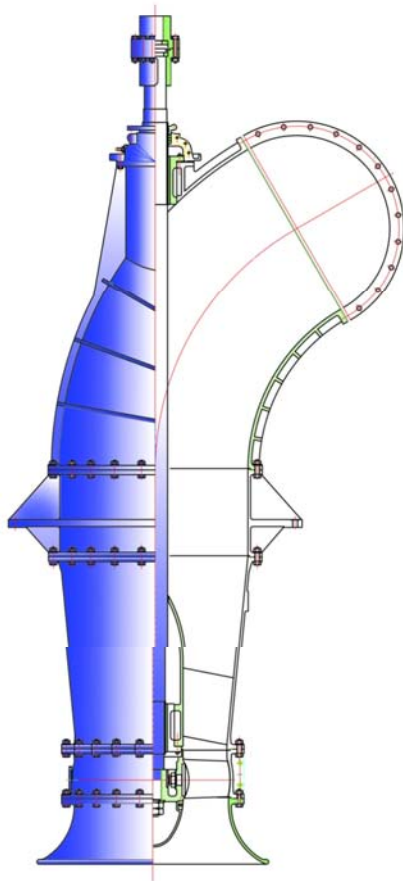




ZL 型

大型立式轴流泵

ZL Vertical Axial Flow Pump



上海水泵制造有限公司

SHANGHAI PUMP MANUFACTURE CO.,LTD.

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概 述

ZL型泵系单级立式轴流泵，液体沿泵轴轴线方向流动。适用于吸送清水或物理化学性质类似于水的其它液体，被吸送液体的最高温度为50℃。本型泵是一种大流量，低扬程的泵。可供农业排灌、工业热电站输送循环水、城市给水、船坞升降水位或其它水利工程之用，使用范围十分广泛。此说明书适用于上海水泵制造有限公司制造的大型ZL型轴流泵，特大型轴流泵请查阅相关的单本说明书，各型ZL型泵均按《GB/T13008-91混流通泵、轴流通泵技术条件》生产。

型号意义：

64 Z L B-50

比转数被10除所得值
(即该泵比转数为500)
半调节叶片
立式结构
轴流泵
出水口直径被25除所得值
(该泵出水口直径为1600毫米)

1600 Z L Q 7.3-3.4

泵0°时设计点扬程(m)
泵0°时设计点流量(m³/s)
全调节叶片
立式结构
轴流泵
出口直径(mm)

1600 Z L C Q 7-5.5

泵0°时设计点扬程(m)
泵0°时设计点流量(m³/s)
全调节叶片
抽心式
立式结构
轴流泵
出口直径(mm)

GENERAL

ZL pump series are single stage vertical axial flow pumps, with the liquid flowing in axial direction. The pump is used to transfer clean water or other liquids with similar physical and chemical properties with water. The highest temperature of the transferred liquid can be 50℃. The ZL pump has large capacity and low head which is widely used in agriculture irrigation, civil supply and drainage, water circulation in industry power station, dock water level control and other water conservancy projects.

The above pumps are produced according to 《GB/T13008-91》，which is the technology standard for the mixed flow pump & axial flow pump.

DESIGNATION

64 Z L B - 50

Specific speed is $50 \times 10 = 500$
Blades adjustable
after dismantling
Vertical shaft
Axial flow pump
Discharge diameter is
 $64 \times 25 = 1600(\text{mm})$

1600 Z L Q 7.3 - 3.4

Head(m) at 0°
Capacity (m³/s) 0°
Adjustable blades
Vertical shaft
Axial flow pump
Discharge diameter (mm)

1600 Z L C Q 7 - 5.5

Head(m) at 0°
Capacity (m³/s) 0°
Adjustable blades
Pull-out design
Vertical shaft
Axial flow pump
Discharge diameter (mm)

ZLB—叶片半调节立式轴流泵。

ZLQ—叶片全调节立式轴流泵，分停机构调节和不停机调节。

1700ZWSQ7.5-2.7，1600ZWB7.3-3.4为卧式水平中开结构，性能与1600ZLB/Q7.3-3.4相同，另有说明书备索，(ZW型为卧式结构，采用卧式电动机)。

另外，2000ZLQ13.4-8，ZL30-7，ZL39-3为特大型立式轴流泵，2500ISKM为我公司与日本荏原公司联合设计、由本公司生产的特大型斜式(45°)中开轴流泵，1600ZXB6.7-3.75为大型斜式(30°)中开轴流泵。

结构说明

ZL型泵均采用立式结构，配用立式电动机。

ZL型泵按照叶片调节，分为半调式轴流泵与全调式轴流泵。对于半调式轴流泵，当使用工况发生变化，需要进行调节时，通常是卸下叶轮，将叶片的压紧螺母松开，转动叶片或拆下叶片，改变叶片定位销的位置，使叶片的基准线对准轮毂体上的某一要求的角度线，然后再把螺母拧紧，装好叶轮，从而达到调节目。对于全调节叶片轴流泵，是根据不同的扬程式和流量要求，在停机或不停机的情况下，通过一套调节机构来改变叶片的安装角，以满足流量和扬程的要求。泵出厂时，用户如无特殊说明，叶片的安装角度均为“零”度，用户可根据需要，按照泵工作性能表，自行调整叶片安装角。

ZL型泵主要由泵本体部分和传动部分两个主体所组成。

轴流泵本体部分，一般都由吸入管，叶轮外壳、导叶、出水弯管、叶轮、轴、轴承、密封、调节机构等零部件组成。

吸入管在一般中小型的轴流泵中，用进水喇叭；在大型轴流泵中，常用肘形进水流道。

叶轮通常是由叶片、轮毂、导水锥等零件组成。轮毂是用来安装叶片及叶片调节机构的；在中小型轴流泵中，轮毂用键与主轴连接；在大型轴流泵中轮毂上部与主轴的法兰相联，下部与导水锥相连接。

导叶体内装有水润滑橡胶轴承，起径向支承作用。

ZLB—Vertical axial flow pump with blades adjustable after dismantling.

ZLQ—Vertical axial flow pump with blades adjustable without dismantling after running out or alternatively under operation.

1700ZWSQ7.5-2.7, 1600ZWB 7.3-3.4 is horizontal split construction with the same performance with 1600ZLB/Q7.3-7.4, reference on request. (horizontal motor in ZW pumps). 2000ZLQ13.4-8, ZL30-7, ZL39-3 are extra-large size vertical axial flow pump.

2500ISKM was co-designed by Our Company & EBARA Japan. Reference on request for the extra-large size oblique split axial flow pump (45°).

1600ZXB6.7-3.75 is large size oblique split axial flow pump(30°).

CONSTRUCTION

ZL pump series are axial flow pump with blades adjustable after dismantling and axial flow pump with blades adjustable without dismantling after running out or under operation. As for the ZL pumps with adjustable blades after dismantling, the blades and impeller hub are bolted together. When the working condition is changed, you can loosen the blade nuts, take out the fixed pin, then rotate the blades to make the base line of the blades meet the angle line of the impeller hub that you need, then install the pin and fix the nuts to complete the adjustment.

As for the ZL pumps with the blades adjustable without dismantling, the angle of the blades can be adjusted after running out or under operation. The blade angle can be adjusted to meet the head and capacity you need. Customer can adjust the blade angles according to the performance table by themselves subject to the actual conditions, otherwise the blades angle are at 0°.

ZL pump series mainly consist of casing parts and rotor parts. Normally the casing parts consist of inlet pipe, impeller housing, diffuser, cone pipe, pump stool, base plate, discharge elbow, rubber bearing, and stuffing box assembly etc. In small-medium size ZL pumps inlet pipe is made as suction bell mouth while in large -scale ZL pumps it is made as elbow pipe. The rotor parts consist of impeller assembly, shaft, coupling etc. Normally impeller assembly consisted of blades, hub, water guide taper ect. The hub is used to install the blades and blades adjustment construction. In small-medium size ZL pumps hub is connected with shaft by key. In large scale ZL pumps the upper parts of the hub is connected with the shaft flange and the lower parts are connected with the water guide taper.

泵轴借上、下两只分别装在出水弯管与导叶体内的橡胶轴承来支承, 泵运转过程中提供了良好的水润滑。泵轴上端的一只橡胶轴承, 通常高出水面, 所以在填料函上有一根短管, 供起动前, 向该橡胶轴承输送清水以作润滑之用。待起动出水后, 方可停止。泵轴轴承颈表面镀铬或镶不锈钢套, 以增强耐磨性与抗腐蚀性。对于全调节叶片轴流泵, 为了在轮毂内安置叶片安装角的调节机构, 泵轴制成中空, 里面安装操作杆。

在大型轴流泵中, 叶轮外壳制成轴向中开式。

在出水弯管的轴孔处, 采用填料密封, 一般由填料函、衬套、填料、填料压盖等组成。在大型轴流泵中, 为了便于安装与检修, 这些零件制成分半式。

在大型轴流泵中, 橡胶轴承制成分半式, 以便于检修。橡胶轴瓦内孔的制造公差, 是根据制造场所的室温而定。

从联轴器端俯视, 泵的旋转方向是顺时针方向。

轴流泵传动部分, 均采用立式电动机直接传动。泵运转时, 除 1200ZLB3.9-5.5(92)、40ZLB-50 和 56ZLB-70($n=295\text{rpm}$) 的轴向力由传动装置内的推力轴承承受外, 其余各泵的轴向力皆由电机来承受。对于带有立电传动的轴流泵, 泵转子的轴向位移, 可借传动装置内的螺母予以调整。泵外壳重量由泵基础承受。泵的轴向力, 传动装置与电机的重量, 由支承传动装置的楼面基础承受。

轴流泵传动轴长度, 必须在安装外形图所规定的“L”尺寸范围内选用。

轴流泵的出水管道, 一般采用直管式出水管, 其末端装有出水活门。对于大型轴流泵可用虹吸式出水管道, 并配用真空破坏阀断流。

我公司新开发的 1600ZLCQ7-5.5 为抽芯式全调节轴流泵, 泵本体由二部份组成, 即外壳和抽芯部份, 检修时在不拆出水管路和不抽进水池的情况下, 就能把抽芯部份从外壳内抽出, 因此安装、维修十分方便, 详见该型泵说明书。

Pump shaft is supported in radial direction by two rubber bearings, which are located in discharge elbow and diffuser. Water lubrication system is necessary during the operation. A short pipe is installed in the stuffing box to transfer the water to lubricate the rubber bearings before the pump start up. Stainless steel sleeves are set around the bearing neck of the pump shaft in order to improve anti-wearing and corrosion-resistance.

The sleeves can be replaced if worn out. In order to install and repair easily, impeller housing, stuffing box and rubber bearings are in split design. The fit tolerance of the inside hole of the rubber bearings is based on the site ambient temperature.

ZL pump series are in vertical construction with vertical motor.

All the axial force produced by the pump will be born by the foundation during operation except for 1200ZLB3.9-5.5(92), 40ZLB/ZLQ-50 and 56ZLB/ZLQ-70 ($n=295\text{rpm}$), in which the axial force is born by the thrust bearing installed in drive construction. For the

ZL pumps with vertical motor drive construction, the rotor displacement in axial direction can be adjusted by the nuts installed in drive construction. The pump base plate supports the casing weight. The pump axial force, the weight of drive construction & motor are born by the foundation. The rotating direction of the pump is clockwise as viewed from motor side.

ZL pumps discharge pipe normally is designed as column pipes with a discharge flapper at the end of pipe, while the large size ZL pumps use siphon flow passage and vacuum breaker valve to shut off the flow.

Our company new developed product 1600ZLCQ7-5.5 is pull-out design axial flow pump with blades adjustable without dismantling. The pump consist of casing parts and pull-out parts. The pull-out parts can be pulled out from the casing parts without dismantling column pipe and discharge elbow & pipeline or pumping the suction chamber dry. It is convenient for installation and maintenance. See pump instruction for detail.

简单计算说明

1. 扬程 H (m)

$$H = \frac{10P_2}{\gamma} + Z_2 + \frac{V_2^2}{2g}$$

式中: P_2 — 泵出口处的压力 (公斤/厘米²)

γ — 所输送液体的比重 (公斤/升)

Z_2 — 泵出口离进口池水位的垂直高度(米)

V_2 — 泵出口处的平均速度 (米/秒)

g — 重力加速度 (米/秒²)

$$2. \text{轴功率 } P(\text{kW}) \quad P = \frac{\gamma Q H}{102 \eta}$$

式中: γ — 所输送液体的比重 (公斤/升)

Q — 泵的流量 (升/秒)

H — 泵的扬程 (米)

η — 泵的效率 (%)

配用电机的功率相当轴功率的1.1~1.3倍, 对于大型轴流泵这个数值取小值, 对于小型泵则取大值。

3. 汽蚀余量 NPSH(m)

汽蚀余量随流量而变化, 汽蚀余量增大时, 允许吸上真空高度 H_s (米) 就越小, 也就是叶轮浸入深度 H_g (米) 愈大。

转速 n (r.p.m), 本型轴流泵中规定的转速是最高转速, 允许减速使用, 倘若将转速减低至转速 n_2 , 则相应的泵性能参数改变如下:

$$Q_2 = Q \left(\frac{n_2}{n} \right), H_2 = H \left(\frac{n_2}{n} \right)^2, N_2 = N \left(\frac{n_2}{n} \right)^3$$

安装、起动和停止、运转

1. 安装 / 安装前的准备:

- (1) 检查水泵本体、传动装置和电机应无损坏, 泵轴与传动轴若有弯曲必须校直。
- (2) 工具与起重机械应该齐全。
- (3) 参照安装外形图, 检查泵基础及进水流道, 使泵叶轮中心线至最低进水位之距离满足汽蚀余量的要求。

CALCULATION

1. Head H (m)

$$H = \frac{10P_2}{\gamma} + Z_2 + \frac{V_2^2}{2g}$$

Among the above

P_2 — pressure at the pump outlet (Kg/cm²)

γ — Specific gravity of the liquid (Kg/l)

Z_2 — Vertical height between inlet pool water level and outlet water level(m)

V_2 — Average velocity of outlet (m/s)

g — Gravity acceleration(m/s²)

2. Input power P (kW)

$$H = \frac{\gamma Q H}{102 \eta}$$

Among the above

γ — Specific gravity of the liquid (Kg / l)

Q — Capacity of the pump (l / s)

H — Head of the pump (m)

η — Efficiency of the pump (%)

The motor power should be 1.1-1.3 times of the input power P. The former is for the largescale pump and the latter is for the small size pump.

3. Net positive suction head NPSH(m)

NPSH will be changed with the capacity. When NPSH increases, the suction vacuum height H_s (m) will decrease and the depth of impeller submergence will increase.

4. Speed n (r.p.m)

The speed n is the highest. If the speed is decreased to n_2 , then the performance parameters will be changed as follows:

$$Q_2 = Q \left(\frac{n_2}{n} \right), H_2 = H \left(\frac{n_2}{n} \right)^2, N_2 = N \left(\frac{n_2}{n} \right)^3$$

INSTALLATION, START UP & SHUTDOWN, RUNNING

1. Installation / Preparations before Installation

- (1) Check the pump, motor and drive construction to ensure that they are free of damage. Align the pump shaft and drive shaft.
- (2) All the necessary tools and cranes should be available.
- (3) Check the foundation and inlet pipes to meet the demand of general arrangement.

(4) 进水池的构造和同一进水池中泵的安装数量, 决定了轴流泵的进水情况, 这对泵的工作性能影响很大, 必须注意下列几点:

- ① 泵叶轮应有足够的浸入深度。
- ② 泵吸入喇叭与池底, 保持所要求的距离。
- ③ 水流应均匀无漩涡地进入泵。
- ④ 几台泵在同一进水池中运转, 不应产生相互干扰。
- ⑤ 进水池或进水流道前, 必须设有拦污栅, 通过拦污栅的流速, 以不超过 0.3 米/秒为准。

2. 40ZLB-50 型轴流泵的安装:

- (1) 根据使用情况, 调整叶轮部件上的叶片安装角度, 使各叶片的安装角一致, 并无松动。
- (2) 用水平仪校正泵底座定位面的水平度, 其允差小于 0.04 毫米/米, 扳紧各地脚螺钉的螺母, 用水泥浆灌注地脚螺钉孔, 待水泥干固后, 检查水平度。
- (3) 泵轴与传动轴必须安装于同一铅垂直线上, 其允差小于 0.04 毫米/米, 叶轮外圆与进水喇叭(或叶轮外壳)之间的径向间隙沿圆周应均匀。
- (4) 安装后, 应检查各联轴器和地脚螺钉的螺母是否扳紧。

3. 大型轴流泵的安装:

口径较大的轴流泵, 出厂时, 各部件分别装箱, 安装时可参照总装配图及部件图分别安装。

(1) 泵固定外壳的安装:

- ① 检查泵基础标高, 和设计标高应一致。其允许偏差, 不得超过 ± 1 毫米。
- ② 初步校正泵座, 基础底板, 用基础螺栓固定。
- ③ 检查泵座法兰面的水平度, 允差小于 0.04 毫米/米。
- ④ 出水弯管、泵座、导叶体、叶轮外壳与套管等部件的连接应严密, 不得有渗漏。
- ⑤ 出水弯管出口的中心位置, 应和出水管道的中心位置一致, 允差不得大于 ± 5 毫米。
- ⑥ 泵固定部份中心线, 与进水管道的中心线相符, 允差小于 ± 5 毫米。
- ⑦ 泵上、下轴承孔的同心度, 不超过 0.04 毫米。

(4) The condition of the pump inflow will be decided by the construction of the inlet pool and the arrangement of the pumps, and it will greatly affect the performance of the pumps. Following point should be noted:

- ① Sufficient depth that the impeller should submerge.
- ② Keep necessary distance between suction bell and the pool floor.
- ③ Smooth flow without eddy.
- ④ No interference among pumps in the same pool.
- ⑤ Setting up rubbish screen at the gate of inlet pool, through which the ideal inlet flow rate should be below 0.3m/s.

2. Installation for 40 ZLB/Q-50 axial flow pump

- (1) Adjust the blade angle so that the blade angles are the same and are not loose.
- (2) Install the anchor bolts and position the base plate. Adjust the level of the base plate by a level gauge, Then tighten the nuts on the anchor bolts and measure horizontal degree, make sure that leveling tolerance is within 0.04mm/m. Pour the concrete into base plate.
- (3) The pump shaft should have the same perpendicularity with the drive shaft. The tolerance should be no more than 0.04mm/m. The radial clearance between impeller outside and impeller housing should be uniform along the circumferential direction.
- (4) After installation, check whether the nuts in coupling and anchor bolts are tightened.

3. Installation the large size axial flow pumps.

As for the large size pumps, the parts should be packed separately in the works.

(1) Installation for the pump casing

- ① Check the pump base level so that it meets the requirement. The tolerance should be within ± 1 mm.
- ② Adjust the baseplate and tighten it with bolts.
- ③ Check the upper surface level of the pump stool with tolerance less than 0.04mm/m.
- ④ Discharge elbow, pump stool, diffuser, impeller casing and tube should be connected closely and there should be no leakage among them.
- ⑤ The central line of the discharge elbow should be the same as the central line of the outlet pipe. The tolerance should be no more than ± 5 mm.
- ⑥ The central line of the fixed parts should be the same as the central line of the inlet pipe, with the tolerance less than ± 5 mm.
- ⑦ The concentricity of the upper bearing and the lower bearing should be no more than 0.04mm.

⑧泵固定外壳全部校正后, 浇灌混凝土。

⑨底座与套管之间, 应压入填料防漏。

(2) 泵转动部件的安装:

①橡胶轴承保持干净, 橡胶严禁与矿物油类接触。

②安装后的叶轮中心线位置, 应符合设计规定。叶轮部件安装在主轴下部后, 因受重力作用会产生下垂。为了使叶轮与叶轮外壳之间上下间隙比较均匀, 在安装叶轮时, 先使下缘间隙大于上缘的5%~15%, 当叶轮定位后, 因受重力下垂, 而得以调整。

③叶轮与叶轮外壳之间的径向间隙, 应符合要求, 沿圆周必须均匀。

④将泵联轴器在油中加热到120°C左右, 热套于泵轴上, 并及时装上哈夫卷靠紧。

⑤填料函与出水弯管的连接面, 不能有缝隙。填料函与主轴之间的间隙沿圆周必须均匀。

⑥轮毂空腔内, 应注满润滑油。

4. 泵与电机的联接:

(1) 电机与传动装置的标高和中心位置, 应根据装好的泵的标高和中心位置而定。

(2) 电机的旋转方向应同泵的要求一致。

(3) 刚性联轴器法兰面合上后, 倘若法兰上螺栓孔未经制造厂同铰, 在校正泵轴同心度后, 在安装时同铰, 并应均匀地拧紧联接螺栓, 防止扳紧程序不一造成联轴器倾斜。用透光法或塞尺, 检查法兰接合面, 应无间隙存在。

⑧ After the complete adjustment of the pump casing, pour the concrete.

⑨ Packing is should be inserted between the base plate and the tube.

(2) Installation for the rotor parts

① Rubber bearing should be kept clean, and free from oil or grease.

② The impeller central line should meet the requirement after installation. The impeller will droop because of the gravity after it is installed under the shaft. In order to get a smooth clearance between the impeller and the impeller housing, the lower clearance should be 5%-15% large than the upper clearance during installation of the impeller. Adjust ment will be made when the impeller droops by gravity.

③ The radial clearance between the impeller and the impeller housing should be uniform along circumferential direction to meet the requirement.

④ Heat the coupling in the oil bath to 120°C, and slip on the shaft immediately and tighten it with the half washer.

⑤ There should be no leakage in the connection between the stuffing box and discharge elbow. The clearance between the stuffing box and shaft should be uniform along circumferential direction.

⑥ Lubrication oil should be poured into the body of the hub.

4. Connection of pump and motor

(1) The standard height and central position of the drive construction and motor should be set according to those of the pump.

(2) The rotating direction of the motor should meet the requirement of the pump.

(3) Bolt holes of the flanges of the pump coupling and the motor coupling are pre-bored with a reamer in the works, and bore again with the reamer in the pump package during on-site installation. Adjust the surface level of the motor base and ensure the concentricity of the motor shaft and pump shaft. The connecting bolts should be tightening smoothly in case of inclination of the couplings. With the method of pervious to light,

(4) 机组盘车时, 在泵轴轴承颈处的摆度, 不大于 0.03 毫米/米。倘若由于联轴器法兰连接的偏斜, 引起较大摆度, 可采用刮磨法兰面的方法消除。

6. 出水管路的安装:

- (1) 出水管路应另设支架, 不得借泵本体支承, 出水管路应能承受出水反作用力。
- (2) 泵出水弯管与出水活门之间应设扩散管, 其长度不小于大小口径差的五倍。
- (3) 出水活门处最好能挂一平衡锤, 以平衡活门重量。

7. 起动与停止

1. 泵起动前, 应向填料函上的接管引注清水, 润滑橡胶轴承, 待正常出水后方可停止。
2. 泵试运行后, 检查各连接部位, 应无松动。
3. 在运转中, 如果泵有不正常的振动与声音, 应立即停机。如果进水位降低到规定最低水位以下, 应停机。
4. 在冰冻季节停机后, 应注意防止泵内存水结冰, 而损坏零部件。

8. 运 转

1. 在运转过程中, 填料压紧程度以有水滴出为宜。
2. 注意轴承温升, 定期更换轴承的润滑油。

泵成套供应范围

(按合同规定为准)

轴流泵本体	一台
传动装置(电机承受轴向力时, 无此部件)	一台套
出口活门	一只
专用拆装工具	一套
易损件(包括: 叶片、橡胶轴承)	一台套

the matching flanges should be checked so that there is no clearance. Check the rotating direction of the motor to see if it is same with that of pump.

(4) The throw in the bearing position should be more than 0.03mm/m, if there is the throw is bigger than requirement, grinding flange could eliminate it.

6. Installation of Discharge Pipeline

(1) Discharge pipes should be supported by additional bracket and pump should be free of pipeline stresses. The bracket will bear not only the weight of discharge pipes but also the horizontal thrust when the pump runs.

(2) The extension pipes should be set between the discharge elbow with length less than the 5 times of the difference between the big diameter and the small diameter.

(3) It is better to hang a balance hammer in the movable discharge cover to balance the weight of the cover.

7. Start up & Shut down

1. Induct the water through the short pipe installed in the stuffing box to lubricate the rubber bearing before the pump start.

2. After trial operation, each connection part should be checked so that there is no looseness.

3. During the operation, if the pump produced abnormal vibration or noise, it should be stopped for inspection immediately. If the water level falls and is lower than the lowest water level, the pump must be stopped.

4. When the pump is stopped in freezing conditions, the impeller should not be under water in case freezing ice damages the pump parts.

8. Running

1. During the running, adjust the tightness of the packing gland at regularly time to ensure that there is no spraying but dropping of water.

