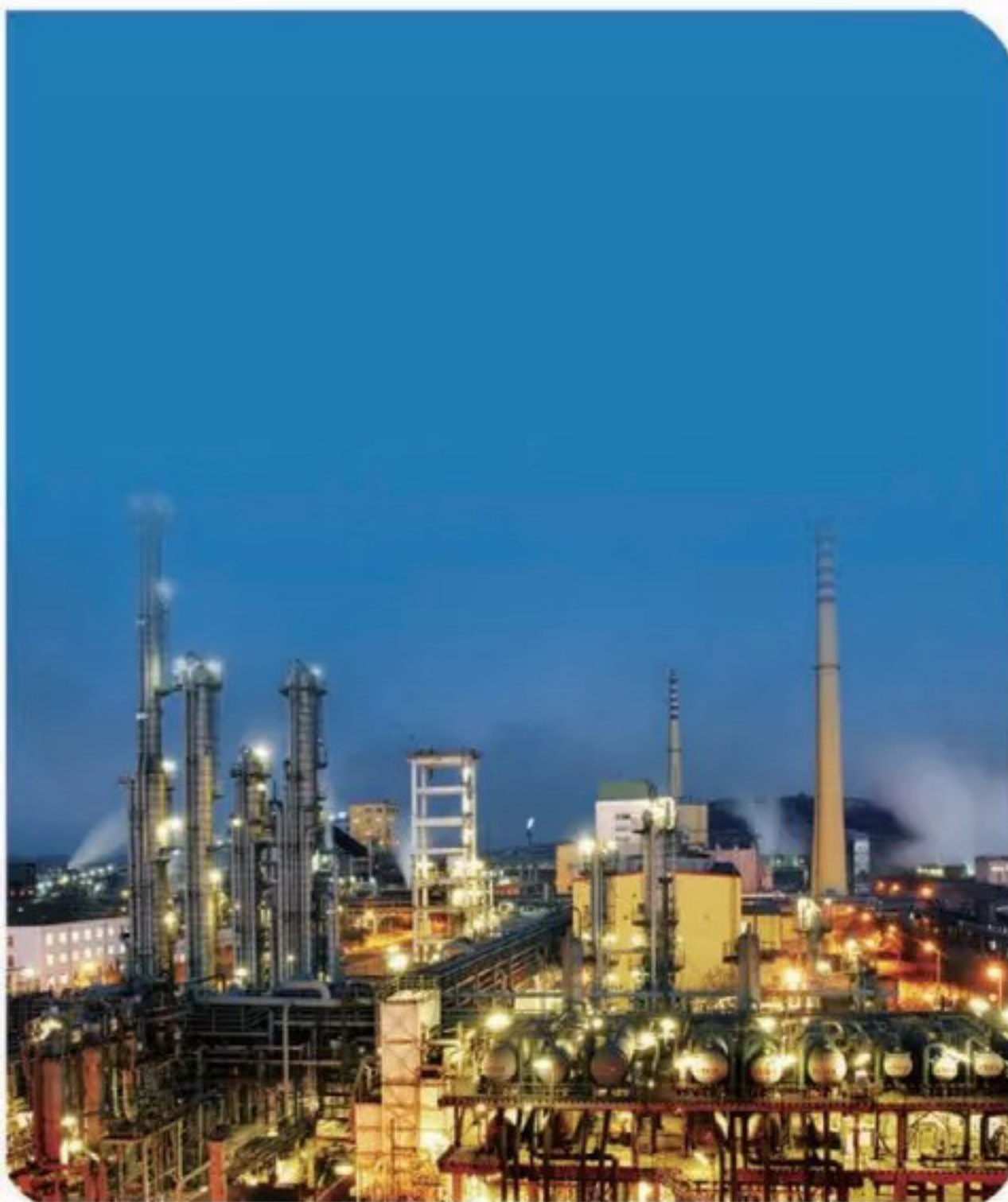




JSM International

真空泵 压缩机
vacuum pump/compressor



JSM International

VACUUM PUMP SOLUTIONS



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● 生产控制过程 production control process

一路走来, JSM International 始终坚信中国制造的力量, 将技术创新和对自己的严格要求贯穿于每一个生产环节。每一台真空产品从设计、选型到生产加工的各个步骤, 都倾注了精益求精、精进制作的态度和信念。



Along the way, JSM International has always believed in the power of Chinese manufacturing, and carried technological innovation and strict self-standards through every production step. From design and selection to production and processing, each vacuum product reflects a pursuit of excellence and refined manufacturing.

● 测试平台 Test Platform

● 我公司测试中心是与山东省农业机械研究所共同设计的，涵盖水环式真空泵、水泵、潜水泵等多品种产品的检测平台。

Our company's testing center is jointly designed with Shandong Agricultural Machinery Research Institute, covering a testing platform for various products such as water-ring vacuum pumps, water pumps, and submersible pumps.

- 6KV 1500KW 的变压器
- 50/10T 大型双梁吊车
- 全电脑测试终端
- 800M3 大型工作液平台
- 确保所有大型、特大型水环式真空泵及压缩机的配电要求
- 确保大型、特大型水环式真空泵及压缩机的组装和吊运
- 实时性能曲线、电流、转速、功率等参数的显示和记录
- 确保实际检测运行时水环泵尤其是特大型水环泵工作液的正常供给并尽可能保持工作液的标准没讲温度

Highlights:

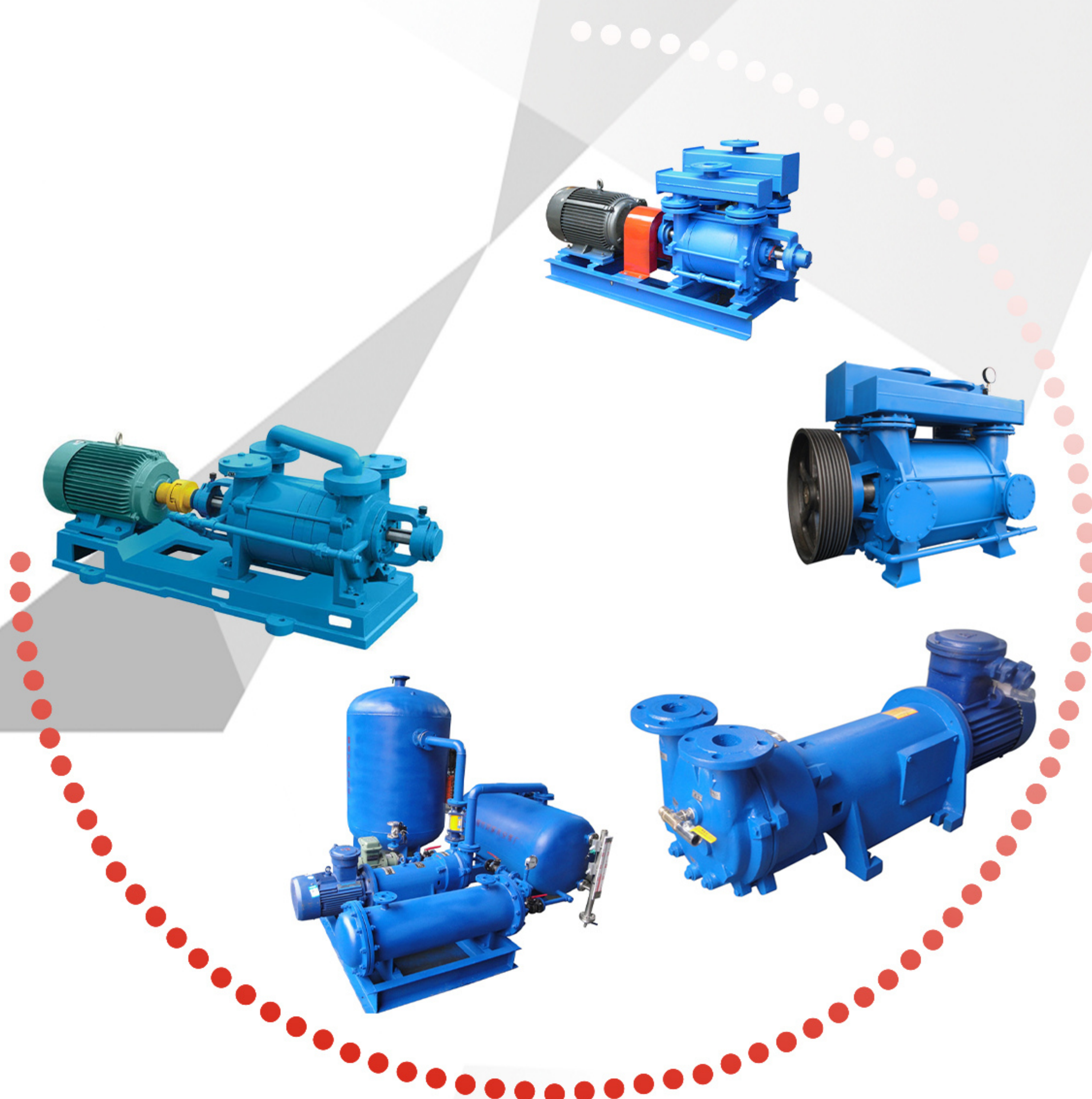
6KV,1 500KW transformer: ensure enough power distribution for all kinds of large and extra large pumps and compressors.

50/10T double beam crane: for the assemble and lifting of all large and extra-large pumps and compressors.

Complete computer test terminal: for record and display of real time performance curve,current, speed, power and other parameters.

800m3large working solution platform: supply regular amount of working liquid and keep its temperature.







● 特材应用

Application of Special Material

● 公司产品多年来在化工方面的应用，使我们积累了丰富的材料使用经验。其中包括：过流件不锈钢的应用，特殊件镀镍、高分子喷涂和全钛材的成功应用。在循环介质含有强酸强碱、易燃易爆、有毒有害的条件下，我们的产品能够确保工作更平稳，运行更可靠，寿命更长久。

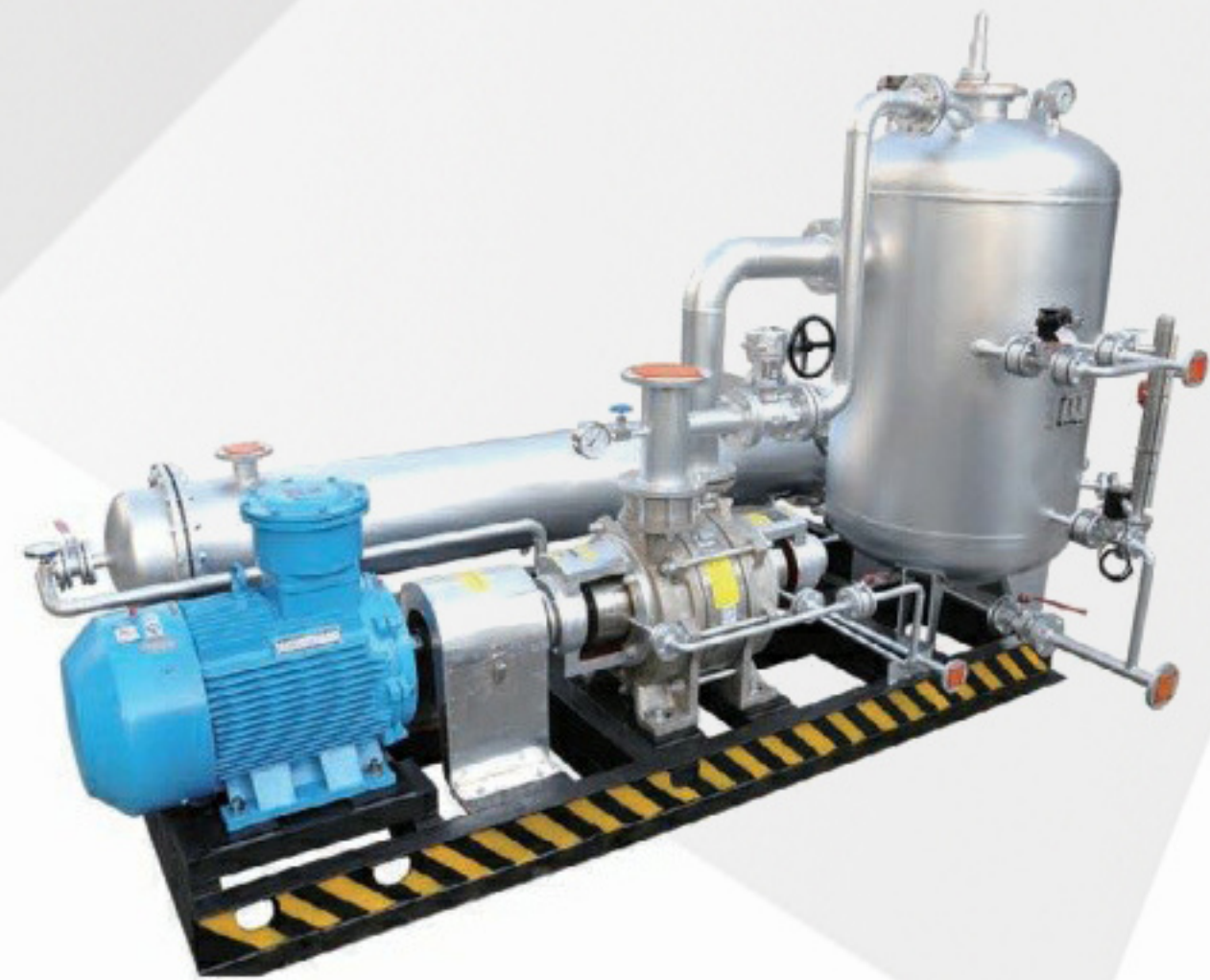
The company's products have been used in chemical industry for many years, so that we have accumulated rich experience in the use of materials. These include: the application of stainless steel for overcurrent parts, the successful application of nickel plating for special parts, polymer spraying and all-titanium materials. Under the condition that the circulating medium contains strong acid and alkali, flammable, explosive, toxic and harmful, our products can ensure smoother operation, more reliable operation and longer life.



● **气体与液体的组合**
Combination of Gas and Liquid



全 304 不锈钢机组
All 304 stainless steel unit



双相不锈钢高压液环机组
Dual phase stainless steel & High pressure compressor unit

● [以水做运行介质]

空气

H₂, N₂, O₂, CO, CO₂, NO_x, H₂S, SO₂, NH₃ 等
碳化氢族, CH₄, C₂H₆ 等烃族, C₂H₄, C₃H₆ 等烯
族, C₂H₂, 汽油等

聚乙烯单体 (VCM, CH₂CHCl) 回收压缩城市燃气, 消
化气, 各种混合气

[水以外做运行液]

98% 浓硫酸—干 Cl₂, 干 HCL 适合气体的溶剂 (以吸
入负压为多) 为运行液, 如丙酮、EDC (二氯乙烯)、
苯 MEK、MIBK、环己烷、甲醇、乙酸等

凝缩性成分的液体

关联流程出现的液体

● [use water as the running medium]

Air

H₂, N₂, O₂, CO, CO₂, NO_x, H₂S, SO₂, NH₃, etc.

Hydrocarbons, hydrocarbons such as CH₄,
C₂H₆, olefins such as C₂H₄, C₃H₆, C₂H₂, gasoline, etc.

Polyethylene monomer (VCM, CH₂CHCl) recovery
compressed city gas, digested gas, various mixed gas

[Running fluid other than water]

98% concentrated sulfuric acid—dry Cl₂, dry HCL suitable
for gas solvent (inhalation pressure negative pressure is
more) as running fluid, such as acetone, EDC (ethylene
dichloride), benzene MEK, MIBK, cyclohexane, methanol,
acetic acid, etc.

Liquid with condensable ingredients

Liquids appearing in associated processes

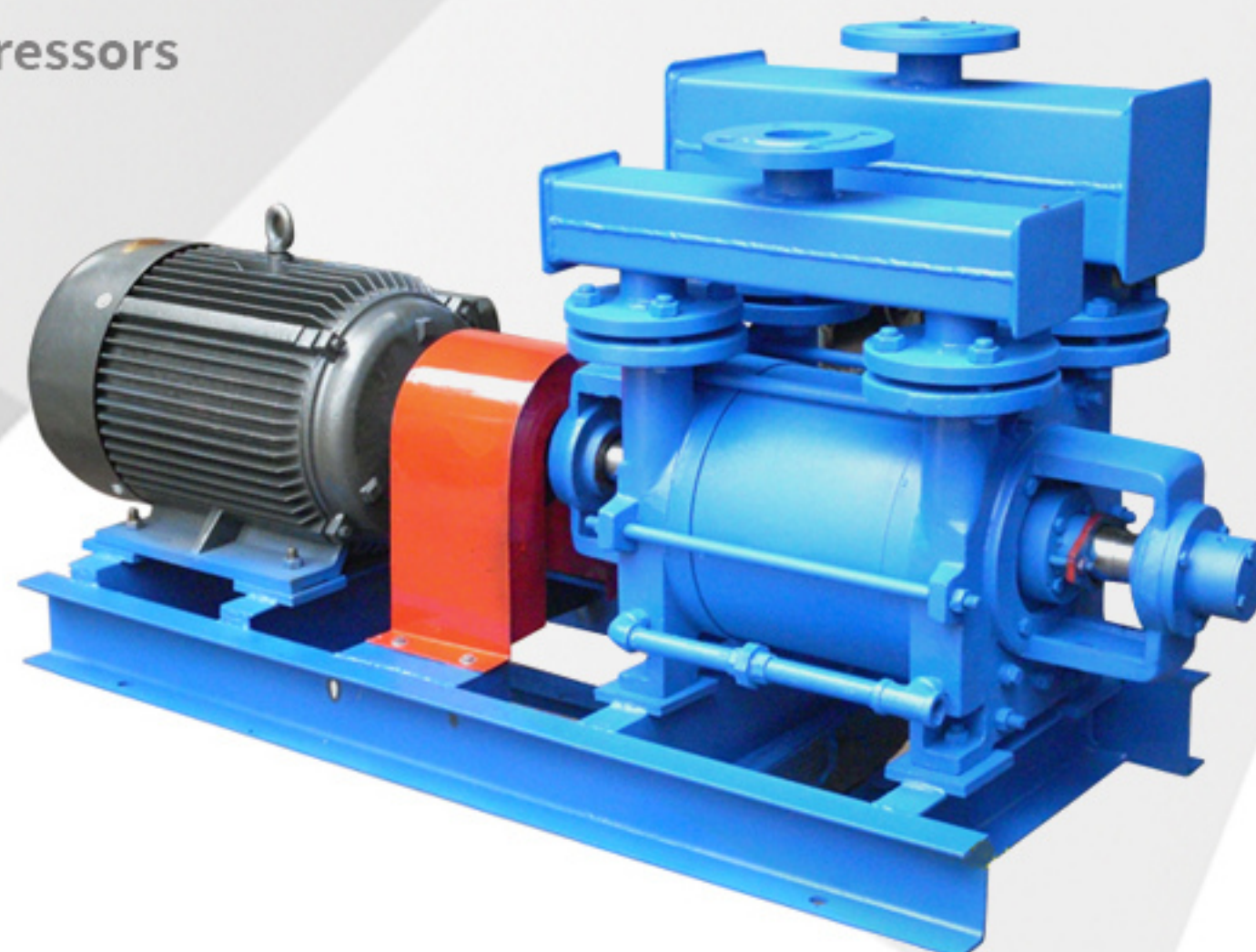
- 我公司建有市级耐腐蚀真空设备研究所, 拥有企业技术研发中心。金属材料研究, 喷焊技术的推广应用, 使铸造合金、耐磨陶瓷涂层等新材料。新工艺不断的满足于耐磨、耐腐蚀、高强度、高寿命特殊用泵的要求。制造工艺、理化检验、计量测试现代化质量控制手段, 保证了我们的产品向世界先进水平迈进!

Our company has a municipal-level corrosion-resistant vacuum equipment research institute and an enterprise technology research and development center. The research of metal materials and the popularization and application of spray welding technology make new materials such as cast alloys and wear-resistant ceramic coatings. The new technology constantly meets the requirements of special pumps with wear resistance, corrosion resistance, high strength and long life. The modern quality control methods of manufacturing technology, physical and chemical inspection, and measurement testing ensure that our products will advance to the world's advanced level!

● 2BE1 系列水环式真空泵及压缩机

2BE1 Series Liquid Ring Vacuum Pumps and Compressors

● 2BE 系列水环真空泵及压缩机，是我厂在多年科研成果和生产经验的基础上，结合国际同类产品先进技术，研制开发的高效节能产品。通常用于抽吸不含固体颗粒，不溶于水。无腐蚀性的体。以便在密闭容器中形成真空和压力。通过改变过流件材料。亦可用于抽吸腐蚀气体或以腐蚀性液体做工作液。广泛用于造纸、化工、石化、轻工、制药，食品，冶金。建材、石器、洗煤。选矿、化肥等行业。



2BE series water ring vacuum pumps and compressors are high-efficiency and energy-saving products developed by our factory on the basis of years of scientific research achievements and production experience, combined with the advanced technology of similar international products. It is often used for suction and does not contain solid particles and is insoluble in water. Non-corrosive body. in order to create a vacuum and pressure in a closed container. By changing the material of the overcurrent. It can also be used to pump corrosive gas or use corrosive liquid as working fluid. Widely used in paper, chemical, petrochemical, light industry, pharmaceutical, food, metallurgy. Building materials, stone tools, coal washing. Mineral processing, fertilizer and other industries.

● 2BE 系列泵的型号以 8 个位的文字 (字母) 和数字组合表示，标记如下：

2BE1/3--<1><2><3>--<4>

其中：2BE1 为单级水环真空泵系列名称，1 代表 2BE 高真空系列，3 代表大气量低真空系列；

<1> <2> 表示叶轮名义半径 cm

<3> 表示叶轮名义宽径比代号，具体为：1--B (宽)/D (直径)=0.5；2--B/D=0.75；3--B/D=1；5--B/D=1.2；

<4> 表示最低吸入压力代号，具体：0-- 代表极限真空为 33hpa；1-- 代表极限真空为 160hpa；

型号示例："2BE1-403-0" 为叶轮名义直径 800mm，宽径比 1，最低收入绝对压力可达 33hPa 的单级水环真空泵，也可记作：2BE1-403 (因为 2BE1 系列极限真空就是 33hpa,2BE3 极限真空 160hpa，因此 <4> 此项一般忽略不加标注)

The model of the 2BE series pump is represented by a combination of 8-digit text (letters) and numbers, marked as follows:

2BE1/3--<1><2><3>--<4>

Among them: 2BE1 is the name of the single-stage water ring vacuum pump series, 1 represents the 2BE high vacuum series, 3 represents the atmospheric volume low vacuum series;

<1> <2> Indicates the nominal radius of the impeller in cm

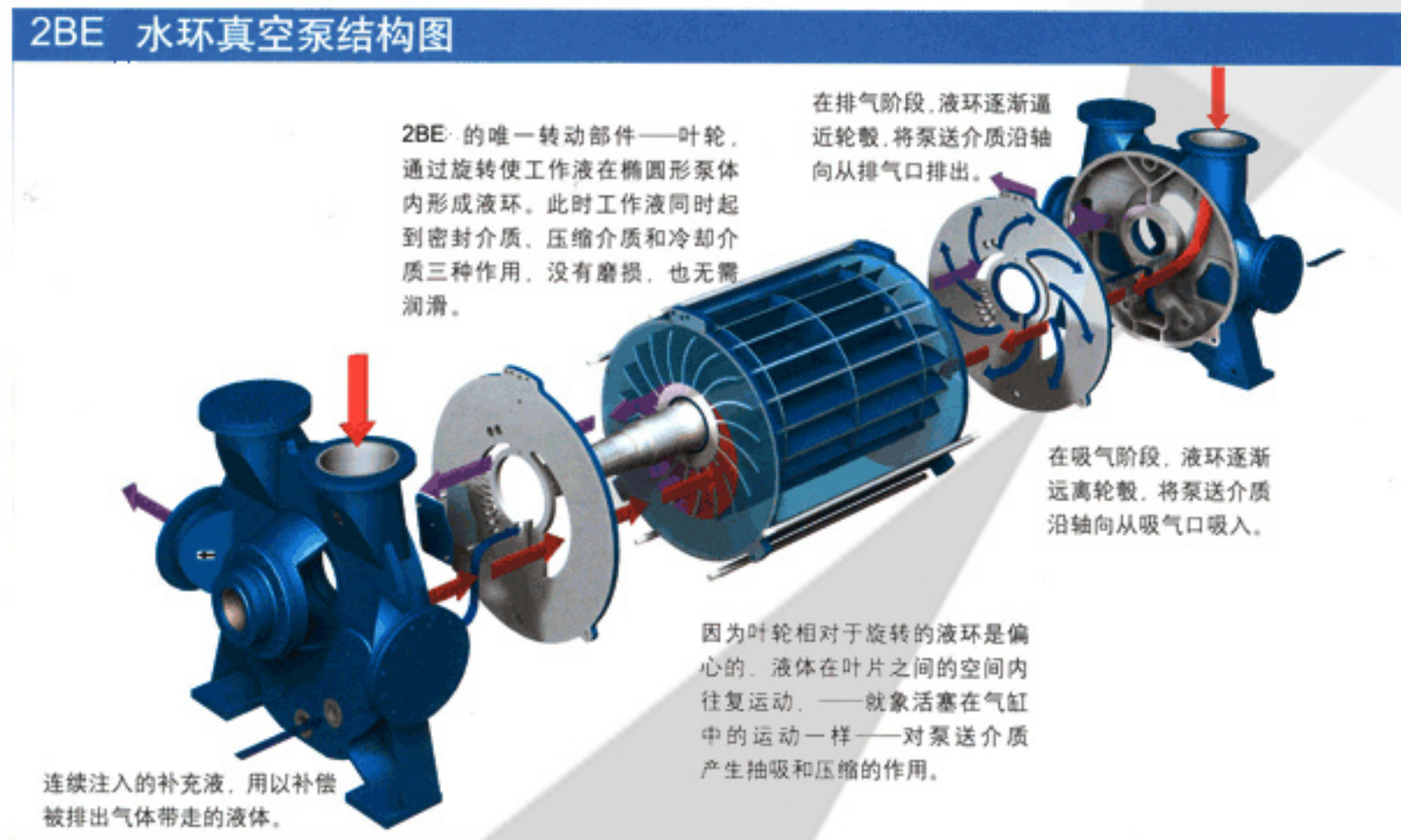
<3> Indicates the impeller nominal width-diameter ratio code, specifically: 1--B (width)/D (diameter) =0.5;

2--B/D=0.75;3--B/D=1;5-- B/D=1.2;

<4> Indicates the minimum suction pressure code, specifically: 0--represents the ultimate vacuum of 33hpa; 1--represents the ultimate vacuum of 160hpa;

Model example: "2BE1-403-0" is a single-stage water ring vacuum pump with a nominal impeller diameter of 800mm, an aspect ratio of 1, and a minimum income absolute pressure of 33hPa. It can also be recorded as: 2BE1-403 (because the 2BE1 series ultimate vacuum is 33hpa, 2BE3 ultimate vacuum is 160hpa, so <4> this item is generally ignored and not marked)

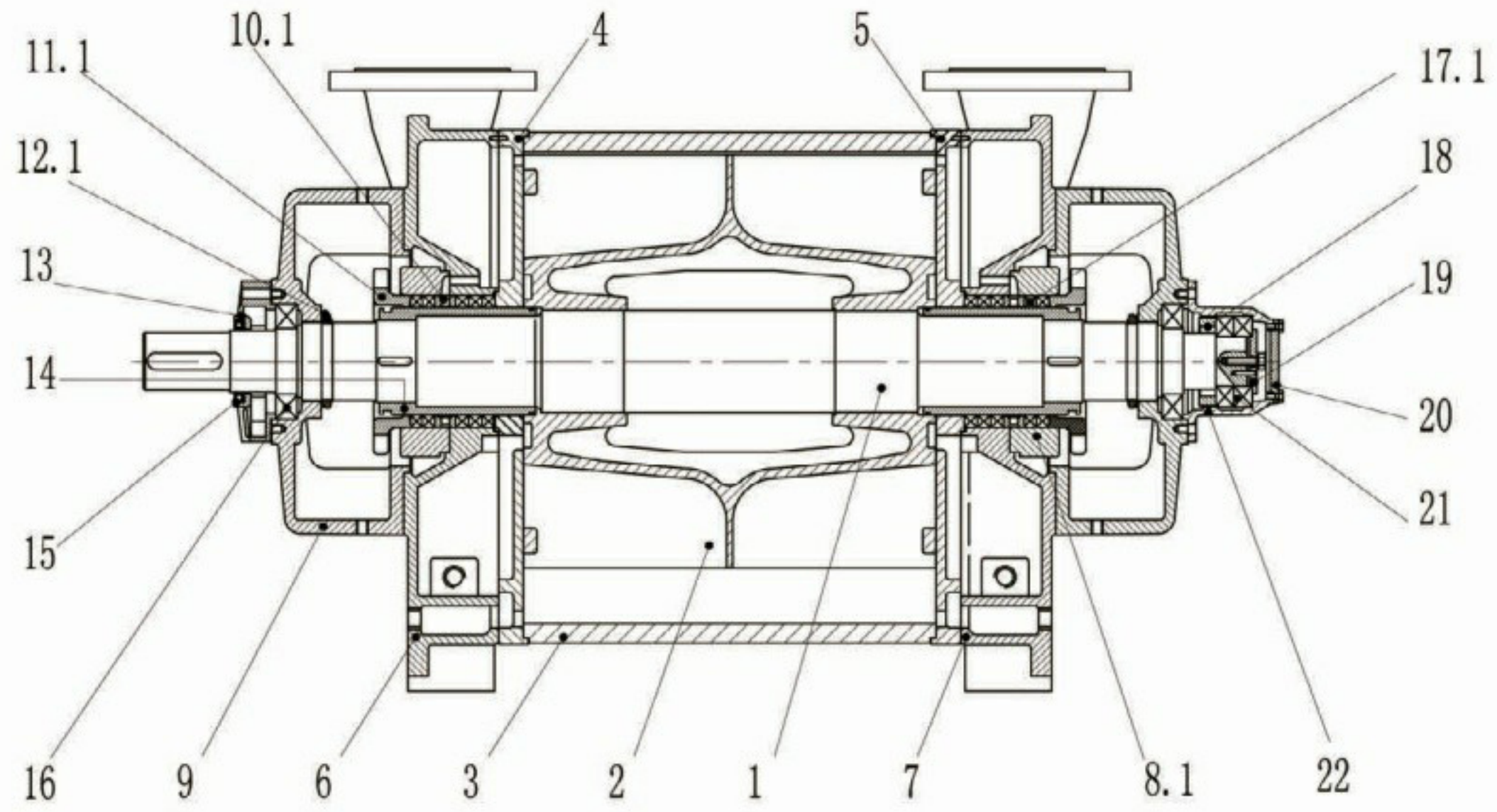
● 2BE3 系列水环式真空泵及压缩机 2BE3 Series Liquid Ring Vacuum Pumps and Compressors



● 2BE3 系列较 2BE1 系列而言，不同点为：(1) 气量明显增大，真空度有所降低，适合于煤矿瓦斯抽放、化工厂变压吸附等大量工作场合；(2) 轴承由圆柱滚珠轴承改为双列圆锥滚子轴承，轴承承载能力增大，寿命提高；(3) 泵体与分配盘的定位地连接由“止口定位”改为“一面两销”，由定位销确保叶轮与泵体的径向间隙；(4) 泵盖除了顶部设进排口外，侧端也设计了进排口位置。如选择顶部进排口，则用盲盖闷死侧端进排气口，增加了安装选择余地。(5) 2BE3 系列的泵由于体积大，吸气量大，能耗功率也同时加大，因此电机可选为高压电机，传动一般推荐减速机传动，皮带传动最高到 50/52 型号，60 及以上泵应选用减速机传动。(6) 2BE3 系列泵体内增加偏心隔板，可同叶轮中板配合将泵体分成两个腔。同时启用侧法兰进排气口，可使一台泵满足需要两个不同压力点的行业。如造纸。

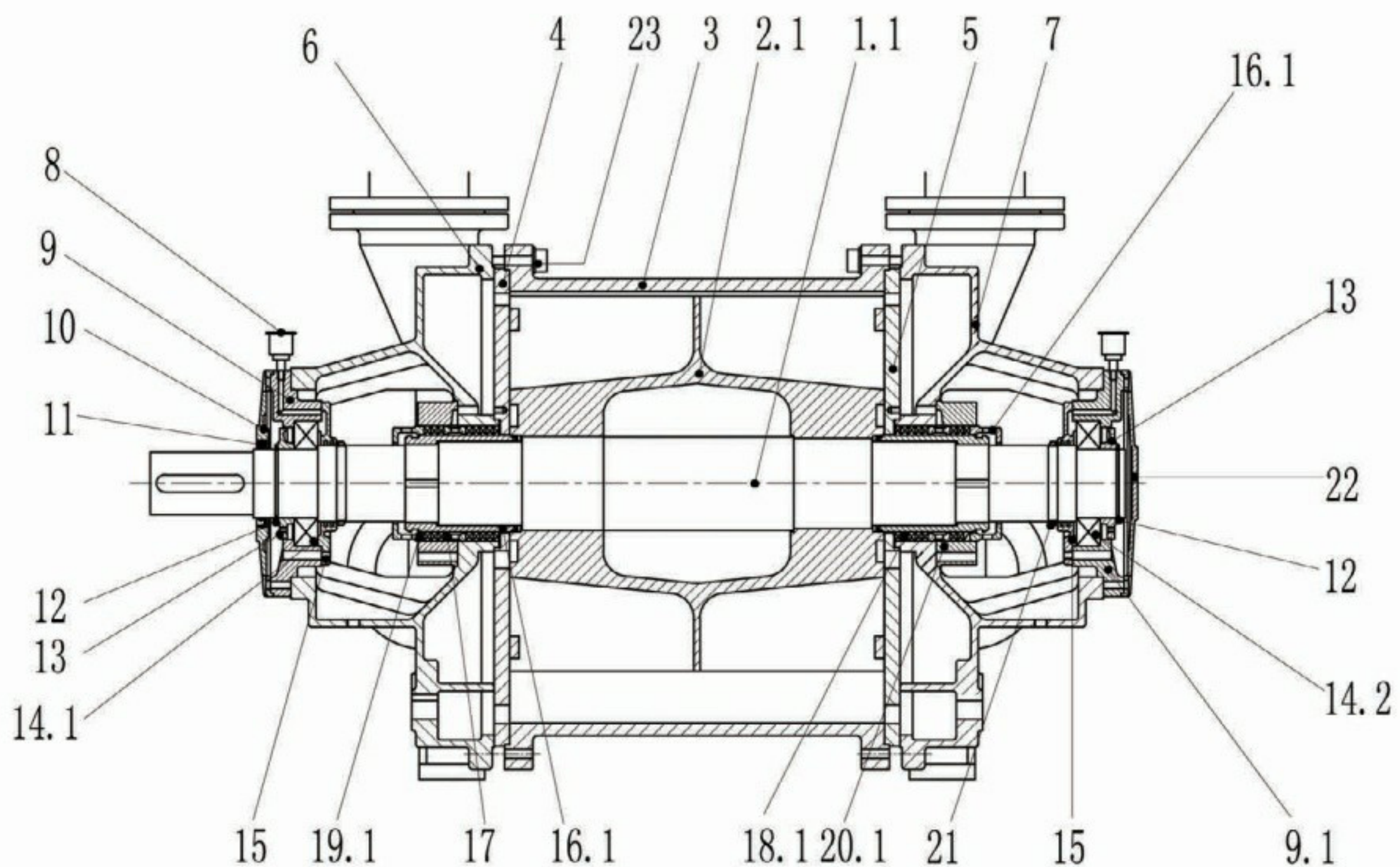
Compared with the 2BE1 series, the 2BE3 series has the following differences: (1) The gas volume is significantly increased, and the vacuum degree is reduced, so it is suitable for a large number of working occasions such as coal mine gas drainage, chemical plant pressure swing adsorption, etc.; (2) The bearings are made of cylindrical balls. The bearing is changed to double-row tapered roller bearing, the bearing capacity is increased, and the service life is improved; (3) The positioning connection between the pump body and the distribution plate is changed from "port positioning" to "two pins on one side", and the positioning pin ensures the impeller Radial clearance with the pump body; (4) In addition to the inlet and outlet at the top of the pump cover, the position of the inlet and outlet is also designed at the side end. If the top intake and exhaust is selected, the side intake and exhaust ports are smothered with a blind cover, which increases the installation options. (5) The 2BE3 series pumps are large in size, large in suction volume, and high in energy consumption and power. Therefore, the motor can be selected as a high-voltage motor. The transmission generally recommends a reducer drive, and the belt drive is up to 50/52 models, 60 and The above pumps should be driven by a reducer. (6) 2BE3 series pump body is added with an eccentric baffle plate, which can cooperate with the impeller middle plate to divide the pump body into two cavities. At the same time, the side flange inlet and exhaust ports are enabled, so that one pump can meet the needs of industries that require two different pressure points. such as papermaking.

