



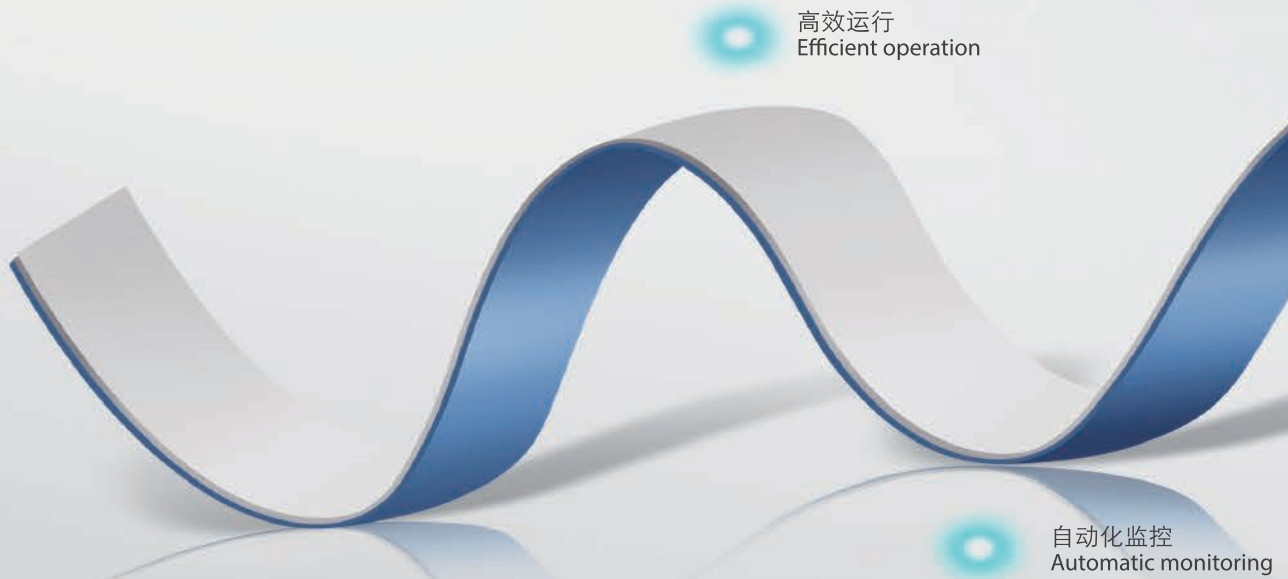
川源(中国)机械有限公司
GSD (China) Co., Ltd.