2. Pay attention to the temperature of the bearing. Regularly replace the lubrication oil for bearing.

SCOPE OF SUPPLY

(Subject to the contract terms)

Bare pump	1
Drive construction	1
Discharge flapper	1
Main spare parts	
(For the detailed please refer to List of parts)	
Spare parts (blades, rubber bearing)	1 set
Necessary tools	1 set

可能发生的故障及其消除方法

故 障	原 因	消 除 方 法
(一) 泵超载或不正常振动	1. 安装不符合要求。 2. 运行情况超过允许性能范围。 3. 叶片、导叶或拦污栅上绕有杂物。 4. 叶片与叶轮外壳发生摩擦。 5. 下水位过低。 6. 进水池不符合设计要求。	1. 重新安装。 2. 停止在允许性能范围以外运行。 3. 清除杂物。 4. 调整叶片与叶轮外壳的间隙或更换橡胶轴承。 5. 停止运转。 6. 改善进口流态。
(二) 流量不足	1. 叶片安装角太小。 2. 转速未达到额定值。 3. 叶片损坏。	1. 调整叶片安装角。 2. 消除电机的故障, 使转速达到额定值。 3. 更换叶片。
(三) 泵不出水	1. 泵旋转方向不对。 2. 叶片固定失灵。	1. 调整电机旋转方向。 2. 检修叶片固定机构, 调整叶片安装角。

PROBLEMS: CAUSE / REMEDY

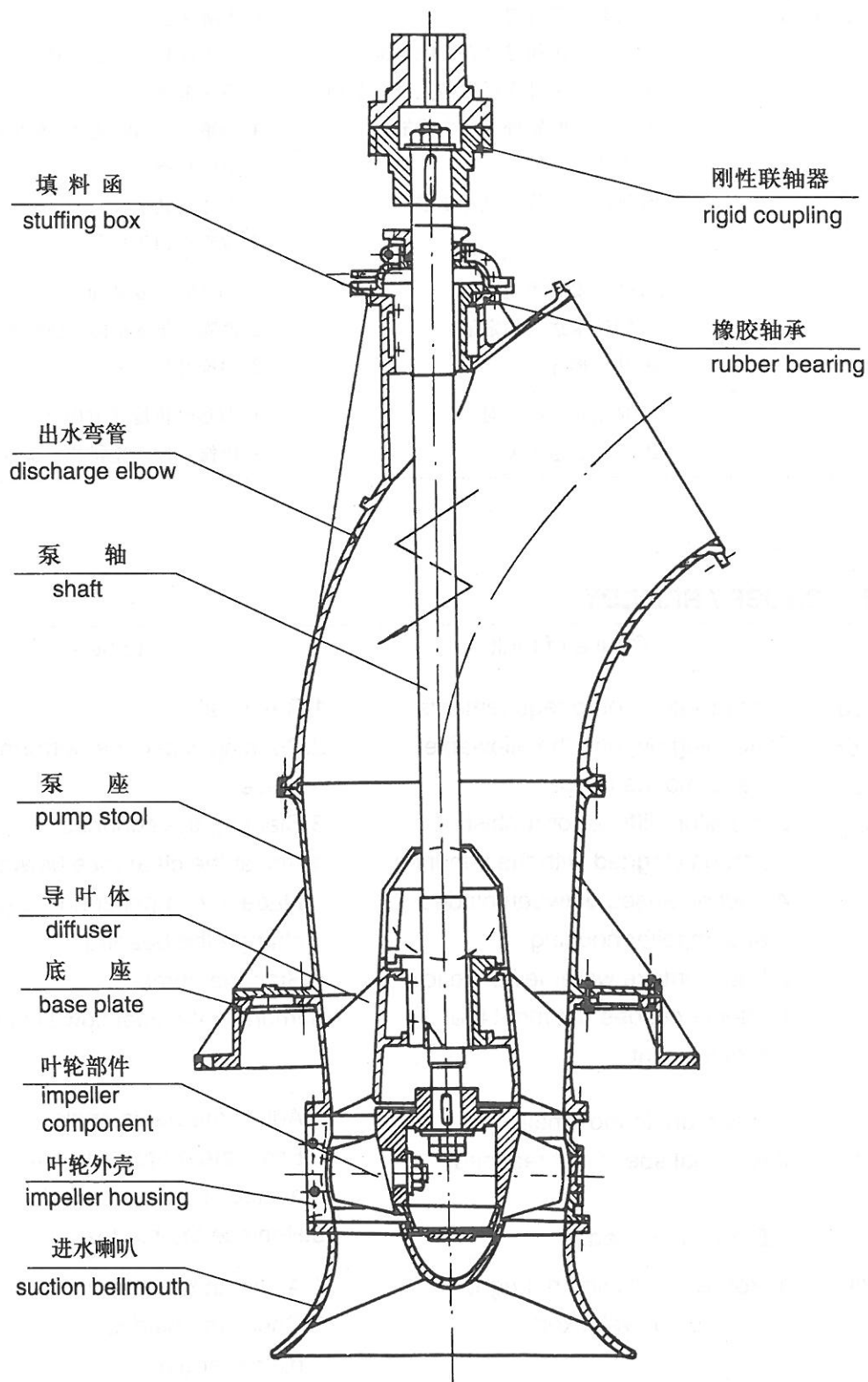
Fault	Cause of fault	Remedy
I .Driver over Loaded or Abnormal Vibration	1.Installation not to requirements 2.Running beyond the allowable performance range 3.Impeller, diffuser or rubbish screen clogged with the sundries 4.Friction arises between blades and impeller housing 5.Lower intake water level too low 6.Inlet pool does not meet the requirement	1.Re-install. 2.Running within the performance range 3.Clear up the sundries 4.Adjust the clearance between blade and impeller housing or change the bearing 5.Stop the pump 6.Improve the inlet flow status
II . Insufficient Capacity	1.Blade angle too small. 2.Nominal speed not reached. 3.Blade damaged.	1.Adjust the blade angle. 2.Eliminate motor failure to achieve nominal speed. 3.Replace the blades.
III .No water Pumping Out	1.Rotating direction not right. 2.Blades not well fixed.	1.Adjust the direction. 2.Check the blades and adjust the blades angle.

40ZLB - 50

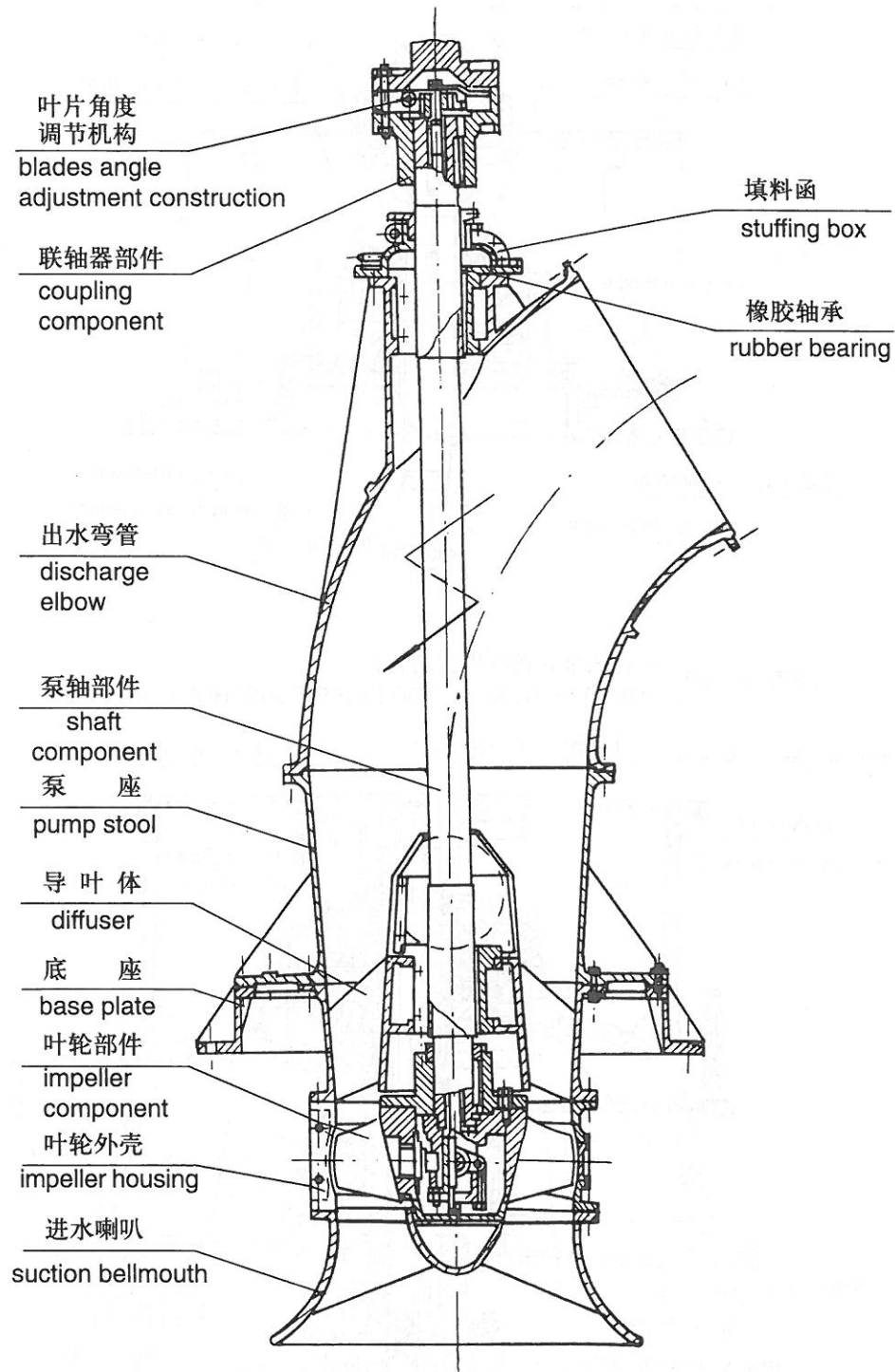
型轴流泵结构图

1400ZLB6.2 - 7

PUMP SECTIONAL DRAWING



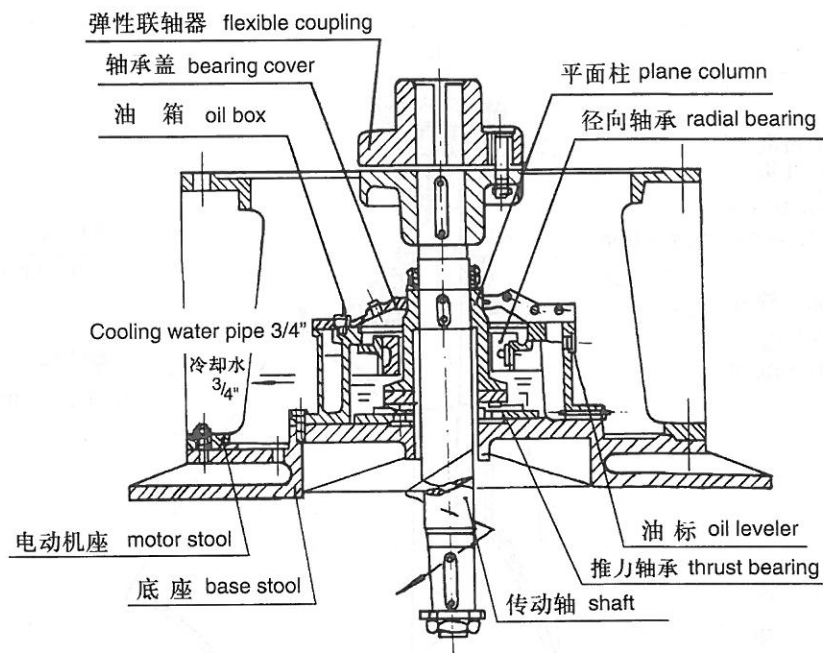
40ZLQ - 50 型轴流泵结构图
PUMP SECTIONAL DRAWING



40ZL^B_Q - 50

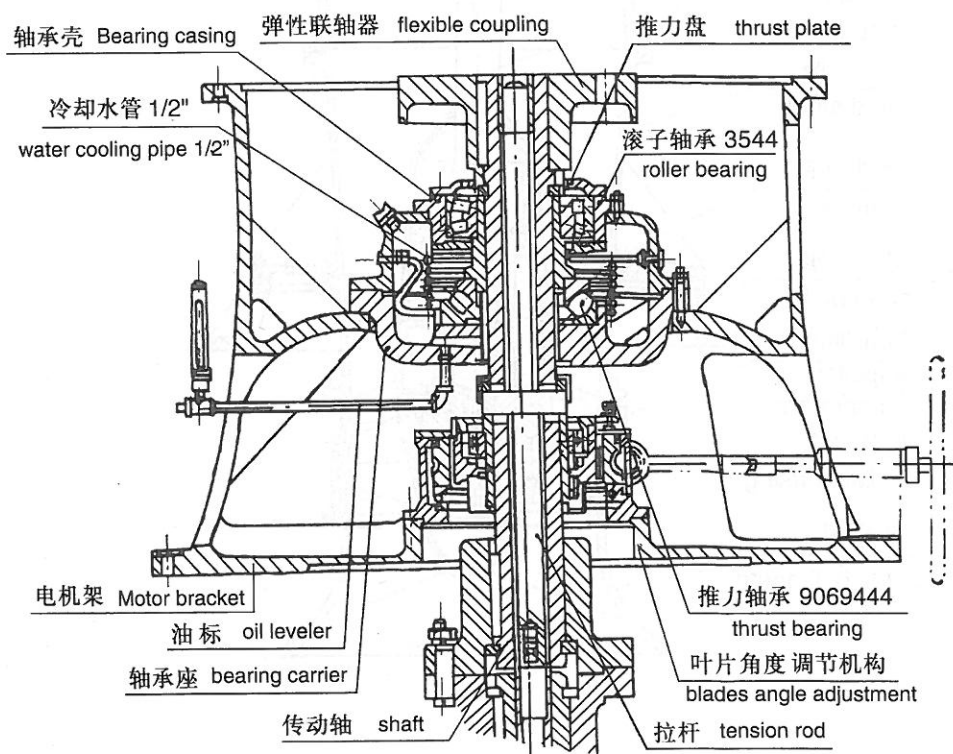
型轴流泵立式电机传动装置 (轴承用稀油润滑)
PUMP VERTICAL MOTOR DRIVE CONSTRUCTION
(OIL LUBRICATED BEARING)

56ZLB - 100 I



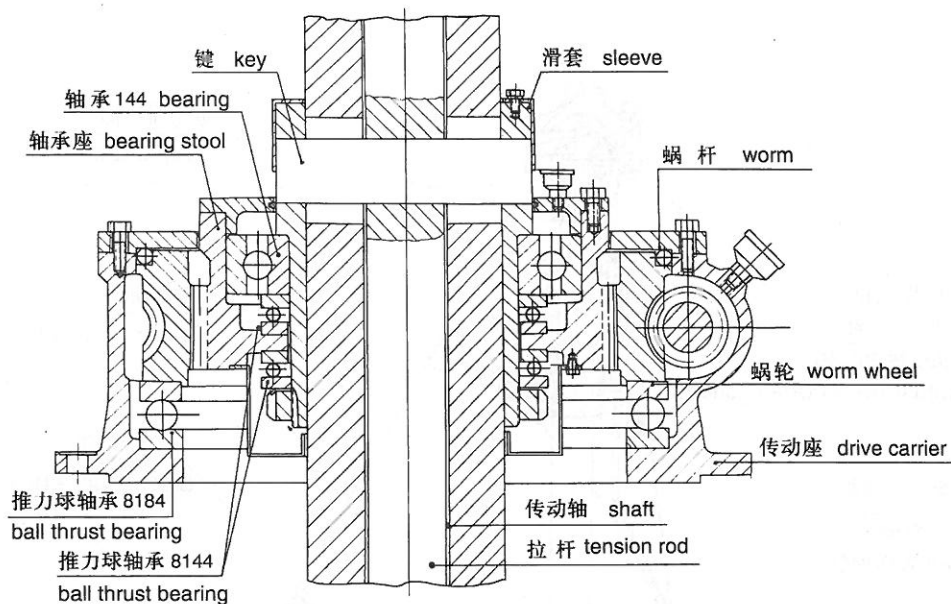
56ZLQ - 70

型轴流泵立式电机传动装置
PUMP VERTICAL MOTOR DRIVE CONSTRUCTION

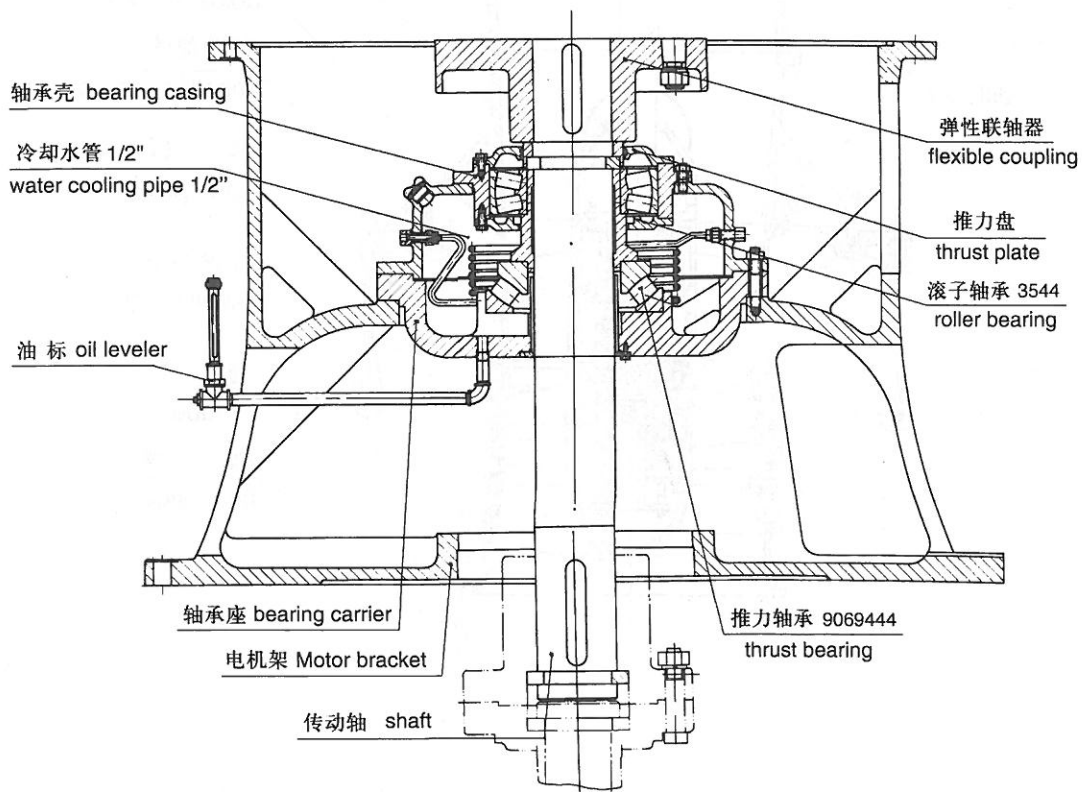


9069444轴承用稀油润滑, 其余轴承用干油润滑
9069444 bearing is lubricated by oil, other by grease

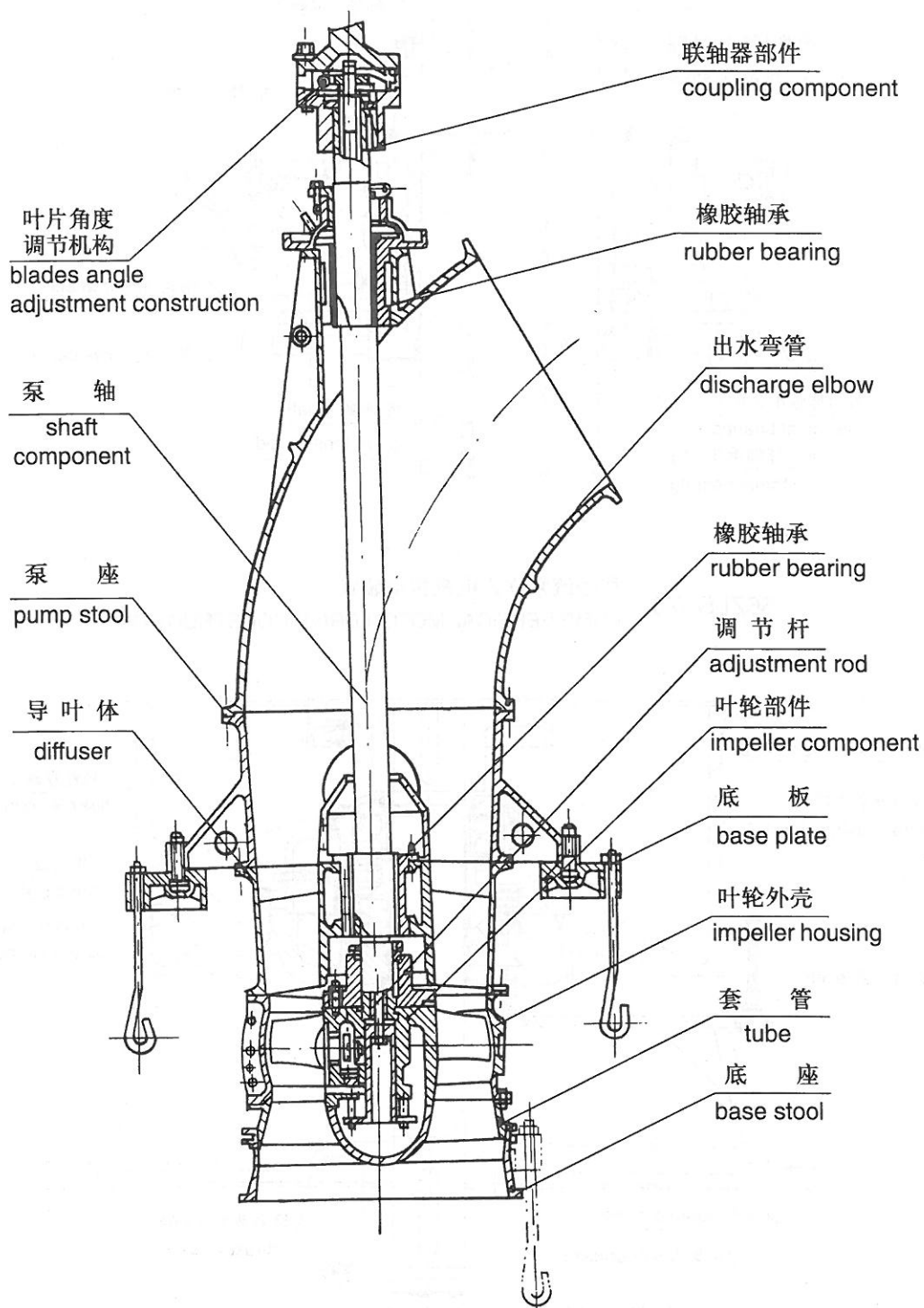
56ZLQ -70 型轴流泵叶片角度调节机构 (轴承用干油润滑)
PUMP BLADES ADJUSTMENT CONSTRUCTION (GREASE LUBRICATED BEARING)



56ZLB -70 型轴流泵立式电机传动装置
PUMP VERTICAL MOTOR DRIVE CONSTRUCTION



50ZLQ - 50 50ZLQ - 54 型轴流泵结构图
50ZLQ II - 50 50ZLQ - 54 II PUMP SECTIONAL DRAWING



56ZLB - 70

1600ZLB7.3 - 3.4

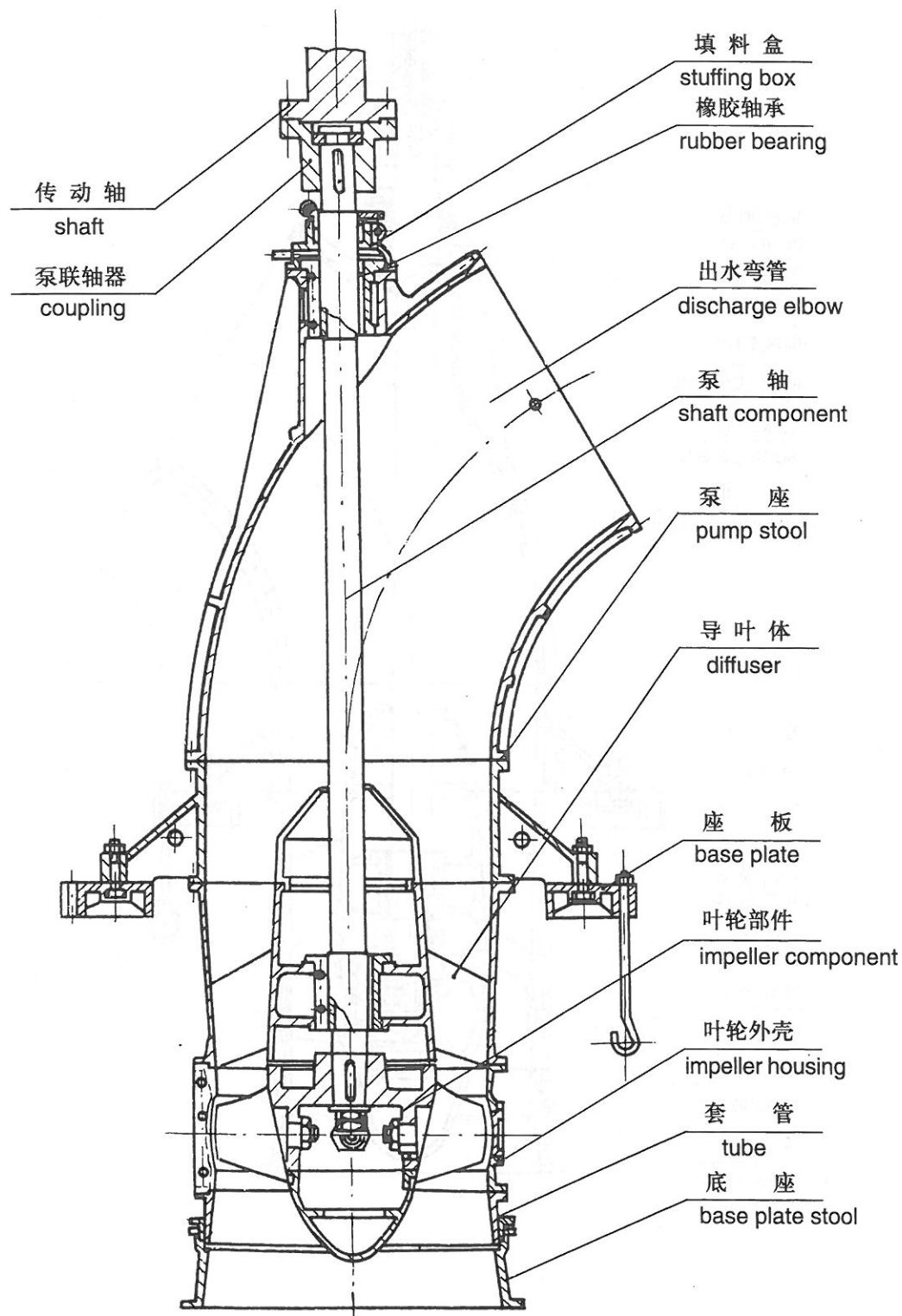
型轴流泵结构图

56ZLB - 100 I

1200ZLB3.9 - 5.5(92)

