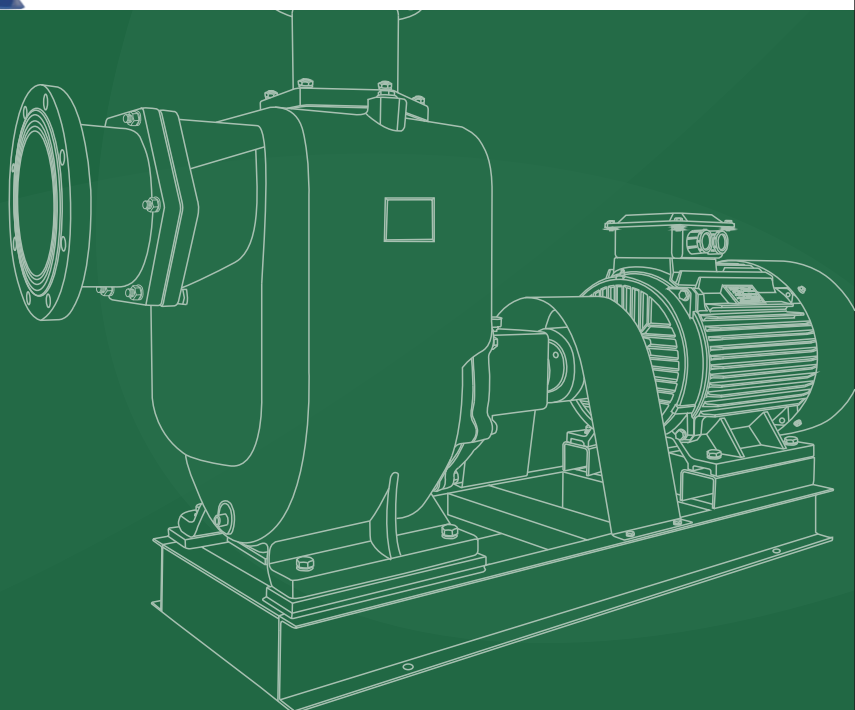


➤➤➤ ZW、ZWL系列  
无堵塞自吸排污泵

ZW, ZWL series non-clogging self-priming sewage pump



SEAPUMP

上海海洋泵阀制造有限公司  
SHANGHAI SEA PUMP & VALVE MFG CO.,LTD



## 企业简介 + AOBUTS

上海海洋泵阀制造有限公司是专业从事水泵、生活消防设备及水泵智能控制开发、生产、销售为一体的股份制企业，本公司运用先进的软件开发、设计产品保证了向顾客提供更优质的产品。

“海洋水泵，泵的海洋”，海洋产品在全国各地设有分公司以及售后服务处，产品已应用于工矿企业、城市污水处理、城市供水、石油化工、农业灌溉等行业。本厂资金雄厚，生产设备先进，检测手段完善，并拥有一批高素质的专业人才队伍，同时ISO9001:2000国际质量管理体系的良好动作，为制造出优质、可靠的产品打下坚实基础。

本公司在“以人为本，科技兴业；以诚为用，质量立业；勇于开拓，锐意进取；追求卓越，走向未来”的方针指导下，不断开拓进取创新发展，在长期的实践中形成了一套完整的质量体系，并配备了一支安装调试维护的售后服务队伍。销售网点辐射全国各大城市，产品行销全国各省、市、自治区，并出口东南亚等国。并以一流的产品、一流的服务赢得了国内外广大用户的信赖和好评。本公司以“一切为了顾客的满意”为宗旨，继往开来，与时俱进。服务于人类建设美好家园。

Shanghai HAIYANG pump & valve Co., Ltd. Is a joint-stock enterprises which specializes in the manufacture of water pumps, fire fighting equipment and pumps intelligent controlling production, sales in one. our company uses advanced software to develop and design products to ensure that customers provide better quality products.

"HAIYANG water pumps, pump of the sea", the HAIYANG products throughout the country with more than 30 branch offices as well as after-sales service, products have been used in industrial and mining enterprises, urban sewage treatment, urban water supply, petrochemicals, agriculture and irrigation sectors. Factory with a strong financial background, advanced production equipment and means of improving the detection and has a number of high-quality professional talent, while ISO9001: 2000 international quality management system of good moves, in order to create high-quality, reliable products to lay a solid foundation.

