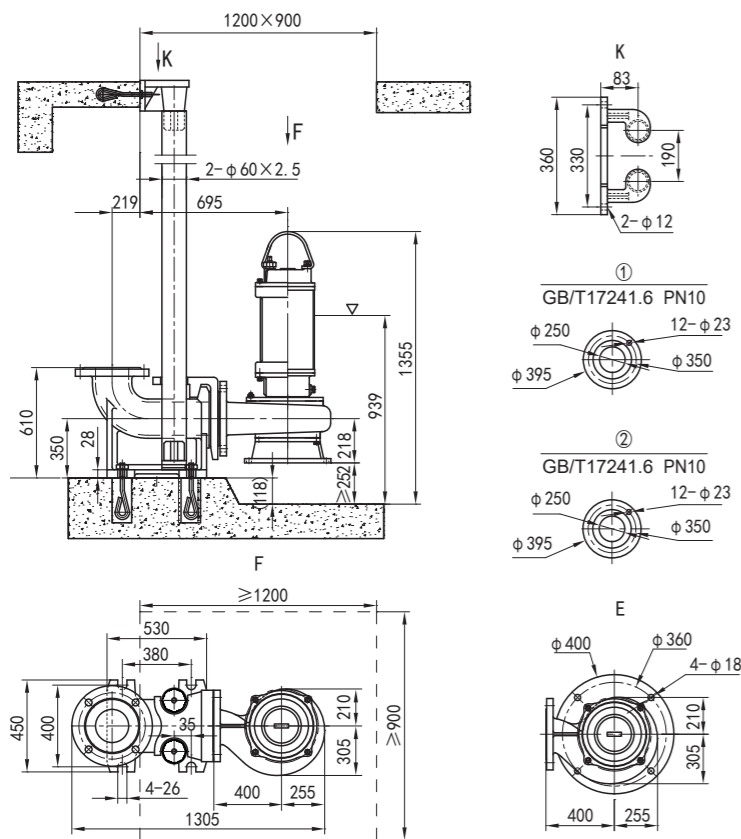
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos Φ	η <sub>D</sub> (%)
1	WQD-160-15/4	15	30.1	0.85	89.0
2	WQD-160-11/4	11	22.3	0.85	88.0

序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	240-400-560	13.7-10-5.8	14.63-14.96-14.99	64-77-62	57.2-68.1-55.2
2	222-370-518	11.6-8-4.6	11.70-11.40-11.00	63-74.3-62	55.4-65.4-54.6

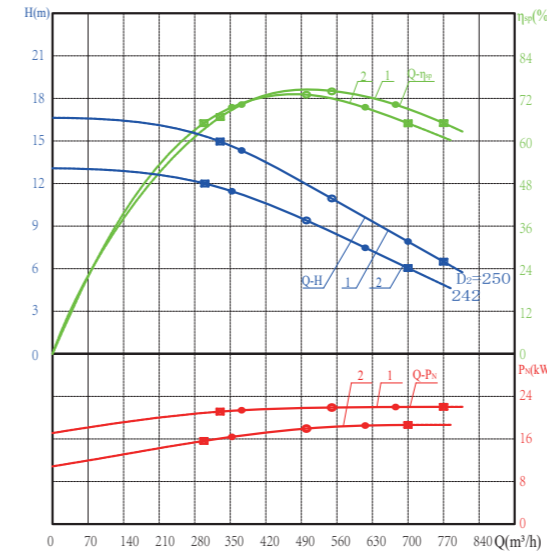
## 安装尺寸图 Dimension figure

自动耦合式安装 Automatic coupling installation

固定式底座安装 Fixed base installation



## 性能曲线 Performance curve



## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	250WQ550-11-22	120×62	50	1470	460
2	250WQ500-10-18.5			1470	440

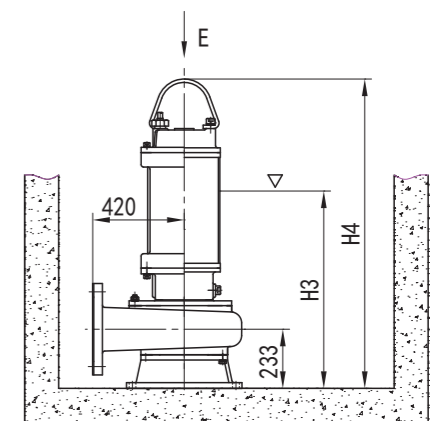
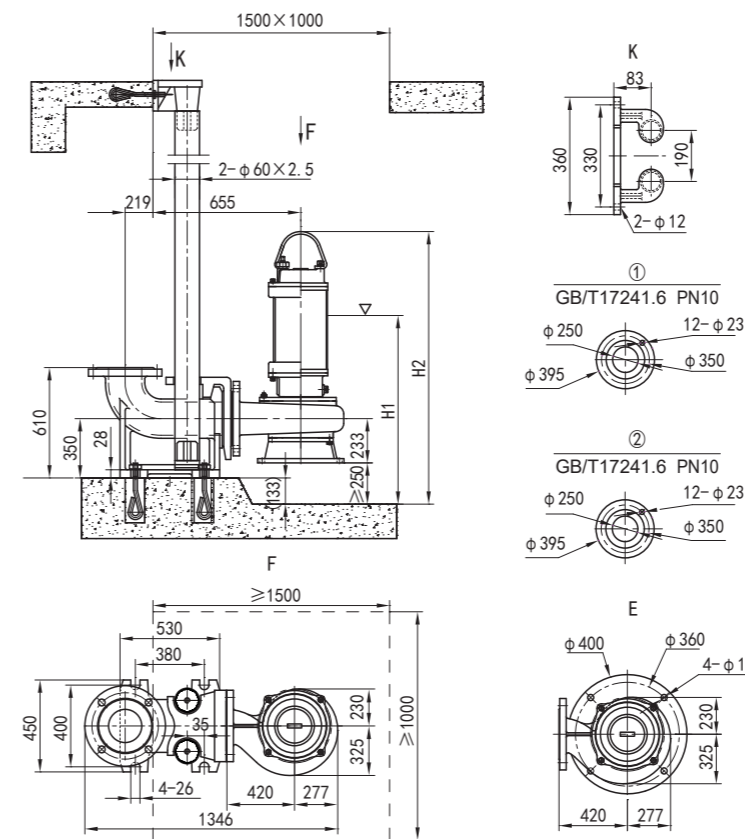
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos Φ	η <sub>D</sub> (%)
1	WQD-180-22/4	22	43.2	0.85	91.0
2	WQD-180-18.5/4	18.5	36.5	0.85	90.5

序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	330-550-770	15-10.3-6.5	21.14-21.90-22.03	67-74-65	61.0-67.3-59.2
2	300-500-700	12-9.4-6	15.85-18.42-18.49	65-73-65	58.8-66.1-58.8

## 安装尺寸图 Dimension figure

固定式底座安装 Fixed base installation

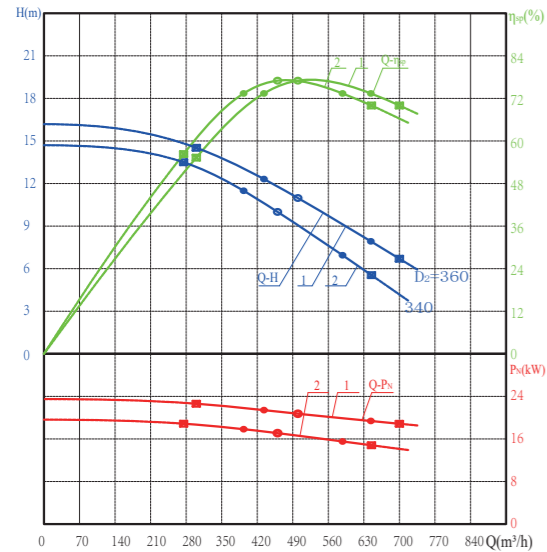
固定式底座安装 Fixed base installation



型号 Type	H1	H2	H3	H4
250WQ550-11-22	1014	1502	764	1252
250WQ500-10-18.5	994	1502	744	1252

# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve



## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A × B (mm × mm)	Φ (mm)	n (r/min)	G (kg)
1	250WQ500-11-22	110 × 90	72	980	560
2	250WQ460-10-18.5			980	530

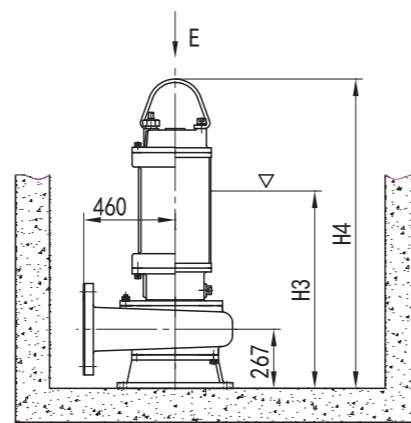
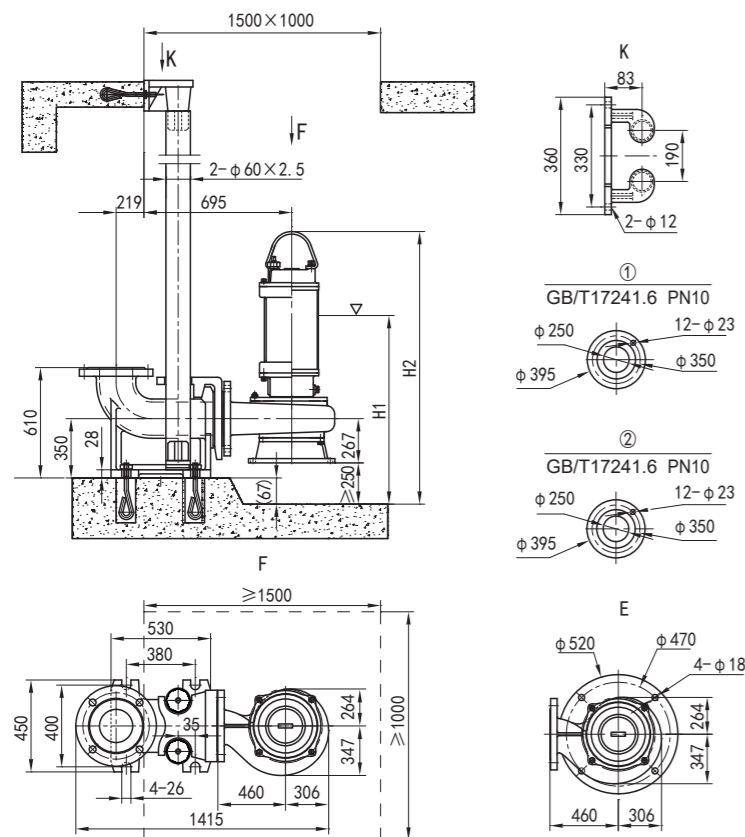
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos φ	η <sub>D</sub> (%)
1	WQD-180L-22/6	22	44.7	0.83	90.0
2	WQD-180L-18.5/6	18.5	38.6	0.81	90.0

序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	300-500-700	14.5-11-6.7	22.51-20.44-19.17	55.3-77-70	49.8-69.3-63.0
2	300-500-700	13.5-10-5.6	18.87-17.09-14.76	56.3-77-70	50.7-69.3-63.0

## 安装尺寸图 Dimension figure

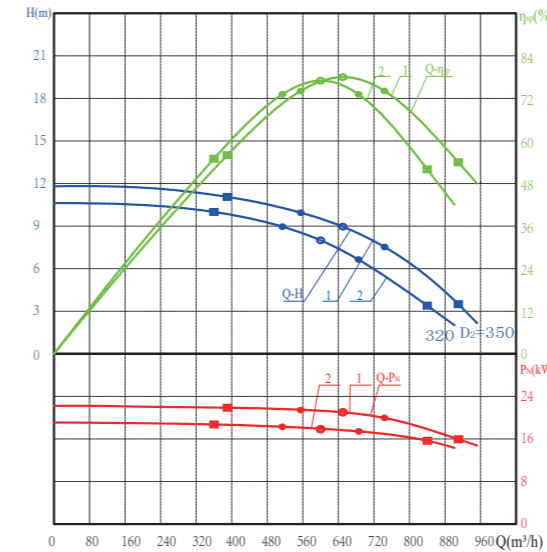
自动耦合式安装 Automatic coupling installation

固定式底座安装 Fixed base installation



型号 Type	H1	H2	H3	H4
250WQ500-11-22	1127	1634	877	1384
250WQ460-10-18.5	1077	1634	827	1384

## 性能曲线 Performance curve



## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A × B (mm × mm)	Φ (mm)	n (r/min)	G (kg)
1	300WQ650-9-22	120 × 112	90	980	570
2	300WQ600-8-18.5			980	550

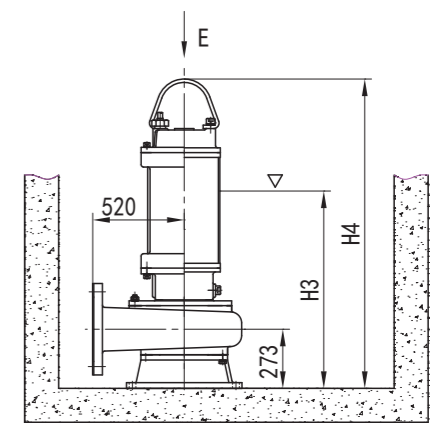
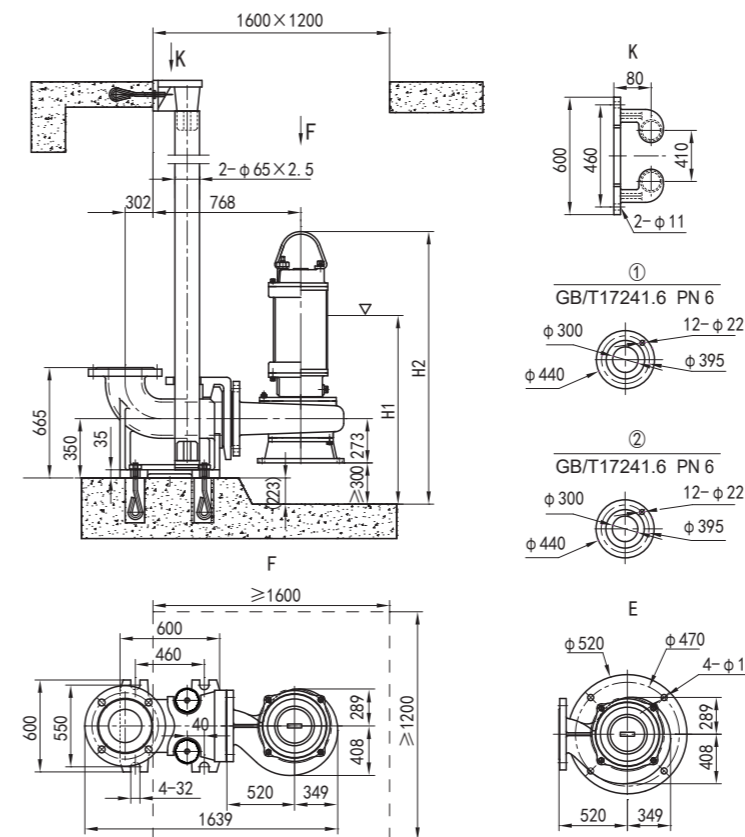
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos φ	η <sub>D</sub> (%)
1	WQD-180L-22/6	22	44.7	0.83	90.0
2	WQD-180L-18.5/6	18.5	38.6	0.81	90.0

序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	390-650-910	11-9-3.5	21.92-21.46-16.88	56-78-54	50.4-70.2-48.6
2	360-600-840	10-8-3.4	18.73-17.84-15.72	55-77-52	49.5-69.3-46.8

## 安装尺寸图 Dimension figure

固定式底座安装 Fixed base installation

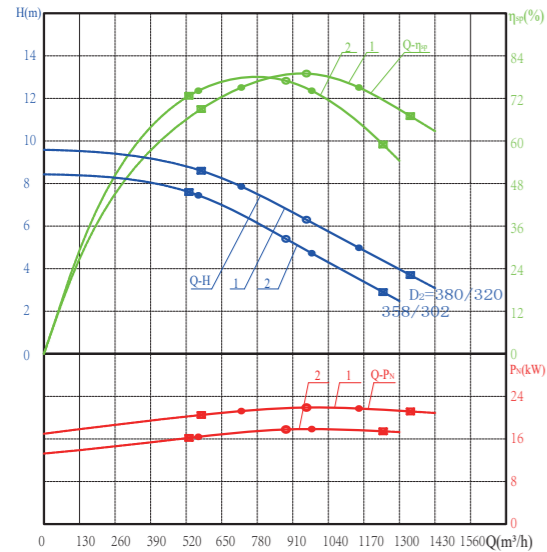
固定式底座安装 Fixed base installation



型号 Type	H1	H2	H3	H4
300WQ650-9-22	1188	1695	888	1395
300WQ600-8-18.5	1138	1695	838	1395

# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve



## 主要参数 Main parameter

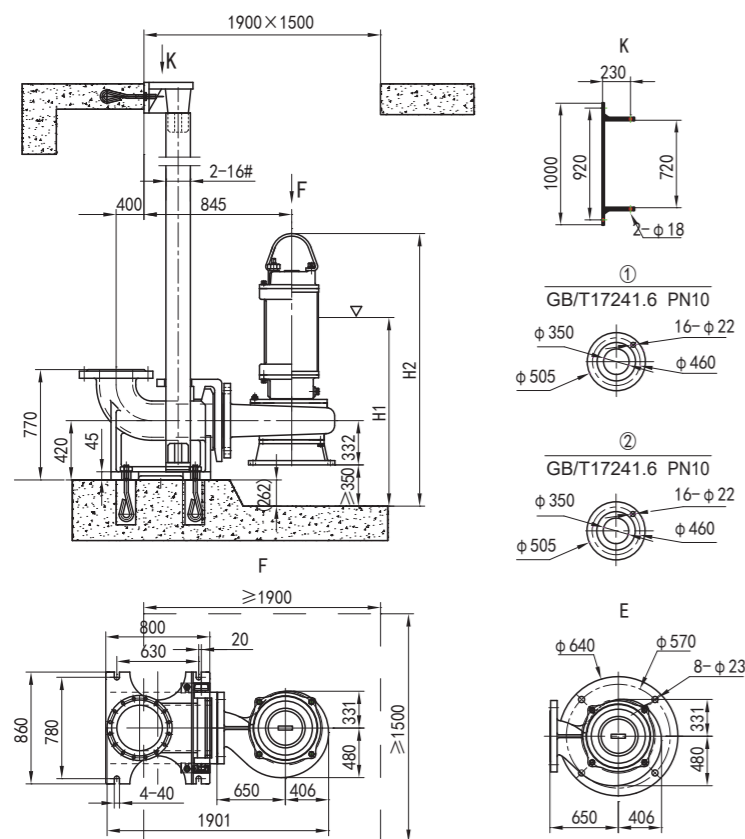
序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	350WQ960-6-22	150×88	70	730	620
2	350WQ885-5-18.5			730	600

序号 No.	电机型号 Motor type	Pe (kW)	I (A)	cos φ	ηD (%)
1	WQD-225-22/8	22	47.4	0.78	88.5
2	WQD-225-18.5/8	18.5	41.4	0.76	88.0

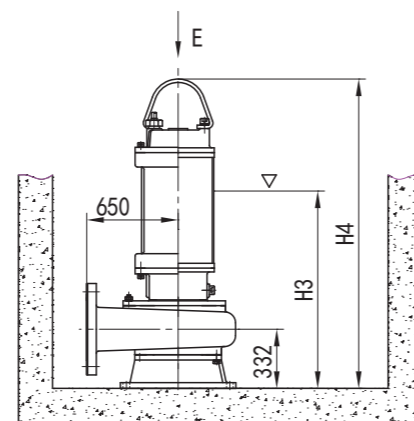
序号 No.	Q (m³/h)	H (m)	Pn (kW)	ηsp (%)	ηDB (%)
1	575-960-1340	8.6-6.3-3.7	20.51-21.91-21.17	69-79-67	61.1-69.9-59.3
2	530-885-1240	7.6-5.4-2.9	16.01-17.76-17.44	72-77-59	63.4-67.8-51.9

## 安装尺寸图 Dimension figure

### 固定式底座安装 Fixed base installation

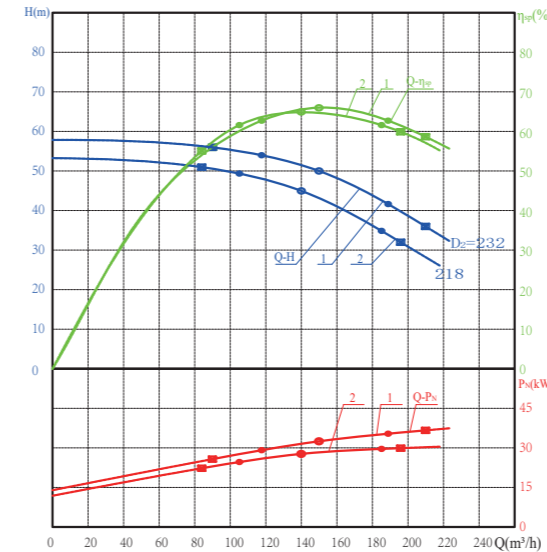


### 固定式底座安装 Fixed base installation



型号 Type	H1	H2	H3	H4
350WQ960-6-22	1273	1868	923	1518
350WQ885-5-18.5	1243	1868	893	1518

## 性能曲线 Performance curve



## 主要参数 Main parameter

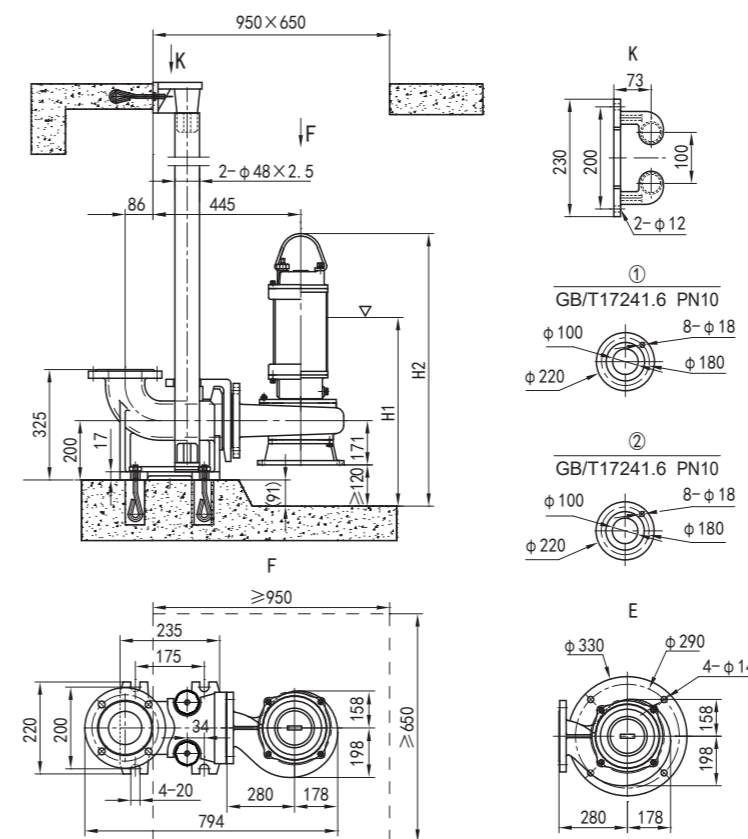
序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	100WQ150-50-37	56×46	37	2950	420
2	100WQ140-45-30			2950	400

序号 No.	电机型号 Motor type	Pe (kW)	I (A)	cos φ	ηD (%)
1	WQD-180L-37/2	37	67.9	0.90	92.0
2	WQD-180L-30/2	30	55.5	0.90	91.2

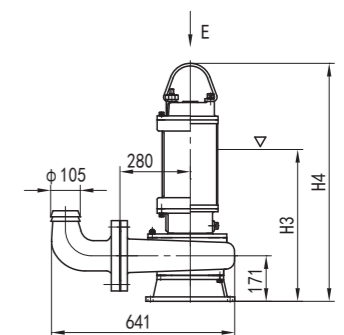
序号 No.	Q (m³/h)	H (m)	Pn (kW)	ηsp (%)	ηDB (%)
1	90-150-210	56-50-36	25.75-32.51-36.66	56-66-59	51.5-60.7-54.3
2	84-140-196	51-45-32	22.28-27.73-29.91	55-65-60	50.2-59.3-54.7

## 安装尺寸图 Dimension figure

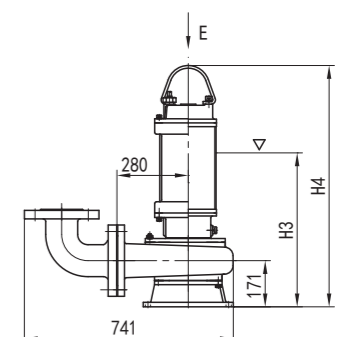
### 自动耦合式安装 Automatic coupling installation



### 软管移动式安装 Hose mobile installation



### 硬管移动式安装 Hard-tube mobile installation

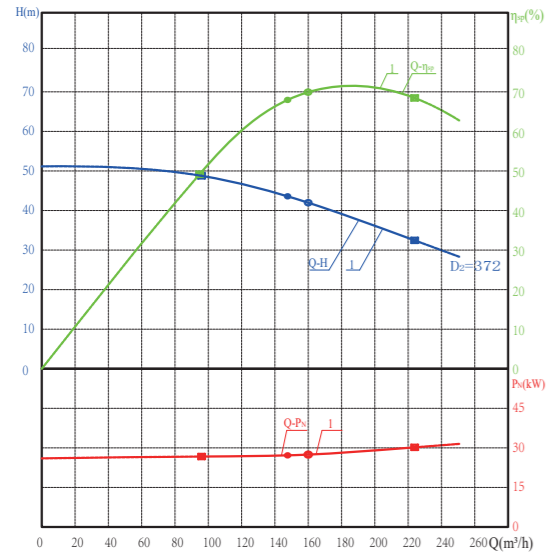


型号 Type	H1	H2	H3	H4
100WQ150-50-37	820	1347	700	1227
100WQ140-45-30	775	1347	655	1227



# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve



## 主要参数 Main parameter

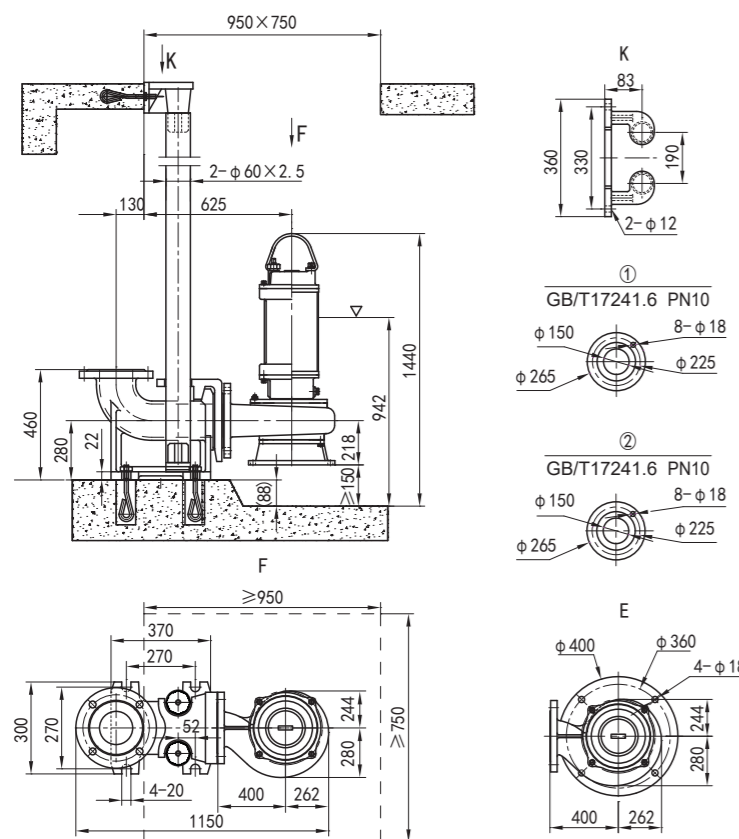
序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	150WQ160-42-30	71×65	52	1470	363

序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	Cos Φ	η <sub>D</sub> (%)
1	WQD-180L-30/2	30	55.5	0.9	91.2

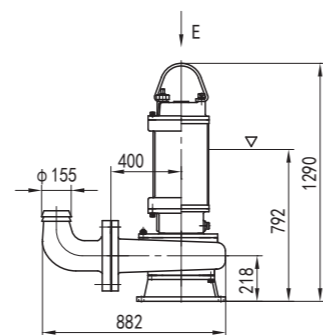
序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	96-160-224	48.8-42-32.4	27.25-27.47-30.32	49.2-70-68.5	45.3-64.4-63.0

## 安装尺寸图 Dimension figure

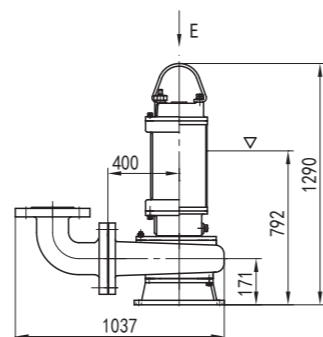
自动耦合式安装 Automatic coupling installation



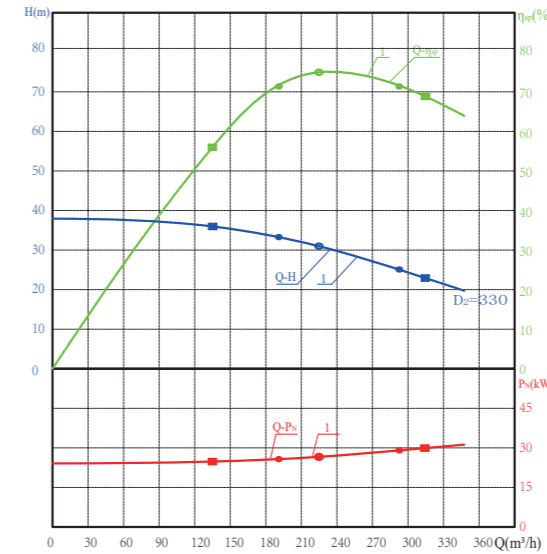
软管移动式安装 Hose mobile installation



硬管移动式安装 Hard-tube mobile installation



## 性能曲线 Performance curve



## 主要参数 Main parameter

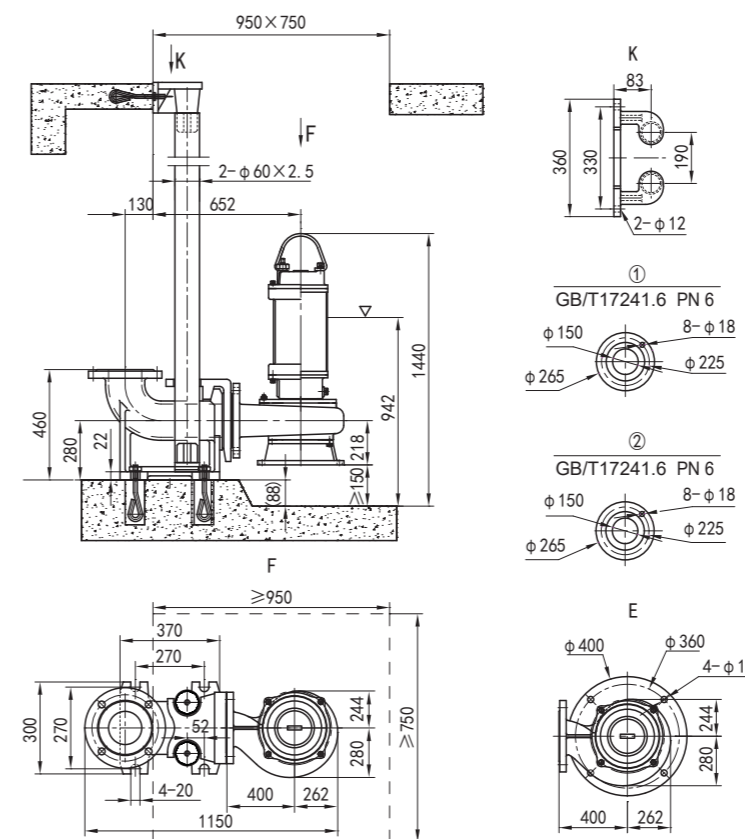
序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	150WQ225-31-30	72×65	52	1470	363

序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	Cos Φ	η <sub>D</sub> (%)
1	WQD-180L-30/2	30	55.5	0.90	91.2

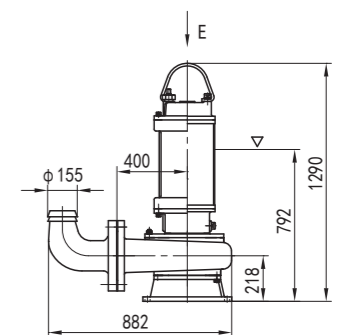
序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	135-225-315	36-31-23	24.83-26.61-30.04	56-75-69	51.5-69.0-63.5

