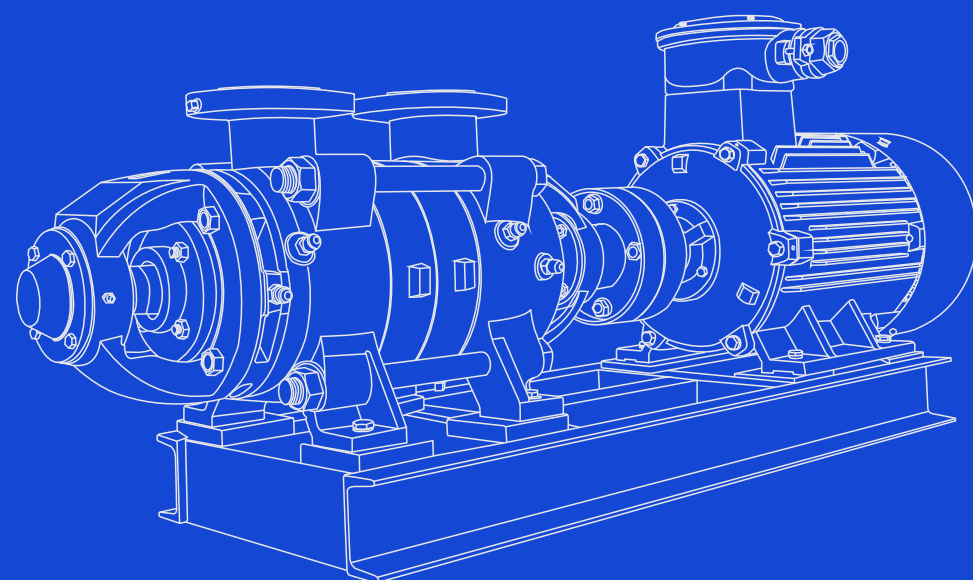
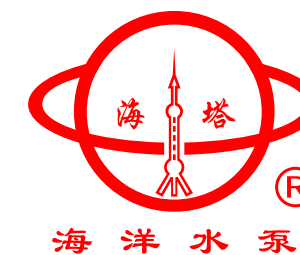
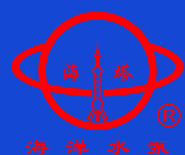


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➤➤➤ **D/DG型**
卧式多级离心泵
horizontal multi-stage centrifugal pump



Shanghai Sea
Pump & Valve Mfg Co., Ltd

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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ISO9001:2015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 countriessuch 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.

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概述

D单吸多级节段式离心泵，供输送不含固体颗粒的清水及物理化学性质类似于清水的液体，液体的温度不超过80℃，适合于矿山、工厂及城市给排水用。

安装高度的计算

用户在选用水泵时，应考虑泵的安装高度，即被吸液面至水泵轴的垂直距离要小于水泵规定的安装高度，水泵规定的安装高度按下式计算：

$$H_{sz} < H_a - H_v - H_s - (NPSH)r$$

式中： H_{sz} --水泵规定的安装高度(m)

H_a --使用现场条件下的大气压力水头(m)

H_v --抽送液体温度下的汽化压力水头(m)

ΔH_s --吸入管路损失水头(m)

$(NPSH)r$ --性能参数表上给定的必需汽蚀余量值(m)

结构说明

D、DG泵主要由定子、转子、轴承和轴封四大部分组成：

1. **定子部分** 主要由吸入段、中段、吐出段、导叶等组成，用拉紧螺栓将各段夹紧，构成工作室。D型泵吸入口为水平方向，出口垂直向上。

2. **转子部分** 主要由轴、叶轮、平衡盘和轴套等组成。轴将动力传递给叶轮使其工作；平衡盘用来平衡轴向力；轴的两端装有可更换的轴套用来保护轴。

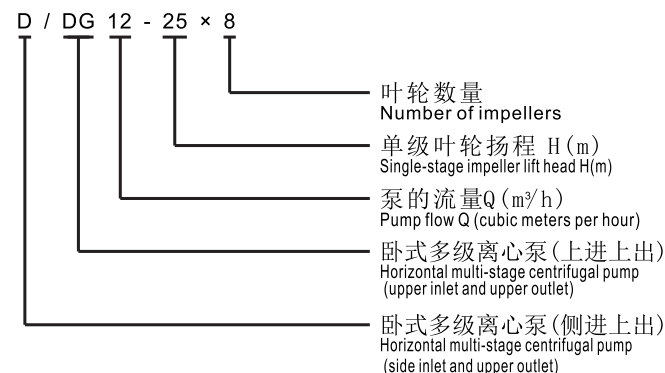
3. **轴承** 轴承部分有滚动轴承和滑动轴承两种：滚动轴承主要由轴承体、轴承盖、轴瓦、防尘盘、油位计、甩油环等组成，采用稀油润滑。

4. **轴封** 采用填料密封，主要由进水段和尾盖上的密封函体、填料、挡水圈组成。密封工作室内的液体，起水封、水冷和水润滑作用。水封水来源于泵内压力水。

5. **联轴器** 泵通过弹性联轴器由原动机直接驱动。

6. **旋转方向** 从原动机端看泵，泵为顺时针方向旋转。

型号意义 MODEL MEANING



OUTLINE

D single-suction multi-stage sectional-type centrifugal Pump is used to transport the pure water containing no solid grains and the liquid with both physical and chemical natures similar to those of pure water, the temperature of the liquid is not over 80 ,suitble for water supply and drainage in mines, factories and cities.

CALCULATION OF THE ERECTION HEIGHT

The erection height of the pump, that is the vertical distance from the sucked liquid surface to the pump shaft should be less than it which should be taken into consideration for users to select the pump, is calculated per the following formula:
 $H_{sz} < H_a - H_v - H_s - (NPSH)r$
Of which:

H_{sz} --the erection height set with the pump(m)

H_a -- the head of the atmospheric pressure under the conditions on the spot of use(m)

H_v --the head of the vapourized pressure under the temperature of the liquid being pumped(m)

ΔH_s --the lost head of the suck-in pipeline(m)

$(NPSH)r$ --the necessary value of NPSH given in the table of performance parameters(m)

DESCRIPTION OF STRUCTURE

Model D and DG pump consists of four parts, stator, rotor, bearing and shaft seal:

1. Stator consists of the inlet middle and outlet sections and the guide vane etc., With the take-up bolt tightly clamping all sections to form a working room. The inlet of it stands horizontally while the outlet vertically upward.

2. Rotor consists of the shaft impeller balancing disk and muff etc, The shaft passes the power to the impeller to have it work; the balancing disk balances the axial force; and replaceable muff is mounted on both sides of the shaft to protect it.