2BE1-102/103/152/153/202/203/252/253剖面结构图 Sectional Drawing



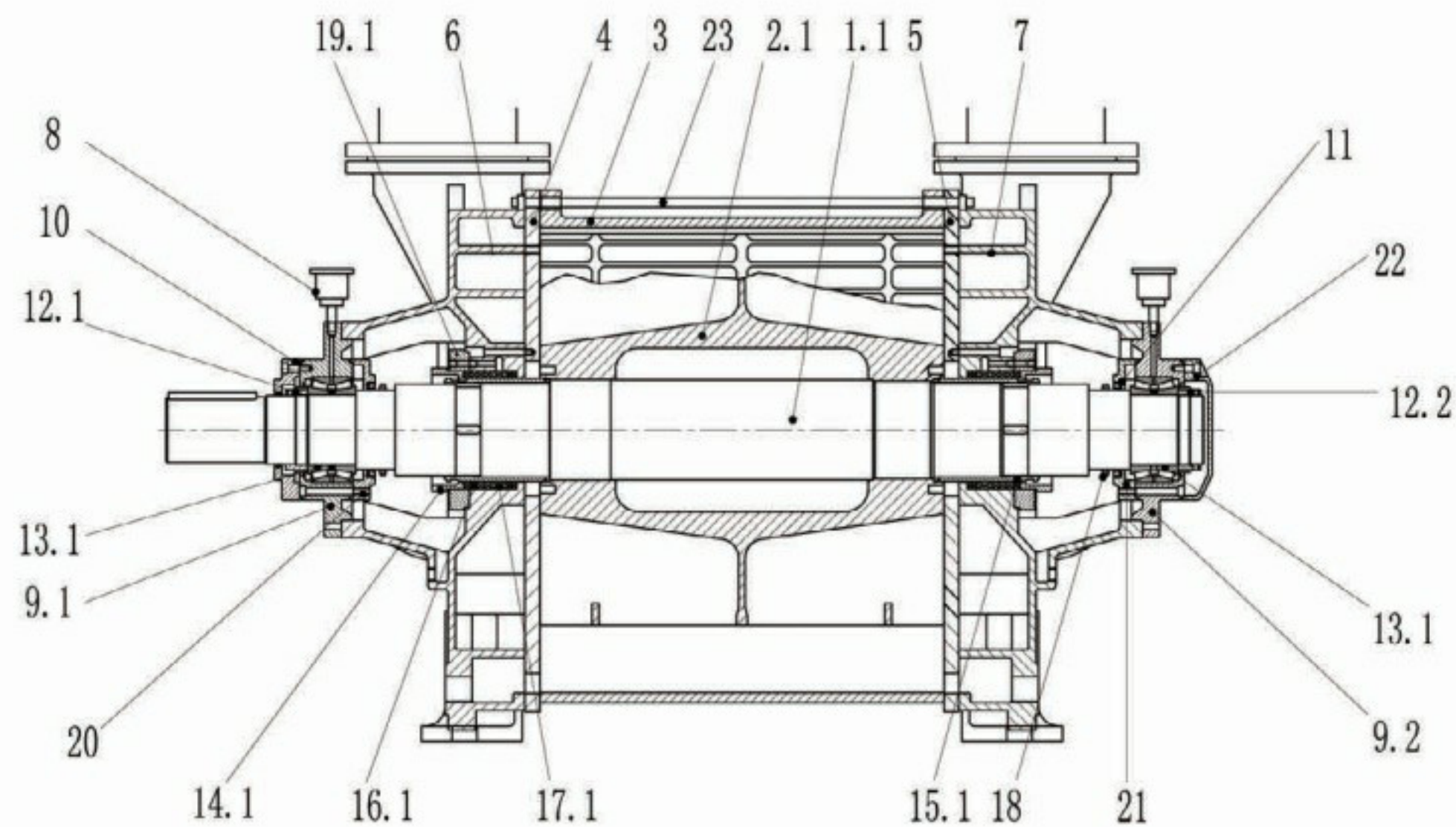
序号 No.	名称 Name	序号 No.	名称 Name	序号 No.	名称 Name	序号 No.	名称 Name
1	主轴 shaft	2	叶轮 impeller	3	泵体 casing	4	前圆盘 front port plate
5	后圆盘 back port plate	6	前泵盖 front end shield	7	后泵盖 back end shield	8.1	填料函 packing box
9	轴承架 bearing bracket	10.1	填料环 packing ring	11.1	填料压盖 packing cover	12.1	挡水圈 waterproof ring
13	前轴承压盖 bearing cap	14	轴套 shaft sleeve	15	骨架油封 framework oil seal	16	支撑轴承 axial bearing
17.1	填料 packing	18	后轴承压盖 bearing cap	19	轴压盖 shaft gland	20	轴承挡盖 bearing cap
21	定位轴承 locating bearing	22	后轴承座 back bearing pedestal	11.2	机封压盖 mechanical seal gland	17.2	机械密封 mechanical seal

2BE1-303/305/353/355/403/405剖面结构图 Sectional Drawing



序号 No.	名称	Name	序号 No.	名称	Name
1	主轴	shaft	2	叶轮	impeller
3	泵体	casing	4	前圆盘	front port plate
5	后圆盘	back port plate	6	前泵盖	front end shield
7	后泵盖	back end shield	8	油杯	oil cup
9	轴承架	bearing bracket	10	前轴承压盖	front bearing cap
11	骨架油封	framework oil seal	12	弹性挡圈	circlip
13	挡油盘	oil retaining disc	14.1	前轴承	front bearing
14.2	后轴承	back bearing	15	轴承压盖	bearing cover
16	轴套	shaft sleeve	17	填料环	packing ring
18.1	填料	packing	19.1	填料压盖	packing cover
20.1	填料函	packing box	21	挡水圈	waterproof ring
22	后轴承压盖	back bearing cap	23	螺栓	bolts
18.2	机械密封	mechanical seal	19.2	机封压盖	mechanical seal gland

2BE3 系列剖面结构图 Sectional Drawing



序号 No.	名称	Name	序号 No.	名称	Name
1	主轴	shaft	2	叶轮	impeller
3	泵体	casing	4	前圆盘	front port plate
5	后圆盘	back port plate	6	前泵盖	front end shield
7	后泵盖	back end shield	8	油杯	oil cup
9.1	前轴承座	front bearing bracket	9.2	后轴承座	back bearing bracket
10	前轴承压盖	front bearing cap	11	骨架油封	framework oil seal
12.1	前锁紧螺母	fore lock nut	12.2	后锁紧螺母	back lock nut
13	轴承	bearing	14	轴承压盖	bearing cover
15	轴套	shaft sleeve	16.1	填料	packing
17.1	填料环	packing ring	18	挡水圈	waterproof ring
19.1	填料函	packing box	20	前轴承挡盖	front bearing cover
21	后轴承挡盖	back bearing cover	22	后轴承压盖	back bearing cap
23	螺栓	bolts	16.2	机械密封	mechanical seal
19.2	机封压盖	mechanical seal gland			



2BE1 系列技术性能表/2BE1 Technical Parameters

型号 Model	转速 Speed (r/min)	轴功率 Shaft power (kW)	配用电机 Motor Power (KW)	极限真空度 Limit vacuum	最大抽气速率 Suction capacity		泵头重 Weight excluding motor(kg)
					m ³ /h	m ³ /min	
2BE1-102	1450 (直联)	6.0	Y132M-4-7.5	33hpa (-0.097Mpa)	246	4.1	110
	1750 (皮带)	8.0	Y160M-4-11		290	4.8	
2BE1-103	1450 (直联)	8.2	Y160M-4-11	33hpa (-0.097Mpa)	340	5.7	125
	1750 (皮带)	11.1	Y160L-4-15		412	6.9	
2BE1-152	1450 (直联)	12.5	Y160L-4-15	33hpa (-0.097Mpa)	450	7.5	175
	1625 (皮带)	15.0	Y180M-4-18.5		510	8.5	
	1750 (皮带)	17.2	Y180L-4-22		535	8.9	
2BE1-153	1450 (直联)	16.3	Y180M-4-18.5	33hpa (-0.097Mpa)	600	10.0	200
	1100 (皮带)	10.6	Y160L-4-15		445	7.4	
	1300 (皮带)	13.4	Y180M-4-18.5		535	8.9	
	1620 (皮带)	19.6	Y180L-4-22		648	10.8	
	1750 (皮带)	22.3	Y200L-4-30		700	11.7	
2BE1-202	980 (直联)	18.2	Y200L2-6-22	33hpa (-0.097Mpa)	750	12.5	460
	790 (皮带)	13.4	Y180M-4-18.5		590	9.8	
	880 (皮带)	16.3	Y180M-4-18.5		670	11.2	
	1100 (皮带)	23.8	Y200L-4-30		860	14.3	
	1170 (皮带)	25.7	Y200L-4-30		888	14.8	
	1300 (皮带)	30	Y225S-4-37		950	15.8	
2BE1-203	980 (直联)	29.5	Y250M-6-37	33hpa (-0.097Mpa)	1080	18	530
	790 (皮带)	21.2	Y200L-4-30		870	14.5	
	880 (皮带)	24.8	Y200L-4-30		980	16.3	
	1100 (皮带)	34	Y225M-4-45		1210	20.2	
	1170 (皮带)	38	Y225M-4-45		1320	22.0	
	1300 (皮带)	42	Y250M-4-55		1390	23.2	
2BE1-252	740 (直联)	38	Y280M-8-45	33hpa (-0.097Mpa)	1700	28.3	870
	590 (皮带)	24	Y200L-4-30		1200	20.0	
	660 (皮带)	31.8	Y225S-4-37		1500	25.0	
	830 (皮带)	45	Y250M-4-55		1770	29.5	
	885 (皮带)	54	Y280S-4-75		2000	33.3	
	938 (皮带)	60	Y280S-4-75		2100	35.0	
2BE1-253	740 (直联)	54	Y315M-8-75	33hpa (-0.097Mpa)	2450	40.8	930
	565 (皮带)	37.2	Y225M-4-45		1690	28.2	
	660 (皮带)	45	Y250M-4-55		2100	35	
	740 (皮带)	50.8	Y280S-4-75		2340	39	
	792 (皮带)	60	Y280S-4-75		2560	42.7	
	820 (皮带)	68	Y280M-4-75		2640	44	
	880 (皮带)	75.1	Y280M-4-90		2780	46.3	
	940 (皮带)	88	Y315S-4-110		3050	50.8	
2BE1-303	740 (直联)	98	Y315L2-8-110	33hpa	4000	66.7	1700



2BE1 系列技术性能表/2BE1 Technical Parameters

型号 Model	转速 Speed (r/min)	轴功率 Shaft power (kW)	配用电机 Motor Power (KW)	极限真空度 Limit vacuum	最大抽气速率 Suction capacity		泵头重 Weight excluding motor(kg)
					m ³ /h	m ³ /min	
2BE1-303	590 (直联)	65.5	Y315L2-10-75	(-0.097Mpa)	3200	53.3	
	466 (皮带)	48	Y250M-4-55		2520	42	
	530 (皮带)	58	Y280S-4-75		2820	47	
	583 (皮带)	64	Y280S-4-75		3100	51.7	
	660 (皮带)	79.8	Y280M-4-90		3550	59.2	
	740 (皮带)	96	Y315S-4-110		3840	64	
2BE1-305	740 (直联)	108	Y355M1-8-132	33hpa (-0.097Mpa)	4520	75.3	1820
	590 (直联)	70	Y355M1-10-90		3750	62.5	
	490 (皮带)	55	Y280S-4-75		3150	52.5	
	530 (皮带)	61	Y280S-4-75		3380	56.4	
	583 (皮带)	68	Y280M-4-90		3700	61.2	
	660 (皮带)	90	Y315S-4-110		4090	68.1	
	740 (皮带)	110	Y315M-4-132		4550	75.8	
2BE1-353	590 (直联)	121	Y355L2-10-160	33hpa (-0.097Mpa)	5300	88.3	1950
	390 (皮带)	63	Y280S-4-75		3580	59.7	
	425 (皮带)	71	Y280M-4-90		3700	61.7	
	460 (皮带)	78	Y280M-4-90		4100	68.3	
	520 (皮带)	93	Y315S-4-110		4620	77.0	
	585 (皮带)	113	Y315M-4-132		5200	86.7	
	620 (皮带)	133	Y315L1-4-160		5500	91.7	
	660 (皮带)	152	Y315L2-4-185		5850	97.5	
2BE1-355	590 (直联)	136	Y355L2-10-160	33hpa (-0.097Mpa)	5700	95	2200
	390 (皮带)	75	Y280M-4-90		4180	69.7	
	430 (皮带)	86	Y315S-4-110		4260	71	
	464 (皮带)	90	Y315S-4-110		4850	80.8	
	523 (皮带)	113	Y315M-4-132		5230	87.1	
	590 (皮带)	136	Y315L1-4-160		6000	100	
	660 (皮带)	167	Y315L2-4-185		6510	108	
2BE1-403	330 (皮带)	98	Y315M-4-132	33hpa (-0.097Mpa)	4860	81	3750
	372 (皮带)	110	Y315M-4-132		5400	90	
	420 (皮带)	131	Y315L1-4-160		6470	107.8	
	472 (皮带)	160	Y315L2-4-200		7380	123.0	
	530 (皮带)	213	Y355M2-4-250		8100	135.0	
2BE1-405	330 (皮带)	100	Y315M-4-132	33hpa (-0.097Mpa)	6000	100.0	3900
	372 (皮带)	118	Y315L1-4-160		6700	111.7	
	420 (皮带)	140	Y315L2-4-185		7500	125.0	
	472 (皮带)	170	Y315L2-4-200		8350	139.2	
	530 (皮带)	216	Y355M2-4-250		9450	157.5	



2BE3 系列技术性能表/2BE3 Technical Parameters

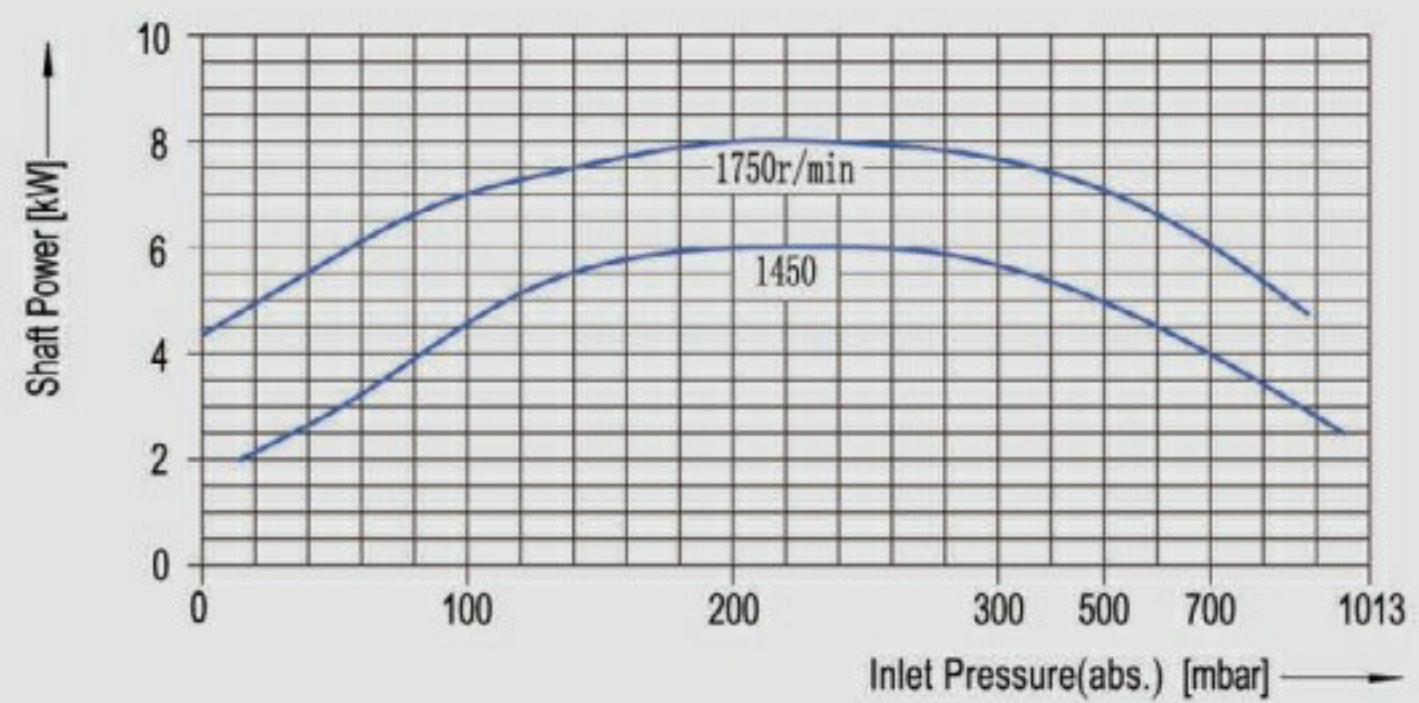
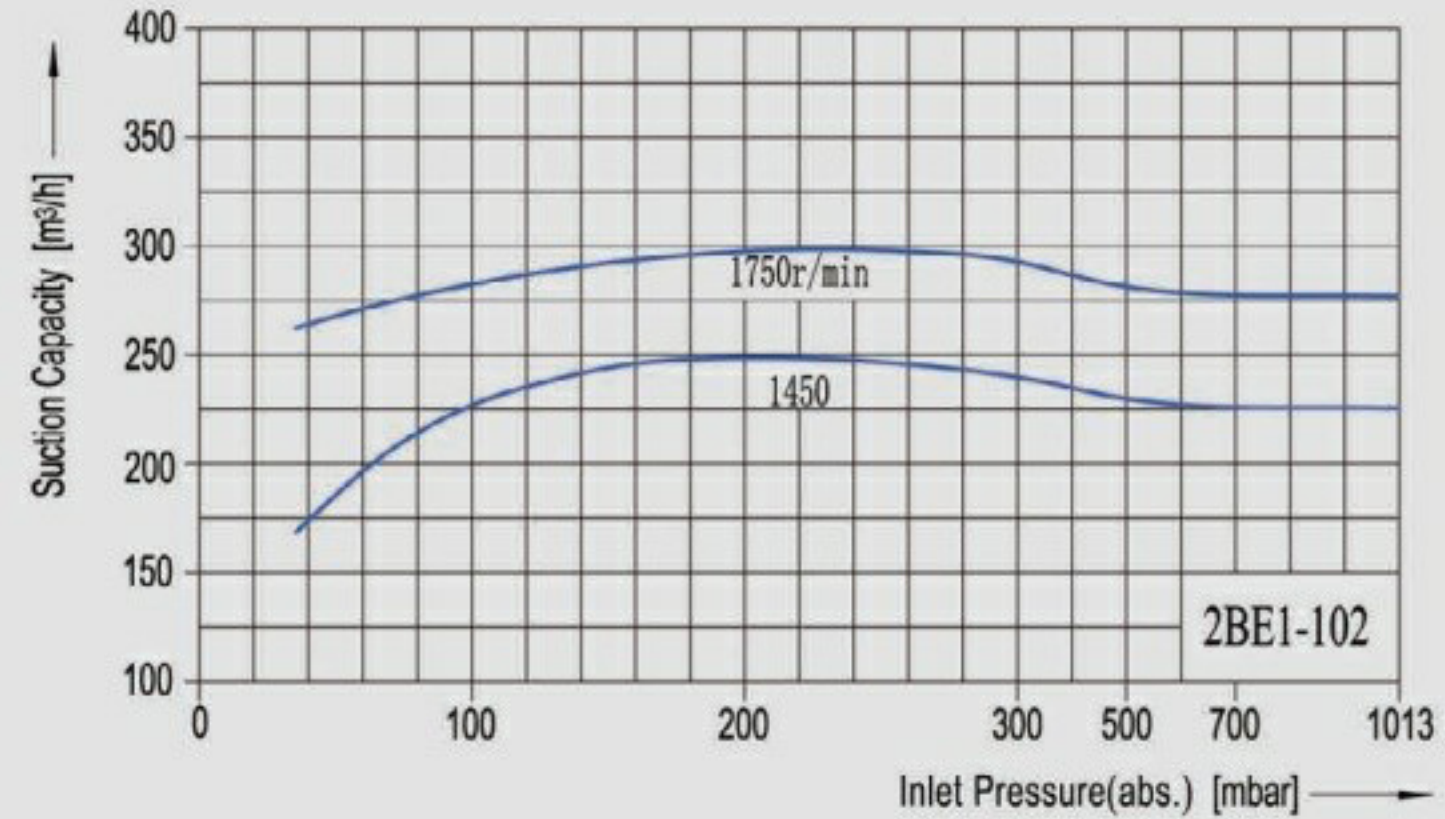
型号 Model	转速 Speed (r/min)	轴功率 Shaft power (kW)	配用电动机 Motor Power (KW)	极限真空度 Limit vacuum	最大抽气速率 Suction capacity		泵头重 Weight excluding motor (kg)
					m ³ /h	m ³ /min	
2BE3-40	300 (皮带/减速机)	64.8	6-75	160hPa (-0.085Mpa)	4200	70	4050
	330 (皮带/减速机)	75	6-90		4650	77	
	350 (皮带/减速机)	86.5	110		4860	81	
	390 (皮带/减速机)	99	110		5460	91	
	430 (皮带/减速机)	117	132		6000	100	
	(皮带/减速机)	135	160		6900	115	
	530 (皮带/减速机)	148	185		7440	124	
	570 (皮带/减速机)	167	200		8000	133	
2BE3-42	300 (皮带/减速机)	100	6-110	160hPa (-0.085Mpa) (speed)	5850	97.5	4200
	350 (皮带/减速机)	109	132		6300	105	
	390 (皮带/减速机)	133	160		7650	127	
	449 (皮带/减速机)	157	185		8550	142	
	490 (皮带/减速机)	180	200		9200	154	
	530 (皮带/减速机)	200	220		10100	168	
	570 (皮带/减速机)	225	250		10600	177	
	2BE3-50	236 (皮带/减速机)	128		160	160hPa (-0.085Mpa)	
266 (皮带/减速机)		140	160	8500	142		
300 (皮带/减速机)		173	200	10000	167		
336 (皮带/减速机)		235	250	11400	190		
366 (皮带/减速机)		261	280	12500	208		
420 (减速机)		278	315	13700	228		
2BE3-52	236 (皮带/减速机)	168	185	160hPa (-0.085Mpa)	9000	150	6500
	266 (皮带/减速机)	175	200		10560	176	
	336 (皮带/减速机)	260	280		13800	230	
	366 (减速机)	285	315		15000	250	
	421 (减速机)	331	400		16800	280	
	468 (减速机)	416	500		18450	307	
2BE3-60	236 (减速机)	204	250	160hPa (-0.085Mpa)	11820	197	8900
	265 (减速机)	243	280		14200	236	
	295 (减速机)	285	315		15900	265	
	340 (减速机)	365	400		17400	290	
	370 (减速机)	386	450		19400	323	
2BE3-62	200 (减速机)	195	250	160hPa (-0.085Mpa)	13200	220	9250
	230 (减速机)	260	315		15180	253	
	266 (减速机)	300	355		17300	288.3	
	297 (减速机)	348	400		19300	322	
	330 (减速机)	395	450		21300	355	
	372 (减速机)	490	560		24000	400	
2BE3-67	180 (减速机)	250	315	160hpa (-0.085Mpa)	14500	242	12200
	210 (减速机)	285	315		18000	300	
	270 (减速机)	415	450		22800	380	
	300 (减速机)	465	560		25800	430	
	330 (减速机)	545	630		27720	462	
	370 (减速机)	670	800		30960	516	
2BE3-72	190 (减速机)	338	400	160hpa (-0.085Mpa)	20100	335	15000
	210 (减速机)	395	450		23760	396	
	240 (减速机)	475	560		27000	450	
	270 (减速机)	550	630		30000	500	
	300 (减速机)	642	710		33600	560	
2BE3-80N	190 (减速机)	507	560	160hpa (-0.085Mpa)	30000	500	19000
	210 (减速机)	585	630		32280	538	
	240 (减速机)	710	800		36600	610	
	270 (减速机)	849	900		40800	680	
	300 (减速机)	796	1000		44800	748	
2BE3-90N	170 (减速机)	570	630	160hpa (-0.085Mpa)	39000	650	24500
	195 (减速机)	730	800		46800	780	
	210 (减速机)	815	900		49800	830	
	230 (减速机)	925	1000		52800	880	
	245 (减速机)	1035	1120		55800	930	
2BE3-100N	155 (减速机)	730	800	160hpa (-0.085Mpa)	48000	800	31000
	165 (减速机)	840	900		51300	855	
	175 (减速机)	900	1000		54000	900	
	190 (减速机)	995	1120		59400	990	
	200 (减速机)	1146	1250		62400	1040	

2BE1-102

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

转速 r/min	不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure		
	<200 mbar m ³ /h	200... 600mbar m ³ /h	>600 mbar m ³ /h
1750	1.5	1.1	0.5
1450	1.3	0.9	0.4

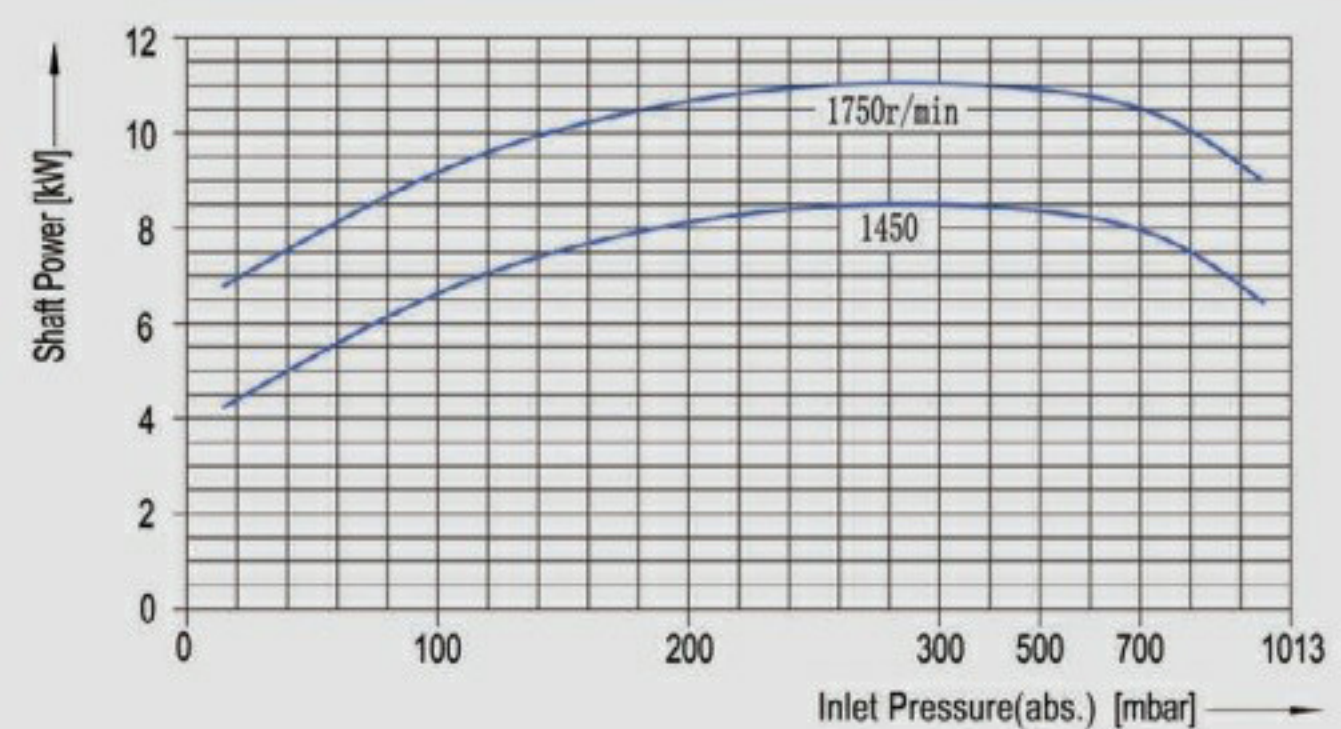
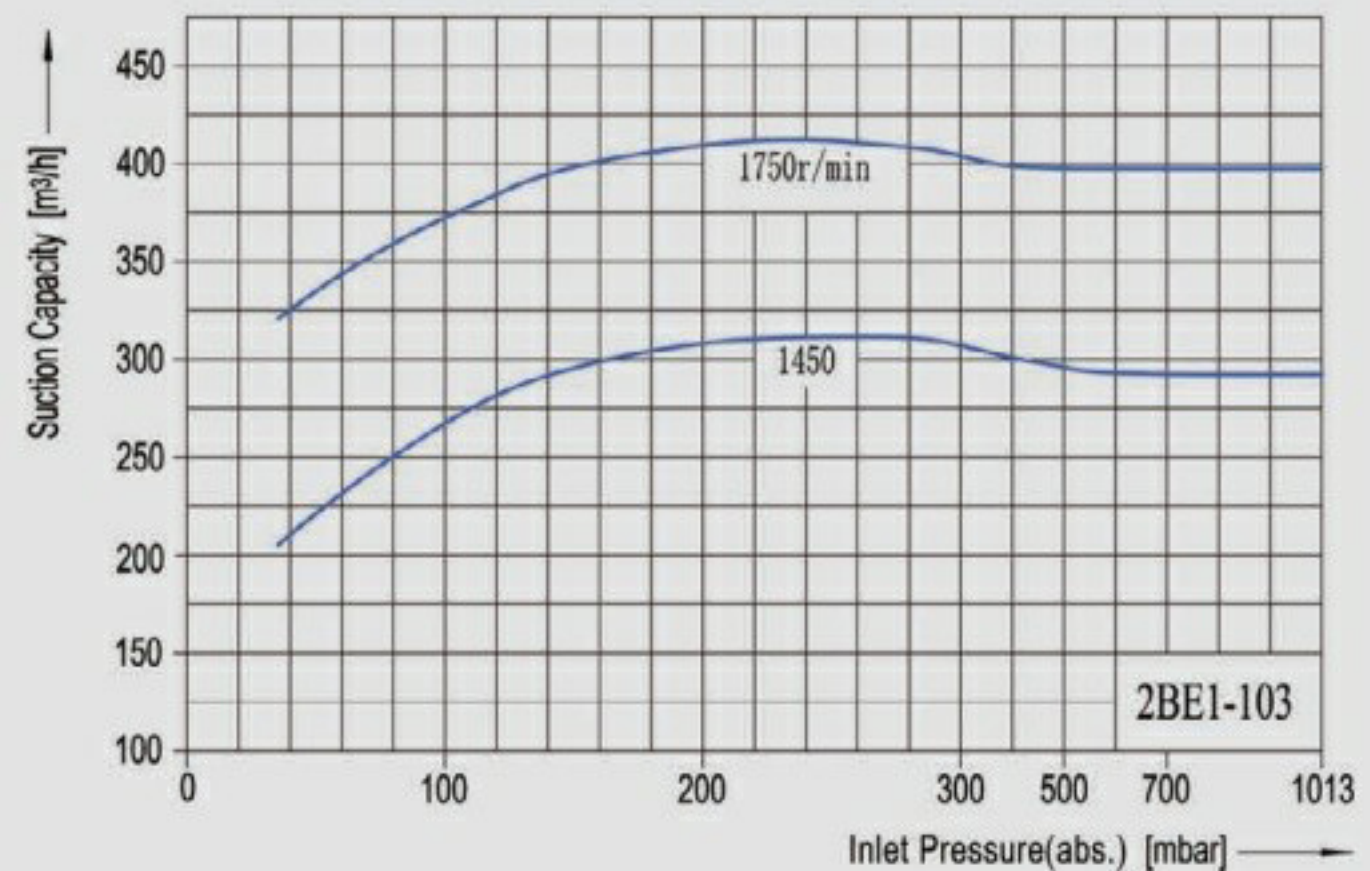


2BE1-103

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

转速 r/min	不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure		
	<200 mbar m ³ /h	200... 600mbar m ³ /h	>600 mbar m ³ /h
1750	1.7	1.13	0.57
1450	1.4	0.93	0.47

