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提供优质产品、技术和工程的全面系统解决方案。

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工业流体输送专家

Experts in Water industry liquid transportation



ZWL系列自吸式无堵塞排污泵 ZWL Direct Connection Self-Priming Non-block Sewage Pump

产品说明书 Product specification



ZWL型直联式自吸无堵塞排污泵 ZWL Direct Connection Self-Priming Non-block Sewage Pump

产品概述 Product Introduction

ZWL型直联式自吸无堵塞排污泵是在反复研究国内外同类技术的基础上研发的一种结构新颖的产品。各项技术性能指标居国内领先，达到国际先进水平，可广泛适用于市政排污工程、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最理想的杂质泵，该泵体积小结构紧凑对于机械设备配套，小型工矿场所，具有广阔的应用市场和发展前景。

ZWL Direct Connection Self-Priming Non-block Sewage Pump is a new structure product which is developed on base of reaping study of domestic and foreign similar technology. All technology and performance indexes are on top of the nation, reach the international advanced level, it is widely used in municipal sewage project, river and pond breeding, light industry, paper marking, weaving, foodstuff, chemical industry, power industry, fibrin, slurry and mixed suspension etc chemical medium. Pump of this kind has feature of small cubage and compact structure, for mechanical equipment, small industry and mining establishment, it has the wide application market and developing future.

产品特点 Product Feature

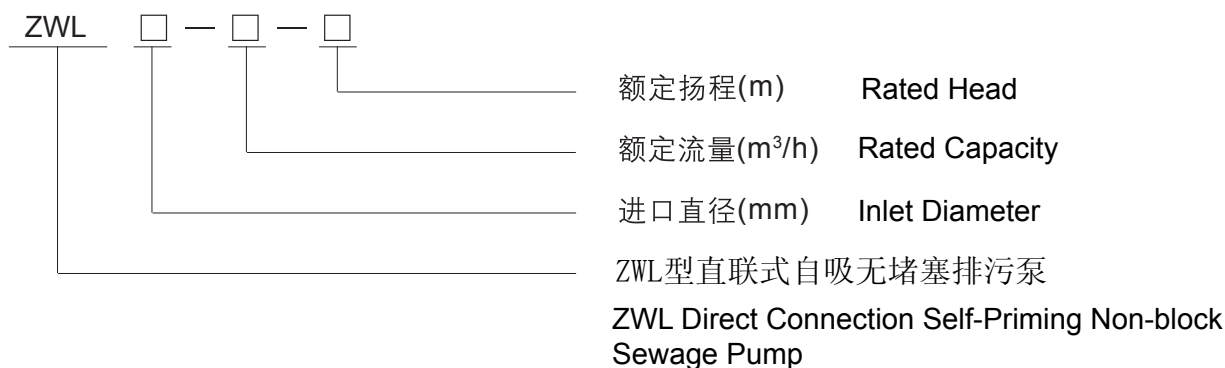
ZWL型直联式自吸无堵塞排污泵采用电机同轴直联式结构与国内同类产品相比，具有结构简单紧凑、振动少、体积小、自吸性能好、排污能力强、高效节能，使用维修方便等特点。

ZWL型直联式自吸无堵塞排污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，即可象一般自吸清水泵那样不需要安装底阀和灌引水，又可吸排含有大颗粒固体和长纤维杂质液体。

ZWL Direct Connection Self-Priming Non-block Sewage Pump adopts motor and shaft direct connection structure, pump of this kind has feature of simple and compact structure, little vibration, small cubage, good self-priming, high sewage capability, high efficiency and energy saving, convenient usage and maintenance etc compared with domestic similar product.

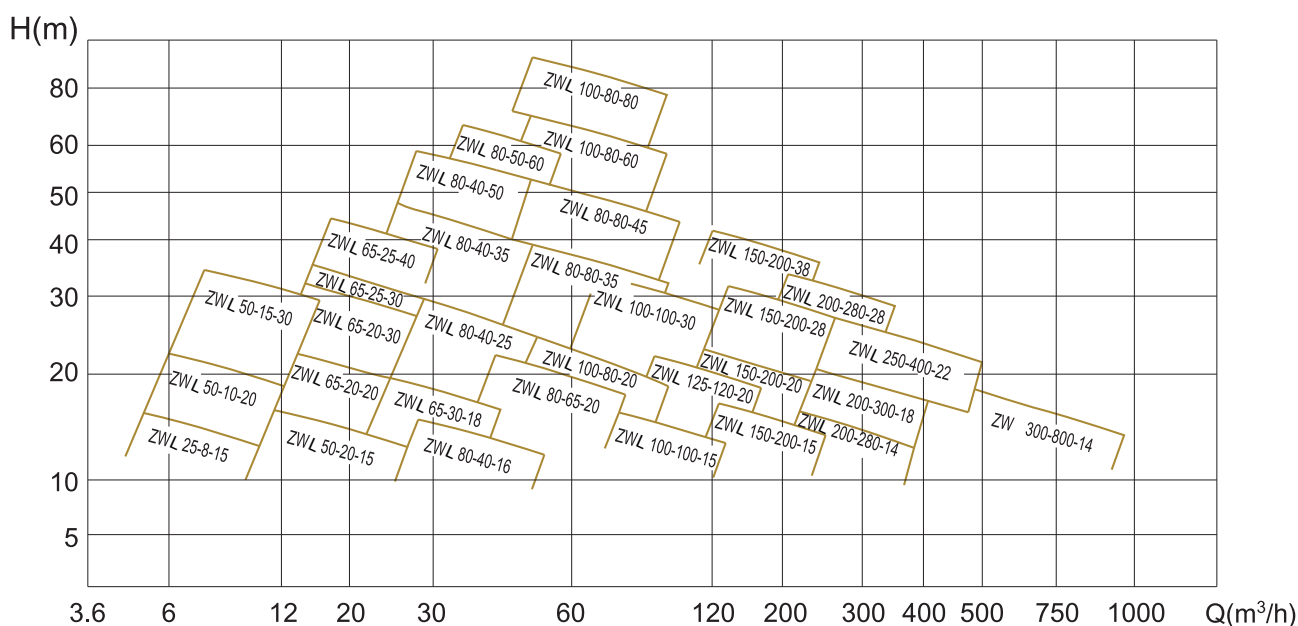
ZWL Direct Connection Self-Priming Non-block Sewage Pump combines self-priming and non-block, axial circumfluence outer-mix type, and through the particular design of case、impeller channel, it not only needn't to be fixed with base valve and poured in water like normal self-priming pump, but also can suck and discharge liquid containing big grain and long fibrin substance.