## 安装尺寸图 Dimension figure

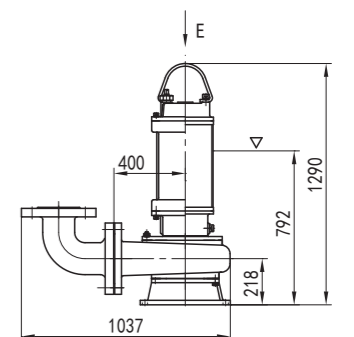
自动耦合式安装 Automatic coupling installation



软管移动式安装 Hose mobile installation

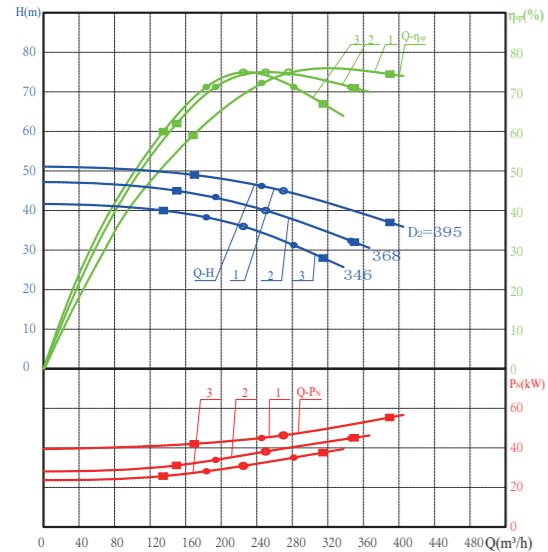


硬管移动式安装 Hard-tube mobile installation



# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve

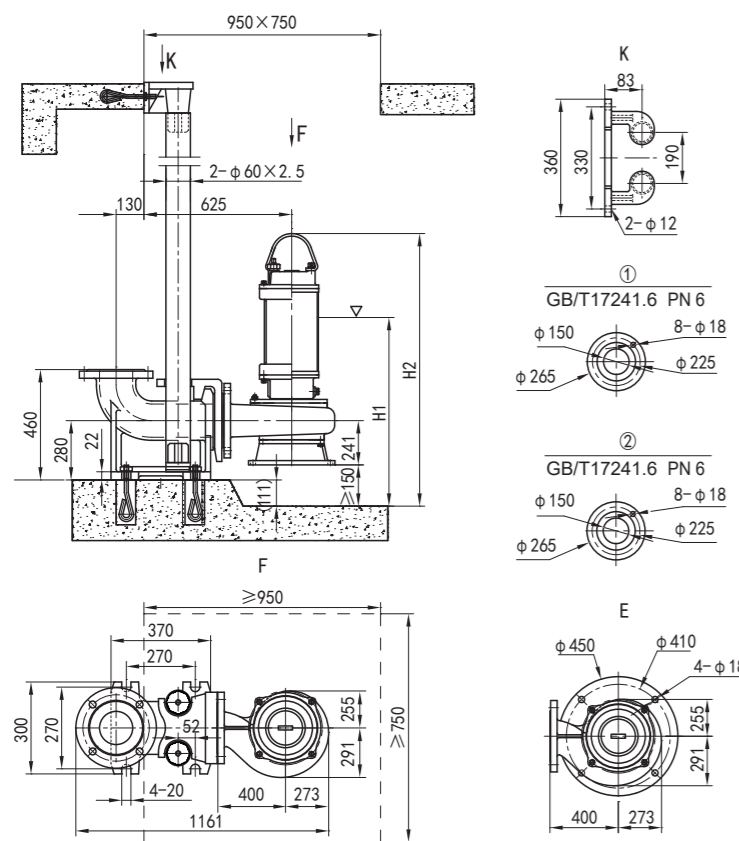


## 主要参数 Main parameter

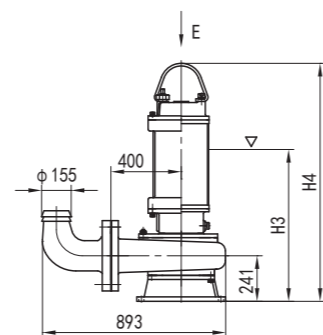
序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	150WQ270-45-55	90×70	56	1475	500
2	150WQ250-40-45			1475	420
3	150WQ225-36-37			1475	376
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos Φ	η <sub>D</sub> (%)
1	WQD-225L-55/4	55	103	0.87	93.0
2	WQD-225-45/4	45	84.7	0.87	92.8
3	WQD-225-37/4	37	69.9	0.87	92.5
序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	170-270-390	49-45-37	41.81-46.35-55.42	57-75-74.5	53.0-69.8-69.3
2	150-250-350	45-40-32	31.15-38.15-45.14	62-75-71	57.5-69.6-65.9
3	135-225-315	40-36-28	25.75-30.90-37.67	60-75-67	55.5-69.4-62.0

## 安装尺寸图 Dimension figure

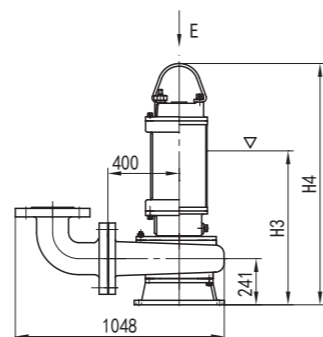
### 自动耦合式安装 Automatic coupling installation



### 软管移动式安装 Hose mobile installation

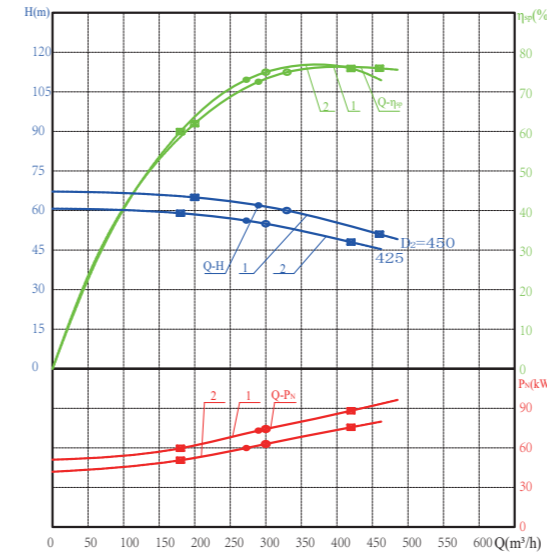


### 硬管移动式安装 Hard-tube mobile installation



型号 Type	H1	H2	H3	H4
150WQ270-45-55	1040	1635	890	1485
150WQ250-40-45	970	1535	820	1385
150WQ225-36-37	930	1535	780	1385

## 性能曲线 Performance curve

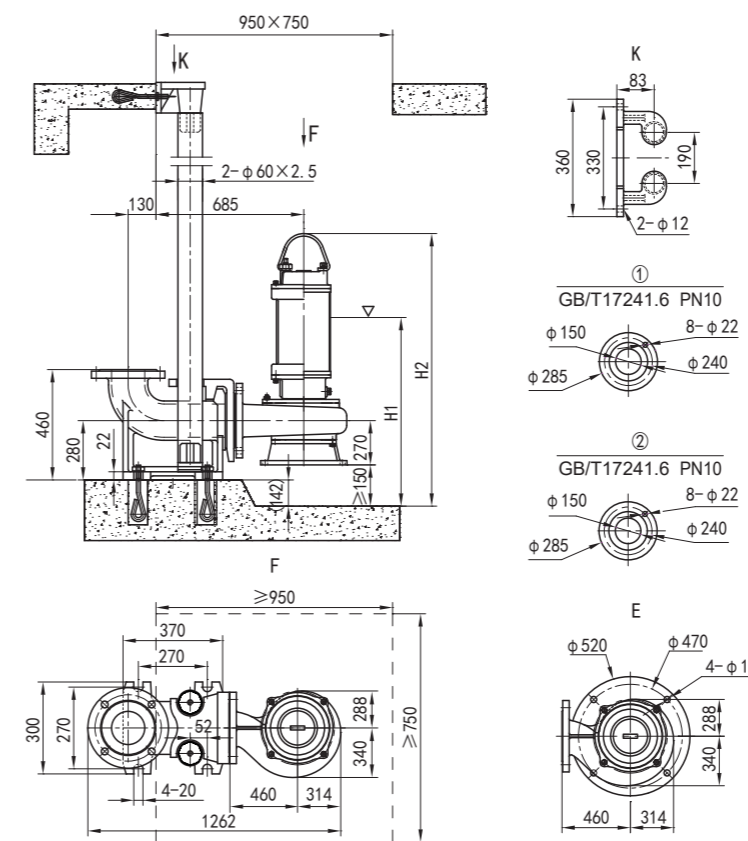


## 主要参数 Main parameter

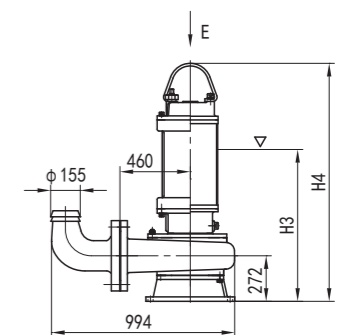
序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	150WQ330-60-90	110×73	58	1485	820
2	150WQ300-55-75			1485	790
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos Φ	η <sub>D</sub> (%)
1	WQD-280-90/4	90	167	0.87	94.2
2	WQD-280-75/4	75	140	0.87	94.0
序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	200-330-460	65-60-51	60.00-75.54-89.32	62-75-76	58.4-70.7-71.6
2	180-300-420	59-55-48	50.64-62.95-75.90	60-75-76	56.3-70.4-71.3

## 安装尺寸图 Dimension figure

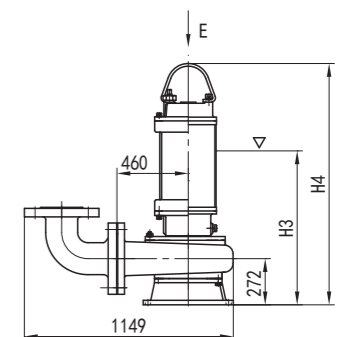
### 自动耦合式安装 Automatic coupling installation



### 软管移动式安装 Hose mobile installation



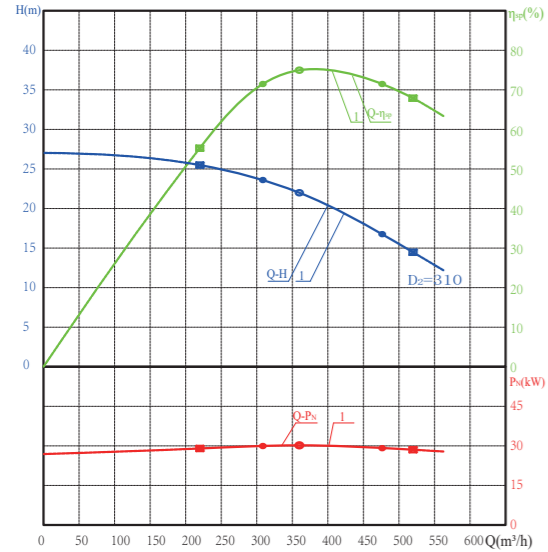
### 硬管移动式安装 Hard-tube mobile installation



型号 Type	H1	H2	H3	H4
150WQ330-60-90	1078	1690	928	1540
150WQ300-55-75	1023	1635	873	1485

# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve



## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	200WQ360-22-30	92×90	72	1470	480

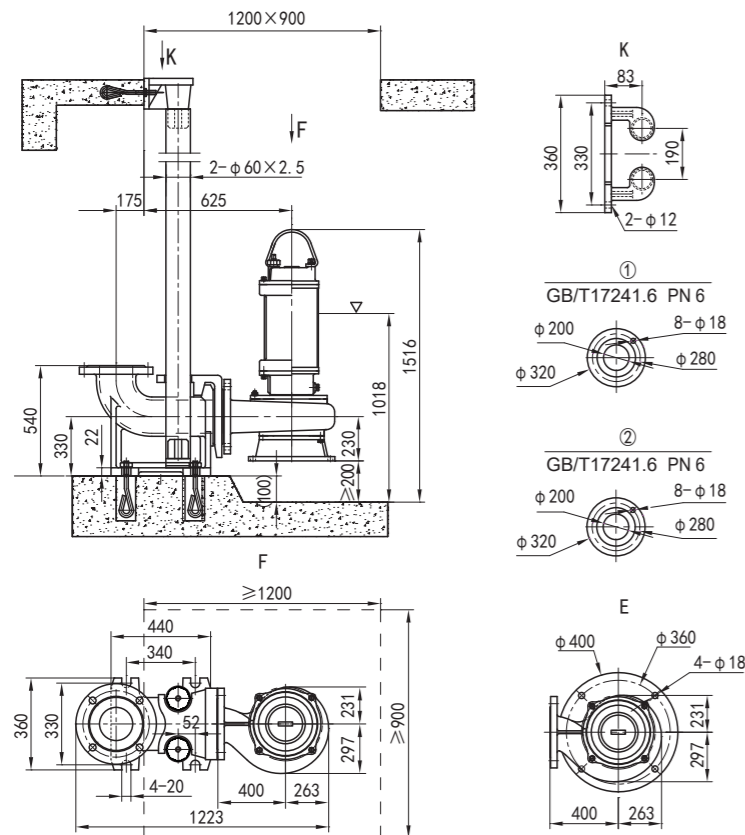
序号 No.	电机型号 Motor type	Pe (kW)	I (A)	Cos Φ	ηD (%)
1	WQD-180L-30/2	30	55.5	0.90	91.2

序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	220-360-520	25.5-22-14.5	29.03-30.22-28.57	55.3-75-67.9	50.9-69.0-62.5

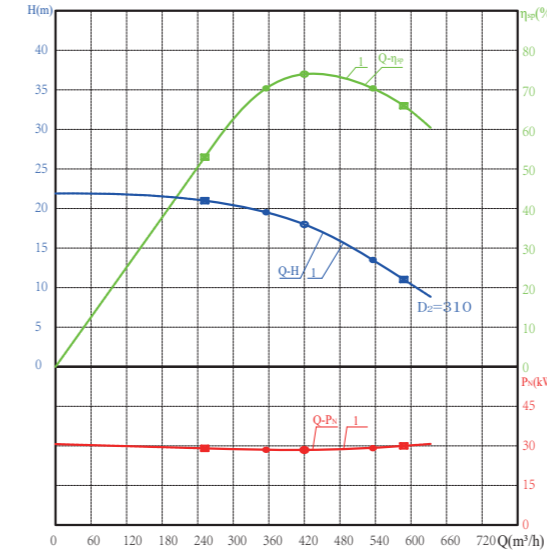
## 安装尺寸图 Dimension figure

自动耦合式安装 Automatic coupling installation

固定式底座安装 Fixed base installation



## 性能曲线 Performance curve



## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	200WQ400-18-30	108×90	72	1470	470

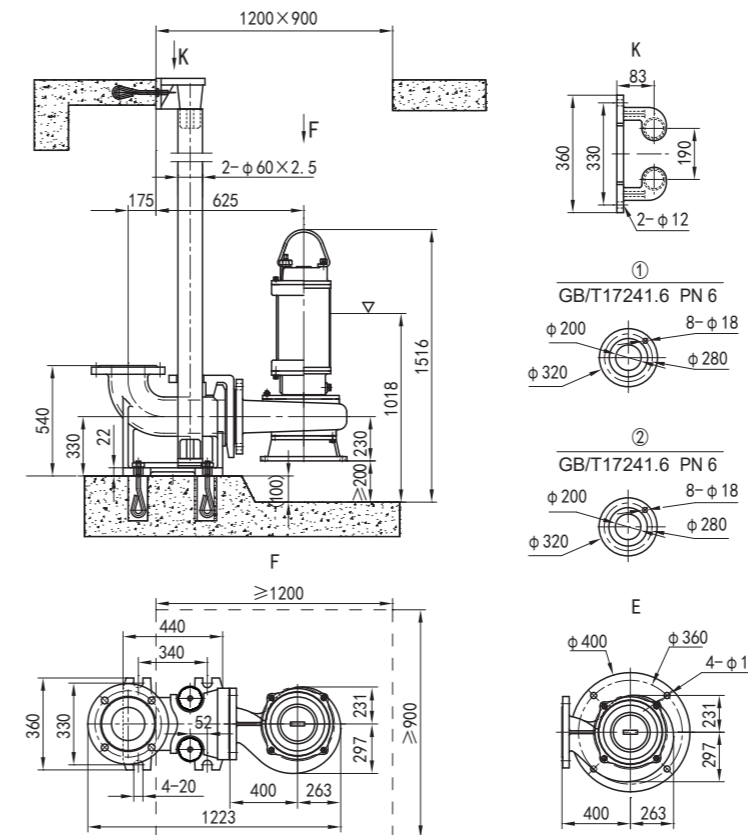
序号 No.	电机型号 Motor type	Pe (kW)	I (A)	Cos Φ	ηD (%)
1	WQD-180L-30/2	30	55.5	0.90	91.2

序号 No.	Q (m³/h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	252-420-588	21-18-11	29.23-28.04-30.08	53.0-74-66	48.8-68.1-60.7

## 安装尺寸图 Dimension figure

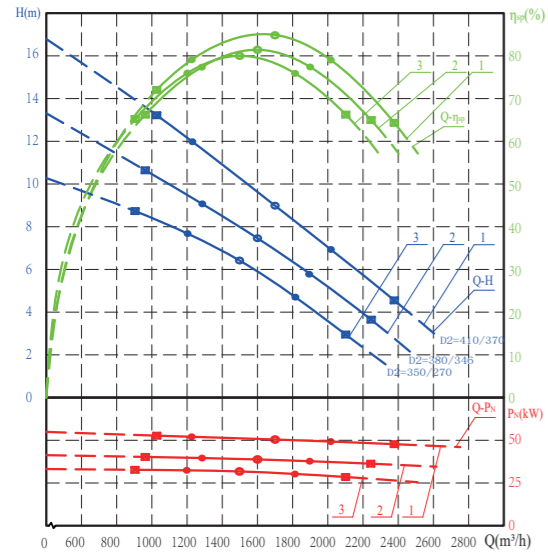
固定式底座安装 Fixed base installation

固定式底座安装 Fixed base installation



# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve



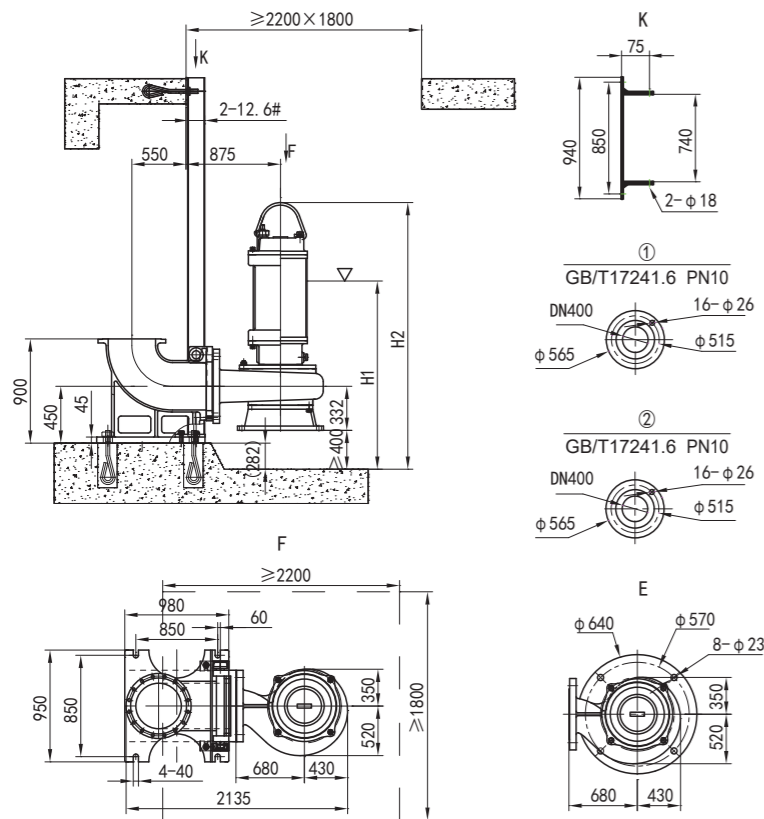
## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	400WQ1700-9-55	150×120	96	735	1300
2	400WQ1600-7-45			735	1250
3	400WQ1500-6-37			735	1200
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos Φ	η <sub>D</sub> (%)
1	WQD-315-55/8	55	114	0.79	92.7
2	WQD-280-45/8	45	95	0.79	91.5
3	WQD-280-37/8	37	78	0.79	90.5
序号 No.	Q (m <sup>3</sup> /h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	1020-1700-2380	13.2-9-4.5	52.77-52.74-47.88	73-83-64	67.7-76.9-59.3
2	960-1600-2240	10.3-7.5-3.8	42.23-41.87-37.47	67-82-65	60.9-74.5-59.1
3	900-1500-2100	8.7-6.5-3.2	34.47-34.87-29.13	65-80-66	58.8-72.4-59.7

