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QGL 系列潜水贯流泵

QGL SERIES SUBMERSIBLE TUBULAR-TYPE AXIAL-FLOW PUMP

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产品简介 Production introduction

QGL系列潜水贯流泵是将潜水电机技术与贯流泵技术结合而产生的新型机电一体化产品，既保持了贯流泵本身的优点，又利用潜水电机技术，克服了传统贯流泵电机冷却、散热、密封等难题，荣获国家实用新型专利。

QGL series submersible tubular-type axial-flow pump is a brand-new electro machinery integrated product made up with the combination of both submersible motor know-how and tubular-type axial-flow know-how and it makes the advantages of the tubular-type axial-flow pump remained and, meanwhile by means of the submersible motor know-how, the difficulties on cooling, radiating, sealing etc. with the conventional tubular-type axial-flow pump overcome, awarded with the national utility model patent.

主要用途及特点 Purpose and feature

该泵工况适应于大流量、低扬程场合，主要用于雨水排水、工农业用水、水道增压，尤其适用于排涝与灌溉综合考虑的水利、防洪工程。

该产品具有以下特点：

1、进、出水扬程损失小，泵站装置效率高，在低扬程工况，装置效率可比轴流泵高出一倍以上。

2、相同工况下，电机功率配置小，运行费用较低。

3、水泵基础下无需设吸水槽，开挖量小。

4、泵管直径小，适宜取消上部高大厂房，也可以不建厂房，用汽车吊装来取代固定式行车。

5、节省开挖量、土木工程费、建筑工程费，减少安装面积，节约泵站工程总造价30～40%。

6、整体吊装，安装方便。

The working conditions of this pump are suitable for the occasion of a big flow and a low head, covering rain-water drain-out, water for industrial and agricultural use, water course boost, especially suitable for the hydraulic and flood-control works with both water-logging drain-out and irrigation into complex consideration.

It features:

1. Small loss of the head with both inlet and outlet water, high efficiency with the pump unit, higher by over one time than that of the axial-flow pump in the low head.

2. In the same working conditions, smaller motor's power arrangement and lower running cost.

3. There is no need to set a water-sucking channel under the pump foundation and a small space of excavation.

4. The pump pipe holds a small diameter, so it is possible to abolish a high factory building for the upper part or to set up no factory building and use a car lifting to replace the a fixed crane.

5. Save the excavating work and the cost for the civil and construction works, reduce the installation area and save the total cost for the pump station works by 30~40%.

6. Integrated lifting, easy installation.

型号说明 About the model

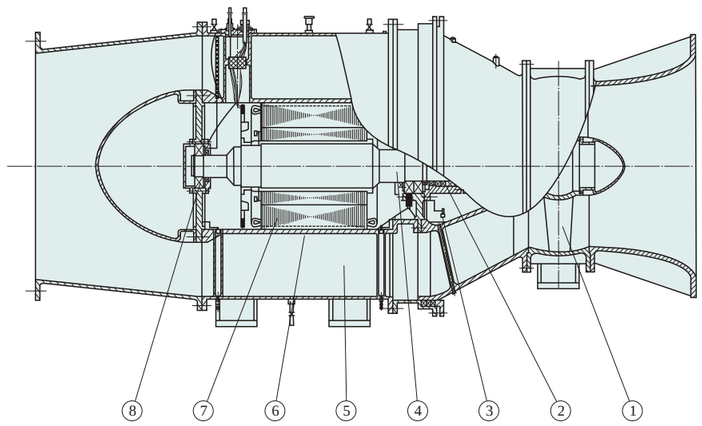
900 QGL — 100 G (D)

- (D) 比转数、名义排出口径相同，较低一档转速 Same specific speed and nominal drain-out aperture, one shift lower rotary speed
- G 比转数、名义排出口径相同，较高一档转速 Same specific speed and nominal drain-out aperture, one shift higher rotary speed
- 100 比转数的1/10 1/10 of the specific speed
- QGL 潜水贯流泵 Submersible tubular-type axial-flow pump
- 900 名义排出口径(相当于ZLB轴流泵) (mm) Nominal drain-out aperture (equivalent to ZLB axial-flow pump)(mm)

结构说明 About the structure

潜水贯流泵为卧式结构，从电泵进口看，叶轮逆时针方向旋转。

Horizontal structure, the impeller moves counter-clockwise viewing from the pump inlet.



QGL系列潜水贯流泵结构图

Structural diagram of QGL submersible tubular-type axial-flow pump

1、叶轮

叶轮采用目前最先进的水力模型换算所得，性能优良、稳定、成熟。选择较小的nD值，抗汽蚀性能好，确保运行平稳。

2、轴密封

较小的产品采用两套独立的机械密封，较大的产品采用层状剪切填料密封，以不同的密封形式适应不同的结构安排，确保密封可靠。

3、监测装置

潜水贯流泵装有多道保护装置，可把引线引至电控箱。保护装置有：过载、缺相、泄漏、超温、湿度、浸水保护等(视泵的结构不同而有差别)。

4、泵/电机轴

泵与电机同轴，结构紧凑，轴伸尽量缩短，并提高刚度，从设计上将挠度控制在允许范围内，运行时振动小，密封和轴承寿命更长。

5、过水流道

采用CFD与实验方法结合，确定流线形状，保证运行高效。

6、冷却

电机外壳直接将热量传到周围介质中，热量被周围的水流带走。大功率高电压电机，采用内风道散热专利技术，使得三相绕组温升低、温度场分布均匀。

7、电机

高性能鼠笼式感应电机，特别为潜水泵设计制造符合GB755标准。绝缘等级F级，最高工作温度可达155℃。随功率不同，可采用380V、660V、6kV、10kV等电压等级，对高电压电机采用两次VPI绝缘工艺，确保绝缘可靠。

8、轴承

针对卧式结构，采用大型通用结构有限元分析软件MSC/NASTRAN对转动部件进行动态分析，研究其挠度、振动、内部应力、支承反力、固有频率，在此基础上进行结构设计、轴承布置、轴承选型。

轴承采用滚动轴承，能够承受所有的轴向和径向负荷，并完全与泵输送的介质分开。

1. Impeller

The impeller is made up with the most advanced hydraulic model by way of conversion and features an excellent, stable and ripe performance and, due to a smaller nD value selected for it, a good anti-steam erosion property, ensuring a stable running.

2. Shaft seal

Smaller products use two sets of independent mechanical seal and bigger ones use a layer-shape cut packing seal, meeting the different structural arrangements with different seal types so as to ensure a reliable sealing.

3. Monitor

The submersible tubular-type axial-flow pump holds multiple protectors, with the lead-wires able to be led to the electric control box, and they are: overload, lack-of-phase, leak, over-temperature, humidity, water-immersion etc. protections (a little bit different upon different structures of pumps).

4. Pump/motor shaft

Both pump and motor use one shaft, with a compact structure, possibly shortened shaft extension and enhanced rigidity. It is so designed as to have the deflection controlled within the allowed range, leaving a small vibration at running and a longer life of both seal and bearing.

5. Water flowing geat

Use the combination of both CFD and experimental method to decide the fluxline shape so as to make sure of a high effective running.

6. Cooling

The motor shell transmits the heat directly to the media around it and the heat is brought away by the water flow around. A heavy power high voltage motor uses the patented know-how of internal wind-way radiation so as to result in a low temperature rise with the three-phase winding and an uniformly distributed temperature field.

7. Motor

A high performance squirrel motor, specially designed and made for a submersible pump, conforming GB755. Of a dielectric grade F and a maximum working temperature up to 155℃. Upon different powers, 380V, 660V, 6KV, 10KV etc. voltage grades are usable and use of the twice VPI dielectric technology makes sure of a reliable insulation.

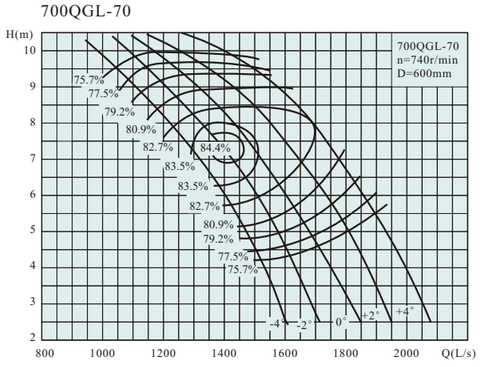
8. Bearing

Upon a horizontal structure, use the large-scale universal structure finite-element analyzing software MSC/NASTRAN to carry out dynamic analysis on the rotating parts and study their deflection, vibration, reversed force of support and inherent frequency and then on this basis to design the structure, arrange the bearings and select the models of them.

The bearing is a rolling bearing and can bear all axial and radial loads and be separated completely from the medium the pump is transporting.

性能曲线与参数 Performance curve and data

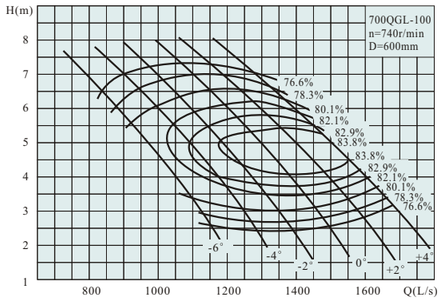
700QGL-70



700QGL-70

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(m^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-4°	4376.2 4988.5 5344.2	1215.6 1385.7 1484.5	8.44 6.61 5.24	740	124.3 106.8 94.3	160	80.9 84 80.9	600
-2°	4523.9 5207.5 5660.3	1256.6 1446.5 1572.3	8.75 7.06 5.42		133.3 118.4 103.3		80.9 84.7 80.9	
0°	4867.2 5451.5 5940.2	1352 1514.3 1650	8.97 7.33 5.76		147 129.9 115.2		80.9 83.3 80.9	
+2°	5236.7 5833.6 6275.6	1454.6 1620.4 1743.2	9.05 7.49 6.42		159.6 142.9 135.6	185	80.9 83.3 80.9	
+4°	5784.8 6104.1 6430.1	1606.9 1695.6 1786.1	9.04 7.94 7.14		176.1 159.7 154.5	200	80.9 82.7 80.9	