PUMP SECTIONAL DRAWING

64ZLB - 50



56ZLQ - 70

64ZLQ - 50

1600ZLQ7.6 - 6.5

型轴流泵结构图

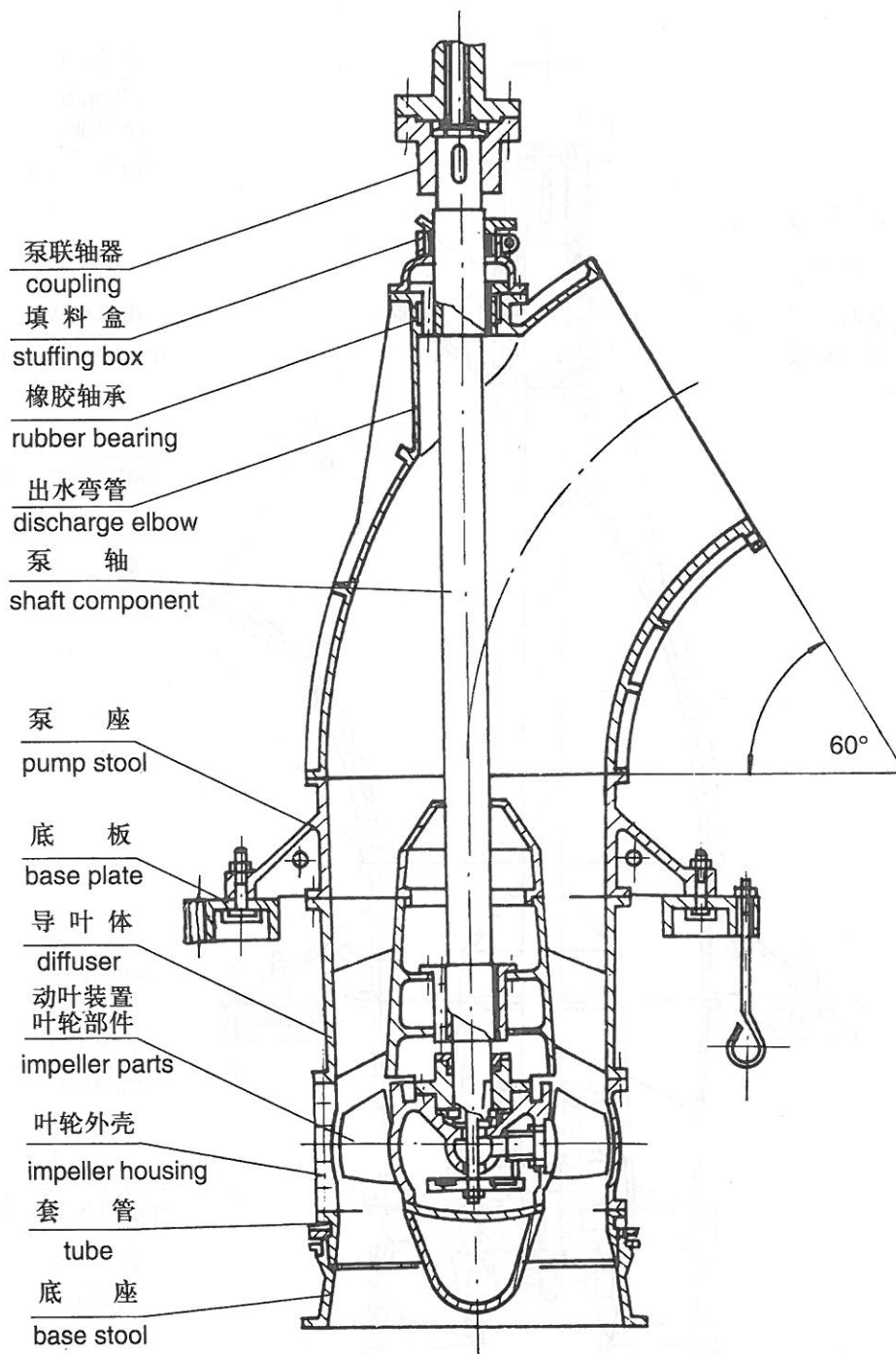
50ZLQ III - 54

64ZLQ - 65

1600ZLQ7.3 - 3.4

PUMP SECTIONA DRAWING

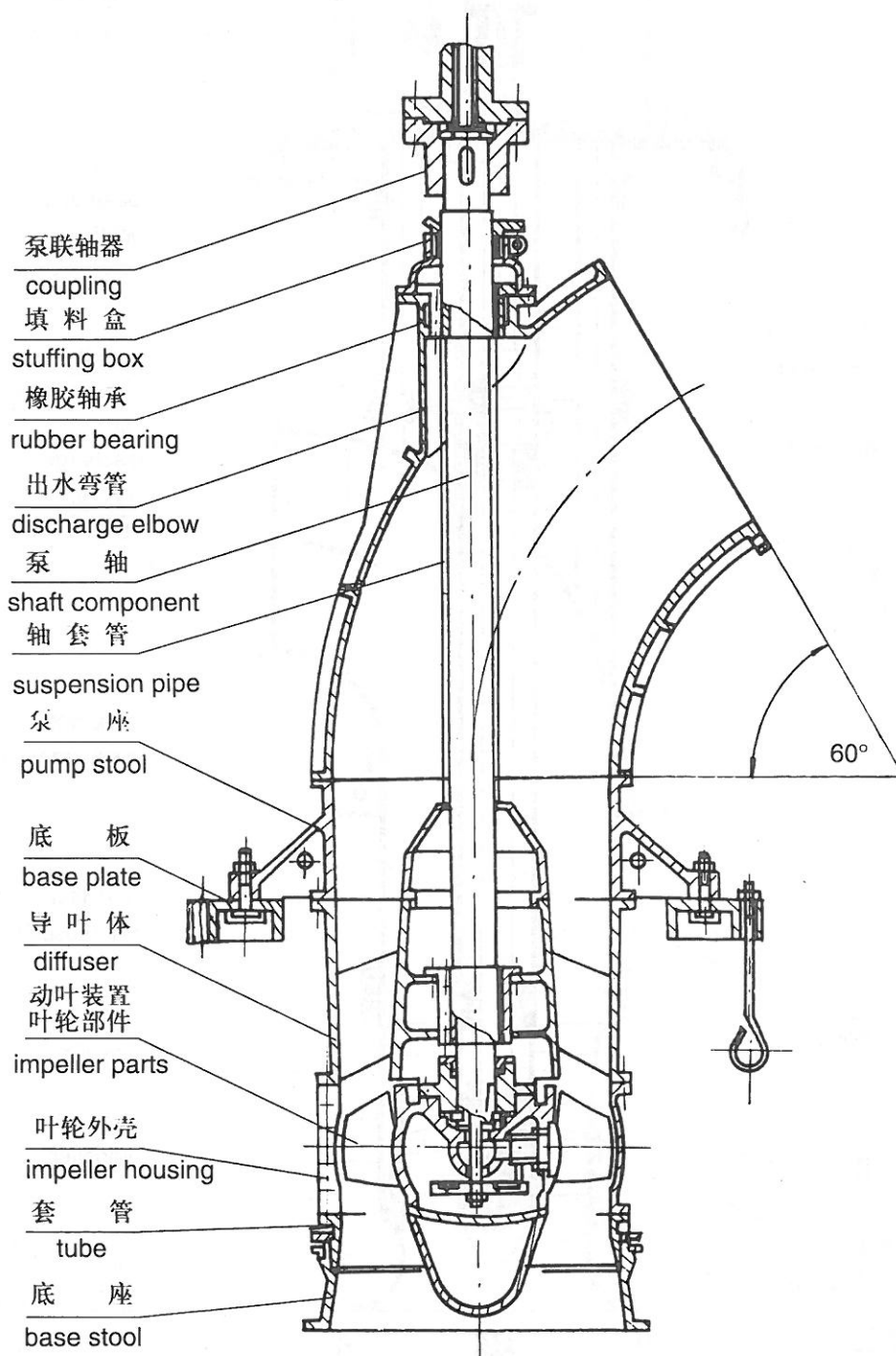
50ZLQ III - 50



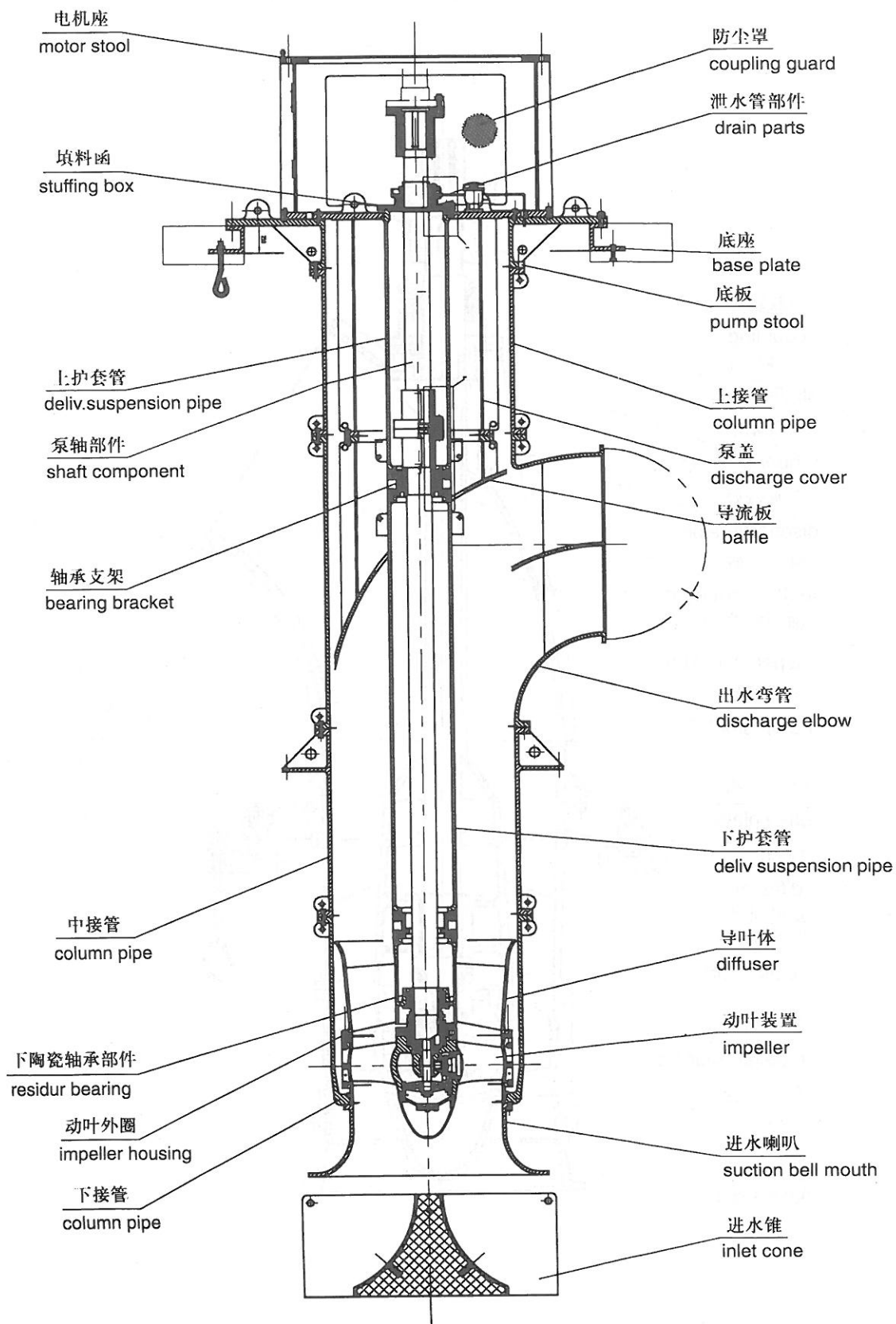
1250ZLDQ5.3 - 13.7

型轴流泵结构图

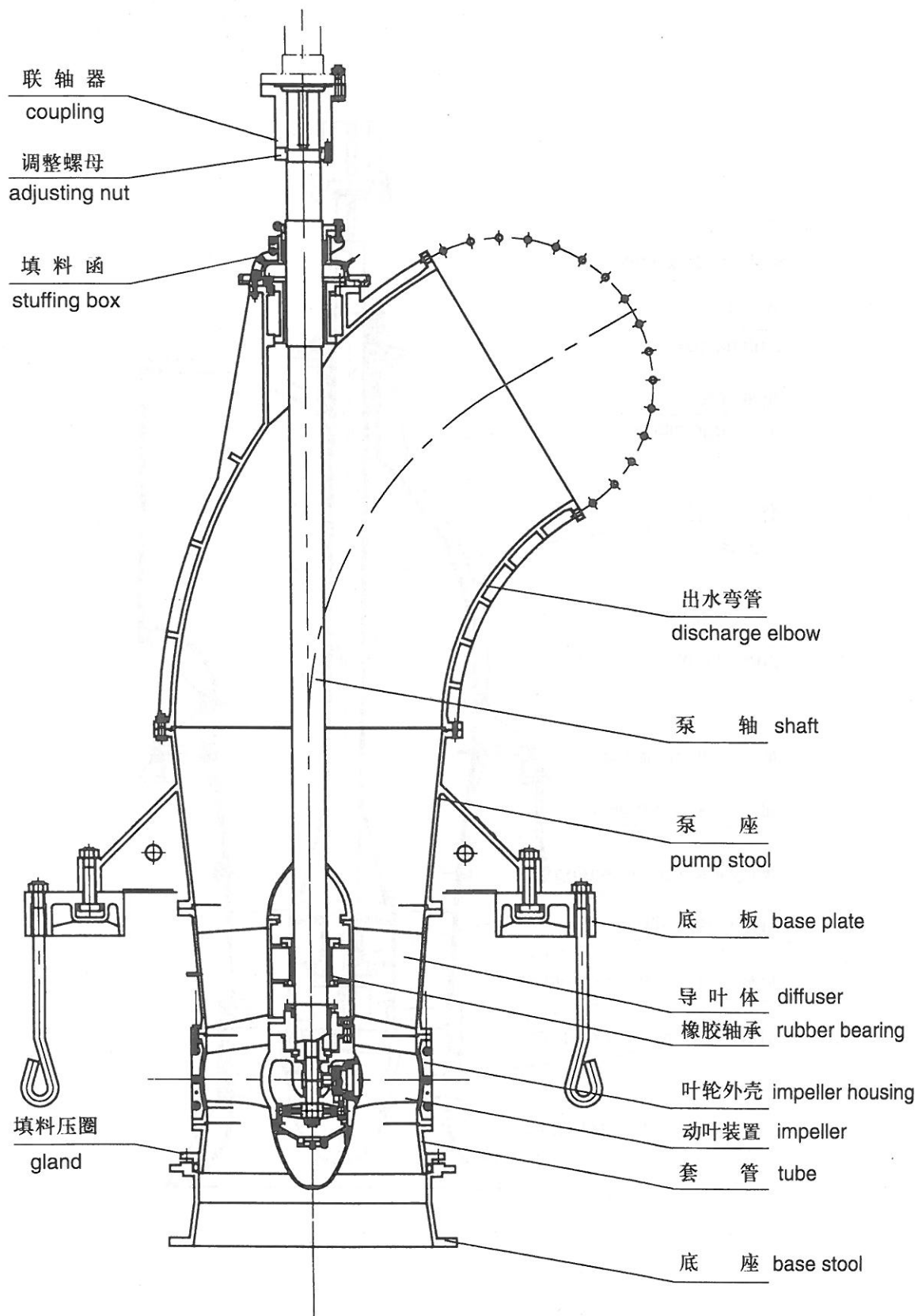
PUMP SECTIONAL DRAWING



1600ZLCQ7 - 5.5 型轴流泵结构图
PUMP SECTIONAL DRAWING



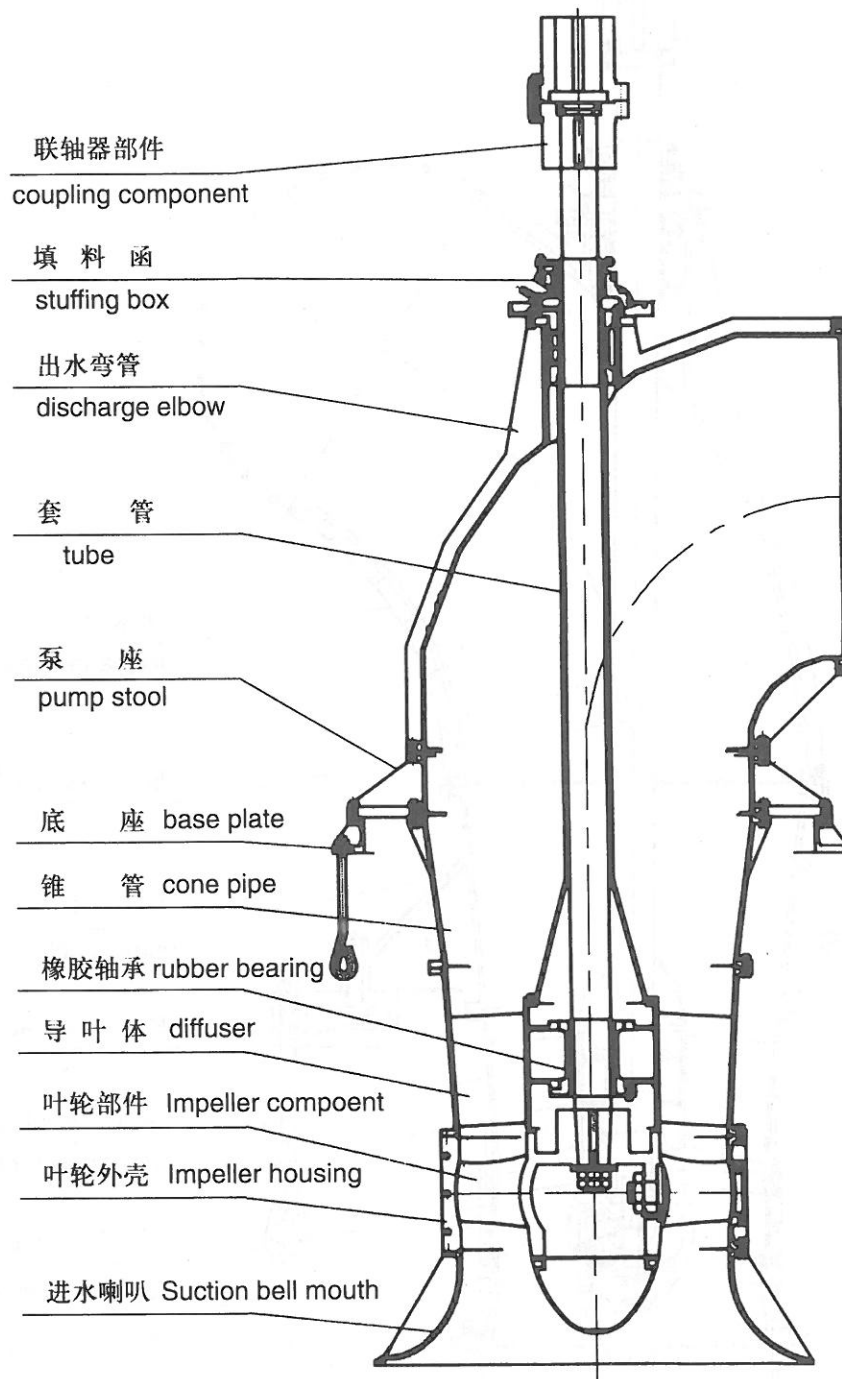
1700ZLQ8 - 7 型轴流泵结构图
PUMP SECTIONAL DRAWING



1800ZLB8.2 - 6.2

型轴流泵结构图

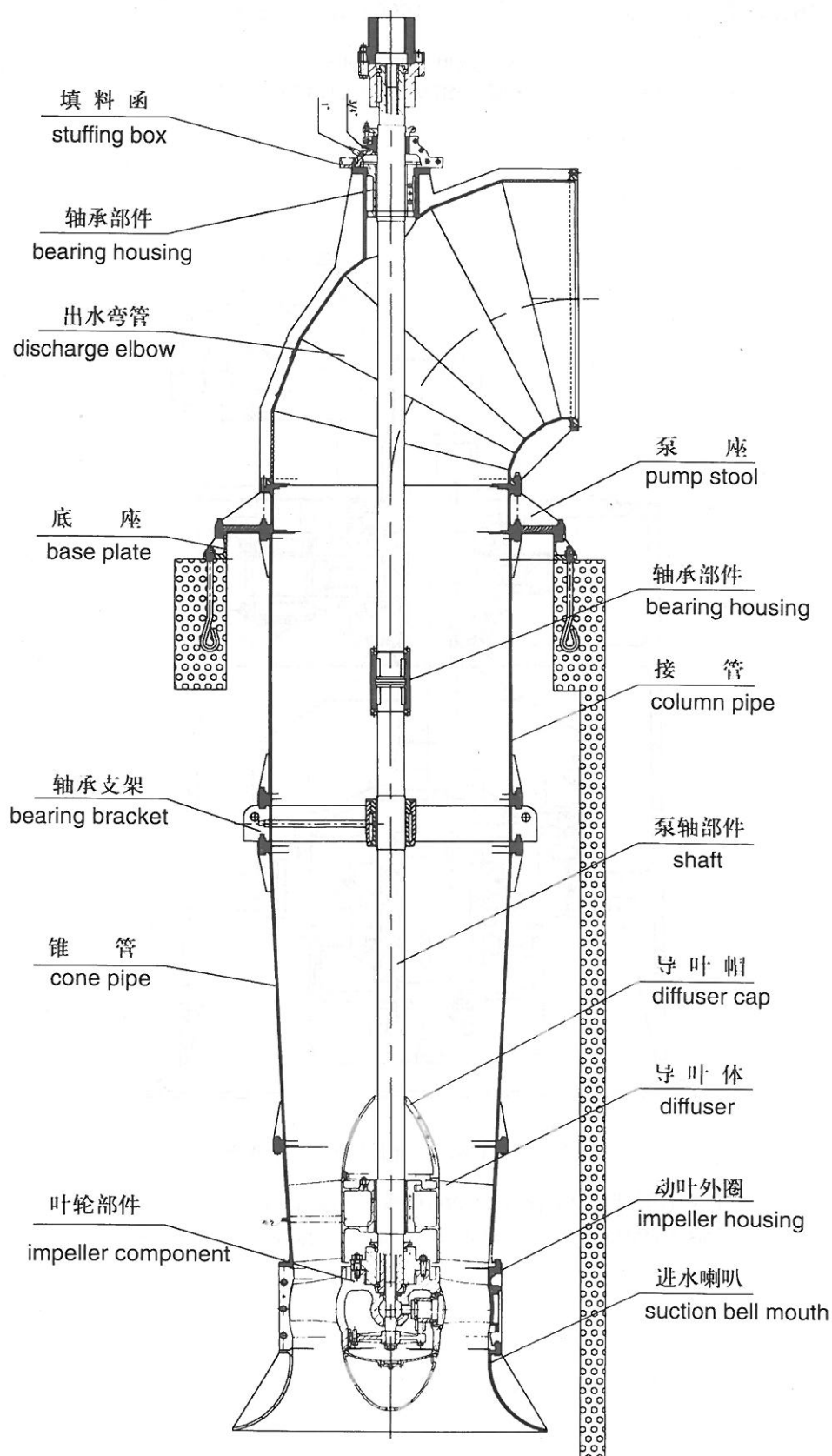
PUMP SECTIONAL DRAWING



1800ZLDQ 8 - 5.8

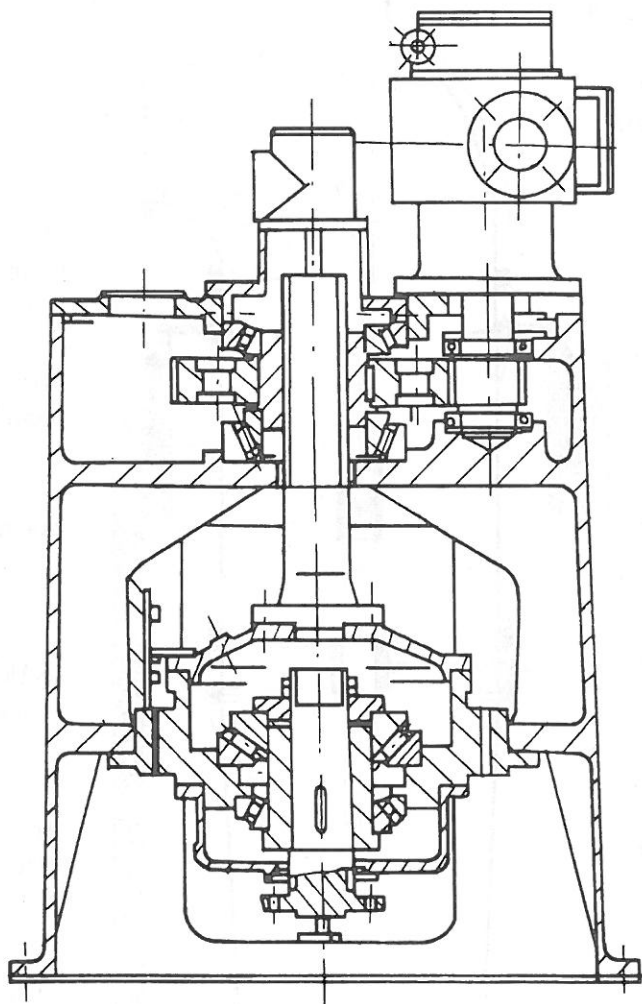
型轴流泵结构图

PUMP SECTIONAL DRAWING



50ZLQ III - 50	64ZLQ - 50	1600ZLQ7.6 - 6.5	1700ZLQ8 - 7
50ZLQ III - 54	64ZLQ - 65	1600ZLQ7.3 - 3.4	1800ZLDQ8 - 5.8
1250ZLDQ5.3 - 13.7		1600ZLCQ7 - 5.5	

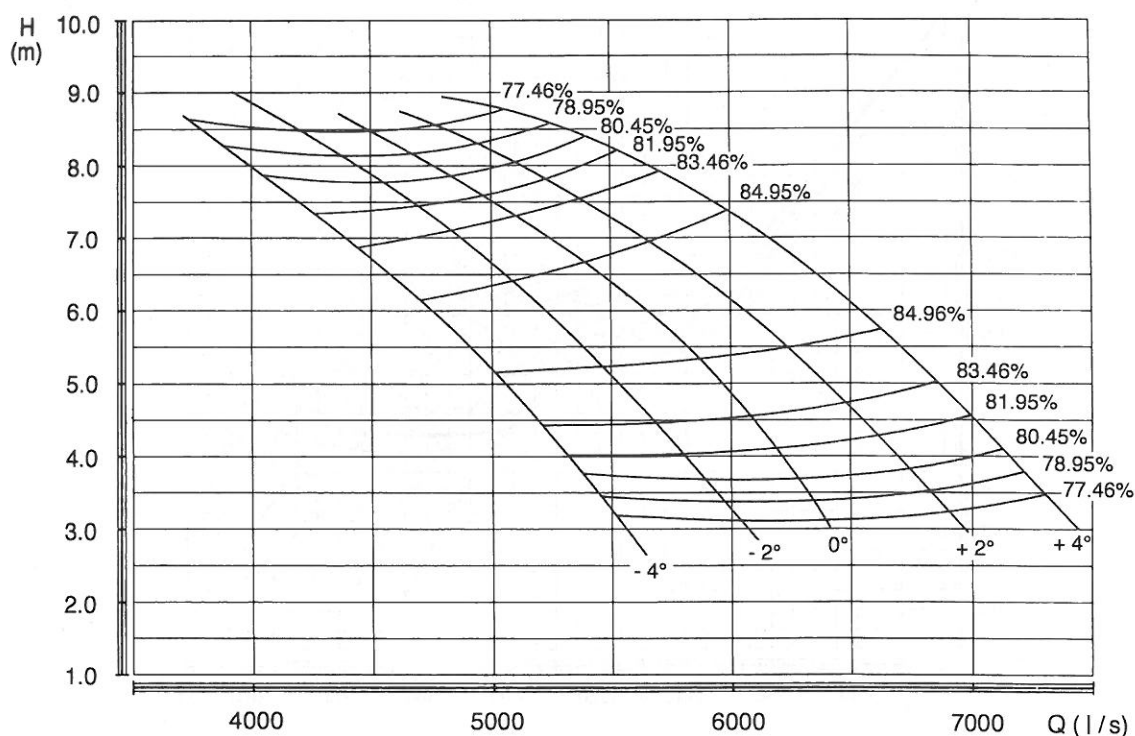
型轴流泵叶片调节机构
PUMP BLADES ADJUSTMENT CONSTRUCTION



(用于不停机全调节, 此机构置于电机顶部)

(NOTES: For the pump with blades adjustable in operation,
this construction should be installed on the top of the motor.)