型号说明 Designation



ZWL型直联式自吸无堵塞排污泵 ZWL Direct Connection Self-Priming Non-block Sewage Pump
使用范围 Use Scope

- 1、环境温度 50℃，介质温度 80℃。特殊要求可达 150℃。
Surrounding temperature $\leq 50^{\circ}\text{C}$, medium temperature $\leq 80^{\circ}\text{C}$, it can reach 120°C under special requirement.
- 2、介质PH值铸铁材质为6—9，不锈钢为2—13。
Medium PH scope: cast iron is 6-9, stainless steel is 2-13.
- 3、介质重度不超过1240千克 / m³
Medium consistency should not exceed 1240 kg/m³.
- 4、自吸高度不能超过规定值4.5-5.5米，吸入管长度为 10米。
Self-priming height should not exceed the stated number of 4.5-5.5 m, and the suction pipe should not be over 10 meters long.
- 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。
It can pass the suspended grain whose diameter is 60 percent of pump caliber, and the fibrin which is 5 times long of pump caliber.
- 6、流量：8~800m³/h
Capacity: 8-800 m³/h
- 7、扬程：15-80m;
Head: 15-80 m
- 8、转速：1450-2900r/min
Speed: 1450-2900 r/min

泵型谱图 Pump Hydraulic Coverage


ZWL型直联式自吸无堵塞排污泵 ZWL Direct Connection Self-Priming Non-block Sewage Pump
主要零件材质表 Main parts material table

零件名称 Part name	叶轮、泵体、 泵盖 Impeller、Casing、 Casing Pump	电机轴 Motor Shaft	进出口接管 Inlet and outlet connection tube	进口单向阀 Inlet check valve	过滤网 Filter	机械密封 Mechanical Seal
材质 Material	HT200/304	2Cr13/304	HT200/304	丁晴橡胶 / 氟橡胶 Nitrile butadiene rubber / Fluoro rubber	HT200/ 304	碳化硅 / 碳化钨 Silicon carbide/ Tungsten carbide

如果用户抽送的污水介质有腐蚀性特殊要求的，以上零件材质也需作相应调整，具体调整方案请与技术支持部或技术中心联系。

If user pumping sewage medium with corrosive special requirements, the above parts material also need to make corresponding adjustment, specific adjustment scheme please contact technical support department or technical center.

供货范围 Supply Scope

为了保证泵机组长期可靠运行及正常检修，建议客户根据需要选购以下备件：

In order to guarantee pump unit long-term credible operation and normal maintenance, recommends that customers according to what you need to purchase the following accessories:

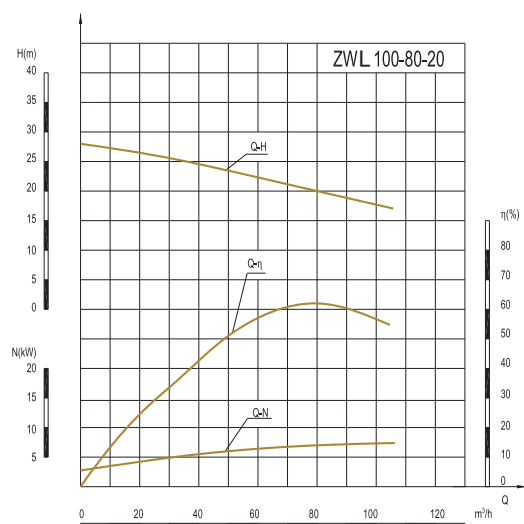
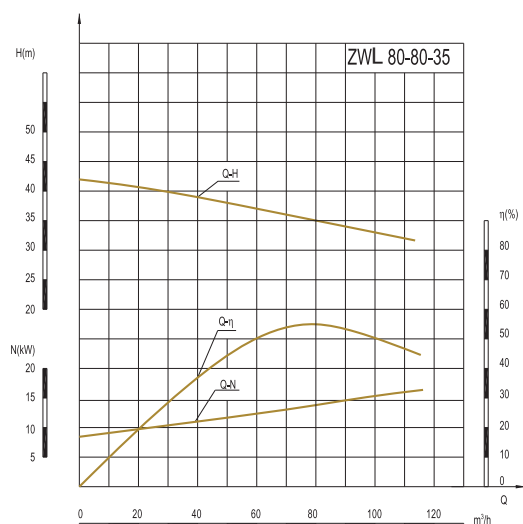
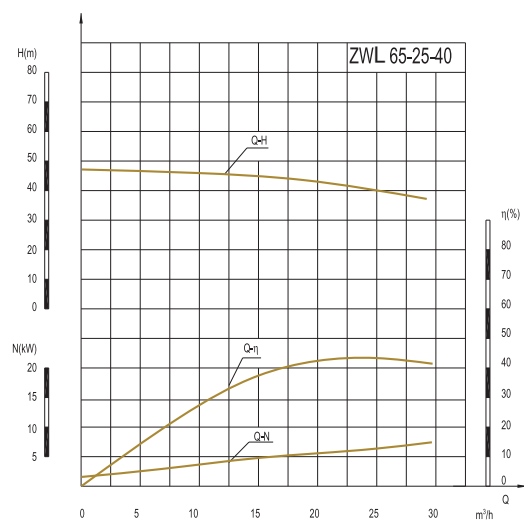
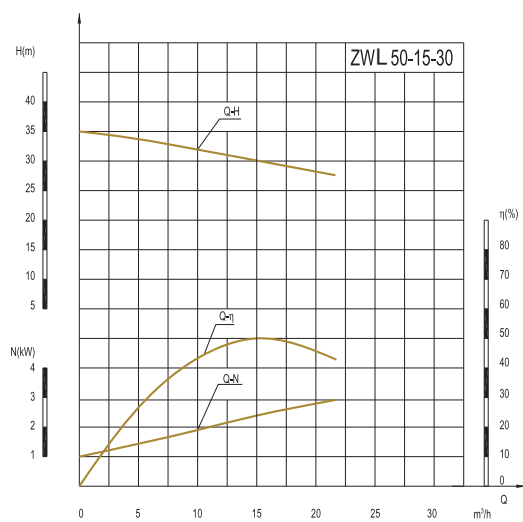
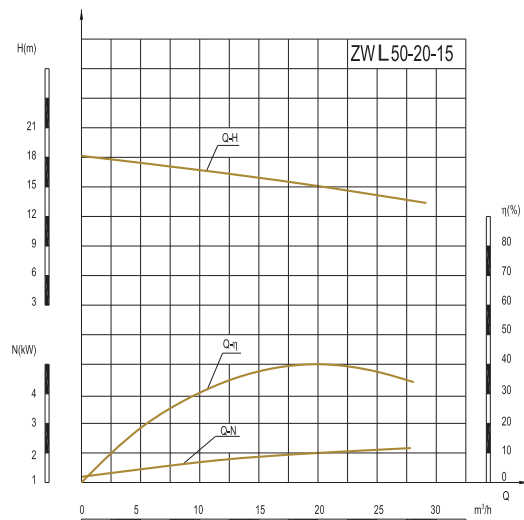
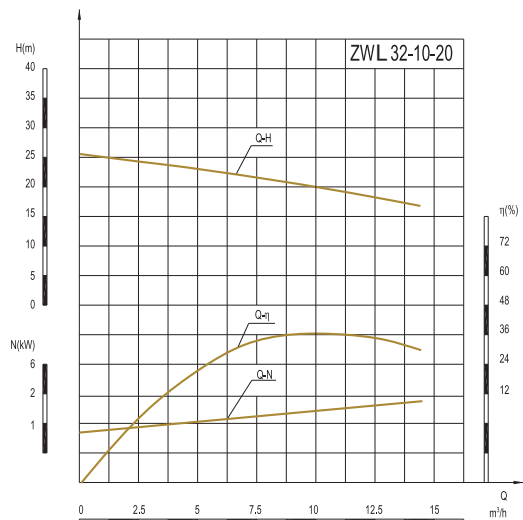
成套供应件 Complete supply parts	备件 Spare parts
泵机组包括（泵、电机、进出口法兰接管、底座） Pump unit includes (pump, motor, Inlet and outlet flanges connection tube, pump case)	叶轮、进口单向阀、机械密封 Impeller, Inlet check valve, Mechanical seal

ZWL型直联式自吸无堵塞排污泵 ZWL Direct Connection Self-Priming Non-block Sewage Pump
性能参数表 performance parameter table