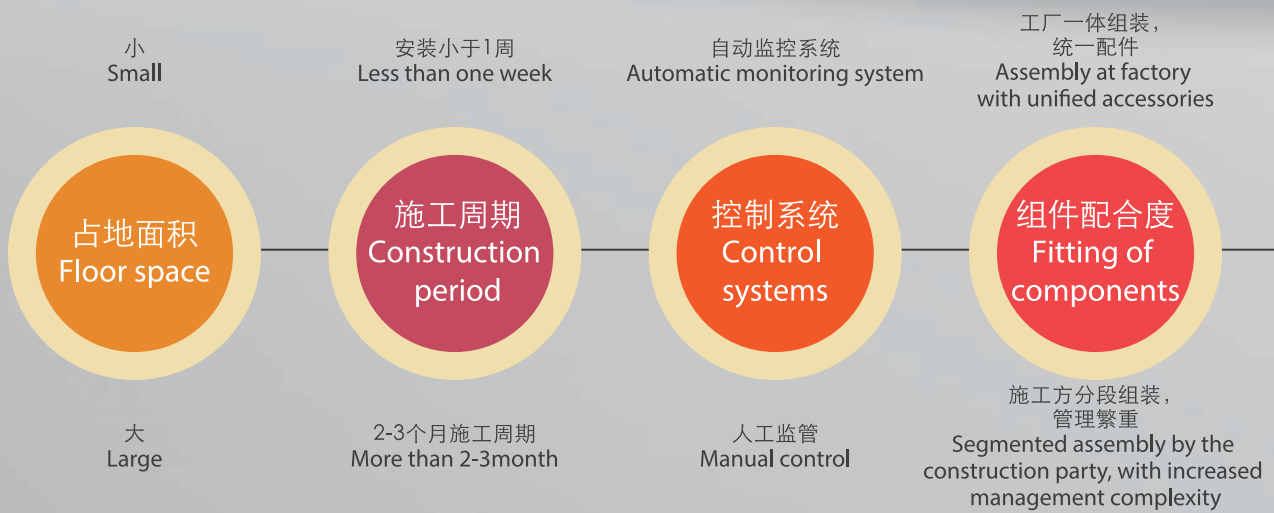
TPS预制泵站

TPS prefabricated pumping station

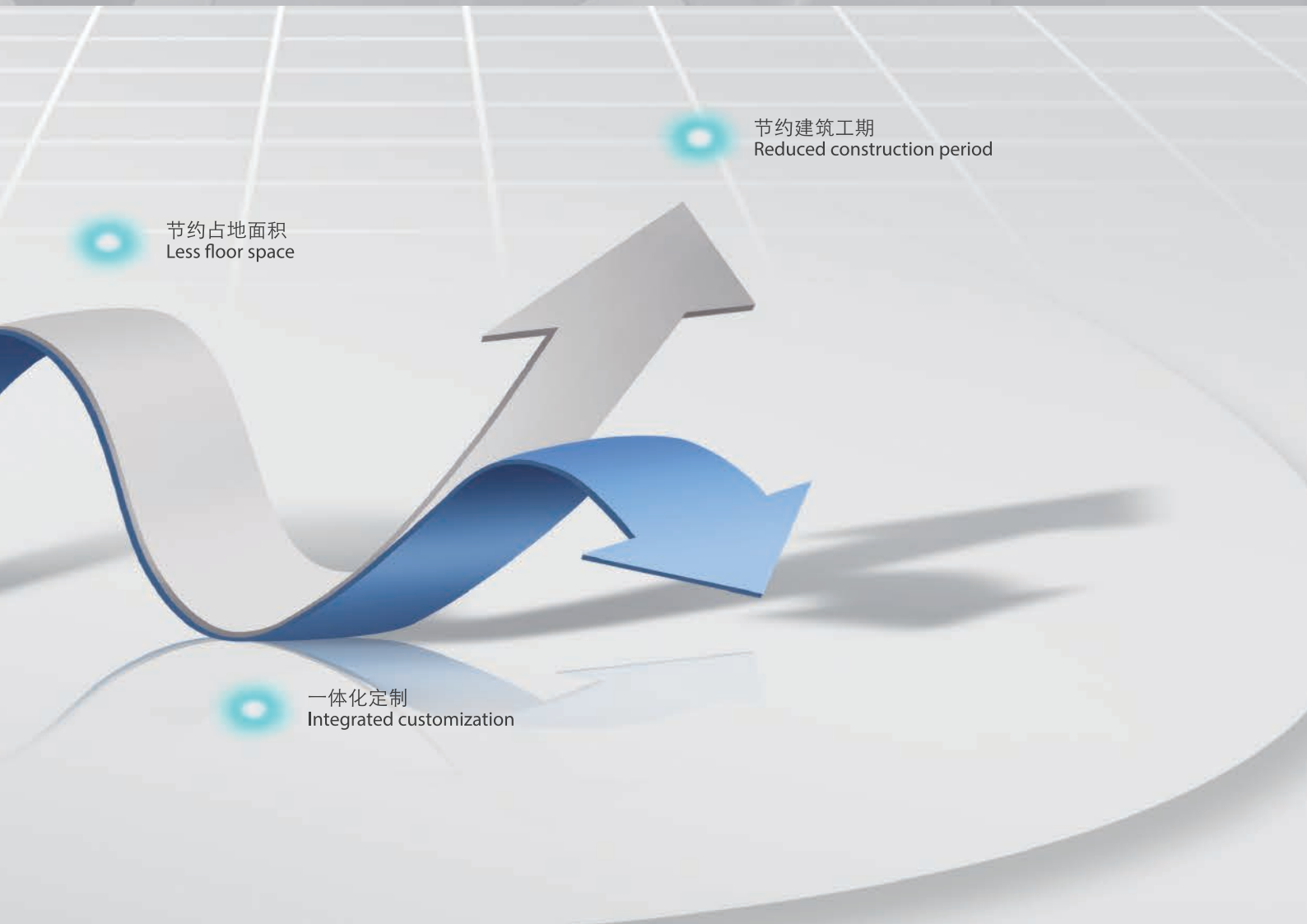
为何选择预制泵站 Why prefabricated pumping stations