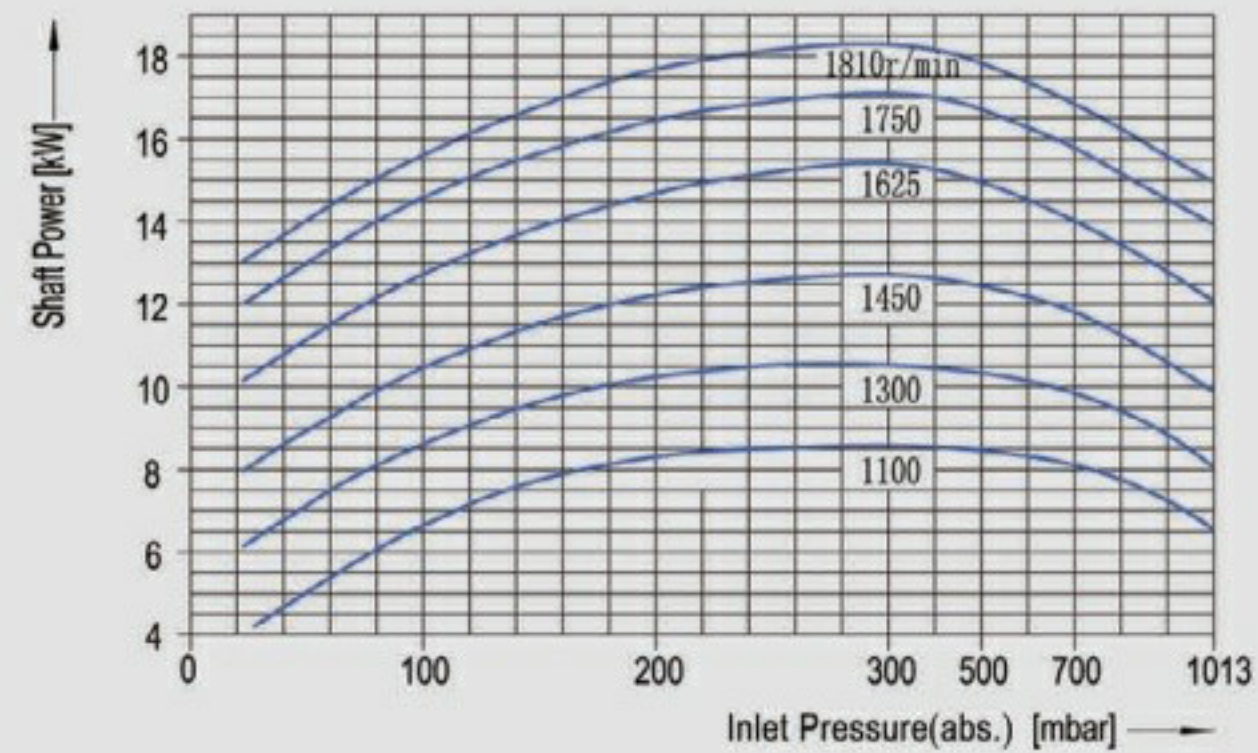
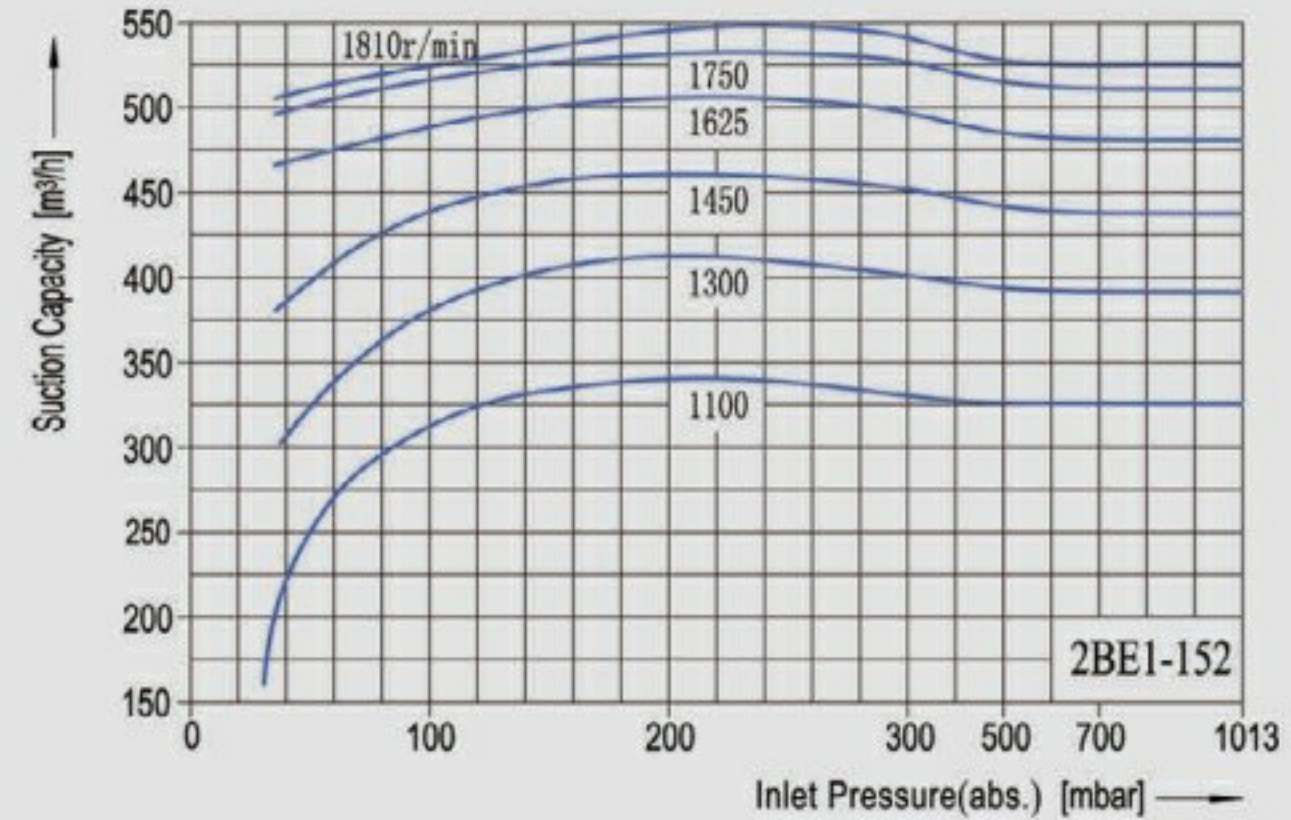


2BE1-152

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

转速 (speed) r/min	不同吸气压力下的工作液(水)流量 Working Liquid(water)Flow Volume of Different Suction Pressure		
	<200 mbar m ³ /h	200... 600mbar m ³ /h	>600 mbar m ³ /h
1810	2.2	1.5	0.73
1750	2.1	1.4	0.7
1625	1.9	1.27	0.63
1450	1.7	1.13	0.57
1300	1.5	1	0.5
1100	1.2	0.8	0.4

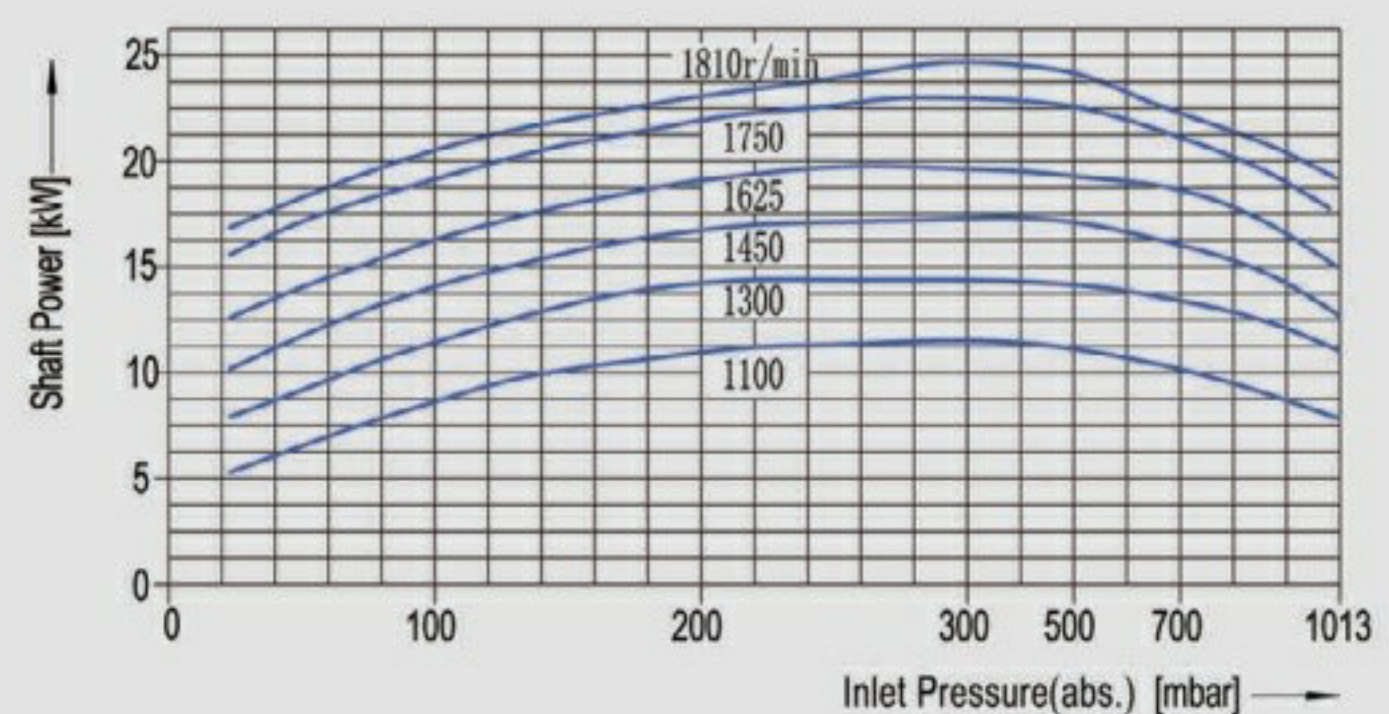
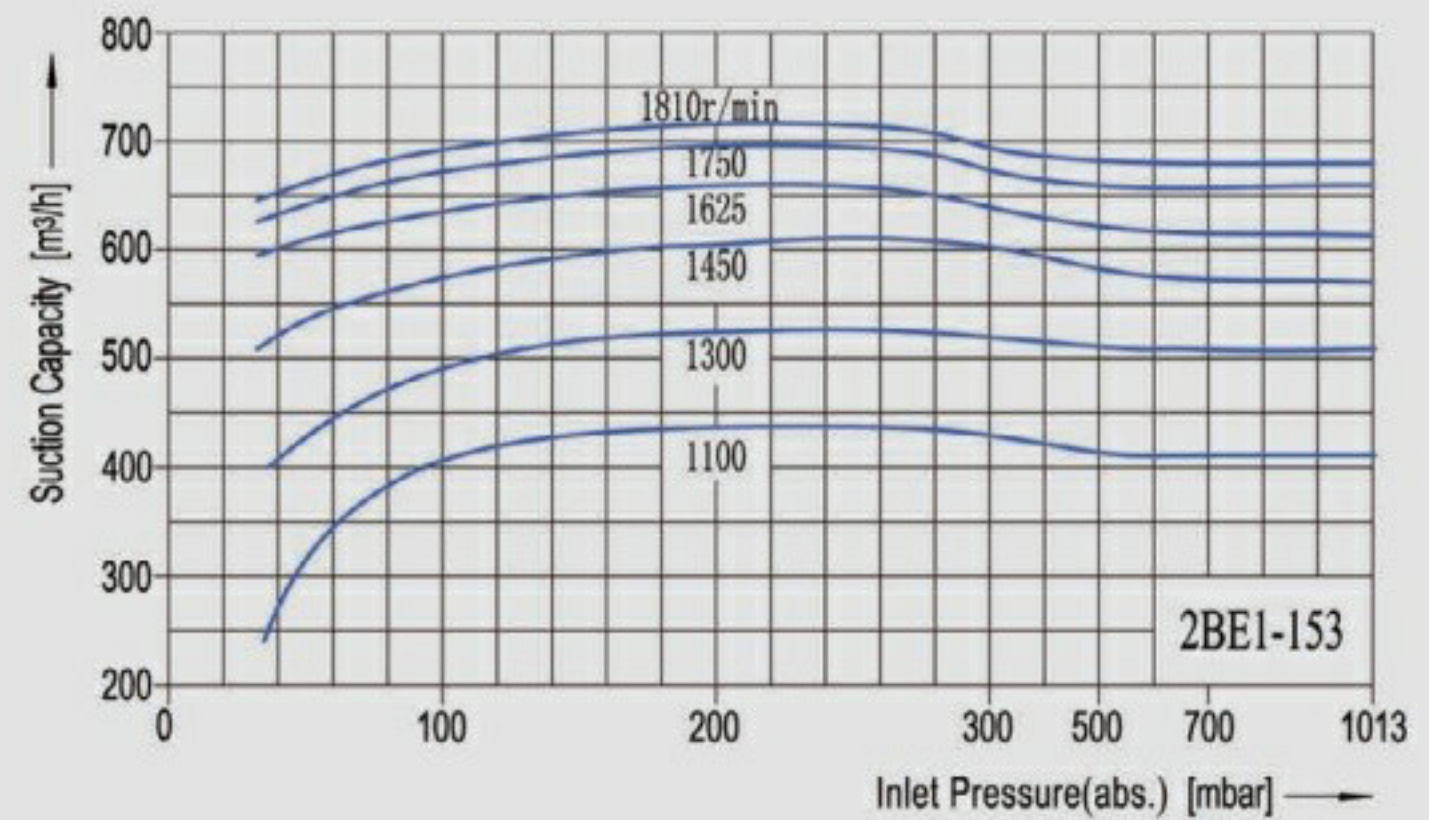


2BE1-153

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

转速 (speed) r/min	不同吸气压力下的工作液(水)流量 Working Liquid(water)Flow Volume of Different Suction Pressure		
	<200 mbar m ³ /h	200... 600mbar m ³ /h	>600 mbar m ³ /h
1810	2.4	1.6	0.8
1750	2.3	1.53	0.7
1625	2.1	1.4	0.63
1450	1.9	1.13	0.57
1300	1.7	1	0.5
1100	1.4	0.93	0.4

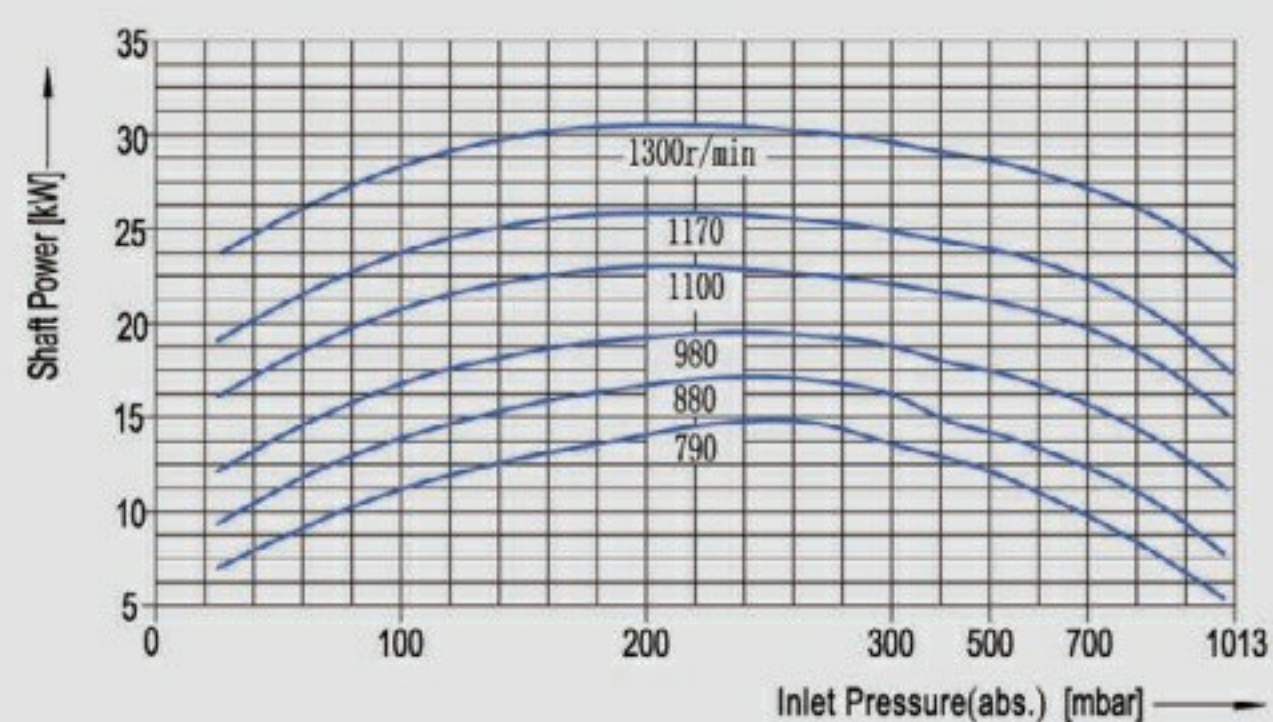
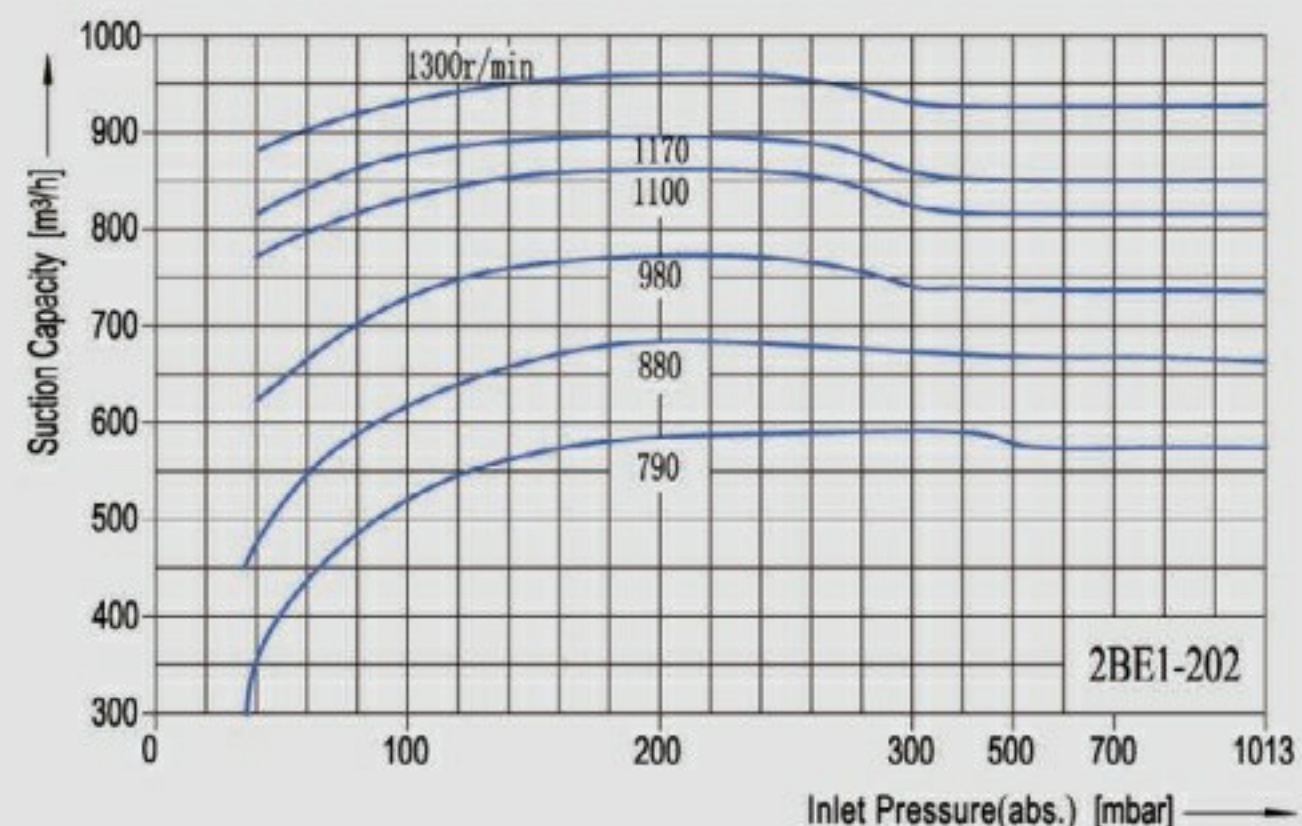


2BE1-202

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition:suction temperature 20°C, operating liquid 15°C;outlet pressure is 1 atmospheric pressure (1013mbar);inlet medium is saturated air; tolerance ±10%.

转速 (speed) r/min	不同吸气压力下的工作液(水)流量 Working Liquid(water)Flow Volume of Different Suction Pressure		
	<200 mbar m ³ /h	200... 600mbar m ³ /h	>600 mbar m ³ /h
1300	2.7	1.8	0.9
1170	2.5	1.67	0.83
1100	2.3	1.53	0.77
980	2.1	1.4	0.7
880	1.9	1.27	0.63
790	1.7	1.1	0.57

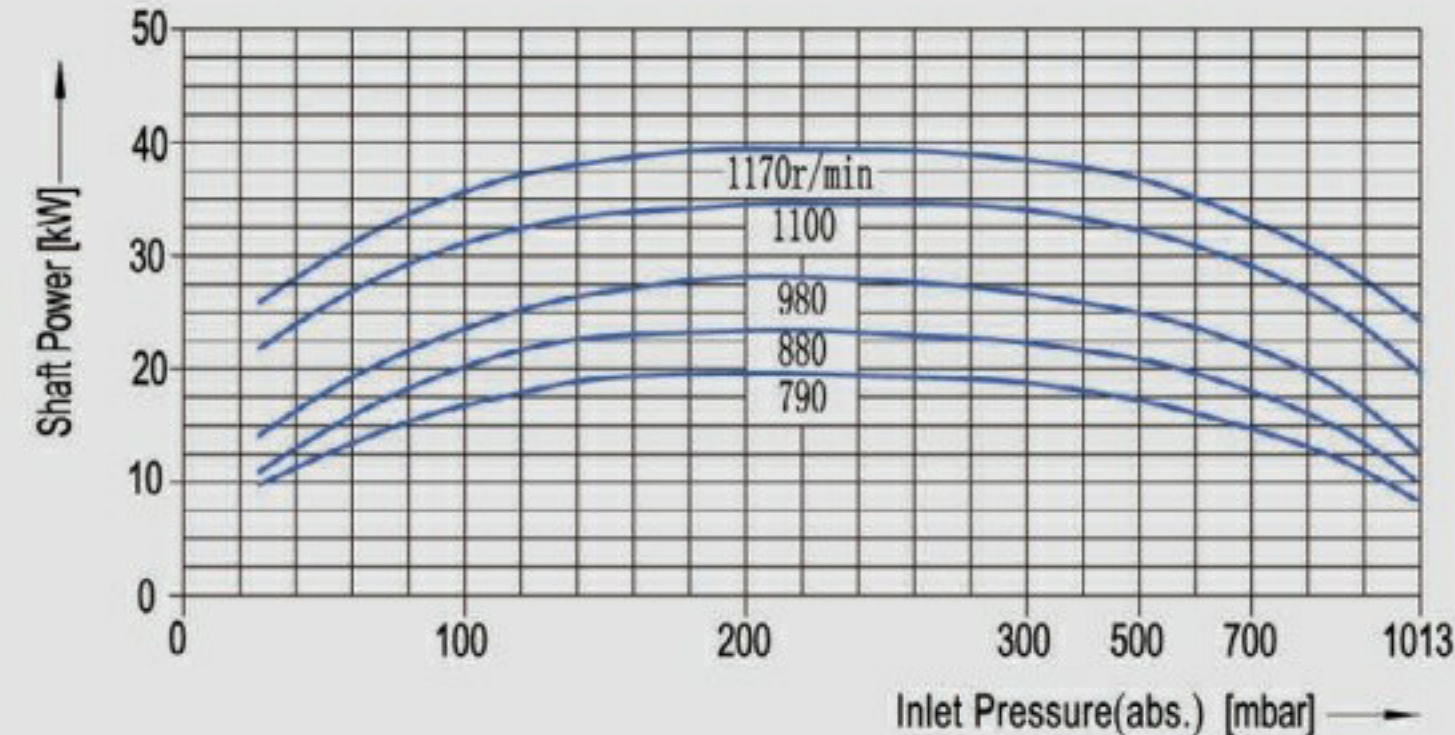
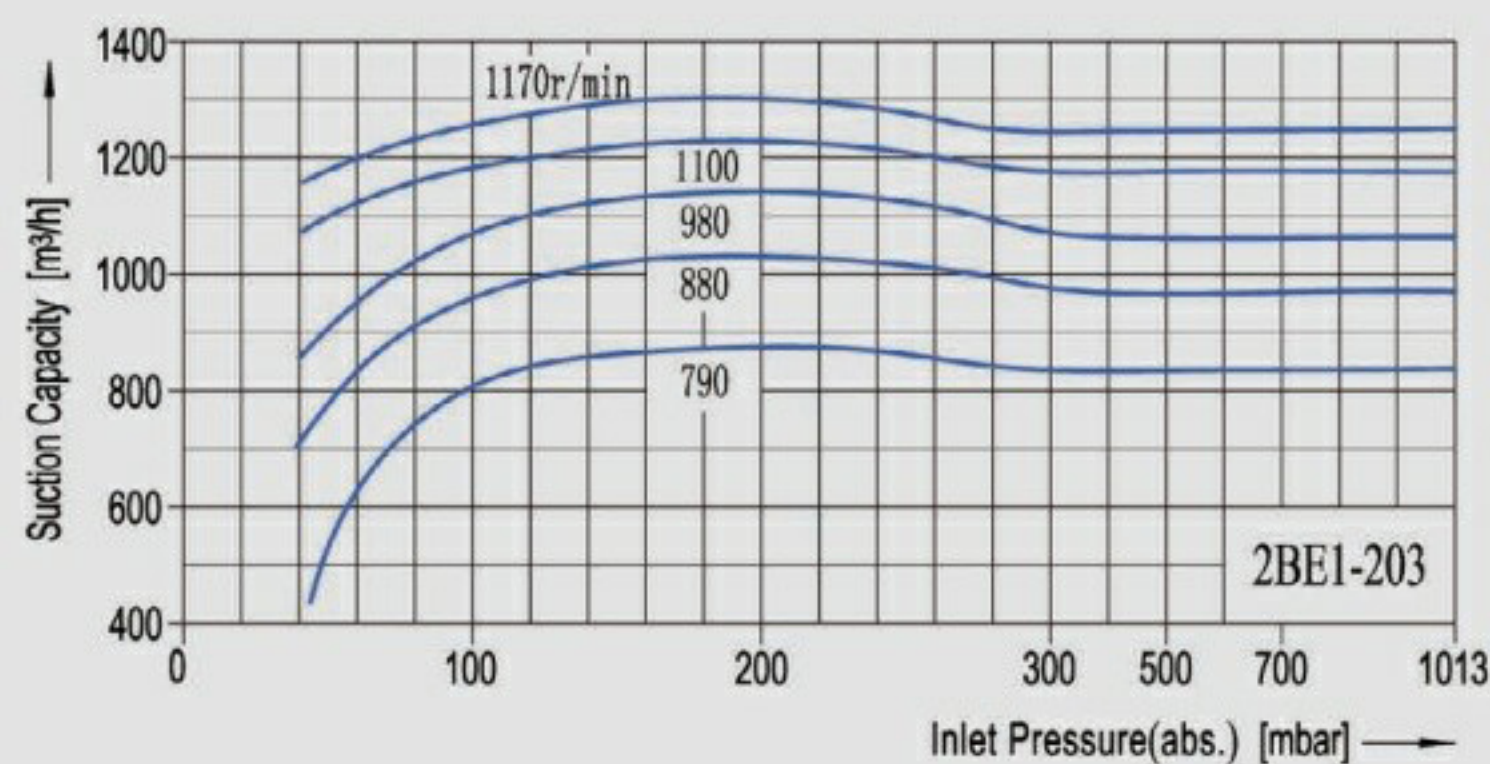


2BE1-203

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition:suction temperature 20°C, operating liquid 15°C;outlet pressure is 1 atmospheric pressure (1013mbar);inlet medium is saturated air; tolerance ±10%.

转速 (speed) r/min	不同吸气压力下的工作液(水)流量 Working Liquid(water)Flow Volume of Different Suction Pressure		
	<200 mbar m ³ /h	200... 600mbar m ³ /h	>600 mbar m ³ /h
1300	3.4	2.3	1.1
1170	3.1	2.07	1.03
1100	2.9	1.93	0.97
980	2.6	1.73	0.87
880	2.3	1.53	0.77
790	2.1	1.4	0.7

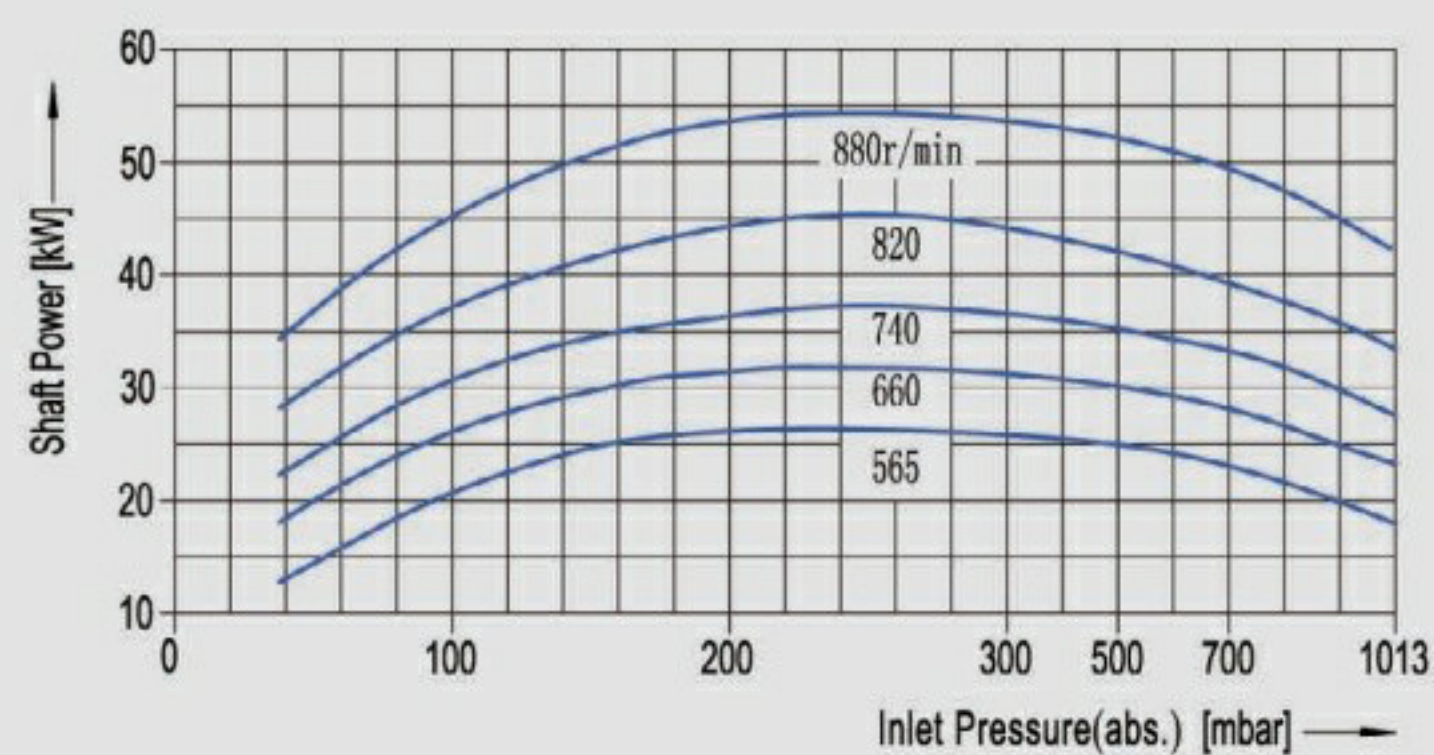
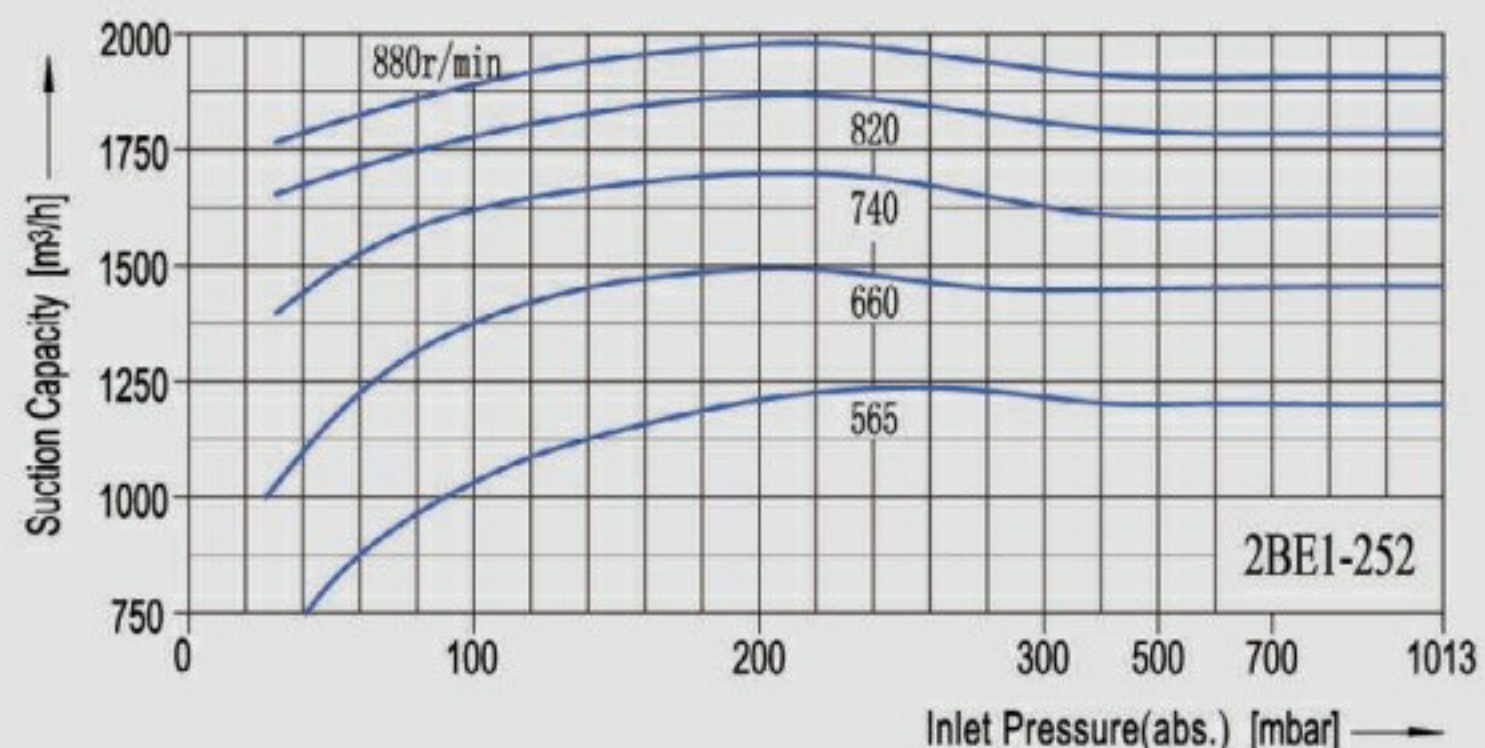


