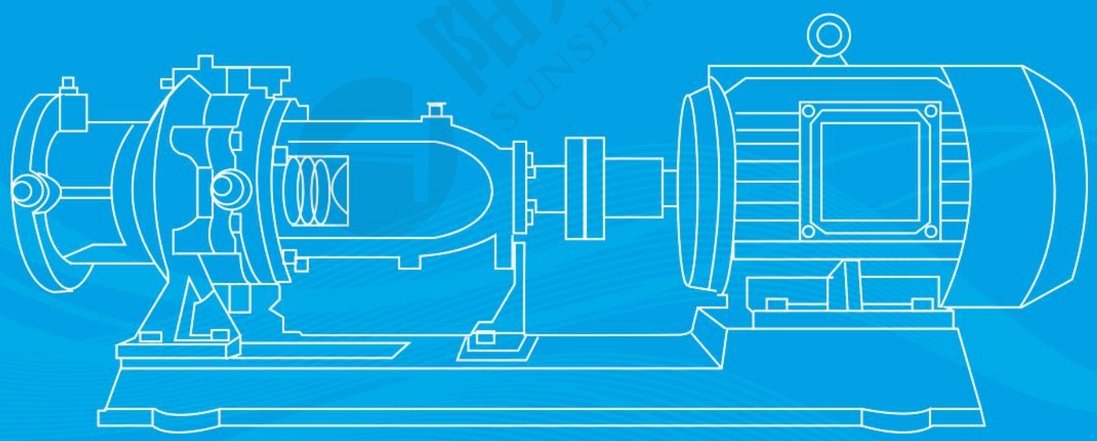
阳光泵业
SUNSHINE PUMP

GN、N、NB型冷凝水泵

GN, N, NB TYPE CONDENSATE PUMP

使用说明书

USER'S MANUAL



上海阳光泵业制造有限公司

Shanghai Sunshine Pump Manufature Co.，Ltd.

公司概况

上海阳光泵业制造有限公司座落于上海市金山工业园区，是国内一家著名的集研制、开发、生产、销售、服务于一体的大型多元化企业。主导产品包括：螺杆泵、隔膜泵、液下泵、磁力泵、排污泵、化工泵、多级泵、自吸泵、齿轮油泵、计量泵、卫生泵、真空泵、潜水泵、转子泵等类别。产品以优越的性能，精良的品质已获得各项专业认证证书及客户的认可。公司拥有多名水泵专家和各类中高级工程师，不断的开发制造，升级换代产品年年都有问世。

公司拥有国内高水准的水泵性能测试中心，产品全部采用 CAD 设计软件和 CFD 计算流体力学软件等先进设计手段，产品经过精密铸造、热锻压、焊接、热处理、精加工、装配等十多道工序。使用先进的数控加工中心、等离子焊接机、全自动气体保护、半自动真空熔焊机、超频真空热处理设备、高效加工专机、理化和探伤设备等各类高精密加工检测设备。齐全的加工检测设备，于同行业中处领先地位，更加充分保证了产品的质量。公司产品达二十大系列，一万多种规格。产品广泛应用于：工业生产，建筑城镇供水，环保污水处理，市政工程，食品制药，水利电力，石油船舶等多种领域。客户包括大庆油田、 胜利油田、中国水利水电、浦项集团等世界知名企业。

不仅如此，阳光泵业同时拥有完善的一体化服务体系：包括前期的专业技术人员快速解答各项技术咨询，应对您的需求，为您选择合适的产品，提供合理可靠的建议；对产品质量、供货周期等的承诺，提供具体货品方案及报价。售后包括：提供产品安装、使用、维护、排除故障等服务。欢迎广大新老客户光临指导，洽谈业务，我们将不断的努力，为您提供优质的产品和服务。





生产加工车间



轴加工车间



装配车间

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⚠ 注意：

为了确保安全，在使用阳光牌 GN、N、NB 型冷凝水泵前，请你认真阅读使用说明书

note:

In order to ensure safety, please read the operating instructions carefully before using Sunshine brand GN, n, nb condensate pumps

用途及特点 Uses and characteristics

GN 型、N 型、NB 型凝结水泵比一般水泵有较好的汽蚀性能之特点。广泛适用于冶金、发电厂、精炼厂、石油化工、低温工程中，汽轮机冷凝水的抽送及高真空度要求密闭容器的液体抽送。亦可用在介质与凝结水相似的其他地方。

GN type, N type and NB type condensate pumps have better cavitation performance characteristics than general water pumps. It is widely used in metallurgy, power plants, refineries, petrochemicals, low temperature engineering, steam turbine condensate pumping and high vacuum requirements for liquid pumping in closed containers. It can also be used in other places where the medium is similar to condensed water.