700QGL-100

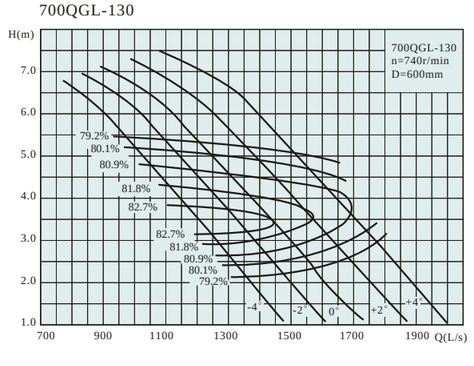


700QGL-100

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(m^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-6°	3373 3674.5 3959.6	937 1020.7 1099.9	5.48 4.2 3.39	740	62.9 51.4 45.6	75	80.1 81.8 80.1	600
-4°	3580.9 4115.4 4494.2	994.7 1143.2 1248.4	6.07 4.27 3.03		74 57.9 46.4	90	80.1 82.7 80.1	
-2°	3832.9 4482.9 4892.1	1064.7 1245.2 1358.9	6.37 4.38 3.06		83 64.2 51		80.1 83.3 80.1	
0°	4106.6 4850.3 5243.3	1140.7 1347.3 1456.5	6.514 4.39 3.1		91 69.4 55.4	110	80.1 83.5 80.1	
+2°	4483.8 5144.3 5553	1245.5 1429 1542.5	6.54 4.62 3.35		99.8 77.1 63.4		80.1 84 80.1	
+4°	4900.9 5511.7 5847.1	1361.4 1531 1624.2	6.31 4.64 3.67		105.3 83.2 73	132	80.1 83.7 80.1	

性能曲线与参数 Performance curve and data

700QGL-130



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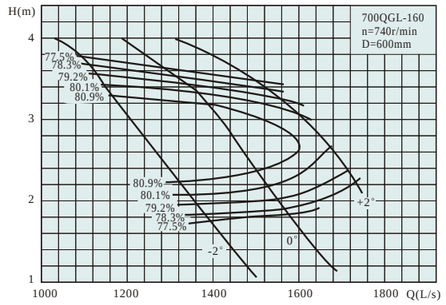
叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(M^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-4°	3529.1 4559.3 4886.6	980.3 1266.5 1357.4	5.44 3 2.61	740	66 44.7 36.3	75	79.2 83.4 79.2	600
-2°	3936.7 4901.8 5308.3	1093.5 1361.6 1474.5	5.39 3.21 0.28		73 51.6 41.7	90	79.2 83.1 79.2	
0°	4346.8 5226.6 5676.3	1207.4 1451.8 1576.8	5.33 3.39 2.33		79.8 58.3 45.6		79.2 82.7 79.2	
+2°	4947 5630.8 6062.5	1374.2 1564.1 1684	5.04 3.51 2.57		85.8 65.7 53.7	110	79.2 82 79.2	
+4°	5448.1 6027.6 6383.8	1513.4 1674.3 1773.3	5.07 3.7 2.97		95.1 74.7 65.2		79.2 81.4 79.2	

700QGL-160



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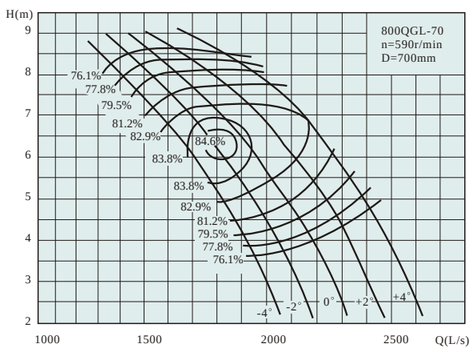
叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(M^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-2°	3990.2 4556.4 4977.3	1108.4 1265.7 1382.6	3.68 2.59 1.83	740	51.1 39.2 31.8	55	78.3 82.2 78.3	600
0°	4713.3 5291.3 5625.3	1309.3 1469.8 1562.6	3.52 2.6 1.9		57.7 46.2 37.1	75	78.3 81.4 78.3	
+2°	5474 5908.6 6233.5	1520.5 1641.3 1731.5	3.37 2.81 2.19		64.1 56.6 47.4		78.3 80.1 78.3	

性能曲线与参数 Performance curve and data

800QGL-70



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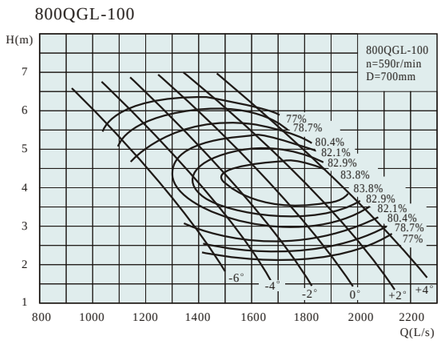
叶片安装角度 Angle	流量 Q (m^3/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-4°	5540.6 6315.8 6766.1	1539 1754.4 1879.5	7.3 5.71 4.53	590	135.7 116.7 102.9	160	81.2 84.3 81.2	700
-2°	5727.6 6593.1 7166.4	1591 1831.4 1990.7	7.57 6.11 4.69		145.5 129.3 112.7		81.2 84.9 81.2	
0°	6162.3 6902 7520.7	1711.7 1917.2 2089.1	7.76 6.35 4.98		160.4 141.9 125.8	185	81.2 84.1 81.2	
+2°	6630.1 7385.8 7945.4	1841.7 2051.6 2207	7.83 6.48 5.55		174.2 156 148	200	81.2 83.6 81.2	
+4°	7324 7728.2 8140.9	2034.5 2146.7 2261.4	7.82 6.87 6.17		192.2 174.3 168.6	220	81.2 83 81.2	

800QGL-100



800QGL-100

叶片安装角度 Angle	流量 Q (m^3/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-6°	4270.5 4652.2 5013.2	1186.3 1192.3 1392.6	4.74 3.63 2.93	590	68.6 56.1 49.8	75	80.4 82.1 80.4	700
-4°	4533.6 5210.4 5690	1259.3 1447.3 1580.6	5.26 3.7 2.62		80.8 63.2 50.6	90	80.4 83 80.4	
-2°	4852.8 5675.7 6193.7	1348 1576.6 1720.5	5.51 3.79 2.65		90.6 70.1 55.6	110	80.4 83.5 80.4	
0°	5199.3 6140.9 6638.5	1444.2 1705.8 1844	5.63 3.79 2.69		99.3 75.8 60.5		80.4 83.8 80.4	
+2°	5676.8 6513.1 7030.6	1576.9 1809.2 1592.9	5.66 3.99 2.9		108.9 84.2 69.2	132	80.4 84.2 80.4	
+4°	6204.9 6978.3 7402.9	1723.6 1938.4 2056.4	5.46 4.01 3.17		114.9 90.8 79.6		80.4 84 80.4	

性能曲线与参数 Performance curve and data

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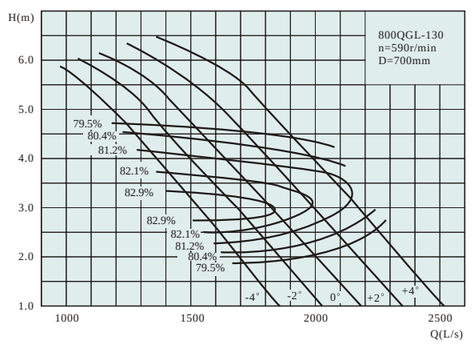

800QGL-130

叶片安装角度 Angle	流量 Q (M^3/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-4°	4468.1 5772.4 6186.8	1241.2 1603.5 1718.6	4.71 2.6 1.87	590	72 48.8 39.6	90	79.5 83.6 79.5	700
-2°	4984.2 6206 6720.7	1384.5 1723.9 1866.9	4.66 2.78 1.97		79.6 56.3 45.5		79.5 83.3 79.5	
0°	5503.3 6617.3 7186.7	1528.7 1838.1 1996.3	4.62 2.93 2.02		87 63.6 49.7	110	79.5 83 79.5	
+2°	6263.3 7129 7675.5	1739.8 1980.3 2132.1	4.36 3.04 2.23		93.6 71.4 58.6		79.5 82.3 79.5	
+4°	6897.7 7631.4 8082.3	1916 2119.8 2245.1	4.39 3.2 2.57		103.8 81.5 71.1	132	79.5 81.7 79.5	

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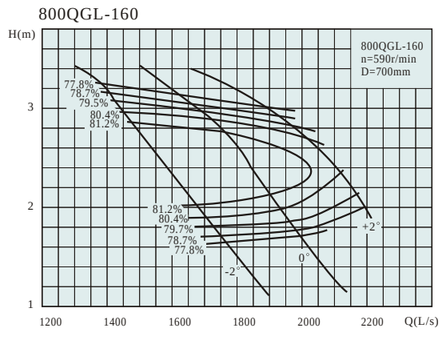

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叶片安装角度 Angle	流量 Q (M^3/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-2°	5051.9 5768.7 6301.7	1403.3 1602.4 1750.5	3.18 2.24 1.59	590	55.7 42.8 34.6	75	78.7 82.5 78.7	700
0°	5967.4 6699.1 7122.1	1657.6 1860.9 1978.4	3.05 2.25 1.64		63 50.4 40.5		78.7 81.7 78.7	
+2°	6930.5 7480.7 7892.2	1925.1 2078 2192.3	2.91 2.43 1.89		69.9 61.7 51.7		78.7 80.4 78.7	

性能曲线与参数 Performance curve and data

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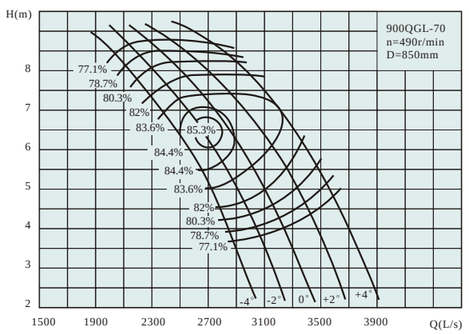
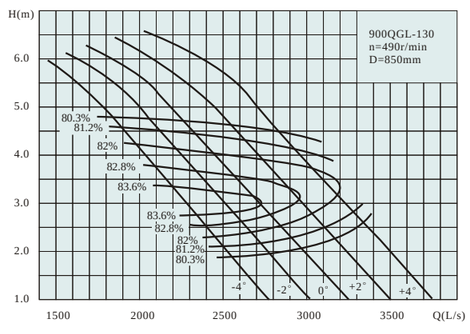