2BE1-252

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

转速 (speed) r/min	不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure		
	<200 mbar m ³ /h	200... 600mbar m ³ /h	>600 mbar m ³ /h
880	5.2	3.7	1.73
820	4.9	3.27	1.63
740	4.4	2.93	1.47
660	3.9	2.6	1.3
565	3.3	2.2	1.1

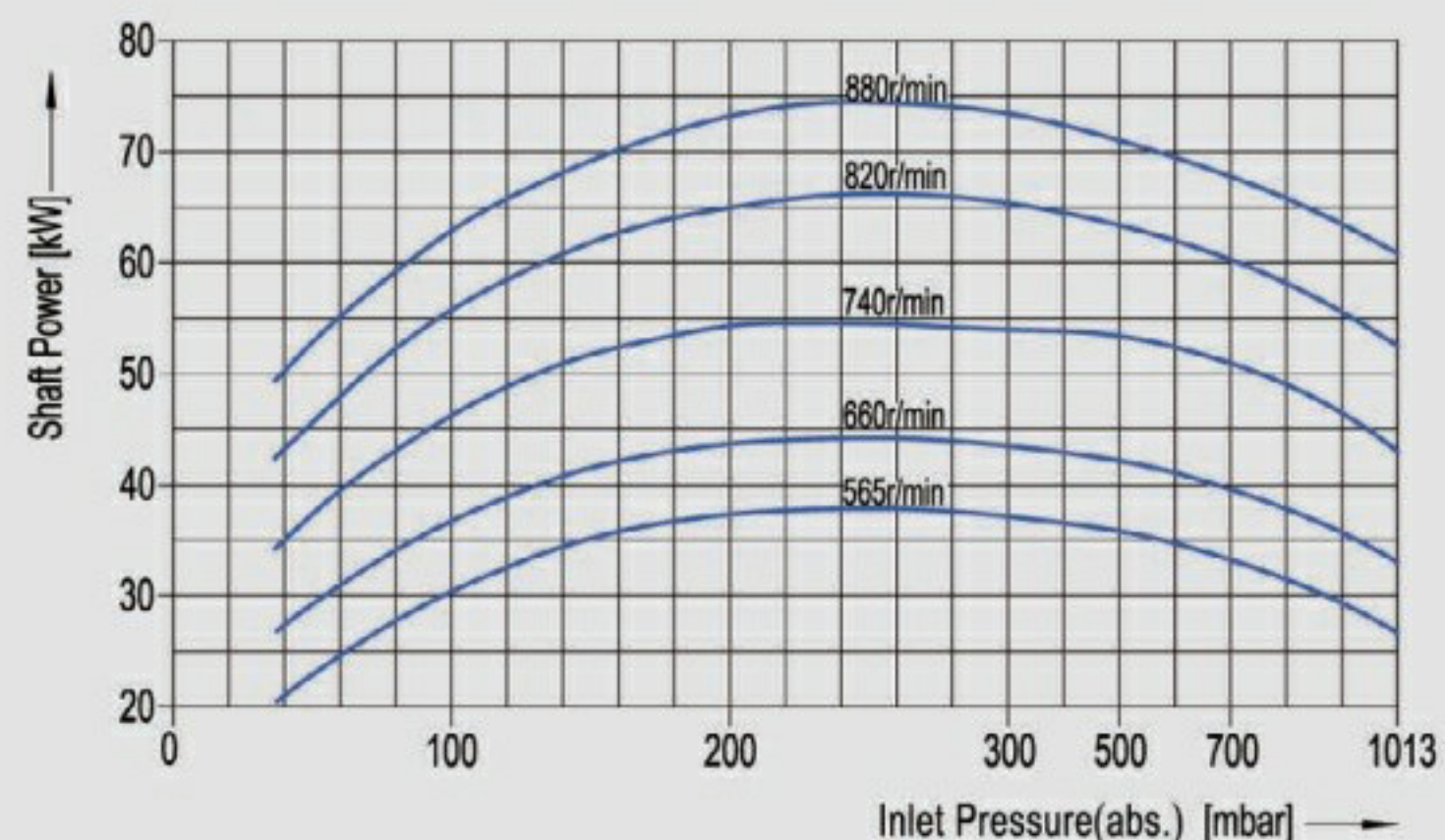
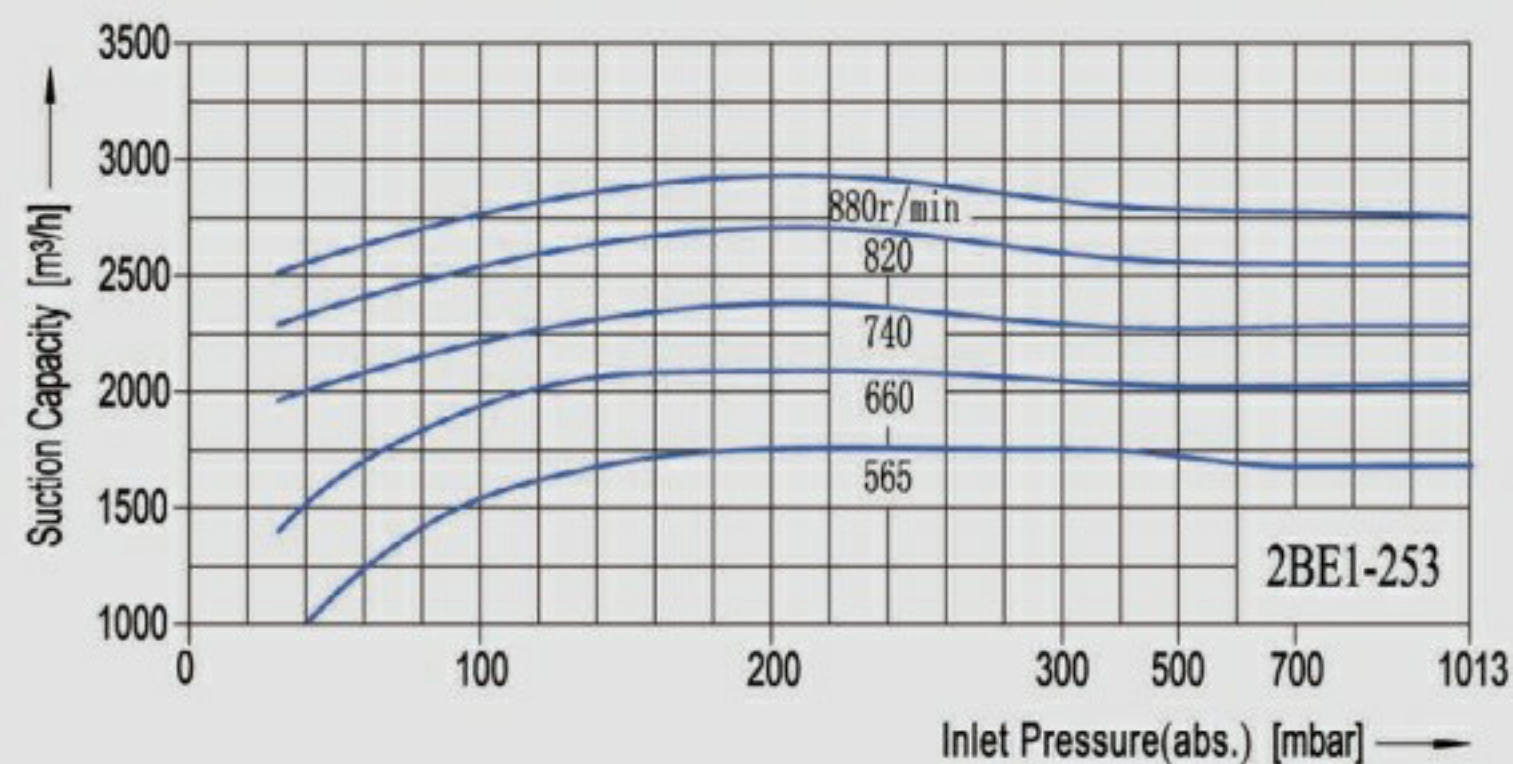


2BE1-253

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

转速 (speed) r/min	不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure		
	<200 mbar m ³ /h	200... 600mbar m ³ /h	>600 mbar m ³ /h
880	6.2	4.14	2.06
820	5.8	3.87	1.93
740	5.2	3.47	1.73
660	4.6	3.07	1.53
565	3.9	2.6	1.3

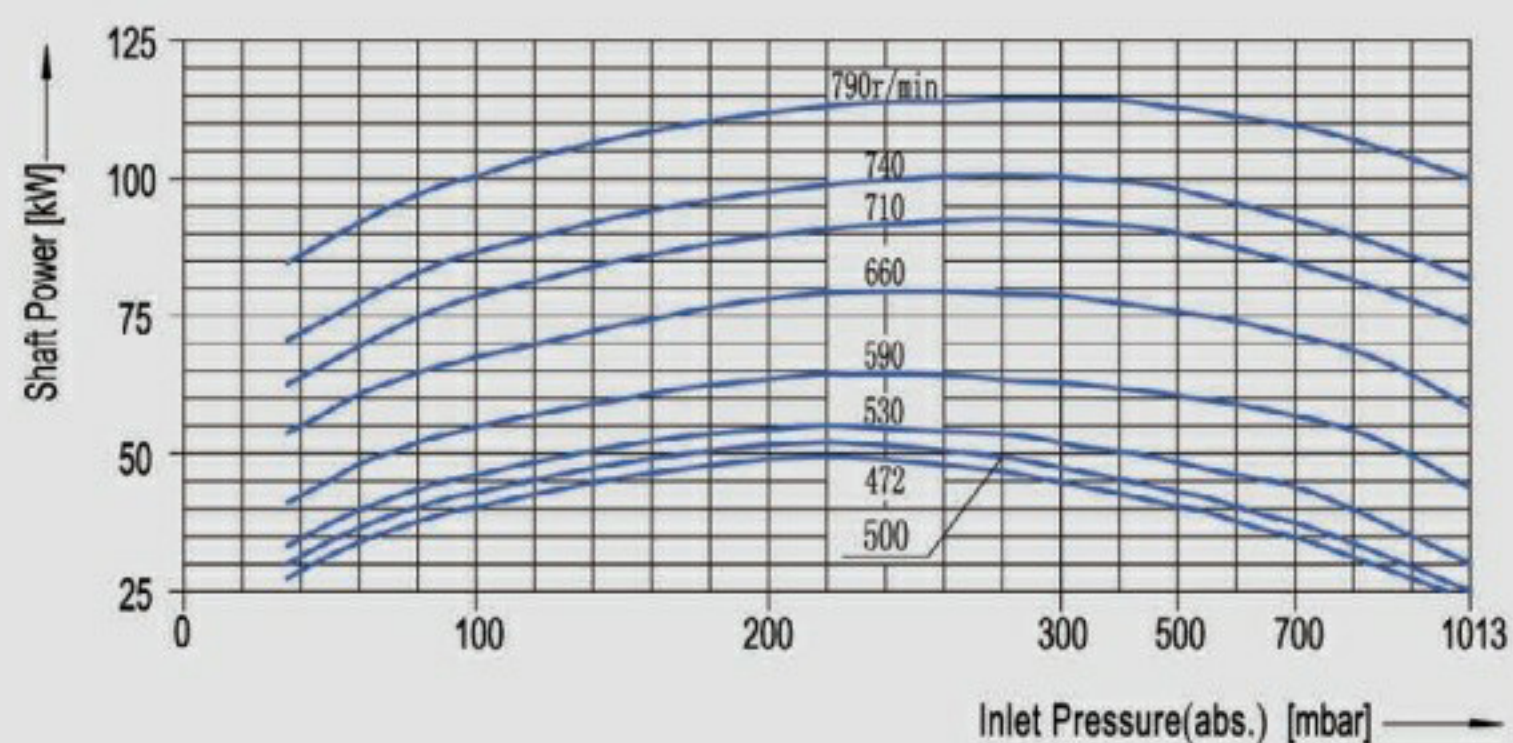
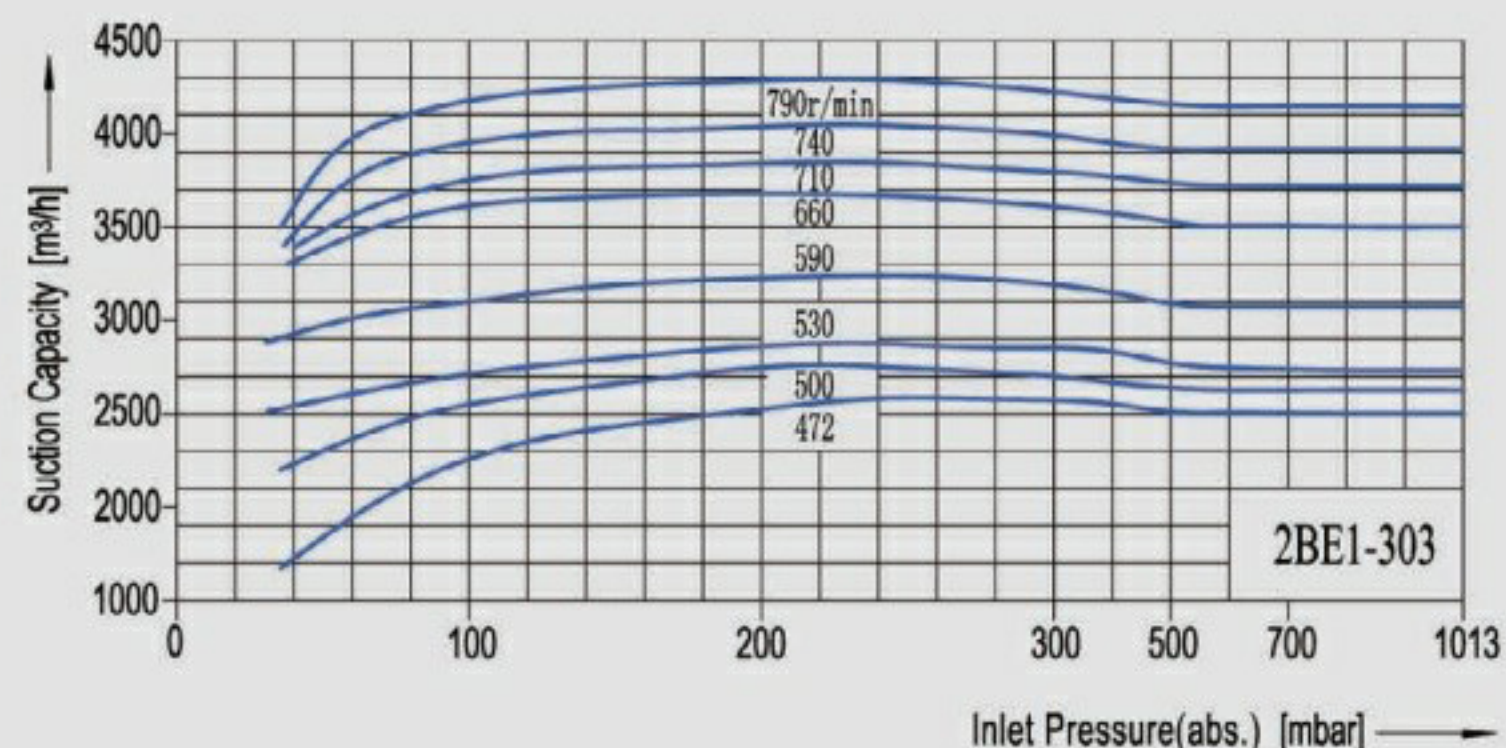


2BE1-303

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

转速 (speed) r/min	不同吸气压力下的工作液(水)流量 Working Liquid(water)Flow Volume of Different Suction Pressure			
	<200 mbar m ³ /h	200... 400mbar m ³ /h	400... 600mbar m ³ /h	>600 mbar m ³ /h
790	10.1	8.1	6.8	3.4
740	9.5	7.6	6.4	3.2
710	9.1	7.3	6.1	3.1
660	8.5	6.8	5.7	2.9
590	7.6	6.1	5.1	2.6
530	6.8	5.4	4.6	2.3
500	6.4	5.1	4.3	2.2
472	6.1	4.9	4.1	2.1

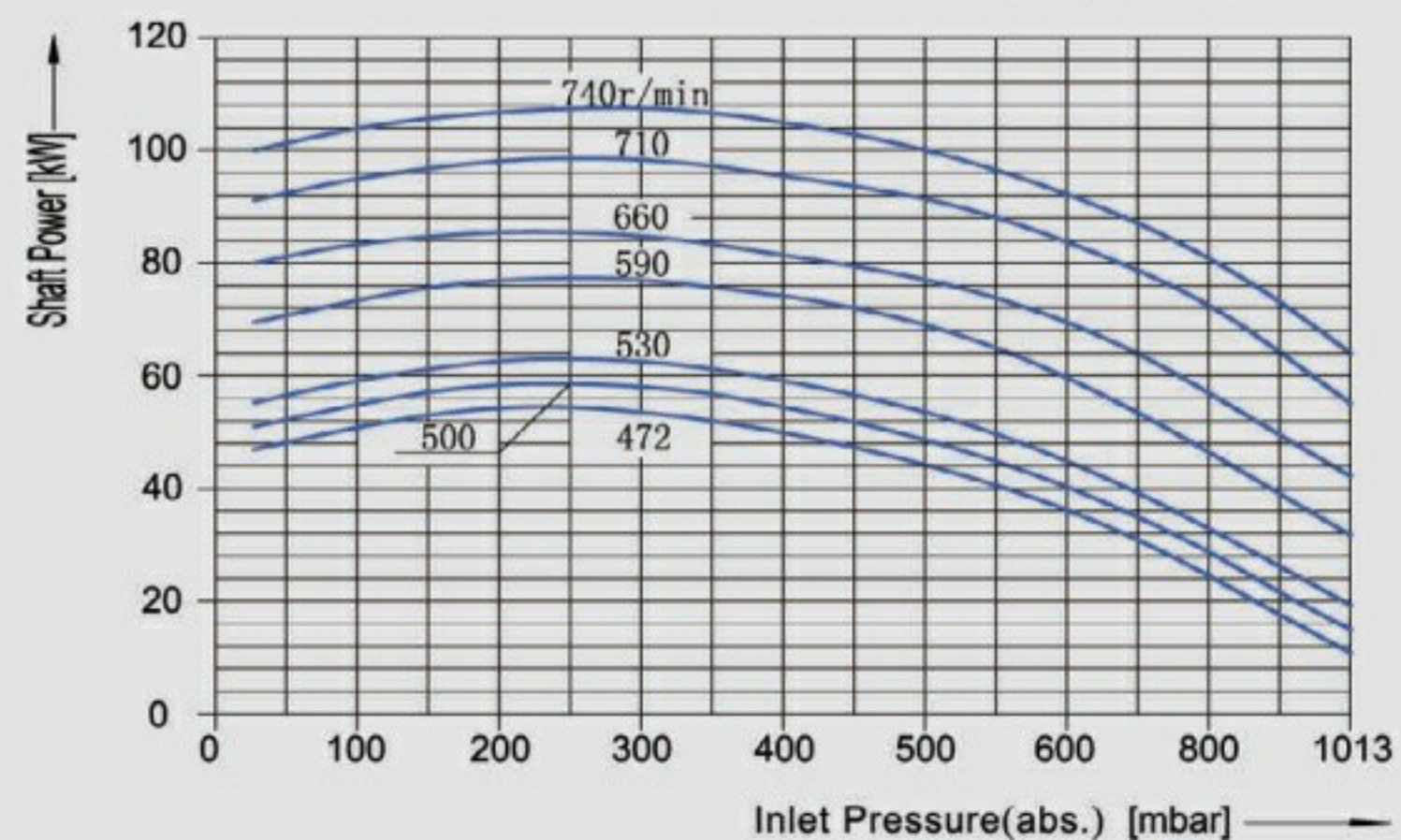
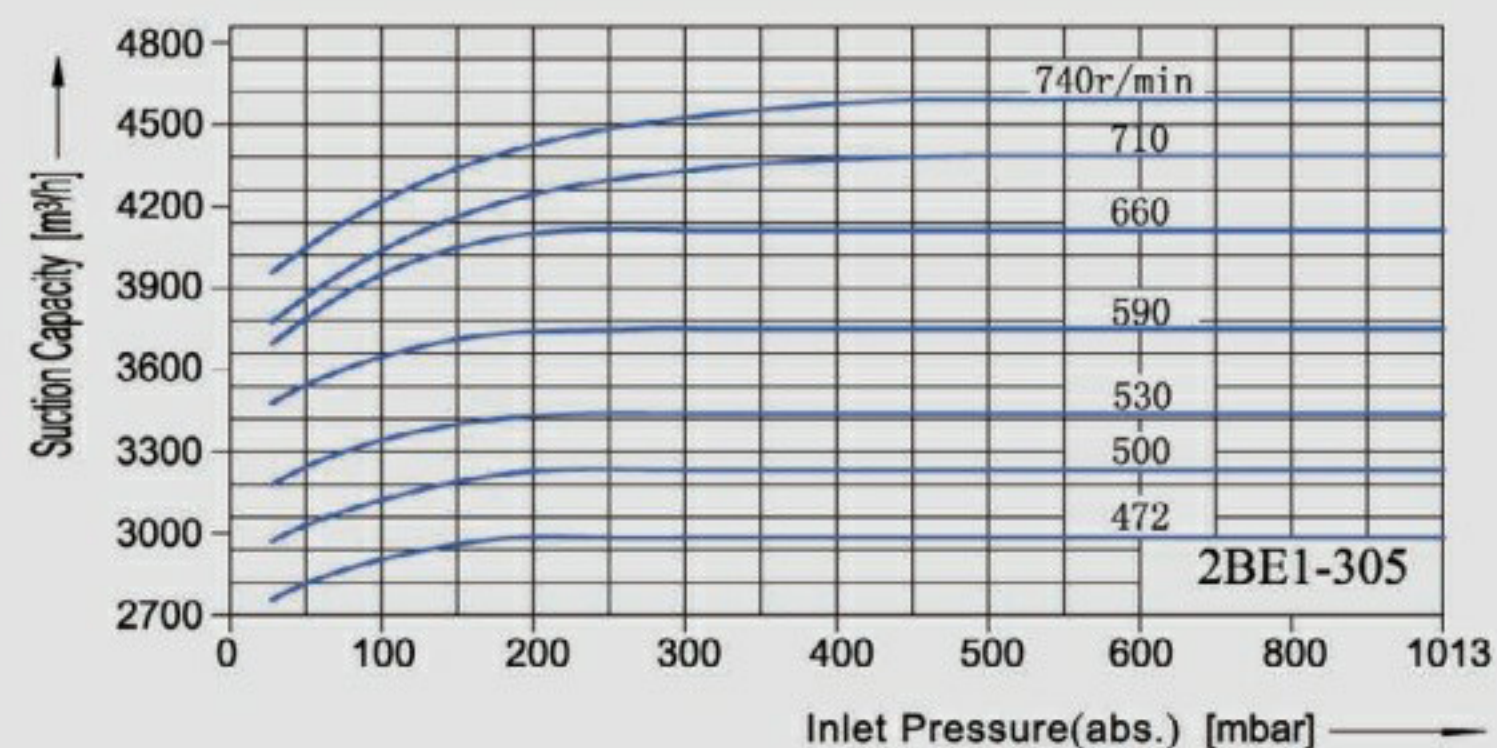


2BE1-305

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

转速 (speed) r/min	不同吸气压力下的工作液(水)流量 Working Liquid(water)Flow Volume of Different Suction Pressure			
	<200 mbar m ³ /h	200... 400mbar m ³ /h	400... 600mbar m ³ /h	>600 mbar m ³ /h
740	9.1	7.77	5.66	4.66
710	8.6	7.5	5.13	4.2
660	8.2	6.23	4.54	3.74
590	7.3	6.23	4.54	3.74
530	6.57	5.61	4.09	3.36
500	6.12	5.31	3.82	3.1
472	5.85	4.99	3.64	2.99

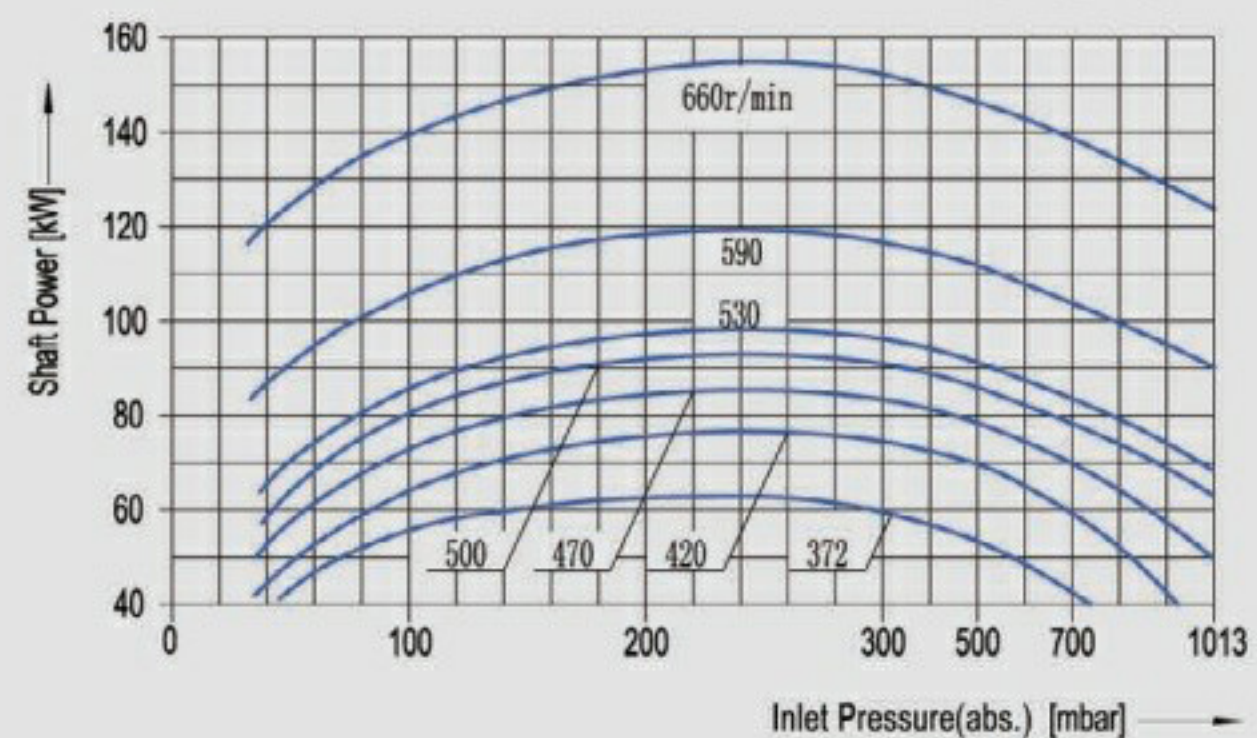
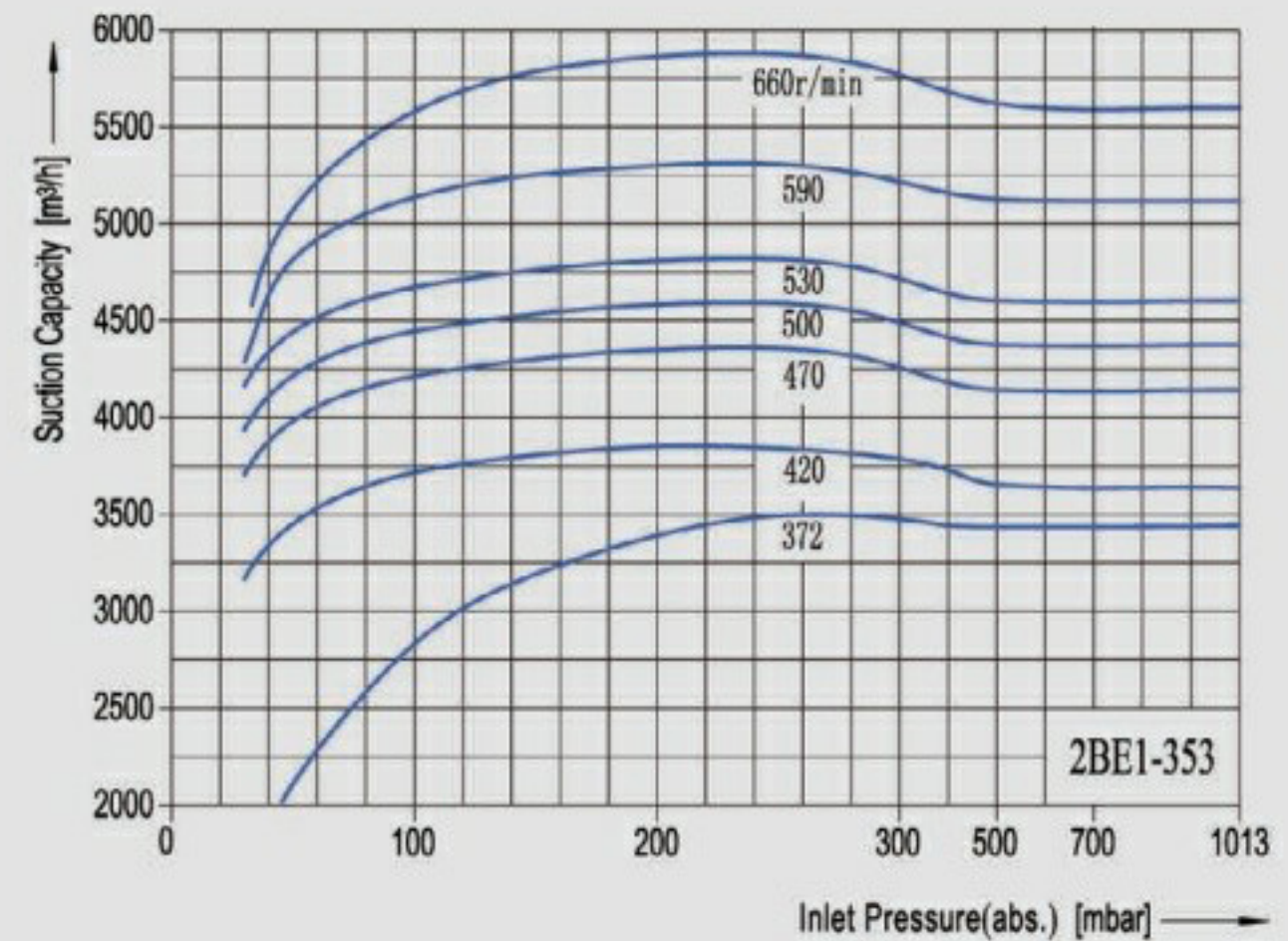


2BE1-353

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

转速 (speed) r/min	不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure			
	<200 mbar m ³ /h	200... 400mbar m ³ /h	400... 600mbar m ³ /h	>600 mbar m ³ /h
660	14	11.2	9.4	4.8
590	12.5	10	8.4	4.3
530	11.2	9	7.5	3.8
500	10.6	8.5	7.1	3.6
472	10	8	6.7	3.4
420	8.9	7.1	6	3
372	7.9	6.3	5.3	2.7