 **TPS预制泵站**
TPS prefabricated pumping stations



 **传统混凝土泵站**
Traditional concrete pumping stations



节约占地面积
Less floor space

节约建筑工期
Reduced construction period

一体化定制
Integrated customization

玻璃钢材质，
使用寿命长
GRP material used with
extended service life

地埋式，噪声低
Buried installation
and low noise

适用于施工作业面小、
人口密度大的地方
Suitable to widely install in
areas with small construction
area and high-density population

节约初建资金投入与运营成本
To save the initial investment
and operating costs

使用寿命
Service life

噪音
Noise

安装条件
Installation
condition

投资成本
Investment
costs

混凝土材质，
使用寿命短
Concrete material used with
shorter service life

噪音大、
影响周围环境
Loud noisy peripherd effect

需要开阔施工空间，
影响交通与居民
Need open space for
construction; influence of
traffic and residents

综合人工与建设施
工，投入成本高
High input costs
including labor cost
and construction cost



TPS 预制泵站

TPS prefabricated pumping station



概述 General

- 预制泵站，结构紧凑，体积小。
- 安装周期短，无大量基础，省时省力。
- 地埋安装，有效防止异味散发。
- 自动化集成度高，可自动控制与远程监控。
- 筒体采用GRP高强度耐腐蚀塑料，重量更轻，寿命更长。

- Prefabricated pumping station with compact structure and small footprint.
- It has short installation period, without numbers of foundations, saving labor and time.
- It is installed underground, effectively preventing emission of peculiar smell.
- It has high automatic integration level, which allows automatic control and remote monitoring.
- Cylinder body is used GRP high strength anti-corrosion plastic, which is lighter and long service life in service life.



水泵

潜水泵特点

采用单(双)流道形式，避免了水流在低速情况下可能造成的堵塞、缠绕。使污水中的纸、纺织物、垃圾袋及其它物料能自由通过。

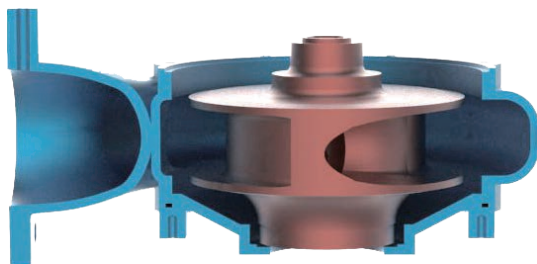
Features

Design optimization of bottom of anti-deposition pit

Self-cleaning and Reduction of particle deposition.
Improve the environment of the pumping station.
Reduce the maintenance costs.

不堵塞叶轮

当纤维材料、现代垃圾等固体物进入进水口时，会因积聚而降低叶轮效率。当固体在叶轮内继续积聚时，电机热保护会跳闸，引起停泵，从而导致高昂代价的预计外服务要求。GSD采用最新无堵塞理论设计的叶轮，流道宽大，水流畅通，污物容易通过效率高。所有叶轮均经动、静平衡校正，最大程度的减少了振动和噪音，运转平稳，寿命长。



Non-clog impeller

The efficiency of impeller will reduce, when fiber, garbage and other solid into the water inlet. When solid accumulate within the impeller, motor thermal protection tripped and stop the pump, which can causes extra expense in repairs. GSD design new statically & dynamically balanced Non-Clog impeller, which allow sizable spherical solids to pass the flow pass-age easily without clogging. It adopts rigorous techniques so that vibration and noise can be farthest reduced.



特点

防淤积防臭底部设计

自清洁设计，减少沉积，改善泵站环境。减少维护费用。



Features

Optimization design of bottom of anti-deposition pit

Self-cleaning and Reduction of particle deposition. Improve the environment of the pumping station. Reduce the maintenance costs.