900QGL-70

叶片安装角度 Angle	流量 Q (m³/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-4°	8238.7	2288.5	7.43	490	203.4	220	82	850
	9391.5	2608.8	5.81		175.2		84.9	
	10061.1	2794.8	4.61		154.2		82	
-2°	8516.8	2365.8	7.7		281	250	82	
	9803.8	2723.3	6.22		194.2		85.5	
	10656.3	2960.1	4.77		168.9		82	
0°	9163.2	2545.3	7.89		240.4	280	82	
	10263.1	2850.9	6.45		213		84.8	
	11183.2	3106.4	5.07		188.5		82	
+2°	9858.9	2738.6	7.97		261.1		82	
	10982.6	3050.7	6.59		234.1		84.3	
	11814.7	3281.8	5.65		221.8		82	
+4°	10890.7	3025.2	7.96		288.1	315	82	
	11491.7	3192.1	6.99		261.5		83.7	
	12105.5	3362.6	6.28		252.7		82	

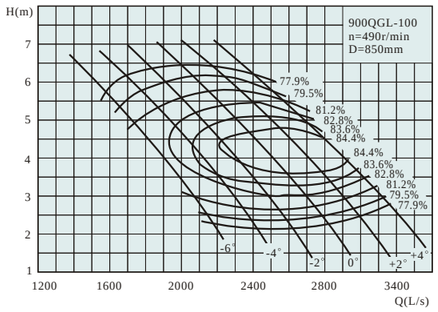
900QGL-130



900QGL-130

叶片安装角度 Angle	流量 Q (M³/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-4°	6644.1	1845.6	4.79	490	107.8	132	80.3	850
	8583.5	2384.3	2.64		73.3		84.3	
	9199.8	2555.5	1.9		59.2		80.3	
-2°	7411.4	2058.7	4.74		119.1		80.3	
	9228.3	2563.4	2.82		84.5		84	
	9993.6	2776	2.01		68.1		80.3	
0°	8183.4	2273.2	4.69		130.3	160	80.3	
	9839.8	2733.3	2.98		59.5		83.7	
	10686.5	2968.5	2.05		74.4		80.3	
+2°	9313.5	2587.1	4.44		140.2		80.3	
	10600.7	2944.6	3.09		107.5		83.0	
	11413.4	3170.4	2.26		87.7		80.3	
+4°	10256.8	2849.1	4.46		155.3	185	80.3	
	11347.8	3152.2	3.25		122.2		82.4	
	12018.3	3338.4	2.61		106.5		80.3	

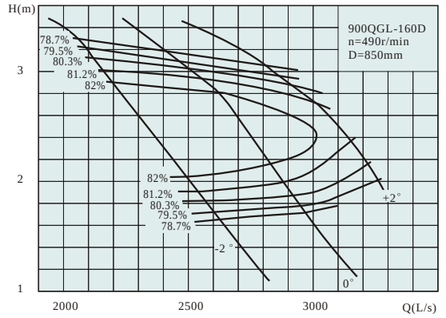
900QGL-100



900QGL-100

叶片安装角度 Angle	流量 Q (m³/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-6°	6350.2	1763.9	4.82	490	102.8	132	81.2	850
	6917.7	1921.6	3.69		84.1		82.8	
	7454.5	2070.7	2.98		74.6		81.2	
-4°	6741.5	1872.6	5.34		121		81.2	
	7747.9	2152.2	3.76		94.8		83.7	
	8460.2	2350.3	2.67		75.8		81.2	
-2°	7216	2004.5	5.6		135.7	160	81.2	
	8439.6	2344.3	3.85		105.2		84.2	
	9210	2558.3	2.7		83.3		81.2	
0°	7731.3	2147.6	5.73		148.7		81.2	
	9131.4	2536.5	3.86		113.7		84.4	
	9871.3	2742	2.73		90.5		81.2	
+2°	8441.3	2344.8	5.76		163.2	185	81.2	
	9684.8	2690.2	4.06		126.3		84.8	
	10454.3	2904	2.95		103.6		81.2	
+4°	9226.6	2562.9	5.56		172.1		81.2	
	10376.6	2882.4	4.08		136.3		84.6	
	11008	3057.8	3.23		119.3		81.2	

900QGL-160D

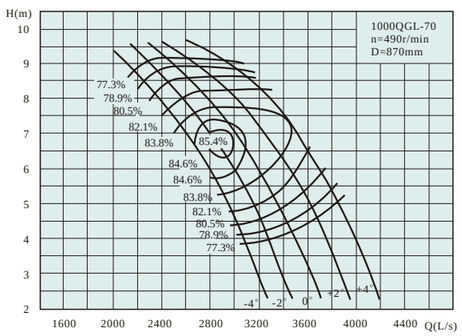


900QGL-160

叶片安装角度 Angle	流量 Q (M³/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-2°	7512.1	2086.7	3.24	490	83.3	90	79.5	850
	5878	2382.8	2.28		64.1		83.2	
	9370.5	2602.9	1.61		51.8		79.5	
0°	8873.5	2464.9	3.1		94.2	110	79.5	
	9961.5	2767.1	2.29		75.5		82.4	
	10590.5	2941.8	1.67		60.5		79.5	
+2°	10305.5	2862.6	2.96		104.6	132	79.5	
	11123.7	3089.9	2.48		92.4		81.2	
	11735.5	3259.9	1.93		77.4		79.5	

性能曲线与参数 Performance curve and data

1000QGL-70

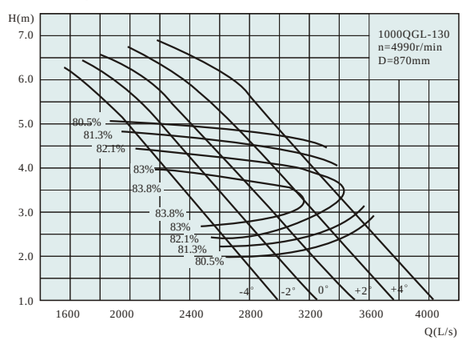


1000QGL-70

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(m^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-4°	8834.1	2453.9	7.78	490	228	250	82.1	870
	10070.2	2797.3	6.09		196.4		85.1	
	10788.2	2996.7	4.83		172.9		82.1	
-2°	9132.3	2536.7	8.07		244.4	280	82.1	
	10512.3	2920.1	6.51		217.8		85.6	
	11426.4	3174	4.99		189.3		82.1	
0°	9825.4	2729.3	8.27		269.5	315	82.1	
	11004.8	3056.9	6.27		238.8		84.9	
	11991.3	3330.9	5.31		211.3		82.1	
+2°	10571.3	2936.5	8.35		292.7		82.1	
	11776.2	3271.2	6.91		262.5		84.4	
	12668.4	3519	5.92		248.6		82.1	
+4°	11677.7	3243.8	8.34		322.9	355	82.1	
	12322.1	3422.8	7.32		293.2		83.8	
	12980.2	3605.6	6.58		283.3		82.1	

性能曲线与参数 Performance curve and data

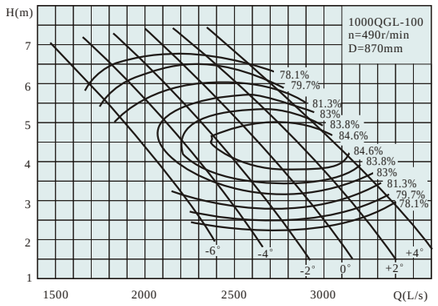
1000QGL-130



1000QGL-130

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(M^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-4°	7124.2	1978.9	5.01	490	120.9	132	80.5	870
	9203.8	2556.6	2.77		82.2		84.4	
	9864.5	2740.2	1.99		66.4		80.5	
-2°	7946.9	2207.5	4.97		133.5	160	80.5	
	9895.1	2748.6	2.96		94.8		84.2	
	10715.8	2976.6	2.1		76.3		80.5	
0°	8774.7	2437.4	4.92		146		80.5	
	10550.8	2930.8	3.12		107		83.8	
	11458.7	3183	2.15		83.4		80.5	
+2°	9986.5	2774	4.65		157.1	185	80.5	
	11366.8	3157.4	3.24		120.5		83.2	
	12238.2	3399.5	2.37		98.2		80.5	
+4°	10998	3055	4.68		174.1	200	80.5	
	12167.9	3380	3.41		137		82.5	
	12886.8	3579.7	2.74		119.4		80.5	

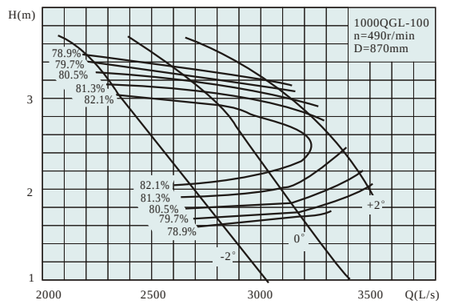
1000QGL-100



1000QGL-100

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(m^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-6°	6809.1	1891.4	5.05	490	115.2	132	81.3	870
	7417.6	2060.4	3.87		94.3		83	
	7993.2	2220.3	3.12		83.6		81.3	
-4°	7228.6	2007.9	5.6		135.6	160	81.3	
	8307.7	2307.7	3.94		106.3		83.9	
	9072.3	2520.1	2.79		84.9		81.3	
-2°	7737.5	2149.3	5.87		152.1	185	81.3	
	9049.5	2513.7	4.03		117.9		84.3	
	9875.5	2743.2	2.82		93.4		81.3	
0°	8289.9	2302.8	6		166.7		81.3	
	9791.3	2719.8	4.04		127.5		84.6	
	10584.6	2440.2	2.86		101.5		81.3	
+2°	9051.3	2514.2	6.03		182.9	200	81.3	
	10384.7	2884.6	4.25		141.7		85	
	11209.8	3113.8	3.09		116.1		81.3	
+4°	9893.3	2748.1	5.82		192.9	220	81.3	
	11126.4	3090.7	4.27		152.9		84.7	
	11803.5	3278.8	3.38		133.7		81.3	

1000QGL-160

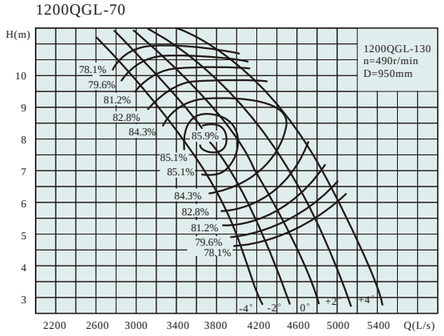


1000QGL-160

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(M^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-2°	8054.9	2237.5	3.39	490	93.4	110	79.7	870
	9197.8	2555	2.39		71.9		83.4	
	10047.6	2791	1.69		85.1		79.7	
0°	9514.7	2643	3.25		105.6	132	79.7	
	10681.4	2967	2.4		84.7		82.6	
	11355.8	3554.4	1.75		67.9		79.7	
+2°	11050.2	3069.5	3.1		117.2		79.7	
	11927.5	3313.2	2.59		103.6		81.3	
	12583.5	3995.4	2.02		86.8		79.7	