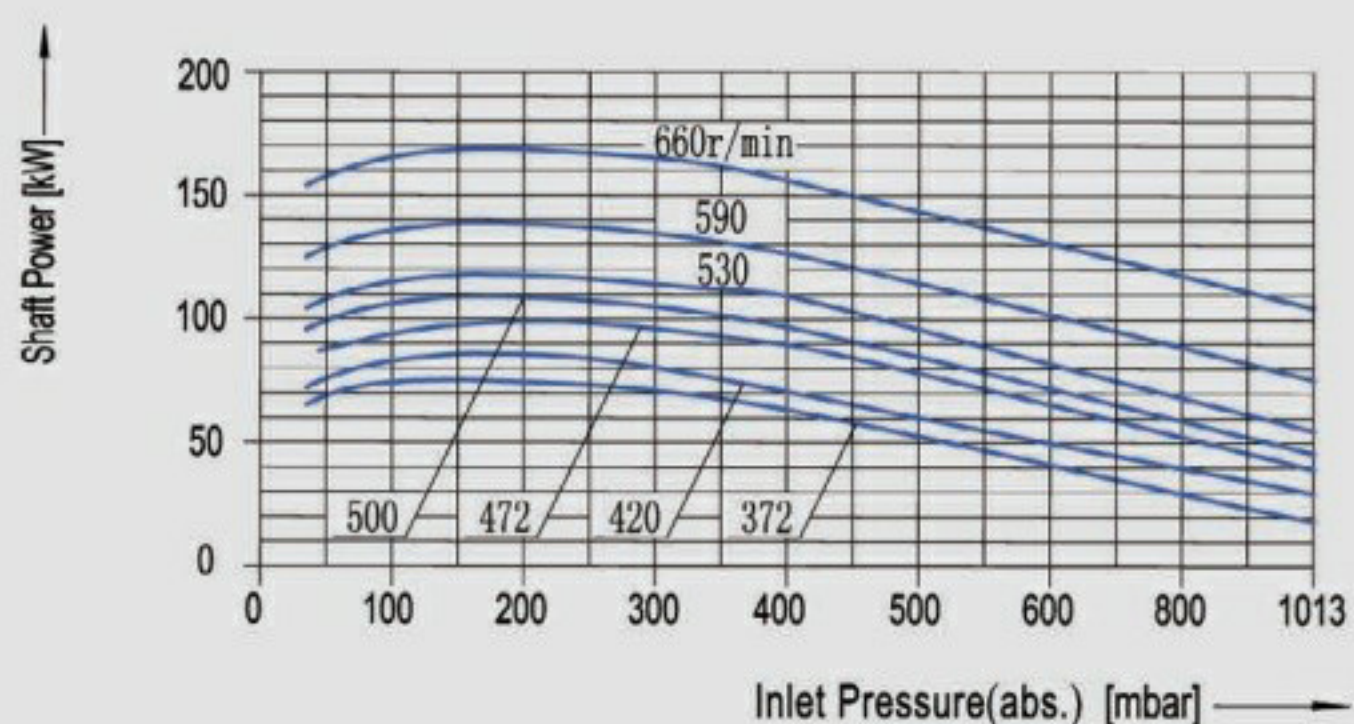
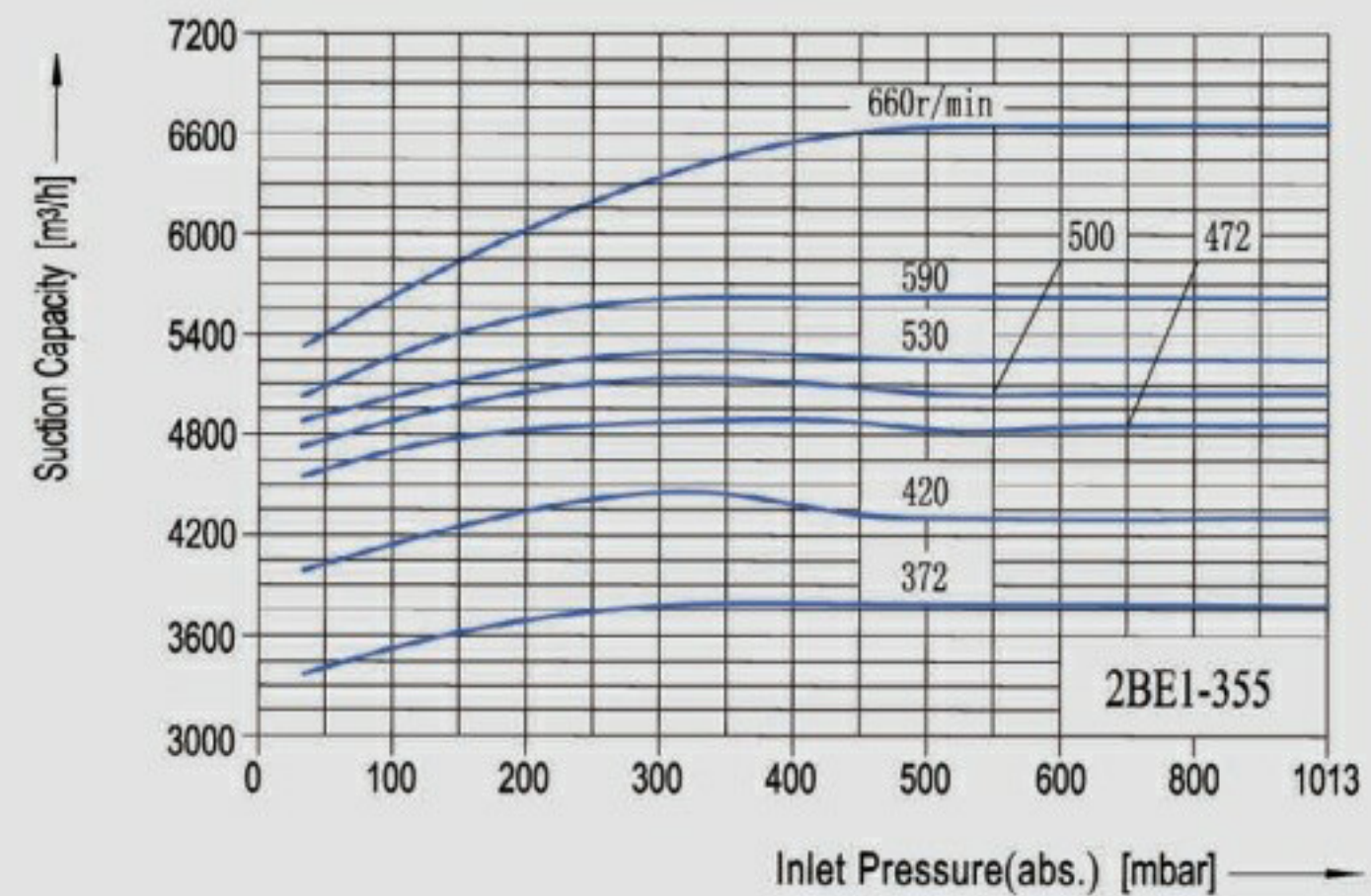


2BE1-355

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

转速 (speed) r/min	不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure			
	<200 mbar m ³ /h	200... 400mbar m ³ /h	400... 600mbar m ³ /h	>600 mbar m ³ /h
660	13.31	11.36	8.18	6.72
590	11.99	10.23	7.37	6.05
530	10.9	9.3	6.70	5.50
500	10.4	8.9	6.23	5.16
472	9.1	8.2	5.6	5.13
420	8.61	7.34	5.29	4.34
372	7.66	6.54	4.71	3.87

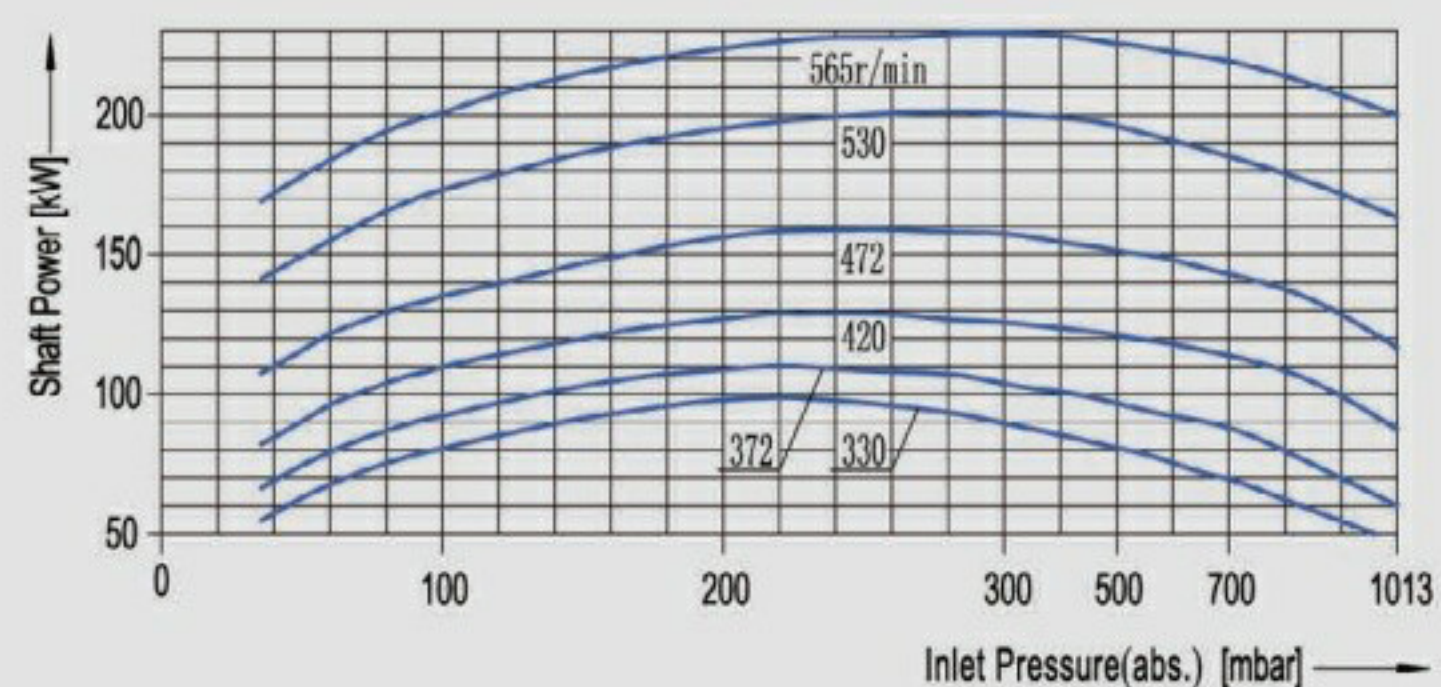
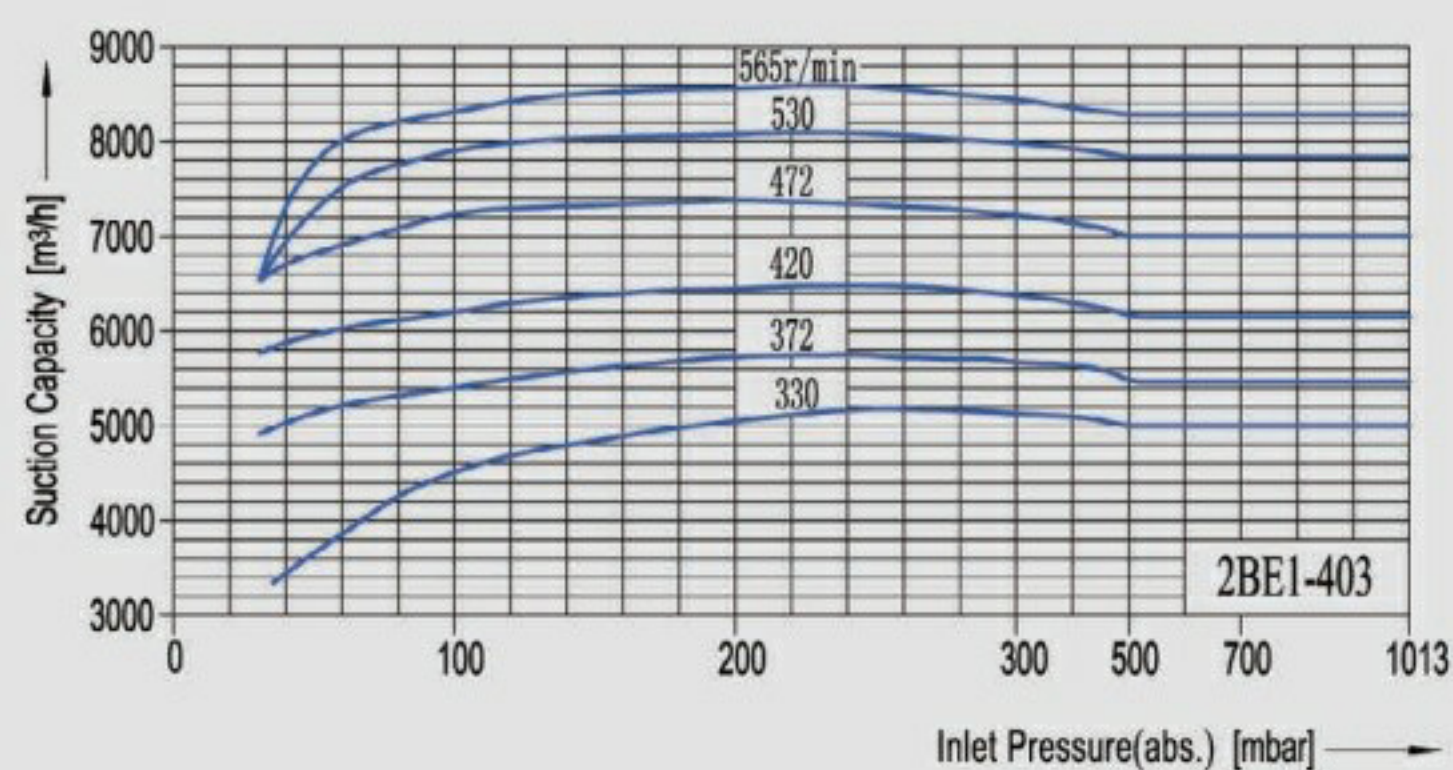


2BE1-403

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water).Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	16	14.7	12.8	11.2	10.7
mbar	450	500	550	600	650
m ³ /h	10.5	10.2	9.3	8.7	8.0
mbar	700	750	800		
m ³ /h	7.2	6.7	5.4		

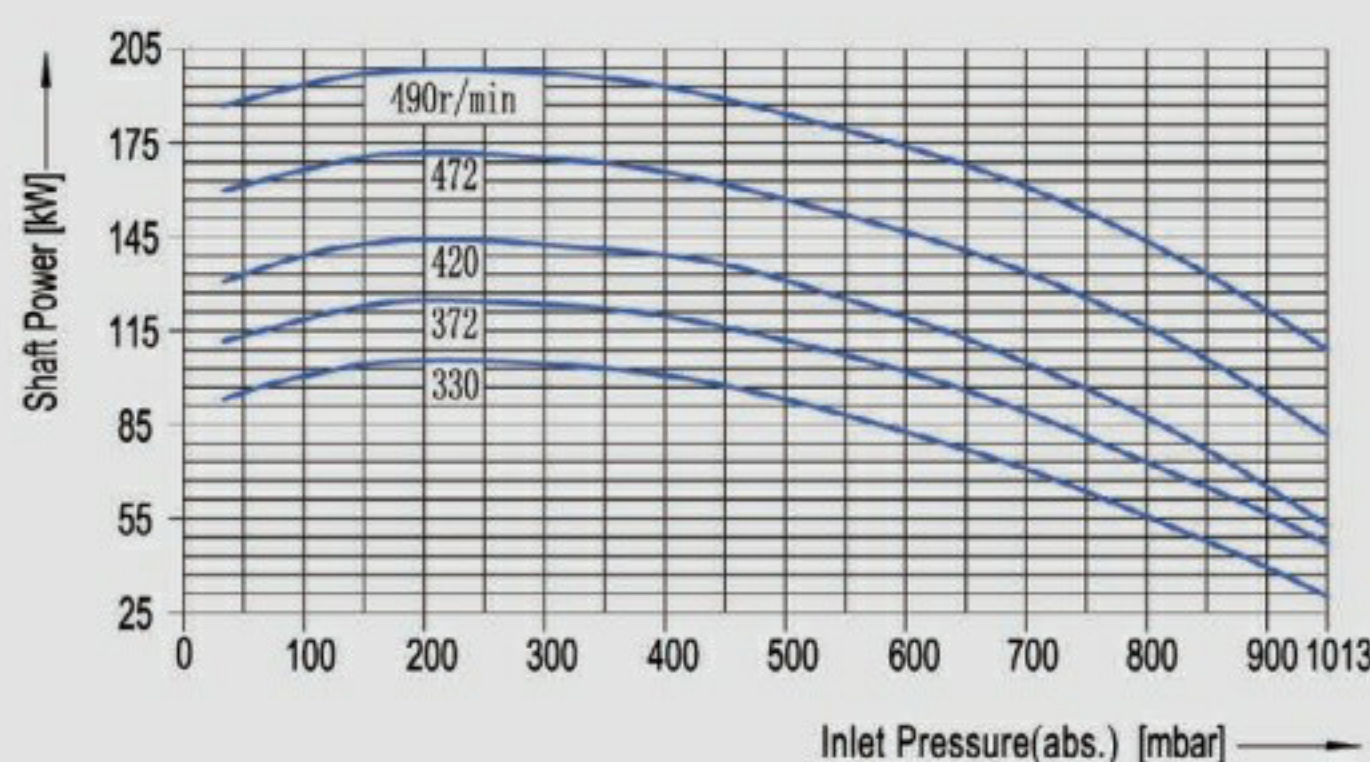
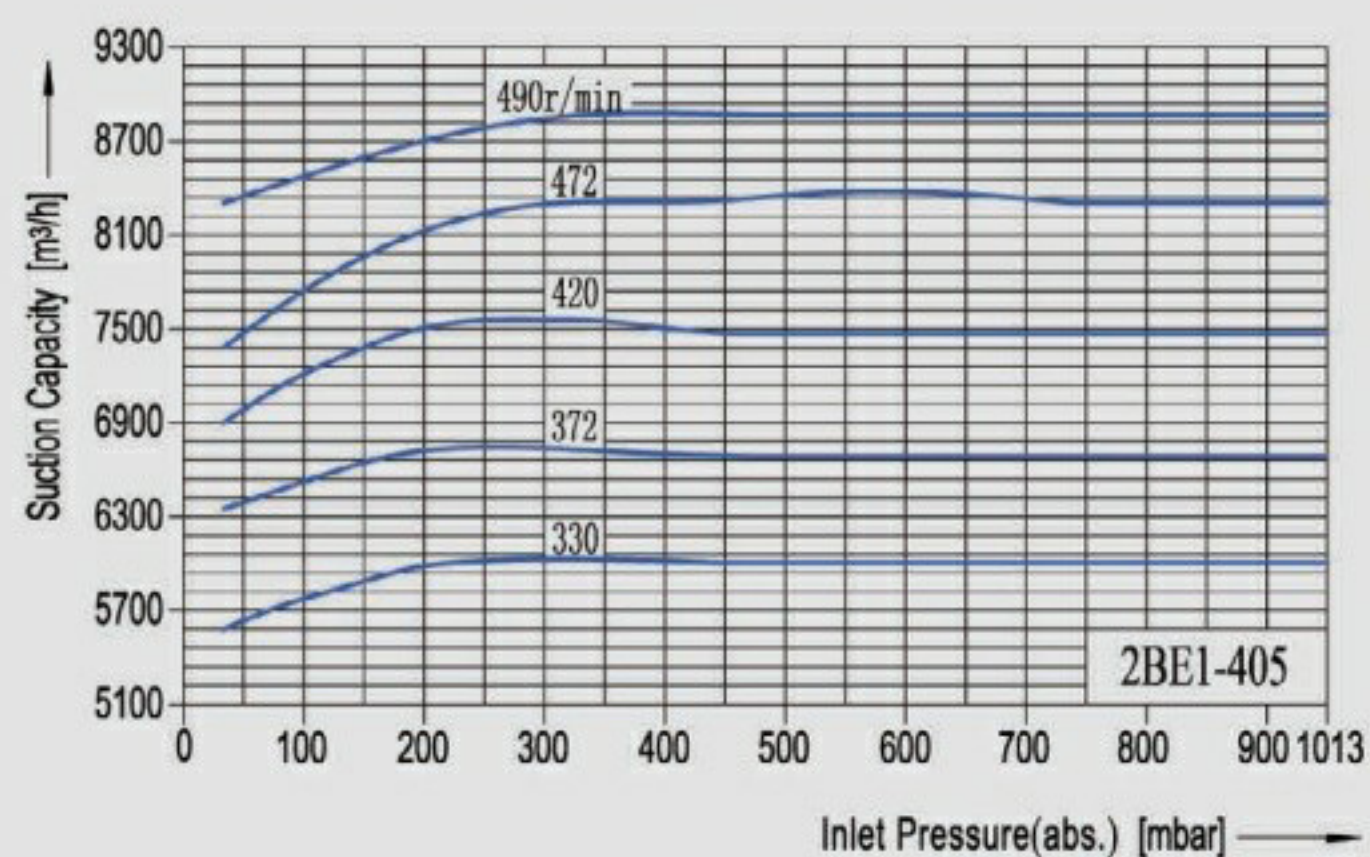


2BE1-405

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water).Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	14.7	14.5	14.2	13.1	12.6
mbar	450	500	550	600	650
m ³ /h	11.2	10.9	9.9	9.2	8.4
mbar	700	750	800		
m ³ /h	7.7	6.7	5.9		

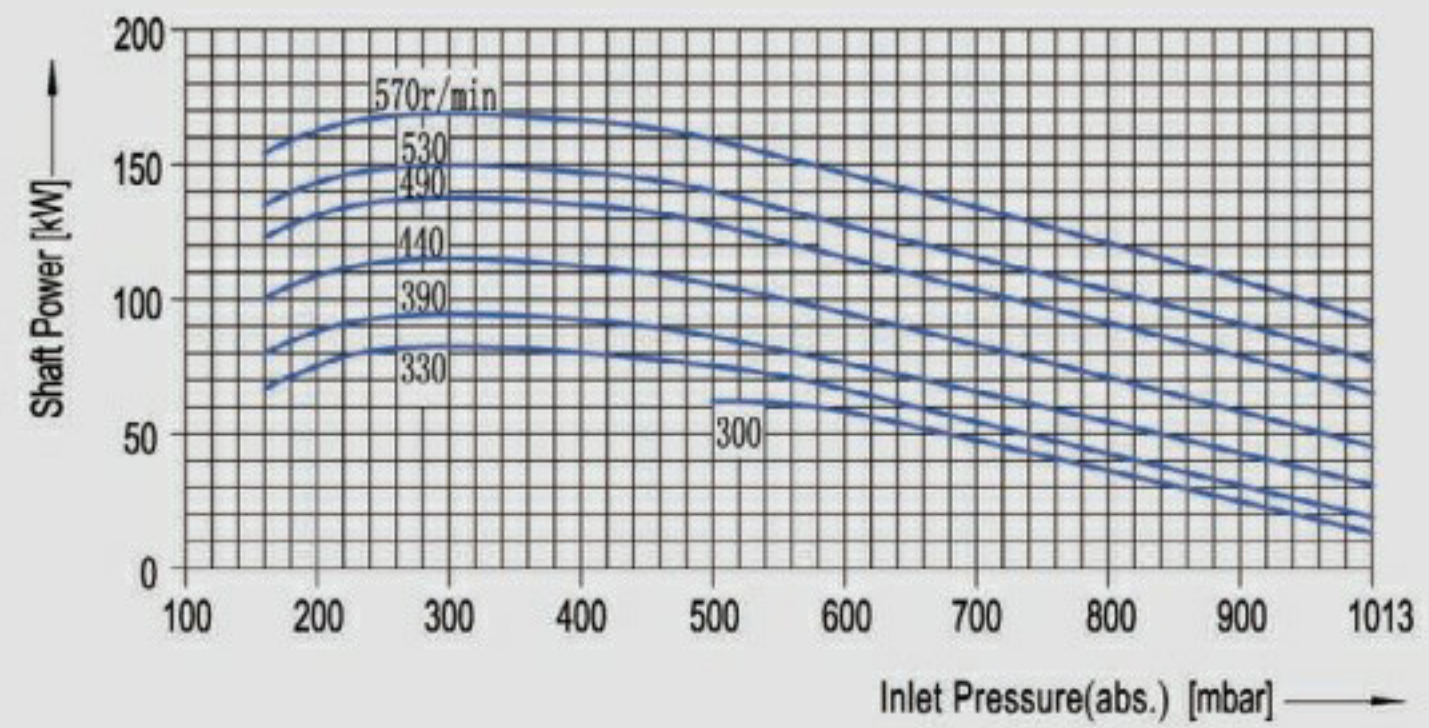
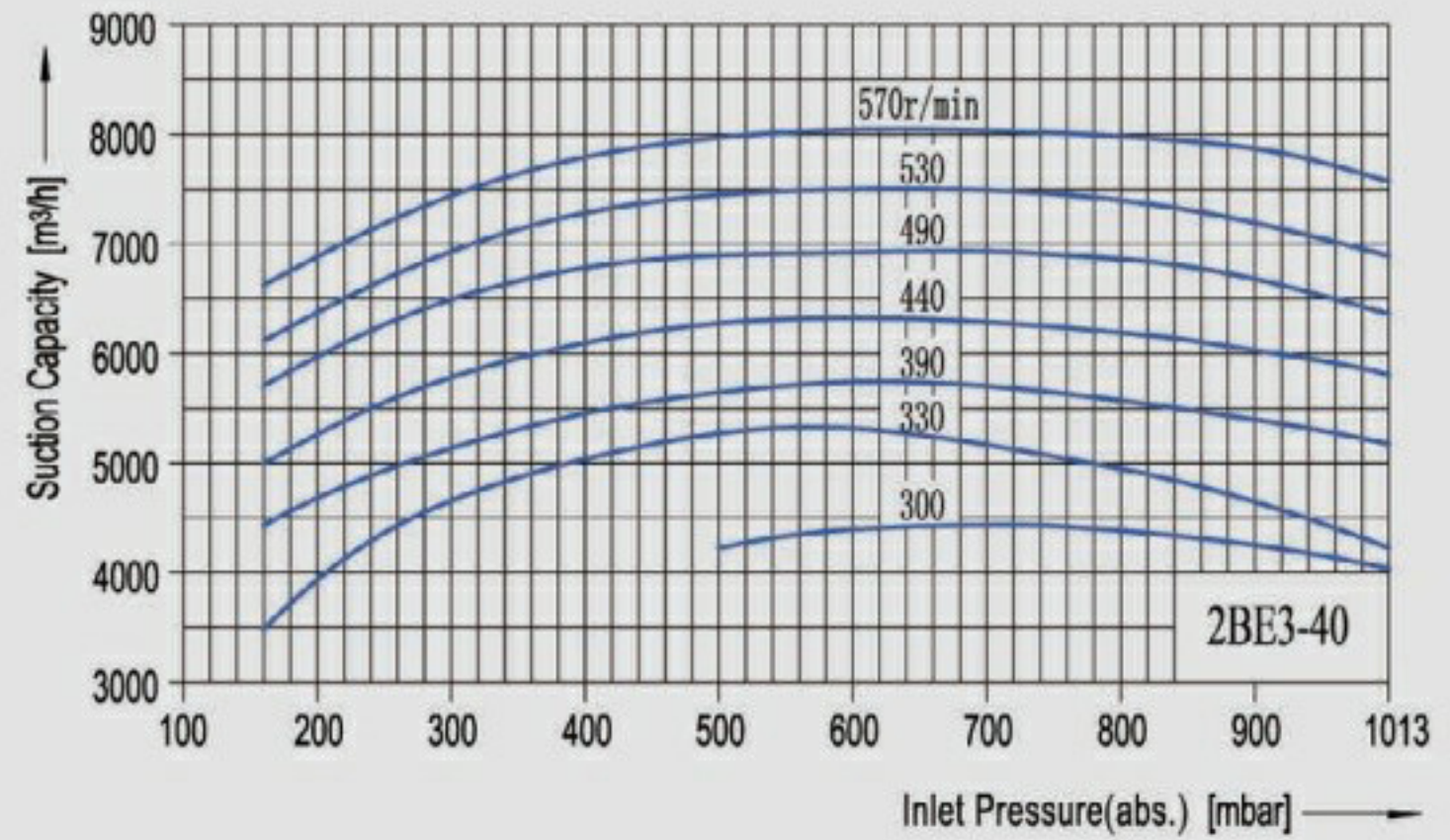


2BE3-40

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	9.5	9.9	9.9	9.5	9.0
mbar	450	500	550	600	650
m ³ /h	8.7	7.9	7.5	6.6	6.0
mbar	700	750	800		
m ³ /h	5.3	4.7	4.2		

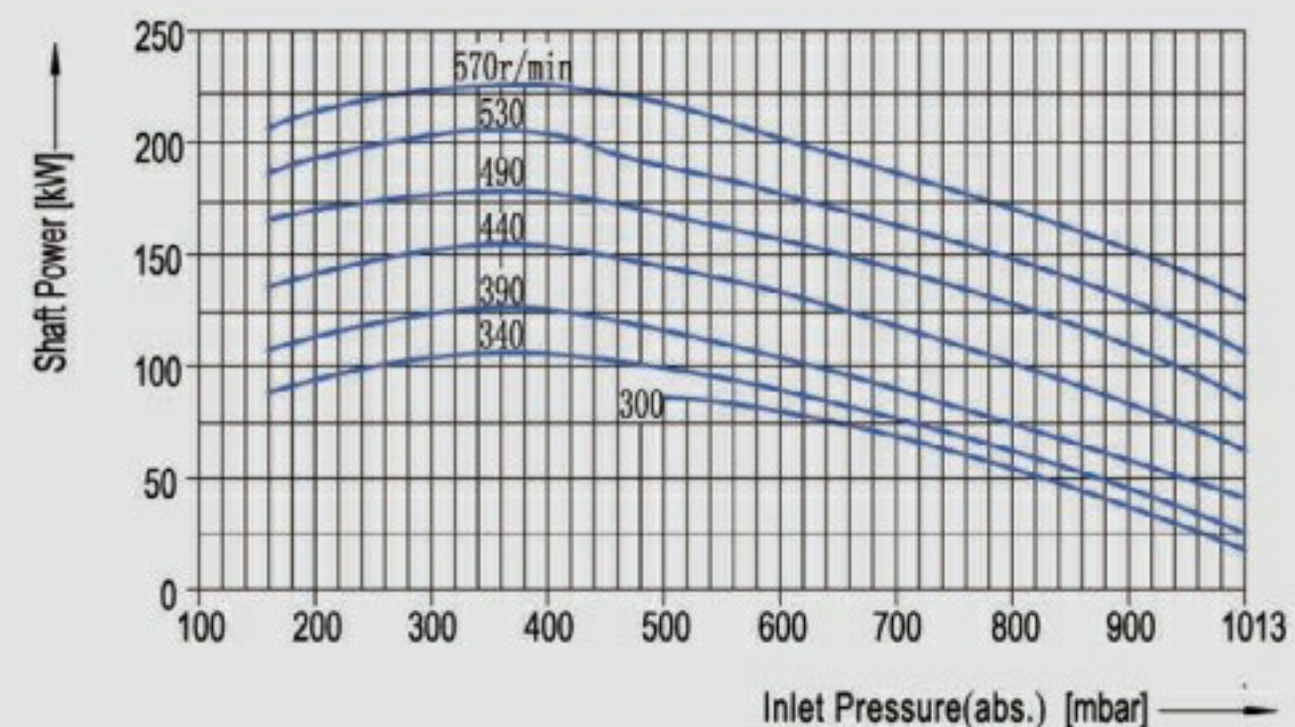
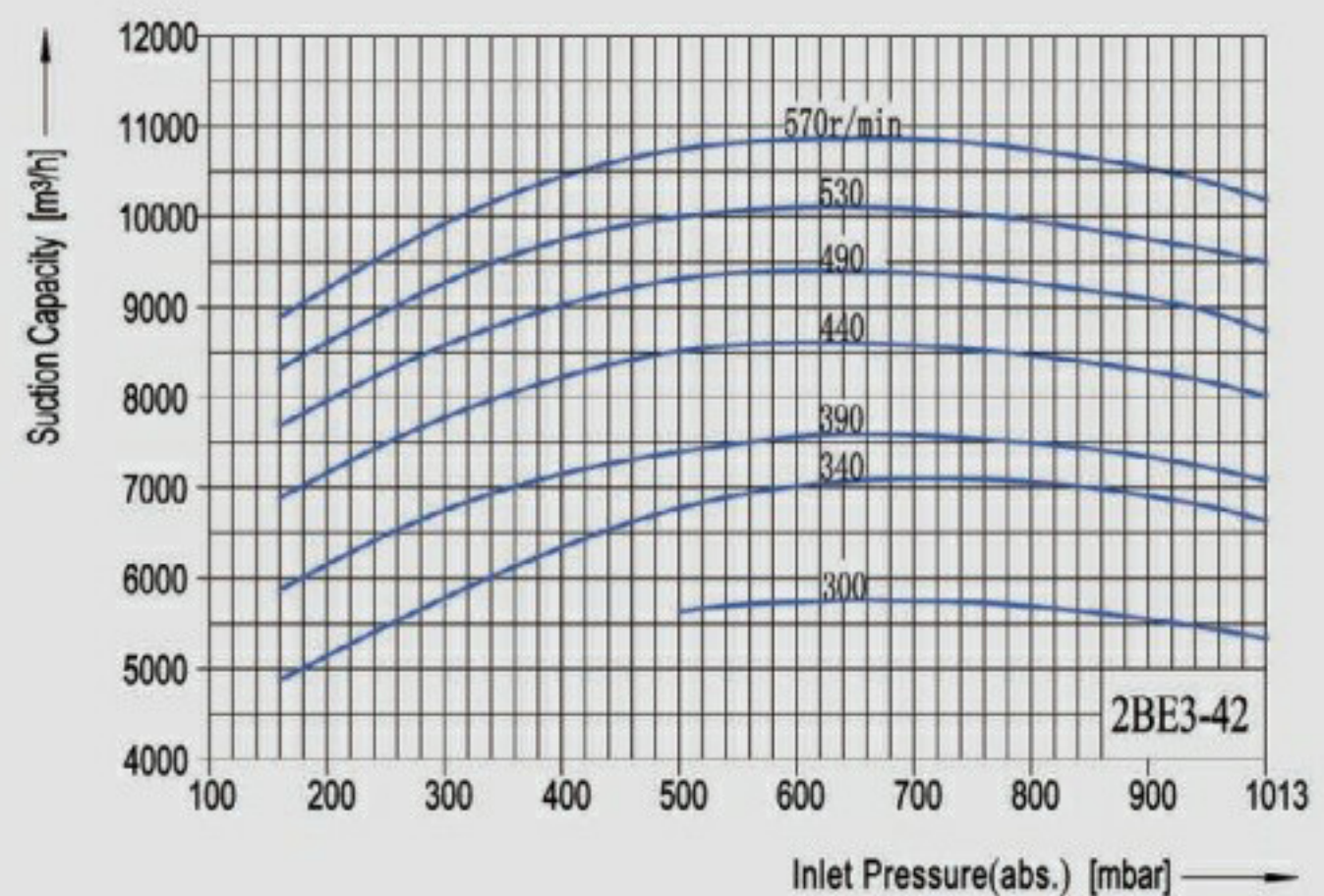


2BE3-42

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	13.0	13.5	13.5	12.9	12.3
mbar	450	500	550	600	650
m ³ /h	11.5	10.7	9.7	9.0	8.1
mbar	700	750	800		
m ³ /h	7.3	6.4	5.8		