## 安装尺寸图 Dimension figure

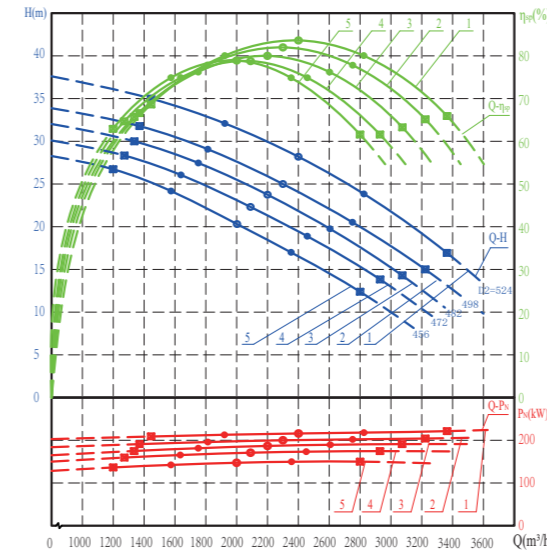
自动耦合式安装 Automatic coupling installation

固定式底座安装 Fixed base installation



型号 Type	H1	H2	H3	H4
400WQ1700-9-55	1358	2025	958	1625
400WQ1600-7-45	1323	2025	923	1625
400WQ1500-6-37	1338	2025	938	1622

## 性能曲线 Performance curve



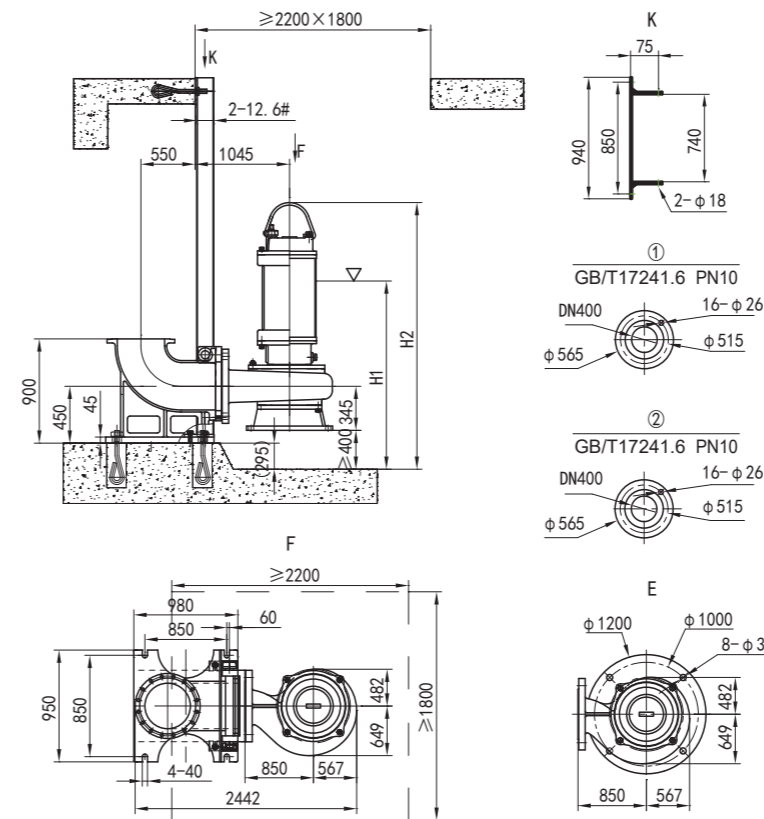
## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	400WQ2400-28-250	180×150	120	990	3400
2	400WQ2300-25-220			990	3300
3	400WQ2200-22-200			990	3200
4	400WQ2100-20-185			990	3100
5	400WQ2000-20-160			990	3000
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos Φ	η <sub>D</sub> (%)
1	WQD-355-250/6	250	455	0.88	95.0
2	WQD-355-220/6	220	401	0.88	95.0
3	WQD-355-200/6	200	365	0.88	95.0
4	WQD-355-185/6	185	342	0.88	95.0
5	WQD-355-160/6	160	292	0.88	94.5
序号 No.	Q (m <sup>3</sup> /h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	1440-2400-3360	35-28-17	206.01-228.90-247.63	70-84-66	66.4-79.7-62.6
2	1380-2300-3220	32-25-15	191.44-200.64-212.61	66-82-65	62.6-77.7-61.6
3	1320-2200-3080	30-23-14.2	174.32-180.97-198.63	65-80-63	61.6-75.8-59.7
4	1260-2100-2940	28-21-13	157.73-161.77-179.27	64-78-61	60.5-73.8-57.7
5	1200-2000-2800	27-20-12	144.85-146.73-157.60	64-78-61	60.5-73.8-57.7

## 安装尺寸图 Dimension figure

自动耦合式安装 Automatic coupling installation

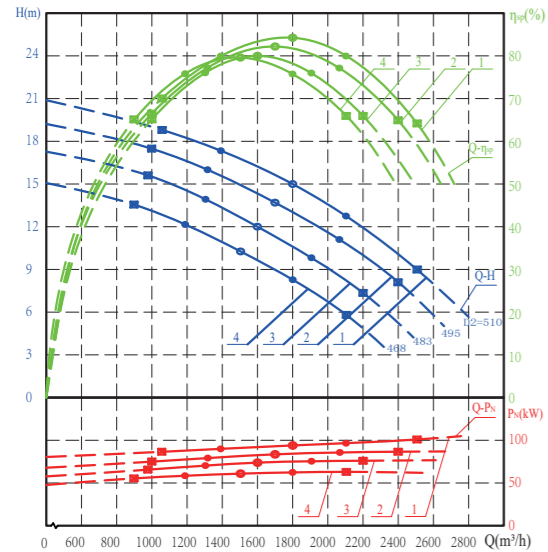
固定式底座安装 Fixed base installation



型号 Type	H1	H2	H3	H4
400WQ2400-28-250	1735	3127	1335	2727
400WQ2300-25-220	1735	3127	1335	2727
400WQ2200-22-200	1595	2468	1195	2468
400WQ2100-20-185	1595	2468	1195	2468
400WQ2000-20-160	1595	2468	1195	2468

# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve



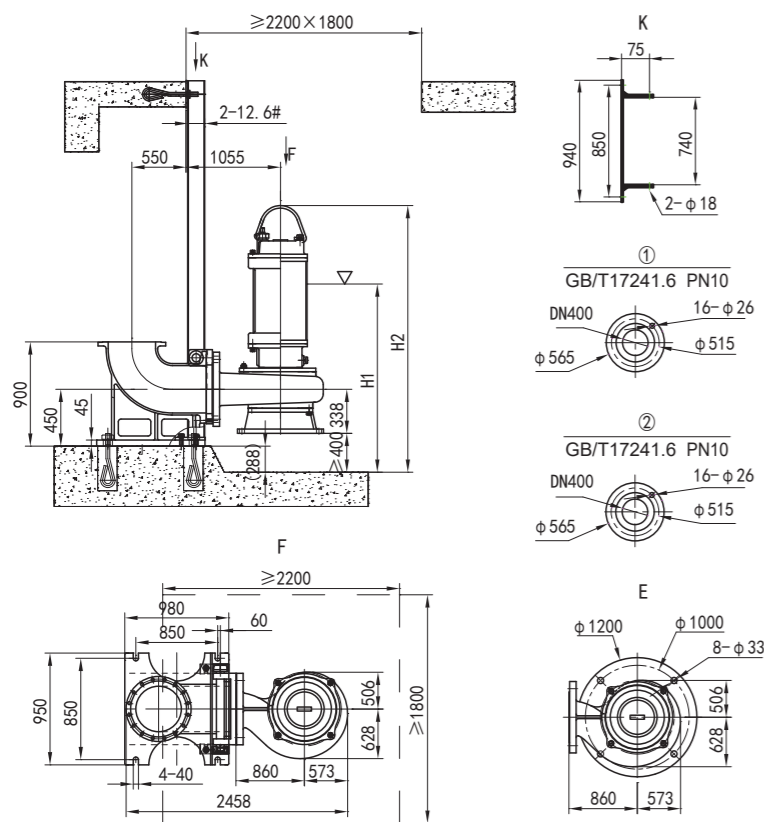
## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	400WQ1800-15-110	180×150	120	735	1420
2	400WQ1700-13-90			735	1370
3	400WQ1600-12-75			735	1330
4	400WQ1500-10-55			735	1280
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos φ	η <sub>D</sub> (%)
1	WQD-315-110/8	110	217	0.82	94.0
2	WQD-315-90/8	90	178	0.82	93.7
3	WQD-315-75/8	75	151	0.81	93.0
4	WQD-315-55/8	55	78	0.79	92.7
序号 No.	Q (m <sup>3</sup> /h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	1050-1800-2500	19-15-9	81.55-91.97-100.59	70-84-64	65.8-79.0-60.2
2	1000-1700-2400	17.5-13.5-8	74.73-80.08-84.52	67-82-65	62.4-76.3-60.5
3	970-1600-2200	15.6-12-7.5	66.61-68.67-71.53	65-80-66	60.5-74.4-61.4
4	900-1500-2100	13.6-10-5.5	53.88-53.65-50.07	65-80-66	60.3-74.2-61.2

## 安装尺寸图 Dimension figure

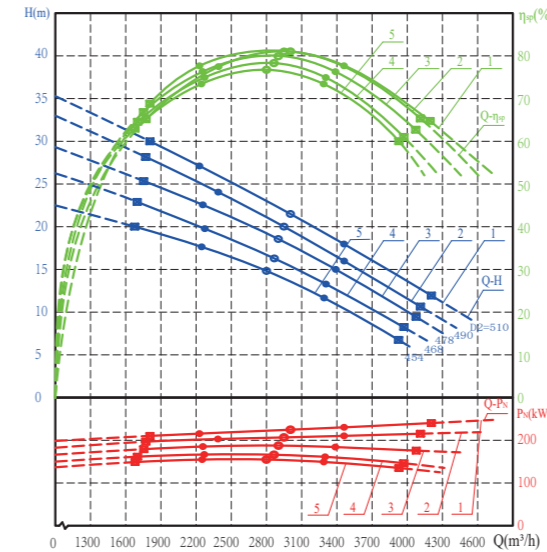
自动耦合式安装 Automatic coupling installation

固定式底座安装 Fixed base installation



型号 Type	H1	H2	H3	H4
400WQ1800-15-110	1591	2351	1191	1951
400WQ1700-13-90	1591	2351	1191	1951
400WQ1600-12-75	1591	2351	1191	1951

## 性能曲线 Performance curve



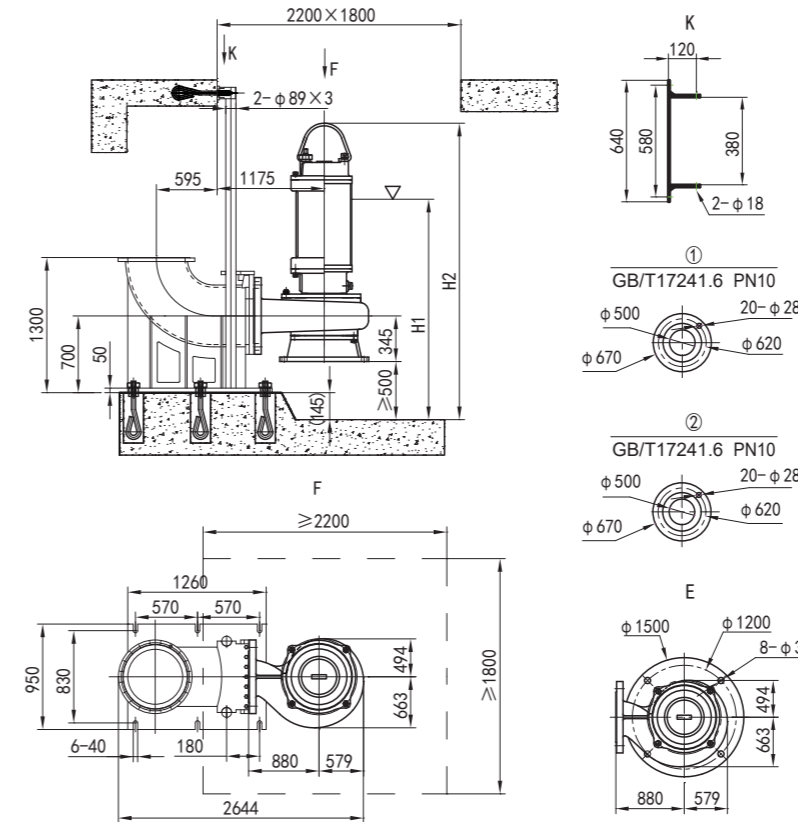
## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	500WQ3000-22-250	190×150	120	990	3400
2	500WQ2950-20-220			990	3300
3	500WQ2900-19-200			990	3200
4	500WQ2850-17-185			990	3100
5	500WQ2800-15-160			990	2920
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos φ	η <sub>D</sub> (%)
1	WQD-355-250/6	250	455	0.88	95.0
2	WQD-355-220/6	220	401	0.88	95.0
3	WQD-355-200/6	200	365	0.88	95.0
4	WQD-355-185/6	185	342	0.88	95.0
5	WQD-355-160/6	160	292	0.88	94.5
序号 No.	Q (m <sup>3</sup> /h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	1800-3000-4200	30-22-12.5	213.41-230.30-249.53	72.4-82.0-60.2	68.8-77.9-57.2
2	1770-2950-4130	28-20-11.5	214.85-205.87-209.07	66-82-65	62.7-77.7-61.8
3	1740-2900-4060	25-19-9.5	191.48-197.07-175.17	65-80-63	61.8-75.8-59.9
4	1710-2850-3990	22.5-17-8	172.01-177.73-149.72	64-78-61	60.5-73.8-57.7
5	1680-2800-3920	20-15-7	152.60-156.07-130.86	63-77-60	59.6-72.8-56.8

## 安装尺寸图 Dimension figure

自动耦合式安装 Automatic coupling installation

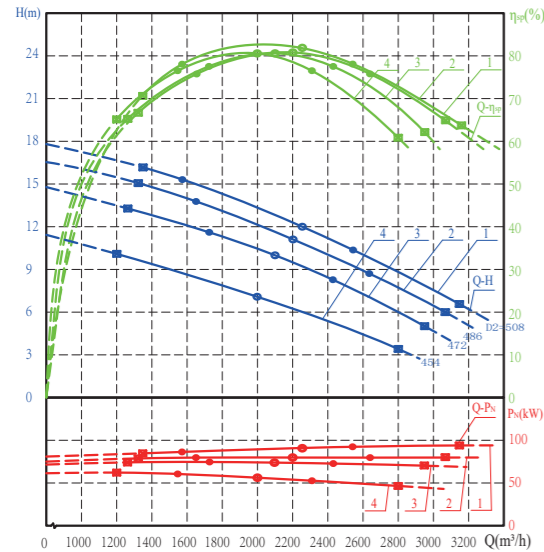
固定式底座安装 Fixed base installation



型号 Type	H1	H2	H3	H4
500WQ3000-22-250	2017	3437	1307	2727
500WQ2950-20-220	2017	3437	1307	2727
500WQ2900-19-200	1747	3215	1252	2525
500WQ2850-17-185	1747	3215	1252	2525
500WQ2800-15-160	1747	3215	1252	2525