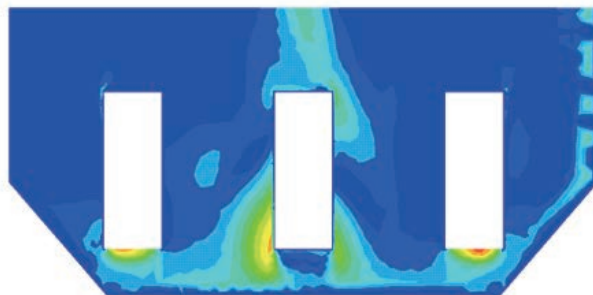
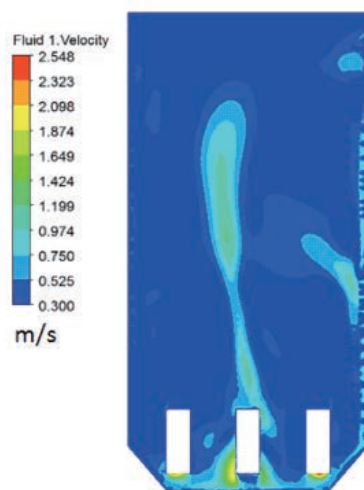


泵站底部

坑底优化自清洁设计，可以有效防止沉淀的发生。并经过江苏大学国家流体中心CFD模拟验证，确保设计流态，完美实现自清洁。

Bottom structure

Optimization design of self cleaning pit, Can effectively prevent the occurrence of precipitation. Through the Jiangsu University National Center of CFD fluid simulation .



筒身

坚固的筒身设计

采用玻璃纤维缠绕成型工艺，计算机控制确保厚度均匀。玻璃纤维作筋骨，合成树脂填充，凝为一体，其抗拉强度超过碳素钢。同时GRP也是良好的防腐材料，确保长期使用。



Solid cylinder design

It adopts fiberglass filament winding technology, and the thickness is ensured to be uniform under the control of computer. Fiberglass is served as main structure, and synthetic resin is served as infilling, both of which are coagulated as an integral, whose material strength is higher than carbon steel. meanwhile GRP is also good anti-corrosive material, ensuring long-term use.

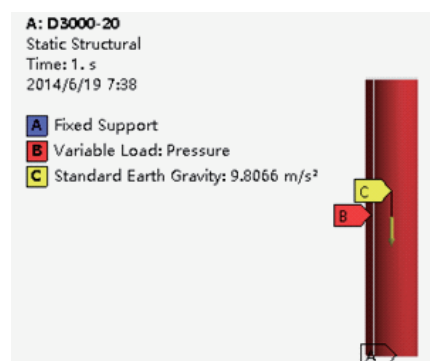
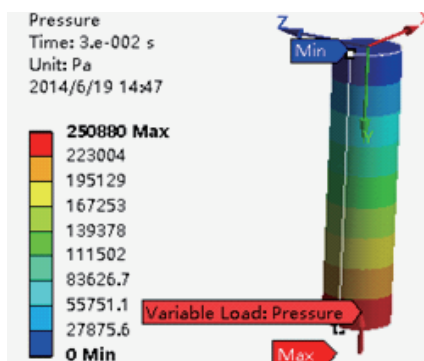


优异的材料强度

井筒外壳为GRP玻璃钢材料制作，根据相关资料，普遍玻璃钢的弹性模量为 8.6×10^{10} Pa、泊松比为0.35、密度为 1500 kg/m^3 、抗剪切模量、屈服强度、张力强度通过软件的数据数据库自动匹配，同时十年后的材料属性强度取以上数据的85%，二十年后的材料属性强度取以上数据的70%。

Excellent material strength

Shaft shell is made of Glass fiber reinforced plastics, according to the relevant data, the elastic modulus of common GRP is 8.6×10^{10} Pa, poisson ratio is 0.35, density is 1500 kg/m^3 , and the shear modulus, yield strength, tensile strength are automatically matched by software. Meanwhile, the properties of material after ten years adopts 85% of the data, and adopts 70% after twenty years.



控制系统

泵站的控制系统采用西门子元器件，保证控制系统的通用性。采用PLC作为控制核心元件，触摸屏作为人机交换界面，人性化，智能化程度高。配有EP6远程通信模块，当设备出现故障会将信息传送到管理员手机上。管理员也可远程控制设备的启动和停止，来改变设备的运行状态。

Control system

The control system of pump station adopts SIEMENS components, which ensures the versatility of control system. Using PLC as the core component, touch screen as interface, highly humanly & intelligence degree is high. Equipped with EP6 remote communication module, when the device fails to transmit information to the administrator on the phone. Can remote control equipment start and stop, to change the operating status of the device.