In this "people-oriented, Industrial Science and Technology; to use for Prudential, the quality of establishing themselves; to open up the courage to strive for progress; the pursuit of excellence, into the future" under the guidance of continuous innovation and development to forge ahead in long-term practice of the formation of a complete set of The quality system and is equipped with an installation of the maintenance of after-sales service team. Radiation sales outlets in major cities nationwide, product marketing provinces, municipalities and autonomous regions, and exports in countries such as South-East Asia. And first-class products, first-class service to win customers at home and abroad trust and praise. The Company take "everything for the customer satisfied" as the purpose, advance with the times, in the service of humanity home.



# 目 录

# Contents

型号意义 Type designation	01
产品概述 Product introduction	01
使用范围 Scope of use	01
产品特点 Product features	01
结构及工作原理说明 Description of structure and working principle	02
泵的结构图 Structure diagram of pump	02
泵机组的结构 Structure of pump unit	02
性能参数 Performance parameter	03
启动前的准备运行 Preparation before startup	04
故障与排除 Troubleshooting	04





# 海洋泵阀

SEA PUMP & VALVE

## ZW、ZWL系列无堵塞自吸排污泵

ZW, ZWL series non-clogging self-priming sewage pump

排污泵系列 Sewage pump series



Zw型联轴式



ZWL型直联式

### 产品概述

ZW型无堵塞自吸式排污泵是在反复研究国内外同类技术的基础上开发成功的一种结构新颖的产品。

该泵集自吸和无堵塞排污于一体,采用轴向回流外混式,并通过泵体、叶轮流道的独特设计,即可像一般自吸清水泵那样不需安装底阀和灌引水,又可吸排含大颗粒固体和长纤维杂质液体。广泛应用于市政排污工程、河塘养殖、轻工、造纸、纺织、食品、化工、电业、纤维、浆料和混合悬浮等化工介质理想的杂质泵。

该泵与国内同类产品相比,具有结构简单,自吸性能好,(自吸高度可达5m),排污能力强,高效节能,维修方便等特点,在污水泵系列产品具有广阔的应用市场发展前景。

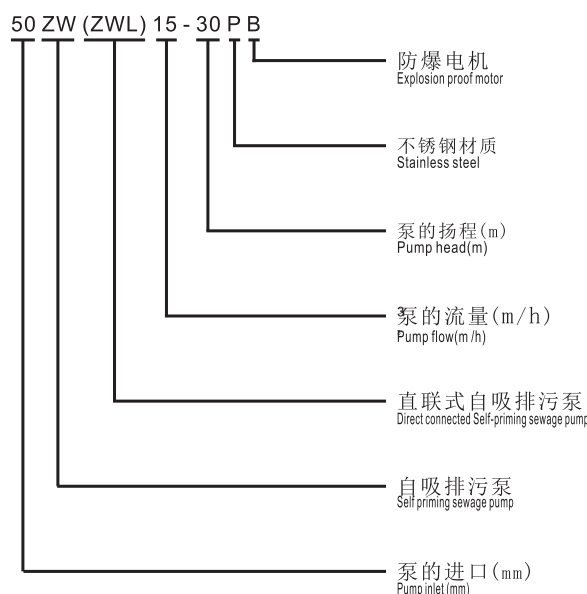
### 使用范围

- 1、环境温度 $\leq 50^{\circ}\text{C}$ , 介质温度 $\leq 80^{\circ}\text{C}$ 特殊要求可达 $200^{\circ}\text{C}$
- 2、介质PH值铸铁材质为6-9级, 不锈钢为2-13。
- 3、介质重度不超过 $1240\text{kg}/\text{m}^3$ 。
- 4、自吸高度不能超过规定值4.5-5.5米, 吸入管长度为 $\leq 10\text{m}$ 。
- 5、通过能力悬浮颗粒直径为泵口径的60%, 纤维长度为泵口径的5倍。

### 产品特点

- 1、采用双叶片叶轮结构,大大提高了污物的通过能力
- 2、机械密封采用新型磨擦副,并长期处入油室内运行;
- 3、整体结构紧凑、体积小、燥声小、检修方便,方便用户更换;
- 4、自动控制柜可以根据所需液化变化,自动控制泵的超动与停止,不需专人看管,使用极为方便;
- 5、可根据用户需要配备安装方式,它给安装、维修到来极大的方便,人可不必此为而进入污水坑;
- 6、能够在设计范围内使用,而保证电机不会过载;

### 型号意义 Type designation



### Product introduction

ZW non clogging Self-priming sewage pump is a product with novel structure developed on the basis of repeated research on similar technologies at home and abroad.