自吸排污泵主要性能参数表 The main performance parameter table of self-priming sewage pump.										
序号 No.	型号 Type	流量 Capacity (m ³ /h)	扬程 Head (m)	转速 Speed (r/min)	汽蚀余量 Net positive suction head NPSHr (m)	电机功率 Motor power (kW)	自吸高度 Self-priming height (m)	自吸时间 Self-priming time (s)	允许通过异物 (mm) Allows foreign body	
									颗粒直径 Particle diameter	纤维长度 Fiber length
1	ZWL 25-8-15	8	15	2900	3.5	1.5	4.5	110	15	120
2	ZWL 32-10-20	10	20	2900	3.5	2.2	4.5	110	20	150
3	ZWL 40-20-15	20	15	2900	3.5	2.2	5	110	25	230
4	ZWL 40-15-30	15	30	2900	3.5	3	5	110	25	230
5	ZWL 50-10-20	10	20	2900	3.5	2.2	4	150	30	250
6	ZWL 50-20-15	20	15	2900	3.5	2.2	4	150	30	250
7	ZWL 50-15-30	15	30	2900	3.5	3	5	110	30	250
8	ZWL 65-30-18	30	18	2900	3.5	4	5	140	40	380
9	ZWL 65-20-20	20	20	2900	3.5	3	5	140	40	380
10	ZWL 65-20-30	20	30	2900	3.5	5.5	5	140	40	380
11	ZWL 65-25-30	25	30	2900	3.5	5.5	5	140	40	380
12	ZWL 65-25-40	25	40	2900	3.5	7.5	5	120	40	380
13	ZWL 80-40-16(2)	40	16	2900	3.5	4	5	160	50	400
14	ZWL 80-40-16(4)	40	16	1450	3.5	4	5	160	50	400
15	ZWL 80-40-25	40	25	2900	3.5	5.5	5	160	50	400
16	ZWL 80-40-35	40	35	2900	3.5	11	5	160	50	400
17	ZWL 80-40-50	40	50	2900	3.5	18.5	5	140	50	400
18	ZWL 80-65-20	65	20	1450	3.5	7.5	5	170	50	400
19	ZWL 80-80-35	80	35	2900	3.5	15	5	180	50	400