EP6特点

- 智能模块涵盖2G~5G的功能
- 在不停机的情况下，简单操作便可交换控制程序
- 实现实时云端监控、数据收集
- 按频道指定多人分层式的手机短信报警通知管理
- 现场断电时短信通知
- 可设置发送短信前先电话响铃、复位短信通知、持续发送多次异常报警等功能
- 无网络时，手机拨号查询机台状态
- 网络收集最新的100组异常纪录备查
- 连接中央集成管理软件，可实现各频道异常统计报表及异常月报表的自动化

Feature of EP6

- Smart module covers the function of 2G~5G.
- Can simply select control program without stopping system.
- Achieve real-time cloud monitoring, data collection.
- To specify a number of Hierarchical Mobile SMS alarm notification management by channel.
- SMS notification when power been cut off.
- Can be set up to send SMS before the phone rings, reset SMS notification, continuously sending multiple abnormal alarm function.
- When no network, dial-up directly to check system operation data.
- Network collect latest 100 abnormal records for future reference.
- Connecting the central integrated management software, which can achieve the automation of the abnormal statistical reports and abnormal monthly reports of the various channels.

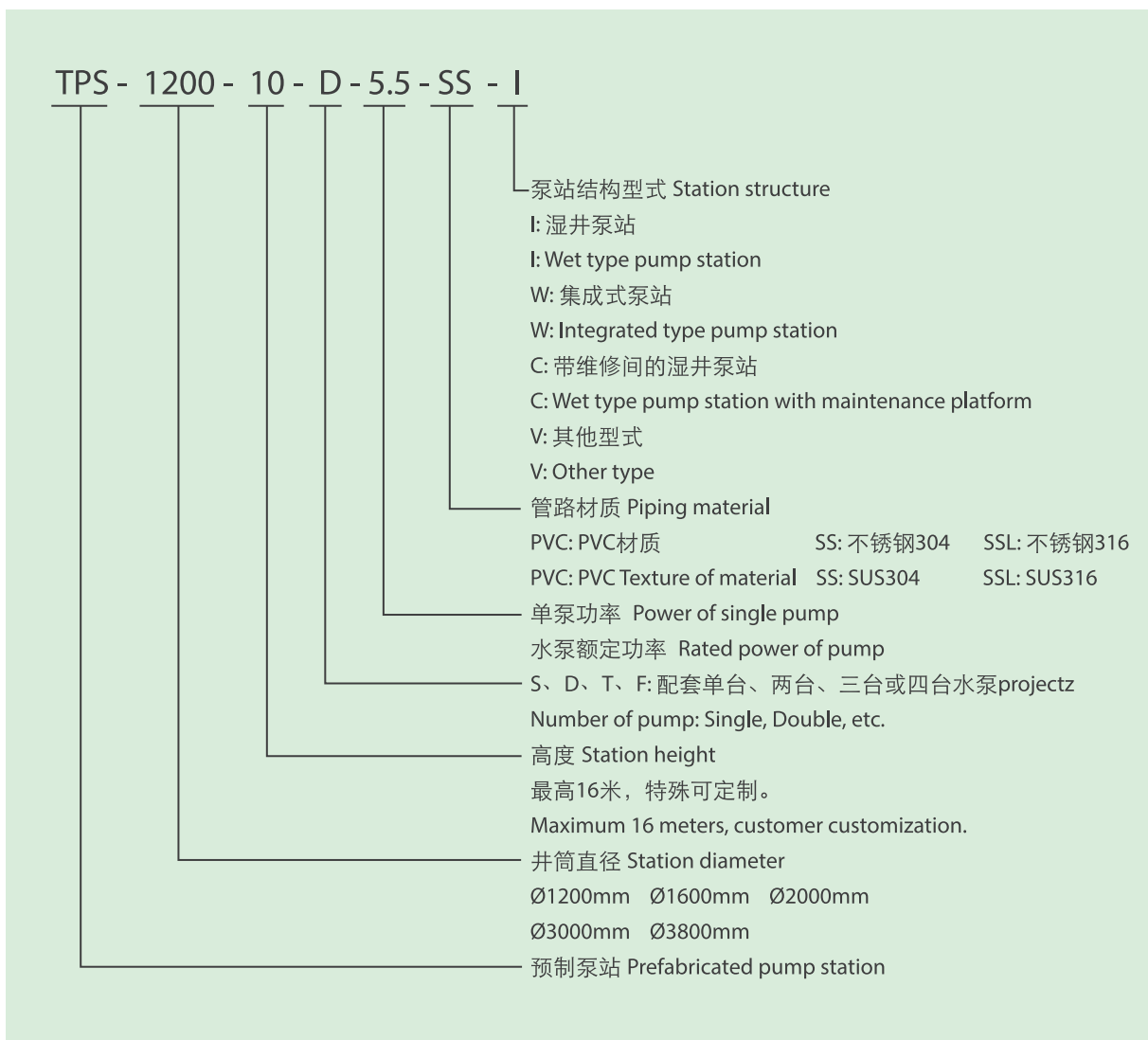
应用范围

预制泵站可以取代传统混凝土泵站，广泛应用于市政工程，公用建筑，新型城镇。

Applied range

Prefabricated pump station can replace traditional concrete pump station, which is widely used in municipal engineering, public buildings, an new type of cities and towns.

型号说明 Type description



泵站参数 Type description

名称 Name		参数 Parameter
泵站直径	Diameter of Pump station	1200~3800mm
标准高度	Standard height of station	≤ 16m
入流流量	Capacity of inflow	≤ 1350L/S