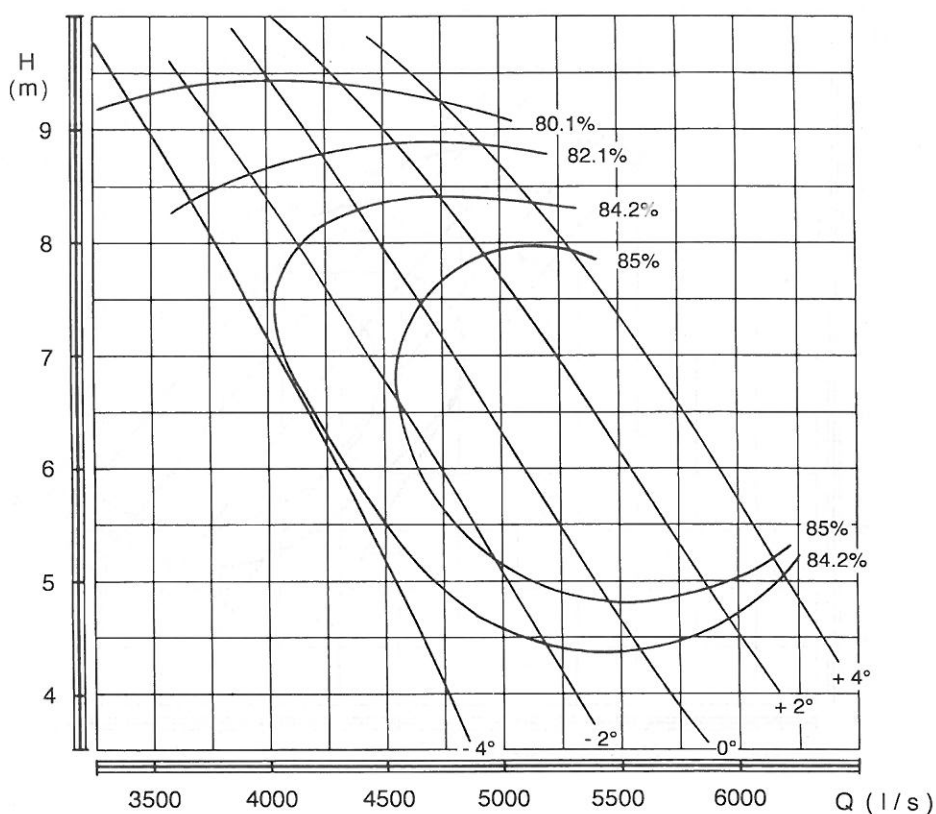
1400ZLB 6.2 - 7 型轴流泵性能曲线
PUMP PERFORMANCE CURVE



1400ZLB 6.2 - 7 型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装 角 度 Blade Angle	流 量 Capacity Q		扬 程 Head H (m)	转 速 Speed n (r.p.m)	功 率 Power P (kW)		效 率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)
	(m ³ /h)	(l/s)			轴功率 Input Power	配用功率 Motor Power		
+ 4°	20700	5750	7.8	375	529.8	600	83	1250
	22320	6200	7		500.6		85	
	25200	7000	4.6		385		82	
+ 2°	18900	5250	7.8		489.6	550	82	
	21600	6000	6.2		429.1		85	
	24300	6750	4		328		80.7	
0°	18000	5000	7.5		447.3	500	82.2	
	20700	5750	5.75		381.3		85	
	22500	6250	4		300.7		81.5	
- 2°	17100	4750	7.3		411.6	460	82.6	
	18900	5250	5.9		357.3		85	
	20700	5750	4.25		288.7		83	
- 4°	15300	4250	7.3		371.2	410	81.95	
	17100	4750	6		328.7		85	
	18900	5250	4.25		263.6		83	

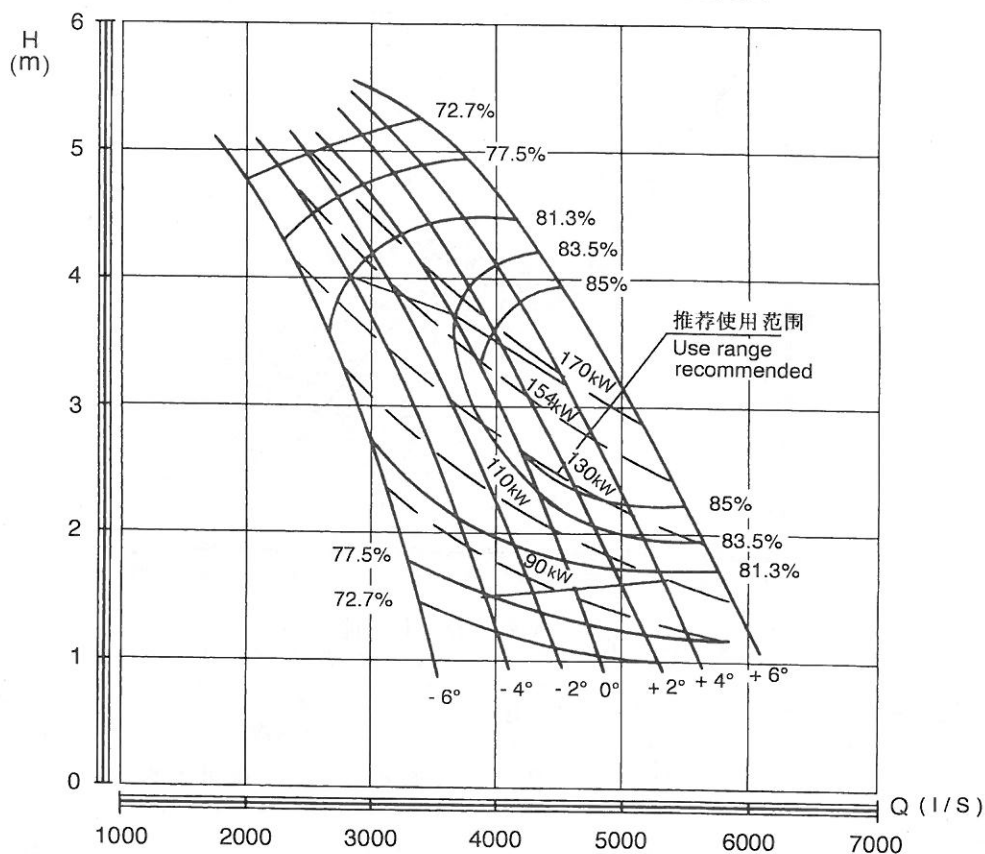
56ZL $\frac{B}{Q}$ - 70 型轴流泵性能曲线
PUMP PERFORMANCE CURVE



56ZL $\frac{B}{Q}$ - 70 型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装角 度 Blade Angle	流量 Capacity Q		扬程 Head H (m)	转速 Speed n (r.p.m)	功率 Power P (kW)		效率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)
	(m ³ /h)	(l/s)			轴功率 Input Power	配用功率 Motor Power		
- 4°	10805	3001	10.02	365	390.4	500KW 6000V	75.52	1250
	14184	3940	7.43		344.5		83.3	
	16650	4625	4.7		258.5		82.5	
- 2°	14040	3900	8.7		410.7		81	
	16020	4450	7		364.9		83.7	
	18000	5000	5.2		300		85	
0°	16564	4611	7.66		411.3		84	
	17687	4913	6.68		380		84.67	
	20880	5800	4.14		290		81.22	
+ 2°	18810	5225	7.1		428.3		84.92	
	20200	5611	5.85		379		85.34	
	21150	5875	5		399.1		84.92	
+ 4°	21456	5960	5.94		403.6		86	
	22824	6340	4.67		350.2		82.89	

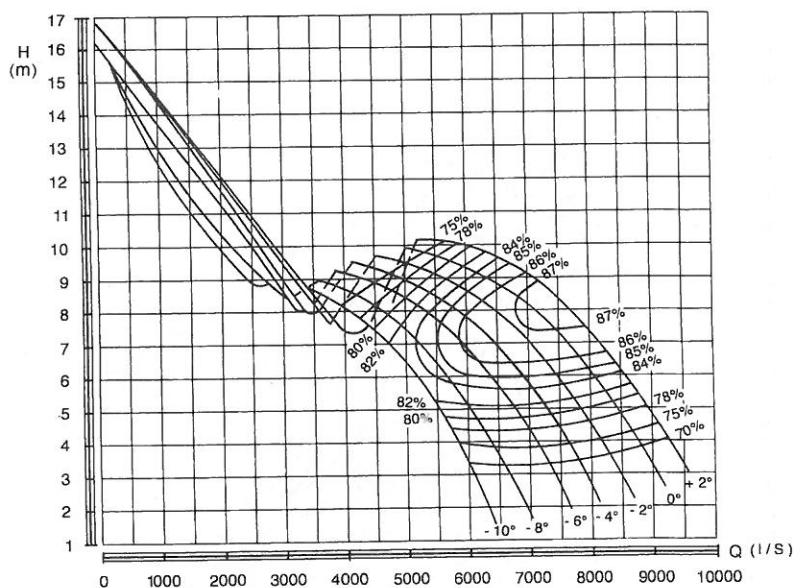
56ZLB - 100 I 型轴流泵性能曲线
PUMP PERFORMANCE CURVE



56ZLB - 100 I 型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装 角 度 Blade Angle	流 量 Capacity Q		扬 程 Head H (m)	转 速 Speed n (r.p.m)	功 率 Power P (kW)		效 率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)
	(m ³ /h)	(l/s)			轴功率 Input Power	配用功率 Motor Power		
- 4 °	10260	2850	4.05	290	139.2	180	81.8	1250
	12420	3460	2.85		117.6		82.4	
	14130	3925	1.55		77.0		77.5	
- 2 °	11610	3225	3.9		149.5		82.5	
	13590	3775	2.8		124.9		83	
	15480	4300	1.57		84.1		78.7	
0 °	13320	3700	3.7		160.5		83.8	
	14940	4150	2.8		134.0		85	
	16650	4625	1.66		93.9		70.7	
+ 2 °	14850	4125	3.4		160.8		85.5	
	15840	4400	2.83		142.0		86	
	17874	4965	1.70		102.8		80.5	
+ 4 °	16740	4650	3.04	160.8	86.2			
	17010	4725	2.87	153.7	86.5			
	19080	5300	1.80	114.6	81.6			

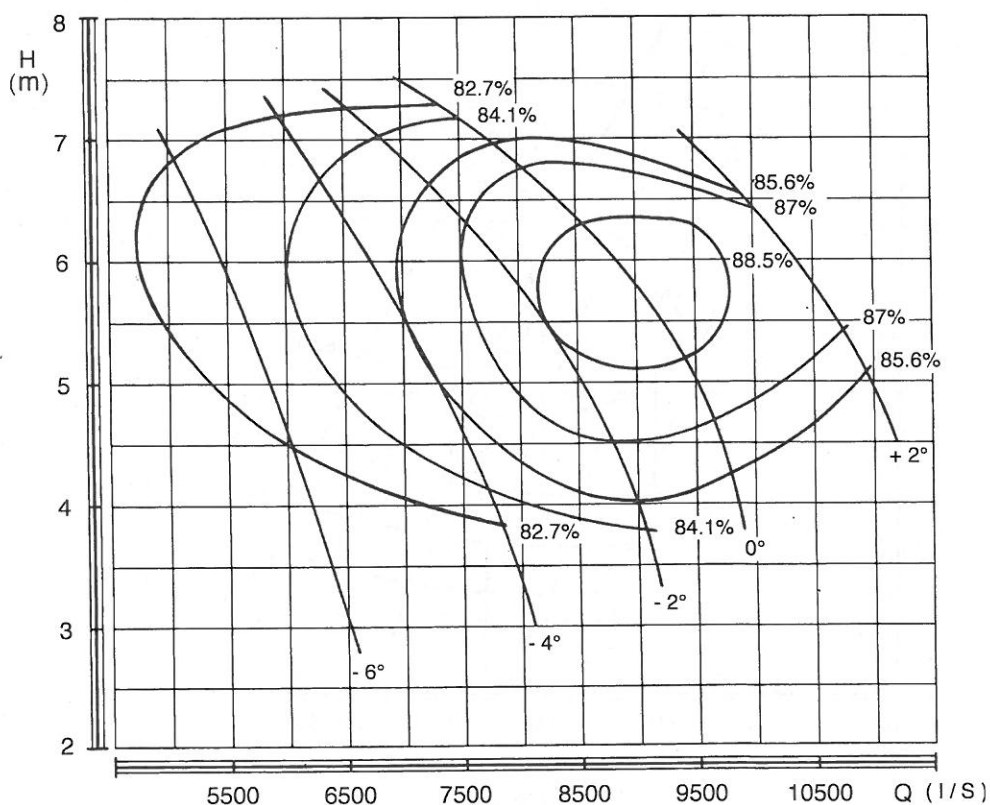
64ZL B_Q-50 型轴流泵性能曲线
PUMP PERFORMANCE CURVE



64ZL B_Q-50 型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装角 度 Blade Angle	流量 Capacity Q		扬程 Head H (m)	转速 Speed n (r.p.m)	功率 Power P (kW)		效率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)
	(m ³ /h)	(l/s)			轴功率 Input Power	配用功率 Motor Power		
- 10°	16200	4500	7.3	250	400	(1) 64ZLQ-50 800KW 6KV	80.5	1540
	18000	5000	6.5		382		83.5	
	19800	5500	5.2		343		82	
- 8°	16920	4700	7.8		450		80	
	19800	5500	6.5		415		84.7	
	22320	6200	4.7		358		80	
- 6°	18000	5000	8.4		515		80	
	21600	6000	6.8		466		86.1	
	24300	6750	4.8		393		81	
- 4°	18720	5200	8.7		555		80	
	23400	6500	6.8		503		86.3	
	26100	7250	5		439		81	
- 2°	20520	5700	8.8		594	(2) 64ZLB-50 6KV	83	
	23400	6500	7.9		583		86.4	
	28080	7800	5		479		80	
0°	22680	6300	9		655		85	
	25200	7000	8		632		87	
	29700	8250	5.5		544		82	
+ 2°	24480	6800	9		698		86.1	
	28800	8000	7.2		654		86.5	
	31500	8750	5.5		580		81	
+ 4°	26280	7300	9		744.6		86.5	
	28980	8050	8		726.6		86.9	
	33120	9200	5.5		612.5		81	

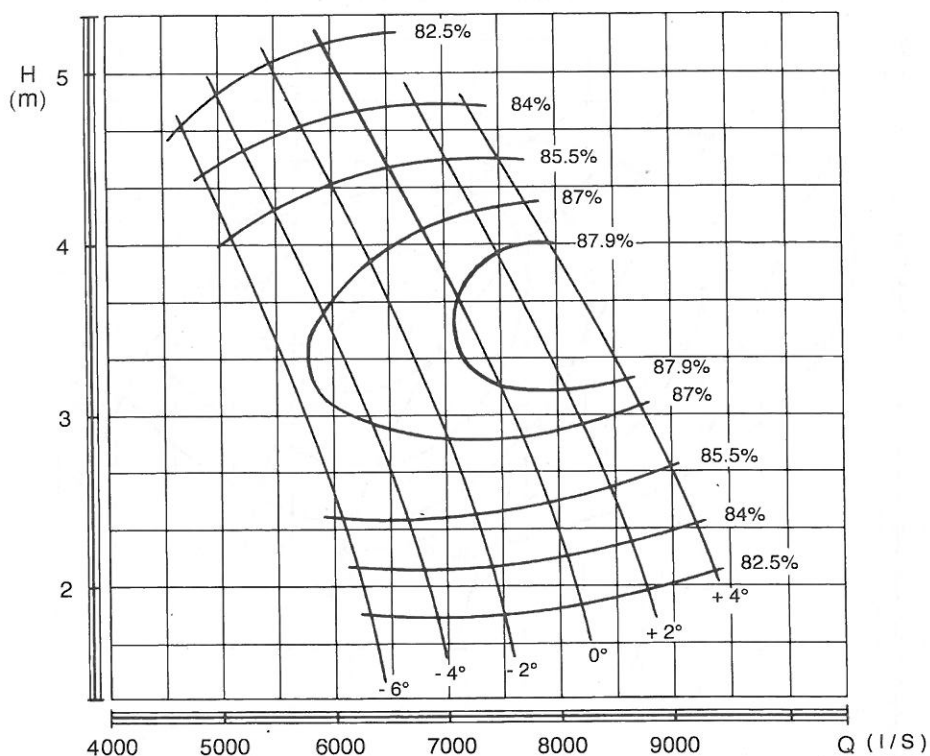
64ZLQ - 65 型轴流泵性能曲线
PUMP PERFORMANCE CURVE



64ZLQ - 65 型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装 角 度 Blade Angle	流 量 Capacity Q		扬 程 Head H (m)	转 速 Speed n (r.p.m)	功 率 Power P (kW)		效 率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)	
	(m ³ / h)	(l / s)			轴功率 Input Power	配用功率 Motor Power			
+ 2 °	35640	9900	6.5	250	737	800KW 6KV	85.6	1540	
	37800	10500	5.87		691		87.5		
	39420	10950	5.1		640		85.6		
0 °	27360	7600	7.2		638		84.1		
	32702	9084	5.65		567		88.8		
	35640	9900	4		462		84		
- 2 °	24660	6850	7		559		84.1		88.5
	29700	8250	5.5		503				85.6
	32400	9000	4		413				
- 4 °	18900	5250	6.7		410		84.1		85.6
	25270	7020	5.5		443				84.1
	27900	7750	4.1		371				
- 4 °	18900	5250	6.5	403	83	83.5			
	20340	5650	5.5	365		82.7			
	21600	6000	4.5	320					

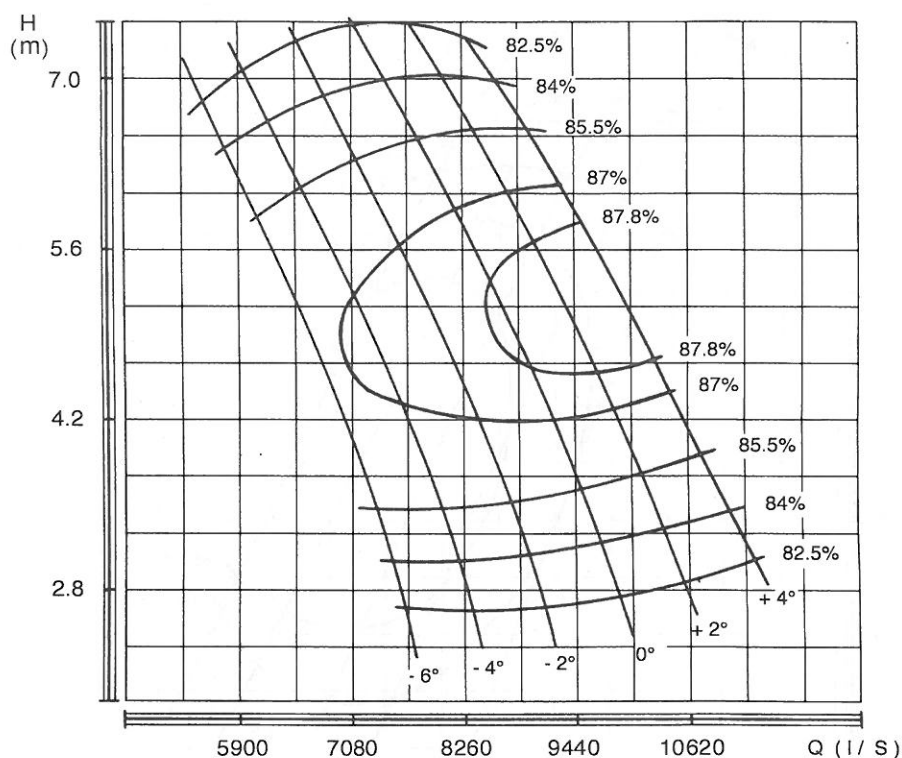
1600ZLQ 7.3 - 3.4 型轴流泵性能曲线
PUMP PERFORMANCE CURVE



1600ZLQ 7.3 - 3.4 型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装角 度 Blade Angle	流量 Capacity Q		扬程 Head H (m)	转速 Speed n (r.p.m)	功率 Power P (kW)		效率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)
	(m ³ /h)	(l/s)			轴功率 Input Power	配用功率 Motor Power		
- 6°	18360	5100	4	245	233.9	260	85.5	1540
	19944	5540	3.33		210.3		86	
	22212	6170	2.21		157.6		84.8	
- 4°	19764	5490	4.13		260	300	85.5	
	21960	6100	3.26		224.1		87	
	24228	6730	2.21		172.6		84.5	
- 2°	21780	6050	4.22		292.8	330	85.5	
	24120	6700	3.36		253.7		87	
	26604	7390	2.21		190.2		84.2	
0°	23436	6510	4.42		329.9	380	85.5	
	26208	7280	3.46		281.3		87.8	
	28908	8030	2.3		215		84.2	
+ 2°	25056	6960	4.51		395.9	400	85.5	
	27936	7760	3.55		307.6		87.8	
	30816	8560	2.4		238.4		84.5	
+ 4°	26820	7450	4.51		385.3	450	85.5	
	26808	8280	3.55		328.2		87.8	
	32688	9080	2.5		263.4		84.5	

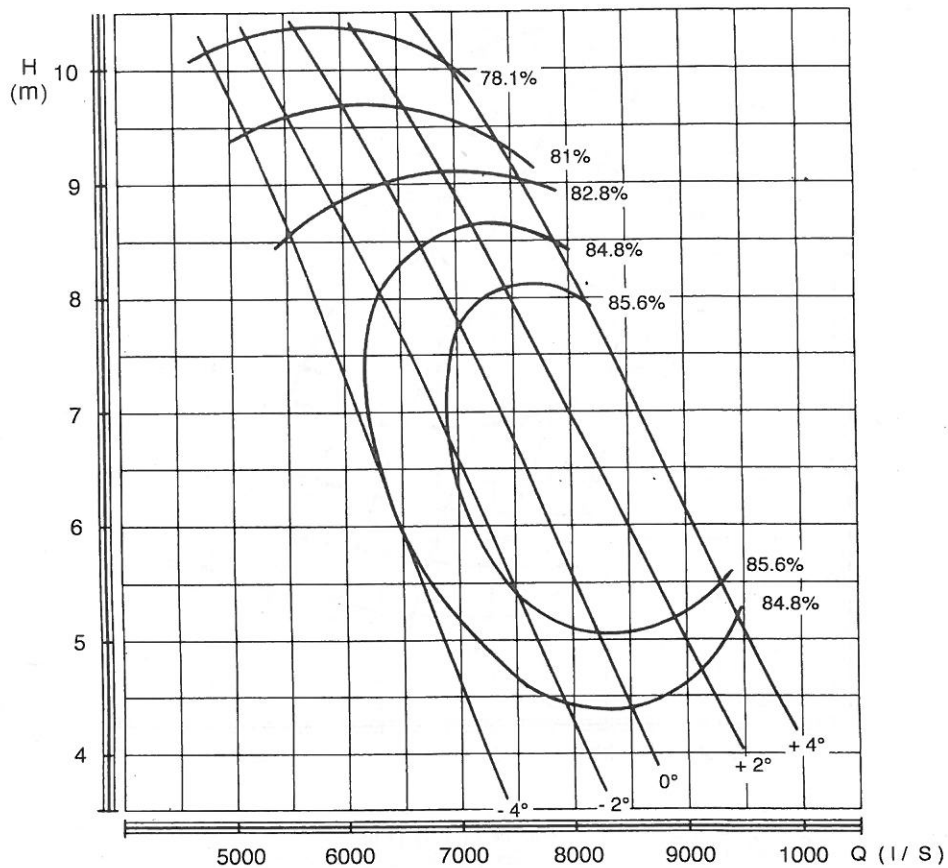
1600ZL^B_Q 7.3 - 3.4 型轴流泵性能曲线
PUMP PERFORMANCE CURVE



1600ZL^B_Q 7.3 - 3.4 型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装角 Blade Angle	流 量 Capacity Q		扬 程 Head H (m)	转 速 Speed n (r.p.m)	功 率 Power P (kW)		效 率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)
	(m ³ /h)	(l/s)			轴功率 Input Power	配用功率 Motor Power		
- 6 °	22104	6140	5.8	295	408.4	500	85.5	1540
	24012	6670	4.8		365		86	
	26748	7430	3.2		274.9		84.8	
- 4 °	23796	6610	6		454.8	500	85.5	
	26424	7340	4.7		388.8		87	
	29160	8100	3.2		300.7		84.5	
- 2 °	26244	7290	6.1		509.5	600	85.5	
	29052	8070	4.9		445.6		87	
	32040	8900	3.2		331.6		84.2	
0 °	28224	7840	6.4		575.4	800	85.5	
	31572	8770	5		489.6		87.8	
	34848	9680	3.35		377.6		84.2	
+ 2 °	30168	8380	6.5	624.6	800	85.5		
	33624	9340	5.2	542.3		87.8		
	37152	10320	3.5	419.3		84.5		
+ 4 °	31752	8820	6.5	657.4	800	85.5		
	35892	9970	5.2	578.9		87.8		
	39348	10930	3.5	443.8		84.5		