性能曲线与参数 Performance curve and data

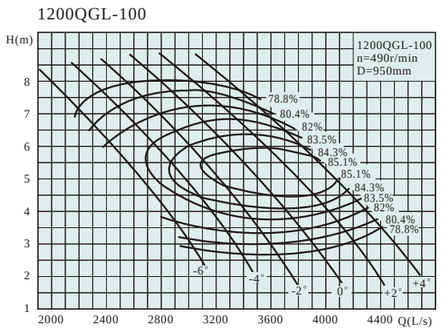
1200QGL-70



1200QGL-70

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(m^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-4°	11502	3195	9.28	490	351.3	400	82.8	950
	13111.4	3642.1	7.26		303.1		85.6	
	14046.3	3901.7	5.76		266.4		82.8	
-2°	11890.3	3302.9	9.62		376.6	450	82.8	
	13687	3801.9	7.76		336.2		86.1	
	14877.2	4132.6	5.95		291.7		82.8	
0°	12792.7	3553.5	9.86		415.3		82.8	
	14328.3	3980.1	8.06		368.5		85.4	
	15612.8	4336.9	6.33		325.5		82.8	
+2°	13763.9	3823.3	9.95		451	500	82.8	
	15332.7	4259.1	8.23		405		84.9	
	16494.3	4581.8	7.05		383.1		82.8	
+4°	15204.4	4223.5	9.94		497.6	560	82.8	
	16043.5	4456.5	8.73		452.2		84.4	
	16900.4	4694.5	7.84		436.5		82.8	

1200QGL-100

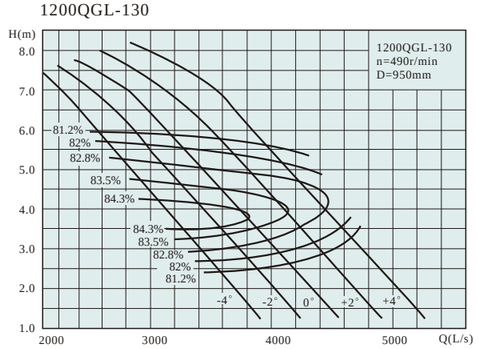


1200QGL-100

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(m^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-6°	8865.5	2462.6	6.02	490	177.5	200	82	950
	9657.8	2682.7	4.61		145.4		83.5	
	10407.2	2890.9	3.72		128.7		8	
-4°	9411.7	2614.4	6.68		208.9	250	82	
	10816.7	3004.6	4.7		164		84.4	
	11812.2	3281.2	3.33		130.8		82	
-2°	10074.2	2798.4	7		234.3	280	82	
	11782.5	3272.9	4.81		181.9		84.9	
	12858	3571.7	3.37		143.9		82	
0°	10793.5	2998.2	7.16		256.8		82	
	12748.3	3541.2	4.82		196.8		85.1	
	13781.3	3828.1	3.41		156.3		82	
+2°	11784.8	3273.6	7.19		281.7	315	82	
	13520.9	3755.8	5.07		218.6		85.5	
	14595.2	4054.2	3.69		178.9		82	
+4°	12881.2	3578.1	6.94		297.1	355	82	
	14486.7	4024.1	5.1		235.9		85.3	
	15368.2	4269	4.03		205.9		82	

性能曲线与参数 Performance curve and data

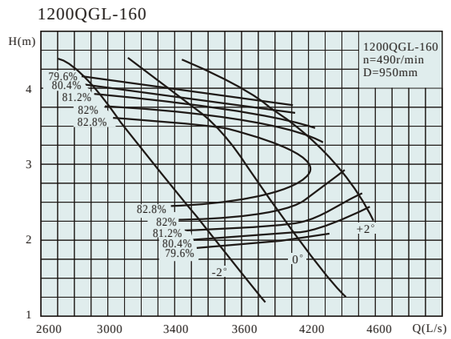
1200QGL-130



1200QGL-130

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(M^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-4°	9275.7	2576.6	5.98	490	186.1	200	81.2	950
	11983.4	3328.7	3.3		126.8		85	
	12843.7	3567.7	2.37		102.2		81.2	
-2°	10347	2874.2	5.92		205.6	220	81.2	
	12883.5	3578.7	3.53		146.2		84.7	
	13952	3875.6	2.51		117.4		81.2	
0°	11424.8	3173.5	5.86		224.8	250	81.2	
	13737.2	3815.9	3.72		165.1		84.4	
	14919.4	4144.3	2.54		128.4		81.2	
+2°	13002.5	3611.8	5.54		241.9	280	81.2	
	14799.6	4111	3.82		185.8		83.8	
	15934.2	4426.2	2.83		151.3		81.2	
+4°	14319.4	3977.6	5.58		268	315	81.2	
	15842.6	4400.7	4.07		211.1		83.1	
	16778.7	4660.7	3.26		183.8		81.2	

1200QGL-160

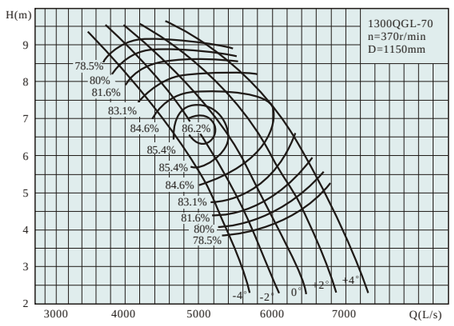


1200QGL-160

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(M^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-2°	10487.6	2913.2	4.04	490	143.7	160	80.4	950
	11975.7	3326.6	2.85		110.9		83.9	
	13082.1	3633.9	2.02		89.3		80.4	
0°	12388.2	3441.2	3.87		162.5	185	80.4	
	13907.2	3863.1	2.86		130.5		83.2	
	14785.3	4107	2.08		104.4		80.4	
+2°	14387.4	3996.5	3.7		180.3	200	80.4	
	15529.7	4313.8	3.09		159.6		82	
	16383.9	4551.1	2.4		133.5		80.4	

性能曲线与参数 Performance curve and data

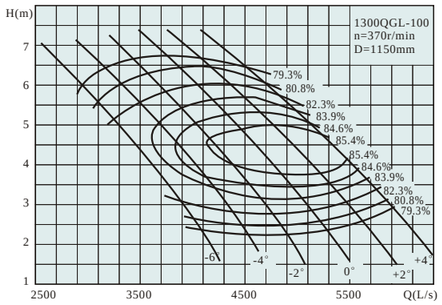
1300QGL-70



1300QGL-70

叶片安装角度 Angle	流量 Q (m^3/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-4°	15406.5	4279.6	7.75	370	391.5	450	83.1	1150
	17562.2	4878.4	6.07		338.1		85.9	
	18814.4	5226.2	4.81		296.9		83.1	
-2°	15926.5	4424	8.04		419.7		83.1	
	18333.2	5092.5	6.49		375		86.4	
	19927.4	5535.4	4.98		325.1		83.1	
0°	17135.3	4759.8	8.24		462.8	500	83.1	
	19192.1	5331.1	6.74		411		85.7	
	20912.6	5809.1	5.29		362.8		83.1	
+2°	18436.1	5121.1	8.31		502.6	560	83.1	
	20537.5	5704.9	6.88		451.6		85.2	
	22093.4	6137.1	5.89		427		83.1	
+4°	20365.7	5657.1	8.31		554.6	630	83.1	
	21489.6	5969.3	7.29		504.2		84.7	
	22637.3	6288.1	6.55		486.5		83.1	

1300QGL-100

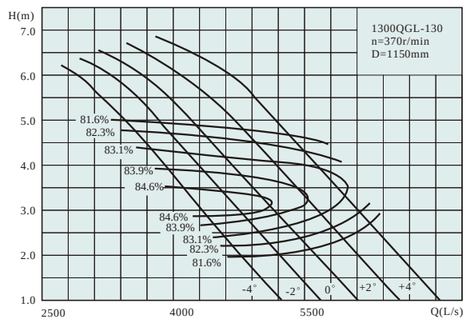


1300QGL-100

叶片安装角度 Angle	流量 Q (m^3/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-6°	11874.9	3298.6	5.03	370	197.8	220	82.3	1150
	12936.2	3593.4	3.86		162.1		83.9	
	13940	3872.2	3.11		143.5		82.3	
-4°	12606.6	3501.8	5.58		232.7	250	82.3	
	14488.5	4024.6	3.92		182.8		84.7	
	15822	4395	2.78		145.8		82.3	
-2°	13494	3748.3	5.85		261.1	280	82.3	
	15782.1	4383.9	4.02		202.9		85.2	
	17222.7	4784.1	2.81		160.3		82.3	
0°	14457.5	4016	5.98		286.1	315	82.3	
	17075.8	4743.3	4.03		219.4		85.4	
	18459.4	5127.6	2.85		174.2		82.3	
+2°	15785.2	4384.8	6.01		313.9	355	82.3	
	18110.6	5030.7	4.24		243.8		85.8	
	19549.7	5430.5	3.08		199.3		82.3	
+4°	17253.8	4792.7	5.8		331.1	355	82.3	
	19404.3	5390.1	4.26		263.1		85.6	
	20585.1	5718.1	3.37		229.4		82.3	

性能曲线与参数 Performance curve and data

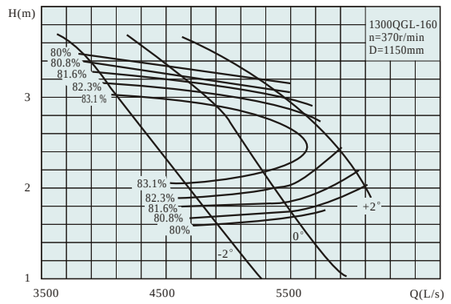
1300QGL-130



1300QGL-130

叶片安装角度 Angle	流量 Q (M^3/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-4°	12424.4	3451.2	4.99	370	207.3	250	81.6	1150
	16051.2	4458.7	2.76		141.4		85.3	
	17203.6	4778.8	1.98		113.8		81.6	
-2°	13859.3	3849.8	4.95		229		81.6	
	17256.9	4793.6	2.95		163		85	
	18688.1	5191.3	2.1		130.8		81.6	
0°	15303	4250.8	4.9		250.4	280	81.6	
	18400.4	5111.2	3.11		184.1		84.7	
	19983.8	5551.1	2.14		143.1		81.6	
+2°	17416.2	4837.8	4.63		269.4	315	81.6	
	19823.4	5506.5	3.22		207.1		84.1	
	21343.1	5928.7	2.36		168.5		81.6	
+4°	19180.2	5327.8	4.66		298.5	355	81.6	
	21220.5	5894.6	3.4		235.3		83.5	
	22474.3	6242.9	2.73		204.7		81.6	