使用范围 Scope of use

输送液体温度在 80℃以下（如装上带有冷却结构的冷却室，可输送液体温度 150℃以下）；

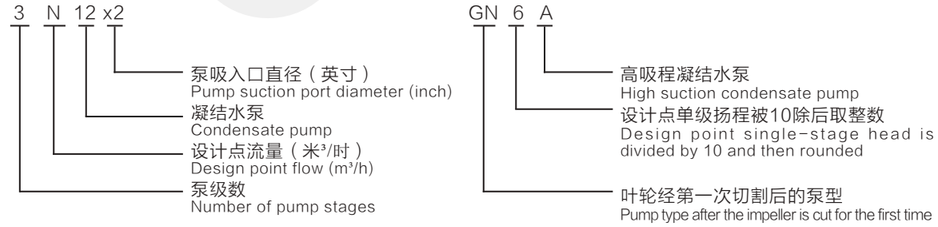
扬程范围：22m—320 m；流量范围：2m³/h—250m³/h。

The temperature of the conveyed liquid is below 80° C (if a cooling chamber with a cooling structure is installed, the temperature of the conveyed liquid can be below 150° C);

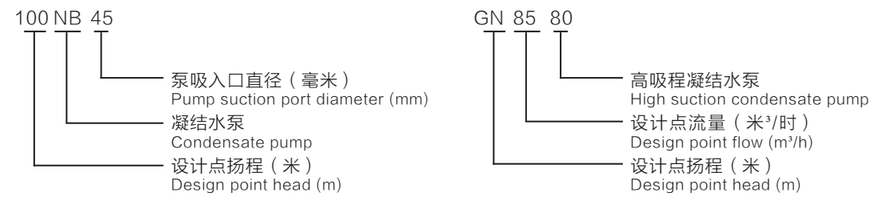
Head range: 22m—320 m; flow range:2m³/h—250m³/h.

型号说明 Model Description

例：GN3/12、3N6x2 和 4N6A Example: GN3/12, 3N6x2 and 4N6A



例：100NB-45、GN85-80x3 Example: 100NB-45, GN85-80x3



结构说明 Structure description

1、3N6、4N6、6N6 和 NB 型系列凝结水泵系单级悬臂式离心泵。泵的吸入口为水平轴向，泵的出口垂直向上。泵主要由泵体、叶轮、泵盖、泵轴和悬架部件等零件组成。悬架部件采用两个向心推力球轴承和一个单列向心球轴承的组合，支撑泵转子部件并承受泵的径向力和轴向力，轴承用润滑油润滑。泵的轴封采用填料密封或机械密封，并辅以外接水封水进行水封，以防进气或漏水。在轴上的轴封处装有可更换的轴套以保护泵轴，轴套与轴之间装有 O 型密封圈，防止其配合间隙造成进气或漏水。泵的传动通过弹性联轴器由电动机直接驱动。从电动机方向看，泵为逆时针旋转（200NB-80 泵为顺时针）。

2、上海阳光 GN 型系列和 3N6x2、4N5x2、4N6x2 凝结水泵系卧式单吸多级悬臂式离心泵。泵的吸入口为水平轴向，泵的出口垂直向上。GN 型系列泵：主要由进水段、中段、出水段、诱导轮、叶轮、导叶、密封体、泵轴和悬架部件等零件组成；3N6x2、4N5x2、4N6x2 泵主要由泵体、叶轮、导叶、泵体、泵轴和悬架部件等零件组成。泵转子由装在轴上的诱导轮、叶轮、轴套等零件组成，悬架部件采用两个向心推力球轴承和一个单列向心球轴承的组合，支撑泵转子部件并承受泵的径向力和轴向力，轴承用润滑油润滑。泵的轴封采用填料密封或机械密封，并辅以外接水封水进行水封，以防进气或漏水。在轴上的轴封处装有可更换的轴套以保护泵轴，轴套与轴之间装有 O 型密封圈，防止其配合间隙造成进气或漏水。泵的传动通过弹性联轴器由电动机直接驱动。从电动机方向看，泵为逆时针旋转（GN80-22、GN150-90 泵为顺时针）。

1, 3N6, 4N6, 6N6 and NB series condensate pumps are single-stage cantilever centrifugal pumps. The suction taste of the pump is horizontal and axial, the outlet of the pump is vertically upward. The pump is mainly composed of pump body, impeller, pump cover, pump shaft and suspension parts. The suspension component adopts a combination of two radial thrust ball bearings and a single row radial ball bearing to support the pump rotor components and bear the radial force and axial force of the pump. The bearings are lubricated with lubricating oil. The shaft seal of the pump adopts packing seal or mechanical seal, and is supplemented by external water seal water for water seal to prevent air intake or water leakage. A replaceable shaft sleeve is installed at the shaft seal on the shaft to protect the pump shaft,an O-ring seal is installed between the shaft sleeve and the shaft to prevent air intake or water leakage caused by the clearance. The transmission of the pump is directly driven by an electric motor through an elastic coupling. From the motor direction, the pump rotates counterclockwise (200NB-80 pump rotates clockwise).