3. bearing There are rolling and sliding bearings: The rolling bearing consists of bearing seat bearing and bearing gland and uses grease for lubrication. The sliding bearing consists of bearing body and cover, liner, dust-proof disk oil leveler oil through wing ring etc., and uses thinned oil for lubrication.

4. shaft sealing The shaft is sealed with stuffing and the shaft seal consists of the sealing contents stuffing, baffle, the liquid in the sealing work-room functions water sealing, water cooling and water lubricating and the water for water-sealing comes from the pressure water inside of the pump.

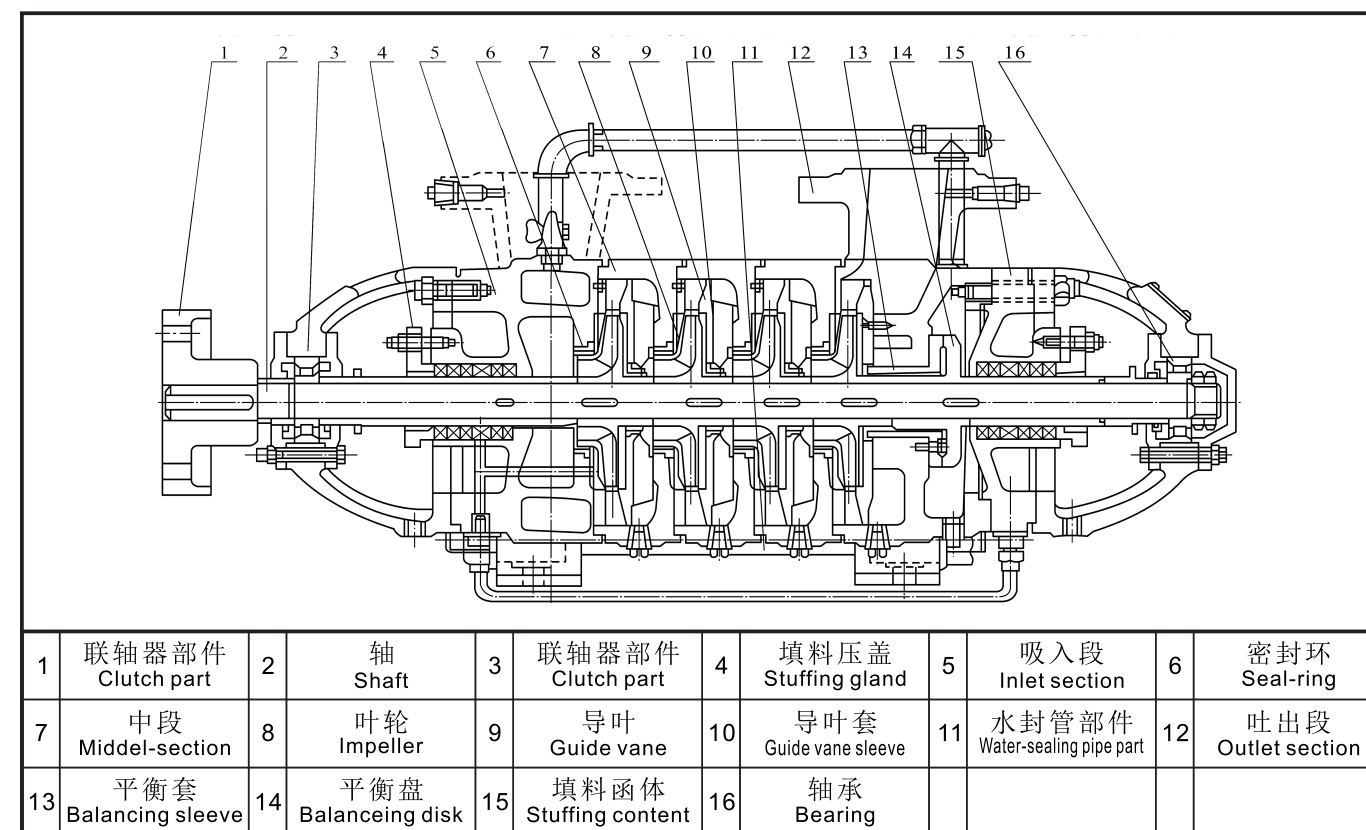
5. clutch pump is directly actuated by the prime mover through the elastic clutch.

6. move direction viewing from the prime mover, moves CW.