20	ZWL 80-80-45	80	45	2900	3.5	22	5	180	50	400
21	ZWL 80-50-60	50	60	2900	3.5	22	5	150	50	400
22	ZWL 100-100-15	100	15	1450	4	7.5	4.5	210	60	500
23	ZWL 100-80-20	80	20	1450	4	7.5	5	180	60	500
24	ZWL 100-100-30	100	30	2900	4	22	4.5	210	60	500
25	ZWL 100-80-60	80	60	2900	4	37	5	180	60	500
26	ZWL 100-80-80	80	80	2900	4	45	5	180	60	500
27	ZWL 125-120-20	120	20	1450	4	15	3.5	190	80	750
28	ZWL 150-200-15	200	15	1450	4	15	3	250	80	750
29	ZWL 150-200-20	200	20	1450	4	22	3	250	80	750
30	ZWL 150-200-28	200	28	1450	4	30	3	250	80	750
31	ZWL 150-200-38	200	38	1450	4	55	3	250	80	750
32	ZWL 200-280-14	280	14	1450	4	22	3	250	120	1000
33	ZWL 200-300-18	300	18	1450	4	37	3	250	120	1000
34	ZWL 200-280-28	280	28	1450	4	45	3	250	120	1000
35	ZWL 250-400-22	400	22	1450	4	55	3	250	150	1600
36	ZWL 300-800-14	800	14	1450	4	55	3	250	170	2000
注：上述自吸性能参数为输送常温清水时的参数 Note: The above self-priming performance parameters for transporting room temperature water.										

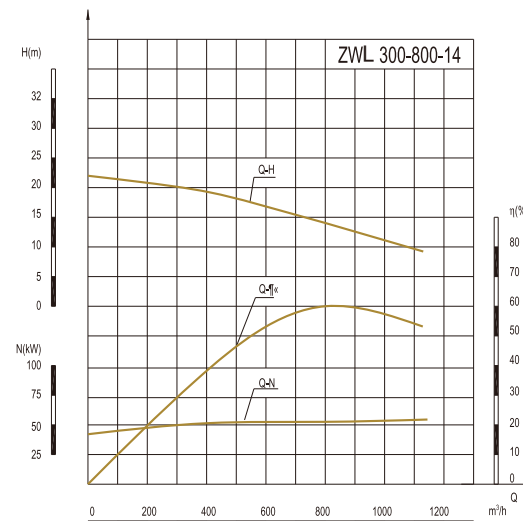
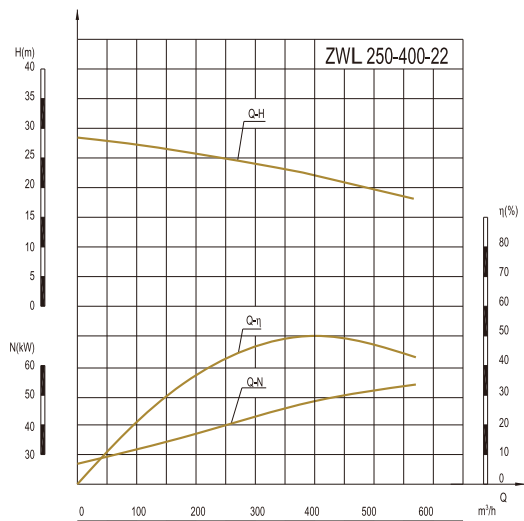
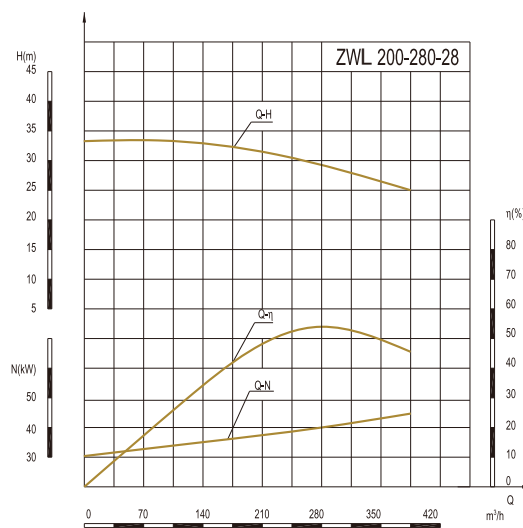
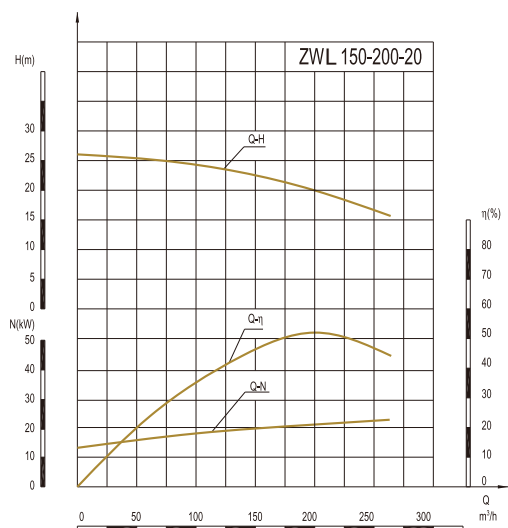
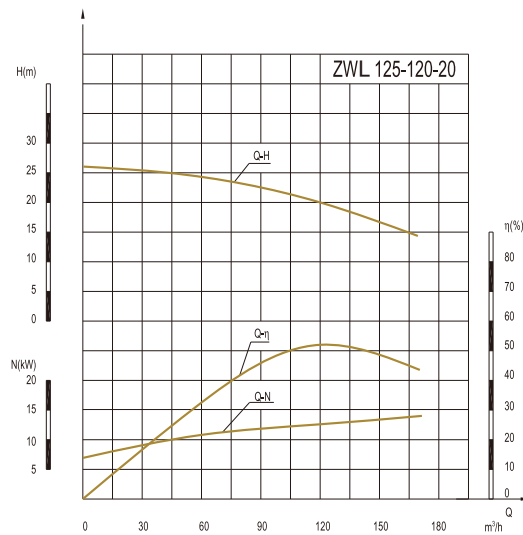
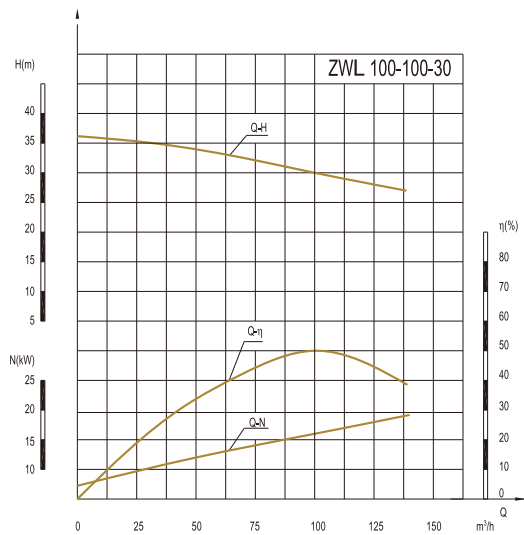
ZWL型直联式自吸无堵塞排污泵 ZWL Direct Connection Self-Priming Non-block Sewage Pump