2. Shanghai yangguang GN series and 3N6x2, 4N5x2, 4N6x2 condensate pumps are horizontal single-suction multi-stage cantilever centrifugal pumps. The suction inlet of the pump is horizontal and axial, and the outlet of the pump is vertically upward. GN series pumps: mainly composed of inlet section, middle section, outlet section, inducer, impeller, guide vane, sealing body, pump shaft and suspension parts; 3N6x2, 4N5x2, 4N6x2 pump is mainly composed of pump body, impeller, It consists of guide vanes, pump body, pump shaft and suspension parts. The pump rotor is composed of inducer, impeller, shaft sleeve and other parts mounted on the shaft, the suspension part adopts a combination of two centripetal thrust ball bearings and a single-row radial ball bearing to support the pump rotor part and bear the radial direction of the pump The bearing is lubricated with lubricating oil for the force and axial force. The shaft seal of the pump adopts packing seal or mechanical seal, and is supplemented by external water seal water for water seal to prevent air intake or water leakage. A replaceable shaft sleeve is installed at the shaft seal on the shaft to protect the pump shaft, an O-ring seal is installed between the shaft sleeve and the shaft to prevent air intake or water leakage caused by the clearance. The transmission of the pump is directly driven by an electric motor through an elastic coupling. From the perspective of the motor, the pump rotates counterclockwise (clockwise for GN80-22 and GN150-90 pumps).

产品展示图 Product display diagram









* 展示图仅供参考，以实际收到产品为主。
*The picture shown is for reference only, based on the actual product received.

结构示意图 Schematic

图 1 单级卧式凝结水泵结构图
Figure 1 Single-stage horizontal condensate pump structure diagram

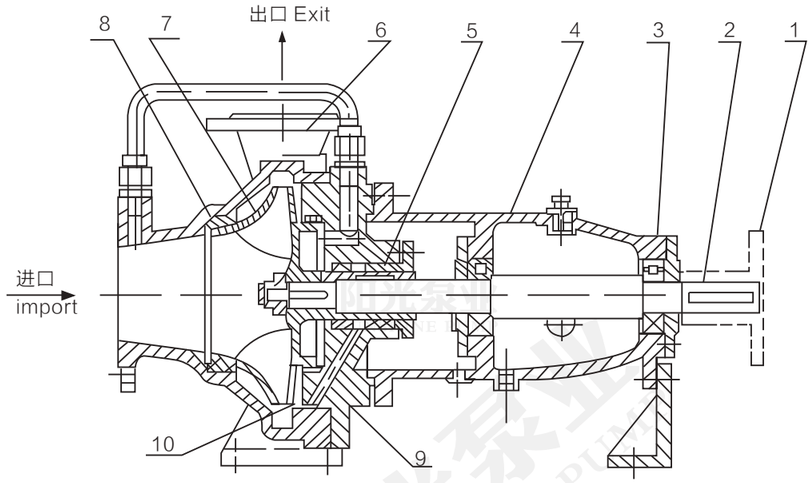
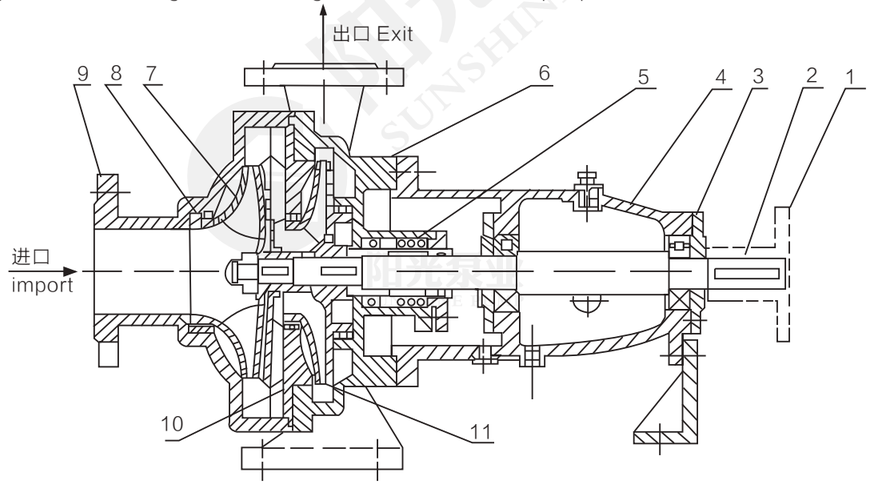
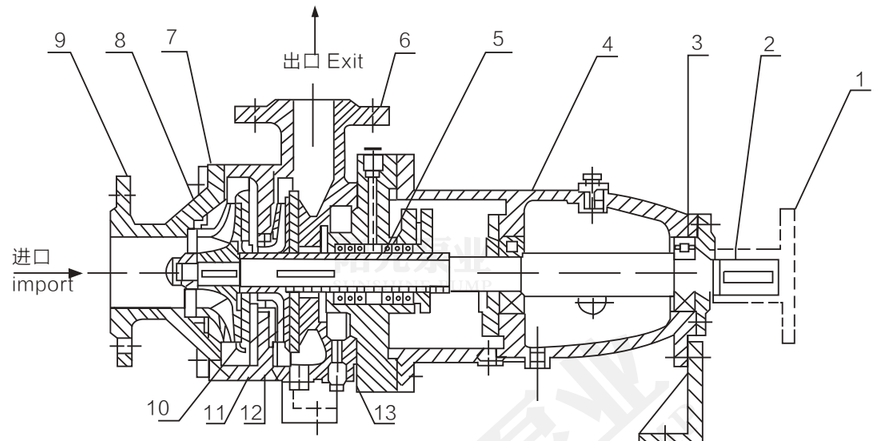