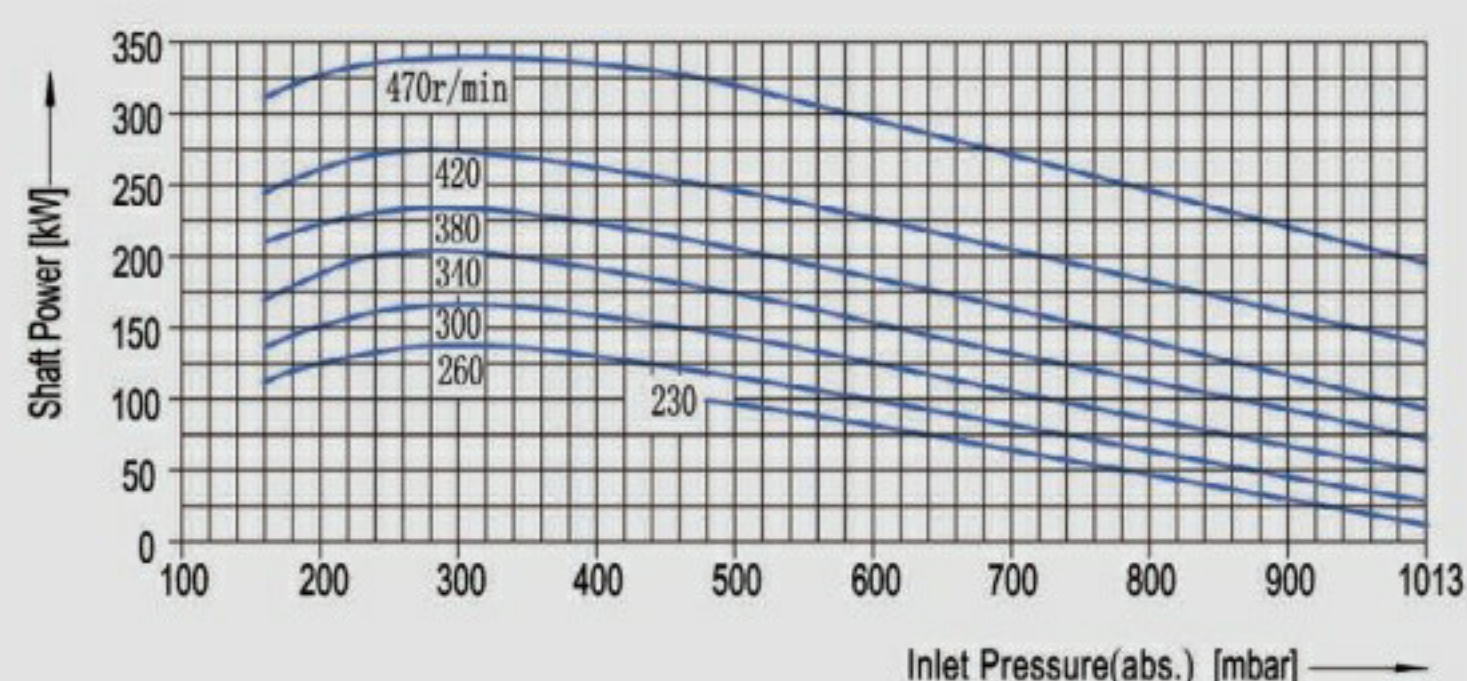
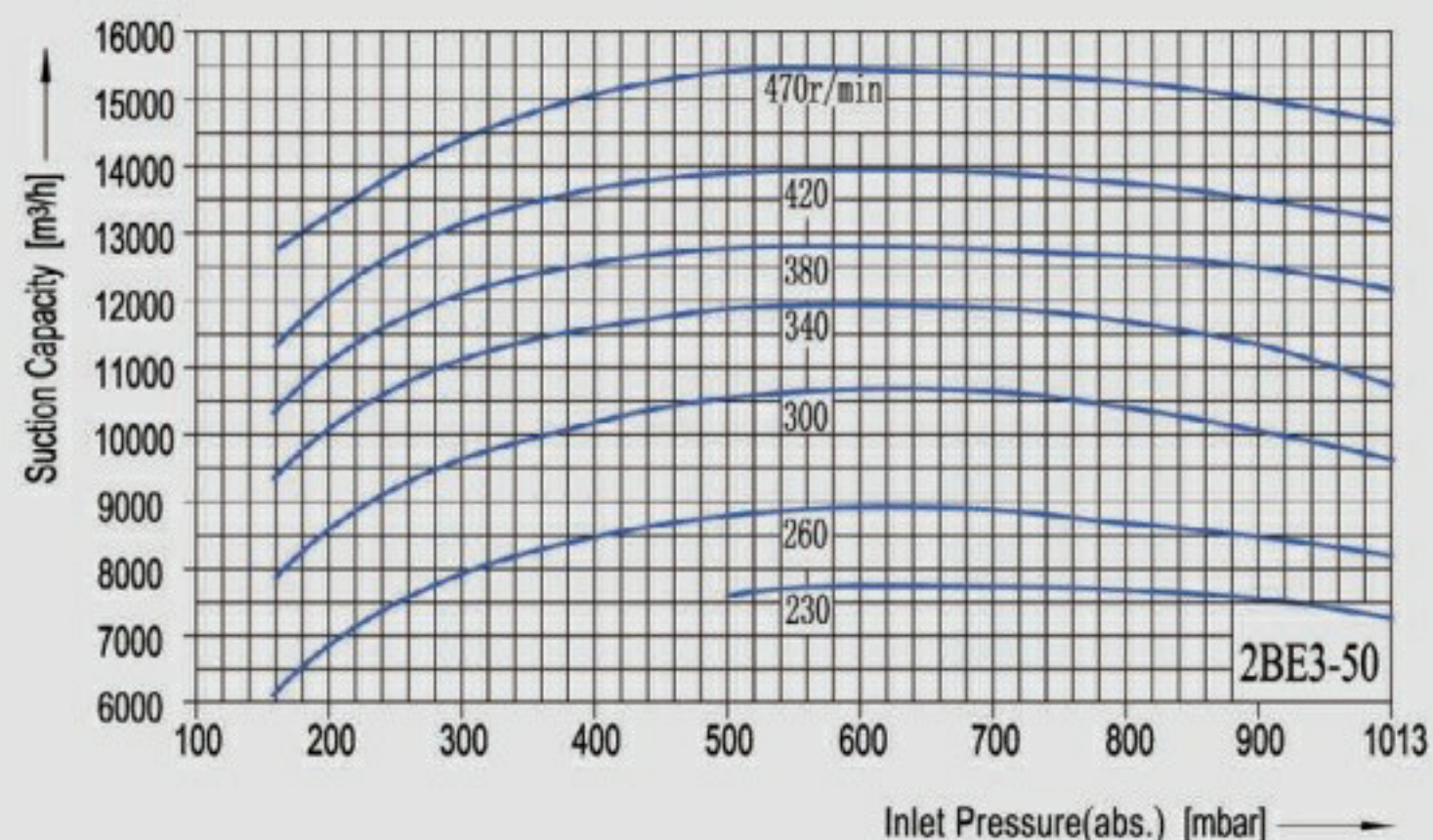


2BE3-50

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition:suction temperature 20°C, operating liquid 15°C;outlet pressure is 1 atmospheric pressure (1013mbar);inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	17.6	18.3	18.3	17.2	16.6
mbar	450	500	550	600	650
m ³ /h	15.4	14.4	13.2	12.1	11.0
mbar	700	750	800		
m ³ /h	9.9	8.9	7.8		

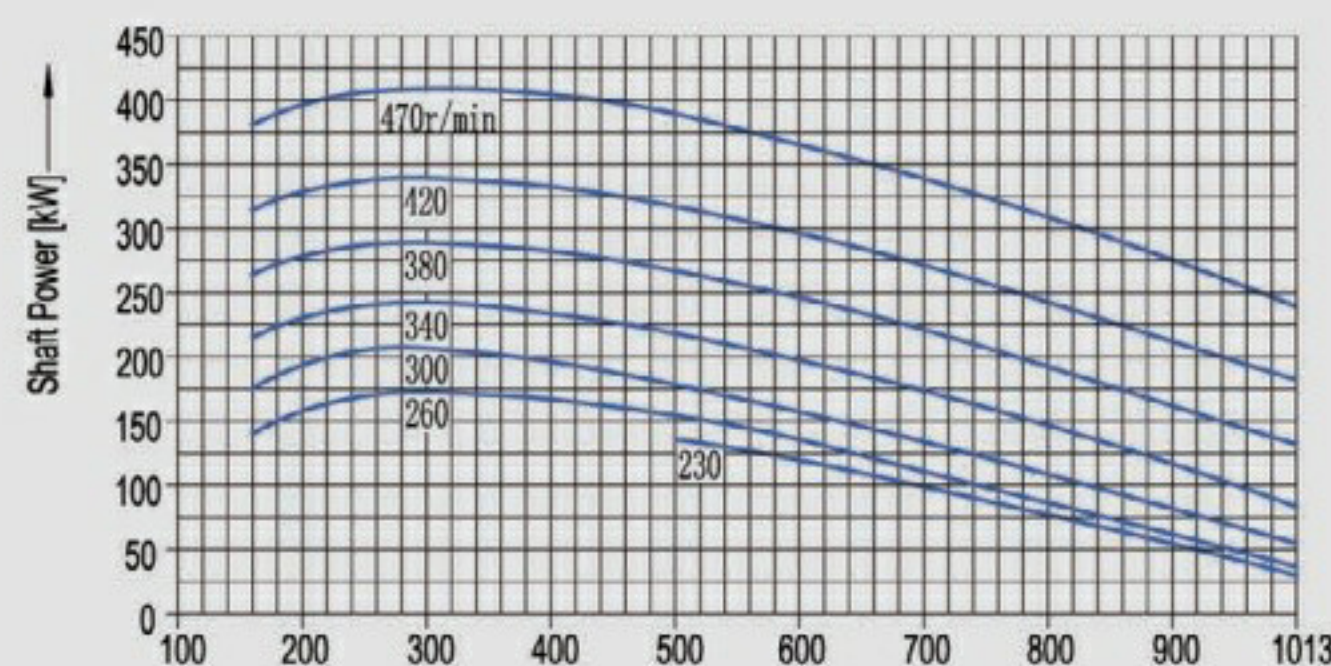
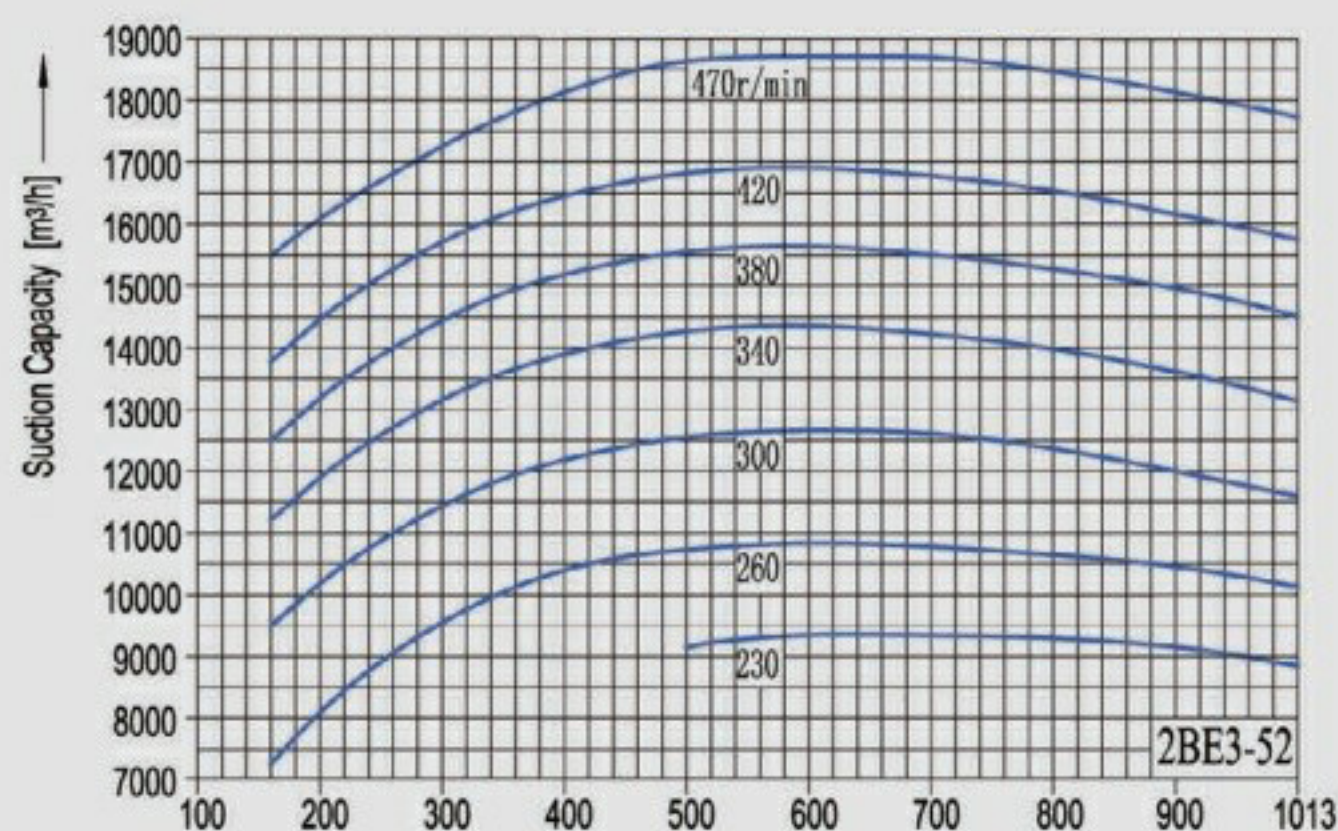


2BE3-52

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition:suction temperature 20°C, operating liquid 15°C;outlet pressure is 1 atmospheric pressure (1013mbar);inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	21.5	22.2	22.2	21.2	20.2
mbar	450	500	550	600	650
m ³ /h	18.9	17.6	16.1	14.8	13.4
mbar	700	750	800		
m ³ /h	12.0	10.7	9.5		



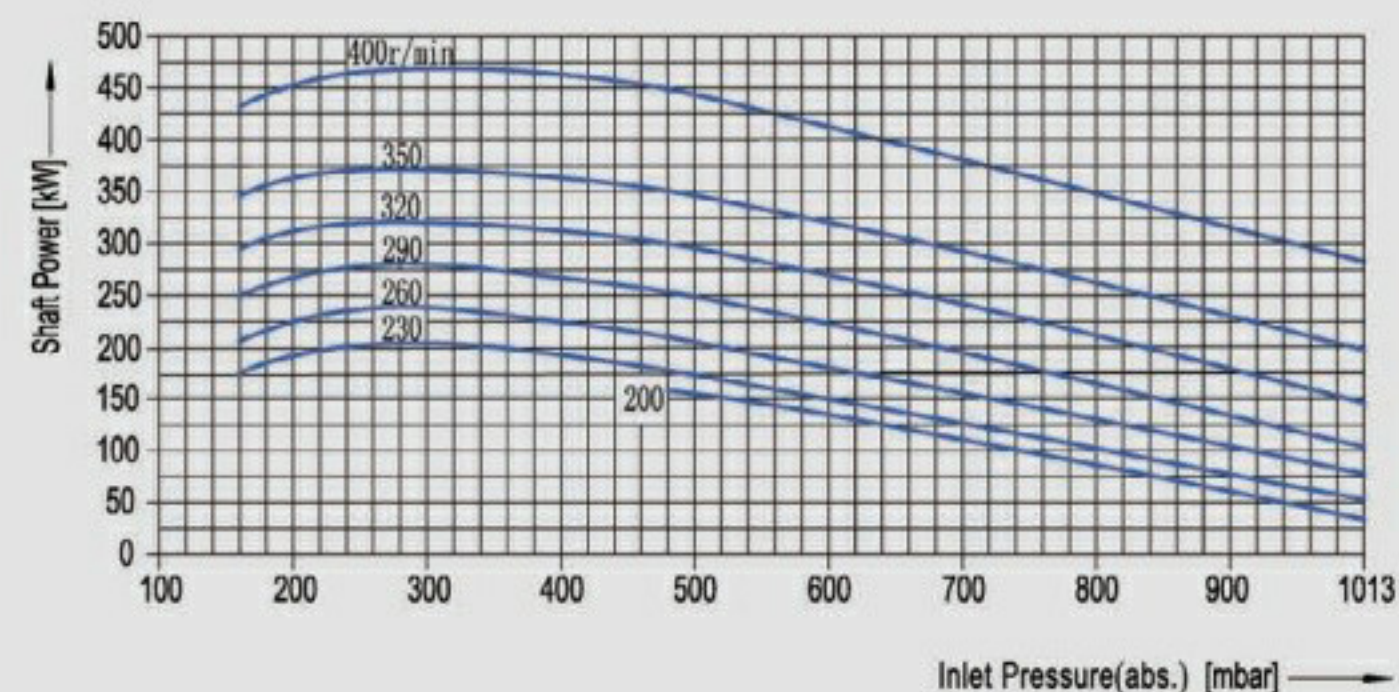
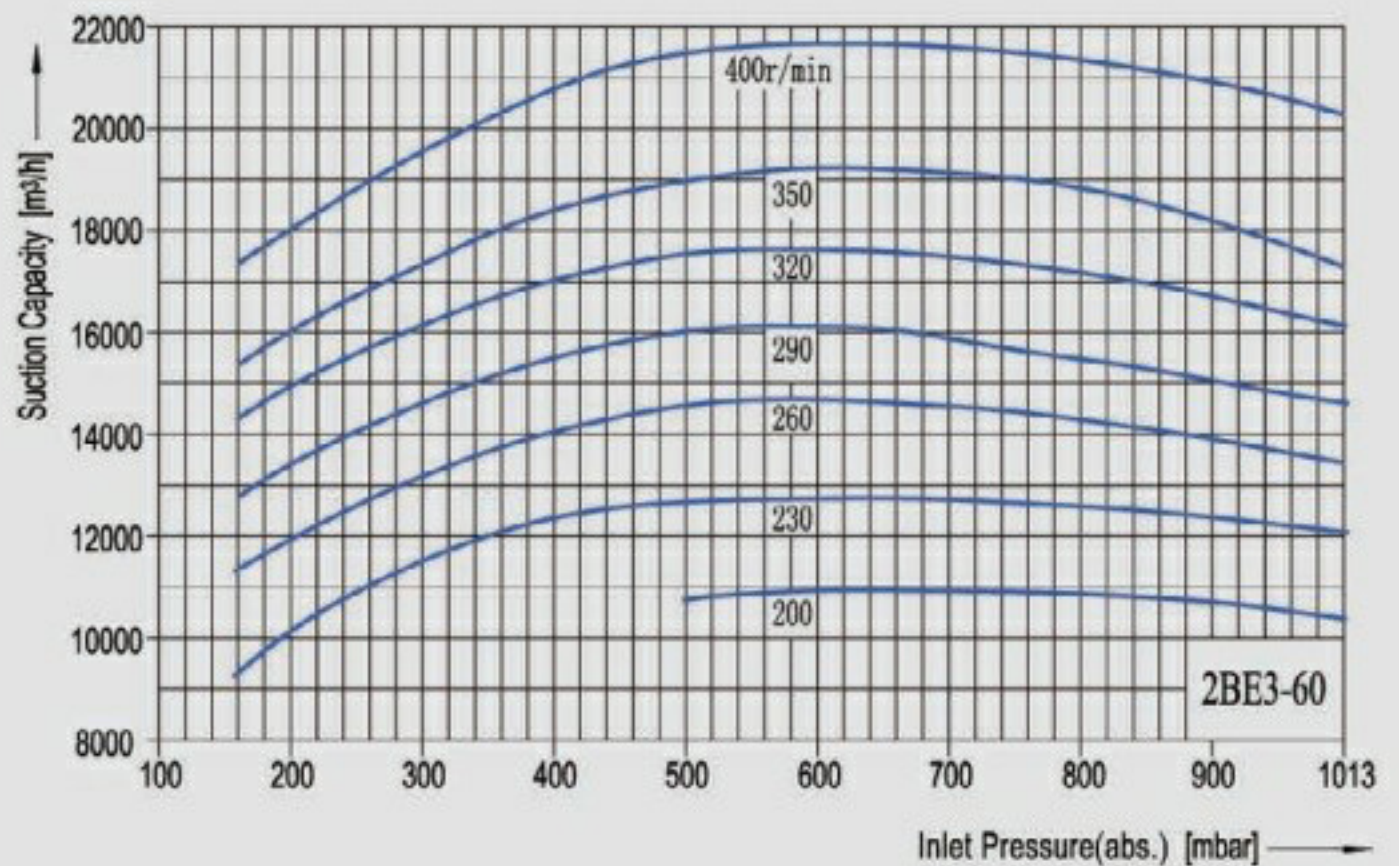


2BE3-60

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition:suction temperature 20°C, operating liquid 15°C;outlet pressure is 1 atmospheric pressure (1013mbar);inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	24.6	25.4	25.4	24.2	23.0
mbar	450	500	550	600	650
m ³ /h	21.5	20.1	18.4	16.9	15.3
mbar	700	750	800		
m ³ /h	13.7	12.2	10.9		

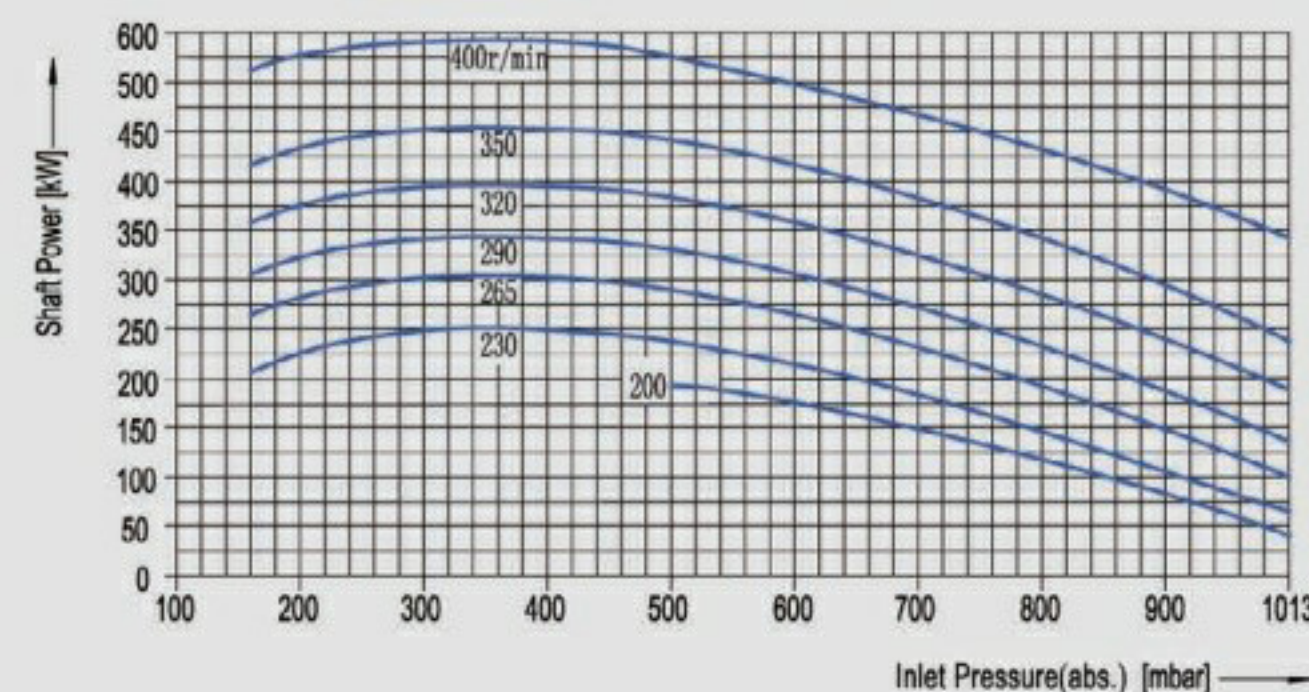
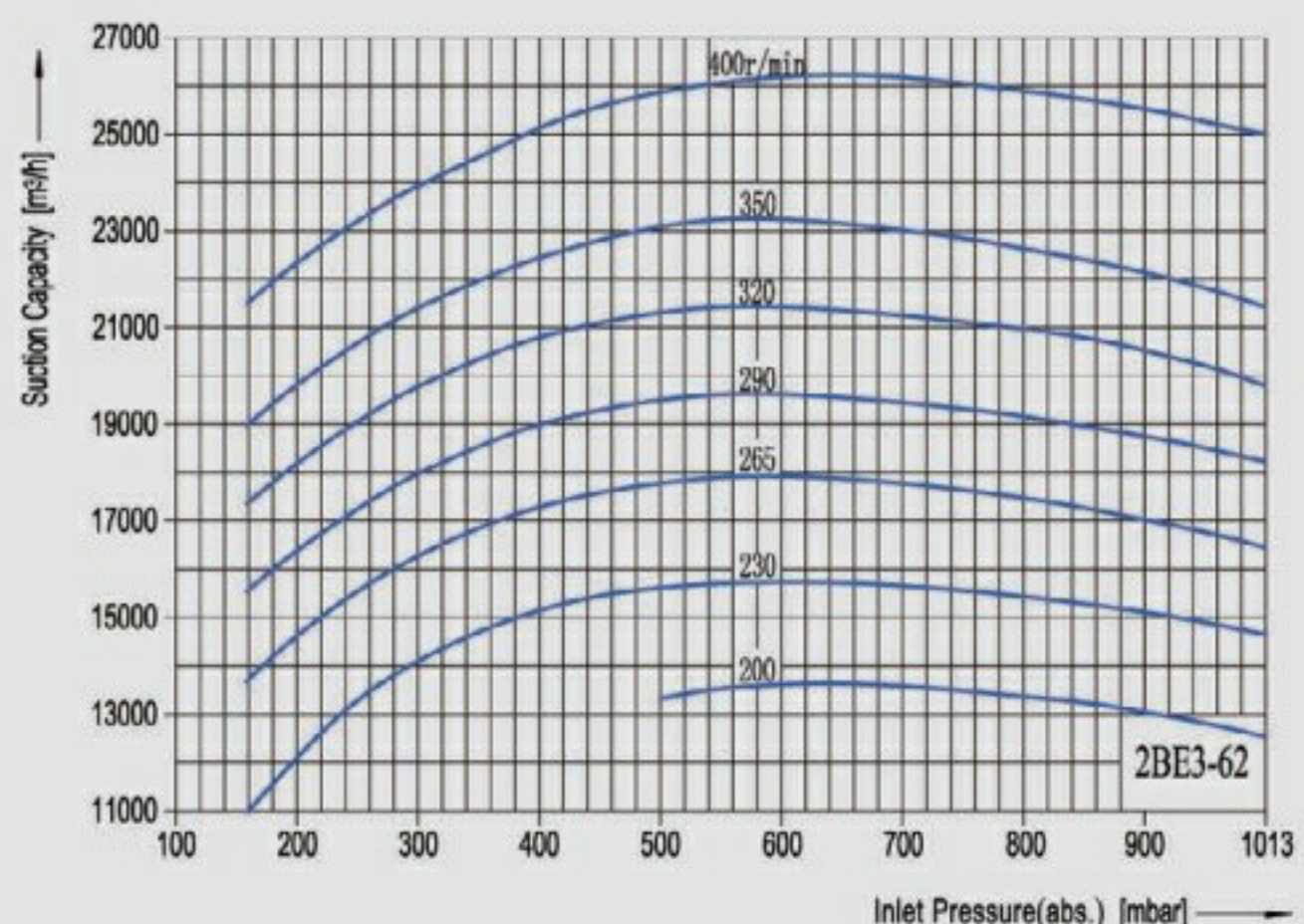


2BE3-62

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition:suction temperature 20°C, operating liquid 15°C;outlet pressure is 1 atmospheric pressure (1013mbar);inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	30.0	30.9	30.9	29.3	28.0
mbar	450	500	550	600	650
m ³ /h	26.1	24.4	22.3	20.5	18.6
mbar	700	750	800		
m ³ /h	16.7	14.9	13.2		



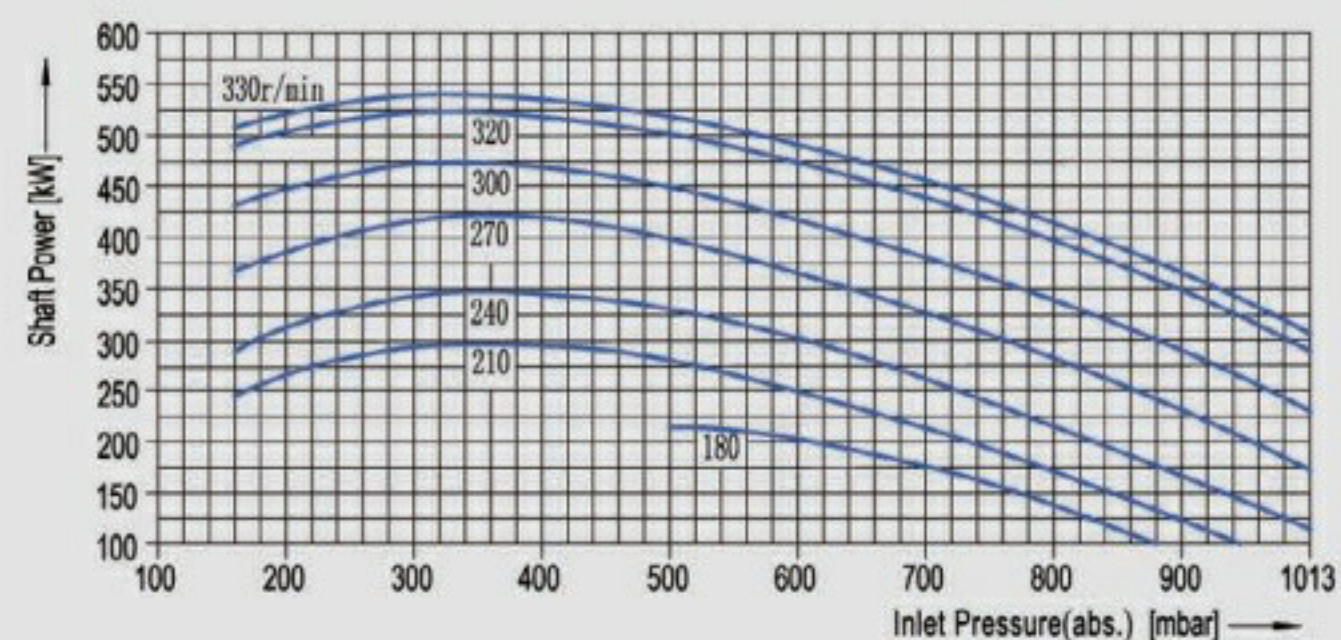
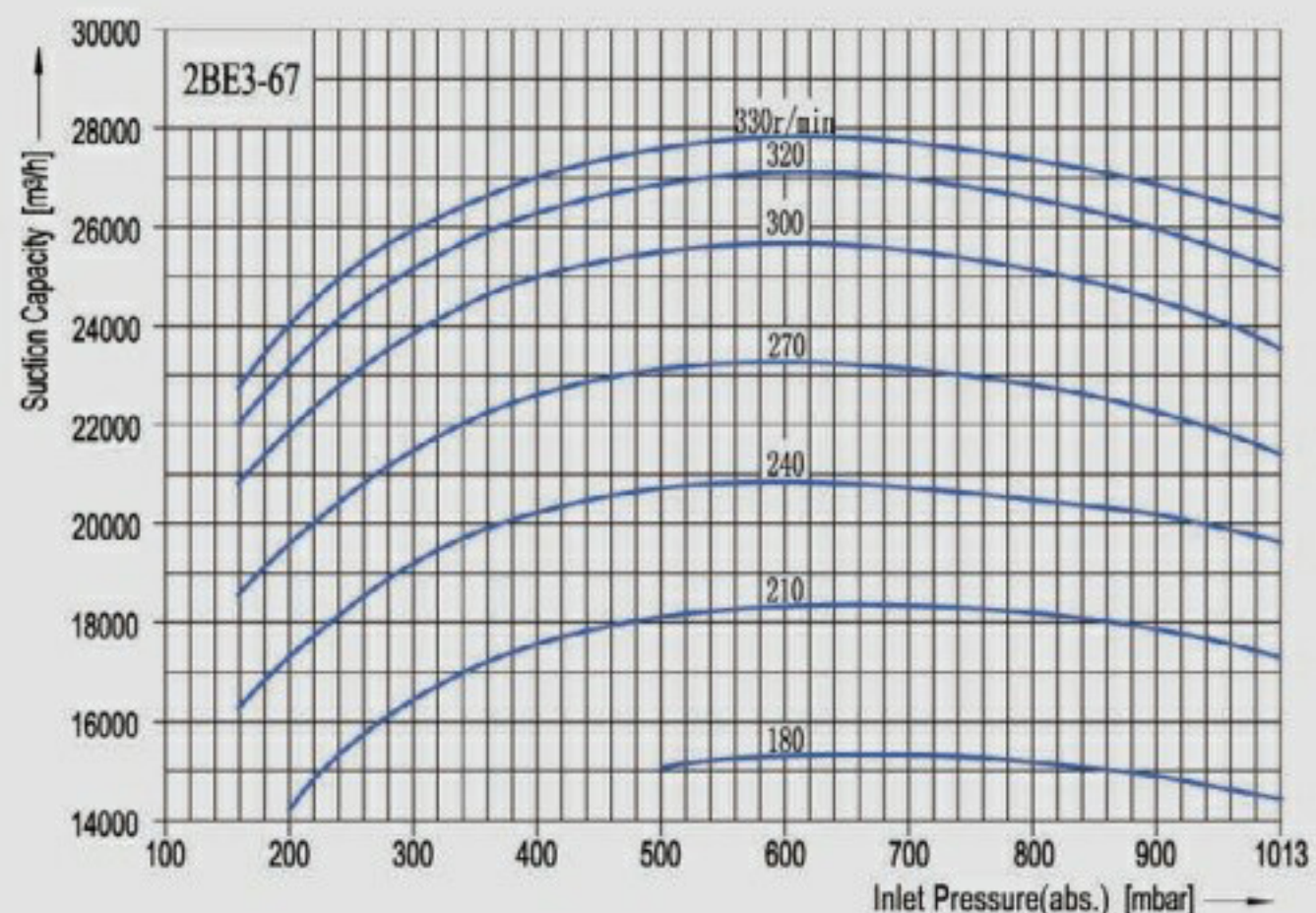


2BE3-67

注：右图是吸气温度为 20℃，工作液温度为 15℃，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition:suction temperature 20℃, operating liquid 15℃;outlet pressure is 1 atmospheric pressure (1013mbar);inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	34.6	35.5	36.4	34.6	33.0
mbar	450	500	550	600	650
m ³ /h	30.7	28.7	26.3	24.1	21.8
mbar	700	750	800		
m ³ /h	19.7	17.6	15.5		