性能曲线 Performance Curve



ZWL型直联式自吸无堵塞排污泵 ZWL Direct Connection Self-Priming Non-block Sewage Pump

性能曲线 Performance Curve

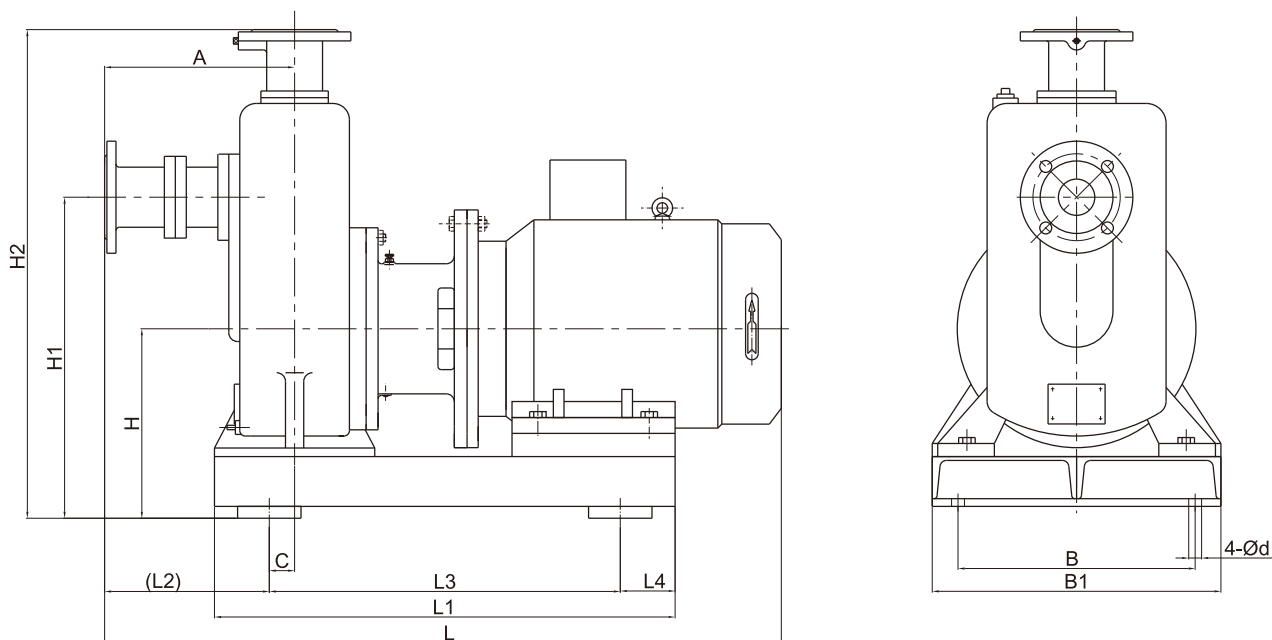


ZWL型直联式自吸无堵塞排污泵 ZWL Direct Connection Self-Priming Non-block Sewage Pump

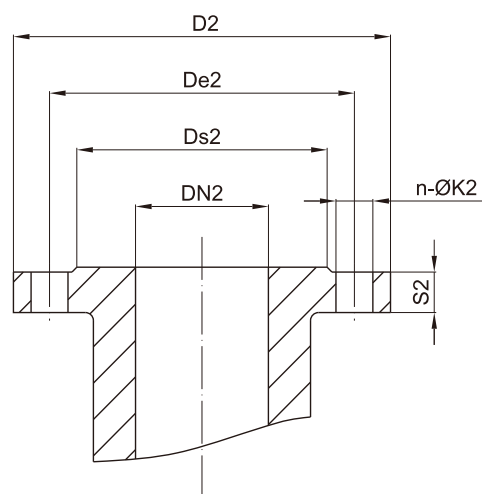
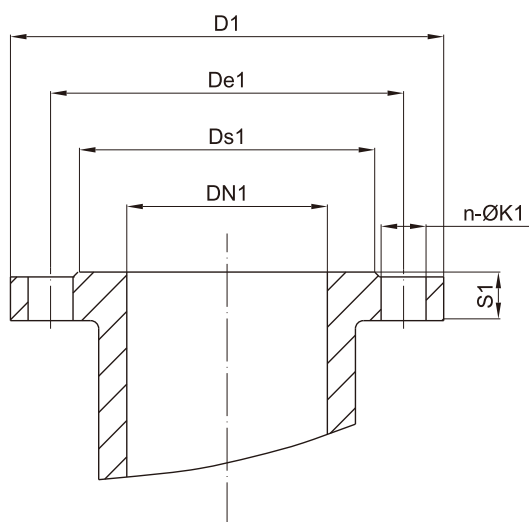
泵的安装 Pump Installation

- 1、安装前检查基础是否水平。
Check foundation level before installation.
- 2、检查各部件在运输中有否被损坏。
Check each part whether be damaged in transit.
- 3、泵本身不允许作为管路支承。
The pump is not allowed as pipe supports.
- 4、泵与管路应保持良好的密封。
The pump and piping should maintain the good seal.

泵机组的结构、外形安装尺寸图 Structure of pump unit, outline and installation dimension drawing



泵吸入口、排出口法兰 Inlet & outlet flange of pump.



外形及安装尺寸表 Outline and installation dimension table

泵吸入口、排出口法兰尺寸均按 0.6MPa 国家标准尺寸制造 (除个别 1.0MPa)

Inlet & outlet flange diameter of pump be manufactured according to 0.6Mpa national standard (except individual 1.0 MPA).