1600ZLQ 7.6 - 6.5 型轴流泵性能曲线
PUMP PERFORMANCE CURVE

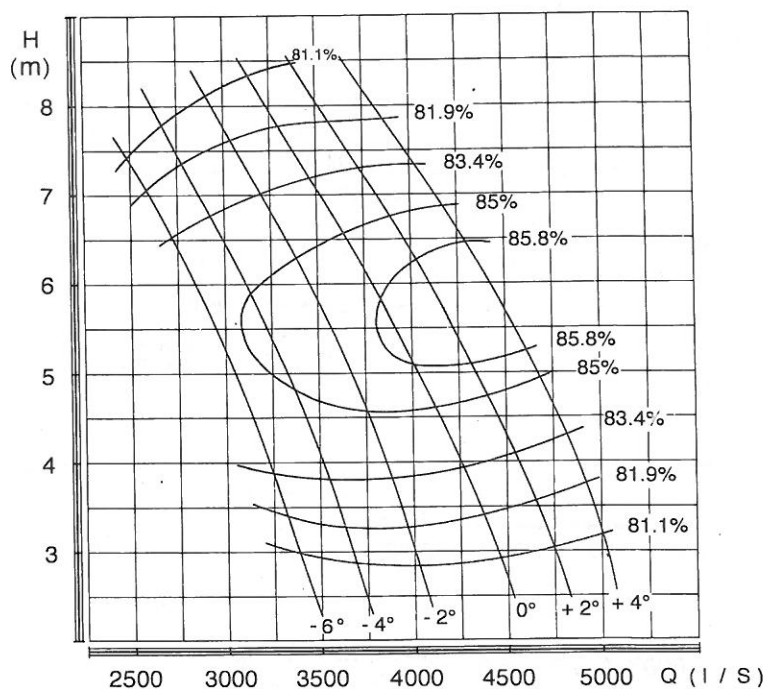


1600ZLB 7.6 - 6.5 型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装角 Blade Angle	流 量 Capacity Q		扬 程 Head H (m)	转 速 Speed n (r.p.m)	功 率 Power P (kW)		效 率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)	
	(m ³ /h)	(l/s)			轴功率 Input Power	配用功率 Motor Power			
- 4 °	18454	5126	9.42	300	584	800	81	1540	
	22140	6150	7.0		501		83.4		
	25211	7003	4.81		399		82.8		
- 2 °	19847	5513	9.58		639		81		
	25560	7100	6.3		512		85.6		
	28202	7834	4.55		412		84.8		
0 °	21726	6035	9.75		712	1000	85		
	27288	7580	6.5		564		85.6		
	30467	8463	4.4		430		84.8		
+ 2 °	25308	6530	9.67		764		81		
	29520	8200	6.55		615				85.6
	32731	9092	4.8		504				84.8
+ 4 °	26114	7254	9.42	827		81			
	31158	8655	6.9	684		65.6			
	33775	9382	5.3	575		84.8			

1200ZLB 3.9 - 5.5

型轴流泵性能曲线
PUMP PERFORMANCE CURVE

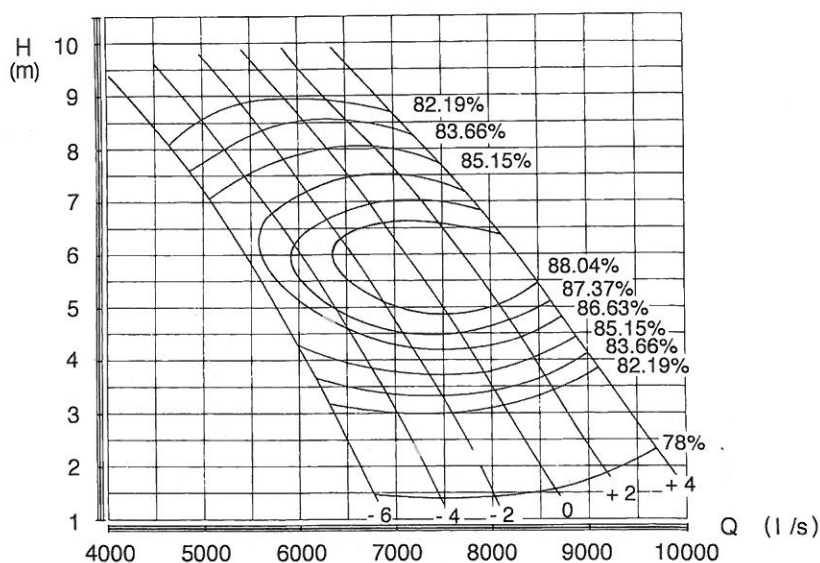


1200ZLB 3.9 - 5.5

型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装角 Blade Angle	流 量 Capacity Q		扬 程 Head H (m)	转 速 Speed n (r.p.m)	功 率 Power P (kW)		效 率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)
	(m ³ /h)	(l/s)			轴功率 Input Power	配用功率 Motor Power		
- 6 °	8910	2475	7.35	480	219.9	280	81.1	1000
	10980	3050	5		179.27		83.4	
	12330	3425	3		124.21		81.1	
- 4 °	9630	2675	7.75		250.61	330	81.1	
	1700	3250	5.35		200.55		85	
	13320	3700	2.85		127.48		81.1	
- 2 °	10800	3000	7.75		279.68	380	81.5	
	12870	3575	5.5		226.787		85	
	14490	4025	2.85		138.67		81.1	
0 °	11880	3300	7.75		306.15	380	81.9	
	14040	3900	5.5		245.1		85.8	
	16020	4450	2.95		158.69		81.1	
+ 2 °	13770	3825	7.8	360.66	380	81.1		
	15030	4175	5.7	271.92		85.8		
	17010	4725	3.05	174.2		81.1		
+ 4 °	13950	3875	7.75	359.05	380	82		
	15930	4425	5.9	298.32		85.8		
	18000	5000	3.2	193.4		81.1		

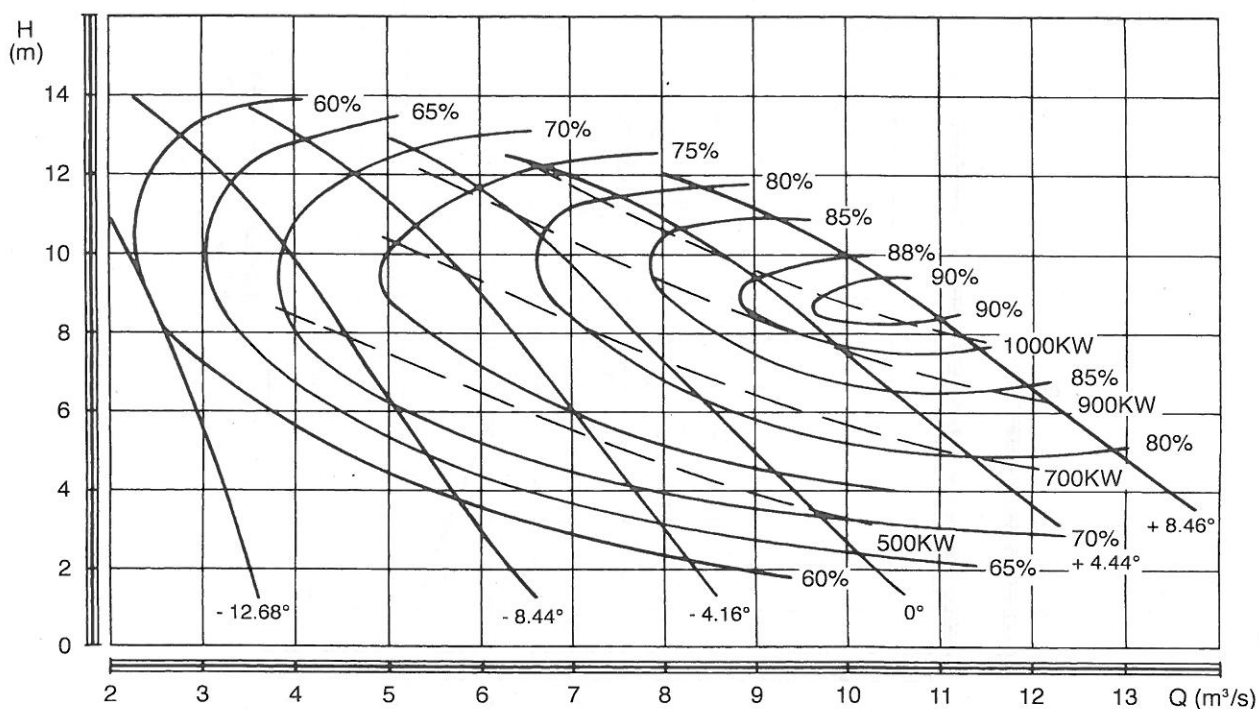
1600ZLCQ 7 - 5.5 型轴流泵性能曲线
PUMP PERFORMANCE CURVE



1600ZLCQ 7 - 5.5 型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装 角 度 Blade Angle	流 量 Capacity Q		扬 程 Head H (m)	转 速 Speed n (r.p.m)	功 率 Power P (kW)		效 率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)
	(m ³ /h)	(l/s)			轴功率 Input Power	配用功率 Motor Power		
+ 4°	26100	7250	8	370	677	900	84	1330
	29700	8250	6		550.2		88.2	
	32400	9000	4.1		432.7		83.6	
+ 2°	24300	6750	8		621.7		85.15	
	27900	7750	5.8		499.6		88.2	
	30600	8500	3.8		377		84	
0°	22680	6300	7.87		570.5		85.2	
	26100	7250	5.5		443.2		88.2	
	27720	7700	4.2		365.7		86.7	
- 2°	20700	5750	7.8		517.3		85	
	24300	6750	5.4		405.2		88.2	
	26100	7250	4		331.4		85.8	
- 4°	18900	5250	7.8		478		84	
	22212	6170	5.5		380.2		87.5	
	24300	6750	3.8		295.3		85.15	
- 6°	17100	4750	7.5		417.5		83.66	
	19800	5500	5.6		351.1		86	
	21600	6000	4.1		283.7		85	

1700ZLQ 8 - 7 型轴流泵性能曲线
PUMP PERFORMANCE CURVE

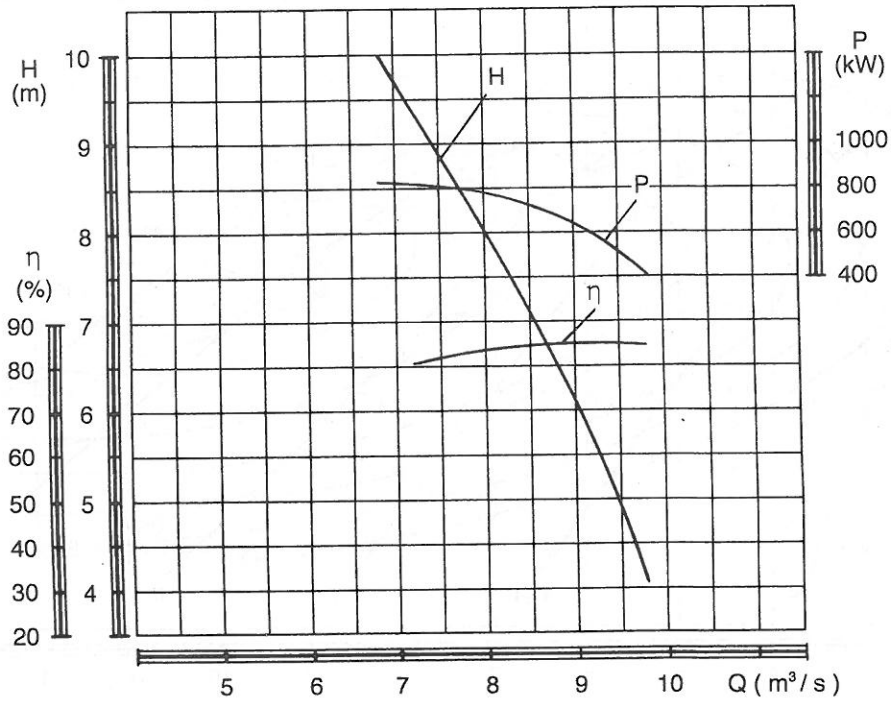


1700ZLQ 8 - 7 型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装 角 度 Blade Angle	流 量 Capacity Q (m³/h)	扬 程 Head H (m)	转 速 Speed n (r.p.m)	功 率 Power P (kW)		效 率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)	汽蚀余量 NPSH 中间值
				轴功率 Input Power	配用功率 Motor Power			
- 12.68°	2	11	300	392	400	83	1600	9.8
	3	5.2		255		85		
	3.5	2		137		82		
- 8.44°	3	12.8	300	608	630	82	1600	10.0
	4.5	8		484		85		
	6	2.6		278		80.7		
- 4.16°	4	13	300	785	800	82.2	1600	10.2
	6	8.8		673		85		
	8	3		368		81.5		
0°	5.5	12.2	300	890	900	82.6	1600	10.3
	8	7.2		689		85		
	10	2.8		410		83		
4.44°	7.5	11.4	300	1048	1100	81.95	1600	10.1
	8	11		1028		85		
	9.5	8.3		879		83		
	11.5	4.6		665		78		
8.46°	9.5	10.8	300	1157	1200	87	1600	9.8
	10.5	9		1030		90		
	12	6.6		925		84		

1800ZLB8.2 - 6.2

型轴流泵性能曲线
PUMP PERFORMANCE CURVE

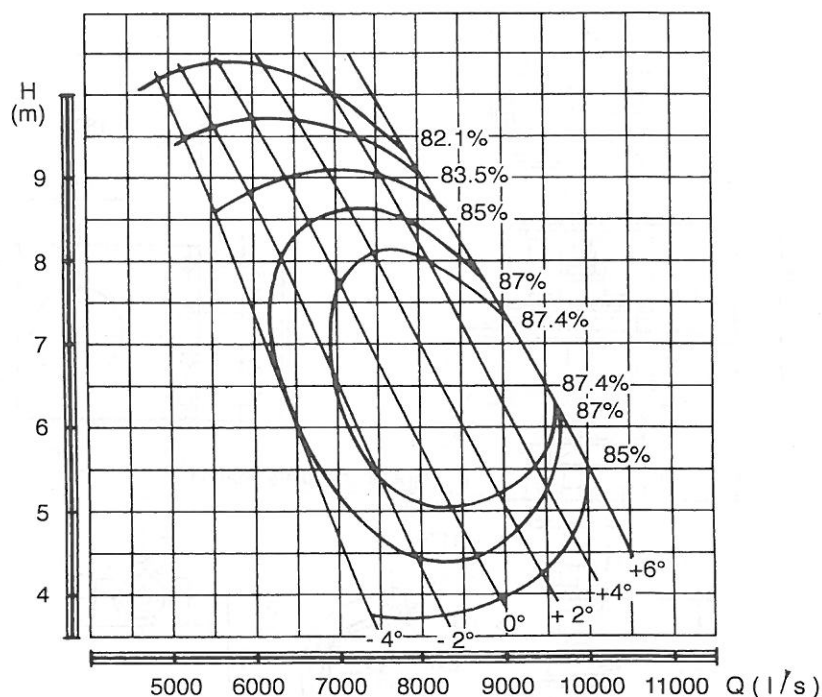


1800ZLB8.2 - 6.2

型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装 角 度 Blade Angle	流 量 Capacity Q		扬 程 Head H (m)	转 速 Speed n (r.p.m)	功 率 Power P (kW)		效 率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)
	(m³/h)	(m³/s)			轴功率 Input Power	配用功率 Motor Power		
	29520	8.2	7.7	296	737	850	84	1540
	31158	8.655	6.9		684		85.6	
	33120	9.2	5.7		607		84.7	

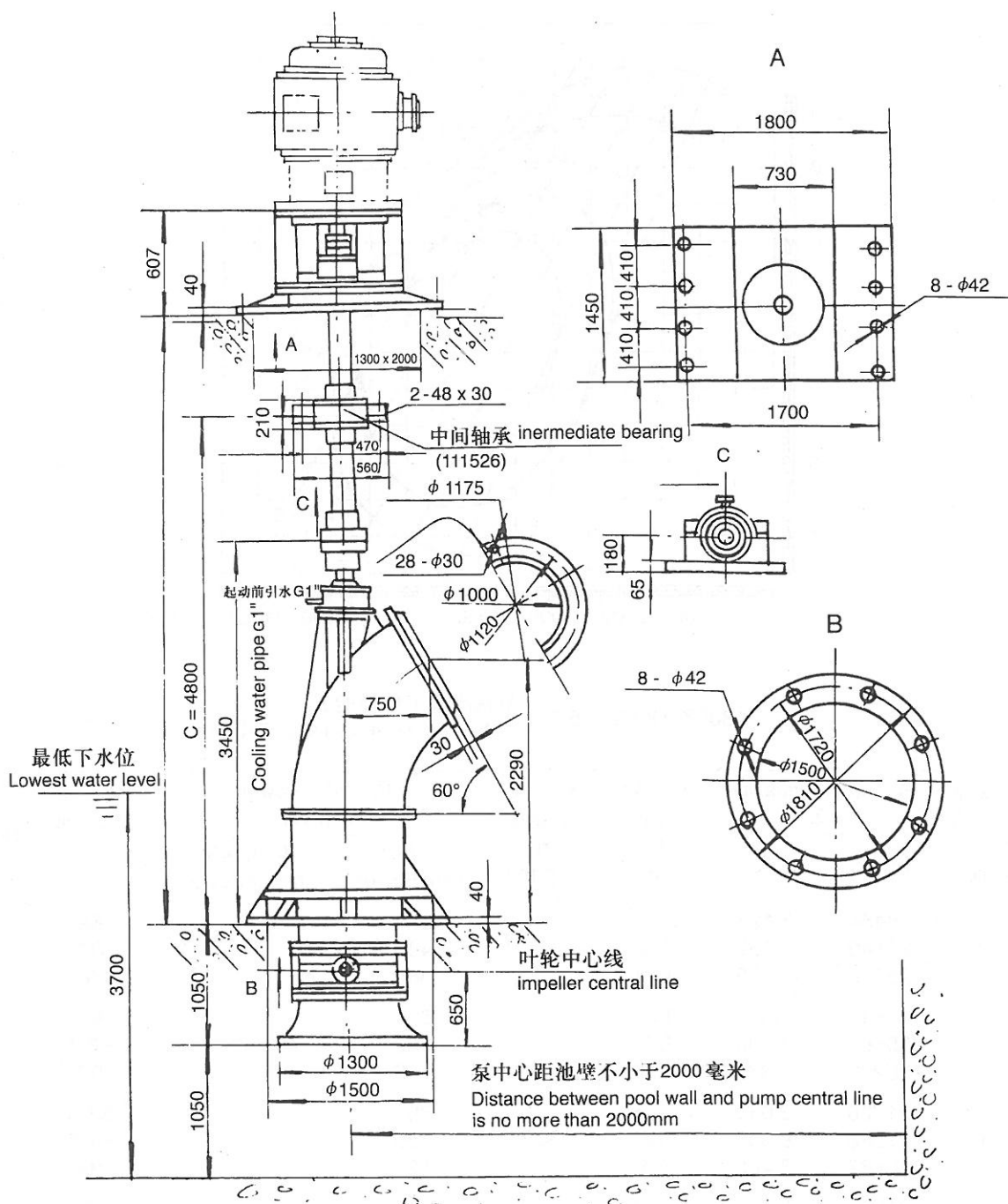
1800ZLDQ 8 - 5.8 型轴流泵性能曲线
PUMP PERFORMANCE CURVE



1800ZLDQ 8 - 5.8 型轴流泵工作性能表
PUMP PERFORMANCE TABLE

叶片安装角 Blade Angle	流 量 Capacity Q		扬 程 Head H (m)	转 速 Speed n (r.p.m)	功 率 Power P (kW)		效 率 Efficiency η (%)	叶轮直径 Impeller Diameter D (mm)	
	(m³ / h)	(l / s)			轴功率 Input Power	配用功率 Motor Power			
- 4 °	18454	5.126	9.42	300	577	800	82	1540	
	22140	6.150	7.0		485		87		
	25211	7.003	4.81		384		86		
- 2 °	19847	5.513	9.58		624		800		83
	25560	7.100	6.3		502				87.4
	28202	7.834	4.55		402				87
0 °	21726	6.035	9.75		691	1000		83.5	
	27288	8.000	5.8		520			87.5	
	30467	8.463	4.4		420			87	
+ 2 °	25308	6.530	9.67		741		1000	83.5	
	29520	8.200	6.55		602			87.5	
	32731	9.092	4.8		492			87	
+ 4 °	26114	7.254	9.42	802	1000	.5			
	31158	8.655	6.9	669		87.5			
	33775	9.382	5.3	560		87			
+ 6 °	28800	8.000	9.2	869		1000	83		
	33120	9.200	7	722			87.5		
	34920	9.700	6	660			86.5		

40ZL^B_Q - 50 型轴流泵安装外形尺寸
PUMP GENERAL ARRANGEMENT



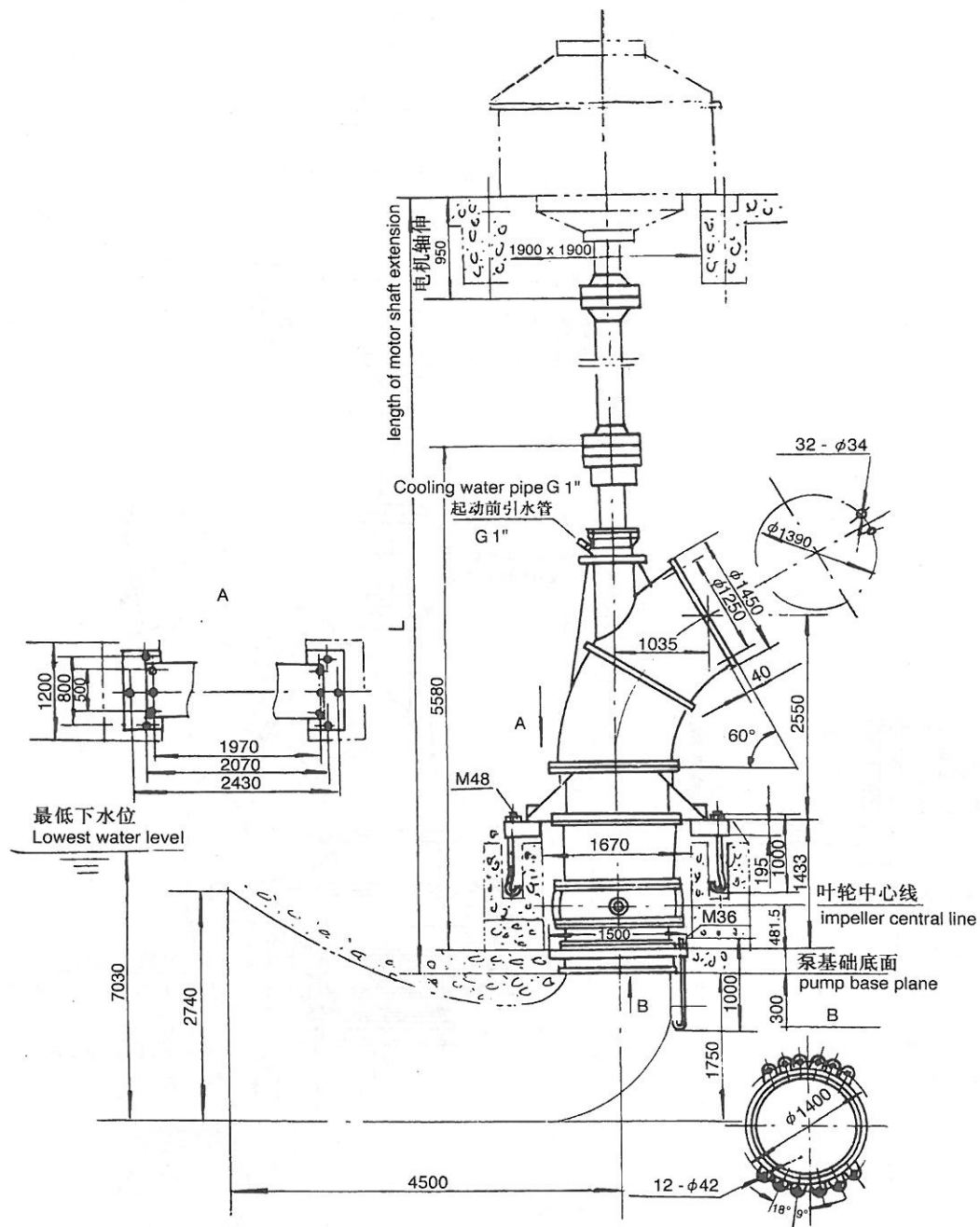
说明:

1. 泵重 4969 公斤。
2. 泵最大件重 690 公斤。
3. 轴向力 12500 公斤, 泵最长件为 5355 毫米。
(L = 8000 毫米)
4. 楼面承载 14000 公斤, (不包括电机)。
5. L=4000~8000 毫米, 每隔 100 毫米一档,
L > 6200 毫米时, 应设中间轴承。

NOTES:

1. Gross weight of the pump is 4969 KG.
2. Weight of the biggest part is 690 KG.
3. Length of the longest part is 5355 mm. (L=8000mm)
4. Weight for the floor to load is 14000 KG. (motor excluded)
5. L=4000~8000 mm, if L > 6200mm, bearing should be set up.