图 2 双级卧式凝结水泵结构图
Figure 2 Structure diagram of two-stage horizontal condensate pump



序号 No	名称 name	序号 No	名称 name	序号 No	名称 name	序号 No	名称 name
1	联轴器 Coupling	4	悬架 Suspension	7	首级叶轮 First stage impeller	10	导叶 Guide vane
2	轴 axis	5	填料 filler	8	密封环 Seal ring	11	叶轮 impeller
3	轴承 Bearing	6	泵体 Pump body	9	泵盖 Pump cover		

图 3 GN 型卧式凝结水泵结构图
Figure 3 GN type horizontal condensate pump structure diagram



序号 No	名称 name	序号 No	名称 name	序号 No	名称 name	序号 No	名称 name	序号 No	名称 name
1	联轴器 Coupling	4	悬架 Suspension	7	首级叶轮 First stage impeller	10	导叶 Guide vane	13	填料函体 Stuffing box body
2	轴 axis	5	填料 filler	8	密封环 Seal ring	11	叶轮 impeller		
3	轴承 Bearing	6	泵体 Pump body	9	泵盖 Pump cover	12	中段 Middle section		

性能参数 Performance parameter

表一 Table I

型号 model	流量 Q Capacity		扬程 H Head	转速 speed (r/min)	功率 N（KW）power		效率 η Eff %	汽蚀余量 NPSH m	叶轮直径 Impeller D mm
	m^3/h	L/S			轴 Shaft	电机 Motor			
100NB-45	14.4 24.0 31.0	4.00 6.67 8.62	54 50 45	2900	4.7 5.7 6.3	7.5	45 57 60	0.61 0.81 0.88	196
100NB-45A	13 18 22	3.61 5 6.11	48 46 45	2900	3.8 4.3 4.7	5.5	45 52 57	0.61 0.71 0.81	185
100NB-60	21.6 36 50.4	6 10 14	69 65 61	2930	9.26 11.75 13.95	15	44 54 60	0.7 0.8 1.0	230
100NB-60A	30 40 50	8.33 11.1 13.9	40 38 37	2930	6.67 7.5 8.85	11	49.0 55.5 58.5	0.9 1.0 1.1	175