# 性能曲线、主要参数及安装尺寸 Parameter&Size

## 性能曲线 Performance curve



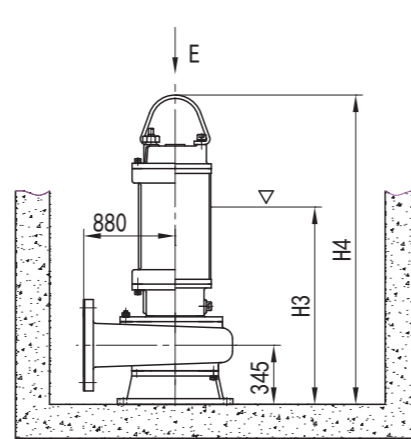
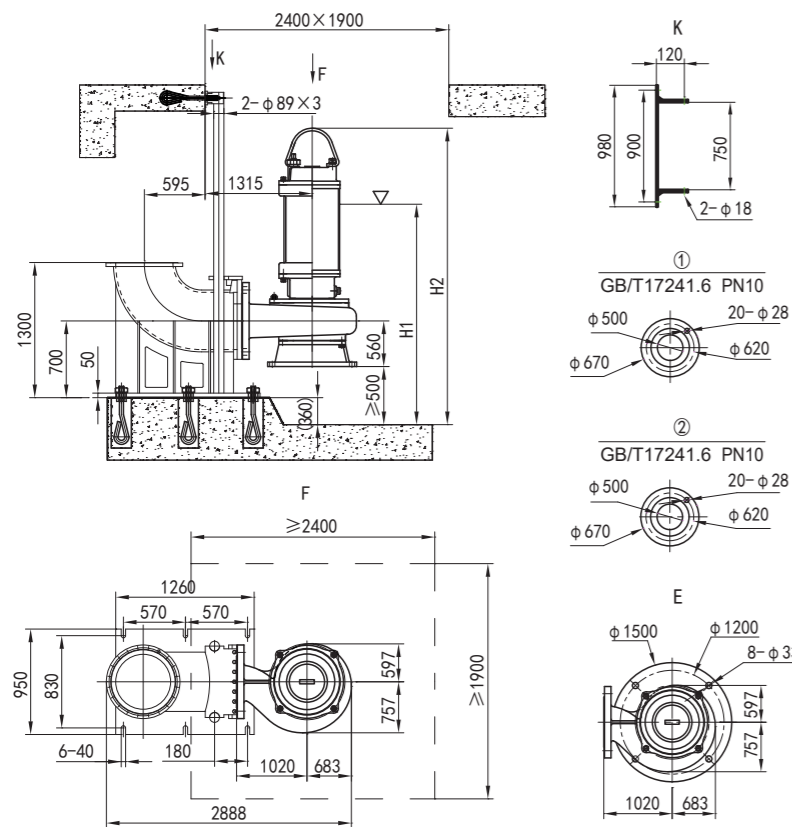
## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	500WQ2250-12-110	190×150	120	735	1420
2	500WQ2200-11-90			735	1370
3	500WQ2100-10-75			735	1330
4	500WQ2000-7-55			735	1300
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos φ	η <sub>D</sub> (%)
1	WQD-315-110/8	110	217	0.82	94.0
2	WQD-315-90/8	90	178	0.82	93.7
3	WQD-315-75/8	75	151	0.81	93.0
4	WQD-315-55/8	55	78	0.79	92.7
序号 No.	Q (m <sup>3</sup> /h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	1350-2250-3150	16-12-6.5	85.36-94.21-97.32	72.4-82-60.2	68.1-77.1-56.6
2	1320-2200-3080	15-11-6	85.84-84.96-81.35	66-81.5-65	61.4-75.9-60.5
3	1260-2100-2940	13.5-10-5	74.88-74.18-66.76	65-81-63	60.5-75.3-58.6
4	1200-2000-2800	10-7-3.2	53.65-50.07-42.03	64-80-61	59.3-74.2-56.5

## 安装尺寸图 Dimension figure

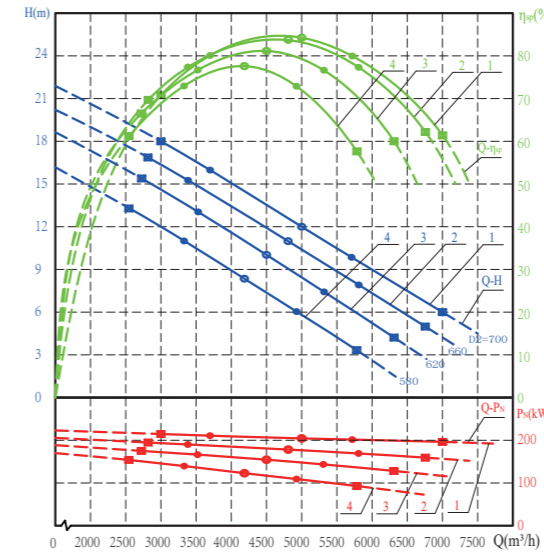
### 自动耦合式安装 Automatic coupling installation

### 固定式底座安装 Fixed base installation



型号 Type	H1	H2	H3	H4
500WQ2250-12-110	2025	3298	1525	2798
500WQ2200-11-90	2025	3298	1525	2798
500WQ2100-10-75	2025	3298	1525	2598
500WQ2000-7-55	2025	3298	1525	2598

## 性能曲线 Performance curve



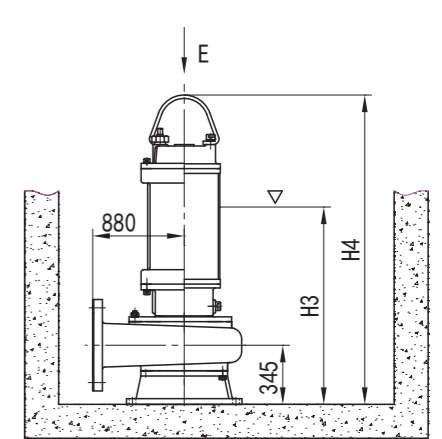
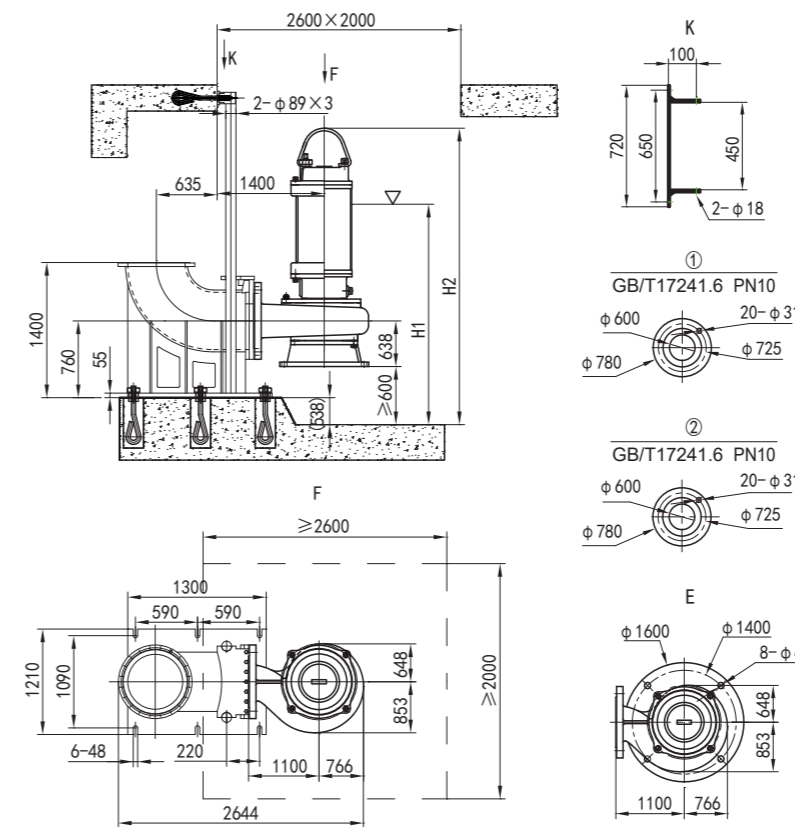
## 主要参数 Main parameter

序号 No.	泵型号 Pump type	A×B (mm×mm)	Φ (mm)	n (r/min)	G (kg)
1	600WQ5000-12-200	230×200	160	590	3850
2	600WQ4800-11-185			590	3720
3	600WQ4500-10-160			590	3500
4	600WQ4200-8-132			590	3400
序号 No.	电机型号 Motor type	P <sub>E</sub> (kW)	I (A)	cos φ	η <sub>D</sub> (%)
1	WQD-355-200/10	200	403	0.80	94.0
2	WQD-355-185/10	185	383	0.79	93.8
3	WQD-355-160/10	160	332	0.79	93.5
4	WQD-355-132/10	132	274	0.79	93.5
序号 No.	Q (m <sup>3</sup> /h)	H (m)	P <sub>N</sub> (kW)	η <sub>SP</sub> (%)	η <sub>DB</sub> (%)
1	3000-5000-7000	18-12-6	206.01-204.38-190.75	75-84-63	70.5-79-59.2
2	2880-4800-6720	17-11-5	197.31-182.02-155.06	71-83-62	66.6-77.9-58.2
3	2700-4500-6300	15.6-10-4	182.60-158.96-120.17	66-81-60	61.7-75.7-56.1
4	2520-4200-5880	13-8-3	153.66-124.86-90.13	61-77-56	57.0-72.0-52.4

## 安装尺寸图 Dimension figure

### 自动耦合式安装 Automatic coupling installation

### 固定式底座安装 Fixed base installation



型号 Type	H1	H2	H3	H4
600WQ5000-12-200	2428	3493	1828	2893
600WQ4800-11-185	2378	3493	1778	2893
600WQ4500-10-160	2328	3493	1728	2893
600WQ4200-8-132	2278	3493	1678	2893

# 配套电控柜

## Complement electric control cabinet

### 控制柜型号说明

#### Model description of the control cabinet

TQK - 2 L R - 30 / Z / 2GR / T

- 功能描述: 省略代表厂配功能, T: 代表定制产品  
Functional description: omitted for factory-fitted; T for customised
- 启动源及数量: 省略代表直接启动  
Number of startup source poles: omitted for direct startup  
1Z=配1台自耦变压器, 2Z=配2台自耦变压器; 以此类推  
1Z = with 1 autotransformer, 2Z = with 2 autotransformers, and so on.  
1GR=配1台国产软启动器, 2GR=配2台国产软启动器; 以此类推  
1GR = with 1 domestic soft starter, 2GR = with 2 domestic soft starters, and so on.  
1SR=配1台施耐德软启动器, 2SR=配2台施耐德软启动器; 以此类推  
1SR = with 1 Schneider soft starter, 2SR = with 2 Schneider soft starters, and so on.
- 代表元器件品牌: Z或省略: 代表主要元器件正泰, S: 代表主要元器件施耐德, D: 代表定制主要元器件  
Representative component brand: Z or omitted on behalf of the main components for Chint; S on behalf of the main components for Schneider; D on behalf of the customised
- 数字代表功率, 例: 30代表30KW  
Numbers represent power, e.g. 30 for 30kW
- 启动方式: 省略代表直接启动; R: 代表软启动; Z: 代表自耦降压启动  
Starting mode: omitted for direct start; R for soft start; Z for autotransfer start
- 控制柜类型: PL: 代表智能型控制, L: 代表传统继电器控制  
Control cabinet type: PL for intelligent control, L for traditional relay control
- 控制水泵台数: 1: 代表1台泵。... 3: 代表3台泵  
Number of control pumps: 1: one pump...3: three pump
- TQK: 代表上海天泉品牌  
TQK: represents Shanghai Tianquan brand

### 直接启动 Directly start-up

表1 配套 (11-22kW) WQ泵 (一控一) ----直接启动

Table 1 Supporting (11-22kW) WQ pump (one control and one) - - -direct start

序号 No.	功率 Power (kW)	电机极数 Motor pole number	电流 Current (A)	控制柜型号 Control cabinet model		箱体尺寸 Box size (高×宽×厚) (High×width×thickness)	备注 Note
				智能型 Intelligent type	普通型 Normal type		
1	11	2	21.3	TQK-1PL-11	TQK-1L-11	500×400×200	带电流表
2		4	22.3				
3	15	2	28.8	TQK-1PL-15	TQK-1L-15	500×400×200	
4		4	30.1				

表2 配套 (11-22kW) WQ泵 (一控二) ----直接启动

Table 2 Supporting (11-22kW) WQ pump (1 control 2) - - -direct start

序号 No.	功率 Power (kW)	电机极数 Motor pole number	电流 Current (A)	控制柜型号 Control cabinet model		箱体尺寸 Box size (高×宽×厚) (High×width×thickness)	备注 Note
				智能型 Intelligent type	普通型 Normal type		
1	11	2	21.3	TQK-2PL-11	TQK-2L-11	600×500×200	带电流表
2		4	22.3				
3	15	2	28.8	TQK-2PL-15	TQK-2L-15	600×500×200	
4		4	30.1				

表3 配套 (11-22kW) WQ泵 (一控三) ----直接启动

Table 3 Supporting (11-22kW) WQ pump (one control 3) - - -direct start

序号 No.	功率 Power (kW)	电机极数 Motor pole number	电流 Current (A)	控制柜型号 Control cabinet model		箱体尺寸 Box size (高×宽×厚) (High×width×thickness)	备注 Note
				智能型 Intelligent type	普通型 Normal type		
1	11	2	21.3	TQK-3PL-11	TQK-3L-11	800×600×250	带电流表
2		4	22.3				
3	15	2	28.8	TQK-3PL-15	TQK-2L-15	800×600×250	
4		4	30.1				

# 配套电控柜

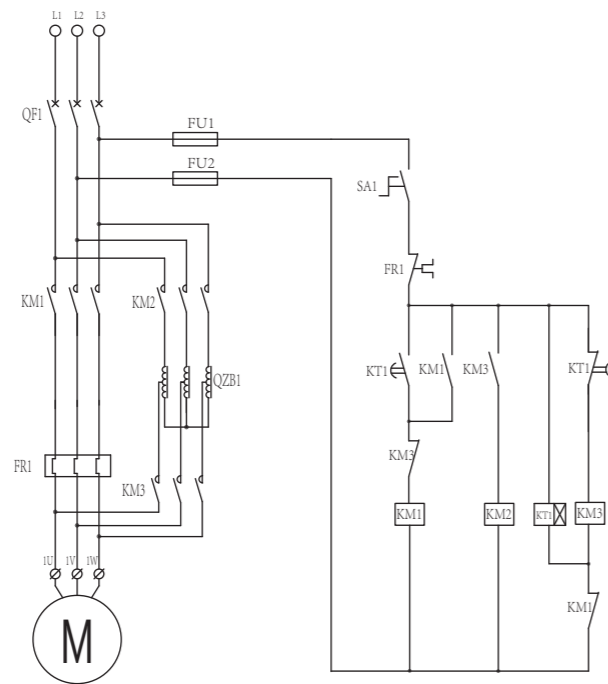
## Complement electric control cabinet

### 自耦降压启动

#### Self-coupling step-down initiation

自耦降压启动是指电动机启动时利用自耦变压器来降低加在电动机定子绕组上的启动电压，待电动机启动后再使电动机与自耦变压器脱离，恢复在全电压下运行。

Self-coupling step-down start refers to the use of the autotransformer to reduce the start voltage added on the stator winding of the motor when the motor is started. After the motor is started, the motor is separated from the autotransformer and returns to operate under the full voltage.



自耦降压启动电路

Self-coupling step-down start circuit

不论定子绕组采用Y或 $\Delta$ 接法，均可以按允许的启动电流和所需的启动转矩来选择自耦变压器的不同抽头实现降压启动。

No matter whether the stator winding adopts Y or  $\Delta$  connection method, different taps of the autocoupling transformer can be selected according to the allowable starting current and the required starting torque.