50ZL^Q_{Q II}-50 型轴流泵安装外形尺寸
PUMP GENERAL ARRANGEMENT



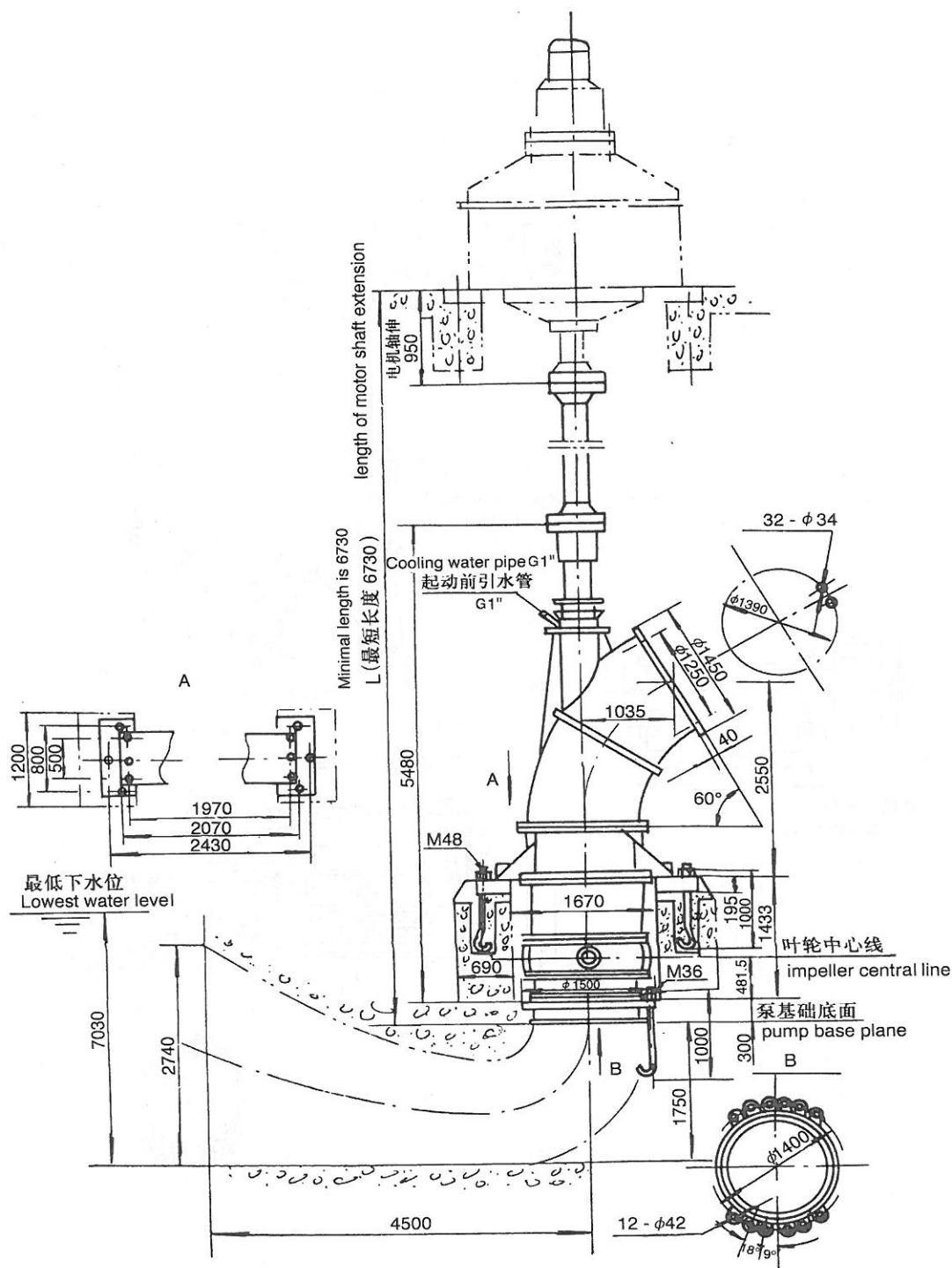
说明:

1. 泵重 10792 公斤。
2. 泵最大件重 2219 公斤。
3. 泵最长件为 4836 毫米。
4. 楼面承载 22000 公斤, (不包括电机重)。
5. L = 7200 ~ 10500 毫米。

NOTES:

1. Gross weight of the pump is 10792 KG.
2. Weight of the biggest part is 2219 KG.
3. Length of the longest part is 4836 mm.
4. Weight for the floor to load is 22000 KG. (motor excluded)
5. L=7200~10500 mm.

1250ZLDQ5.3-13.7 型轴流泵安装外形尺寸
50ZLQ III - 50 PUMP GENERAL ARRANGEMENT



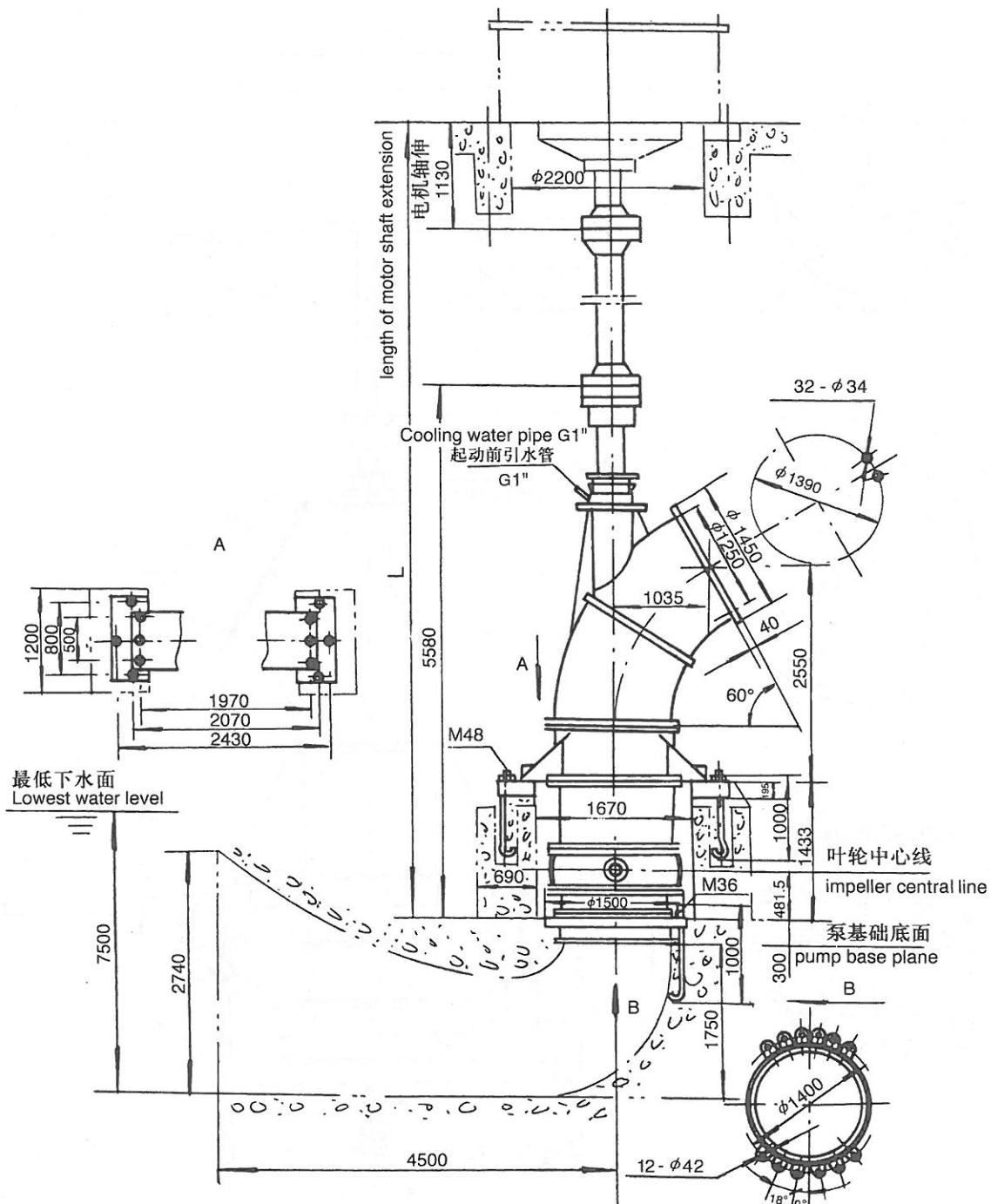
说明:

1. 泵重 11455 公斤。
2. 泵最大件重 3196 公斤。
3. 泵最长件为 5050 毫米。
4. 楼面承载 22000 公斤, (不包括电机重)。
5. L = 6730 和 8080 毫米。

NOTES:

1. Gross weight of the pump is 11238 KG.
2. Weight of the biggest part is 2219 KG.
3. Length of the longest part is 5050 mm.
4. Weight for the floor to load is 22000 KG. (motor excluded)
5. L=6730~8080 mm.

50ZLQ-54 型轴流泵安装外形尺寸
50ZLQ-54 II PUMP GENERAL ARRANGEMENT



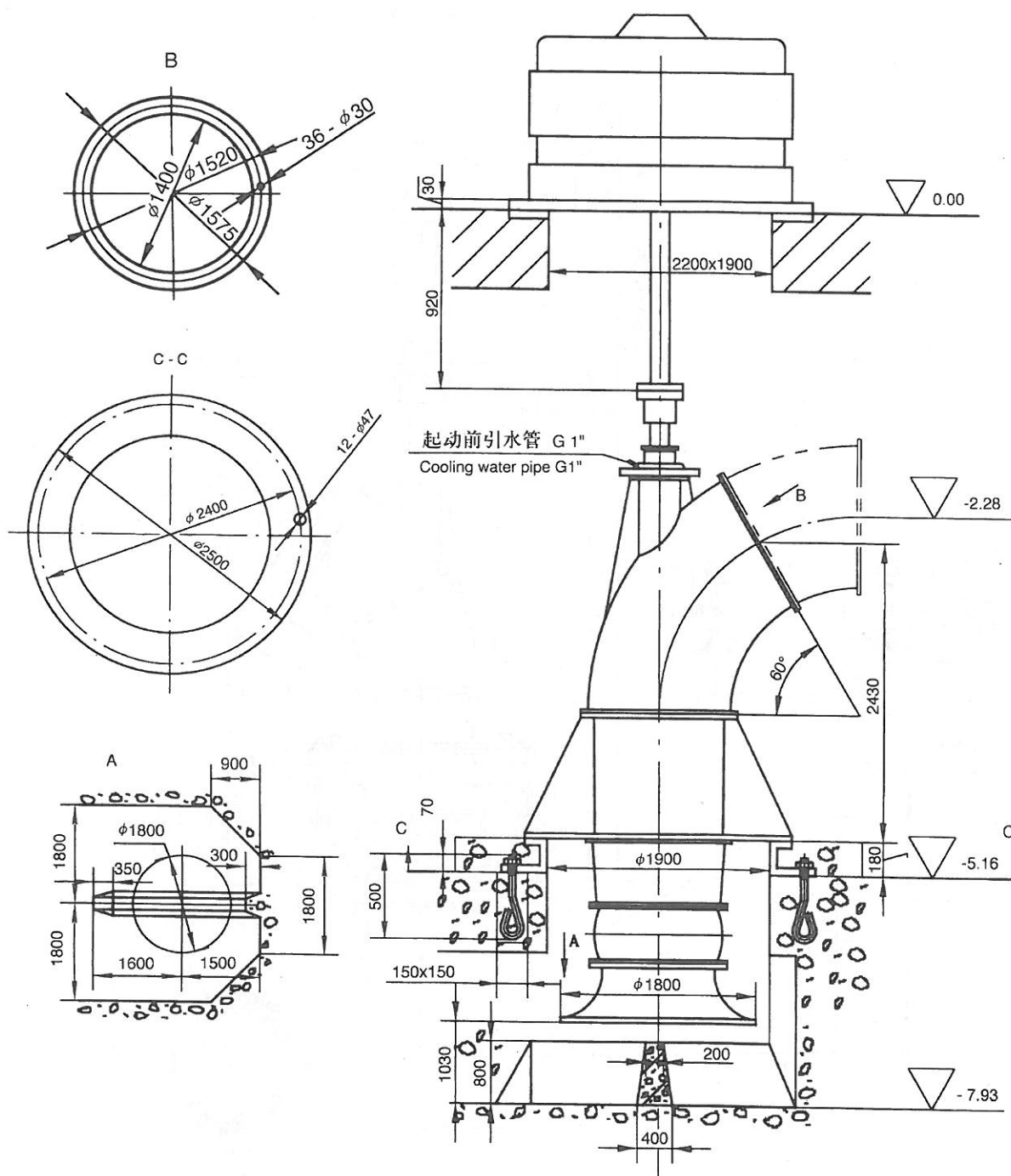
说明:

1. 泵重 10910 公斤。
2. 泵最大件重 2219 公斤。
3. 泵最长件为 4836 毫米。
4. 楼面承载 30000 公斤, (不包括电机)。
5. $L = 8510 \sim 10330$ 毫米。

NOTES:

1. Gross weight of the pump is 10910 KG.
2. Weight of the biggest part is 2219 KG.
3. Length of the longest part is 4836 mm.
4. Weight for the floor to load is 30000 KG. (motor excluded)
5. $L = 8510 \sim 10330$ mm.

1400ZLB6.2 - 7 型轴流泵安装外形尺寸
PUMP GENERAL ARRANGEMENT



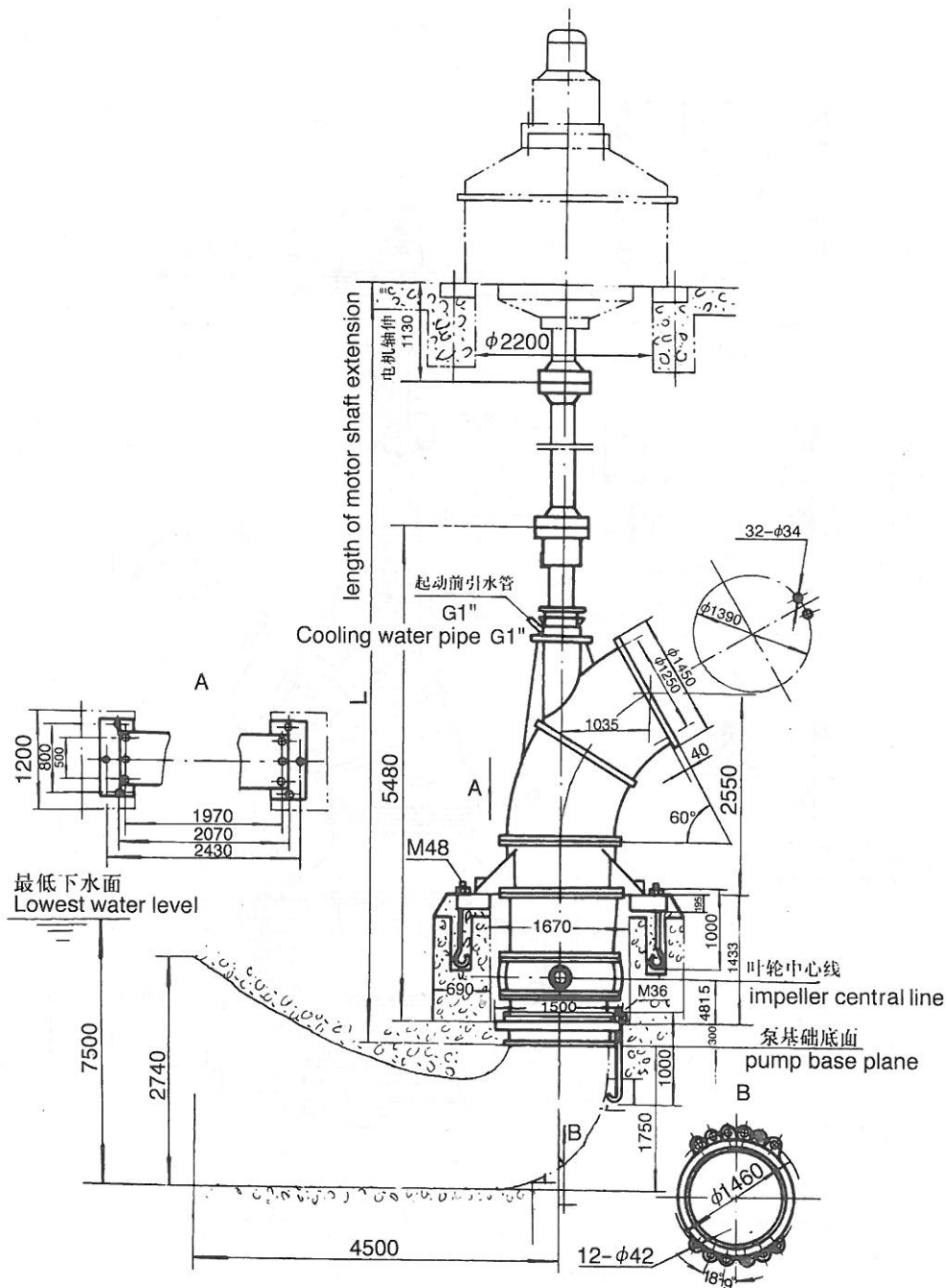
说明:

1. 泵重 9260 公斤, 电机重 16950 公斤。
2. 泵最大起吊重 3520 公斤。
3. 泵最大起吊长 5110 毫米。
4. 电机承受泵轴向力 (包括转子重) 13460 公斤。
5. 电机层楼可承载 31000 公斤。

NOTES:

1. Gross weight of the pump is 9260kg.
Weight of the motor is 16950kg.
2. Weight of the biggest part is 3520kg.
3. Length of the longest part is 5110mm.
4. axial force (including the weight of rotor) is 13460 kg.
5. Weight for the motor foundation to load is 31000kg.

50ZLQ III - 54 型轴流泵安装外形尺寸(不停机全调)
PUMP GENERAL ARRANGEMENT



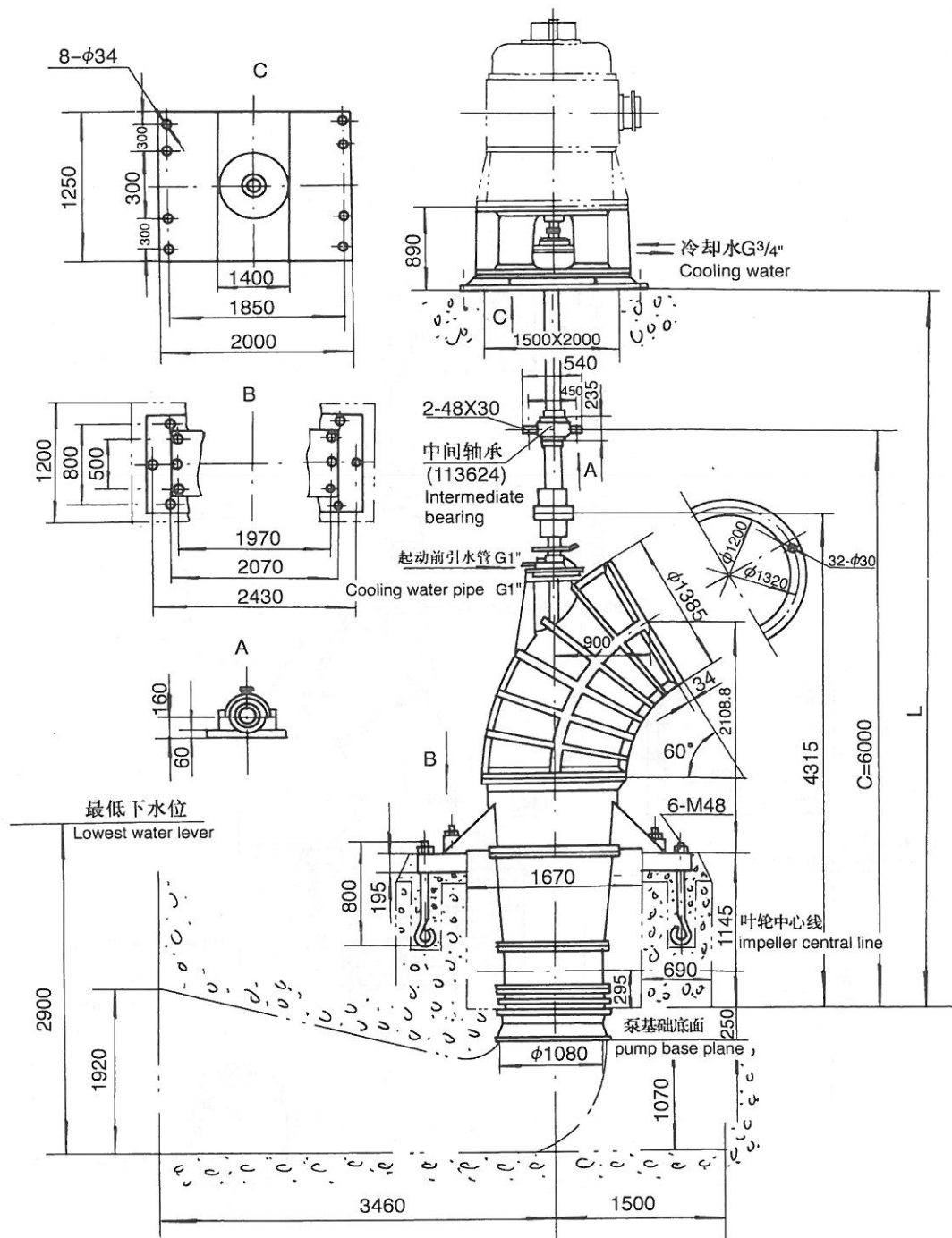
说明:

1. 泵重 10652 公斤。
2. 泵最大件重 2219 公斤。
3. 泵最长件为 4836 毫米。
4. 楼面承载 30000 公斤, (不包括电机)。
5. L = 8510 ~ 10330 毫米。

NOTES:

1. Gross weight of the pump is 10652 KG.
2. Weight of the biggest part is 2219 KG.
3. Length of the longest part is 4836 mm.
4. Weight for the floor to load is 30000 KG. (motor excluded)
5. L=8510~10330 mm.

1200ZLB3.9-5.5(92) 型轴流泵安装外形尺寸
PUMP GENERAL ARRANGEMENT



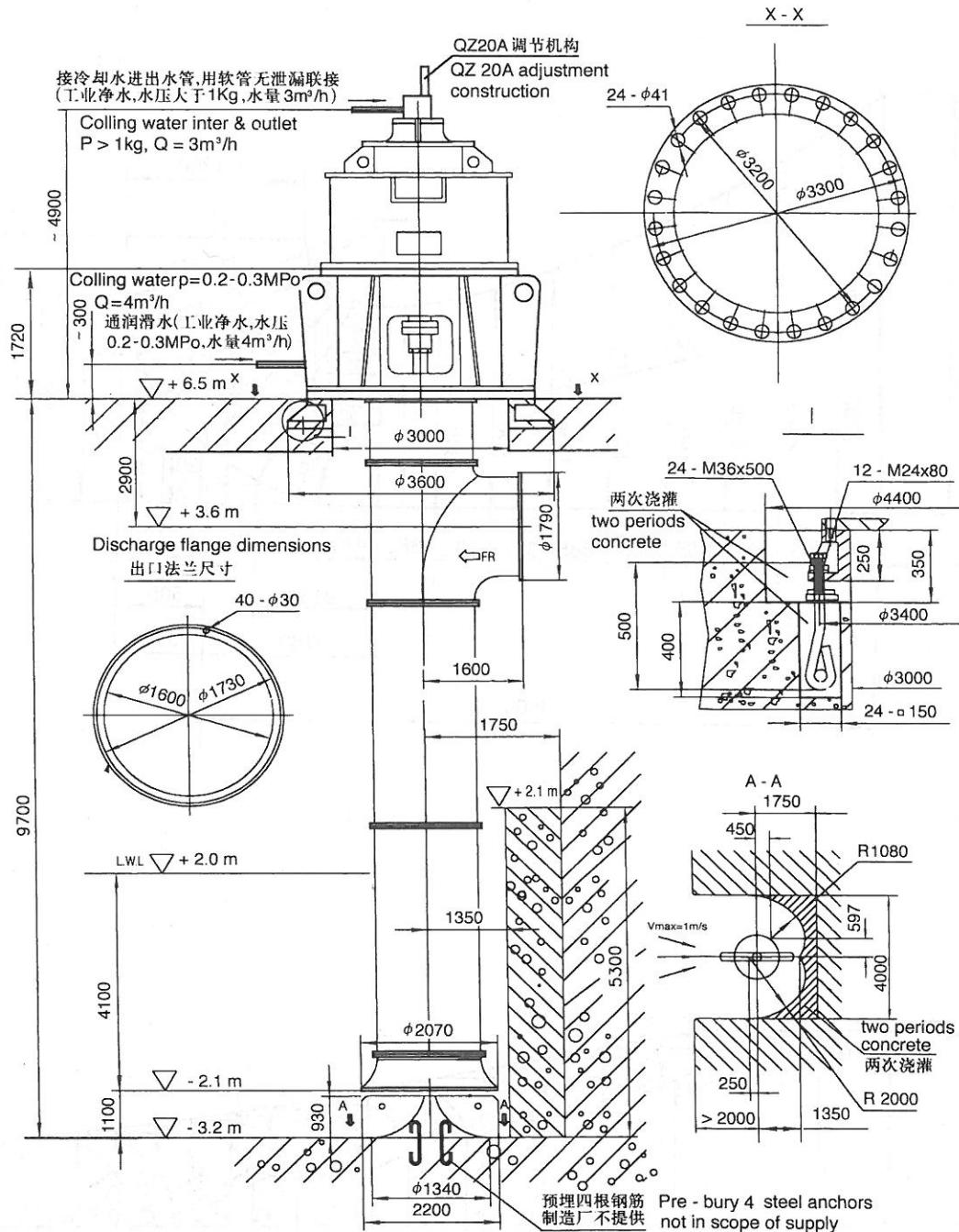
说明:

1. 泵壳重 3965 公斤。
2. 转子重 1490 公斤。
3. 轴向力 (包括转子重) 51440 牛顿。
4. 电机层楼面承载 80000 牛顿 (不包括电机)。
5. $L = 4800 \sim 9000$ 毫米, 每隔 100 毫米一档,
 $L > 6400$ 毫米时应设中间轴承。

NOTES:

1. Gross weight of the pump is 3965 KG.
2. Weight of the rotor is 1490 KG.
3. Axial force (including weight of the rotor) is 51440N.
4. Weight for the motor load is 80000 N. (Motor excluded)
5. $L = 4800 \sim 9000$ mm, if $L \geq 6400$ mm, intermediate bearing should be set up.