性能参数 Performance parameter

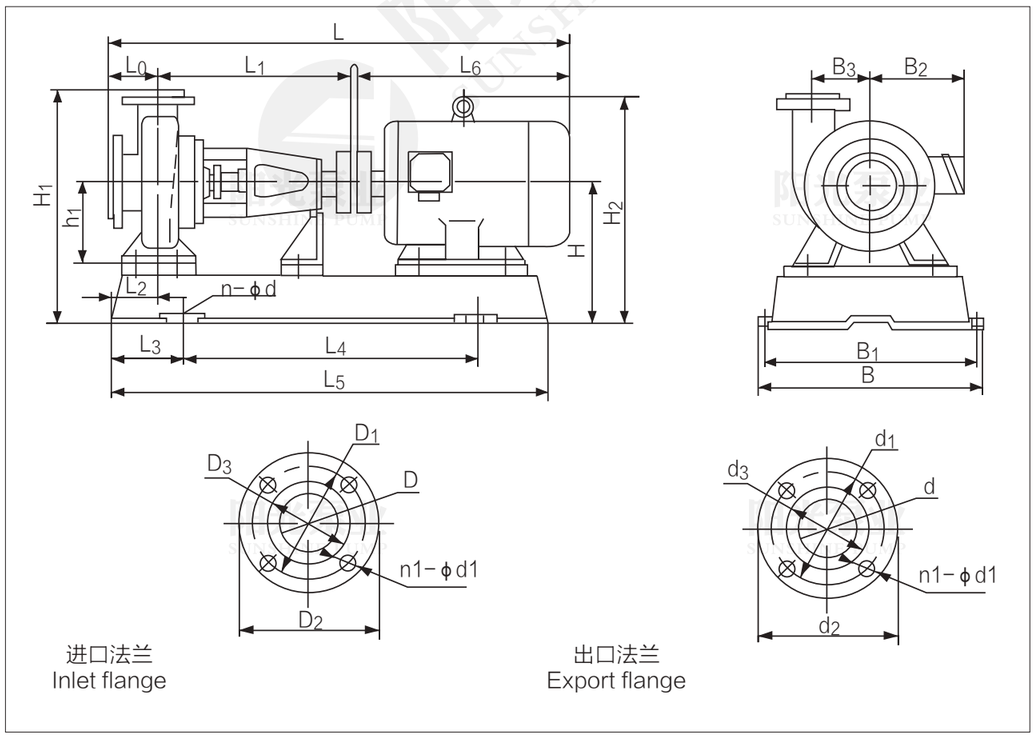
表二 Table 2

型号 model	流量 Q Capacity		扬程 H Head	转速 speed (r/min)	功率 N（KW） power		效率 η Eff %	汽蚀余量 NPSH m	叶轮直径 Impeller D mm
	m³/h	L/S			轴 Shaft	电机 Motor			
3N6	16.5 22 30	4.8 6.1 8.3	62 61 57	2930	6.65 7.4 8.80	11	44 49 54	0.75 0.85 1.05	215
3N6x2	18 26 34	5 7.22 9.45	131 128 123	2950	15.29 17.43 19.98	22	42 52 57	0.80 0.95 1.15	首级 225 次级 215
4N6	30 40 50	8.33 11.1 13.9	66 64 61	2950	11.46 13.15 14.45	(18.5) 22	47.0 53.0 57.5	0.85 0.95 1.00	230
4N6A	30 40 50	8.33 11.1 13.9	40 38 37	2930	6.67 7.5 8.85	11	49.0 55.5 58.5	0.9 1.0 1.1	175
4N5x2	30 45 50	8.33 12.5 13.9	110 105 101	2950	19.2 23.8 24.1	30	47 54 57	0.95 1.1 1.2	首级 225 次级 196
4N6x2	30 40 50	8.33 11.1 13.9	130 125 120	2950	22.6 25.2 27.3	30	47 54 57	0.95 1.05 1.20	首级 225 次级 210
6N6	40 65 95 115	11.1 18 26.4 32	92 91 89 86	2950	23.3 29.5 34.5 38	45	43 54 67 71	0.90 0.90 1.05 1.20	262
6N6A	36 54 80 100	10 15 22.2 27.8	70 69 68 66	2950	16.3 19.1 22.8 26.1	30	42 53 65 69	0.80 0.90 1.05 1.20	230
GN3/12A	5 7 9	1.39 1.94 2.50	46 45 43	2900	1.65 1.86 2.02	2.2	38 46 52	0.60 0.63 0.65	首级 140 次级 138
GN3/12B GN9-22x2	7 9 12 15	1.94 2.50 3.33 4.17	45 43 37 30	2900	1.86 2.02 2.37 2.56	3	46 52 51 57	0.63 0.65 0.80 1.00	首级 140 次级 138
GN9-22x3	7 9 12 15	1.39 2.50 3.33 4.17	67.5 64.5 55.5 45	2900	2.79 3.05 3.55 3.83	4 (5.5)	46 52 51 48	0.63 0.65 0.80 1.00	首级 140 次级 138
GN7-22x3	5 7 9	1.39 1.94 2.50	66.5 65 62	2900	2.38 2.69 2.92	3 (4)	38 46 52	0.60 0.63 0.65	首级 140 次级 135

外型及安装尺寸图表 Appearance and installation size chart

仅供参考 For reference only

型号 model	电机型号 motor model	安装尺寸 Installation size																	进口法兰 Inlet flange				出口法兰 Export flange			
		L_0	L_1	L_2	L_3	L_4	L_5	L_6	L	X	B	B_1	B_2	B_3	H	H_1	H_2	h1	n-φd	D	D_1	D_2	n-φd_1	d	d_1	d_2	n-φd_2
100NB45-45A	$Y132S_1$-2 $Y132S_1$-2	162	388	80	190	600	960	475	1052	27	450	400	216	118	235	375	418	160	4-24	100	170	205	4-18	40	100	130	4-14
100NB60	$Y160M_2$-2	172	500	95	225	740	1190	600	1300	28	540	490	255	135	290	480	515	180	4-24	100	170	205	4-18	65	130	160	4-14
100NB-60A	$Y160M_1$-2	172	500	95	225	740	1190	600	1300	28	540	490	255	135	290	480	515	180	4-24	100	170	205	4-18	65	130	160	4-14
3N6	Y160M-2	162	388	80	210	660	1060	600	1177	27	490	440	255	128	250	430	475	160	4-24	80	160	195	4-18	50	125	160	4-14
3N6x2	Y180M-2	231	483	115	225	740	1190	670	1411	28	540	490	285	140	310	520	560	200	4-24	80	160	195	4-18	50	125	160	4-14
4N6	Y160L-2 Y180M-2	172	500	95	225	740	1190	645 670	1145 1370	28	540	490	255	135	290	480	515	180	4-24	100	170	205	4-18	65	130	160	4-14
4N6A	$Y160M_1$-2	172	500	95	225	740	1190	600	1300	28	540	490	255	135	290	480	515	180	4-24	100	170	205	4-18	65	130	160	4-14
4N5x2 4N6x2	$Y200L_1$-2	172	510	130	250	800	1270	775	1561	23	560	500	310	130	330	540	600	200	4-24	100	180	220	4-18	65	145	185	4-18
6N6 6N6A	Y225M-2 $Y200L_1$-2	253	510	130	250	800	1270	815 775	1558 1588	23	560	500	345 310	160	355	595	660 630	225	4-24	150	240	285	8-22	80	160	200	8-18
GN3/12A	Y90L-2	210	462	64	145	555	816	335	1050	8	400	泵轴350 电机端290	155	0	230	400	330	150	4-24	80	150	190	4-18	40	110	150	4-18
GN3/12B GN9-22x2	Y100L-2	200	462	47	145	555	816	380	1050	8	400	泵轴350 电机端290	180	0	230	400	375	150	4-24	80	150	190	4-18	40	110	150	4-18
GM9-22x3	Y112M-2	200																									