可以按允许的启动电流和所需的启动转矩来选择自耦变压器的不同抽头实现降压启动，而且不论电机的定子绕组采用Y或 $\Delta$ 接法都可以使用。

下表列出了配套潜污泵自耦降压启动选用的控制柜型号及箱体尺寸

The following table lists the control cabinet models and box size selected for the self-coupling step-down start of the submersible sewage pump

表1 配套WQ泵（一控一）----自耦降压启动  
Table 1 Supporting WQ pump (one control one) ---- auto-down start

序号 No.	功率 Power (kW)	电机极数 Motor pole number	电流 Current (A)	控制柜型号 Control cabinet model		箱体尺寸 Box size (高×宽×厚) (High×width×thickness)	备注 Note
				智能型 Intelligent type	普通型 Normal type		
1	15	2	28.8	TQK-1PLZ-15/1Z	TQK-1LZ-15/1Z	1200×600×400	
2		4	30.1				
3		6	30.8				
4		8	33.8				
5	18.5	2	34.7	TQK-1PLZ-18.5/1Z	TQK-1LZ-18.5/1Z	1200×600×400	
6		4	36.5				
7		6	38.6				
8		8	41.4				
9	22	2	41.0	TQK-1PLZ-22/1Z	TQK-1LZ-22/1Z	1200×600×400	
10		4	43.2				
11		6	44.7				
12		8	47.4				
13	30	2	55.5	TQK-1PLZ-30/1Z	TQK-1LZ-30/1Z	1200×600×400	
14		4	57.6				
15		6	59.3				
16		8	64.0				
17	37	2	67.9	TQK-1PLZ-37/1Z	TQK-1LZ-37/1Z	1200×600×400	
18		4	69.9				
19		6	71.0				
20		8	78.0				
21	45	2	83.7	TQK-1PLZ-45/1Z	TQK-1LZ-45/1Z	1200×600×400	
22		4	84.7				
23		6	86.0				
24		8	95.0				
25	55	4	103.0	TQK-1PLZ-55/1Z	TQK-1LZ-55/1Z	1400×600×400	
26		6	105.0				
27		8	114.0				
28		4	140.0				
29	75	6	142.0	TQK-1PLZ-75/1Z	TQK-1LZ-75/1Z	1600×600×400	
30		8	151.0				
31		4	167.0				
32		6	169.0				
33	90	8	178.0	TQK-1PLZ-90/1Z	TQK-1LZ-90/1Z	1800×800×500	
34		4	201.0				
35		6	206.0				
36		8	217.0				
37	110	4	240.0	TQK-1PLZ-110/1Z	TQK-1LZ-110/1Z	2000×800×500	
38		6	244.0				
39		8	252.0				
40		4	287.0				
41	160	6	292.0	TQK-1PLZ-160/1Z	TQK-1LZ-160/1Z	2000×800×500	
42		8	298.0				



# 配套电控柜

## Complement electric control cabinet

表1 配套WQ泵 (一控二) ----自耦降压启动  
Table 1 Supporting WQ pump (1 control 2) ----automatic coupling pressure-down start

序号 No.	功率 Power (kW)	电机极数 Motor pole number	电流 Current (A)	控制柜型号 Control cabinet model		箱体尺寸 Box size (高×宽×厚) (High×width×thickness)	备注 Note
				智能型 Intelligent type	普通型 Normal type		
1	15	2	28.8	TQK-2PLZ-15/1Z	TQK-2LZ-15/1Z	1200×600×400	
2		4	30.1				
3		6	30.8				
4		8	33.8				
5	18.5	2	34.7	TQK-2PLZ-18.5/1Z	TQK-2LZ-18.5/1Z	1200×600×400	
6		4	36.5				
7		6	38.6				
8		8	41.4				
9	22	2	41.0	TQK-2PLZ-22/1Z	TQK-2LZ-22/1Z	1200×600×400	
10		4	43.2				
11		6	44.7				
12		8	47.4				
13	30	2	55.5	TQK-2PLZ-30/1Z	TQK-2LZ-30/1Z	1400×600×400	
14		4	57.6				
15		6	59.3				
16		8	64.0				
17	37	2	67.9	TQK-2PLZ-37/1Z	TQK-2LZ-37/1Z	1400×600×400	
18		4	69.9				
19		6	71.0				
20		8	78.0				
21	45	2	83.7	TQK-2PLZ-45/1Z	TQK-2LZ-45/1Z	1600×600×400	
22		4	84.7				
23		6	86.0				
24		8	95.0				
25	55	4	103.0	TQK-2PLZ-55/1Z	TQK-2LZ-55/1Z	1800×800×500	
26		6	105.0				
27		8	114.0				
28	75	4	140.0	TQK-2PLZ-75/1Z	TQK-2LZ-75/1Z	2000×800×500	
29		6	142.0				
30		8	151.0				
31	90	4	167.0	TQK-2PLZ-90/1Z	TQK-2LZ-90/1Z	2000×800×500	
32		6	169.0				
33		8	178.0				
34	110	4	201.0	TQK-2PLZ-110/1Z	TQK-2LZ-110/1Z	2200×800×600	
35		6	206.0				
36		8	217.0				
37	132	4	240.0	TQK-2PLZ-132/1Z	TQK-2LZ-132/1Z	2200×1000×600	
38		6	244.0				
39		8	252.0				
40	160	4	287.0	TQK-1PLZ-160/1Z	TQK-1LZ-160/1Z	2200×1000×600	
41		6	292.0				
42		8	298.0				

表1 配套WQ泵 (一控三) ----自耦降压启动  
Table 1 Supporting WQ pump (1 control 3) ----automatic coupling pressure-down start

序号 No.	功率 Power (kW)	电机极数 Motor pole number	电流 Current (A)	控制柜型号 Control cabinet model		箱体尺寸 Box size (高×宽×厚) (High×width×thickness)	备注 Note
				智能型 Intelligent type	普通型 Normal type		
1	15	2	28.8	TQK-3PLZ-15/1Z	TQK-3LZ-15/1Z	1600×600×400	
2		4	30.1				
3		6	30.8				
4		8	33.8				
5	18.5	2	34.7	TQK-3PLZ-18.5/1Z	TQK-3LZ-18.5/1Z	1600×600×400	
6		4	36.5				
7		6	38.6				
8		8	41.4				
9	22	2	41.0	TQK-3PLZ-22/1Z	TQK-3LZ-22/1Z	1600×600×400	
10		4	43.2				
11		6	44.7				
12		8	47.4				
13	30	2	55.5	TQK-3PLZ-30/1Z	TQK-3LZ-30/1Z	1800×800×500	
14		4	57.6				
15		6	59.3				
16		8	64.0				
17	37	2	67.9	TQK-3PLZ-37/1Z	TQK-3LZ-37/1Z	1800×800×500	
18		4	69.9				
19		6	71.0				
20		8	78.0				
21	45	2	83.7	TQK-3PLZ-45/1Z	TQK-3LZ-45/1Z	1800×800×500	
22		4	84.7				
23		6	86.0				
24		8	95.0				
25	55	4	103.0	TQK-3PLZ-55/1Z	TQK-3LZ-55/1Z	2000×800×500	
26		6	105.0				
27		8	114.0				
28	75	4	140.0	TQK-3PLZ-75/1Z	TQK-3LZ-75/1Z	2200×1000×600	
29		6	142.0				
30		8	151.0				
31	90	4	167.0	TQK-3PLZ-90/1Z	TQK-3LZ-90/1Z	2200×1000×600	
32		6	169.0				
33		8	178.0				
34	110	4	201.0	TQK-3PLZ-110/1Z	TQK-3LZ-110/1Z	2200×1000×600	
35		6	206.0				
36		8	217.0				
37	132	4	240.0	TQK-3PLZ-132/1Z	TQK-3LZ-132/1Z	2200×1200×600	
38		6	244.0				
39		8	252.0				
40	160	4	287.0	TQK-3PLZ-160/1Z	TQK-3LZ-160/1Z	2200×1200×600	
41		6	292.0				
42		8	298.0				

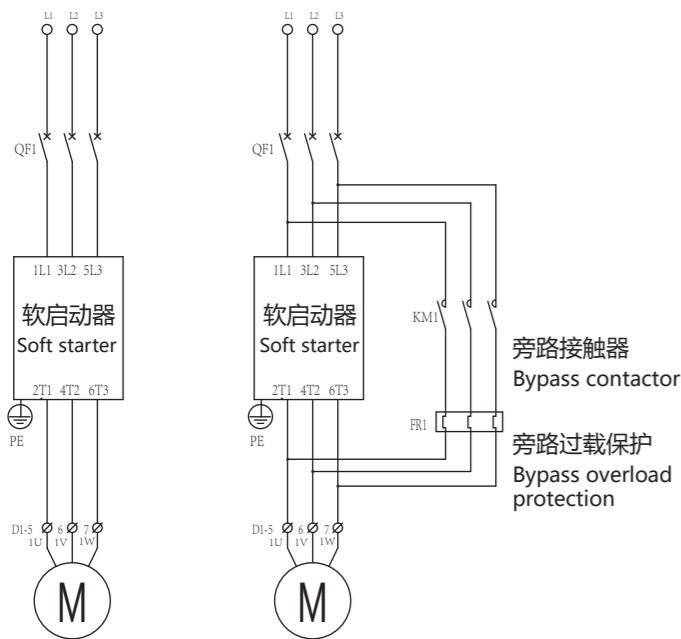
# 配套电控柜

## Complement electric control cabinet

### 电子软启动 Electronic soft start

串接于电源与电动机之间的软启动器，通过控制其内部半导体（晶闸管）的导通角，使电动机电压从零以预设函数关系逐步上升，直至启动结束，赋予电动机全电压，电动机在启动过程中的启动电流可控且大小可调节。

The soft starter connected between the power supply and the motor, by controlling the conduction Angle of the internal semiconductor (thyristor), the motor voltage gradually rises from zero in the preset function relationship until the end of the start, giving the motor full voltage, the starting current of the motor in the starting process is controllable and the size can be adjusted.



无旁路型软启动主电路      旁路型软启动主电路  
Bypass-less soft start main circuit      Bypass soft start main circuit

在整个启动过程中无冲击转矩，可平滑地启动电动机，根据电动机负载的特性来调节限流值、启动时间等参数，还可实现软停车。由于采用半导体变流技术，会产生高次谐波，对电网造成污染。

In the whole starting process, no impact torque, the motor can be started smoothly, adjust the limit value of the current, start time and other parameters according to the characteristics of the motor load, and can also realize soft parking. Due to the use of semiconductor converter technology, it will produce high harmonics, causing pollution to the power grid.

### 电子软启动选型说明

在整个启动过程中无冲击转矩，可平滑地启动电动机，根据电动机负载的特性来调节限流值、启动时间等参数，还可实现软停车。由于采用半导体变流技术，会产生高次谐波，对电网造成污染。

In the whole starting process, no impact torque, the motor can be started smoothly, adjust the limit value of the current, start time and other parameters according to the characteristics of the motor load, and can also realize soft parking. Due to the use of semiconductor converter technology, it will produce high harmonics, causing pollution to the power grid.

下表列出了配套潜污泵电子软启动选用的控制柜型号及箱体尺寸

The following table lists the control cabinet for the electronic soft start of the submersible sewage pump

表1 配套WQ泵（一控一）----电子软启动  
Table 1 Supporting WQ pump (one control one) --- Electronic soft start

序号 No.	功率 Power (kW)	电机极数 Motor pole number	电流 Current (A)	控制柜型号 Control cabinet model		箱体尺寸 Box size (高×宽×厚) (High×width×thickness)	备注 Note
				智能型 Intelligent type	普通型 Normal type		
1	15	2	28.8	TQK-1PLR-15/1GR	TQK-1LR-15/1GR	800×600×250	
2		4	30.1				
3		6	30.8				
4		8	33.8				
5	18.5	2	34.7	TQK-1PLR-18.5/1GR	TQK-1LR-18.5/1GR	800×600×250	
6		4	36.5				
7		6	38.6				
8		8	41.4				
9	22	2	41.0	TQK-1PLR-22/1GR	TQK-1LR-22/1GR	800×600×250	
10		4	43.2				
11		6	44.7				
12		8	47.4				
13	30	2	55.5	TQK-1PLR-30/1GR	TQK-1LR-30/1GR	800×600×250	
14		4	57.6				
15		6	59.3				
16		8	64.0				
17	37	2	67.9	TQK-1PLR-37/1GR	TQK-1LR-37/1GR	800×600×250	
18		4	69.9				
19		6	71.0				
20		8	78.0				
21	45	2	83.7	TQK-1PLR-45/1GR	TQK-1LR-45/1GR	1200×600×400	
22		4	84.7				
23		6	86.0				
24		8	95.0				
25	55	4	103.0	TQK-1PLR-55/1GR	TQK-1LR-55/1GR	1200×600×400	
26		6	105.0				
27		8	114.0				
28		4	140.0				
29	75	6	142.0	TQK-1PLR-75/1GR	TQK-1LR-75/1GR	1400×600×400	
30		8	151.0				
31		4	167.0				
32		6	169.0				
33	90	8	178.0	TQK-1PLR-90/1GR	TQK-1LR-90/1GR	1400×600×400	
34		4	201.0				
35		6	206.0				
36		8	217.0				
37	110	4	240.0	TQK-1PLR-110/1GR	TQK-1LR-110/1GR	1600×700×400	
38		6	244.0				
39		8	252.0				
40		4	287.0				
41	132	6	292.0	TQK-1PLR-132/1GR	TQK-1LR-132/1GR	1800×800×500	
42		8	298.0				
43		4	329.0				
44		6	342.0				
45	160	8	339.0	TQK-1PLR-160/1GR	TQK-1LR-160/1GR	1800×800×500	
46		4	359.0				
47		6	365.0				
48		8	397.0				
49	185	4	387.0	TQK-1PLR-185/1GR	TQK-1LR-185/1GR	1800×800×500	
50		6	401.0				
51		8	441.0				
52		4	444.0				
53	200	6	455.0	TQK-1PLR-200/1GR	TQK-1LR-200/1GR	2000×800×500	
54		8	497.0				
55	220	4	444.0	TQK-1PLR-220/1GR	TQK-1LR-220/1GR	2200×800×600	
56		6	455.0				
57	250	8	497.0	TQK-1PLR-250/1GR	TQK-1LR-250/1GR	2200×800×600	
58		4	444.0				
59	315	6	455.0	TQK-1PLR-315/1GR	TQK-1LR-315/1GR	2200×1000×600	
60		8	497.0				

# 配套电控柜

## Complement electric control cabinet

表1 配套WQ泵(一控二) ----电子软启动  
Table 1 Supporting WQ pump (1 control 2) - - - -Electronic soft start

序号 No.	功率 Power (kW)	电机极数 Motor pole number	电流 Current (A)	控制柜型号 Control cabinet model		箱体尺寸 Box size (高×宽×厚) (High×width×thickness)	备注 Note				
				智能型 Intelligent type	普通型 Normal type						
1	15	2	28.8	TQK-2PLR-15/1GR	TQK-2LR-15/1GR	1200×600×400					
2		4	30.1								
3		6	30.8								
4		8	33.8								
5	18.5	2	34.7	TQK-2PLR-18.5/1GR	TQK-2LR-18.5/1GR	1200×600×400					
6		4	36.5								
7		6	38.6								
8		8	41.4								
9	22	2	41.0	TQK-2PLR-22/1GR	TQK-2LR-22/1GR	1200×600×400					
10		4	43.2								
11		6	44.7								
12		8	47.4								
13	30	2	55.5	TQK-2PLR-30/1GR	TQK-2LR-30/1GR	1400×700×400					
14		4	57.6								
15		6	59.3								
16		8	64.0								
17	37	2	67.9	TQK-2PLR-37/1GR	TQK-2LR-37/1GR	1400×700×400					
18		4	69.9								
19		6	71.0								
20		8	78.0								
21	45	2	83.7	TQK-2PLR-45/1GR	TQK-2LR-45/1GR	1600×700×400					
22		4	84.7								
23		6	86.0								
24		8	95.0								
25	55	4	103.0	TQK-2PLR-55/1GR	TQK-2LR-55/1GR	1600×700×400					
26		6	105.0								
27		8	114.0								
28		4	140.0								
29	75	6	142.0	TQK-2PLR-75/1GR	TQK-2LR-75/1GR	1800×800×500					
30		8	151.0								
31		4	167.0					TQK-2PLR-90/1GR	TQK-2LR-90/1GR	1800×800×500	
32		6	169.0								
33	8	178.0									
34	4	201.0									
35	110	6	206.0	TQK-2PLR-110/1GR	TQK-2LR-110/1GR	2000×800×600					
36		8	217.0								
37		4	240.0					TQK-2PLR-132/1GR	TQK-2LR-132/1GR	2200×800×600	
38		6	244.0								
39	8	252.0									
40	4	287.0	TQK-2PLR-160/1GR	TQK-2LR-160/1GR	2200×800×600						
41	6	292.0									
42	8	298.0									
43	4	329.0					TQK-2PLR-185/1GR	TQK-2LR-185/1GR	2200×1000×600		
44	6	342.0									
45	8	339.0									
46	4	359.0	TQK-2PLR-200/1GR	TQK-2LR-200/1GR	2200×1000×600						
47	6	365.0									
48	8	397.0									
49	4	387.0					TQK-2PLR-220/1GR	TQK-2LR-220/1GR	2200×1200×600		
50	6	401.0									
51	8	441.0									
52	4	444.0	TQK-2PLR-250/1GR	TQK-2LR-250/1GR	2200×1200×600						
53	6	455.0									
54	8	497.0									

表1 配套WQ泵(一控三) ----电子软启动  
Table 1 Supporting WQ pump (1 control 3) - - - -Electronic soft start

序号 No.	功率 Power (kW)	电机极数 Motor pole number	电流 Current (A)	控制柜型号 Control cabinet model		箱体尺寸 Box size (高×宽×厚) (High×width×thickness)	备注 Note
				智能型 Intelligent type	普通型 Normal type		
1	15	2	28.8	TQK-3PLR-15/1GR	TQK-3LR-15/1GR	1600×600×400	
2		4	30.1				
3		6	30.8				
4		8	33.8				
5	18.5	2	34.7	TQK-3PLR-18.5/1GR	TQK-3LR-18.5/1GR	1600×600×400	
6		4	36.5				
7		6	38.6				
8		8	41.4				
9	22	2	41.0	TQK-3PLR-22/1GR	TQK-3LR-22/1GR	1600×600×400	
10		4	43.2				
11		6	44.7				
12		8	47.4				
13	30	2	55.5	TQK-3PLR-30/1GR	TQK-3LR-30/1GR	1800×800×500	
14		4	57.6				
15		6	59.3				
16		8	64.0				
17	37	2	67.9	TQK-3PLR-37/1GR	TQK-3LR-37/1GR	1800×800×500	
18		4	69.9				
19		6	71.0				
20		8	78.0				
21	45	2	83.7	TQK-3PLR-45/1GR	TQK-3LR-45/1GR	2000×800×500	
22		4	84.7				
23		6	86.0				
24		8	95.0				
25	55	4	103.0	TQK-3PLR-55/1GR	TQK-3LR-55/1GR	2000×800×500	
26		6	105.0				
27		8	114.0				
28		4	140.0				
29	6	142.0					
30	8	151.0					
31	4	167.0	TQK-3PLR-90/1GR	TQK-3LR-90/1GR	2200×800×600		
32	6	169.0					
33	8	178.0					
34	4	201.0					TQK-3PLR-110/1GR
35	6	206.0					
36	8	217.0					
37	4	240.0	TQK-3PLR-132/1GR	TQK-3LR-132/1GR	2200×1000×600		
38	6	244.0					
39	8	252.0					
40	4	287.0					TQK-3PLR-160/1GR
41	6	292.0					
42	8	298.0					
43	4	329.0	TQK-3PLR-185/1GR	TQK-3LR-185/1GR	2200×1400×600		
44	6	342.0					
45	8	339.0					
46	4	359.0					TQK-3PLR-200/1GR
47	6	365.0					
48	8	397.0					
49	4	387.0	TQK-3PLR-220/1GR	TQK-3LR-220/1GR	2200×1600×600		
50	6	401.0					
51	8	441.0					
52	4	444.0					TQK-3PLR-250/1GR
53	6	455.0					
54	8	497.0					