1600ZLCQ7 - 5.5 型轴流泵安装外形尺寸
PUMP GENERAL ARRANGEMENT



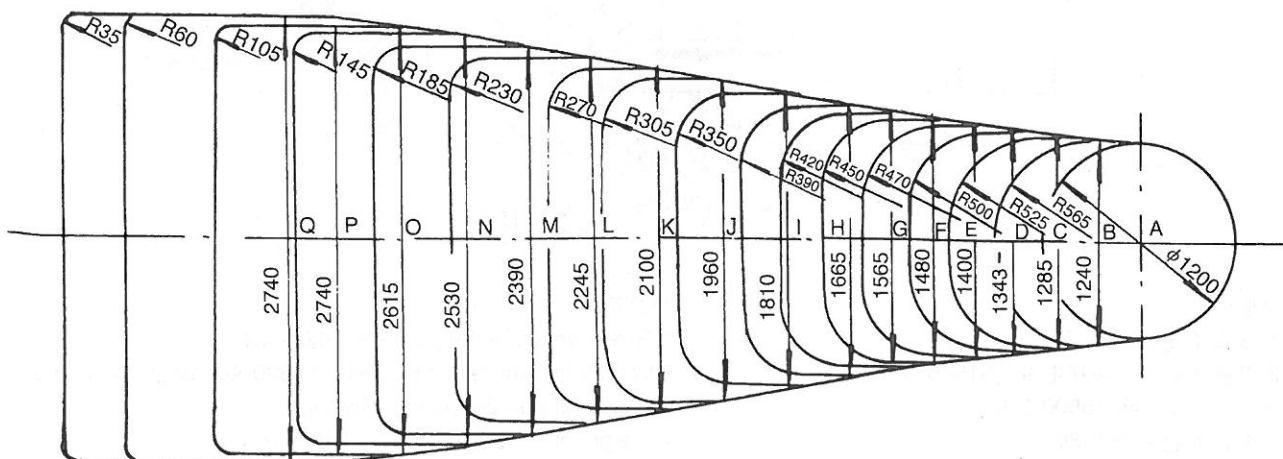
说明:

1. 水泵重 36000 公斤。
2. 基础承载 (不包括电机) 51500 公斤。
3. 可抽出部分重 16500 公斤。
4. 泵最大起吊重 19800 公斤。
5. 泵转子重 5010 公斤。
6. 可抽出部分长 10000 毫米。
7. 最大起吊高度 9000 毫米。

NOTES:

1. Gross weight of the pump is 36000 KG.
2. Weight for foundation to load is 51500 KG (motor excluded)
3. Weight of puu-put part is 16500kg.
4. Weight of the biggest part is 19800kg.
5. Weight of the rotor part is 5010kg.
6. Length of pull-out part is 10000mm.
7. Length of the longest part is 9000mm.

1250ZLDQ5.3 – 13.7 PUMP INLET FLOW PASSAGE



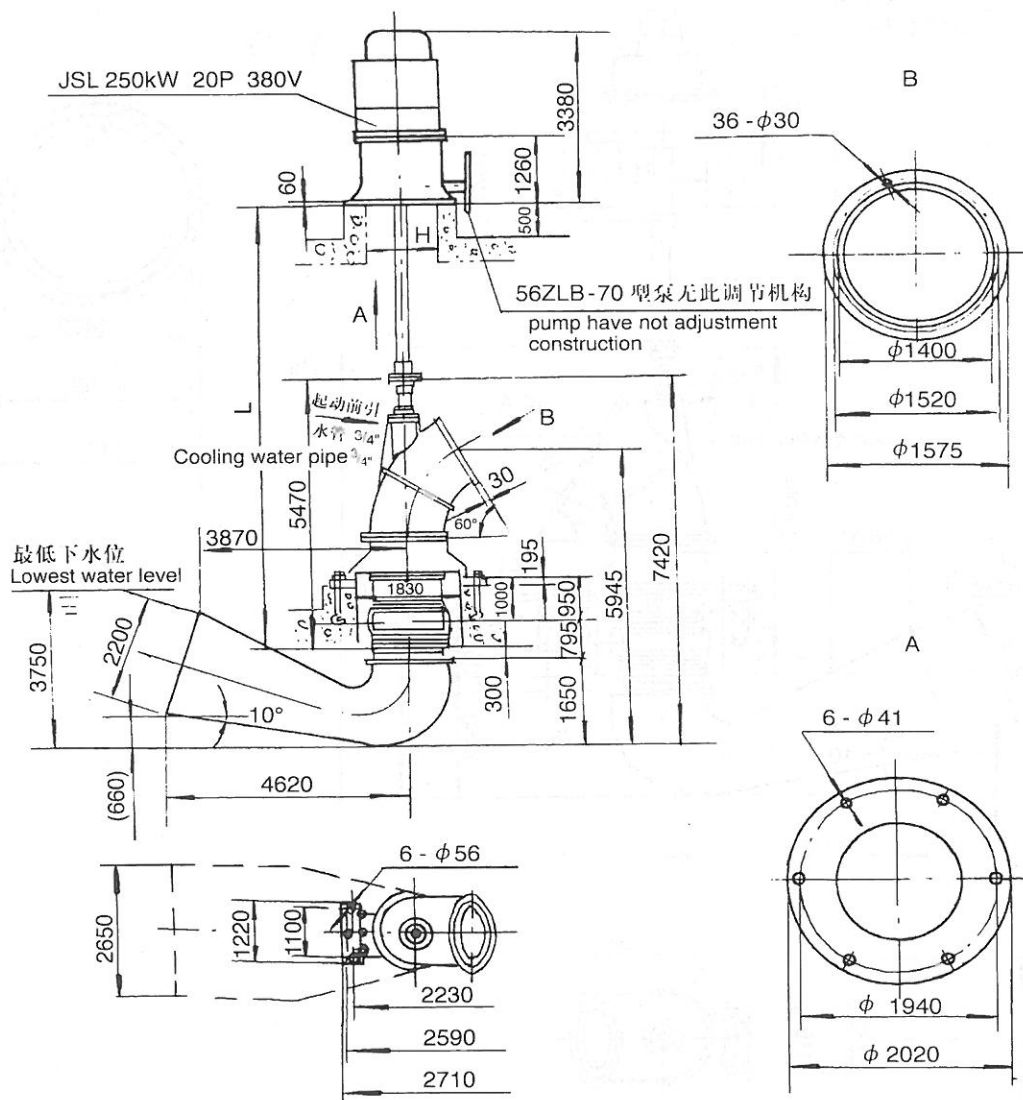


1. 泵重 8820 公斤, 电机重 10600 公斤。
2. 泵最大件重 3360 公斤。
3. 泵最长件为 5110 毫米。
4. 楼面承载 38000 公斤。
5. 楼面孔“H”的大小应能通过出水弯管, 弯管的平面尺寸为 2400 x 1600 (毫米)。
6. L = 6000 ~ 9300 毫米。

NOTES:

1. Gross weight of the pump is 8820 KG. Weight of the motor is 10600KG.
2. Weight of the biggest part is 3360 KG.
3. Length of the longest part is 5110 mm.
4. Weight for the floor to load is 38000 KG.
5. The discharge elbow should pass the hole of size "H", the size of the discharge is 2400 mm 1600 mm as view from above.
6. L=6000~9300 mm.

56ZL^B_Q-70 型轴流泵安装外形尺寸
PUMP GENERAL ARRANGEMENT



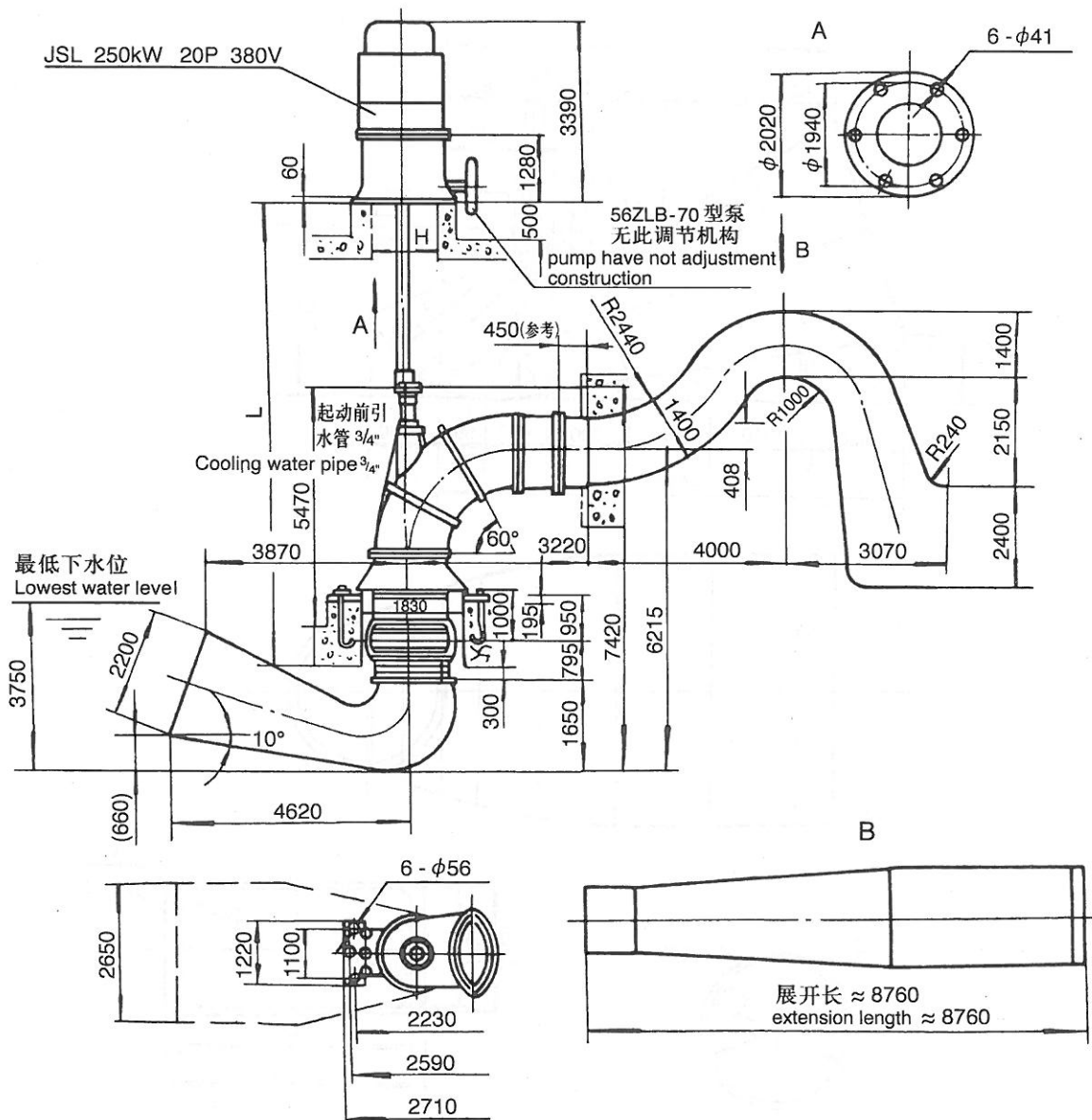
说明:

1. 泵重 9863 公斤, 电机重 8300 公斤。
2. 泵最大件重 4000 公斤。
3. 泵最长件为 5120 毫米。
4. 楼面承载 30000 公斤。
5. 楼面孔 "H" 的大小应能通过出水弯管, 弯管的平面尺寸为 2400 x 1600 (毫米)。
6. L = 6000 ~ 9300 毫米。

NOTES:

1. Gross weight of the pump is 9863 KG. Weight of the motor is 8300 KG.
2. Weight of the biggest part is 4000 KG.
3. Length of the longest part is 5120 mm.
4. Weight for the floor to load is 30000 KG.
5. The discharge elbow should pass the hole of size "H", the size of the discharge is 2400 mm 1600 mm as view from above.
6. L=6000~9300 mm.

56ZL^B_Q-70 型轴流泵安装外形尺寸(虹吸式出水)
PUMP GENERAL ARRANGEMENT(SIPHON TYPE OUTLET)



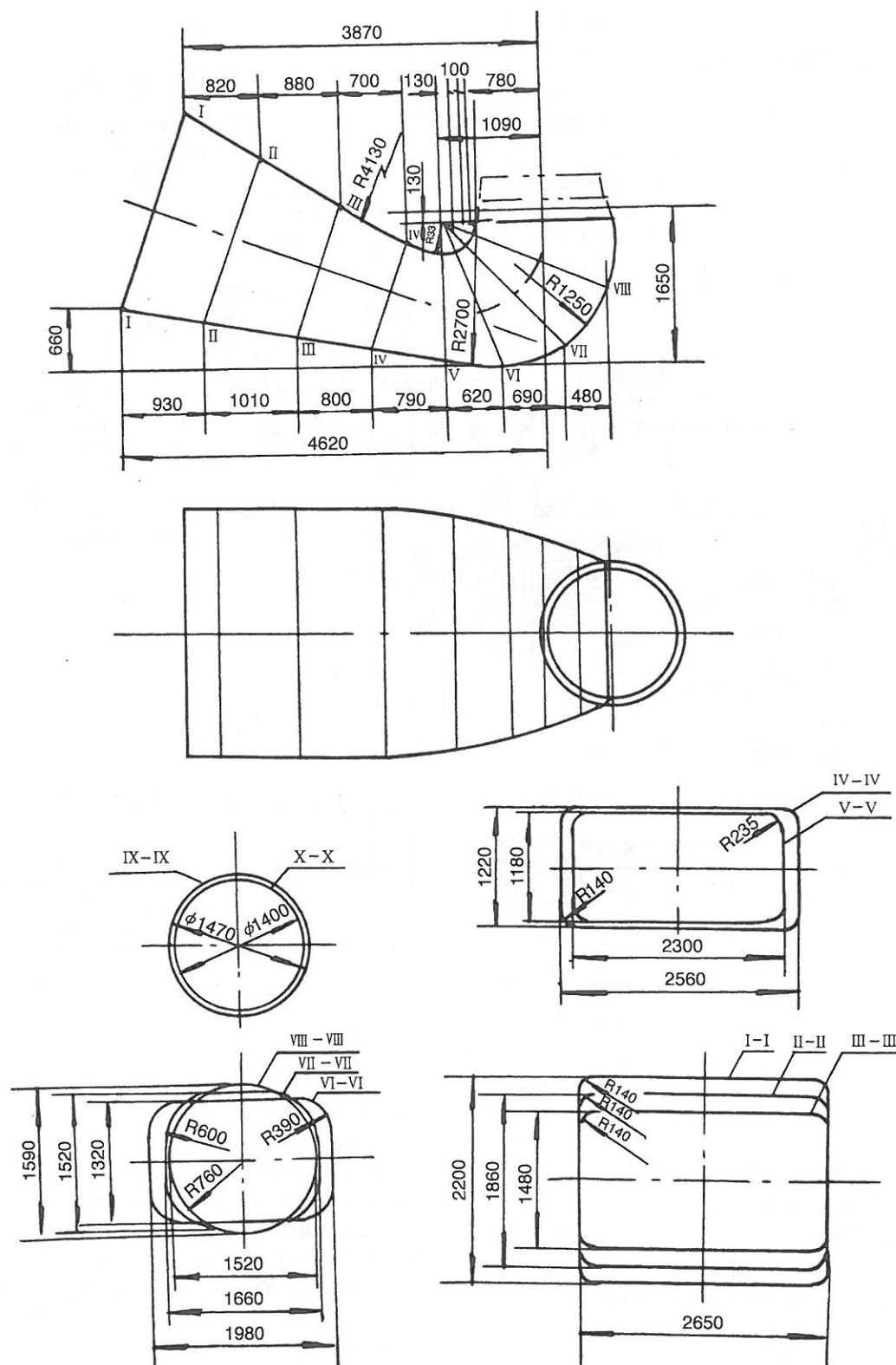
说明:

1. 泵重 9863 公斤, 电机重 8300 公斤。
2. 泵最大件重 4000 公斤。
3. 泵最长件为 5120 毫米。
4. 楼面承载 30000 公斤。
5. 楼面孔 "H" 的大小应能通过出水弯管, 弯管的平面尺寸为 2400 x 1600 (毫米)。
6. L = 6000 ~ 9300 毫米。

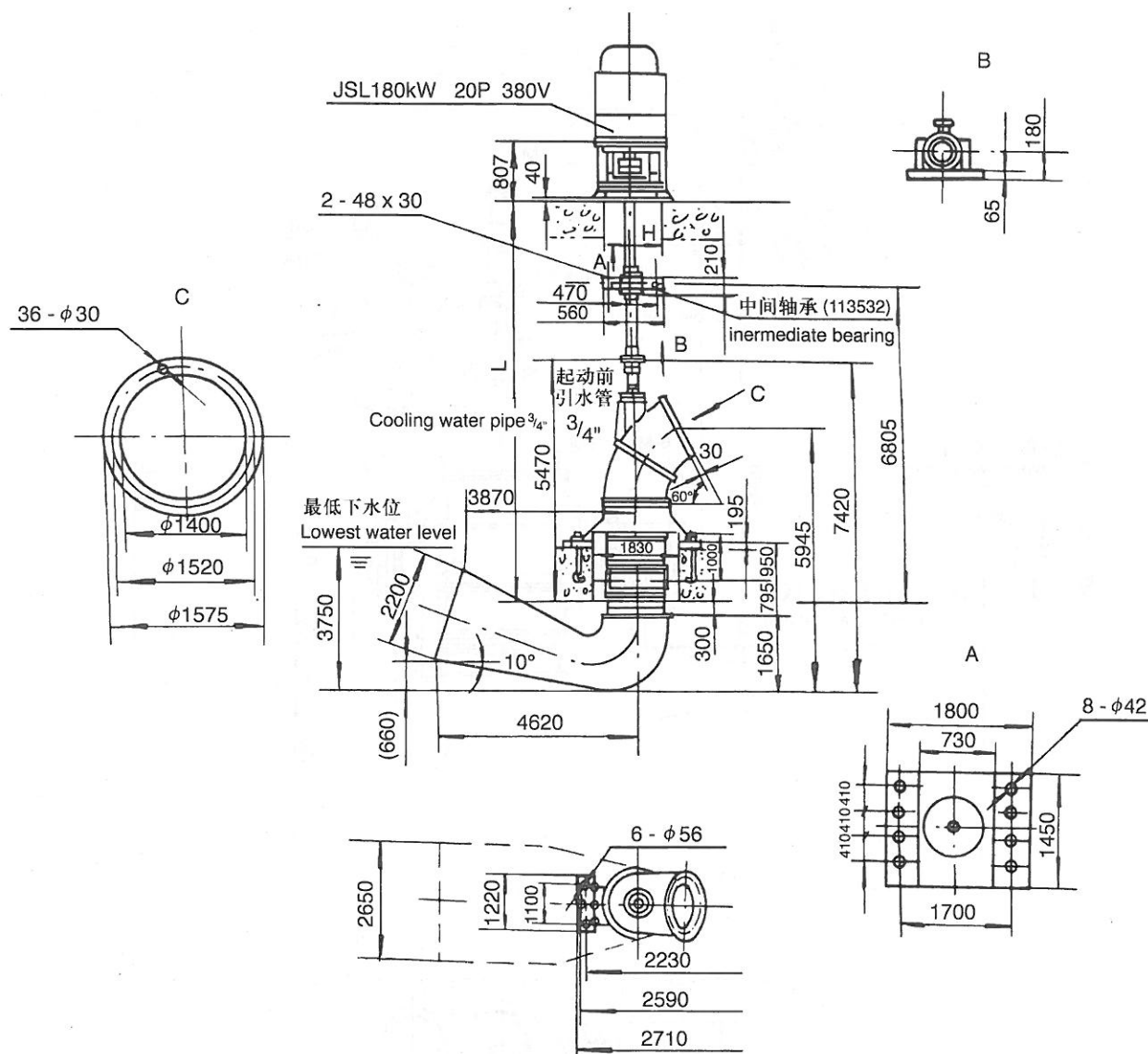
NOTES:

1. Gross weight of the pump is 9863 KG. Weight of the motor is 8300 KG.
2. Weight of the biggest part is 4000 KG.
3. Length of the longest part is 5120 mm.
4. Weight for the floor to load is 30000 KG.
5. The discharge elbow should pass the hole of size "H", the size of the discharge is 2400 mm 1600 mm as view from above.
6. L=6000~9300 mm.

56ZL^B_Q-70 型轴流泵进水流道图
PUMP INLET FLOW PASSAGE



56ZLB-100 I 型轴流泵安装外形尺寸
PUMP GENERAL ARRANGEMENT



说明:

1. 泵壳重 8000 公斤。
2. 泵最大件重 4000 公斤。
3. 泵最长件为 4920 毫米。
4. 楼面承载 12500 公斤(不包括电机重)。
5. 楼面孔 "H" 的大小为(1300 x 2400), 弯管的平面尺寸为 2400 x 1600 (毫米)。
6. $L = 6000 \sim 10000$ 毫米。
7. $L \geq 7600$ mm 时要加中间轴承。
8. 进水流道尺寸与 56ZL_Q^B-70 型轴流泵相同。

NOTES:

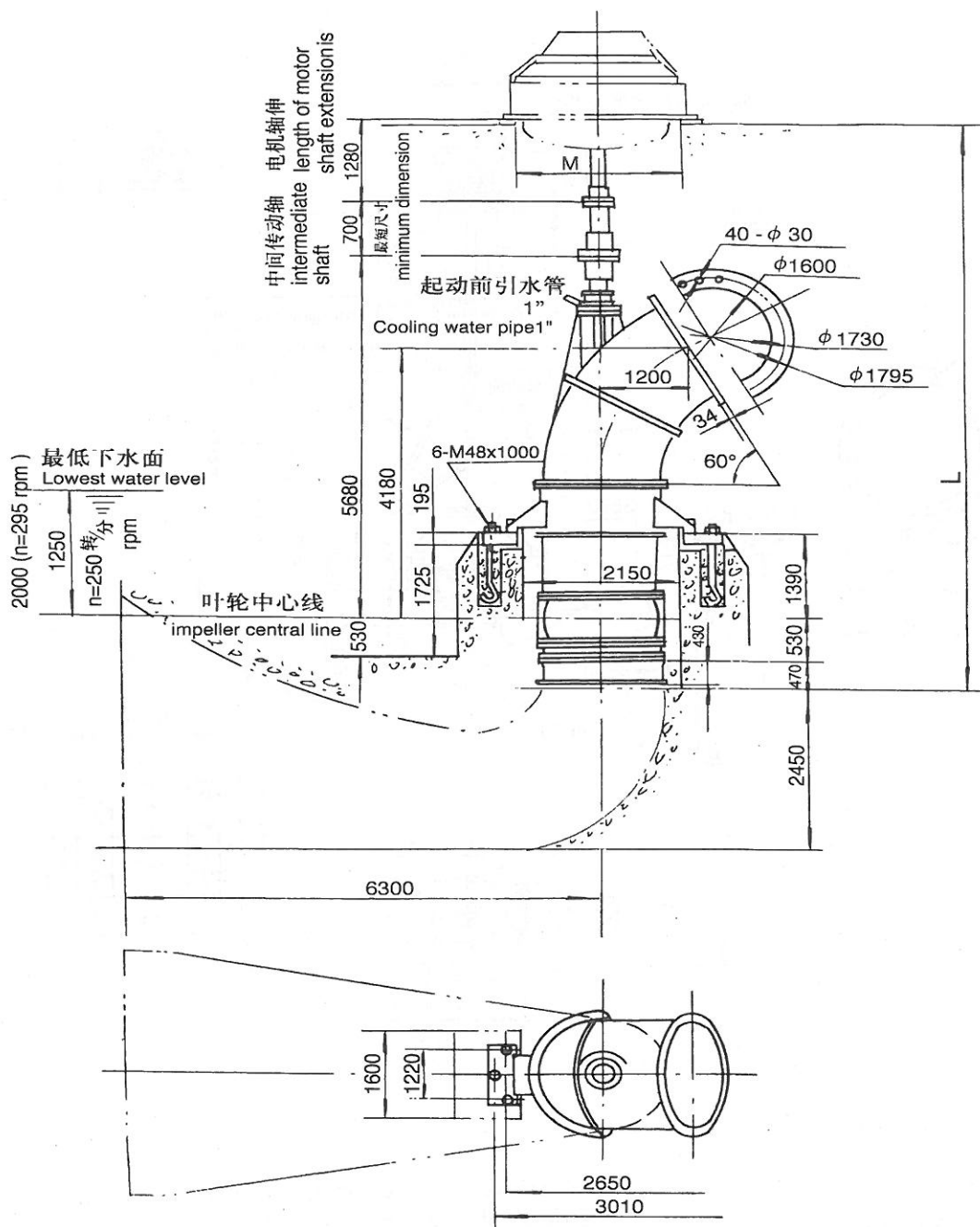
1. Gross weight of the pump is 8000 KG.
2. Weight of the biggest part is 4000 KG.
3. Length of the longest part is 4920 mm.
4. Weight for the floor to load is 12500 KG.(motor excluded)
5. The size of the hole of "H" is 1300 mm X 2400 mm, the size of the discharge elbow is 2400 mm X 1600 mm as view from above.
6. $L = 6000 \sim 10000$ mm.
7. If $L \geq 6200$ mm, intermediate bearing should be set up.
8. Inlet flow passage dimensions are the same as 56ZL_Q^B-70 pump.