装配与拆卸 Assembly and disassembly

GN 型、N 型、NB 型泵的装配与拆卸按如下规程要求进行：

1、支承部分

将轴承用油加热至 100℃左右套入泵轴上，然后装入悬架内，其轴向定位以前轴承压盖为准，轴的轴向位移量为 0.25-0.5mm。

2、工作部分

泵体或泵盖装入悬架，检查其端面跳动不大于 0.15mm，密封面垫好纸垫。

叶轮装配：轴套上轴时不要损伤 O 型密封圈，用叶轮螺母将叶轮紧固在轴上，检查其口环的跳动不大于 0.08mm，注意首级叶轮与次级叶轮的装配顺序，从吸入口方向看叶轮为顺时针方向旋转。

3. 填料函装配

根据轴径所要长度截切油浸石墨盘根，为使填料接口平直严密，切口倾斜约为 45° 为宜，填料装入填料函体时，其接头相互错开 120° 角。填料压盖适当压紧，在运转中泄露量以滴漏为宜。

泵的拆卸要利用本身所备的起螺装置，各结合面要严加保护不得损伤。

The assembly and disassembly of GN, N, and NB pumps are carried out in accordance with the following regulations:

1. Supporting part

Heat the bearing oil to about 100℃ and put it on the pump shaft, and then install it into the suspension. The bearing gland shall prevail before the axial positioning, and the axial displacement of the shaft is 0.25-0.5mm.

2. Working part

Put the pump body or pump cover into the suspension, check that the end surface runout is not more than 0.15mm, and the sealing surface is filled with a paper gasket.

Impeller assembly: Do not damage the O-ring when the shaft sleeve is on the shaft. Fasten the impeller on the shaft with an impeller nut. Check that the runout of its mouth ring is not greater than 0.08mm. Pay attention to the assembly sequence of the first impeller and the secondary impeller. The impeller rotates clockwise in the direction of the suction port.

3. Stuffing box assembly

Cut the oil-impregnated graphite packing according to the required length of the shaft diameter. In order to make the packing interface straight and tight, the incision should be inclined at about 45 ° . When the packing is loaded into the stuffing box body, the joints are staggered by 120 ° . Packing gland is properly pressed tightly, and the leakage amount during operation should be dripping.

The disassembly of the pump should use its own screw-driving device, and the joint surfaces should be strictly protected from damage.

安装简介 Installation introduction

A、安装前的准备工作：

（1）检查泵和电动机，确认没有损坏，泵内无异物。

（2）准备好工具和起重机械。

（3）按图检查设备的基础。

B、安装顺序：

（1）清除底座上的油腻和污物，把底座放在预先埋好的地脚螺钉上，底座下垫有成对楔子。

（2）用水平仪检查泵座的水平度。

（3）用水泥浇灌地脚螺栓孔眼和泵座内腔使之充满。

（4）水泥浆完全硬化后，拧紧地脚螺栓的螺母。

（5）清理泵座的支持平面，再次检查水平度，清理泵及电机脚的底面，把水泵和电机放到泵座上去。

（6）检查水泵轴与电机轴的对中情况。泵联轴器与电机联轴器圆周方向偏差＞ 0.10mm。

（7）连接吸入和吐出管路后，应再检查泵轴和电机轴的同轴度。

（8）脱气管一端接在进口接管处，一端接在冷凝器上部。

（9）水封水可以从吐出管路的止阀门后装置旁路管道引入。

C、安装管道时一定要考虑下列各项：

（1）管道应有它自己的支架，以免所有重量压在泵上。

（2）吸入管道应完全密封，吸入管路需经 0.2Mpa 水压试验，管路形状应避免形成气囊。

（3）吸入管路内水流速度应≤ 2.0 米／秒，吸入管路不要过长，应尽量避免急剧的转弯不允许安装闸阀。

D、泵的安装高度计算：

冷凝泵一般用于抽吸封闭容器中的冷凝水用，应设计为倒灌装置。其灌注高度应计算。否则可能由于灌注头不够而造成泵汽蚀，影响泵正常工作，严重时损坏泵而造成事故。

A. Preparations before installation: (1) Check the pump and motor to confirm that there is no damage. There is no foreign matter in the pump. (2) Prepare tools and lifting machinery. (3) Check the foundation of the equipment according to the diagram.