1300QGL-160

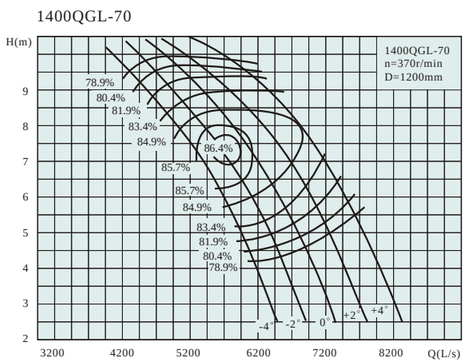


1300QGL-160

叶片安装角度 Angle	流量 Q (M^3/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-2°	14047.7	3902.1	3.38	370	160	185	80.8	1150
	16040.9	4455.8	2.38		123.6		84.3	
	17522.8	4867.5	1.68		99.5		80.8	
0°	16593.5	4609.3	3.23		181	200	80.8	
	18628.1	5174.5	2.39		145.4		83.5	
	19804.3	5501.2	1.74		116.3		80.8	
+2°	19271.3	5353.1	3.09		200.8	220	80.8	
	20801.4	5778.2	2.58		177.8		82.3	
	21945.4	6096	2.01		148.7		80.8	

性能曲线与参数 Performance curve and data

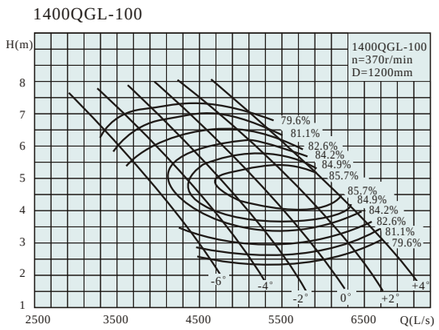
1400QGL-70



1400QGL-70

叶片安装角度 Angle	流量 Q (m^3/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-4°	17504.6	4862.4	8.44	370	482.7	560	83.4	1200
	19953.9	5542.8	6.61		417.1		86.1	
	21376.7	5938	5.24		366		83.4	
-2°	18095.5	5026.5	8.75		517.4		83.4	
	20829.9	5786.1	7.06		462.7		86.6	
	22641.3	6289.2	5.42		400.8		83.4	
0°	19468.9	5408	8.97		570.6	630	83.4	
	21805.8	6057.2	7.33		507		86	
	23760.7	6600.2	5.76		447.3		83.4	
+2°	20946.9	5818.6	9.05		619.7	710	83.4	
	23334.4	6481.8	7.49		557.1		85.5	
	25102.3	6972.9	6.42		526.4		83.4	
+4°	23139.2	6427.6	9.04		683.7	800	83.4	
	24416.2	6782.3	7.94		621.9		84.9	
	25720.2	7144.5	7.14		599.8		83.4	

1400QGL-100

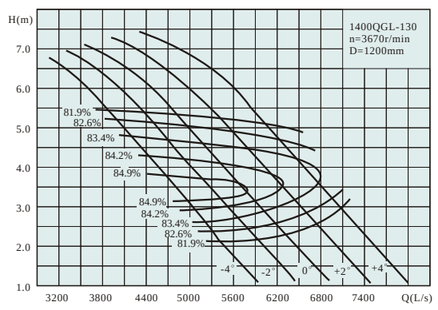


1400QGL-100

叶片安装角度 Angle	流量 Q (m^3/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-6°	13492.1	3747.8	5.48	370	243.8	280	82.6	1200
	14697.9	4082.8	4.2		199.8		84.2	
	15838.5	4399.6	3.39		176.8		82.6	
-4°	14323.4	3978.7	6.07		286.9	315	82.6	
	16461.7	4572.7	4.27		225.5		85	
	17976.7	4993.5	3.07		179.7		82.6	
-2°	15331.7	4258.8	6.37		321.8	355	82.6	
	17931.5	4981	4.38		250.3		85.4	
	19568.2	5435.6	3.06		197.6		82.6	
0°	16426.4	4562.9	6.51		352.7		82.6	
	19401.3	5389.2	4.39		270.7		85.7	
	20973.4	5825.9	3.1		214.7		82.6	
+2°	17935	4981.9	6.54		386.9	400	82.6	
	20577.1	5715.9	4.62		300.8		86	
	22212.1	6170	3.35		245.7		82.6	
+4°	19603.5	5445.4	6.31		408.1	450	82.6	
	22046.9	6124.1	4.64		324.6		85.8	
	23388.5	6496.8	3.67		282.8		82.6	

性能曲线与参数 Performance curve and data

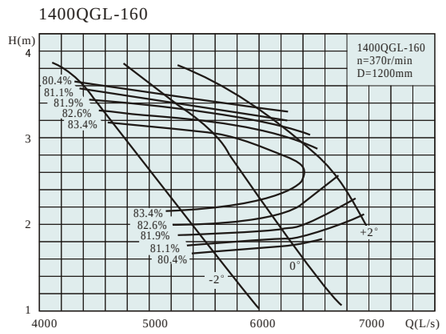
1400QGL-130



1400QGL-130

叶片安装角度 Angle	流量 Q (M^3/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-4°	14116.5	3921.2	5.44	370	255.3	280	81.9	1200
	18237.2	5065.9	3		174.4		85.5	
	19546.5	5429.6	2.16		140.3		81.9	
-2°	15746.8	4374.1	5.39		282.2	315	81.9	
	19607	5446.4	3.21		201.1		85.3	
	21233.2	5898.1	2.28		161.2		81.9	
0°	17387.1	4829.7	5.33		308.6	355	81.9	
	20906.3	5807.3	3.39		227		85	
	22705.4	6307	2.33		176.3		81.9	
+2°	19788.1	5496.7	5.04		332	400	81.9	
	22523.1	6256.4	3.51		255.4		84.4	
	24249.8	6736.1	2.57		207.7		81.9	
+4°	21792.3	6053.4	5.07		367.9		81.9	
	24110.5	6697.4	3.7		290.1		83.8	
	25535	7093.1	2.97		252.3		81.9	

1400QGL-160

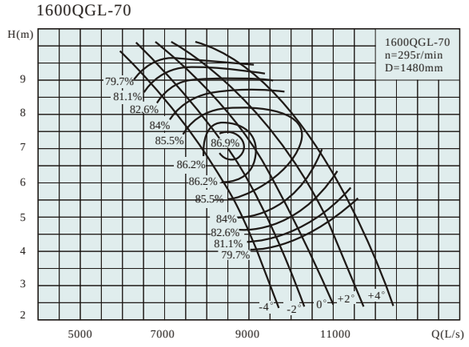


1400QGL-160

叶片安装角度 Angle	流量 Q (M^3/h)	流量 Q (L/s)	扬程 H (m)	转速 n (r/min)	功率P (kW) 轴功率 Shaft power	功率P (kW) 电机功率 Motor power	效率 η Eff. (%)	叶轮外径 D (mm)
-2°	15960.8	4433.5	3.68	370	197.1	220	81.1	1200
	18225.4	5062.6	2.59		152.4		84.5	
	19909.2	5530.3	1.83		122.6		81.1	
0°	18853.3	5237	3.52		223	250	81.1	
	21165	5879.2	2.6		179.3		83.8	
	22501.4	6250.4	1.9		143.3		81.1	
+2°	21895.8	6082.2	3.37		247.5	280	81.1	
	23634.3	6565.1	2.81		219.2		82.6	
	24934.2	6926.2	2.19		183.2		81.1	

性能曲线与参数 Performance curve and data

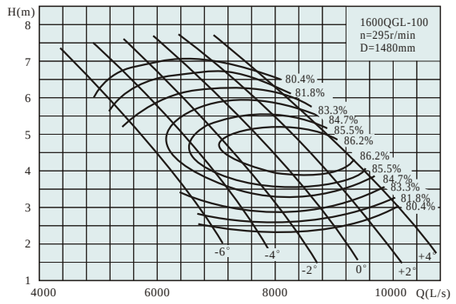
1600QGL-70



1600QGL-70

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(m^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-4°	26182.7	7273	8.16	295	692.9	800	84	1480
	29846.2	8290.6	6.39		599.6		86.6	
	31974.4	8881.8	5.07		525.4		84	
-2°	27066.5	7518.5	8.46		742.8		84	
	31156.5	8654.6	6.83		665.3		87.2	
	33865.9	9407.2	5.24		575.3		84	
0°	29120.8	8089.1	8.67		819.1	900	84	
	32616.3	9060.1	7.09		728.8		86.5	
	35540.3	9872.3	5.57		642.1		84	
+2°	31331.5	8703.2	8.75		889.5	1000	84	
	34902.7	9695.2	7.24		800.6		86	
	37547	10429.7	6.21		755.6		84	
+4°	34610.7	9614.1	8.74		981.5	1120	84	
	36520.8	10144.7	7.68		893.4		85.5	
	38471.2	10686.5	6.9		861		84	

1600QGL-100

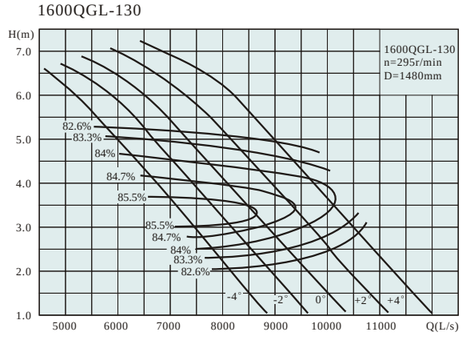


1600QGL-100

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(m^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-6°	20181	5605.8	5.3	295	349.8	400	83.3	1480
	21984.6	6106.8	4.06		287		84.7	
	23690.6	6580.7	3.27		253.7		83.3	
-4°	21424.4	5951.2	5.87		411.6	450	83.3	
	24622.7	6839.6	4.13		323.9		85.5	
	26888.9	7469.1	2.93		257.9		83.3	
-2°	22932.5	6370.2	6.16		461.8	500	83.3	
	26821.2	7450.3	4.23		359.6		86	
	29269.1	8130.4	2.96		283.6		83.3	
0°	24569.9	6825	6.3		506.1	560	83.3	
	29019.6	8061	4.24		389.1		86.2	
	31371.1	8714.2	3		308.1		83.3	
+2°	26826.4	7451.8	6.33		555.2	630	83.3	
	30777.4	8549.6	4.46		432.4		86.6	
	33224	9228.9	3.24		352.6		83.3	
+4°	29322.1	8145	6.1		585.6		83.3	
	32976.9	9160.2	4.48		466.5		86.3	
	34983.6	9717.7	3.55		405.8		83.3	