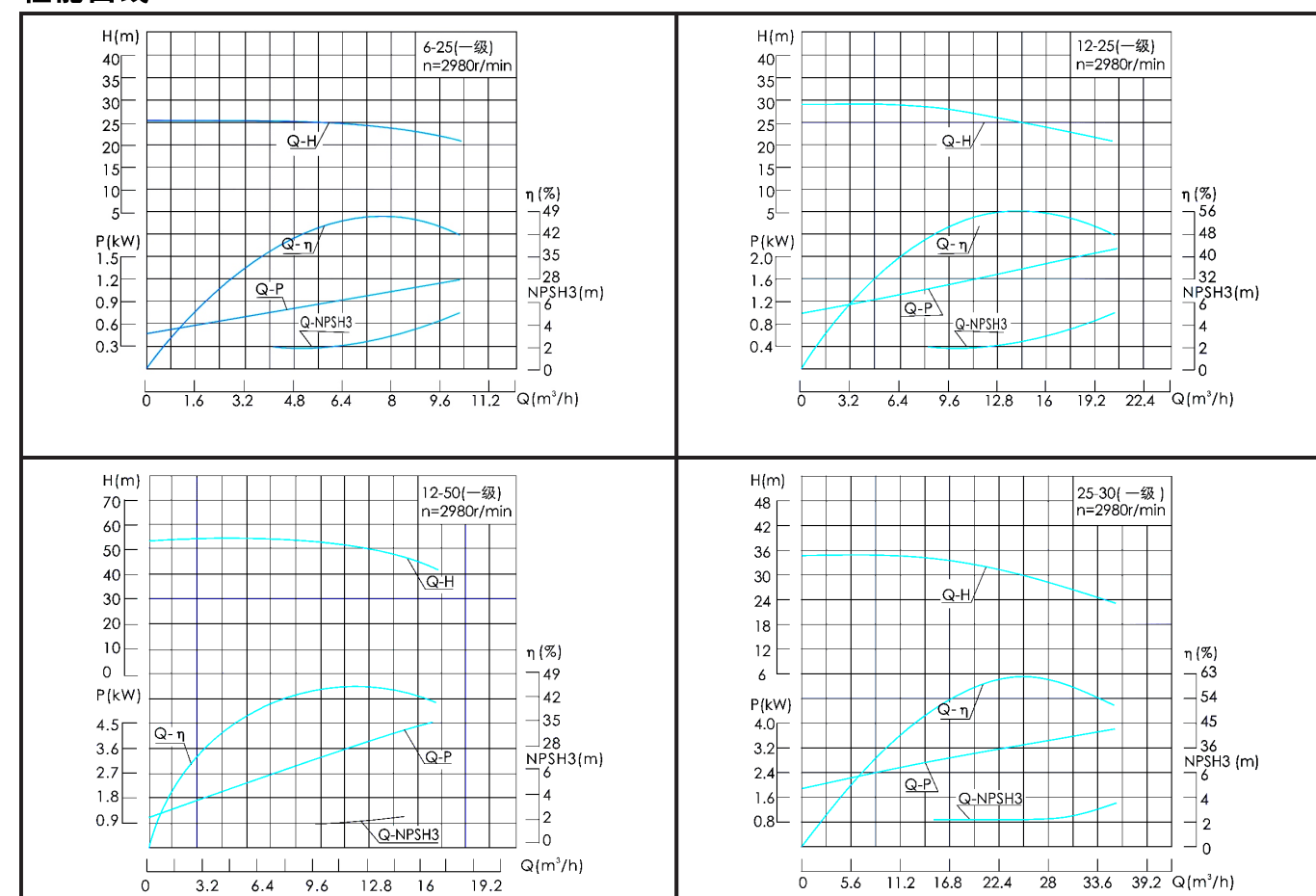
结构图

STRUCTURAL DRAWING

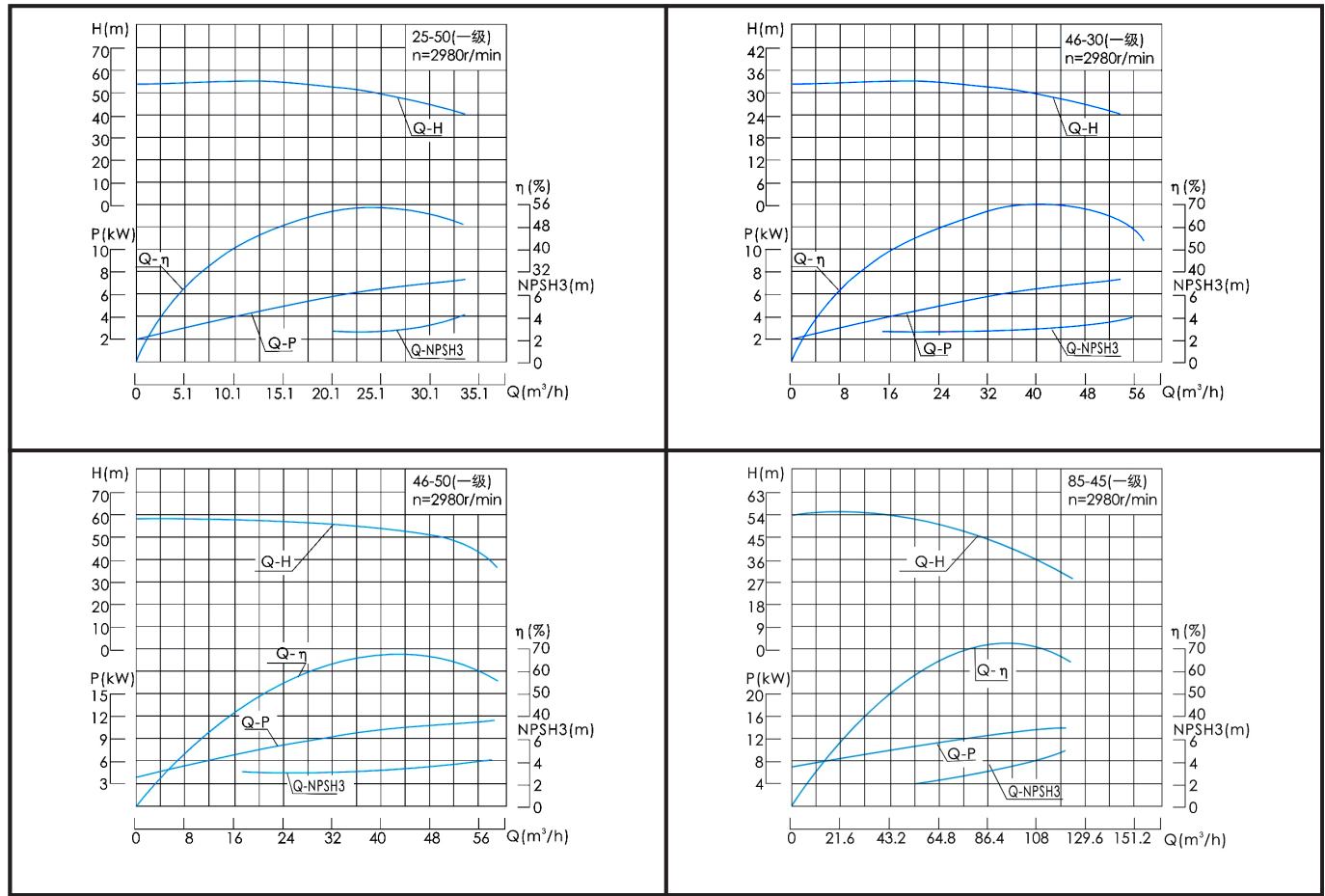


性能曲线

PERFORMANCE CURVE



性能曲线



性能参数表

序号 Serial NO.	型号 Model number	流量 Flow		扬程 Head m	效率 Efficiency η (%)	转速 Speed r/min	轴功率 Shaft power kW	电机功率 Motor power kW	必需汽蚀余量 Required cavitation allowance (NPSH)r(m)
		m³/h	L/s						
1	D DG6-25 × 3	3.75 6.3 7.5	1.04 1.75 2.08	76.5 75 73.5	34 46.5 50	2900	2.4 2.8 3.0	5.5	2.0 2.0 2.5
2	D DG6-25 × 4	3.75 6.3 7.5	1.04 1.75 2.08	102 100 98	34 46.5 50	2900	3.1 3.7 4.0	7.5	2.0 2.0 2.5
3	D DG6-25 × 5	3.75 6.3 7.5	1.04 1.75 2.08	127.5 125 122.5	34 46.5 50	2900	3.8 4.6 5.0	7.5	2.0 2.0 2.5
4	D DG6-25 × 6	3.75 6.3 7.5	1.04 1.75 2.08	153 150 147	34 46.5 50	2900	4.6 5.5 6.0	11	2.0 2.0 2.5
5	D DG6-25 × 7	3.75 6.3 7.5	1.04 1.75 2.08	178.5 175 171.5	34 46.5 50	2900	5.4 6.5 7.0	11	2.0 2.0 2.5
6	D DG6-25 × 8	3.75 6.3 7.5	1.04 1.75 2.08	204 200 194	34 46.5 50	2900	6.1 7.2 8.0	15	2.0 2.0 2.5
7	D DG6-25 × 9	3.75 6.3 7.5	1.04 1.75 2.08	229.5 225 220.5	34 46.5 50	2900	6.8 8.3 9.0	15	2.0 2.0 2.5
8	D DG6-25 × 10	3.75 6.3 7.5	1.04 1.75 2.08	255 250 245	34 46.5 50	2900	7.7 9.2 10.0	18.5	2.0 2.0 2.5
9	D DG6-25 × 11	3.75 6.3 7.5	1.04 1.75 2.08	280.5 275 269.5	34 46.5 50	2900	8.4 10.2 11.0	18.5	2.0 2.0 2.5
10	D DG6-25 × 12	3.75 6.3 7.5	1.04 1.75 2.08	306 300 294	34 46.5 50	2900	9.2 11.1 12.0	18.5	2.0 2.0 2.5

性能参数表

序号 Serial NO.	型号 Model number	流量 Flow		扬程 Head m	效率 Efficiency η (%)	转速 Speed r/min	轴功率 Shaft power kW	电机功率 Motor power kW	必需汽蚀余量 Required cavitation allowance (NPSH)r(m)
		m³/h	L/s						
11	D DG6-50×3	3.75 6.3 7.5	1.04 1.75 2.08	166.5 150 138	27.5 37.5 35.5	2900	6.19 6.87 7.94	15	2.0 2.0 2.5
12	D DG6-50×4	3.75 6.3 7.5	1.04 1.75 2.08	222 200 184	27.5 37.5 35.5	2900	8.25 9.16 10.59	18.5	2.0 2.0 2.5