## 配套电控柜

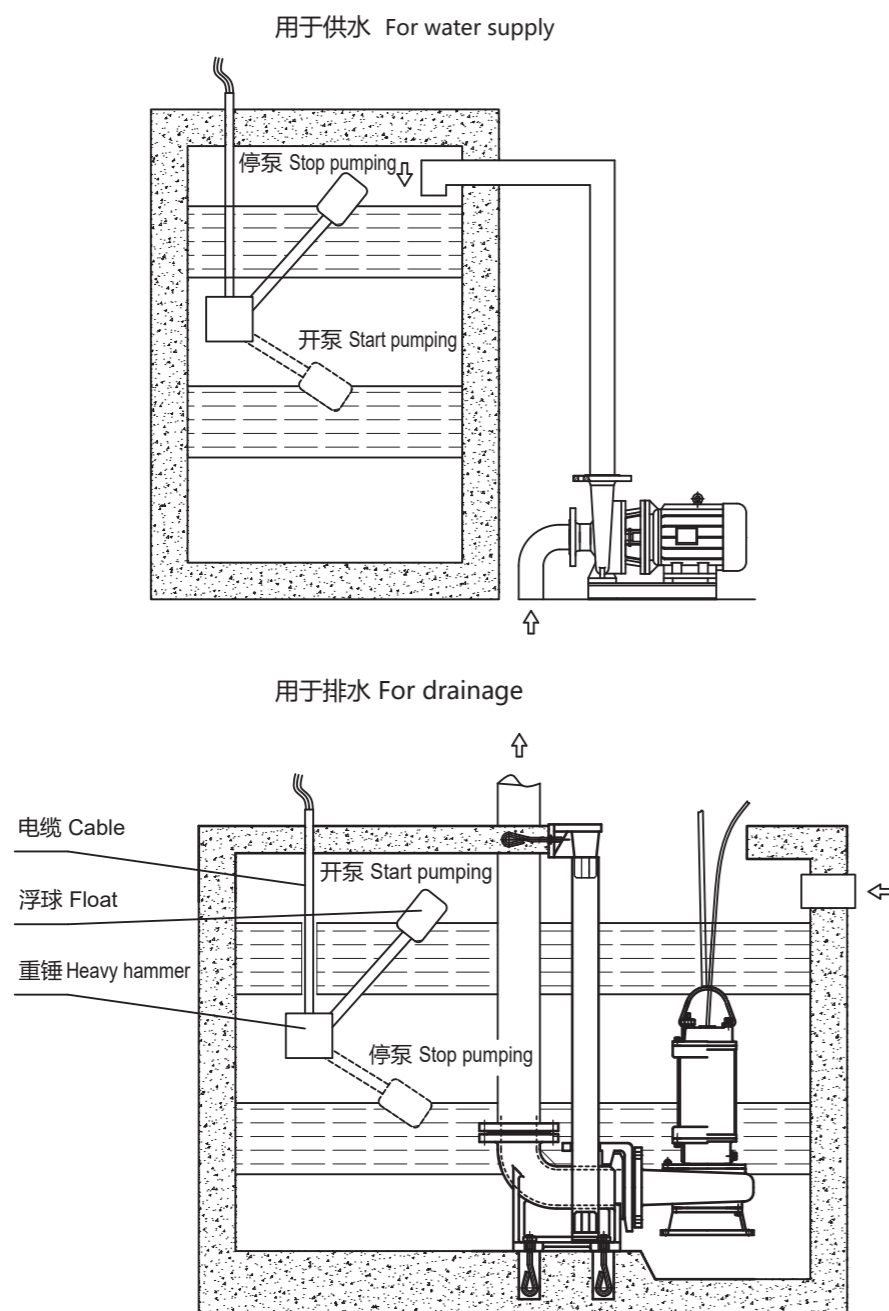
# Complement electric control cabinet

### (液位) 浮球开关、端子箱和穿线管及电缆型号

### (Liquid level) floating ball switch, terminal box, wire pipe and cable model

#### (液位) 浮球开关 (Level) Float Switches

#### (液位) 浮球开关原理图 (Level) Float switches schematic



本说明书和污水污物潜水电泵样本上均标出最低液位，“▽”即电机的定子部分被介质淹没一半的液位。

液位浮子开关是当电控柜置于自动挡时使用的。

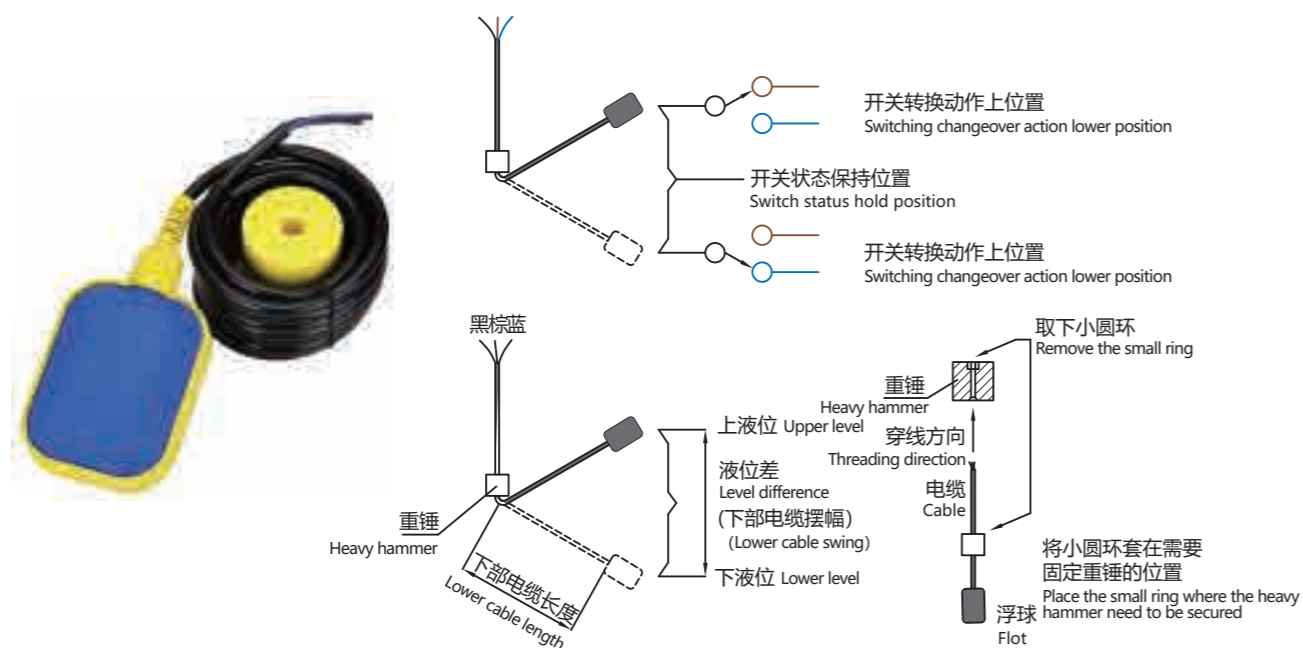
液位复杂开关的接线盒设置：液位浮子开关的电缆中有黑、棕、蓝三根线芯。浮球浮起时，浮子内部接点将黑、棕两线芯接通，黑与蓝线芯断开；浮球下垂时正相反，内部接点将黑、蓝两线芯接通，而将黑与棕线芯断开。浮球在中间位置时内部开关为原始状态保持位置，只有到图示浮起或下垂时位置时内部开关才转换动作。排水场合，将黑、棕两线芯接入控制柜，蓝色线芯必须包扎绝缘；供水场合，将黑、蓝色两线芯接入控制柜，棕色线芯必须包扎绝缘。若用一个浮球开关控制开泵、停泵两个液位，可调整重锤在电缆上的位置，也就确定了泵开启和关闭的液位差，从原理上讲，一只浮球开关可实现一组上下液位启、停泵控制。但是，如果液位差较大，浮球摆臂长度随之增大，从重锤到浮球这段电缆的自重会影响液位控制的精度，故本系列产品电控柜浮球开关是这样设置：对主泵或大泵，用2只浮球开关分别控制启、停液位；对小泵或超高水位增开的备用泵，则用一个浮球开关来控制开、停泵的两个液位。用户需要超出规定数量的浮球开关或不订购天泉的专用控制柜时，也可单独订购浮球开关。

The lowest level is marked on this specification and the sample submersible pump, and "▽" is the level at which the stator part of the motor is submerged by the medium.

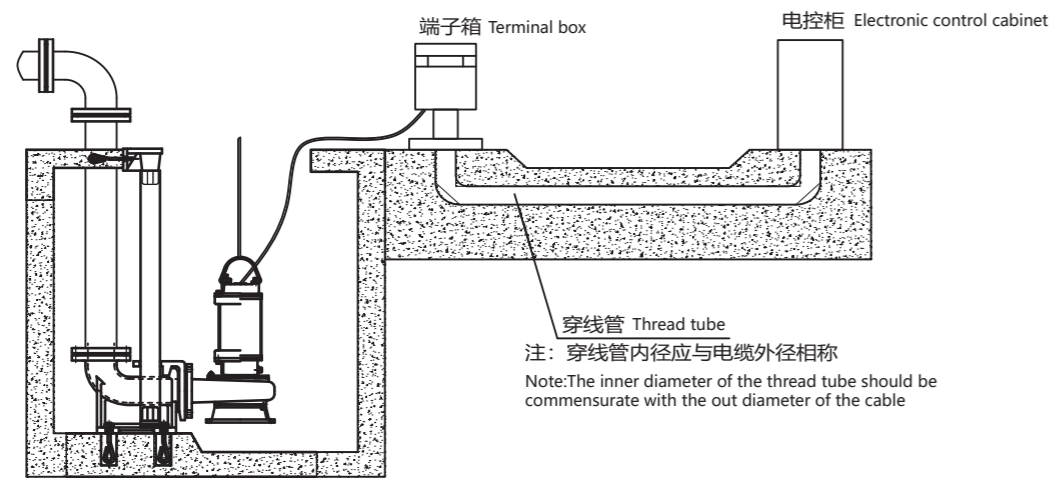
The liquid level float switch is used when the electric control cabinet is placed in the automatic gear.

Terminal box setting of liquid level complex switch: there are black, brown and blue wire cores in the cable of liquid level float switch. When the floating ball floats, the inner contact of the float connects the black and brown cores, and disconnects the black and blue cores; when the floating ball drops, the inner 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, and the internal switch is switched only when the up or down position is shown. In drainage occasions, two black and brown cores shall be connected to the control cabinet, and the blue wires must be wrapped and insulated; for water supply occasions, two black and blue cores shall be connected to the control cabinet, and brown wires must be wrapped and insulated. If a floating ball switch is used to control the two levels of opening the pump and stop the pump, the position of the heavy hammer on the cable can be adjusted, which determines the difference between the opening and closing of the pump. In principle, a floating ball switch can realize the control of a group of upper and lower levels to start and stop the pump. However, if the liquid level difference is large, the length of the floating ball swing arm increases, the weight of the cable affects the precision of liquid level control, so the float switch of this series is set as follows: for the main pump or large pump, use two floating ball switches to control the starting and stop levels respectively; for the small pump or extra-high water level, use a float switch to control the two levels of open and stop pump. Users who need to exceed the specified number of float ball switches or those who do not order a special control cabinet of Tianquan can also order them separately.

# 配套电控柜 Complement electric control cabinet



端子箱和穿线管 Terminal box and thread tube



电控柜距泵房较远时，可设置端子箱，端子箱为选购件。

When the electric control cabinet is far from the pump room, the terminal box can be set, and the terminal box is the purchase part.

上图仅是示意性的，并不代表设计规范。泵站设计和安全等方面事项应根据相关标准或规范处理。

The figure above is only schematic and does not represent the design specification. The design and safety of the pump station shall be handled according to the relevant standards or specifications.

需设置穿线管（用户自备）时，应按电缆外径确定穿线管内径。

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

根据下表尺寸和安装数量来合理选择穿线管。

Select the thread-through pipe reasonably according to the size and installation quantity of the table below.

序号 No.	电机型号 Motor model	动力电缆 Power cable	控制电缆 Control cable	单根动力电缆外径 Outer diameter of a single Power cable (mm)	控制电缆外径 Control cable outer diameter (mm)
1	WQD-160-11/2	3×4+1×4	7×1.5	18	13.5
2	WQD-160-15/2	3×6+1×4		19	
3	WQD-160-18.5/2	3×10+1×6		28	
4	WQD-160-11/4	3×4+1×4		18	
5	WQD-160-15/4	3×6+1×4		19	
6	WQD-180-22/2	3×10+1×6		28	
7	WQD-180-18.5/4				
8	WQD-180-22/4	3×6+1×4		28	
9	WQD-180-15/6				
10	WQD-180-11/8	3×4+1×4			
11	WQD-180L-30/2	3×16+1×6		28	
12	WQD-180L-37/2				
13	WQD-180L-30/4	3×10+1×6		28	
14	WQD-180L-18.5/6				
15	WQD-180L-22/6	3×6+1×4			
16	WQD-180L-15/8	3×6+1×6			
17	WQD-225-37/4	3×25+1×10			
18	WQD-225-45/4	3×16+1×6			
19	WQD-225-30/6	3×10+1×6		25	
20	WQD-225-18.5/8				
21	WQD-225-22/8	3×25+1×10			
22	WQD-225L-55/2	3×25+1×10			
23	WQD-225L-55/4	3×25+1×10			
24	WQD-225L-37/6	3×25+1×10			
25	WQD-225L-30/8	3×16+1×6			
26	WQD-280-75/4	3×35+1×10			
27	WQD-280-90/4	3×50+1×16			
28	WQD-280-45/6	3×25+1×10			
29	WQD-280-55/6	3×25+1×10			
30	WQD-280-37/8	3×16+1×6			
31	WQD-280-45/8	3×25+1×10			
32	WQD-315-110/4	3×70+1×25			
33	WQD-315-132/4	3×70+1×25			
34	WQD-315-160/4	3×95+1×35		48	
35	WQD-315-185/4				
36	WQD-315-200/4	3×95+1×35			
37	WQD-315-75/6	3×35+1×10			
38	WQD-315-90/6	3×50+1×16			
39	WQD-315-110/6	3×70+1×25			
40	WQD-315-132/6	3×70+1×25			
41	WQD-280-55/8	3×25+1×10			
42	WQD-315-75/8	3×35+1×10			
43	WQD-315-90/8	3×50+1×16			
44	WQD-315-110/8	3×70+1×25			
45	WQD-355-220/4	3×120+1×35			
46	WQD-355-160/6	3×95+1×35		48	
47	WQD-355-185/6				
48	WQD-355-200/6	3×95+1×35			
49	WQD-355-220/6	3×120+1×35			
50	WQD-355-250/6	3×150+1×50			

注：机座号160/160L的电机若增加下轴承测温，则需要单独一根控制电缆YVC7×1，外径13.5mm。

Note: If the motor seat number 160/160L increases the bearing temperature measurement, a separate control cable YVC7×1 with outer diameter 13.5mm is required.