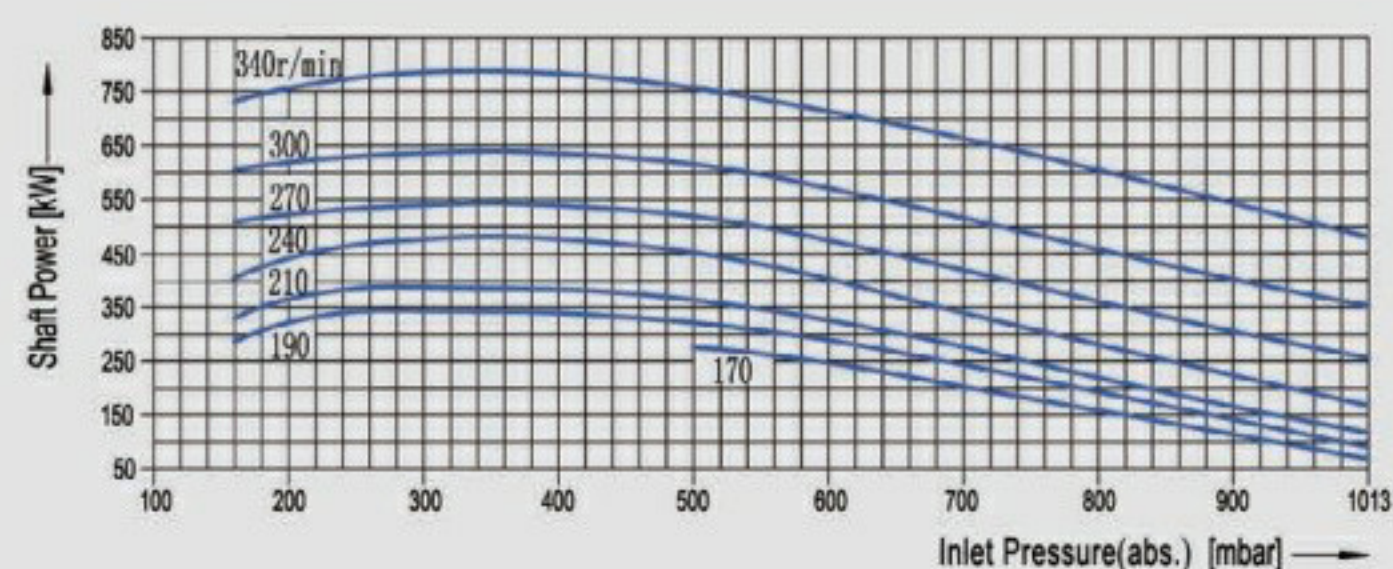


2BE3-72

注：右图是吸气温度为 20℃，工作液温度为 15℃，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition:suction temperature 20℃, operating liquid 15℃;outlet pressure is 1 atmospheric pressure (1013mbar);inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	41.3	42.2	43.5	41.4	39.4
mbar	450	500	550	600	650
m ³ /h	36.7	34.3	31.5	28.8	26.2
mbar	700	750	800		
m ³ /h	23.7	21.1	18.6		



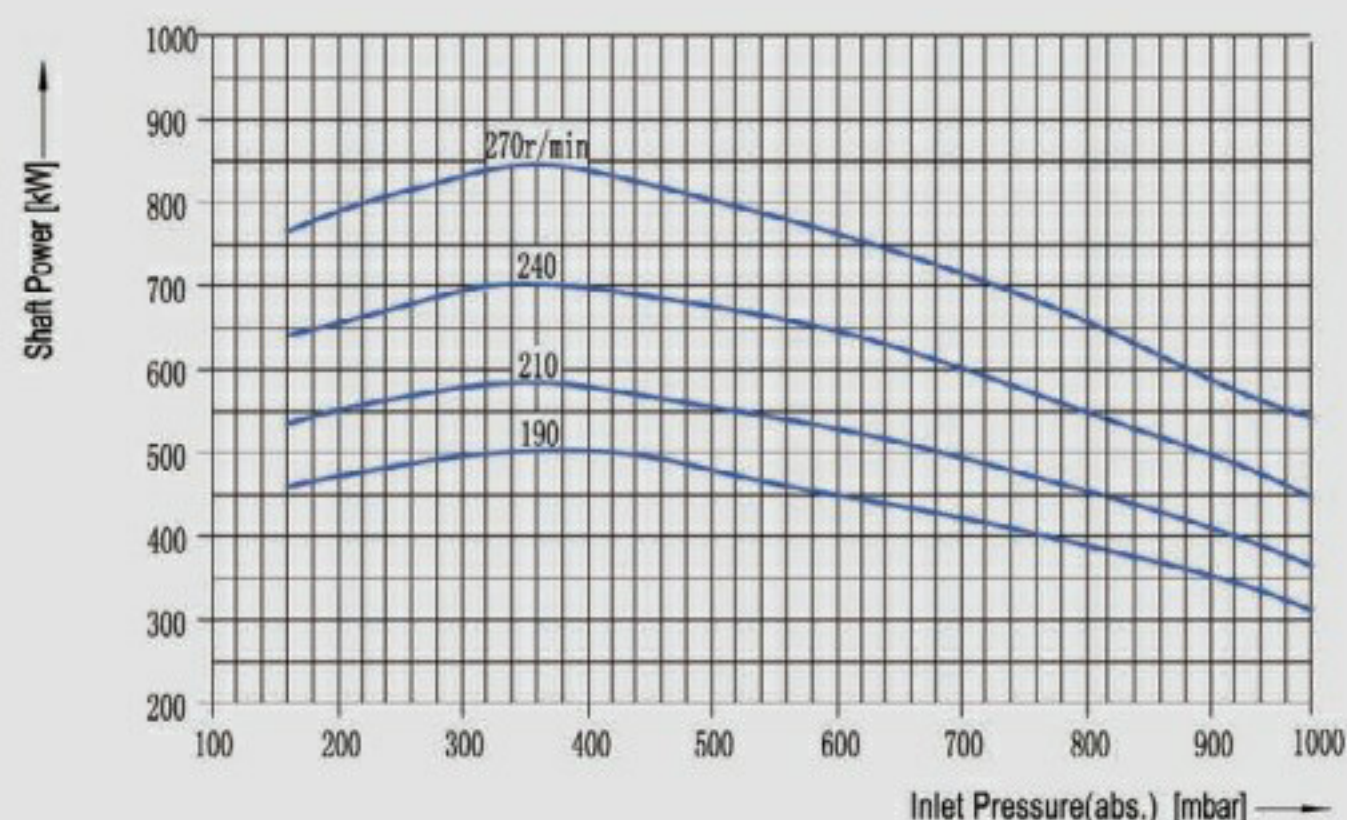
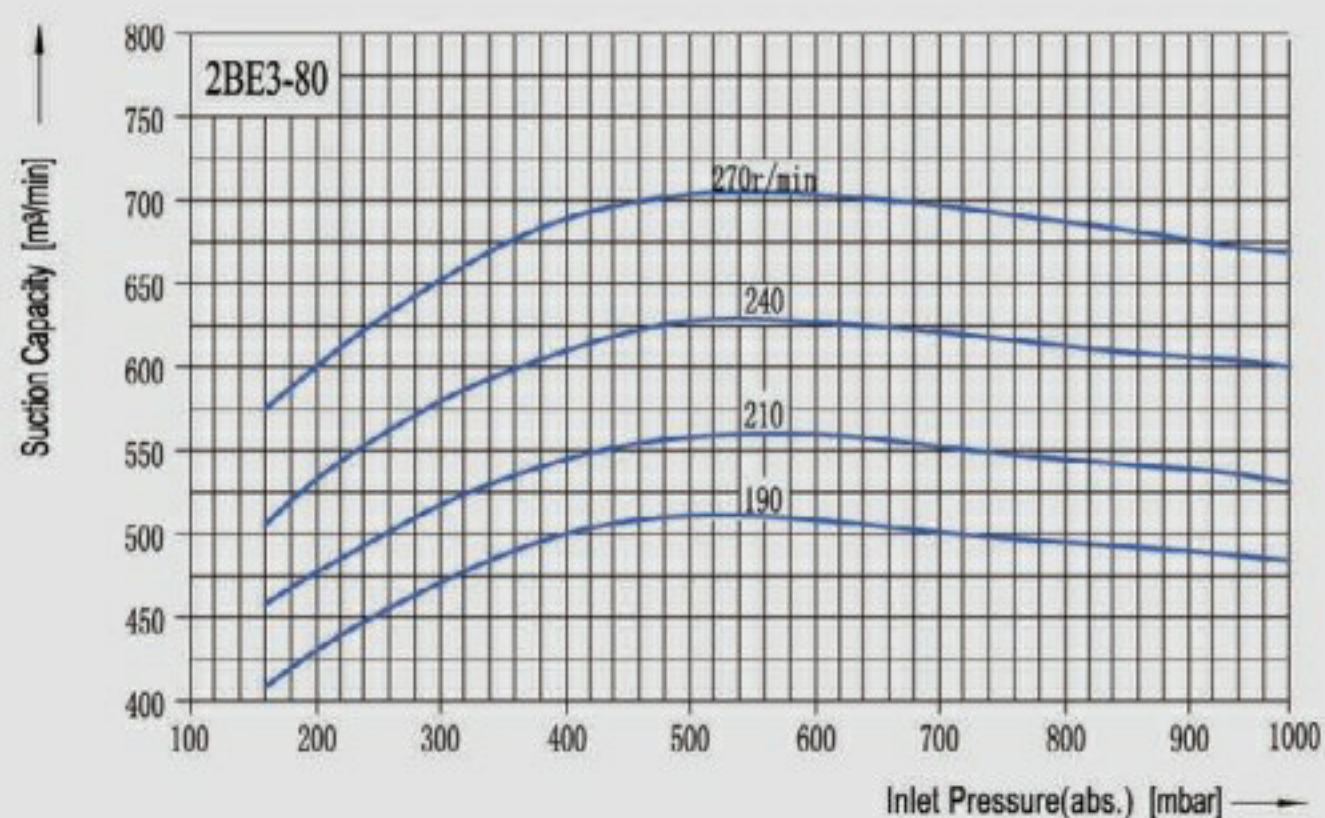


2BEN-80

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition:suction temperature 20°C, operating liquid 15°C;outlet pressure is 1 atmospheric pressure (1013mbar);inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	58	60	62	58	54
mbar	450	500	550	600	650
m ³ /h	53	48	44	40	38
mbar	700	750	800		
m ³ /h	33	28	26		

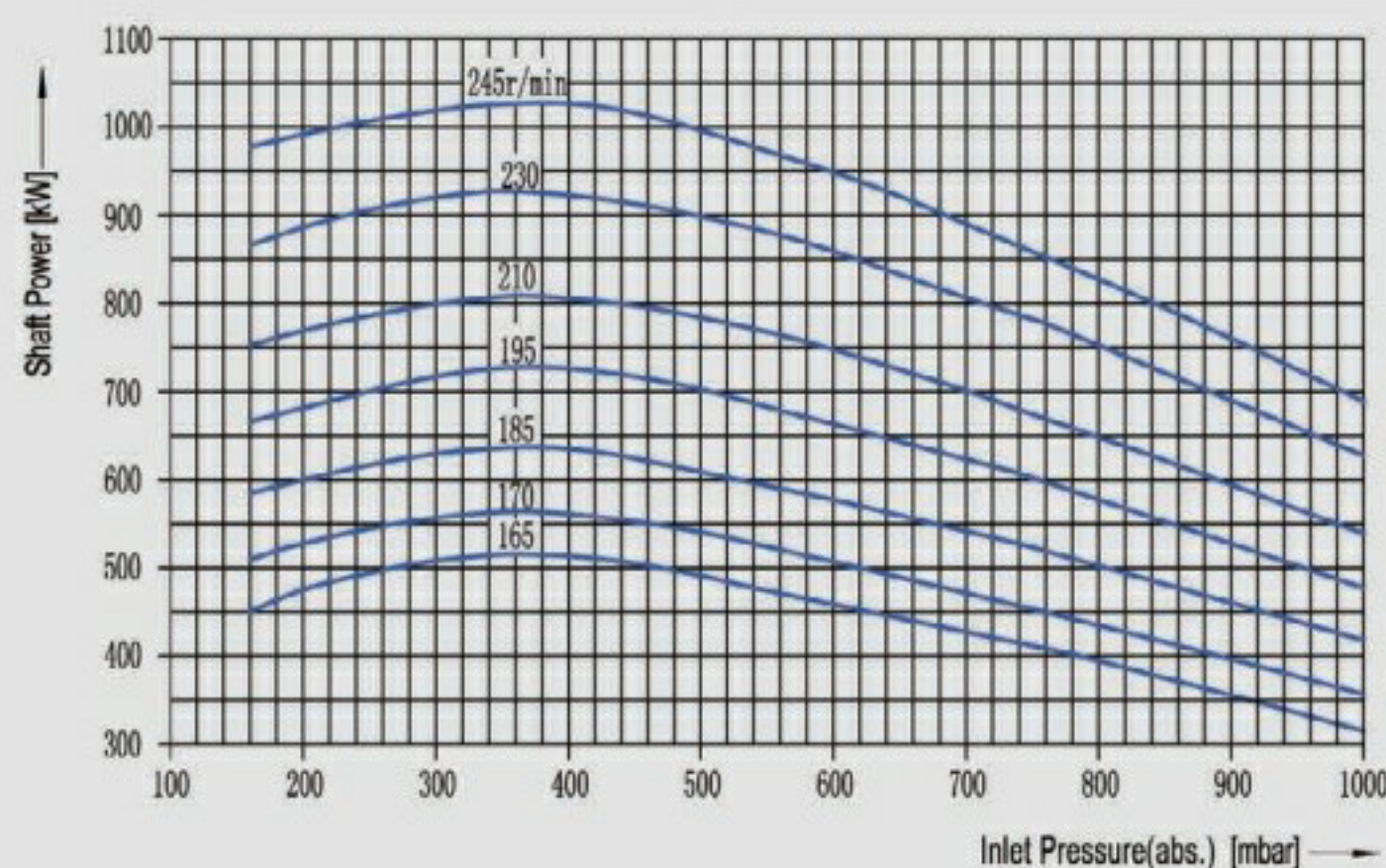
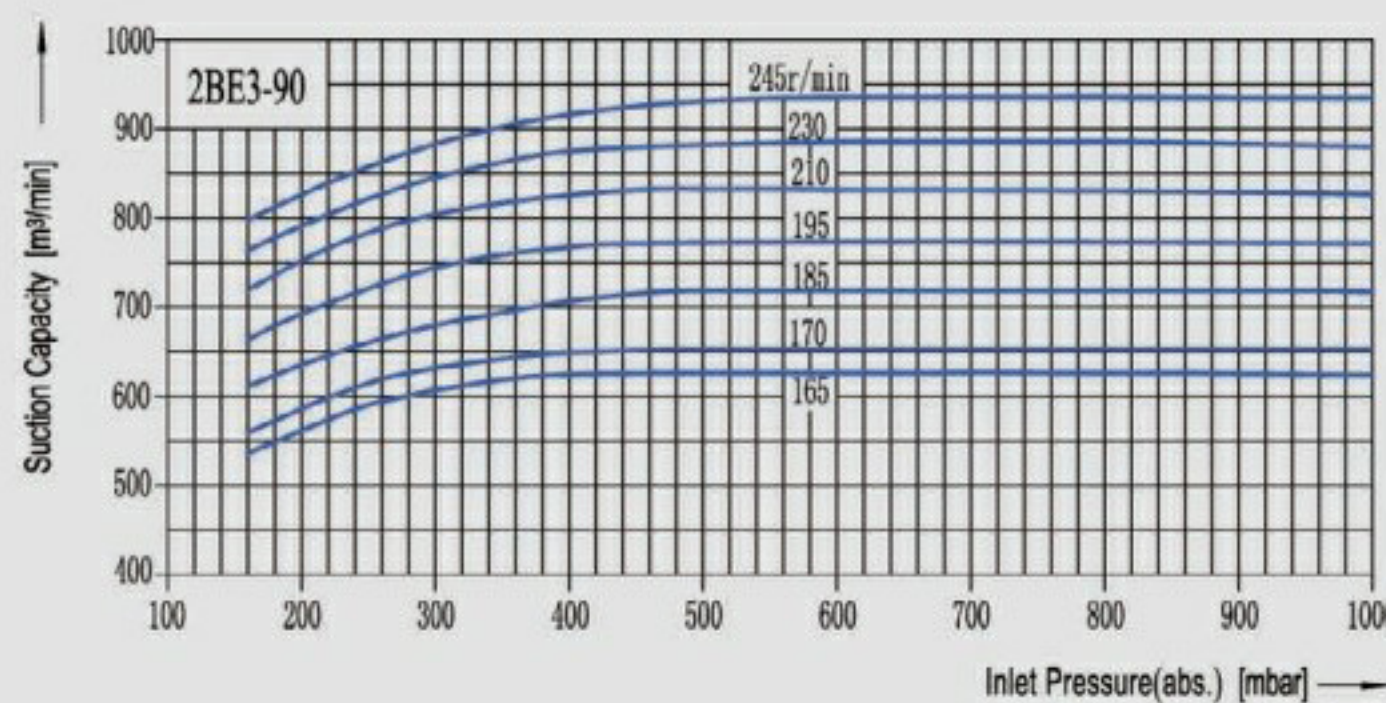


2BEN-90

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition:suction temperature 20°C, operating liquid 15°C;outlet pressure is 1 atmospheric pressure (1013mbar);inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water)Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	63.6	64.9	67	63.8	60.7
mbar	450	500	550	600	650
m ³ /h	56.5	52.8	48.5	44.3	40.4
mbar	700	750	800		
m ³ /h	38.4	32.5	28.6		

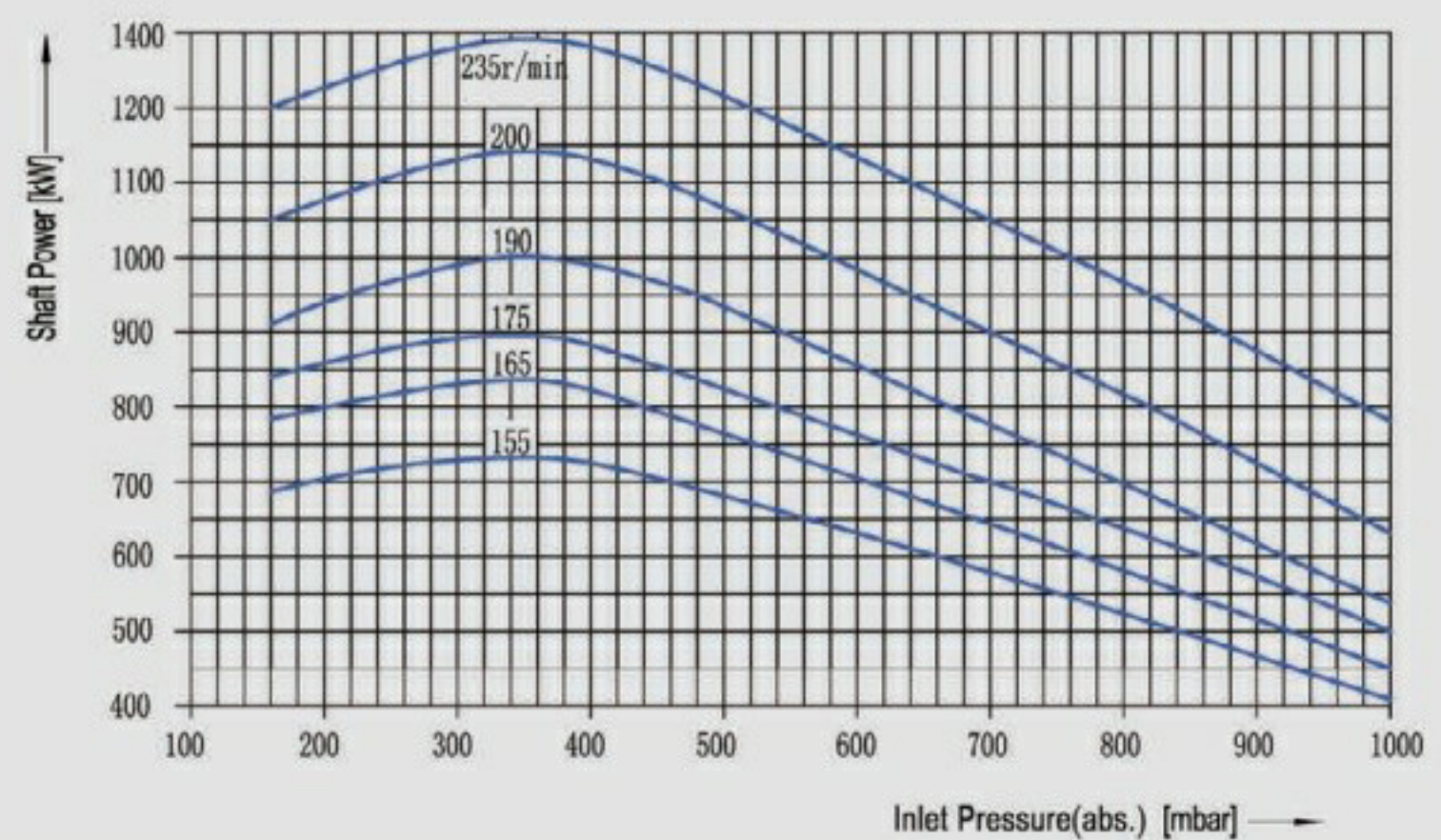
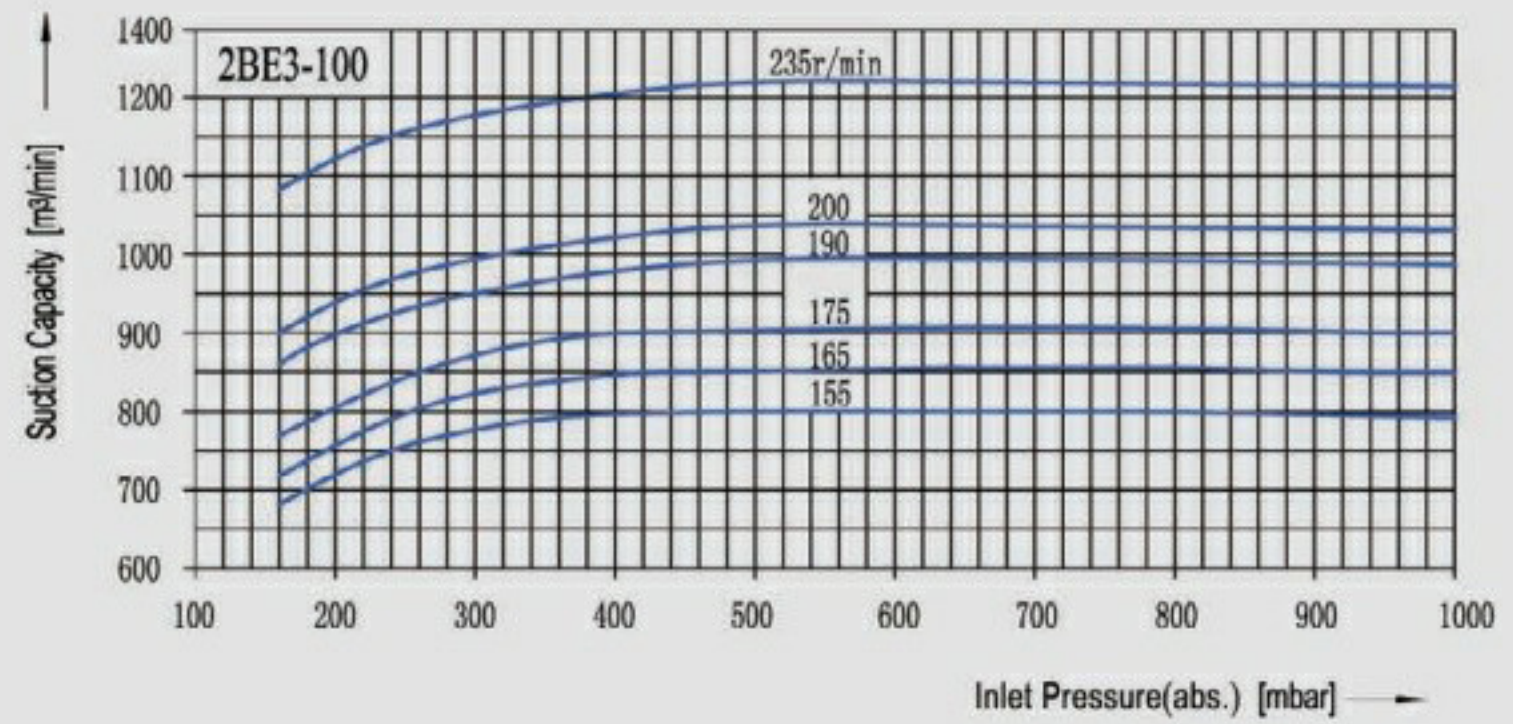


2BEN-100

注：右图是吸气温度为 20°C，工作液温度为 15°C，出口压力为一个标准大气压(1013mbar)，吸入介质为饱和空气时泵的性能曲线，性能允差 ±10%

Note: the performance curve is obtained under the following condition: suction temperature 20°C, operating liquid 15°C; outlet pressure is 1 atmospheric pressure (1013mbar); inlet medium is saturated air; tolerance ±10%.

不同吸气压力下的工作液（水）流量 Working Liquid(water).Flow Volume of Different Suction Pressure					
mbar	200	250	300	350	400
m ³ /h	84.4	86.1	88.9	84.7	80.6
mbar	450	500	550	600	650
m ³ /h	75.5	70.2	64.3	58.8	53.6
mbar	700	750	800		
m ³ /h	48.5	43.1	38.1		



2BV-060

2BV 曲线说明：

注：1，该性能曲线是在吸入介质为 20°C 的饱和空气，排气压力为 101325mbar，工作液温度为 15°C 的状态下得到的。

2，性能允差 ±10%。

3，吸气曲线图中左侧为配用大气喷射泵的性能指标。

Note: the performance curve is obtained under the following condition:

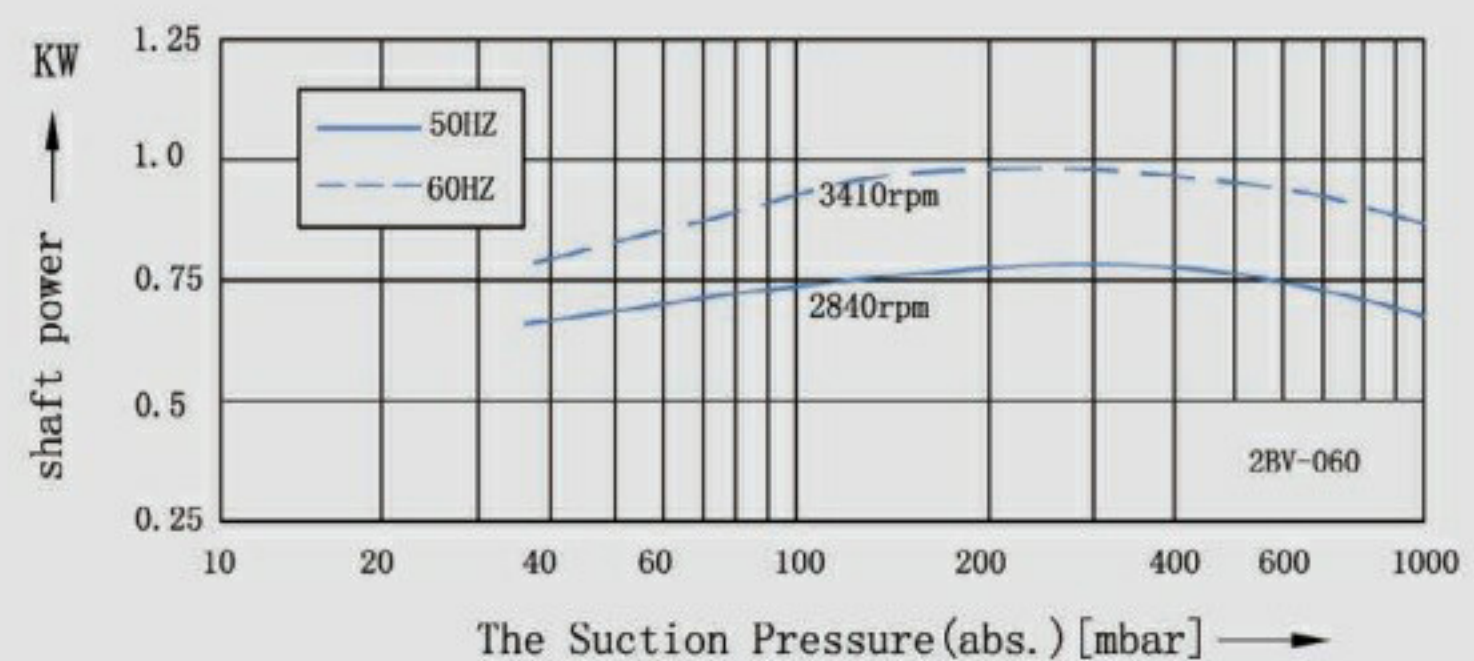
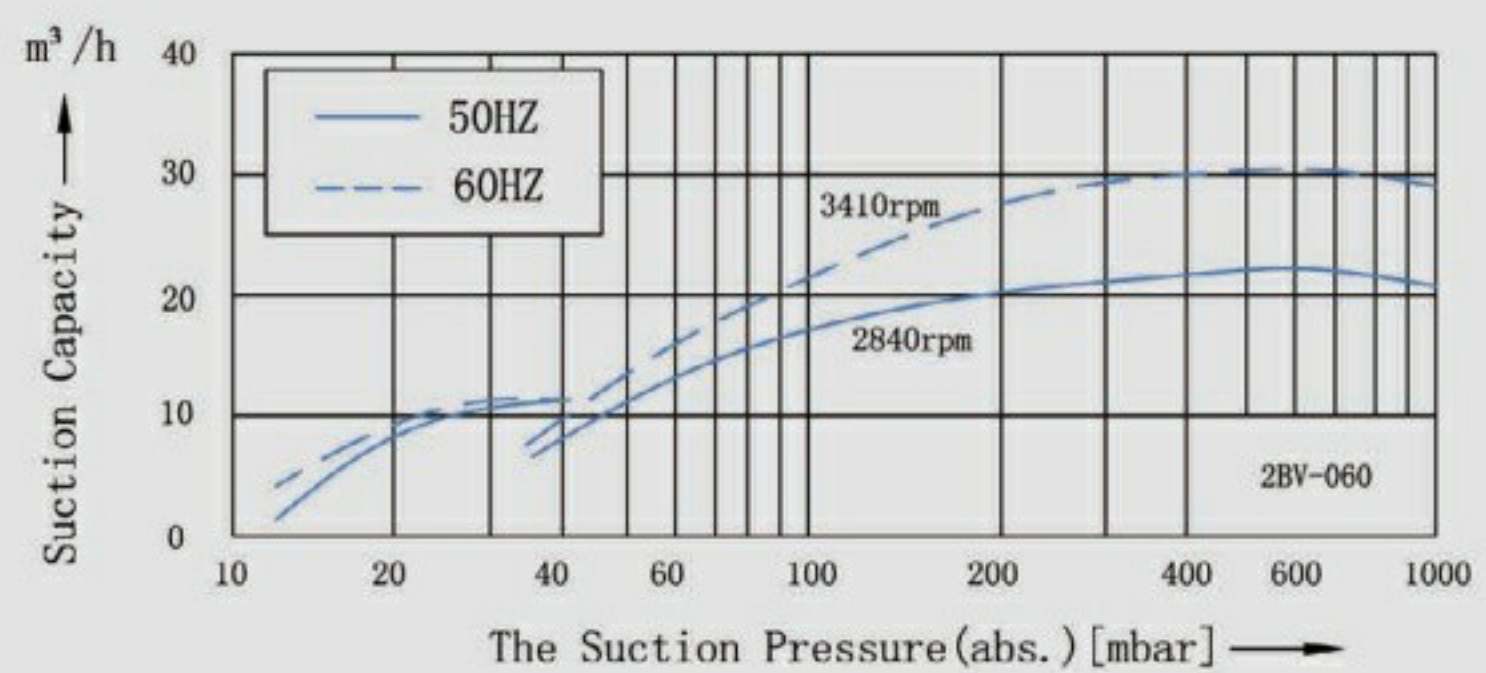
suction medium: 20 °C saturated air;

operating liquid 15 °C;

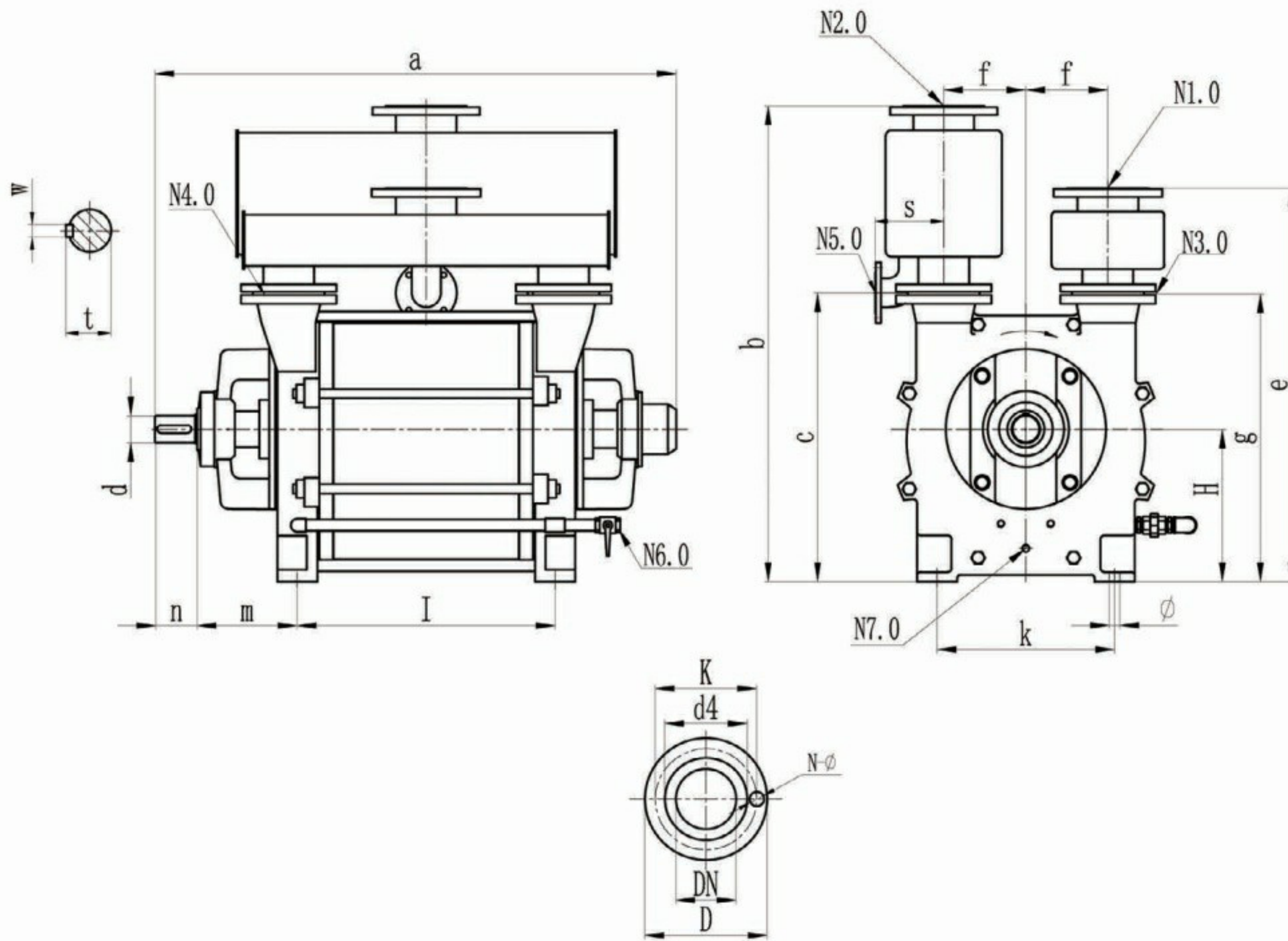
outlet pressure: 1 atmospheric pressure(1013 mbar);

tolerance ±10%;

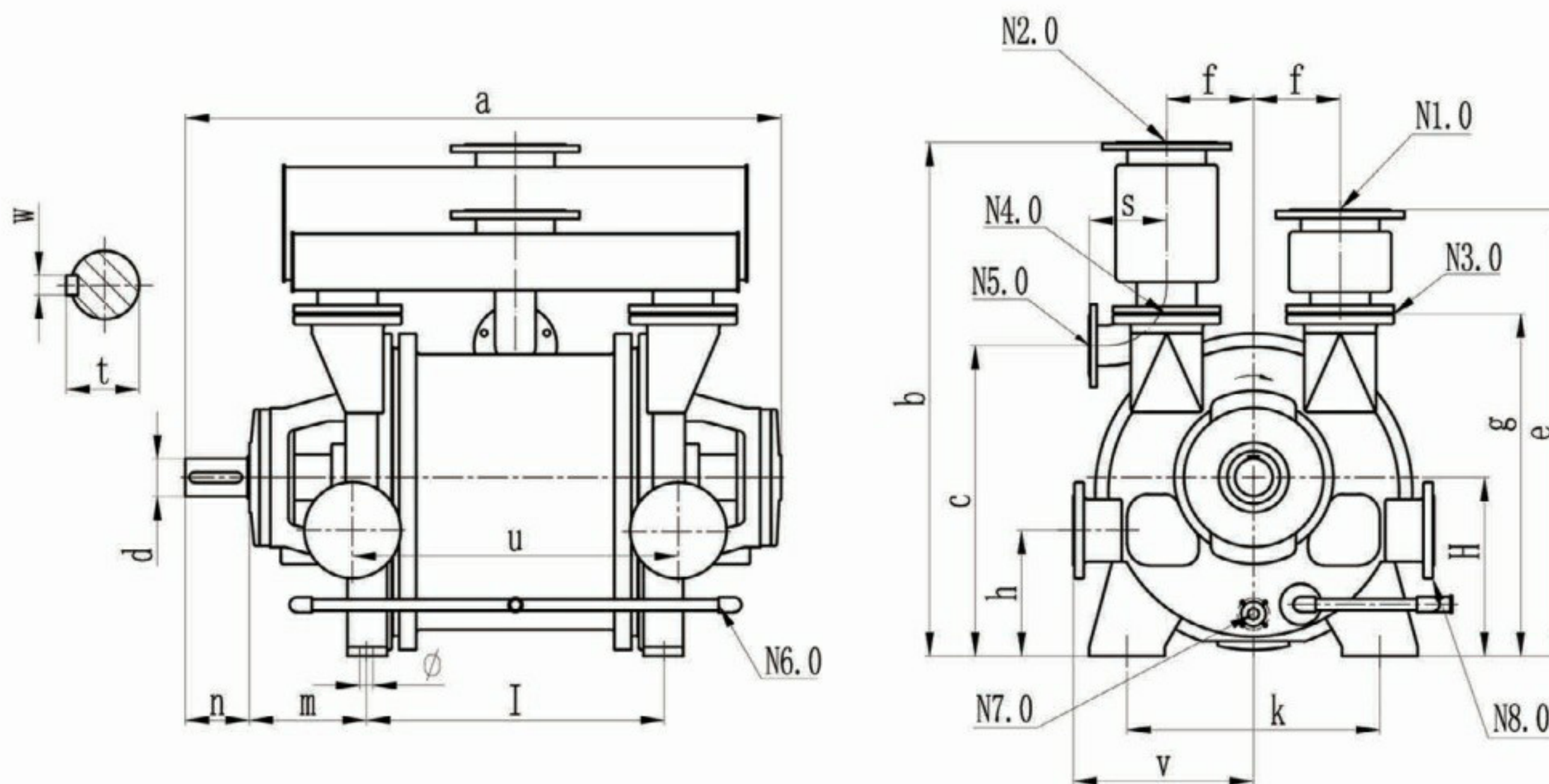
curve at beginning of suction capacity curve is obtained with gas ejector.