B. Installation sequence:

（1） Remove greasy and dirt on the base, put the base on the pre-buried anchor bolts, and there are pairs of wedges under the base.

（2） Use a spirit level to check the levelness of the pump seat.

（3） Fill the holes of the anchor bolts and the cavity of the pump seat with cement.

（4） After the grout is completely hardened, tighten the nuts of the anchor bolts.

（5） Clean the support plane of the pump base, check the levelness again, clean the bottom surface of the pump and the motor feet, and put the water pump and the motor on the pump base.

（6） Check the alignment of the pump shaft and the motor shaft. Circumferential deviation of pump coupling and motor coupling>0.10mm

（7） After connecting the suction and discharge pipelines, check the coaxiality of the pump shaft and the motor shaft.

（8） One end of the degassing pipe is connected to the inlet pipe, and one end is connected to the upper part of the condenser.

（9） The sealing water can be introduced from the bypass pipeline after the stop valve of the discharge pipeline.

C. The following items must be considered when installing the pipeline:

（1） The pipeline should have its own bracket to prevent all weight from being placed on the pump.

（2）The suction pipeline should be completely sealed, the suction pipeline should pass the 0.2Mpa water pressure test, and the shape of the pipeline should avoid forming an air bag.

（3）The water flow velocity in the suction pipeline should be ≤ 2.0 m/s, the suction pipeline should not be too long, and sharp turns should be avoided as far as possible. Gate valves should not be installed.

D. Calculation of pump installation height:

The condensate pump is generally used for pumping condensate in a closed container and should be designed as an inverting device. The perfusion height should be calculated. Otherwise, pump cavitation may be caused due to insufficient filling head, which will affect the normal operation of the pump, or damage the pump and cause an accident in severe cases.

其灌注头计算公式为：

The calculation formula of the filling head is:

$$hg \geqslant [NPSH]-\frac{Pc}{Gp}+\frac{Pv}{Gp}+h+k$$

式中：【NPSH】- 泵的汽蚀余量参数（m）　hc- 吸入管路的水力损失（m）

Where: [NPSH]-NPSH parameter of pump (m) hc-hydraulic loss of suction pipe (m)

K- 汽蚀安全余量，通常取 0.3-0.5m　K-cavitation safety margin, usually 0.3-0.5m

$\frac{Pc}{Gp}$ - 容器中液面的绝对压力水头（m）
Absolute pressure head of the liquid level in the container (m)

$\frac{Pv}{Gp}$ - 抽送液体温度下的汽化压力水头（m）
Vaporization pressure head at pumped liquid temperature (m)

起动与停车 Start and stop

一、起动前的准备：

1. 从悬架上部注油孔将 20 号机油灌入悬架内一直到油标中部。

2. 水泵不能在没有水的情况下工作，起动前应使水泵中充满水，接上水封水，水封水的压力应大于吸入口压力 0.15Mpa 以上。

3. 测定电动机旋转方向，从电动机端看，水泵应是逆时针旋转。电机与水泵连接好后，盘动水泵转子应轻快均匀。

4. 起动应在叶出管路的闸阀关闭的情况下进行。

二、起动

1. 达到正常转速后，略微打开吐出管路闸阀，并检查所有仪表和填料函工作情况，水泵在出口关闭的情况下工作的时间不准太长。

2. 检查轴承及填料函的温度，发现过热立即停车。

3. 如果运转正常则出口闸阀开启到所需的工况，起动即告完成。

三、停车

1. 慢慢关闭出口管路的闸阀，然后切断电动机的电源。

2. 停车时作备用的泵，水封仍须给上。

3. 长期停止使用时，应将泵检修上油妥善保管。

One. Preparation before starting:

1. Pour No. 20 engine oil into the suspension from the oil injection hole on the upper part of the suspension to the middle of the oil mark.

2. The water pump cannot work without water. Before starting, the water pump should be filled with water and connected to the sealing water. The pressure of the sealing water should be greater than the suction pressure by more than 0.15Mpa.

3. Determine the rotation direction of the motor. From the motor side, the water pump should rotate counterclockwise. After the motor and the water pump are connected, the rotor of the water pump should be turned briskly and evenly.

4. Starting should be carried out with the gate valve of the leaf outlet pipeline closed.

Two, start

1. After reaching the normal speed, slightly open the gate valve of the discharge pipeline, and check the working conditions of all instruments and stuffing boxes. The pump must not work too long when the outlet is closed.

2. Check the temperature of the bearing and stuffing box, and stop immediately if it is overheated.

3. If the operation is normal, the outlet gate valve is opened to the required working condition, and the starting is completed.