13	D DG6-50×5	3.75 6.3 7.5	1.04 1.75 2.08	277.5 250 230	27.5 37.5 35.5	2900	10.31 11.45 13.24	22	2.0 2.0 2.5
14	D DG6-50×6	3.75 6.3 7.5	1.04 1.75 2.08	330 300 276	27.5 37.5 35.5	2900	12.26 13.73 15.89	30	2.0 2.0 2.5
15	D DG6-50×7	3.75 6.3 7.5	1.04 1.75 2.08	388.5 350 322	27.5 37.5 35.5	2900	14.44 16.02 18.54	30	2.0 2.0 2.5
16	D DG6-50×8	3.75 6.3 7.5	1.04 1.75 2.08	440 400 368	27.5 37.5 35.5	2900	16.35 18.31 21.19	37	2.0 2.0 2.5
17	D DG6-50×9	3.75 6.3 7.5	1.04 1.75 2.08	499.5 450 414	27.5 37.5 35.5	2900	18.56 20.60 23.83	37	2.0 2.0 2.5
18	D DG6-50×10	3.75 6.3 7.5	1.04 1.75 2.08	555 500 460	27.5 37.5 35.5	2900	20.62 22.89 26.48	45	2.0 2.0 2.5
19	D DG12-25×3	7.5 12.5 15.0	2.08 3.47 4.17	84.6 75 69	44 54 53	2900	3.93 4.73 5.32	7.5	2.0 2.0 2.5
20	D DG12-25×4	7.5 12.5 15.0	2.08 3.47 4.17	112.8 100 92	44 54 53	2900	2.24 3.30 7.09	11	2.0 2.0 2.5
21	D DG12-25×5	7.5 12.5 15.0	2.08 3.47 4.17	141 125 115	44 54 53	2900	6.55 7.88 8.86	11	2.0 2.0 2.5
22	D DG12-25×6	7.5 12.5 15.0	2.08 3.47 4.17	169.2 150 138	44 54 53	2900	7.85 9.46 10.64	15	2.0 2.0 2.5
23	D DG12-25×7	7.5 12.5 15.0	2.08 3.47 4.17	197.4 175 161	44 54 53	2900	9.16 11.0 12.41	15	2.0 2.0 2.5
24	D DG12-25×8	7.5 12.5 15.0	2.08 3.47 4.17	225.6 200 184	44 54 53	2900	10.47 12.61 14.18	18.5	2.0 2.0 2.5
25	D DG12-25×9	7.5 12.5 15.0	2.08 3.47 4.17	253.8 225 207	44 54 53	2900	11.78 14.18 15.95	18.5	2.0 2.0 2.5
26	D DG12-25×10	7.5 12.5 15.0	2.08 3.47 4.17	282 250 230	44 54 53	2900	13.09 15.76 17.73	22	2.0 2.0 2.5
27	D DG12-25×11	7.5 12.5 15.0	2.08 3.47 4.17	310.2 275 253	44 54 53	2900	14.40 17.34 19.50	22	2.0 2.0 2.5
28	D DG12-25×12	7.5 12.5 15.0	2.08 3.47 4.17	338.4 300 276	44 54 53	2900	15.70 18.90 21.30	30	2.0 2.0 2.5