性能曲线与参数 Performance curve and data

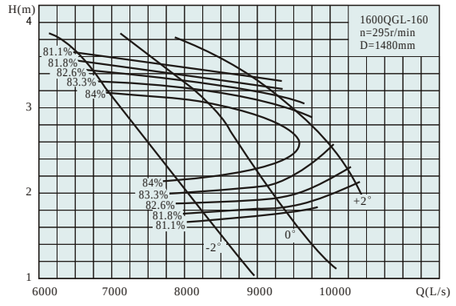
1600QGL-130



1600QGL-130

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(M^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-4°	21114.9	5865.2	5.26	295	366.4	400	82.6	1480
	27278.5	7577.3	2.9		250.6		86.1	
	29236.8	8121.3	2.09		201.2		82.6	
-2°	23553.4	6542.6	5.21		404.8	450	82.6	
	29327.4	8146.5	3.1		288.9		85.8	
	31759.8	8822.2	2.21		231.2		82.6	
0°	26006.9	7224.1	5.16		442.7	500	82.6	
	31270.8	8686.3	3.27		326.1		85.5	
	33961.8	9433.8	2.26		252.9		82.6	
+2°	29598.3	8221.7	4.88		476.3	560	82.6	
	33689.2	9358.1	3.39		366.9		85	
	36271.9	10075.5	2.49		297.8		82.6	
+4°	32596.1	9054.5	4.91		527.7		82.6	
	36063.5	10017.6	3.58		416.5		84.4	
	38194.2	10609.5	2.87		361.9		82.6	

1600QGL-160



1600QGL-160

叶片安装角度 Angle	流量 Q		扬程 H (m)	转速 n (r/min)	功率P (kW)		效率 η Eff. (%)	叶轮外径 D (mm)
	(M^3/h)	(L/s)			轴功率 Shaft power	电机功率 Motor power		
-2°	23873.5	6631.5	3.56	295	282.7	315	81.8	1480
	27260.9	7572.5	2.51		218.9		85.1	
	29779.4	8272.1	1.77		175.8		81.8	
0°	28200	7833.3	3.4		319.7	355	81.8	
	31657.8	8793.8	2.52		257.5		84.4	
	33656.6	9349.1	1.83		205.4		81.8	
+2°	32750.8	9097.5	3.25		354.8	400	81.8	
	35351.2	9819.8	2.72		314.6		83.3	
	37295.5	10359.9	2.12		262.7		81.8	

安装形式与尺寸 Type and dimension of installation

潜水贯流泵一般采用干式安装(泵坑内无水，机组周围是干的，可以进行正常维护)。两端与管道采用伸缩节相连。

其安装系统为预埋钢板、两只地脚螺栓、两只伸缩节。预埋钢板为一次预埋件，预埋时须将混凝土中钢筋与钢板下部插筋焊接；两只地脚螺栓既可以一次预埋，也可以二次预埋；两端伸缩节为二次预埋件。

安装时先将潜水贯流泵放到预埋钢板上，再依据其位置将四只连接螺栓与预埋钢板焊牢。如果两只地脚螺栓为一次预埋件，则以地脚螺栓作为定位依据，如果两只地脚螺栓要二次预埋，可在潜水泵就位后进行。然后依据设计图样，用楔铁调节贯流泵的高度，使其满足高程要求，最终将泵位置固定。泵运转时的轴向水推力由地脚螺栓和预埋钢板上的连接螺栓承受。

接着将两只伸缩节与泵进出水端连接，确定伸缩节位置，再将混凝土外露钢筋与伸缩节焊接，最后进行二次灌浆。

检修时如需要将泵吊起，先关闭检修门，将泵过水流道内的积水放掉，抽干泵坑，再将进出水两端的伸缩节松开，即可将泵吊离。安装时也只要反序进行。

如果想将水泵调头后放下安装，进行反向送水，则不可以使用上述安装方式，具体安装方式可与本公司技术中心联系。

Generally, dry-type installation is used for this pump (no water in the pump pit, it is dry around the unit, for a normal maintenance), with both ends connected to the pipeline with telescopic nodes.

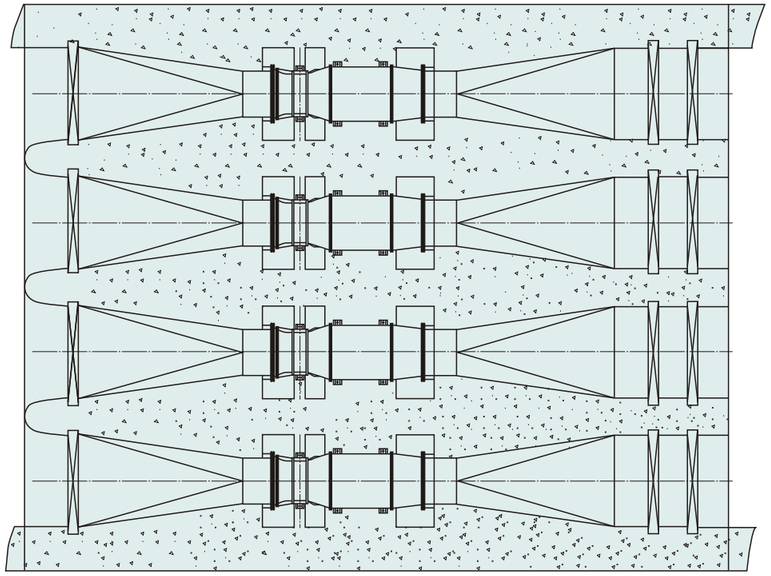
The installation system covers built-in steel plate, two foot bolts and two telescopic nodes. To lay the built-in steel plate, an once built-in part, weld the steel ribs in the concrete with the insert ribs under the steel plate; the two foot bolts can be built in once or twice; and the telescopic nodes on both ends are twice built-in parts.

First place the pump onto the built-in steel plate when to install and then weld the four connecting bolts with the steel plate. If the two foot bolts are the once built-in parts, take the foot bolt as the positioning basis and, in case of twice built-in ones, build in them when the pump is in place. Then, according to the designed drawing, use a wedge iron to adjust the pump height to have it meet with the height requirement and fix the pump position at final. The axial water pushing-force produced during the pump's running will be borne by the connecting bolts between the foot bolts and the built-in steel plate.

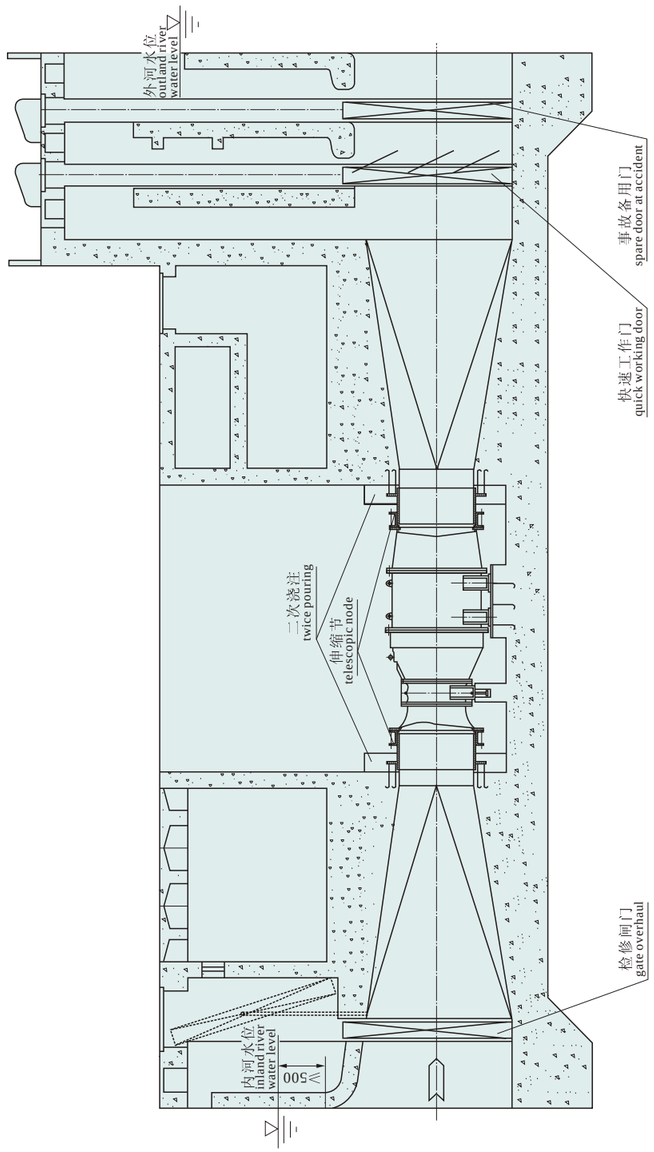
Next, connect the two telescopic nodes to the water inlet and outlet of the pump and make sure of the position of them, then weld the exposed steel ribs of the concrete with the nodes and, finally, carry out a twice pouring.

If it is required to lift the pump up at overhaul, first close the overhaul door, drain out the accumulated water inside of the water-flowing geat of the pump, dry the pump pit and loosen the telescopic nodes to lift the pump. Take the reversed steps to install it back.

If it is needed to have the pump turned round and then installed to feed water in the negative direction, the above type of installation can not be used and please contact with the technical center of this Co. for the detailed way of installation.