The pump integrates self-priming and non clogging sewage discharge, adopts axial reflux external mixing, and passes through the pump body. The unique design of the impeller channel can not only absorb and discharge the liquid containing large particle solids and long fiber impurities without installing the bottom valve and filling water like the general self-priming clean water pump. It is widely used in municipal sewage projects, pond aquaculture, light industry, papermaking, textile, food, chemical industry, power industry, fiber, slurry, mixed suspension and other chemical media.

It is an ideal impurity pump. Compared with similar domestic products, the pump has the characteristics of simple structure, good self-priming performance (self-priming height up to 5M), strong sewage discharge capacity, high efficiency, energy saving and convenient maintenance. It has broad application market and development prospects in sewage pump series products.

### Scope of use

1. Ambient temperature  $\leq 50^{\circ}\text{C}$ , medium temperature  $\leq 80^{\circ}\text{C}$ , special requirements up to  $200^{\circ}\text{C}$
2. Medium pH value: cast iron is grade 6-9 and stainless steel is 2-13.
3. The medium weight shall not exceed  $1240\text{kg}/\text{m}^3$
4. The self suction height shall not exceed the specified value of 4.5-5.5m, and the length of suction pipe shall be  $\leq 10\text{m}$ .
5. The diameter of suspended particles is 60% of the pump diameter, and the fiber length is 5 times of the pump diameter

### Product features

1. The double vane impeller structure is adopted, which greatly improves the dirt passing capacity
2. The mechanical seal adopts a new type of friction pair and runs in the oil chamber for a long time;
3. Compact overall structure, small volume, low noise, convenient maintenance and convenient replacement by users;
4. The automatic control cabinet can automatically control the overshoot and stop of the pump according to the required liquefaction changes without special personnel, which is very convenient to use;
5. The installation mode can be equipped according to the needs of users, which is very convenient for installation and maintenance, and people can enter the sewage pit without doing so;
6. It can be used within the design scope to ensure that the motor will not be overloaded;



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## 结构及工作原理说明

ZW型无堵塞自吸式排污,主要由泵体、叶轮、后盖、机械密封、泵轴、轴承座、进口阀、气液分离管、加水阀门、进、排接管等组成。泵的结构见图。

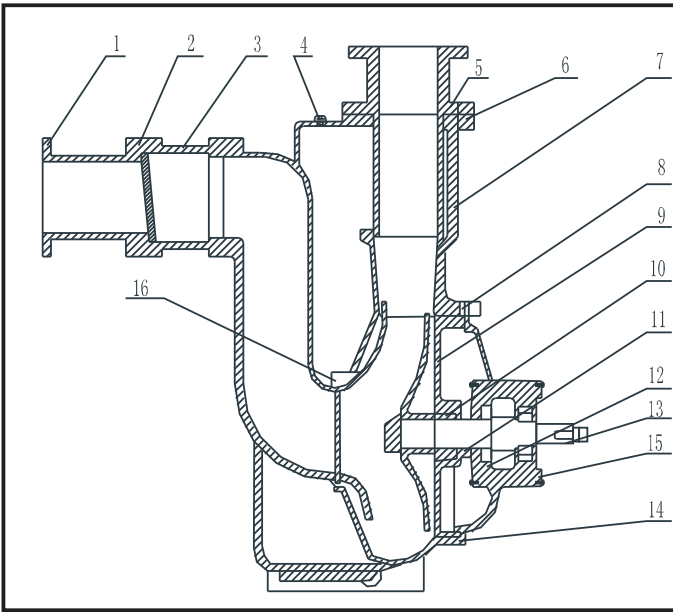
泵的工作原理:泵体内设有储液腔,并通过上方的回流孔和下方的循环孔与泵工作腔相通,构成泵的轴向加流外混式系统。泵停止工作后,泵内腔已储有一定容积的液体。当泵启动时,有关当局内的储液在叶轮的作用下,夹带着空气被向上抛出,液体通过气液分离管的网格回流到工作腔,气体被排出泵外,使泵内形成一定的真空度,达到自吸的作用。