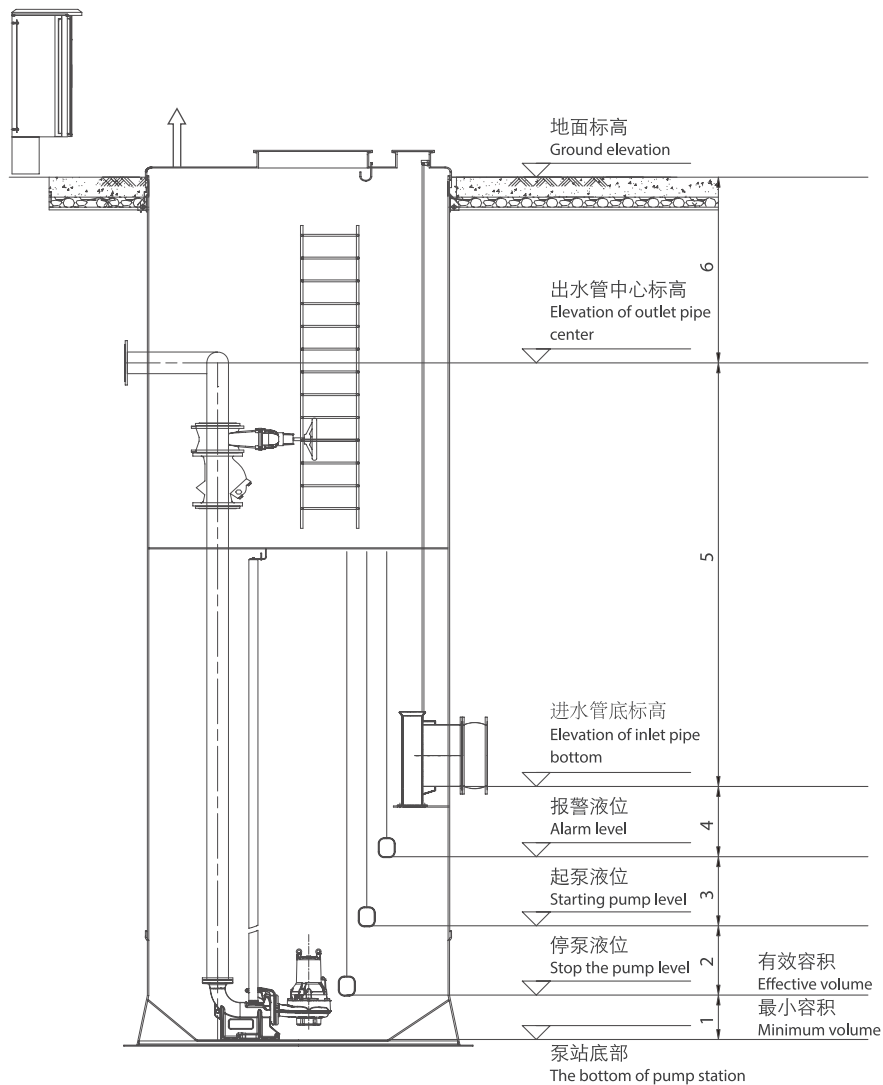
注：泵站尺寸可根据实际工程需要量身设计制造，支持多井筒方案。

Note: The pump station's size is according to the need of project manufacturing quantity body design, and it is supported multi shaft scheme.

材质说明 Material specification

部件 Parts		泵站标准材质 Standard material	可选材质 Optional material
筒身及底部	Body and base	GRP	-
井筒顶部	Top	GRP	-
顶盖（检修孔）安全格栅	Top cap (manhole)	铝合金/Aluminum	GRP
通风管	Vent duct	AISI 304	PVC
法兰	Flange	镀锌钢/Galvanized steel	AISI304/316
止回阀	Check valve	铸铁防腐/Cast iron	AISI304/316
闸阀	Gate valve	铸铁防腐/Cast iron	AISI304/316
导轨、吊链	Guide, lifting chain	AISI 304	AISI316
爬梯	Ladder	AISI 304	GRP
自藕或支架	Coupled device and frame	铸铁防腐/Cast iron	AISI304, AISI316
检修平台	Maintenance platform	GRP	AISI304
锚固螺栓	Anchoring bolt	镀锌钢/Galvanized steel	化学螺栓

泵站尺寸确定图 Selection guide



泵站设计的关键因素—有效容积

启动和停止液位之间的距离将决定泵站的最佳尺寸

- 距离过短可能导致水泵电机频繁启动而超载，而绝大多数污水泵的设计最大启动次数为20次/小时。
- 距离过长可能导致污泥沉积，并且由于泵坑污水停留时间长，也可能增加水泵堵塞的风险。

Critical factor of pump station design-effective volume

The distance between liquid level starting and stop will determine the optimal size of pump station.

- If the distance is too short, the motor of water pump may be started too frequently, resulting in overload, while the most of sewage pumps are designed with a maximum startup of 20 times/h.