贯流泵站平面布置示意图
Schematic diagram of the tubular-type axial-flow pump's plane layout



泵站安装图
Installation diagram of pump station

说明：

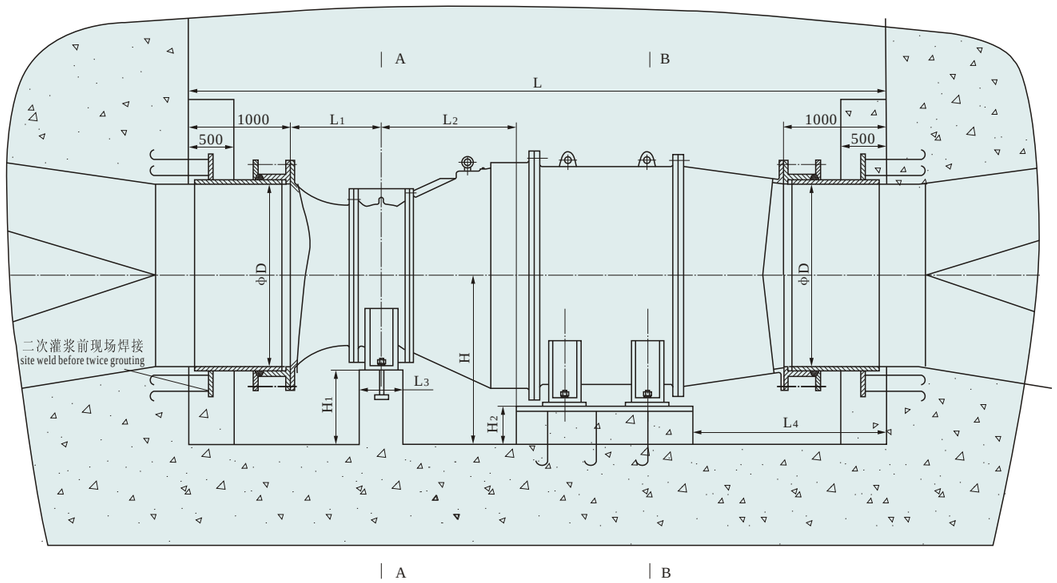
淹没深度除需满足尺寸表中要求外，还必须比流道进口上缘至少高500mm。

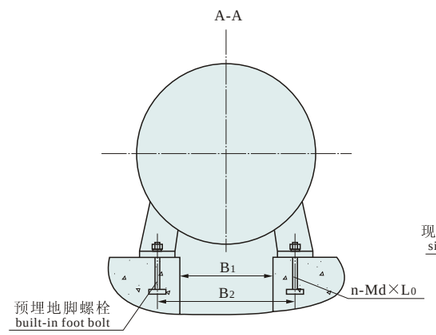
一般来说，泵段安装尺寸由厂方提出，淹没深度由厂方先提出要求，再通过装置试验验证确定；进出水流道的几何尺寸由设计单位按规范进行数模计算，初步确定后再进行装置模型试验。

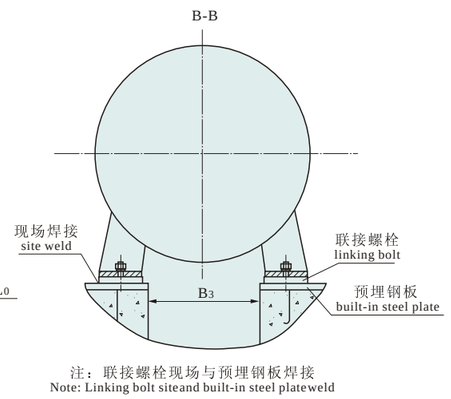
Note:

In additional to meeting with the requirements set forth in the dimension table, the submerged depth should also be higher than the upper edge of the geat inlet by 500mm.

In general, the installation dimensions for the pump section is provided by the factory and the submerged depth is too first, then proved and decided through a device testing; the digifak calculation for the geometrical dimensions of the water inlet and outlet geats will be carried out by the designer upon the standard first and then tested with a device model after being initially set.







注：联接螺栓现场与预埋钢板焊接
Note: Linking bolt siteand built-in steel plateweld

安装尺寸图
Installation dimension diagram

QGL系列潜水贯流泵安装尺寸表 Installation dimension table

序号 No.	型号 Model	ΦD	H	H1	H2	L1	L2	L3	L4	N-Md×L0	B3	B2	B1	L	泵重 Pump weight (Kg)	轴向水推力 Axial water pushing force (N)
1	700QGL-70	800	870	450	200	650	1150	200	1700	2-M36 ×500	450	800	450	4800	2830	28300
2	700QGL-100														2630	22900
3	700QGL-130														2630	19900
4	700QGL-160														2530	13900
5	800QGL-70	1000	950	520	200	700	1300	200	1700	2-M36 ×500	550	900	550	5200	3910	33300
6	800QGL-100														3260	26900
7	800QGL-130														3260	23400
8	800QGL-160														3110	16400
9	900QGL-70	1200	1150	600	250	800	1500	250	1800	2-M36 ×500	800	900	500	5600	5630	49900
10	900QGL-100														5630	40400
11	900QGL-130														5630	35100
12	900QGL-160														5130	24600
13	1000QGL-70	1200	1180	600	250	800	1500	250	1800	2-M36 ×500	800	900	500	5600	6800	54800
14	1000QGL-100														5800	44300
15	1000QGL-130														5800	38500
16	1000QGL-160														5800	27000

QGL系列潜水贯流泵安装尺寸表 Installation dimension table

序号 No.	型号 Model	ΦD	H	H1	H2	L1	L2	L3	L4	N-Md×L0	B3	B2	B1	L	泵重 Pump weight (Kg)	轴向水推力 Axial water pushing force (N)
17	1200QGL-70	1300	1250	680	250	870	1620	250	1900	2-M36 ×500	1000	1000	600	6000	8200	77800
18	1200QGL-100														6700	63000
19	1200QGL-130														6700	54700
20	1200QGL-160														6700	38400
										2-M42 ×630						
25	1400QGL-70	1600	1480	780	300	1050	2050	300	2000	2-M42 ×630	1250	1200	750	7000	11150	113000
26	1400QGL-100														10150	91500
27	1400QGL-130														10150	79400
28	1400QGL-160														10150	55700
										2-M42 ×630						

其它相关介绍 Other related introductions

不同用户有不同的需求，为此，我们还可以采用不同的结构形式、水力结构、安装形式来满足这些工况要求。这些内容没有纳入前面章节，如有需要，可直接与本公司技术中心联系。

1、不同结构

(1) 电机与叶轮之间内置行星减速机

将减速机内置在贯流泵内，使得电机、行星减速机、叶轮同轴线，就可以选取较高转速的电机，灯泡体的直径也可以减小，使贯流泵功率可以做得更大一些。对电机而言，功率因数也得到提高，成本也有下降。

这种结构的贯流泵，流量可从4m^3/s到12.5m^3/s，在流量从4m^3/s至6m^3/s之间时，到底采用直联式，还是采用内置减速机型式，要具体分析后确定。如果电机功率不是太大，转速不是太低，采用减速机连接就显不出优势，因为多了减速机，甚至可能重量更重、成本更高。

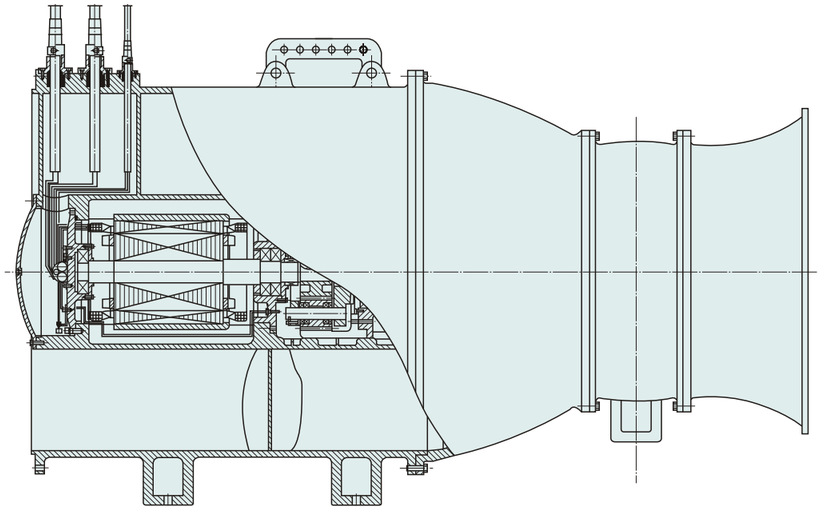
Different demands come from different users. Therefore, use of different structure types, hydraulic structures and installation types can meet with these requirements on the working conditions. But they are not contained in the previous sections and please contact with the technical center of this Co. if required.

1. Different structures

(1) A planet decelerator is set in between both motor and impeller

Set a decelerator inside of the tubular-type axial-flow pump to have the motor, planet decelerator and impeller with one axis so as to select a motor of a higher rotating speed, reduce the diameter of the lamp bubble and make the pump power heavier, and, to the motor, the power factor can be enhanced and the cost reduced.

For the tubular-type axial-flow pump of this structure, the flow can be from 4m^3/s to 12.5m^{3}s and, when the flow is between 4m^{3}s to 6m^{3}s, it has to be analyzed with the detailed conditions whether to use the directly linked type or that setting a decelerator inside. As of the latter, if the motor's power is not so heavy and the speed is not too low, there would be no superiority, because of the decelerator, the weight and the cost may become more.



(2) 电机与叶轮采用锥齿传动

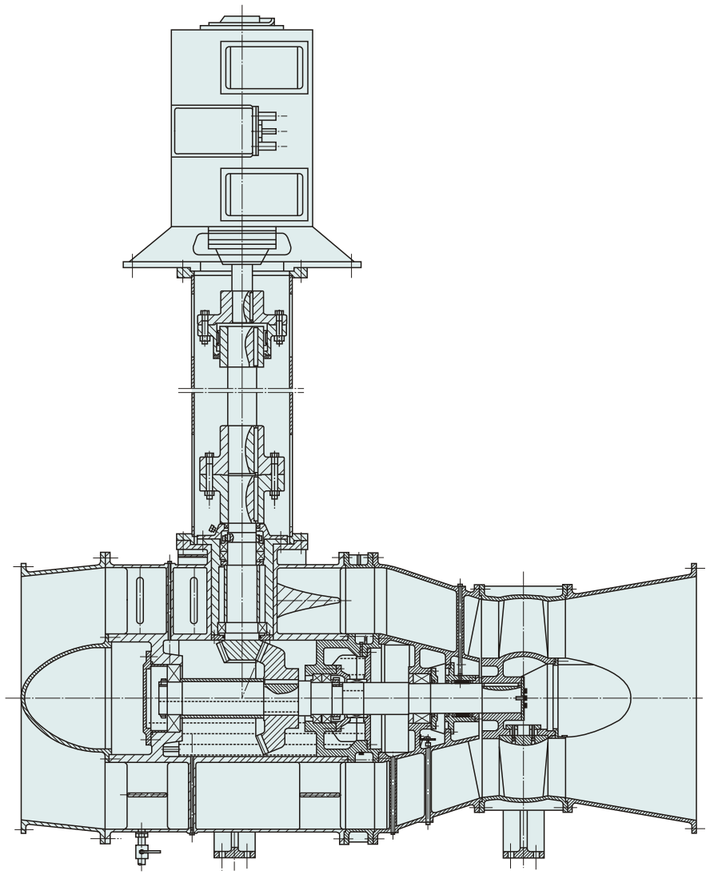
这种结构采用锥齿轮正交传动，电机在水上运行，可以采用普通立式电机；泵内部结构较紧凑，密封和防渗漏问题都能很好地解决，检修较方便，运行可靠。

锥齿轮传动的同时可以对电机减速，这样可以使电机功率因数高一些，体积小一些。与内置减速机的贯流泵类似，这种结构的贯流泵流量可从4m^3/s到12.5m^3/s。

(2) Use an angular wheel for actuating both motor and impeller

This structure uses an angular wheel for perpendicular actuation. A common vertical motor can be used as it moves on the water; the internal structure of the pump is more compact, both sealing and anti-leak can be well settled, overhaul can be done more conveniently and running is reliable.