ZWL型直联式自吸无堵塞排污泵 ZWL Direct Connection Self-Priming Non-block Sewage Pump

自吸排污泵安装尺寸表																										
The installation dimension table of self-priming sewage pump																										
序号	型号	外形安装尺寸										吸入口径法兰尺寸					排出口法兰尺寸					Outlet flange dimension				
		No.	Type	L	L1	L2	L3	L4	A	C	B	B1	H	H1	H2	4-φd	DN1	D1	De1	S1	n-φk1	DN2	D2	De2	Ds2	S2
1	ZWL 25-8-15	788	680	120	480	100	171	-30	180	280	267	407	473	φ14	25	100	75	58	14	4-φ12	25	100	75	58	14	4-φ14
2	ZWL 32-10-20	817	680	120	480	100	171	-30	180	280	267	407	473	φ14	32	120	90	69	16	4-φ14	32	120	90	69	16	4-φ14
3	ZWL 40-20-15	829	680	120	480	100	183	-30	180	280	267	407	485	φ14	40	130	100	78	16	4-φ14	40	130	100	78	16	4-φ14
4	ZWL 40-15-30	844	680	120	480	100	195	-30	180	280	267	407	537	φ14	40	130	100	78	16	4-φ14	40	130	100	78	16	4-φ14
5	ZWL 50-10-20	822	680	120	480	100	176	-30	180	280	267	407	478	φ14	50	140	110	88	16	4-φ14	40	130	100	78	16	4-φ14
6	ZWL 50-20-15	822	680	120	480	100	176	-30	180	280	267	407	482	φ14	50	140	110	88	16	4-φ14	40	130	100	78	16	4-φ14
7	ZWL 50-15-30	844	680	120	480	100	195	-30	180	280	267	407	537	φ14	50	140	110	88	16	4-φ14	40	130	100	78	16	4-φ14
8	ZWL 65-30-18	935	770	135	570	100	188	-20	355	365	192	342	492	φ18	65	160	130	108	16	4-φ14	50	140	110	88	16	4-φ14
9	ZWL 65-20-20	1020	800	150	600	100	180	-20	355	400	200	360	530	φ18	65	160	130	108	16	4-φ14	50	140	110	88	16	4-φ14
10	ZWL 65-20-30	1020	800	150	600	100	180	-20	320	400	200	360	530	φ18	65	160	130	108	16	4-φ14	50	140	110	88	16	4-φ14
11	ZWL 65-25-30	985	760	130	560	100	240	-20	365	365	230	380	525	φ18	65	160	130	108	16	4-φ14	50	140	110	88	16	4-φ15
12	ZWL 65-25-40	1087	770	140	570	100	361	-20	450	415	245	456	730	φ18	65	160	130	108	16	4-φ14	50	140	110	88	16	4-φ16
13	ZWL 80-40-16(2)	1187	920	150	720	100	268	0	460	480	300	530	740	φ18	80	190	150	124	18	4-φ18	65	160	130	108	16	4-φ14
14	ZWL 80-40-16(4)	1262	1060	200	860	100	258	0	460	510	300	480	705	φ18	80	190	150	124	18	4-φ18	65	160	130	108	16	4-φ14
15	ZWL 80-40-25	1332	1060	200	860	100	258	0	460	510	320	510	725	φ18	80	190	150	124	18	4-φ18	65	160	130	108	16	4-φ14
16	ZWL 80-40-35	1365	1060	200	860	100	276	0	450	510	320	550	775	φ18	80	190	150	124	18	4-φ18	65	160	130	108	16	4-φ14
17	ZWL 80-40-50	1259	920	150	720	100	318	0	450	480	300	520	770	φ18	80	190	150	124	18	4-φ18	65	160	130	108	16	4-φ14
18	ZWL 80-65-20	1200	920	150	720	100	268	0	460	480	300	530	740	φ18	80	190	150	124	18	4-φ18	65	160	130	108	16	4-φ14
19	ZWL 80-80-35	1347	1060	200	860	100	273	0	546	510	320	530	740	φ18	80	190	150	124	18	4-φ18	65	160	130	108	16	4-φ14
20	ZWL 80-80-45	1575	1320	220	1120	100	318	0	560	610	292	512	762	φ18	80	190	150	124	18	4-φ18	65	160	130	108	16	4-φ14
21	ZWL 80-50-60	1616	1450	250	1250	100	292	0	480	620	365	625	875	φ18	80	200	160	132	22	8-φ18	65	185	145	118	20	4-φ14
22	ZWL 100-100-15	1496	1130	215	930	100	382	5	480	540	340	620	860	φ23	100	210	170	144	18	4-φ18	80	190	150	124	18	4-φ18
23	ZWL 100-80-20	1496	1130	215	930	100	382	5	560	540	340	620	860	φ23	100	210	170	144	18	4-φ18	80	190	150	124	18	4-φ18
24	ZWL 100-100-30	1591	1280	250	1080	100	356	5	560	600	350	650	910	φ23	100	210	170	144	18	4-φ18	80	190	150	124	18	4-φ18
25	ZWL 100-80-60	1656	1280	250	1080	100	356	5	546	600	350	650	910	φ23	100	220	180	156	24	8-φ18	80	200	160	132	22	8-φ18
26	ZWL 100-80-80	1717	1320	270	1120	100	462	5	560	610	350	630	930	φ23	100	220	180	156	24	8-φ18	80	200	160	132	22	8-φ18
27	ZWL 125-120-20	1827	1450	250	1250	100	462	20	600	620	380	660	960	φ23	125	240	200	174	20	8-φ18	100	210	170	144	18	4-φ18
28	ZWL 150-200-15	2063	1576	338	1376	100	505	20	600	650	400	720	1070	φ23	150	265	225	199	20	8-φ18	125	240	200	174	20	8-φ18
29	ZWL 150-200-20	2104	1576	338	1376	100	532	20	760	650	400	725	1096	φ23	150	265	225	199	20	8-φ18	125	240	200	174	20	8-φ18
30	ZWL 150-200-28	2326	1860	420	1660	100	668	20	760	840	495	875	1295	φ23	150	265	225	199	20	8-φ18	125	240	200	174	20	8-φ18
31	ZWL 150-200-38	1827	1450	250	1250	100	462	20	600	620	380	660	960	φ23	150	265	225	199	20	8-φ18	125	240	200	174	20	8-φ18
32	ZWL 200-280-14	2063	1576	338	1376	100	505	20	600	650	400	720	1070	φ23	200	320	280	254	22	8-φ18	150	265	225	199	20	8-φ18
33	ZWL 200-300-18	1827	1450	250	1250	100	462	20	600	620	380	660	960	φ23	200	320	280	254	22	8-φ18	150	265	225	199	20	8-φ18
34	ZWL 200-280-28	2063	1576	338	1376	100	505	20	600	650	400	720	1070	φ23	200	320	280	254	22	8-φ18	150	265	225	199	20	8-φ18
35	ZWL 250-400-22	2104	1576	338	1376	100	532	20	760	650	400	725	1096	φ23	250	375	335	309	24	12-φ18	200	320	280	255	22	8-φ18
36	ZWL 300-800-14	2326	1860	420	1660	100	668	20	760	840	495	875	1295	φ23	300	440	395	363	24	12-φ23	250	375	335	310	24	12-φ18

ZWL型直联式自吸无堵塞排污泵 ZWL Direct Connection Self-Priming Non-block Sewage Pump
结构及工作原理 Structure and working principle