## Description of structure and working principle

ZW type non clogging self-priming sewage pump is mainly composed of pump body, impeller, back cover, mechanical seal, pump shaft, bearing seat, inlet valve, gas-liquid separation pipe, water adding valve, inlet and outlet pipes, etc. The structure of the pump is shown in the figure.

Working principle of the pump: the pump body is provided with a liquid storage chamber, which is connected with the pump working chamber through the upper return hole and the lower circulation hole to form the axial flow adding and external mixing system of the pump. After the pump stops working, a certain volume of liquid has been stored in the inner cavity of the pump. When the pump is started, the liquid stored in the relevant authorities is thrown upward with air under the action of the impeller. The liquid flows back to the working chamber through the grid of the gas-liquid separation pipe, and the gas is discharged out of the pump, forming a certain vacuum in the pump to achieve self-priming.

## 泵的结构图



## Structure diagram of pump

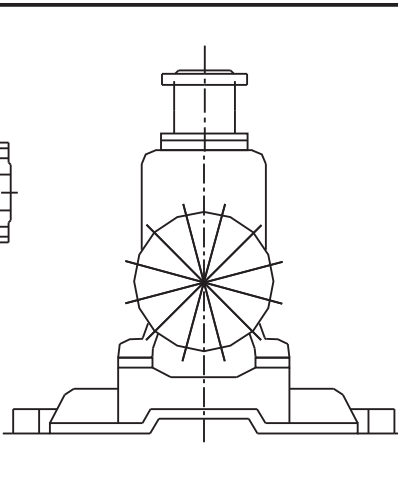
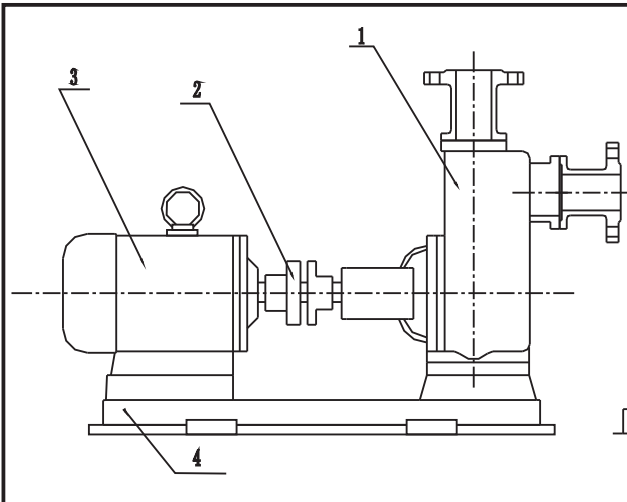
1	进口接管 Inlet nozzle	9	叶轮 impeller
2	进口法兰 Inlet flange	10	机械密封 Mechanical seal
3	进口阀座 Inlet valve seat	11	挡水圈 Water retaining ring
4	加水阀门 Water filling valve	12	轴承座 Bearing pedestal
5	出口接管 Outlet nozzle	13	泵轴 Pump shaft
6	泵体 Pump body	14	轴承盖 Bearing cover
7	气液分离管 Gas liquid separation pipe	15	底盖板 Bottom cover plate
8	后盖 back cover	16	螺栓 Bolt

## 泵机组的结构

- 1、安装前检查基础是否水平
- 2、检查各部件在运输中有否被损坏
- 3、泵本身不允许作为管路支撑
- 4、泵与管路应保持良好的密封

## Structure of pump unit

1. Check whether the foundation is level before installation
2. Check whether all parts are damaged during transportation
3. The pump itself is not allowed to be used as pipeline support
4. The pump and pipeline shall be well sealed



1	泵 Pump
2	联轴器 coupling
3	电机 electric machinery
4	底座 base



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### 性能参数 Performance parameter