性能参数表

PERFORMANCE PARAMETER TABLE

序号 Serial NO.	型号 Model number	流量 Flow		扬程 Head m	效率 Efficiency η (%)	转速 Speed r/min	轴功率 Shaft power kW	电机功率 Motor power kW	必需汽蚀余量 Required cavitation allowance (NPSH)r(m)
		m³/h	L/s						
29	D DG12-50×2	10	2.78	105	46	2900	6.1	11	2.5
		12.5	3.47	100	48		7.0		2.7
		15.0	4.17	92	47		7.8		3
30	D DG12-50×3	10	2.78	166.5	46	2900	9.1	15	2.5
		12.5	3.47	150	48		10.5		2.7
		15.0	4.17	138	47		11.7		3
31	D DG12-50×4	10	2.78	222	46	2900	12.2	22	2.5
		12.5	3.47	200	48		14		2.7
		15.0	4.17	184	47		15.6		3
32	D DG12-50×5	10	2.78	277.5	46	2900	15.2	30	2.5
		12.5	3.47	250	48		17.5		2.7
		15.0	4.17	230	47		19.6		3
33	D DG12-50×6	10	2.78	330	46	2900	18.3	30	2.5
		12.5	3.47	300	48		21		2.7
		15.0	4.17	276	47		23.5		3
34	D DG12-50×7	10	2.78	388.5	46	2900	21.3	37	2.5
		12.5	3.47	350	48		24.5		2.7
		15.0	4.17	322	47		27.4		3
35	D DG12-50×8	10	2.78	440	46	2900	24.4	37	2.5
		12.5	3.47	400	48		28		2.7
		15.0	4.17	368	47		31.3		3
36	D DG12-50×9	10	2.78	499.5	46	2900	27.4	45	2.5
		12.5	3.47	450	48		31.5		2.7
		15.0	4.17	414	47		35.2		3
37	D DG12-50×10	10	2.78	555	46	2900	30.5	55	2.5
		12.5	3.47	500	48		35		2.7
		15.0	4.17	460	47		39.1		3
38	D DG12-50×11	10	2.78	610.5	46	2900	33.5	55	2.5
		12.5	3.47	550	48		38.5		2.7
		15.0	4.17	506	47		43.0		3
39	D DG12-50×12	10	2.78	666	46	2900	36.6	55	2.5
		12.5	3.47	600	48		42		2.7
		15.0	4.17	552	47		46.9		3
40	D DG25-30×3	15	4.17	102	50	2900	8.33	15	2.2
		25	6.94	90	62		9.88		2.2
		30	8.33	82.5	63		10.7		2.6
41	D DG25-30×4	15	4.17	136	50	2900	11.11	18.5	2.2
		25	6.94	120	62		13.1		2.2
		30	8.33	110	63		14.26		2.6
42	D DG25-30×5	15	4.17	170	50	2900	13.89	22	2.2
		25	6.94	150	62		16.47		2.2
		30	8.33	137.5	63		17.83		2.6
43	D DG25-30×6	15	4.17	204	50	2900	16.67	30	2.2
		25	6.94	180	62		19.77		2.2
		30	8.33	165	63		21.4		2.6
44	D DG25-30×7	15	4.17	238	50	2900	19.44	30	2.2
		25	6.94	210	62		23.1		2.2
		30	8.33	192.5	63		24.96		2.6
45	D DG25-30×8	15	4.17	272	50	2900	22.22	37	2.2
		25	6.94	240	62		26.4		2.2
		30	8.33	220	63		28.53		2.6
46	D DG25-30×9	15	4.17	306	50	2900	25.0	37	2.2
		25	6.94	270	62		29.65		2.2
		30	8.33	247.5	63		32.1		2.6
47	D DG25-30×10	15	4.17	340	50	2900	27.8	45	2.2
		25	6.94	300	62		32.9		2.2
		30	8.33	275	63		35.7		2.6

D/DG卧式多级离心泵

D/DG horizontal multi-stage centrifugal pump

清水泵系列 Clean water pump series

性能参数表

PERFORMANCE PARAMETER TABLE

序号 Serial NO.	型号 Model number	流量 Flow		扬程 Head m	效率 Efficiency η (%)	转速 Speed r/min	轴功率 Shaft power kW	电机功率 Motor power kW	必需汽蚀余量 Required cavitation allowance (NPSH)r(m)
		m³/h	L/s						
48	D DG25-50×2	15	4.17	116	51	2900	9.3	18.5	2.3
		25	6.94	104	57		12.4		2.5
		30	8.3	95	55		14.1		2.7
49	D DG25-50×3	15	4.17	174	51	2900	13.9	30	2.3
		25	6.94	156	57		18.6		2.5
		30	8.3	142.5	55		21.2		2.7
50	D DG25-50×4	15	4.17	232	51	2900	18.6	37	2.3
		25	6.94	208	57		24.8		2.5
		30	8.3	190	55		28.2		2.7
51	D DG25-50×5	15	4.17	290	51	2900	23.2	45	2.3
		25	6.94	260	57		31.1		2.5
		30	8.3	237.5	55		35.3		2.7
52	D DG25-50×6	15	4.17	348	51	2900	27.9	55	2.3
		25	6.94	312	57		37.3		2.5
		30	8.3	285	55		42.3		2.7
53	D DG25-50×7	15	4.17	406	51	2900	32.5	55	2.3
		25	6.94	364	57		43.5		2.5
		30	8.3	332.5	55		49.4		2.7
54	D DG25-50×8	15	4.17	464	51	2900	37.2	75	2.3
		25	6.94	416	57		49.7		2.5
		30	8.3	380	55		56.4		2.7
55	D DG25-50×9	15	4.17	522	51	2900	41.8	75	2.3
		25	6.94	468	57		55.9		2.5
		30	8.3	427.5	55		63.5		2.7
56	D DG25-50×10	15	4.17	580	51	2900	46.5	75	2.3
		25	6.94	520	57		62.1		2.5
		30	8.3	475	55		70.6		2.7
57	D DG25-50×11	15	4.17	638	51	2900	51.1	90	2.3
		25	6.94	572	57		68.3		2.5
		30	8.3	522.5	55		77.6		2.7
58	D DG25-50×12	15	4.17	696	51	2900	55.7	90	2.3
		25	6.94	624	57		74.5		2.5
		30	8.3	570	55		84.7		2.7
59	D DG46-30×3	30	8.33	102	64	2900	13.02	22	2.4
		46	12.8	90	70		16.11		3.0
		55	15.3	81	68		17.84		4.6
60	D DG46-30×4	30	8.33	136	64	2900	17.36	30	2.4
		46	12.8	120	70		21.48		3.0
		55	15.3	108	68		23.79		4.6
61	D DG46-30×5	30	8.33	170	64	2900	21.70	37	2.4
		46	12.8	150	70		26.85		3.0
		55	15.3	135	68		29.74		4.6
62	D DG46-30×6	30	8.33	204	64	2900	26.04	37	2.4
		46	12.8	180	70		32.21		3.0
		55	15.3	162	68		35.68		4.6
63	D DG46-30×7	30	8.33	238	64	2900	30.38	45	2.4
		46	12.8	210	70		37.58		3.0
		55	15.3	189	68		41.63		4.6
64	D DG46-30×8	30	8.33	274	64	2900	34.72	55	2.4
		46	12.8	240	70		42.95		3.0
		55	15.3	216	68		47.58		4.6
65	D DG46-30×9	30	8.33	306	64	2900	39.06	55	2.4
		46	12.8	270	70		48.32		3.0
		55	15.3	243	68		53.53		4.6
66	D DG46-30×10	30	8.33	340	64	2900	43.40	75	2.4
		46	12.8	300	70		53.69		3.0
		55	15.3	270	68		59.47		4.6