- If the distance is too long, sludge may deposit, and due to long duration of stay of pump pit sewage, the risk of water pump blocking may be increased.



预制泵站安装步骤

Installation steps of the integrated pumping station



1
基坑开挖
Excavation of foundation pit



2
整体式交付
Overall delivery



3
装入预制抗浮底板
Installation of the prefabricated anti-floating bottom board



4
安装泵站
Installation of the pumping station



5
灌浆
Grouting



6
回填沙砾土
Backfill of gravel soil



7
连接管路
Pipe connection



8
安装完成
Completion of installation

业绩（施工现场） Performance & Construction site

巢湖项目
Chaohu project



江苏泗阳项目
Siyang project in Jiangsu

大徐镇项目
Da Xu Town Project



南京金牛湖项目
Jinniu Lake project in Nanjing



上海国展中心项目
SNIEC project



欢迎索取以下产品型录



泵系列

潜水泵系列 | 陆上泵系列 | 特种泵系列



搅拌推流系列

搅拌机系列 | 推流器系列



供氧曝气系列

曝气机系列 | 曝气盘系列 | 曝气管系列



风机系列

磁悬浮鼓风机 | 空气悬浮鼓风机 | 三叶罗茨鼓风机系列



污泥处理设备

带式脱水机 | 厢式压滤机 | 叠螺式脱水机 | 污泥干化设备 | 浅层高效气浮设备



智能化系列

智能设备 | 水务设备健康管理 | 水务系统工艺优化智联管理



反应器及套装设备

芬顿反应系统 | MBR膜生物反应器 | 预制泵站 | 一体化污水处理设备



耗材药剂及相关设备

生物绳 | PAC 聚合氯化铝 | PAM 聚丙烯酰胺 | 泡药设备



水处理系统专业合作伙伴

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