序号 Serial NO.	型号 Model number	流量 Flow m³/h	扬程 Head m	电机功率 Motor power kW	转速 Speed r/min	效率 Efficiency η (%)	汽蚀余量 NPSH m	自吸高度 Self priming height m	自吸时间 Self priming time m
1	25ZW(ZWL)8-15	8	15	1.5	2900	45	2.0	5.0	3
2	32ZW(ZWL)10-20	10	20	2.2	2900	45	2.0	5.0	3
3	40ZW(ZWL)10-20	10	20	2.2	2900	45	2.5	5.0	3
4	40ZW(ZWL)20-15	20	15	2.2	2900	45	2.0	5.0	3
5	40ZW(ZWL)15-30	15	30	3	2900	48	2.5	5.0	3
6	50ZW(ZWL)10-20	10	20	2.2	2900	45	2.5	5.0	3
7	50ZW(ZWL)20-12	20	12	2.2	2900	45	2.5	5.0	3
8	50ZW(ZWL)20-15	20	15	2.2	2900	45	2.5	5.0	3
9	50ZW(ZWL)18-22	18	22	3	2900	48	2.5	5.0	3
10	50ZW(ZWL)15-30	15	30	3	2900	48	2.5	5.0	3
11	50ZW(ZWL)20-35	20	35	5.5	2900	48	2.5	5.0	3
12	50ZW(ZWL)20-40	20	40	7.5	2900	48	3.0	5.0	3
13	50ZW(ZWL)20-50	20	50	11	2900	50	3.0	5.0	3
14	65ZW(ZWL)30-18	30	18	4	2900	45	2.5	5.0	3
15	65ZW(ZWL)30-18	30	18	4	1450	45	2.5	5.0	3
16	65ZW(ZWL)25-30	25	30	5.5	2900	50	3.0	5.0	3
17	65ZW(ZWL)25-40	25	40	7.5	2900	50	3.0	5.0	2
18	65ZW(ZWL)40-25	40	25	7.5	2900	50	3.0	5.0	2
19	65ZW(ZWL)65-25	65	25	7.5	2900	50	3.0	5.0	2
20	65ZW(ZWL)25-50	25	50	11	2900	52	3.0	5.0	3
21	80ZW(ZWL)40-16	40	16	4	2900	50	3.0	5.0	2
22	80ZW(ZWL)40-16	40	16	4	1450	50	3.0	5.0	2
23	80ZW(ZWL)65-25	65	25	7.5	2900	52	3.0	5.0	3
24	80ZW(ZWL)25-40	25	40	7.5	2900	50	3.0	5.0	2
25	80ZW(ZWL)80-35	80	35	15	2900	50	3.0	5.0	3
26	80ZW(ZWL)40-50	40	50	18.5	2900	50	3.5	5.0	3
27	80ZW(ZWL)50-60	50	60	22	2900	55	3.5	5.0	3
28	100ZW(ZWL)80-20	80	20	7.5	1450	53	4.0	5.0	3
29	100ZW(ZWL)100-15	100	15	7.5	1450	50	4.0	5.0	3
30	100ZW(ZWL)100-20	100	20	11	2900	53	4.0	5.0	3
31	100ZW(ZWL)100-20	100	20	11	1450	53	4.0	5.0	3
32	100ZW(ZWL)100-30	100	30	22	2900	53	4.0	5.0	2
33	100ZW(ZWL)80-45	80	45	30	2900	53	4.0	5.0	3
34	100ZW(ZWL)80-60	80	60	37	2900	55	4.0	5.0	3
35	100ZW(ZWL)80-80	80	80	45	2900	55	4.5	5.0	3
36	125ZW(ZWL)120-20	120	20	15	1450	55	4.5	5.0	3
37	150ZW(ZWL)150-20	150	20	15	1450	60	4.5	5.0	3.5
38	150ZW(ZWL)180-14	180	14	15	1450	60	5.0	5.0	3.0
39	150ZW(ZWL)200-15	200	15	15	1450	60	5.0	5.0	3.0
40	150ZW(ZWL)180-20	180	20	22	1450	60	5.0	5.0	3.5
41	150ZW(ZWL)180-30	180	30	37	1450	65	5.0	5.0	3
42	150ZW(ZWL)250-25	250	25	45	1450	60	5.0	5.0	3
43	150ZW(ZWL)180-38	180	38	55	1450	45	5.0	5.0	3.5
44	200ZW(ZWL)280-14	280	14	22	1450	65	5.0	5.0	3
45	200ZW(ZWL)280-20	280	20	37	1450	55	5.0	5.0	3
46	200ZW(ZWL)300-18	300	18	37	1450	55	5.0	5.0	3
47	200ZW(ZWL)300-25	300	25	45	1450	60	5.0	5.0	3
48	200ZW(ZWL)280-28	280	28	55	1450	55	4.8	5.0	3
49	250ZW(ZWL)420-20	420	20	55	1450	61	6.0	4.5	2.5
50	300ZW(ZWL)800-14	800	14	55	1450	65	6.0	4.5	2.5
51	300ZW(ZWL)800-20	800	20	75	1450	65	6.0	5.0	2.5