64ZLB - 50

型轴流泵安装外形尺寸

1600ZLB7.3 - 3.4

PUMP GENERAL ARRANGEMENT



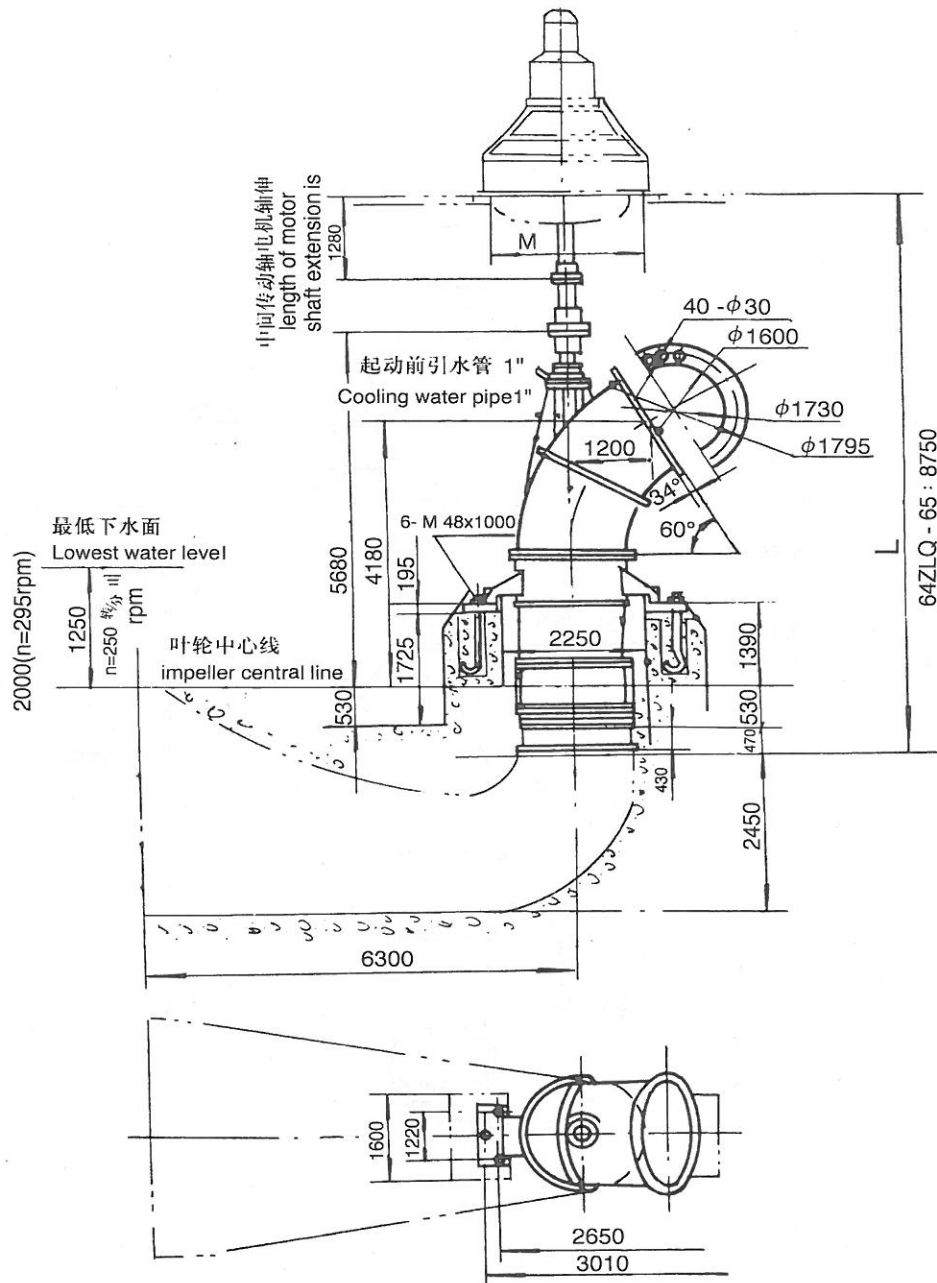
说明:

1. 泵重 15000 公斤。
2. 泵最大件重 3050 公斤。
3. 泵最长件为 5600 毫米。
4. 楼面承载 23000 公斤 (不包括电机重)。
5. 楼面孔 "M" 的大小应保证电机底座的安装, 又能通过出水弯管, 弯管的平面尺寸为 2600 x 1800 (毫米)。
6. L = 7960 ~ 9160 毫米。

NOTES:

1. Gross weight of the pump is 15000 KG.
2. Weight of the biggest part is 3050 KG.
3. Length of the longest part is 5600 mm.
4. Weight for the floor to load is 23000 KG. (motor excluded)
5. The discharge elbow should pass the hole of size "M", the size of the discharge elbow is 2600 mm X 1800mm as view from above.
6. L = 7960 ~ 9160 mm.

64ZLQ - 50 1600ZLQ7.6 - 6.5 型轴流泵安装外形尺寸
64ZLQ - 65 1600ZLQ7.3 - 3.4 PUMP GENERAL ARRANGEMENT



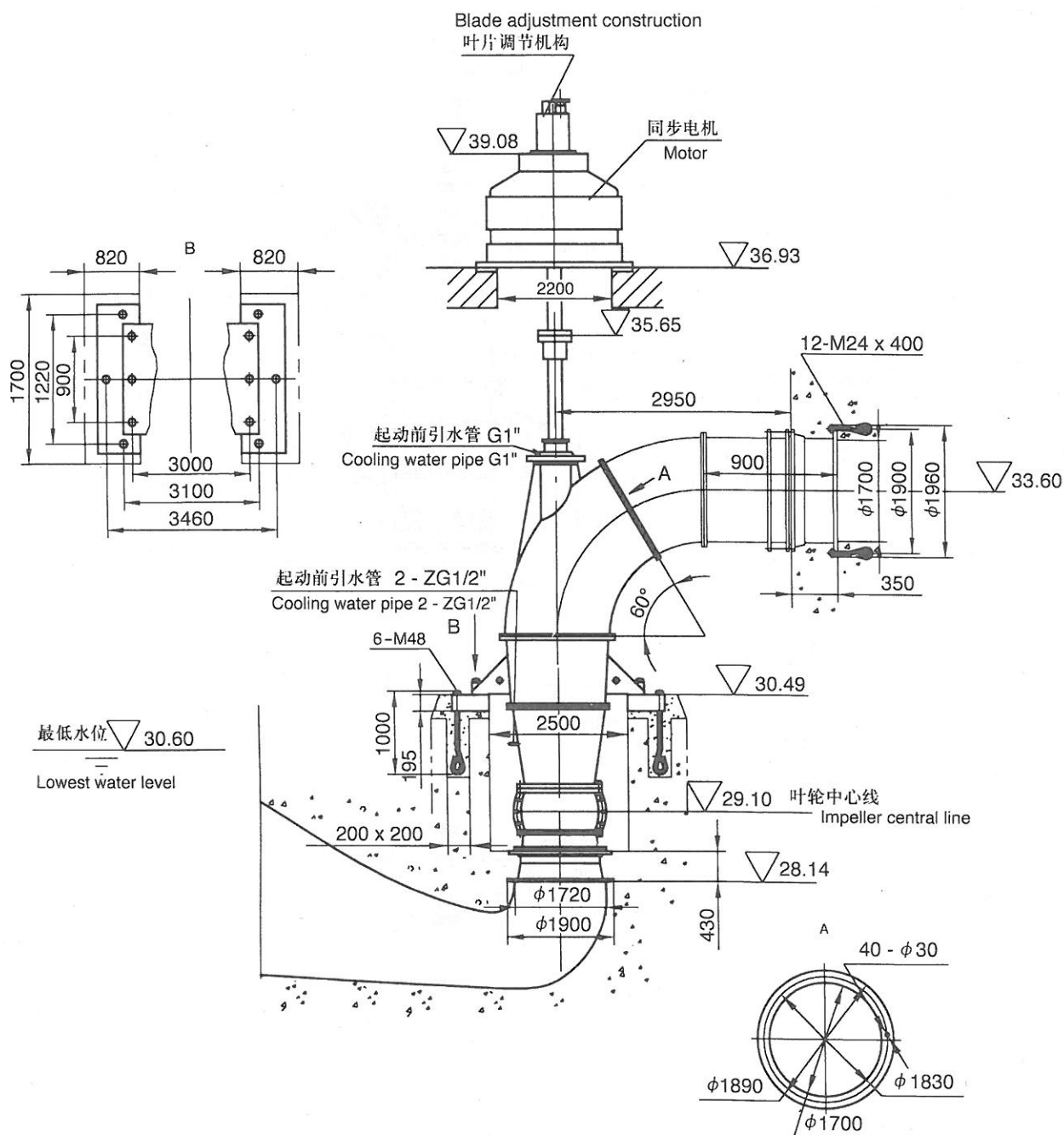
说明:

1. 泵重 14882 公斤。
2. 泵最大件重 3050 公斤。
3. 泵最长件为 5536 毫米。
4. 楼面承载 23000 公斤 (不包括电机重)。
5. 楼面孔 "M" 的大小应保证电机底座的安装, 又能通过出水弯管, 弯管的平面尺寸为 2600 x 1800 (毫米)。
6. L = 7960 ~ 9160 毫米。

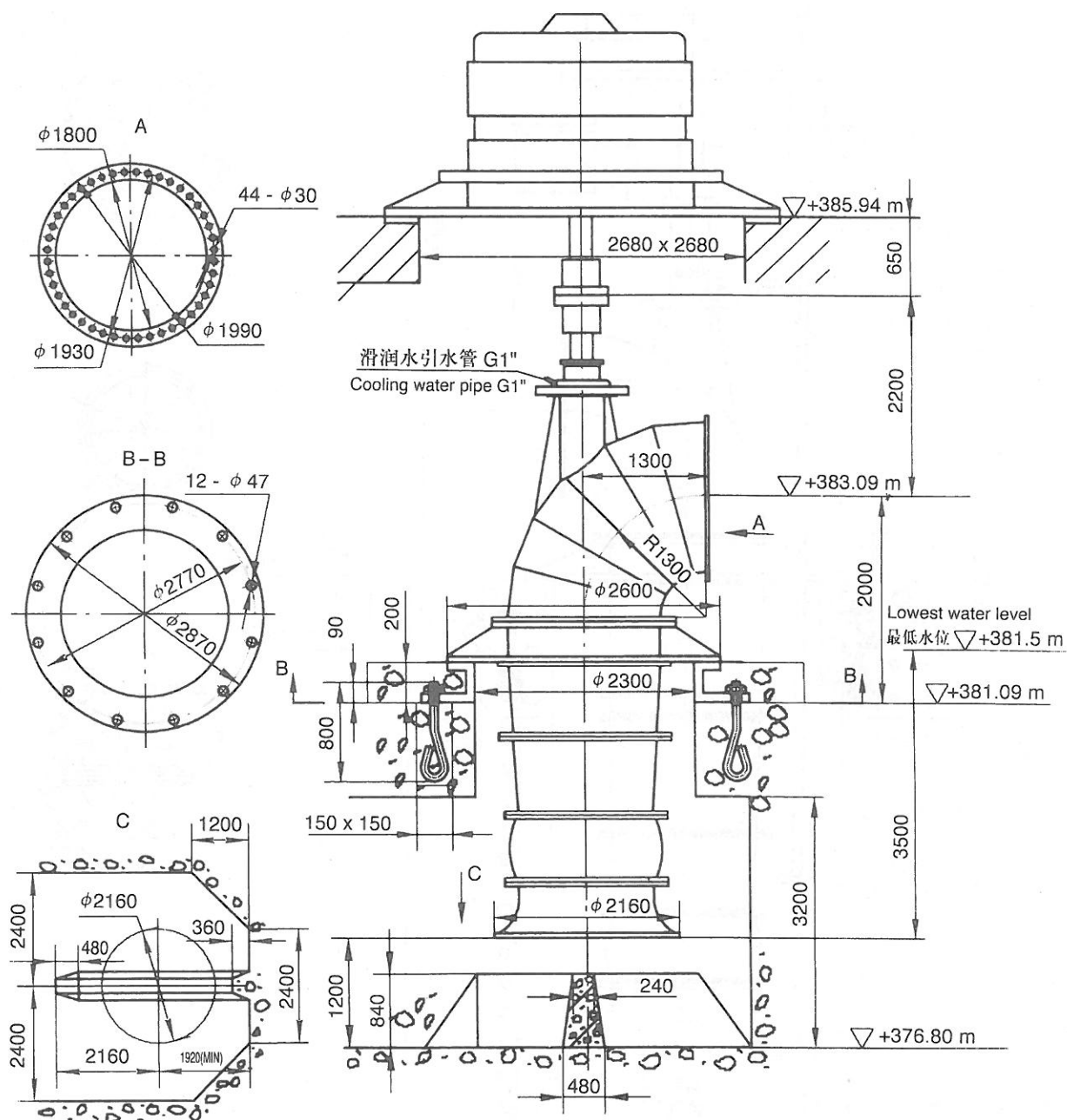
NOTES:

1. Gross weight of the pump is 14882 KG.
2. Weight of the largest part is 3050 KG.
3. Length of the longest part is 5536 mm.
4. Weight for the floor to load is 23000 KG. (Not including motor)
5. The discharge elbow should pass the hole of size "M", the size of the discharge elbow is 2600 mm x 1800mm as view from above.
6. L = 7960 ~ 9160 mm.

1700ZLQ 8-7 型轴流泵安装外形尺寸
PUMP GENERAL ARRANGEMENT



1800ZLB 8.2 - 6.2 型轴流泵安装外形尺寸图
PUMP GENERAL ARRANGEMENT

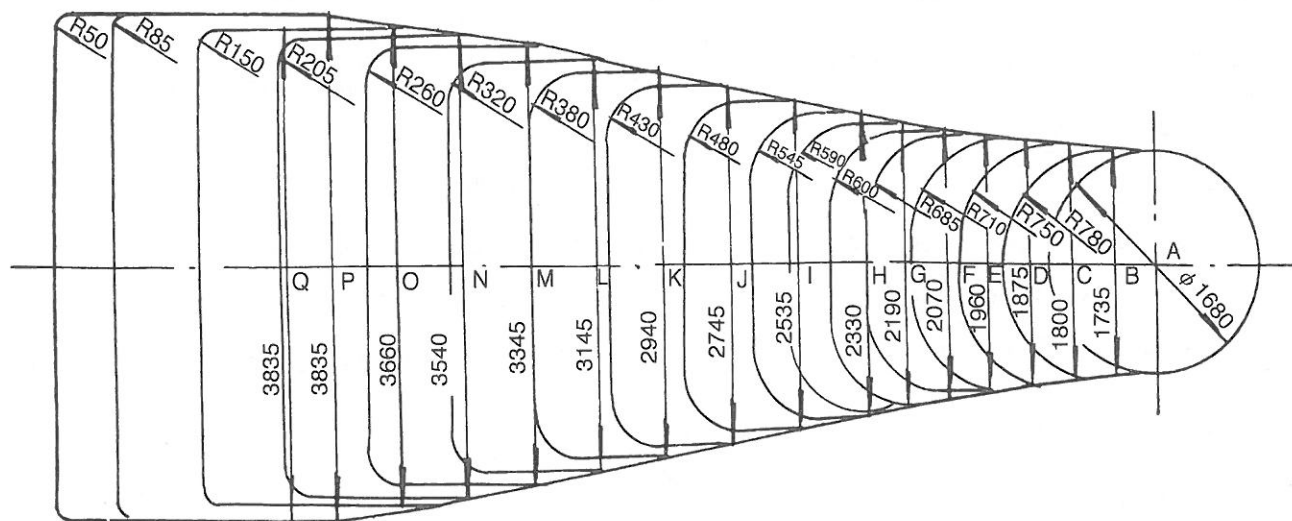
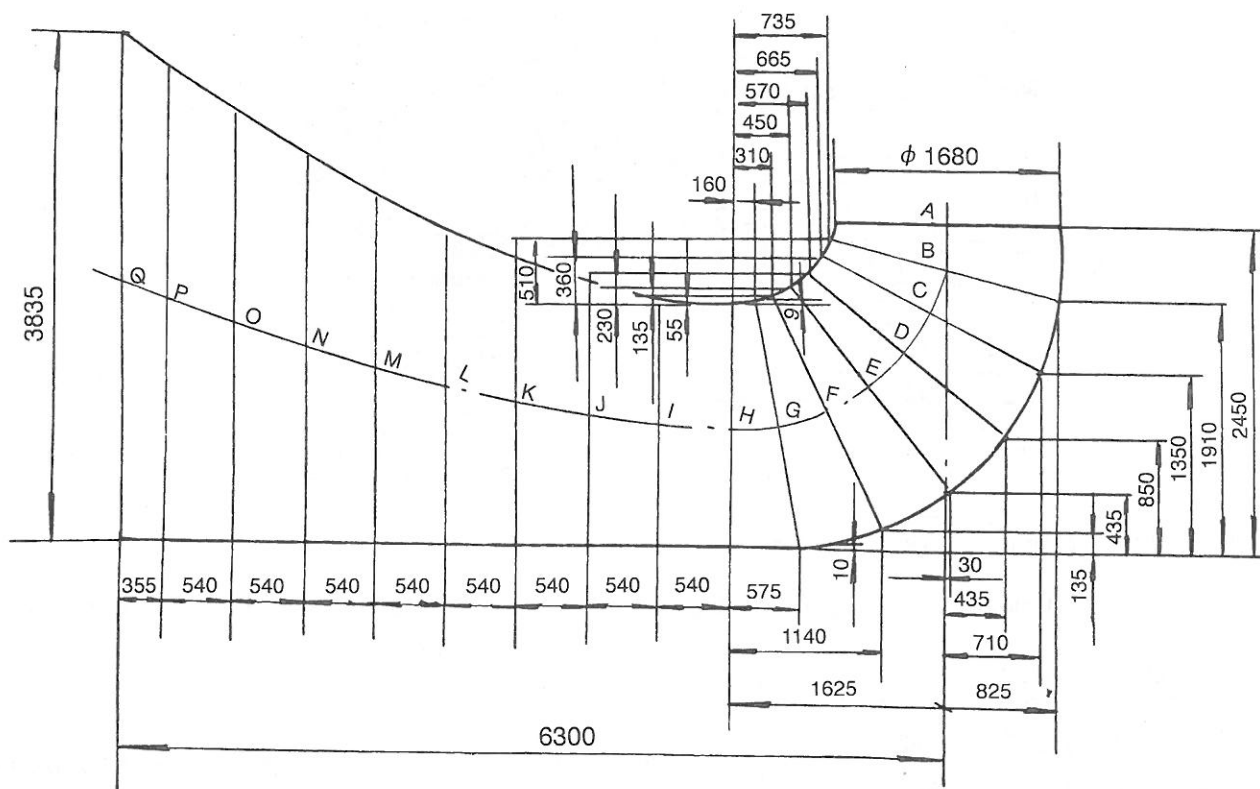


PUMP GENERAL ARRANGEMENT



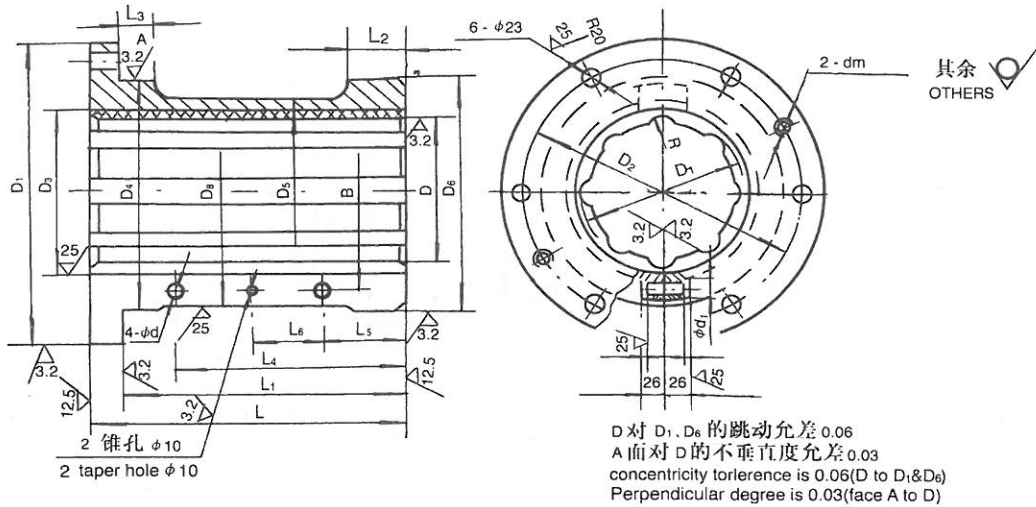
64ZL_Q^B-50 1600ZL_Q^B7.3-3.4 型轴流泵进水流道图

64ZLQ - 65 1600ZLQ 7.6 - 6.5 PUMP INLET FLOW PASSAGE



十、橡胶轴承尺寸

RUBBER BEARING DIMENSIONS

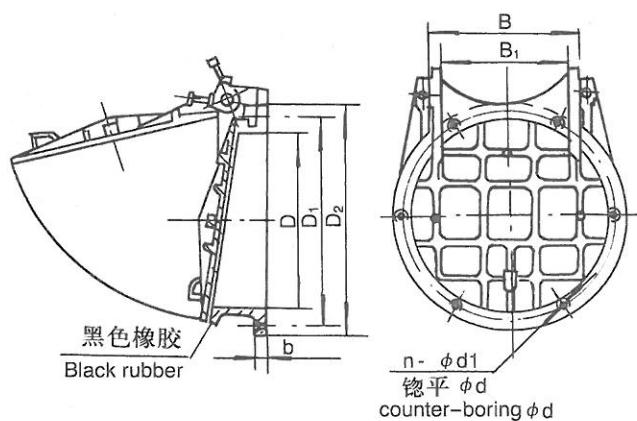


泵型号 / 轴承尺寸 Pump type / bearing dimensions	L	L ₁	L ₂	L ₃	L ₄	L ₅	L ₆	d	d ₁	dm
40ZL _Q ^B -50、1200ZLB3.9-5.5 (92)	310	275	45	40	150	65	30	φ 14	φ 30	M16
50ZLQ - 50 50ZLQ - 54 50ZLQ II - 50 50ZLQ - 54 II 50ZLQ III - 54 56ZL _Q ^B -70、64ZL _Q ^B -50 56ZLB-100 I 1400ZLB6.2-7、1250ZLDQ5.3-13.7 1600ZL _Q ^B 7.3-3.4、1600ZLQ7.6-6.5	415	380	80	50	170	120	85	φ 18	φ 30	M20

泵型号 / 轴承尺寸 Pump type / bearing dimensions	D ₁	D ₂	D ₃	D ₄	D ₅	D ₆	D ₇	D ₈	B	R
40ZL _Q ^B -50、1200ZLB3.9-5.5 (92)	-0.12 φ 370			-0.026 -0.060 φ 280		-0.026 -0.060 φ 280				φ R3
50ZLQ - 50 50ZLQ - 54 50ZLQ II - 50 50ZLQ - 54 II 50ZLQ III - 54 56ZL _Q ^B -70、64ZL _Q ^B -50 56ZLB-100 I 1400ZLB6.2-7、1250ZLDQ5.3-13.7 1600ZL _Q ^B 7.3-3.4、1600ZLQ7.6-6.5	-0.03 -0.07 φ 460			-0.026 -0.060 φ 360		-0.026 -0.060 φ 360			318	R30

室温(°C) / 轴承孔径 D 的加工公差 Temperature °C / process tolerance of the bearing hole diameter D	0 ~ 5	5 ~ 10	10 ~ 15	15 ~ 20	20 ~ 25	25 ~ 30	30 ~ 50
40ZL _Q ^B -50、1200ZLB3.9-5.5 (92)	+0.31 +0.24 φ 165	+0.26 +0.19 φ 165	+0.21 +0.14 φ 165	+0.16 +0.09 φ 165	+0.11 +0.04 φ 165	+0.063 φ 165	+0.063 φ 165
50ZLQ - 50 50ZLQ - 54 50ZLQ II - 50 50ZLQ - 54 II 50ZLQ III - 54 56ZL _Q ^B -70、64ZL _Q ^B -50 56ZLB-100 I 1400ZLB6.2-7、1250ZLDQ5.3-13.7 1600ZL _Q ^B 7.3-3.4、1600ZLQ7.6-6.5	+0.34 +0.25 φ 220	+0.29 +0.20 φ 220	+0.24 +0.15 φ 220	+0.19 +0.10 φ 220	+0.14 +0.05 φ 220	+0.09 φ 220	+0.09 φ 220

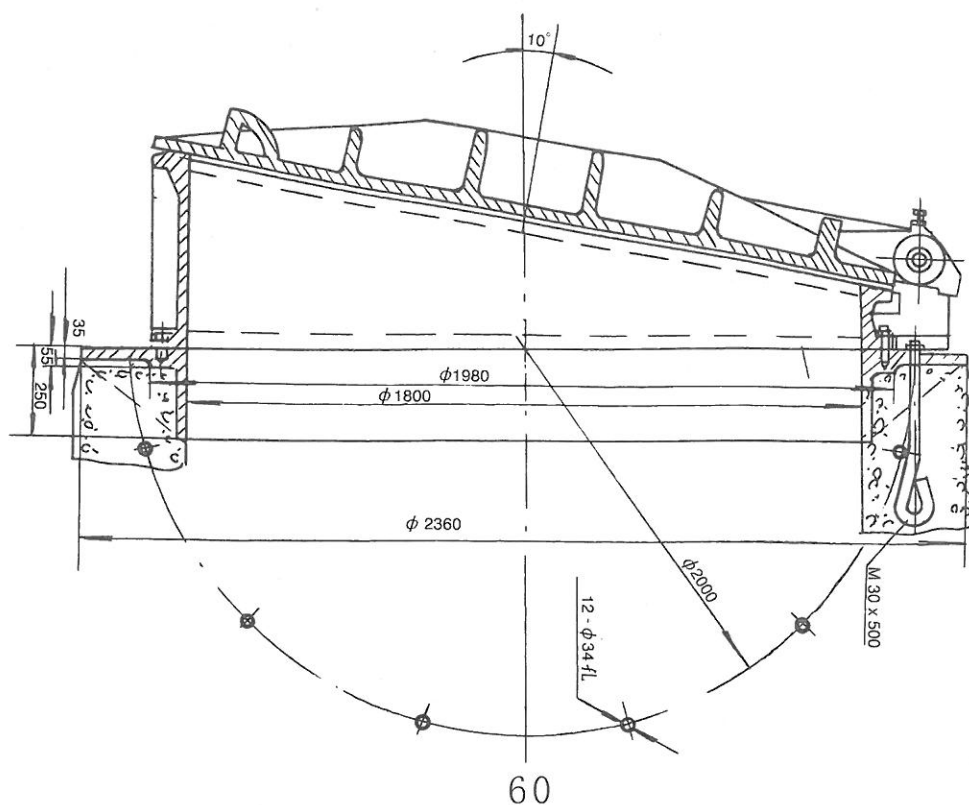
出水活门尺寸表
DISCHARGE FLAPPER DIMENSIONS



泵型号 Pump type	规格 specification	B	B ₁	D	D ₁	D ₂	b	n-φd ₁ 铰平 φd n-φdr-boring φd
40ZL _Q ^B -50	1200	560	400	1200	1320	1380	30	12-φ30-φ55
50ZL _{III} ^{II} -50, 50ZLQ- ⁵⁴ _{54 III} , 50ZLQ III-54 1200ZLB3.9-5.5 (92), 1250ZLDQ5.3-13.7	1400	560	290	1400	1520	1580	30	16-φ30-φ55
56ZL _Q ^B -70, 56ZLB-100 I, 1400ZLB6.2-7	1800	970	670	see 1800mm discharge flapper sectional drawing 详见 1800mm 活门结构图				
64ZL _Q ^B - ⁵⁰ ₆₅ , 1600ZL _Q ^B - ^{7.3-3.4} _{7.6-6.5}	1800	970	670	see 1800mm discharge flapper sectional drawing 详见 1800mm 活门结构图				

注：出水口径较大的泵，泵房设计可采用虹吸式出水及真空破坏阀

Note: The pump room designing for large size pump siphon outlet and vacuum brealer valve should be used.



Subject to technical modifications
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上海水泵制造有限公司

地址：上海市奉贤区青村镇光大路228号

电话：021-37595000 37595008
 021-64302191 37595033

传真：021-37595009

[Http:www.sh-pump.cn](http://www.sh-pump.cn)

E-mail:sh-pump@sh-pump.cn