性能参数表

PERFORMANCE PARAMETER TABLE

序号 Serial NO.	型号 Model number	流量 Flow		扬程 Head m	效率 Efficiency η (%)	转速 Speed r/min	轴功率 Shaft power kW	电机功率 Motor power kW	必需汽蚀余量 Required cavitation allowance (NPSH)r(m)
		m³/h	L/s						
67	D DG46-50×3	30	8.33	166.5	54	2900	25.19	137	2.5
		46	12.8	150	63		29.83		2.8
		55	15.3	138	64		32.30		3.2
68	D DG46-50×4	30	8.33	222	54	2900	33.59	45	2.5
		46	12.8	200	63		39.77		2.8
		55	15.3	184	64		43.06		3.2
69	D DG46-50×5	30	8.33	277.5	54	2900	41.98	75	2.5
		46	12.8	250	63		49.71		2.8
		55	15.3	230	64		53.83		3.2
70	D DG46-50×6	30	8.33	330	54	2900	50.38	75	2.5
		46	12.8	300	63		59.65		2.8
		55	15.3	276	64		64.59		3.2
71	D DG46-50×7	30	8.33	388.5	54	2900	58.78	90	2.5
		46	12.8	350	63		69.60		2.8
		55	15.3	322	64		75.36		3.2
72	D DG46-50×8	30	8.33	440	54	2900	67.18	90	2.5
		46	12.8	400	63		79.54		2.8
		55	15.3	368	64		86.12		3.2
73	D DG46-50×9	30	8.33	499.5	54	2900	75.57	110	2.5
		46	12.8	450	63		89.48		2.8
		55	15.3	414	64		96.89		3.2
74	D DG46-50×10	30	8.33	555	54	2900	83.97	110	2.5
		46	12.8	500	63		99.42		2.8
		55	15.3	460	64		107.66		3.2
75	D DG46-50×11	30	8.33	610.5	54	2900	92.37	132	2.5
		46	12.8	550	63		109.36		2.8
		55	15.3	506	64		118.42		3.2
76	D DG46-50×12	30	8.33	666	54	2900	100.8	132	2.5
		46	12.8	600	63		119.3		2.8
		55	15.3	552	64		129.2		3.2
77	D DG85-45×2	50	15.3	102	63	2900	24.25	37	3.2
		85	23.6	90	72		28.94		4.2
		100	27.8	78	70		30.35		5.2
78	D DG85-45×3	50	15.3	153	63	2900	36.38	55	3.2
		85	23.6	135	72		43.3		4.2
		100	27.8	117	70		45.52		5.2
79	D DG85-45×4	50	15.3	204	63	2900	48.5	75	3.2
		85	23.6	180	72		57.87		4.2
		100	27.8	156	70		60.7		5.2
80	D DG85-45×5	50	15.3	255	63	2900	60.63	90	3.2
		85	23.6	225	72		72.34		4.2
		100	27.8	195	70		75.86		5.2
81	D DG85-45×6	50	15.3	306	63	2900	72.75	110	3.2
		85	23.6	270	72		86.81		4.2
		100	27.8	234	70		91.04		5.2
82	D DG85-45×7	50	15.3	357	63	2900	84.88	132	3.2
		85	23.6	315	72		101.3		4.2
		100	27.8	273	70		106.2		5.2
83	D DG85-45×8	50	15.3	408	63	2900	97.0	132	3.2
		85	23.6	360	72		115.7		4.2
		100	27.8	3125	70		121.4		5.2
84	D DG85-45×9	50	15.3	459	63	2900	109.1	160	3.2
		85	23.6	405	72		130.2		4.2
		100	27.8	351	70		136.6		5.2

泵的安装

1. 安装前的准备工作:

- (1) 泵的基础必须具有足够的强度，基础的质量约等于机组质量的3~5倍。
- (2) 检查水泵和电机，检查泵的零件是否丢失，是否在运输过程中损坏。
- (3) 准备工具及起重机械。

2. 安装顺序:

- (1) 在底座下面放置钢的垫铁和楔铁。用起重吊钩吊住底座的四个角，把底座吊在地基上方，慢慢地把底座放在每个螺栓孔的位置上。
- (2) 找平底座，拧紧地脚螺栓，向地脚处灌浆。
- (3) 设备调整。泵与电机联轴器之间应有间隙。水泵与电机的轴线应重合。可用塞尺测量两联轴器端面间隙的均匀度，其允差0.06毫米，可用直尺在两联器圆周各个方向进行测量，两联轴器外圆表面直尺间间隙允差0.08毫米。如不符合以上要求，可用调整垫进行调整。
- (4) 联结进出水管路，在吸入段和吐出段联结真空表和压力表。
- (5) 对有的型泵，泵的平衡水请用软管引向吸入管路，或直接排入下水道。绝对禁止用木塞等物堵塞平衡水孔。

ERECTION OF THE PUMP

1. Preparation before installation:

- (1) The foundation of the pump must have sufficient strength, and the mass of the foundation is approximately 3-5 times the mass of the unit.
- (2) Check the water pump and motor to see if any parts of the pump are missing or damaged during transportation.
- (3) Prepare tools and lifting machinery.

2. Installation sequence:

- (1) Place steel pads and wedges under the base. Use a lifting hook to lift the four corners of the base, lift the base above the foundation, and slowly place the base at the position of each bolt hole.
- (2) Find a flat base, tighten the foundation bolts, and grout towards the foundation.
- (3) Equipment adjustment. There should be a gap between the pump and motor coupling. The axis of the water pump and motor should coincide. The evenness of the gap between the end faces of the two couplings can be measured with a feeler gauge, with a tolerance of 0.06 millimeters. A ruler can be used to measure the gap in all directions around the circumference of the two couplings, with a tolerance of 0.08 millimeters between the rulers on the outer surface of the two couplings. If it does not meet the above requirements, an adjustment pad can be used for adjustment.
- (4) Connect the inlet and outlet water pipes, and connect the vacuum gauge and pressure gauge in the suction and discharge sections.
- (5) For some types of pumps, the balance water of the pump should be directed towards the suction pipeline through a hose or directly discharged into the sewer. It is absolutely prohibited to block the balance water hole with wooden plugs or other objects.