# 供货范围

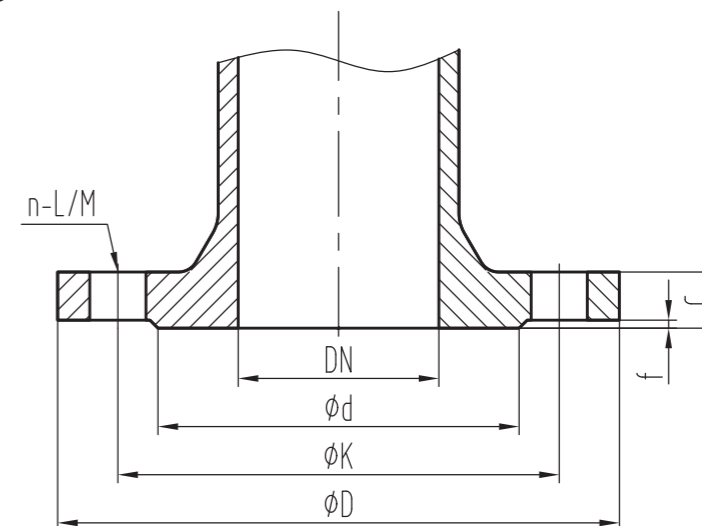
## Scope of supply

供货物项 Item for goods		湿式安装 Wet installation					
		自动耦合 Autocoupling Z	固定式底座 Fixed base P	软管移动 Hose moves R	硬管移动 Hard tube movement Y	单泵 Single pump	
供货选择 Supply choice	安装方式 Mode of install						
成套供应件 Complete supply parts	主泵 (8m电缆长度) Main pump(8m cable lenth)	✓	✓	✓	✓	✓	
	自动耦合装置 Automatic coupling device	出水管座 Outlet seat	✓				
		耦合架 Coupling frame	✓				
		导杆架 Guide rod frame	✓				
	底座 Base		✓	✓	✓		
	弯管接头+连接附件 Bend piece+coupling				✓		
软管弯接头+连接附件 Hose bending joints+coupling			✓				
必备件 Necessary parts	导杆 Guide rod	✓					
	膨胀螺栓 Expansion bolts	✓					
	地脚螺栓 Foundation bolts	✓					
普通控制柜 Ordinary control cabinet	✓	✓	✓	✓	✓		
选购件 Choose a piece	弯管接头+连接附件 Bend piece+coupling		✓				
	软管弯接头+连接附件 Hose bending joints+coupling		✓				
	不锈钢吊绳及绳夹 S. Steel hanging rope & clamp	✓	✓	✓	✓	✓	
	吊泵用铁链及卸扣 Iron chain & unloading bucke	✓	✓	✓	✓	✓	
	锥管 Cone tube	✓	✓		✓	✓	
	配对法兰 Companion flange	✓	✓		✓	✓	
	智能控制柜 Intelligent control cabinet	✓	✓	✓	✓	✓	
可选备件 Optional spare parts	叶轮 Impeller	✓	✓	✓	✓	✓	
	轴承 Bearing	✓	✓	✓	✓	✓	
	机封 Machine seal	✓	✓	✓	✓	✓	
	O形圈 O ring	✓	✓	✓	✓	✓	

# 法兰

## Flange

### 法兰尺寸 Flange size



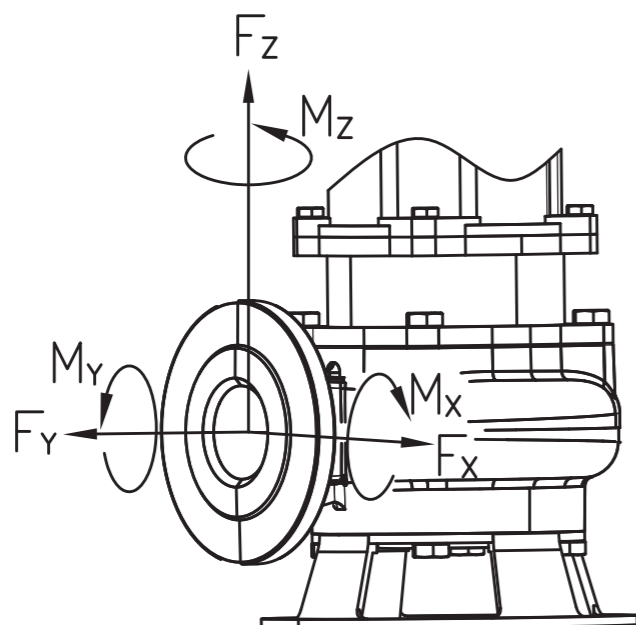
符合GB/T17241.6-2008, 等效于ISO7005-2/EN1092-2, PN6、PN10压力等级配合安装尺寸图和表一起使用

Conistent with GB/T17241.6-2008, equivalent to ISO7005-2 / EN1092-2, PN6、PN10 Pressure class with the installation size drawing and the table

整体铸铁法兰GB/T17241.6-2008 RF (未注单位: mm)										
Integral cast-iron flange GB/T17241.6-2008 RF (unlisted unit: mm)										
DN	PN (bar)	D	K	L	n (个) (pcs.)	M	d	f	C	
									HT250	QT400 QT500
65	6	160	130	14	4	12	108	3	16	16
65	10	185	145	19	4	16	118	3	20	19
80	6	190	150	19	4	16	124	3	18	18
80	10	200	160	19	8	16	132	3	22	19
100	6	210	170	19	4	16	144	3	18	18
100	10	220	180	19	8	16	156	3	24	19
150	6	265	225	19	8	16	199	3	20	18
150	10	285	240	23	8	20	211	3	26	19
200	6	320	280	19	8	16	254	3	22	18
200	10	340	295	23	8	20	266	3	26	20
250	6	375	335	19	12	16	309	3	24	20
250	10	395	350	23	12	20	319	3	28	22
300	6	440	395	23	12	20	363	4	24	22
300	10	445	400	23	12	20	370	4	28	24.5
350	10	505	460	23	16	20	429	4	30	24.5
400	10	565	515	28	16	24	480	4	32	24.5
500	10	670	620	28	20	24	582	4	34	26.5
600	10	780	725	31	20	27	682	5	35	30

# 泵出口管口载荷

## Pump outlet nozzle load



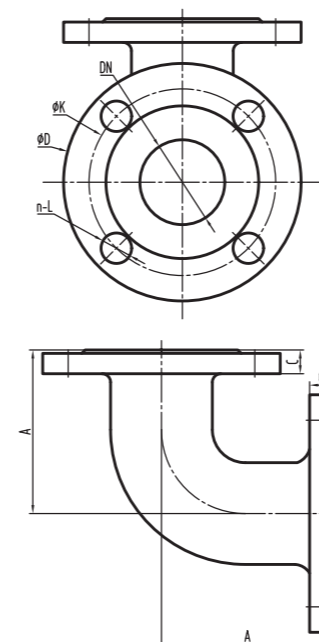
灰铸铁 Gray Pig Iron	DN (mm)	力 Forces F (N)				力矩 Moments M (N·m)			
		F <sub>x</sub>	F <sub>y</sub>	F <sub>z</sub>	Σ F*	M <sub>x</sub>	M <sub>y</sub>	M <sub>z</sub>	Σ M*
潜水排污泵 吐出法兰--Y向 Submersible sewage pumps Y- discharge nozzle	65	648	735	595	1155	525	385	420	770
	80	788	875	718	1383	560	403	455	823
	100	1050	1173	945	1838	613	438	508	910
	150	1575	1750	1418	2748	875	613	718	1278
	200	1910	2200	1720	3396	1075	731	842	1539
	250	2432	2702	2216	4253	1375	913	1116	1985
	300	3038	3240	2660	5167	1671	1115	1354	2414
	350	3513	3906	3118	6115	1890	1264	1515	2720
	400	3848	4145	3322	6560	2005	1369	1592	2910
500	5980	6640	5380	10430	4335	3075	3540	6390	
600	7180	7960	6440	12510	6060	4320	4980	8960	

球墨铸铁 Nodular cast iron	DN (mm)	力 Forces F (N)				力矩 Moments M (N·m)			
		F <sub>x</sub>	F <sub>y</sub>	F <sub>z</sub>	Σ F*	M <sub>x</sub>	M <sub>y</sub>	M <sub>z</sub>	Σ M*
潜水排污泵 吐出法兰--Y向 Submersible sewage pumps Y- discharge nozzle	65	880	1120	740	1610	890	450	660	1200
	80	1070	1330	890	1930	950	470	720	1280
	100	1420	1780	1160	2560	1330	680	1000	1800
	150	2490	3110	2050	4480	2300	1180	1760	3130
	200	3780	4890	3110	6920	3530	1760	2580	4710
	250	5340	6670	4450	9630	5020	2440	3800	6750
	300	6670	8000	5340	11700	6100	2980	4610	8210
	350	7120	8900	5780	12780	6370	3120	4750	8540
	400	7700	8290	6650	13130	6550	3520	4920	8920
	500	11980	13300	10780	20900	13300	8820	10600	19180
600	14370	15930	12890	25030	18400	10850	14920	26060	

# 弯管接头

## Elbow joint

适用于泵体吐出法兰与管路之间的连接，用户亦可根据管路实际法兰 (DN&PN) 需求选用，在订单上注明。  
It is suitable for the connection between the pump body vomit outlet flange and the pipe. Users can also select the actual pipe flange (DN & PN) demand and indicate on the order.

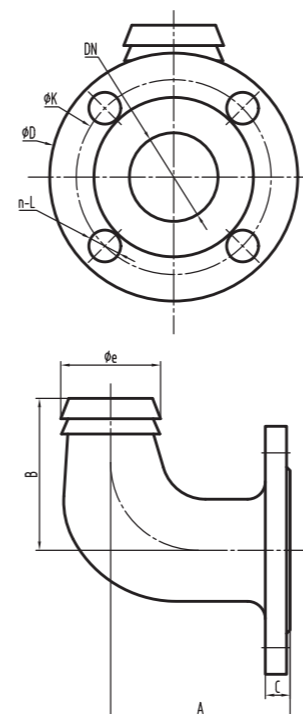


管路法兰与泵体法兰公称压力一致的弯管接头 除n外其他尺寸单位为mm  
The pipe flange matches the pump body flange Other dimensions are in mm except n

规格 Size	DN	K	D	n-L	C	法兰标准及压力等级 Flange standards and PN	A
65-6	65	130	160	4-14	16	GB/T17241.6 PN6	130
65-10	65	145	185	4-19	20		160
80-6	80	150	190	4-14	18		155
80-10	80	165	200	8-19	22		180
100-6	100	170	210	4-19	18		160
100-10	100	180	220	8-19	24		200
150-6	150	225	265	8-19	20		220
150-10	150	240	285	8-23	26		230
200-6	200	280	320	8-19	22		270
200-10	200	295	340	8-23	26		280
250-6	250	335	375	12-19	24		320
250-10	250	350	395	12-23	28		330
300-6	300	395	440	12-23	24		370
300-10	300	400	445	12-23	28		380
350-10	350	460	505	16-23	30		440
400-10	400	515	565	16-28	32		460
500-10	500	620	670	20-28	34	540	
600-10	600	725	780	20-31	35	640	

# 软管弯接头

## Hose joint



软管弯接头尺寸表 Hose joint size table

除n外其他尺寸单位为mm Other dimensions are in mm except n

规格 Size	DN	K	D	n-L	C	PN (bar)	A	B	e	*配软管内径φ Inner diameter of the hose
65-6	65	130	160	4-14	16	6	130	160	74	76
80-6	80	150	190	4-18	18		135	190	88	90
100-6	100	170	210	4-18	18		160	240	100	102
150-6	150	225	265	8-18	20		220	320	150	152
65-10	65	145	185	4-19	20	10	130	160	74	76
80-10	80	160	200	8-19	22		135	190	88	90
100-10	100	180	220	8-19	24		160	240	100	102
150-10	150	240	285	8-23	26		220	320	150	152

# 自动耦合安装相关尺寸 软管移动安装配用软管尺寸表

Dimensions for automatic coupling installation  
Hose movement installation equipped  
with hose size table

附件 泵排出口径 Pump discharge caliber	65	80	100	150	200	250	300	350	400	500	600
导杆 Guide rod	自来水管/无缝钢管 Water pipe/Seamless steel pipe										
	1.5"/ 48×2.5			2"/ 60×2.5				12.6#槽钢 12.6# Channel Steel			
导杆长度 Guide rod length	根据池深确定 Determined by pool depth										
地脚螺栓数量 及规格 Number and specification of anchor bolts	4-M16×300			4-M24×400		4-M30×500		4-M36×630		6-M42×630	
膨胀螺栓数量 及规格 Number and specification of expansion bolts	2-M10×150 I						2-M16×150 I				
地脚螺栓的 预留孔尺寸 Reserve hole size for the anchor bolts	80×80×350			100×100×450		130×130×550		160×160×700			
配用的软管 弯接头规格 Specification of the used hose joint	65-6	80-6	100-6	150-6	/						
移动安装 软管内径 Inner diameter of the installation hose	76	90	102	152	/						

# 备件规格型号表 Size of spare parts

电机功率 Motor power	11/15/18.5	11/15	22	18.5/22	15	30/37	30	18.5/22	15	45	37/45	30	18.5/22
电机极数 Motor pole number	2p	4p	2p	4p	6p	2p	4p	6p	8p	2p	4p	6p	8p
叶轮 impeller	泵型号后加“-01”，如200WQ400-12-22型泵的叶轮代号为200WQ400-12-22-01 Add “01” after the pump model												
上轴承 Upper bearing	6310-2Z			6311-2Z			6311-2Z			6313-2Z			
下轴承 Lower bearing	6310+7310B			6310+7310B			6310+7310B			6313+7313B			
水封 Water seal	MN109-45			MN109-45			MN109-45			MN109-55			
油封 Oil seal	MN109-45			MN109-45			MN109-45			MN109-55			
O形圈 O ring	Φ8×2.65 2×Φ261×3.55 Φ195×3.55			Φ8×2.65 2×Φ290×3.55 Φ195×3.55			Φ8×2.65 2×Φ290×3.55 Φ230×3.55			Φ8×2.65 2×Φ370×4.65 Φ270×3.55			

电机功率 Motor power	55	55	37	30	75	75/90	45/55	37/45	110/132/160 /185/200	75/90/ 110/132	55/75/ 90/110	250/315	160/185 200/220/ 250	132/160/ 185/200
电机极数 Motor pole number	2p	4p	6p	8p	2p	4p	6p	8p	4p	6p	8p	4p	6p	8p
叶轮 impeller	泵型号后加“-01”，如200WQ400-12-22型泵的叶轮代号为200WQ400-12-22-01 Add “01” after the pump model													
上轴承 Upper bearing	6313-2Z			18317-2Z			6319-2Z			6310-2Z				
下轴承 Lower bearing	6313+7313B			18317+7317B			6319+7319B			6310+7310B				
水封 Water seal	MN109-55			MN109-70			MN109-75			MN109-45				
油封 Oil seal	MN109-55			MN109-70			MN109-75			MN109-45				
O形圈 O ring	Φ8×2.65 2×Φ370×4.65 Φ270×3.55			Φ8×2.65 2×Φ443×5.3 Φ290×3.55			Φ10×2.65 2×Φ523×5.3 Φ350×3.55			Φ16×2.65 2×Φ600×7 Φ495×5.3				



# 订货须知

## Notes on Order -placing

亲爱的客户：

请在天泉销售人员或代理商的协助下填写下表，以便为您提供的泵解决方案可以满足您在泵型号、材料、轴封、附件、安装条件等各方面要求

WQ系列污水污物潜水电泵数据单		编号：	
客户信息		产品信息	
公司名称：		项目名称：	
联系人：		产品型号：	
电话：		台数：	
传真：		安装方式：	
E-mail：			

### 介质

液体类型：\_\_\_\_\_

最高温度：\_\_\_\_\_ (°C)

最低温度：\_\_\_\_\_ (°C)

浓度：\_\_\_\_\_ (%)

PH值：\_\_\_\_\_

运动粘度：\_\_\_\_\_ (mm<sup>2</sup>/s)

密度：\_\_\_\_\_ (kg/m<sup>3</sup>)

固体颗粒含量：\_\_\_\_\_ (质量%)

颗粒最大直径：\_\_\_\_\_ (mm) 纤维最大长度：\_\_\_\_\_ (mm)

### 环境

环境温度：\_\_\_\_\_ (°C)

### 安装条件

池深：\_\_\_\_\_ (m)

最高浸没深度：\_\_\_\_\_ (m) 最低液位：\_\_\_\_\_ (m)

三种方式打  选择：自动耦合式安装 (Z) 、软管移动式安装 (R)  和硬管移动式安装 (Y)

### 参数

最小流量点 Q: \_\_\_\_\_ (m<sup>3</sup>/h) H: \_\_\_\_\_ (m)

额定流量点 Q: \_\_\_\_\_ (m<sup>3</sup>/h) H: \_\_\_\_\_ (m)

最大流量点 Q: \_\_\_\_\_ (m<sup>3</sup>/h) H: \_\_\_\_\_ (m)

### 材质：标配或可选择过流部件材料

泵体、泵盖 \_\_\_\_\_

叶轮 \_\_\_\_\_

机封：标配两个单端面机封串联

电机：标配安徽超达，如果介质密度 > 1050kg/m<sup>3</sup>，电机功率应会升档。标配电缆长度8m，若需其它长度请在订单上注明：防护等级、绝缘等级、转速等。

选购件和备件：须按照供货范围部分类别填写另外订单，注明规格及数量。

Dear customer:

Please fill in the following table with the assistance of Tianquan sales personnel or agent, so that the pump solution provided for you can meet your requirements in the pump model, material, shaft seal, accessories, installation conditions and other aspects.

Data sheet of small sewage sewage submersible electric pump No.:	
Customer information	On-product information
Corporate name:	Project name:
Contacts:	Product type:
Telephone:	Set number:
Fax:	Way to install:
E-mail:	

### Medium

Liquid type: \_\_\_\_\_

Max. temperature: \_\_\_\_\_ (°C)

Min. temperature: \_\_\_\_\_ (°C)

Potency: \_\_\_\_\_ (%)

PH value: \_\_\_\_\_

Kinematic viscosity: \_\_\_\_\_ (mm<sup>2</sup>/s)

Density: \_\_\_\_\_ (kg/m<sup>3</sup>)

Solid particle content: \_\_\_\_\_ (quality %)

The particle has a maximum diameter: \_\_\_\_\_ (mm) Fiber maximum length: \_\_\_\_\_ (mm)

### Environment

Ambient temperature: \_\_\_\_\_ (°C)

### Installation conditions

Pool deep: \_\_\_\_\_ (m)

Maximum immersion depth: \_\_\_\_\_ (m) Minimum liquid level: \_\_\_\_\_ (m)

Three ways to play (choose: ) automatic coupling installation (Z)

hose mobile installation (R)

hard tube mobile installation (Y)

### Parameter

Minimum flow point Q: \_\_\_\_\_ (m<sup>3</sup>/h) H: \_\_\_\_\_ (m)

Rated flow point Q: \_\_\_\_\_ (m<sup>3</sup>/h) H: \_\_\_\_\_ (m)

Maximum flow point Q: \_\_\_\_\_ (m<sup>3</sup>/h) H: \_\_\_\_\_ (m)

**material:** Standard or optional overflow component material

Pump casing, pump casing cover \_\_\_\_\_

Impeller \_\_\_\_\_

**Machine seal:** Standard with Two single face seals in series

**Motor:** Standard with Anhui Chaoda, if the medium density is > 1050 kg/m<sup>3</sup>, the motor power should be upgraded. Standard cable length is 8m, if other lengths are required, please indicate on the order: Protection grade, insulation grade, rotational speed, etc.

**Purchase parts and spare parts:** Additional orders must be filled in according to the scope of supply part category, indicating the specification and quantity.