Three, parking

1. Slowly close the gate valve of the outlet pipeline, and then cut off the power to the motor.

2. As a spare pump when stopping, the water seal must still be installed.

3. When the pump is not used for a long time, the pump should be overhauled and oiled for safekeeping.

运转和维护 Operation and maintenance

1、运转中必须注意观察压力计和真空计的读数、轴承温度、填料出水的情况、轴承的油位及水泵的振动与噪声。

2、轴承温度最高不大于 75℃轴承温升不超过 50℃。

3、新泵工作经过 100 小时运转后应更换一次润滑油，以后每工作 2400 小时更换新油。

4、工作中发现异常情况（如剧烈振动），上海阳光泵业提醒您应采取紧急措施找出原因，设法消除，并把观察与处理的结果列入记载。

1. During operation, you must pay attention to the readings of the pressure gauge and vacuum gauge, bearing temperature, filling water condition, bearing oil level, and vibration and noise of the water pump.

2. The maximum bearing temperature should not exceed 75℃ , and the bearing temperature rise should not exceed 50℃ .

3. The lubricating oil should be replaced once after 100 hours of operation of the new pump, and new oil should be replaced every 2400 hours of operation thereafter.

4. If an abnormal situation (such as severe vibration) is found during work, emergency measures should be taken to find out the cause, try to eliminate it, and include the results of observation and treatment in the record.

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故障原因及排除方法 Causes of failures and troubleshooting methods

故障现象 Failure phenomenon	原因分析 Cause Analysis	排除方法 elimination method
水泵不输水 The pump does not deliver water	1、水泵转动方向不对。 2、灌注压力不够，吸水管或仪表阀门漏气。 3、泵涡腔中产生气囊。 1. The direction of rotation of the water pump is wrong. 2. The filling pressure is not enough, and the suction pipe or meter valve is leaking. 3. An air bag is generated in the pump vortex cavity.	1、从电机方向看泵，泵轴应逆时针旋转，方向不对可交换电线接头。 2、调节吐出闸阀降低流量或增高灌注压力。拧紧或堵塞漏气处。 3、打开泵体顶部丝堵放净蒸汽。 1. Looking at the pump from the direction of the motor, the pump shaft should rotate counterclockwise, and the wire connectors can be exchanged if the direction is wrong. 2. Adjust the discharge gate valve to reduce the flow or increase the perfusion pressure. Tighten or block the leak. 3. Open the plug on the top of the pump body to release the net steam.
运转中流量或扬程降低 Reduced flow or head during operation	1、人口温度过高。 2、密封环磨损间隙过大。 3、叶轮损坏或堵塞。 4、测量仪表不正确。 5、泵涡腔中产生气囊。 1. The population temperature is too high. 2. The seal ring wear is too large. 3. The impeller is damaged or blocked. 4. The measuring instrument is incorrect. 5. An air bag is generated in the pump vortex cavity.	1、只使用在所规定的温度 80℃下。 2、必要时重新更换密封环。 3、清理叶轮或更换。 4、检查仪表。 5、打开泵体顶部丝堵放净蒸汽。 1. Only use at the specified temperature of 80℃ . 2. If necessary, replace the sealing ring again. 3. Clean the impeller or replace it. 4. Check the meter. 5. Open the plug on the top of the pump body to release the net steam.
电机超负荷 Motor overload	1、水泵流量超过规定的流量。 2、填料过紧。 3、水泵内部有棉纱等物缠住。 1. The flow rate of the water pump exceeds the specified flow rate. 2. The packing is too tight. 3. There are cotton yarn and other things entangled inside the water pump.	1、检查流量并用闸阀调整流量。 2、调整填料压盖。 3、拆泵清除内部杂物。 1. Check the flow rate and adjust the flow rate with a gate valve. 2. Adjust the packing gland. 3. Disassemble the pump to remove internal debris.
轴承过热 Bearing overheating	1、泵轴弯曲造成口环衬套磨损。 2、轴承润滑油不足。 3、泵轴与电机的中心不对。 1. Bending of the pump shaft causes wear of the mouth ring bushing. 2. Insufficient bearing lubricant. 3. The center of the pump shaft and the motor are not right.	1、检查口环衬套及轴的跳动，修理。 2、注油。 3、检查调整联轴器的对中心。 1. Check and repair the beating of the bushing of the mouth ring and the shaft. 2. Oil filling. 3. Check and adjust the alignment of the coupling.
水泵振动过大 Excessive vibration of water pump	1、泵轴与电机的中心不对。 2、转子不平衡。 3、地脚螺栓及泵座螺栓松动。 1. The center of the pump shaft and the motor is not right. 2. The rotor is unbalanced. 3. The anchor bolts and pump seat bolts are loose.	1、检查调整联轴器的中心。 2、检查转子。 3、紧固所有紧固螺栓。 1. Check and adjust the center of the coupling. 2. Check the rotor. 3. Tighten all fastening bolts.

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