泵的启动,运转和停机

启动:

- (1) 泵在启动前，采用稀油润滑时，应检查轴承油位是否正常。
- (2) 泵在启动前，必须检查电动机的旋转方向是否正确。
- (3) 泵在启动前，应先用手转动泵的联轴器，看泵的转动部分旋转是否灵活。用滑动轴承还需盘车5~10分钟，或从上方油孔处淋油10~20毫升，使轴承润滑均匀。
- (4) 检查全部仪表、阀门及仪器是否正常。
- (5) 泵在启动前，应向泵内注水或抽出泵内空气，并关闭泵出口管路上的闸阀和压力表旋塞。接通滑动轴承循环冷却水管路。
- (6) 启动水泵后，打开压力表旋塞、真空表旋塞。并逐渐打开泵出口管路上的闸阀，等压力表指针指到所需位置上。

运 转:

- (1) 泵运转后，要注意检测水泵轴承温度，平均温升应不超过30℃,最高温度不超过75℃。
- (2) 水泵在运转时，时常注意加油。
- (3) 填料室内正常漏水程度，以每分钟10~20滴为准，否则，应调整填料压盖。
- (4) 定期检查联轴器。
- (5) 运转过程中，如发生故障，应立即停机，并参考故障排除表进行维修。

停 机:

慢慢关闭出水口管路上的闸阀和压力表旋塞，进水口管路上的真空旋塞。然后切断电动机电源。最后关闭滑动轴承循环冷却水。

START, RUN AND STOP OF THE PUMP

Start:

- (1) Before starting the pump, when using thin oil lubrication, check whether the bearing oil level is normal.
- (2) Before starting the pump, it is necessary to check whether the rotation direction of the motor is correct.
- (3) Before starting the pump, the coupling of the pump should be manually turned to see if the rotating part of the pump rotates flexibly. Using sliding bearings requires turning for 5-10 minutes, or pouring 10-20 milliliters of oil from the upper oil hole to evenly lubricate the bearings.
- (4) Check whether all instruments, valves and instruments are normal.
- (5) Before starting the pump, fill the pump with water or extract air from the pump, and close the gate valve and pressure gauge cock on the pump outlet pipeline. Connect the circulating cooling water pipeline of the sliding bearing.
- (6) After starting the water pump, open the pressure gauge cock and vacuum gauge cock. And gradually open the gate valve on the pump outlet pipeline, and wait for the pressure gauge pointer to reach the desired position.

Operation:

- (1) After the pump is running, pay attention to detecting the temperature of the water pump bearing. The average temperature rise should not exceed 30 ℃, and the maximum temperature should not exceed 75 ℃.
- (2) Always pay attention to refueling when the water pump is running.
- (3) The normal level of water leakage in the filling chamber is based on 10-20 drops per minute. Otherwise, the filling gland should be adjusted.
- (4) Regularly inspect the coupling.
- (5) During operation, if a malfunction occurs, the machine should be immediately shut down and repaired according to the troubleshooting table.

Shutdown:

Slowly close the gate valve and pressure gauge cock on the water outlet pipeline, and the vacuum cock on the water inlet pipeline. Then cut off the power supply to the motor. Finally, turn off the circulating cooling water for the sliding bearing.

泵的维护与维修

1. 泵的维护:

- (1) 检查泵的底座、泵、电动是否紧固。
- (2) 检查仪表、引线的状况，检查管路是否泄漏或松动。
- (3) 轴承润滑油应及时更换。
- (4) 定期检查泵的性能及运行情况，并作详细记录，如发现问题应立即维修。

2. 泵的装配与拆卸:

1) 拆卸前准备工作:

- (1) 将泵壳内液体放掉。
- (2) 拆去妨碍拆卸的附属管路。

2) 拆卸步骤:

- (1) 拧下吐出侧轴承压盖上的螺栓和吐出段、填料函体、轴承体三个件之间的联接螺母，卸下轴承体。如为滑动轴承，应拧下两轴承的轴承压盖、防尘盘、轴承盖上的螺钉，卸下轴承压盖、轴承盖、上瓦、下瓦，再拧下吐出侧轴承体、填料函体、吐出段三个件之间螺母，卸下轴承体。
- (2) 拧下轴上的圆螺母，依次卸下轴承内圈、轴承压盖和挡套后，再卸下填料函体(包括填料压盖、填料环、填料等在内)。
- (3) 依次卸下轴上的O形圈、轴套、平衡盘和键后，卸下吐出段(包括末级导叶、平衡套在内)。
- (4) 卸下末级叶轮和键后，卸下中段(包括导叶在内)。按同样方法继续卸下其余各级的叶轮、中段和导叶，直至卸下首级叶轮为止。
- (5) 拧下吸入段和轴承体的联接螺母和轴承压盖上的螺栓后，卸下轴承部件(在这之前，应先将泵联轴器卸下)。

(6) 将轴从吸入段中抽出，拧下轴上的固定螺母，依次将轴承内圈、O型密封圈、轴套、挡套等卸下。至此，拆卸工作基本完成。但在上述拆卸过程中，还有部分零件互相联接在一起，一般情况下拧下联接螺栓或螺母后，即可卸下。

泵的装配顺序，一般是按拆卸顺序反向进行。滑动轴承在装配时，轴瓦应与轴配对刮研，轴瓦上点要求每平方英寸达7点以上，轴瓦与轴上部间隙应在0.15~0.18mm，侧面单侧间隙应在0.075~0.09mm之间。

MAINTENANCE AND SERVICE

1. Pump maintenance:

- (1) Check if the base, pump, and electric components of the pump are tightened.
- (2) Check the condition of the instruments and leads, and check for leaks or looseness in the pipelines.
- (3) The bearing lubricating oil should be replaced in a timely manner.
- (4) Regularly check the performance and operation of the pump, and make detailed records. If any problems are found, they should be repaired immediately.

2. Assembly and disassembly of the pump;

1) Preparation before disassembly:

- (1) Drain the liquid from the pump casing.
- (2) Remove the accessory pipelines that hinder disassembly.

2) Disassembly steps:

- (1) Unscrew the bolts on the bearing gland on the discharge side and the connecting nuts between the discharge section, packing box body, and bearing body, and remove the bearing body. If it is a sliding bearing, unscrew the bearing gland, dust disk, and screws on the bearing cover of both bearings, and remove the bearing gland, bearing cover. Install the upper and lower pads, then unscrew the nuts between the bearing body on the discharge side, the packing box body, and the discharge section, and remove the bearing body.
- (2) Unscrew the round nut on the shaft, remove the bearing inner race, bearing gland, and gear sleeve in sequence, and then remove the packing box body (including packing gland, packing ring, packing, etc.).
- (3) After sequentially removing the O-ring, shaft sleeve, balance plate, and key from the shaft, remove the discharge section (including the final stage guide vane and balance sleeve).

(4) After removing the final stage impeller and key, remove the middle section (including the guide vanes). Continue to remove the remaining stages of the impeller, middle section, and guide vanes using the same method until the first stage impeller is removed.

(5) After unscrewing the connecting nuts of the suction section and bearing body, as well as the bolts on the bearing gland, remove the bearing components (before this, the pump coupling should be removed first).

(6) Extract the shaft from the suction section, unscrew the fixing nut on the shaft, and remove the bearing inner ring, O-ring seal, shaft sleeve, gear sleeve, etc. in sequence.