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## 启动前的准备运行

- 1、检查泵底座、轴承器、轴承座等连接部位的紧固件有否松动？如有松动应固紧。
- 2、用手转动联轴器是否有卡涩或异响等现象？
- 3、打开泵上方的加水阀门，加入储液水不少于泵体容积的三分之二，关闭阀门。以后开机不需再灌引水。
- 4、接上电源试转一下，从电机端看，为顺时针转向。
- 5、开机工作，观摩泵运行是否正常？若有异常现象，应找出原因，加以排除。

## Preparation before startup

1. Check whether the firm parts of the pump base, bearing device, bearing seat and other connecting parts are loose? If it is loose, it shall be fastened.
2. Whether there is jamming or abnormal sound when rotating the coupling by hand?
3. Open the water filling valve above the pump, add liquid storage water not less than two-thirds of the pump volume, and close the valve. There is no need to irrigate water after starting up.
4. Connect the power supply and try to turn it. From the motor end, it turns clockwise.
5. Start up and observe whether the pump operates normally? If there is any abnormal phenomenon, find out the cause and eliminate it.

## 故障与排除

## Troubleshooting

故障 Serial NO.	型号 Model number	型号 Model number
泵不出水 Pump does not discharge water	1、泵体内未加储液或储液不足 1. No or insufficient liquid storage in the pump body  2、吸入管路漏气 2. Air leakage in suction pipeline  3、电压过低 3. The voltage is too low  4、吸程太高或吸入管路太长 4. Suction lift is too high or suction pipeline is too long  5、机械密封泄漏过大 5. Excessive leakage of mechanical seal	1、加足 1. Add enough  2、消除管路漏气现象 2. Eliminate pipeline leakage  3、调整电压 3. Adjust voltage  4、降低吸程或缩短管路 4. Reduce the suction lift or shorten the pipeline  5、修理或更换 5. Repair or replace
泵出水不足 Insufficient pump water	1、因使用不当，叶轮流道或吸入管路被堵塞 1. Due to improper use, the impeller passage or suction pipeline is blocked  2、叶轮磨损严重 2. The impeller is severely worn  3、功率不足转速太低 3. Insufficient power and low speed	1、消除堵塞物 1. Eliminate blockage  2、更换叶轮 2. Replace the impeller  3、调整至额定转速 3. Adjust to rated speed
泵噪音、振动过大 Excessive pump noise and vibration	1、底脚不稳 1. Unstable footing  2、轴承磨损严重 2. Serious bearing wear  3、泵与电机主轴不同轴 3. Pump and motor spindles are different	1、加固 1. Reinforcement  2、更换轴承 2. Replace the bearing  3、调整同轴度 3. Adjust coaxiality
轴承温度过高 Bearing temperature too high	1、润滑脂变质或干燥 1. Lubrication refers to deterioration or drying  2、轴承损坏 2. Bearing damage	1、更换润滑脂 1. Replace the grease  2、更换 2. Replace
泵泄漏 Pump leakage	1、联接螺栓松动 1. Loose connecting bolts  2、密封件磨损 2. Worn seals	1、固紧 1. Firm  2、更换 2. Replace

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