ZWL型直联式自吸无堵塞排污泵主要由泵体、叶轮、泵盖、机械密封、进口阀、气液分离管、进、排接管等组成。泵的结构见图。

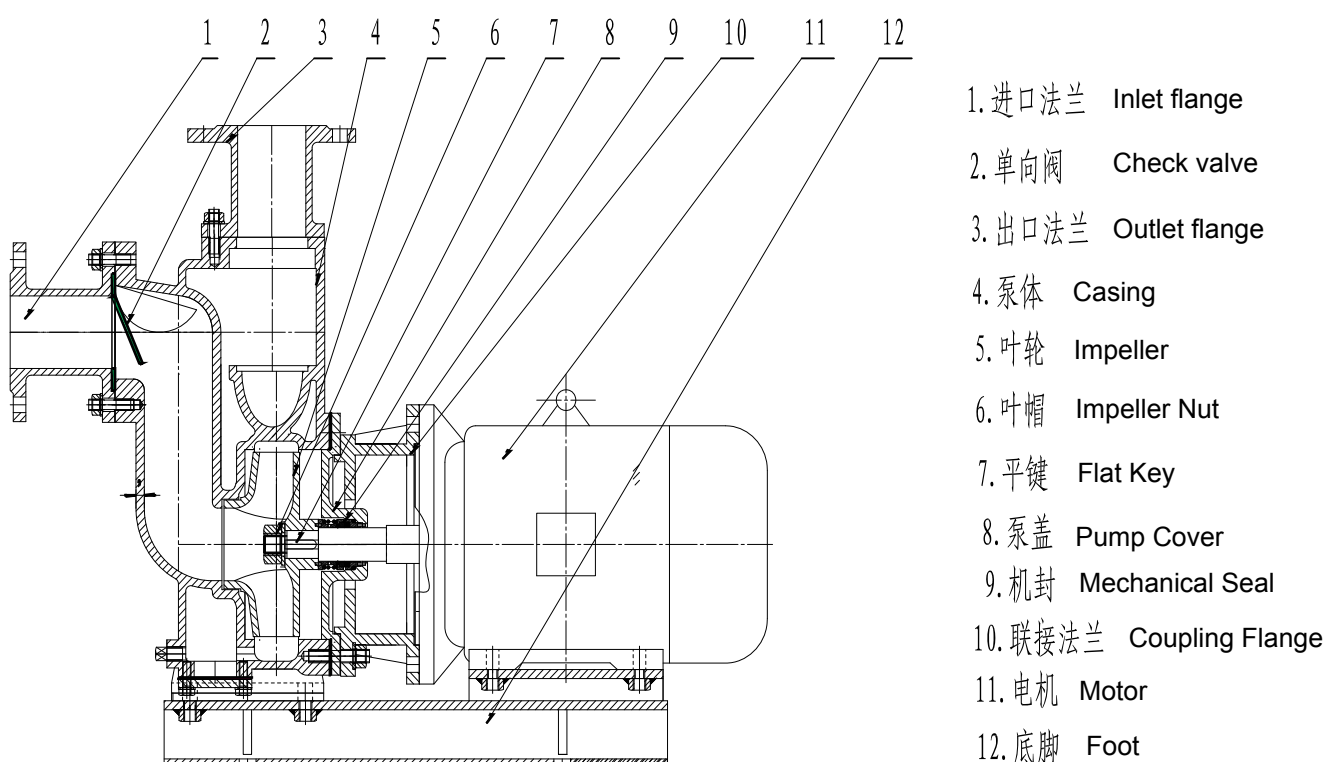
泵的工作原理：泵体内设有储液腔，并通过回流孔与泵工作腔相通，构成泵的轴向回流外混式系统。泵停止工作后，泵内腔已储有一定容积的液体。当泵起动时，泵内的储液在叶轮的作用下，夹带着空气向上抛出，液体通过气液分离管的网格回流到工作腔，气体被排出泵外，使泵内形成一定的真空度，达到自吸的作用。

第二次工作时泵吸入口处装有单向逆止阀，因此不需要再加储水即可起动。

ZWL Direct Connection Self-Priming Non-block Sewage Pump mainly composition by casing, impeller, pump cover, mechanical seal, inlet valve, gas-liquid separator tube, inlet and outlet connection pipe etc. The structure of pump please refer drawing.

Working principle of pump: Pump casing with liquid storage chamber, through reflux hole and pump work hole interlinked, constitute axial reflux outer recirculation structure of pump. When pump stop working, pump lumen have already stored a certain volume of liquid. When pump starts, storage liquid in pump with air thrown upward under the action of the impeller, liquid through the gas liquid separation tube grid reflux large working cavity, gas be excluded outside of pump, make pump formed in a certain degree of vacuum, and to achieve the effect of self-suction.

The second work at the entrance to the pump suction fix unidirectional check valve, so it can start work need not add any water.

泵的结构图 Structure of pump drawing


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起动前的准备与运行 Preparation and operation before start

1. 检查泵底座、泵盖等连接部位的紧固件有否松动，如有松动应固紧。

Check pump case, pump cover etc connection parts whether there is loose;

2. 打开泵上方的加水塞，加放储液水不少于泵体容积的三分之二，旋紧螺塞。以后开机不需要再灌引水。

Open water plug, add liquid water not less than two thirds of pump liquid, and tightening bolt.

3. 接上电源试转一下，从电机端看，为顺时针转向。（严禁反转）

Connected to a power source and commissioning, clockwise when viewed from motor end.

4. 开机工作，观察泵运行是否正常，若有异常现象，应找出原因，加以排除。

Start the machine and observe the pump is running correctly. If there are abnormal phenomena, we should find out the reasons and eliminate.

特别提醒 Special Reminder

1. 严禁泵腔内无液空转；

It is strictly prohibited to pump cavity aneroid idling;

2. 检查电机转向是否正确，严禁长时间倒转；

Check motor steering is correct, it's strictly prohibited to long time reversal;

3. 禁止泵在汽蚀状态下长期运行；

It's strictly prohibited to pump in cavitation condition long-term operation;

4. 进水管必须严格密封不得漏水、漏气；

Pressure pipe must be strictly seal shall not leaks or gas leakage;

5. 严禁在低扬程、大流量工况下电机长时间超负荷运行。

It's strictly prohibited to motor in low head and big flow condition long time overload operation.



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