At this point, the disassembly work is basically completed. However, during the above disassembly process, some parts are connected to each other. Generally, after unscrewing the connecting bolts or nuts, they can be removed.

The assembly sequence of the pump is generally carried out in the reverse order of disassembly. When assembling sliding bearings, the bearing shells should be matched and scraped with the shaft. The upper point of the bearing shell should be at least 7 points per square inch, and the clearance between the bearing shell and the upper part of the shaft should be between 0.15 and 0.18mm, the lateral clearance should be between 0.075 and 0.09mm.

故障和解决方法

Faults and solutions

故障 failure	原因 Cause	解决方法 resolvent
打不出液体	1. 泵没有灌液体 2. 吸入管、排出管、叶轮被杂物阻塞 3. 吸入管有空气 4. 吸上高度太高 5. 排出管过细、管路损失过大 6. 要求扬程大于泵扬程 7. 输送热的或易挥发性介质 8. 转向反	1. 重灌液体 2. 清除杂物 3. 修理管路 4. 降低泵安装高度 5. 换与泵口同口径管 6. 更换新泵 7. 降低吸入高度、最好倒灌 8. 改变转向
No liquid can be pumped out	1. The pump is not filled with liquid 2. The suction pipe, discharge pipe and impeller are blocked by debris 3. There is air in the suction pipe 4. The suction height is too high 5. The discharge pipe is too thin and the pipeline loss is too large 6. The required lift is greater than the pump lift 7. Transport hot or volatile media 8. Reverse steering	1. Recharge liquid 2. Remove sundries 3. Repair the pipeline 4. Lower the pump installation height 5. Replace the pipe with the same diameter as the pump port 6. Replace with a new pump 7. Lower the suction height and preferably pour back 8. Change the steering
流量不够	1. 底阀太小 2. 吸入管路浸入液体深度不够有空气带入浆内 3. 吸入管路过小或有杂物阻塞 4. 叶轮腐蚀严重	1. 另配置新底阀 2. 增加浸入深度 3. 换粗管、清除杂物 4. 换新叶轮
Insufficient flow	1. The bottom valve is too small 2. The suction pipe is not deep enough in liquid, and air is brought into the slurry 3. The suction pipe is too small or blocked by sundries 4. Impeller severely corroded	1. New foot valve 2. Increase immersion depth 3. Replace the thick pipe and remove the sundries 4. Replace the impeller
扬程不够	1. 叶轮腐蚀严重 2. 泵性能不符合要求	1. 换新叶轮 2. 换新泵
Insufficient lift	1. Impeller severely corroded 2. The pump performance does not meet the requirements	1. Replace the impeller 2. Replace the pump
泵振动严重	1. 泵与电机轴不同心 2. 泵轴弯曲	1. 将电机与泵轴线重新调整对准 2. 卸下校直或换新轴
Severe pump vibration	1. The pump and motor shafts are not concentric 2. The pump shaft is bent	1. Readjust and align the motor and pump axis 2. Remove and straighten or replace the shaft
泵轴承过热	1. 润滑油(脂)没有或不足 2. 电机和泵轴不同心 3. 轴承损坏	1. 加油 2. 调整轴心 3. 更换新轴承
Overheating of pump bearing	1. No or insufficient lubricating oil (grease) 2. Motor and pump shaft are not concentric 3. The bearing is damaged	1. Refueling 2. Adjust the shaft center 3. Replace with a new bearing
轴封漏	1. 进口压力高	1. 降低进口压力或关小进口阀门
Shaft seal leakage	1. High inlet pressure	1. Reduce the inlet pressure or close the inlet valve
电机过热	1. 配置电机功率不够	1. 更换较大功率新电机
Motor overheating	1. Replace with a new motor with larger power	1. The configured motor power is insufficient

D/DG卧式多级离心泵

D/DG horizontal multi-stage centrifugal pump

清水泵系列 Clean water pump series

管径 Pipe diameter (mm)		流量 Flow (L/s)														
25	3.27	13.0														
40	3.5	14														
50	0.8	3.1	13													
65		0.8	3.2	13												
75		0.4	1.6	3.3	5.9	9.6	21.6									
100			0.4	0.8	1.3	2.1	6.8	8.6	13	19.4						
125				0.23	0.4	0.63	1.3	2.7	4.1	5.9	2.3	4.1	1.6	1.1	0.5	0.74
150					0.16	0.26	0.58	1.1	1.6	2.3	0.5	0.74	1.05	1.9	2.9	4.3
175						0.11	0.27	0.5	0.74	1.05	1.9	2.9	4.3	5.8	7.7	9.6
200							0.13	0.26	0.37	0.53	0.93	1.5	2.1	2.9	3.7	4.7
250								0.07	0.12	0.18	0.30	0.48	0.68	0.93	1.2	1.5
300									0.07	0.12	0.19	0.27	0.37	0.49	0.6	0.76

管路损耗参考表 Pipeline friction loss table

阀及弯管折合直管长度(每个)

Length of straight pipe converted from valve and elbow (each)

种类 type	折合直管直径倍数 Multiple of converted straight pipe diameter	备注 remarks
全开闸阀 Fully open gate valve	12	未畅开加倍 Not open double
全开弯管 Full opening elbow	25	
逆止阀 Check valve	100	
底阀 Bottom valve	100	部分堵塞加倍 Partial blockage doubling

注：例如100mm直径管，底阀折100倍直径等于100×100=10000mm=10m直径长度，假定流量为8L/s管上表，直管每100m损失1.3m，则10m损失0.13m，即一个100m底阀，流量为8L/s时，则损失扬程0.13米。

Note: for example, for 100mm diameter pipe, 100 times the diameter of the bottom valve is equal to 100 × 100 = 10000mm = 10m diameter length, assuming that the flow is 8L / s, according to the above table, if the loss of straight pipe is 1.3m per 100m, the loss of 10m is 0.13M, that is, a 100m bottom valve. When the flow is 8L / s, the loss head is 0.13M.

一定管路直径之最大流量限制

Maximum flow limit of a certain pipeline diameter

管路直径 Pipe diameter (mm)	最大流量 Maximum flow (L/s)	最大流速 Maximum velocity (m/s)
25	1	2.04
38	2.5	1.69
50	4.17	2.12
65	6.67	2.01
75	10.0	2.26
100	18.4	2.33
125	30.0	2.44
150	43.0	2.45
175	60.0	2.49
200	83.3	2.69
250	133.3	2.72
300	192.0	2.71

超过此限使管路损失显著增加。
Exceeding this limit will significantly increase the pipeline loss