At the same time with the angular wheel actuation, the motor can be decelerated, thus making the power factor of it a little bit higher and the volume a little bit smaller. Similar to the pump set with a decelerator inside, the flow of the pump of this structure can also be from 4m^3/s to 12.5m^3/s.



2、S形叶片潜水贯流泵

经常有一些排水泵站，常有补水要求，即装置要能正向抽排、反向抽补。这时有可能考虑采用“S”形叶片的贯流泵。其优点是，使用时只要改变电机转向，就可以实现正反向抽送水，而无需把电泵拆卸掉头。

由于“S”形叶片进行反向抽水时，导叶的位置没有变化，所以比正向抽水时效率会明显降低，还会有较大的噪声。而且由于叶轮设计时要兼顾反向可以抽水，所以即使在正向抽水时，也比同样转速、叶轮直径的普通贯流泵效率低、流量小。目前这种水力模型种类较少，一般只宜用于扬程在2～5m场合。(未列入前文“性能曲线与参数”)

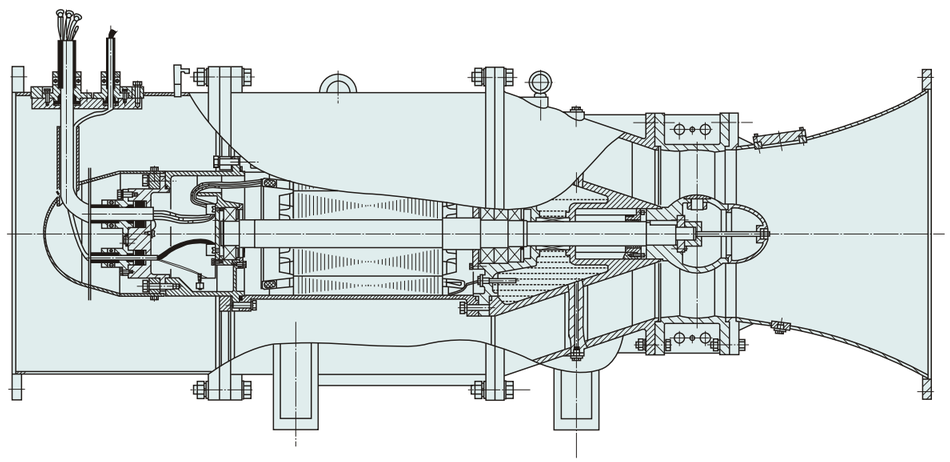
这种结构的潜水贯流泵，适用于年运行时间不长，正反向抽水变化较频繁的场合。

2. Submersible tubular-type axial-flow pump with S-shaped impeller

It occurs often for some water drainage pump stations to hold the requirement of water supplement, that means there should be such a pump able to drain in the positive direction while to supplement in the negative one. Then the tubular-type axial-flow pump with "S" -shaped impeller can be taken into consideration, as use of it only needs to change the moving direction, the above requirement can thus be met while without need to remove the pump to change the direction.

Because of non-change with the position of the guide vane when the "S" -shaped impeller extracts water in the negative direction, so the efficiency for the water extraction in the positive direction will be notably lowered, with a bigger noise, in addition, due to the compatibility for the water extraction in the negative direction in the impeller design, the efficiency becomes lower and the flow smaller than those of the common tubular axial-flow pumps of the same speed and impellers' diameter even if at the water extraction in the positive direction. The hydraulic model in this kind is very rare at present and only suitable for the occasion with the head at 2~5m, in general. (Not listed in the previous "Performance curve and parameters")

The tubular-type axial-flow pump of this structure is suitable for the occasions with a short-time running yearly and a more frequent exchange between positive and negative water extractions.



3、旋转掉头的安装形式

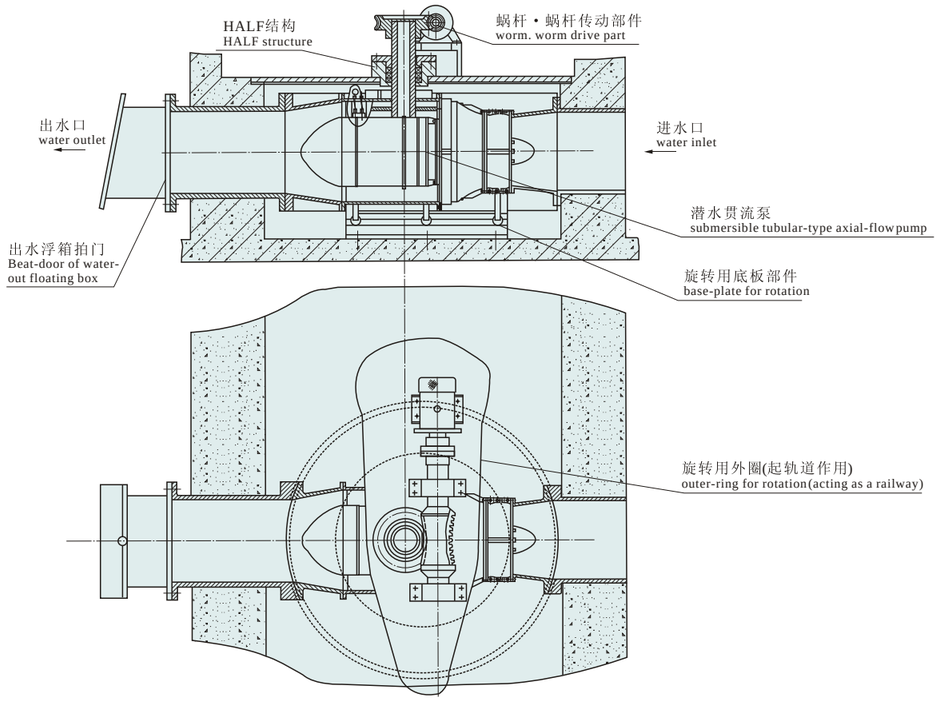
在有双向抽排要求的泵站，如果使用“S”形叶片的贯流泵，则有流量、效率较低的缺点，如果将单向潜水贯流泵拆卸后掉头安装，则增加了使用的复杂性，尤其在旱涝急转或需要掉头较频繁时更显不便，为此，我们还可以采用旋转掉头的安装形式。

旋转掉头潜水贯流泵安装，掉头时使有独立的转向系统驱动，即可实现泵装置整体掉头，掉头完成后，驱动装置锁紧，固定泵身，机组可以平稳运行。这种安装形式，无拆卸起吊的工作强度，转动灵活。但在泵站设计时，应考虑水泵机组的间距，除满足水力要求外，还需满足掉头的要求。

3. Rotary turn-round type of installation

There is the shortcoming of a low flow and efficiency with the tubular-type axial-flow pump using "S" -shaped impeller in the pump station requiring dual-direction water extraction and drainage and, if to remove a single-direction pump and turn it round to install, complication at use will become much more, especially for the emergent turn-round at droughts and water loggings or the condition requiring frequent turn-round, which will become more inconvenient, so the rotary turn-round type of installation can also be used.

For the tubular-type axial-flow pump installed in this type, there is an independent rotation actuating system to have the overall pump unit turned round and, when finished, the actuator is locked tightly and the pump casing is fixed to let the unit stably run. For this type of installation, there is no the work strength for removing and lifting and a flexible rotation, however, the space with the pump unit has to be considered in the pump station design, which should also meet with, in addition to the hydraulic requirement, that for the turn-round.



旋转调头式潜水贯流泵站
Rotary turn-round type submersible tubular-type axial-flow pump station

供货范围 Range of supply

潜水贯流泵成套供应，分必购件与选购件，必购件包括潜水贯流泵、预埋钢板、地脚螺栓、控制柜；选购件包括两只伸缩节(此件为必需件，由用户决定是否自购)、端子箱、拦污栅、拍门、启闭机及闸门、液位开关；易损件为O形密封圈、叶片、轴承、电缆线、机械密封(层状剪切填料密封)。

The pump is supplied in a set, including both must and optional parts. The former covers the pump, built-in steel plate, foot bolts, control cabinet; the latter covers two telescopic nodes (must parts, decided by the user if to buy them himself), terminal box, grating, beat door, open-close device and gate, liquid level switch; the easily-worn-out parts include O-seal ring, blade, bearing, cable, mechanical seal (layer-cut packing seal).

订货须知 Notice at order

1、在合同中应注明准确的产品型号、性能参数(流量、扬程、电机功率、叶片安装角度)和使用电压。
2、控制柜应注明启动方式(直接启动；自耦降压起动；可控硅软起动)、液位控制方式(浮球液位；压变送器数显液位)、安装形式(户内型、户外型)。
3、如需配端子箱，应注明是控制型，还是接线型。
4、本公司潜水贯流泵电缆正常供货长度为10m，若用户有特殊要求，请予注明。
5、如有其他特殊要求，签订合同前请与本公司技术部门联系。

1. Please make a clear note in the contract of correct product model, performance parameters (flow, head, motor's power, installation angle of impeller) and the used voltage.
2. For the control cabinet, please make a note of the starting mode (direct starting, automatic reduced-voltage starting, silicon controlled soft starting), the liquid level control mode (floating ball liquid level, voltage transformer digital display liquid level) and the type of installation (indoor, outdoor).
3. Please make a note if it is a control or wiring type if the terminal box is required.
4. The general length of the pump cable is 10m, please make a note of it in case of a special requirement.
5. Please contact with the technical center of this Co. before signing the contract in case of other special requirements.