2BE1-102-253系列外形尺寸图 / 2BE1-102-253 Dimension Drawing



2BE1-303-405系列外形尺寸图 / 2BE1-303-405 Dimension Drawing





2BE1系列外形尺寸表 / 2BE1 Dimension

(unit:mm)

型号	a	b	c	e	f	g	H	l	M	n	s	k	ø	d	N	t
2BE1-102-0	746	648	318	498	105	355	180	262	194	58	110	220	15	35	10	38
2BE1-103-0	800	648	318	498	105	355	180	316	194	58	110	220	15	35	10	38
2BE1-152-0	820	748	376	603	125	425	225	300	207	70	140	260	19	35	10	38
2BE1-153-0	900	748	376	603	125	425	225	380	207	70	140	260	19	35	10	38
2BE1-202-0	961	980	590	840	155	590	315	395	222	82	150	340	24	50	14	53.5
2BE1-203-0	1090	980	590	840	155	590	315	515	222	82	150	340	24	50	14	53.5
2BE1-252-0	1231	1248	758	1033	215	755	400	526	267	105	180	465	28	70	20	74.5
2BE1-253-0	1381	1148	758	1033	215	755	400	676	267	105	180	465	28	70	20	74.5
2BE1-303-0	1580	1365	825	1186	230	910	475	790	315	165	205	670	35	100	28	106
2BE1-305-0	1700	1365	825	1186	230	910	475	910	315	165	205	670	35	100	28	106
2BE1-353-0	1752	1573	933	1373	285	1050	560	910	340	165	245	800	35	120	32	127
2BE1-355-1	1892	1573	933	1373	285	1050	560	1050	340	165	245	800	35	120	32	127
2BE1-403-0	2020	1865	1120	1625	335	1265	670	1110	355	200	285	950	42	140	36	148
2BE1-405-1	2170	1865	1120	1625	335	1265	670	1260	355	200	285	950	42	140	36	148

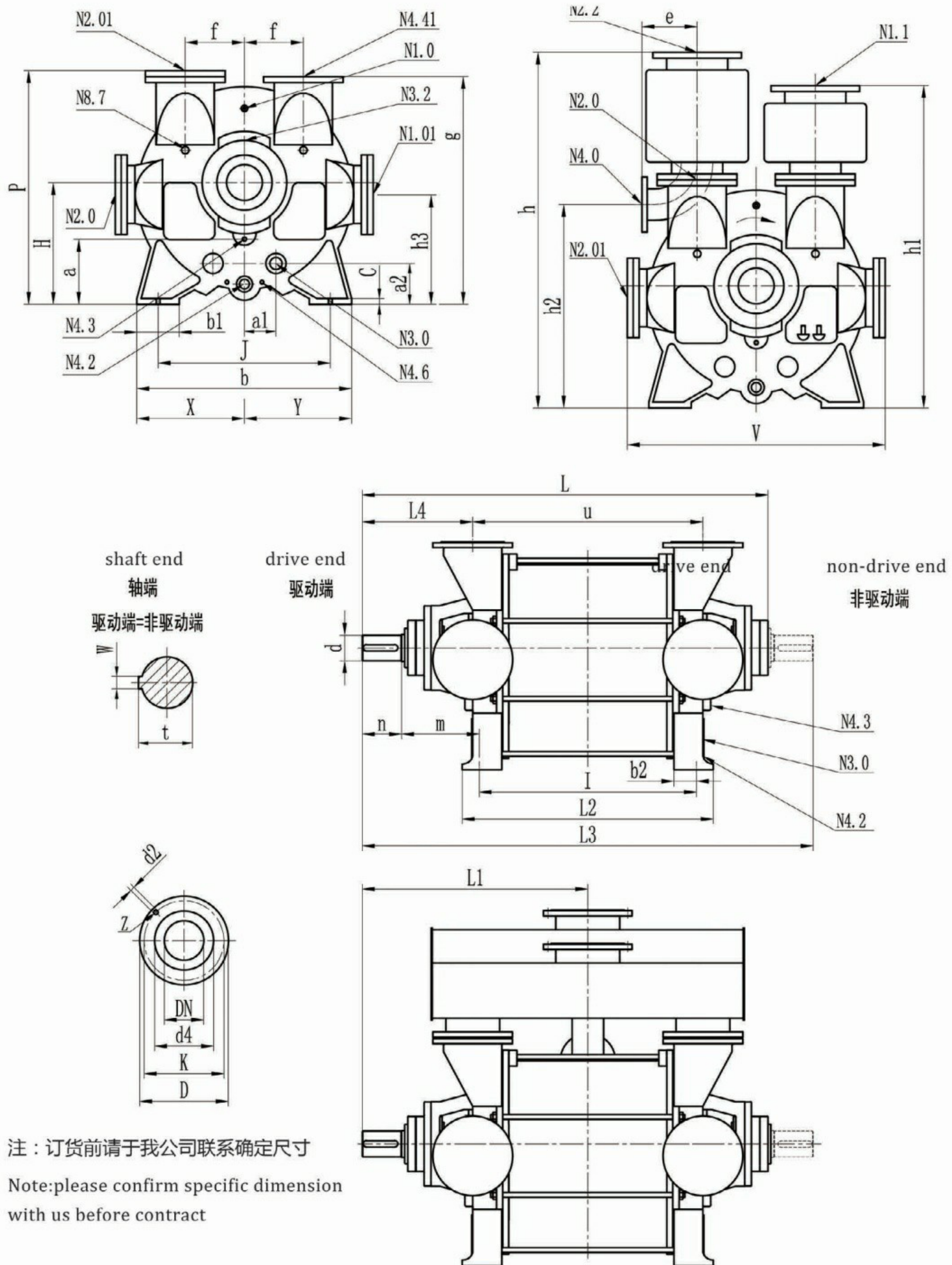
注：2BE1-303-405型泵根据需要亦可作垂直吸气水平排气布置（不带顶部的气水分离器），或水平吸排气（不带顶部三通和气水分离器）此时有关安装见下表：

NOTE:2BE1-303-405 pumps can be arranged as vertically suction and horizontally discharging(without built-in separator),or arranged as horizontally suction and vertically discharging(without pipe and separator).In this case ,please refer to the right table about the installation.

型号	h	u	v
2BE1-303	335	864	505
2BE1-305	335	984	505
2BE1-353	395	1000	555
2BE1-355	395	1140	555
2BE1-403	475	1210	655
2BE1-405	475	1360	655

型号 MODEL	N1.0=N2.0(进排气口法兰)					N3.0=N4.0=N5.0(泵法兰)					N5.0(排水口法兰)					N6.0 (工作液进)	N7.0 (工作液排)
	DN	D	K	d4	N-ø	DN	D	K	d4	N-ø	DN	D	K	d4	N-ø		
2BE1-102-0	65	158	145	118	4-18	50	165	125	95	4-18	40	150	110	84	4-18	G1/2"	G1/2"
2BE1-103-0	65	185	145	118	4-18	50	165	125	95	4-18	40	150	110	84	4-18	G1/2"	G1/2"
2BE1-152-0	100	220	180	156	8-18	65	185	145	125	4-18	50	165	125	99	4-18	G1/2"	G1/2"
2BE1-153-0	100	220	180	156	8-18	65	185	145	125	4-18	50	165	125	99	4-18	G1/2"	G1/2"
2BE1-202-0	125	250	210	184	8-18	100	220	180	158	4-14	68	160	130	108	4-14	G3/4"	G3/4"
2BE1-203-0	125	250	210	184	8-18	100	220	180	158	4-14	68	160	130	108	4-14	G3/4"	G3/4"
2BE1-252-0	150	285	240	212	8-22	125	250	210	188	4-14	68	160	130	108	4-14	G1"	G1"
2BE1-253-0	150	285	240	212	8-22	125	250	210	188	4-14	68	160	130	108	4-14	G1"	G1"
2BE1-303-0	200	340	295	265	8-22	160	285	240	212	8-18	100	220	180	158	8-18	G1"	G1"
2BE1-305-0	200	340	295	265	8-22	160	285	240	212	8-18	100	220	180	158	8-18	G1"	G1"
2BE1-353-0	250	395	350	320	12-22	210	350	295	268	8-22	125	250	210	184	8-22	G1 1/2"	G1 1/2"
2BE1-355-1	250	395	350	320	12-22	210	350	295	268	8-22	125	250	210	184	8-22	G1 1/2"	G1 1/2"
2BE1-403-0	300	445	400	370	12-22	260	405	362	320	8-22	150	285	240	211	8-22	G1 1/2"	G1 1/2"
2BE1-405-1	300	445	400	370	12-22	260	405	362	320	8-22	150	285	240	211	8-22	G1 1/2"	G1 1/2"

2BE3 系列外形尺寸图 / 2BE3 Dimension Drawing



注：订货前请于我公司联系确定尺寸
 Note: please confirm specific dimension with us before contract



2BE3 系列外形尺寸表 / 2BE3 Dimension Drawing

unit: (mm)

型号 Model	N1.0/1.01(入口法兰/Inlet flange)						N1.1(连通管法兰/Connecting pipe flange)						N2.0/2.01(出口法兰/Outlet flange)					
	DN	d2	d4	D	K	Z	DN	d2	d4	D	K	Z	DN	d2	d4	D	K	Z
2BE3-40/42	260	22	320	405	362	12	300	22	363	440	395	12	260	22	320	405	362	12
2BE3-50/52	300	22	363	440	395	12	350	22	420	505	460	16	300	22	363	440	395	12
2BE3-60/62	350	22	420	505	460	16	400	26	480	595	515	16	350	22	420	505	460	16
2BE3-67	350	22	420	505	460	16	500	26	585	670	620	20	350	22	420	530	460	16
2BE3-72	400	26	470	595	515	16	500	26	585	670	620	20	400	26	470	595	515	16
2BEN-80	500	26	585	670	620	20	600	30	682	780	725	20	500	26	585	670	620	20
2BEN-90	500	26	585	670	620	20	600	30	682	780	725	20	500	26	585	670	620	20
2BEN-100	600	30	682	780	725	20	700	30	800	895	840	24	600	30	682	780	725	20

型号 Model	N2.2(分离器出口法兰/Separator discharge flange)						N3.0(工作液接口/Operating liquid connection)						N4.0(分离器接口/Separator connection)					
	DN	d2	d4	D	K	Z	DN	d2	d4	D	K	Z	DN	d2	d4	D	K	Z
2BE3-40/42	300	22	363	440	395	12	50	M12	80	-	102	4	150	22	210	280	240	8
2BE3-50/52	350	22	420	505	460	16	60	M12	-	120	90	4	200	22	266	340	295	8
2BE3-60/62	400	26	480	595	515	16	80	M16	128	-	150	4	200	22	266	340	295	8
2BE3-67	500	26	585	670	620	20	80	M16	128	-	150	4	200	22	266	340	295	8
2BE3-72	500	26	585	670	620	20	80	M16	128	-	150	4	200	22	320	395	350	12
2BEN-80	600	30	682	780	725	20	80	M16	128	-	150	4	250	22	320	395	350	12
2BEN-90	600	30	682	780	725	20	80	M16	128	-	150	4	250	22	320	395	350	12
2BEN-100	700	30	800	895	840	24	100	M16	148	-	170	4	300	22	370	445	400	12

型号 Model	N4.2(冲洗及排液口/Flush and drainage port)						N3.2	N4.3	N4.41	N4.6	N8.7
	DN	d2	d4	D	K	Z					
2BE3-40/42	50	M12	80	-	102	4	G1/4"	G3/4"	G1/2"	G1/2"	G1/2"
2BE3-50/52	60	M12	-	120	90	4	G1/2"	G3/4"	G1/2"	G1/2"	G1/2"
2BE3-60/62	80	M16	128	-	150	4	G1/2"	G3/4"	G1/2"	G1/2"	G1/2"
2BE3-67	80	M16	128	-	150	4	G1/2"	G3/4"	G1/2"	G1/2"	G1/2"
2BE3-72	80	M16	128	-	150	4	G1/2"	G3/4"	G1/2"	G1/2"	G1/2"
2BEN-80	80	M16	128	-	150	4	G1/2"	G3/4"	G1/2"	G1/2"	G1/2"
2BEN-90	100	M16	128	-	150	4	G1/2"	G3/4"	G1/2"	G1/2"	G1/2"
2BEN-100	100	M16	148	-	170	4	G1/2"	G3/4"	G3/4"	G3/4"	G1/2"

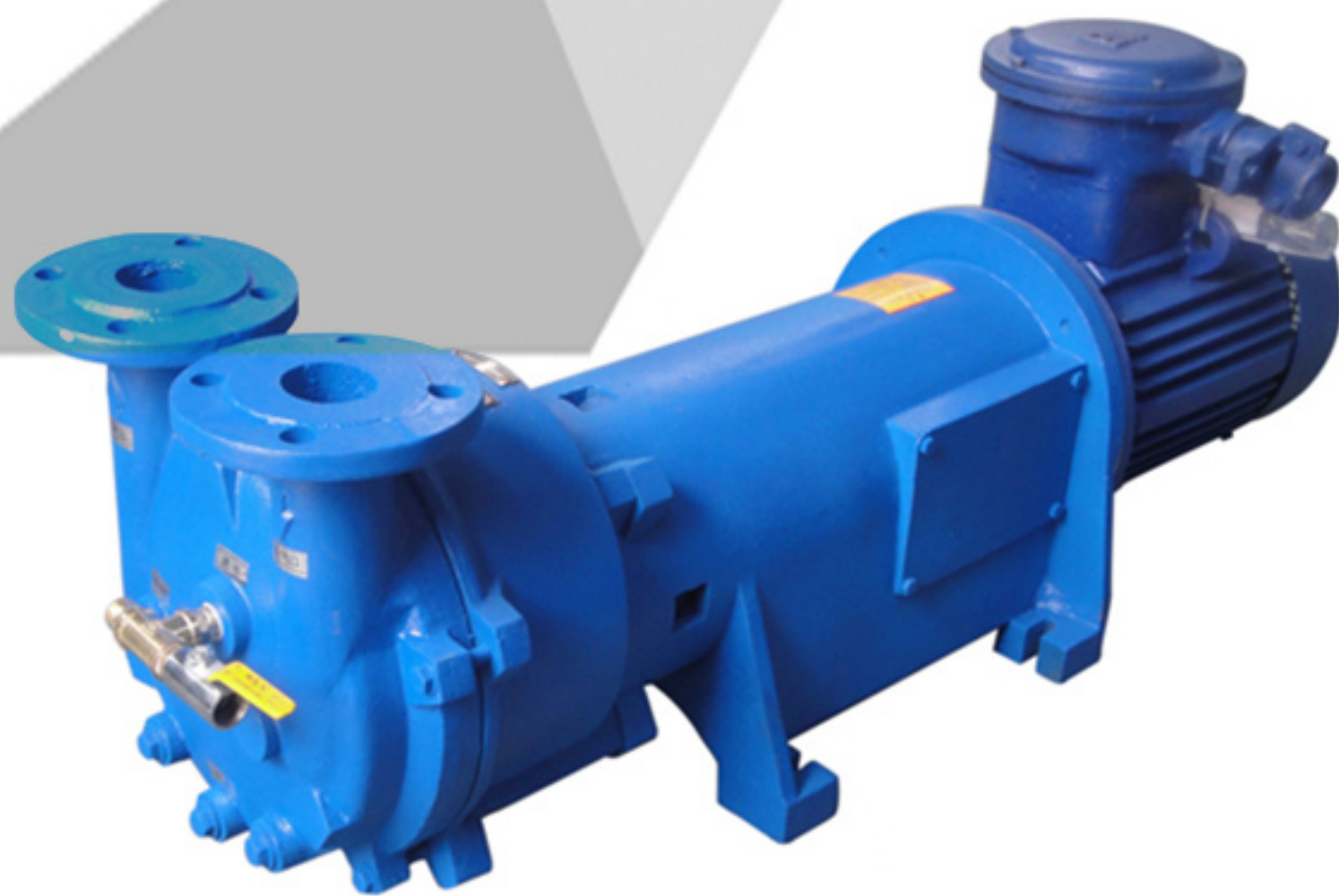
型号 Model	a	a1	a2	b	b1	b2	c	d	e	f	g	H	h	h1	h2	h3	I	J
2BE3-40	332	160	209	1090	215	200	30	Φ130	280	300	1160	620	1810	1640	1035	560	1103	875
2BE3-42	332	160	209	1090	215	200	30	Φ130	280	300	1160	620	1810	1640	1035	560	1391	875
2BE3-50	451	175	227	1370	250	250	35	Φ160	367	385	1450	775	2238	1938	1256	698	1479	1120
2BE3-52	451	175	227	1370	250	250	35	Φ160	367	385	1450	775	2238	1938	1256	698	1729	1120
2BE3-60	560	200	249	1620	300	300	40	Φ180	367	435	1720	900	2613	2223	1563	810	1747	1320
2BE3-62	560	200	249	1620	300	300	40	Φ180	367	435	1720	900	2613	2223	1563	810	2042	1320
2BE3-67	576	200	260	1740	320	300	45	Φ200	367	460	1885	975	2803	2433	1663	876	2200	1400
2BE3-72	655	200	273	1900	340	340	45	Φ200	449	460	1985	1060	3023	2573	1753	952	2410	1600
2BEN-80	744	230	303	2140	380	380	50	Φ230	450	560	2260	1204	3200	3200	2160	1082	2960	1800
2BEN-90	872	250	376	2340	390	420	50	Φ230	460	600	2570	1370	3500	3500	2460	1232	3120	1950
2BEN-100	985	290	380	2760	480	480	55	Φ260	620	710	2830	1520	4330	3730	2490	1366	3370	2280

型号 Model	L	L1	L2	L3	L4	m	n	p	Φ	t	u	v	w	x	y
2BE3-40	2090	1145	1274	2290	561	394	200	1195	42	137	1169	1302	32	625	660
2BE3-42	2328	1261	1562	2528	561	394	200	1195	42	137	1458	1302	32	625	660
2BE3-50	2588	1456	1713	2888	672	412	300	1481	42	173	1568	1562	40	750	790
2BE3-52	2838	1582	1963	3138	672	412	300	1481	42	173	1818	1562	40	750	790
2BE3-60	2834	1568	2047	3134	646	395	300	1753	48	190	1843	1818	45	879	909
2BE3-62	3129	1716	2342	3429	646	395	300	1753	48	190	2138	1818	45	879	909
2BE3-67	3382	1874	2476	3732	734	436	350	1878	48	210	2280	1916	45	926	958
2BE3-72	3579	1973	2730	3929	733	418	350	2017	48	210	2500	2096	45	1016	1048
2BEN-80	4066	2212	3160	4040	733	432	350	2290	48	241	2960	2370	50	1165	1185
2BEN-90	4370	2385	3560	4402	816	476	350	2610	50	243	3260	2680	50	1300	1340
2BEN-100	4795	2613	3810	5226	853	528	400	2880	60	272	3520	3040	56	1470	1520

● 2BV 系列水环式真空泵及压缩机 2BV Series Liquid Ring Vacuum Pumps and Compressors

● 2BV 系列水环真空泵适用于抽除气体和水蒸汽，吸气压力可以达到 33mbar 绝压 (97% 真空度) 当水环真空泵在吸气压力接近极限真空 (工作液的饱和蒸汽压) 下长期工作时，应连接气蚀保护管，以对泵进行保护。作为压缩机用时，其压力最大至 0.26Mpa (绝压)。2BV 系列水环真空泵作为新一代节能型产品，以其出色的性能及众多优点将全面取代同性能的 SK、2SK 系列水环真空泵及 W、WY、WL 系列往复真空泵。

2BV6 系列水环式真空泵及压缩机主要用于抽除爆炸性气体，及在各类易燃易爆环境中工作，其性能参数与 2BV2、2BV5 系列相同。



2BV series water ring vacuum pump is suitable for removing gas and water vapor, and the suction pressure can reach 33mbar absolute pressure (97% vacuum degree). When the cavitation protection pipe should be connected to protect the pump. When used as a compressor, its maximum pressure is 0.26Mpa (absolute pressure). As a new generation of energy-saving products, 2BV series water ring vacuum pump will completely replace the SK, 2SK series water ring vacuum pumps and W, WY, WL series reciprocating vacuum pumps of the same performance with its excellent performance and many advantages.

2BV6 series water ring vacuum pumps and compressors are mainly used for pumping out explosive gas and working in various flammable and explosive environments. Their performance parameters are the same as 2BV2 and 2BV5 series.

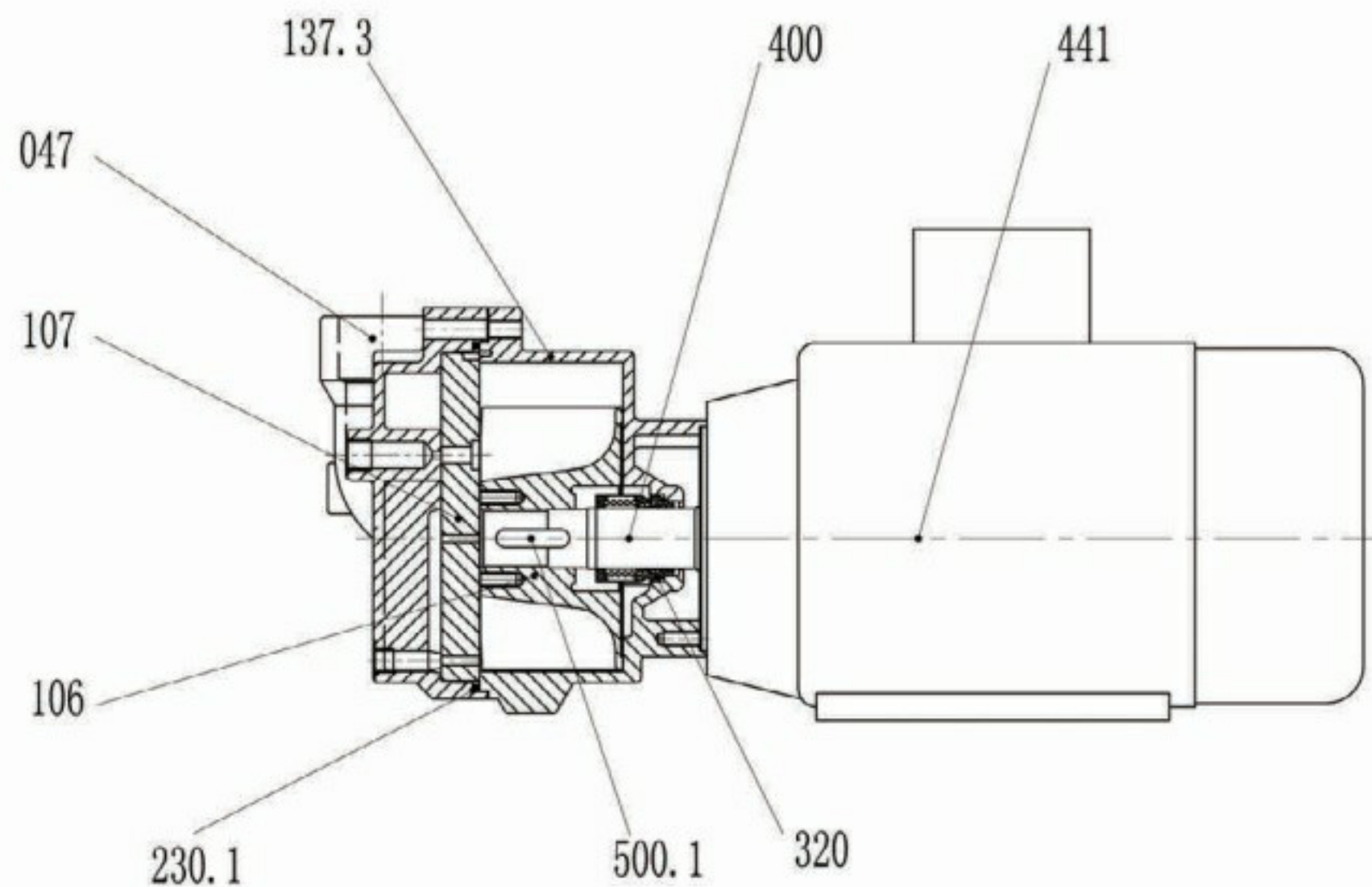


2BV 技术性能表

2BV Technical Parameters

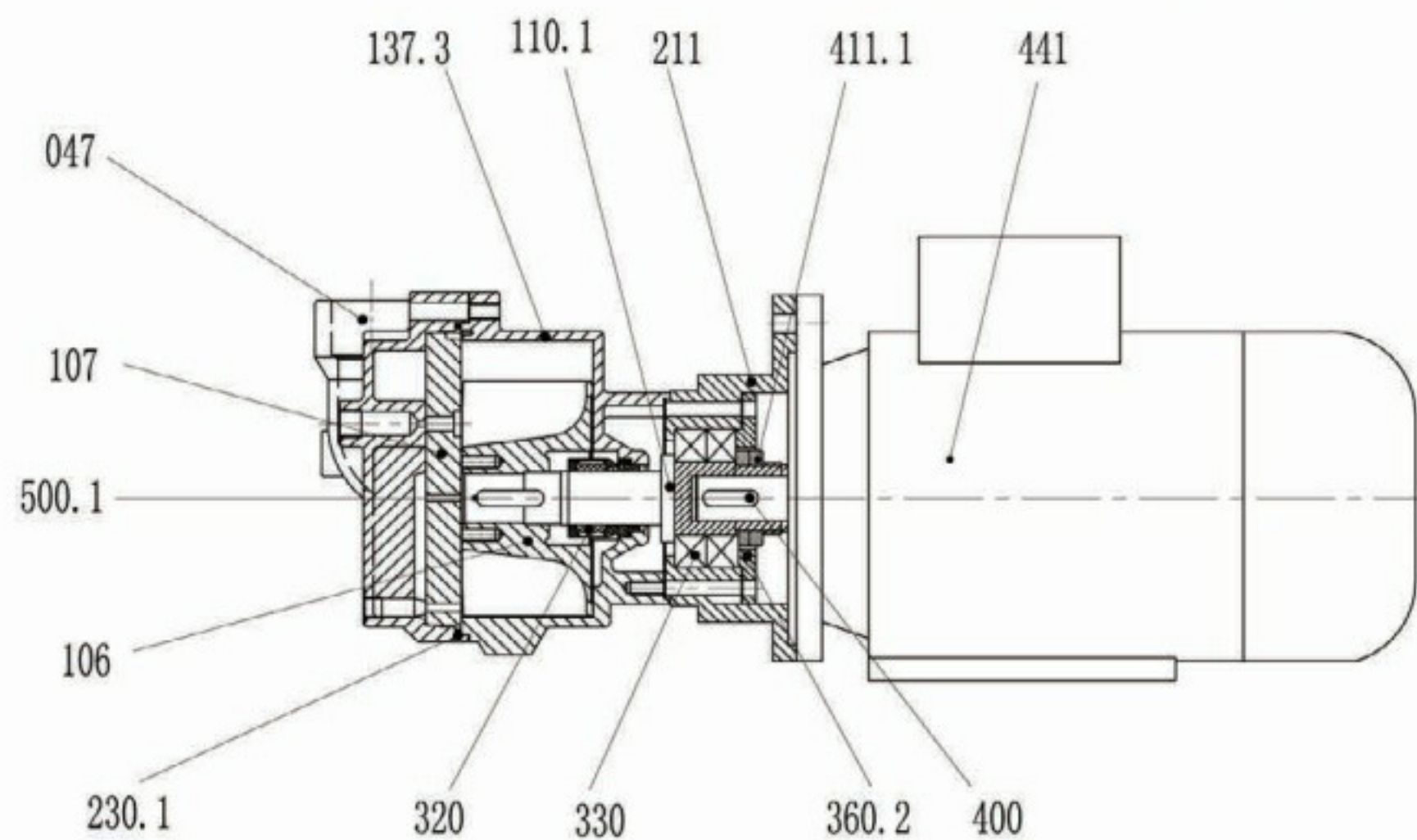
产品型号 model	最大气量 max. capacity m ³ /h	进排气口 inlet &outlet	供水口 feed water inlet	电机功率 motor power kW 50HZ	电机防 爆等级 motor explosion- proof grade	泵转速 pump speed rpm	工作液流量 operating liquid flow L/min	噪音 noise dB(A)	重量 weight kg
2BV2-060	27	G1"	G3/8"	Y90S-2-0.81	不 防 爆 non- explosion proof	2840	2.5	62	31
2BV2-061	52	G1"	G3/8"	Y90S-2-1.45		2840	2.5	65	36
2BV2-070	80	G1.5"	G3/8"	Y100L-2-2.35		2860	3	66	56
2BV2-071	110	G1.5"	G3/8"	Y112M-2-3.85		2880	4.7	72	60
2BV5-110	165	DN50	G1/2"	Y112-4-4KW		1440	7.2	63	105
2BV5-111	230	DN50	G1/2"	Y132-4-5.5KW		1440	8.8	68	126
2BV5-121	280	DN65	G3/4"	Y132-4-7.5KW		1440	11	69	149
2BV5-131	400	DN65	G3/4"	Y160-4-11KW		1460	16	73	195
2BV5-161	500	DN80	G3/4"	Y180-6-15KW		970	22	74	320
产品型号 model	最大气量 max. capacity m ³ /h	进排气口 inlet &outlet	供水口 feed water inlet	电机功率 motor power kW 50HZ		电机防 爆等级 motor explosion- proof grade	泵转速 pump speed rpm	工作液流量 operating liquid flow L/min	噪音 noise dB(A)
2BV6-060	27	G1"	G3/8"	YB80M-2-1.1KW	防 爆 explosion proof DIIBT4/ DIICT4	2840	2.5	62	37
2BV6-061	52	G1"	G3/8"	YB90S-2-1.5KW		2840	2.5	65	41
2BV6-070	80	G1.5"	G3/8"	YB100-2-3KW		2860	3	66	66
2BV6-071	110	G1.5"	G3/8"	YB112-2-4KW		2880	4.7	72	75
2BV6-110	165	DN50	G1/2"	YB112-4-4KW		1440	6.7	63	150
2BV6-111	230	DN50	G1/2"	YB132-4-5.5KW		1440	10	68	200
2BV6-121	280	DN65	G3/4"	YB132-4-7.5KW		1440	12	69	230
2BV6-131	400	DN65	G3/4"	YB160-4-11KW		1460	17	73	280
2BV6-161	500	DN80	G3/4"	YB180-6-15KW		970	23	74	400

2BV2--060/061/070/071 剖面结构图 / Sectional Drawing



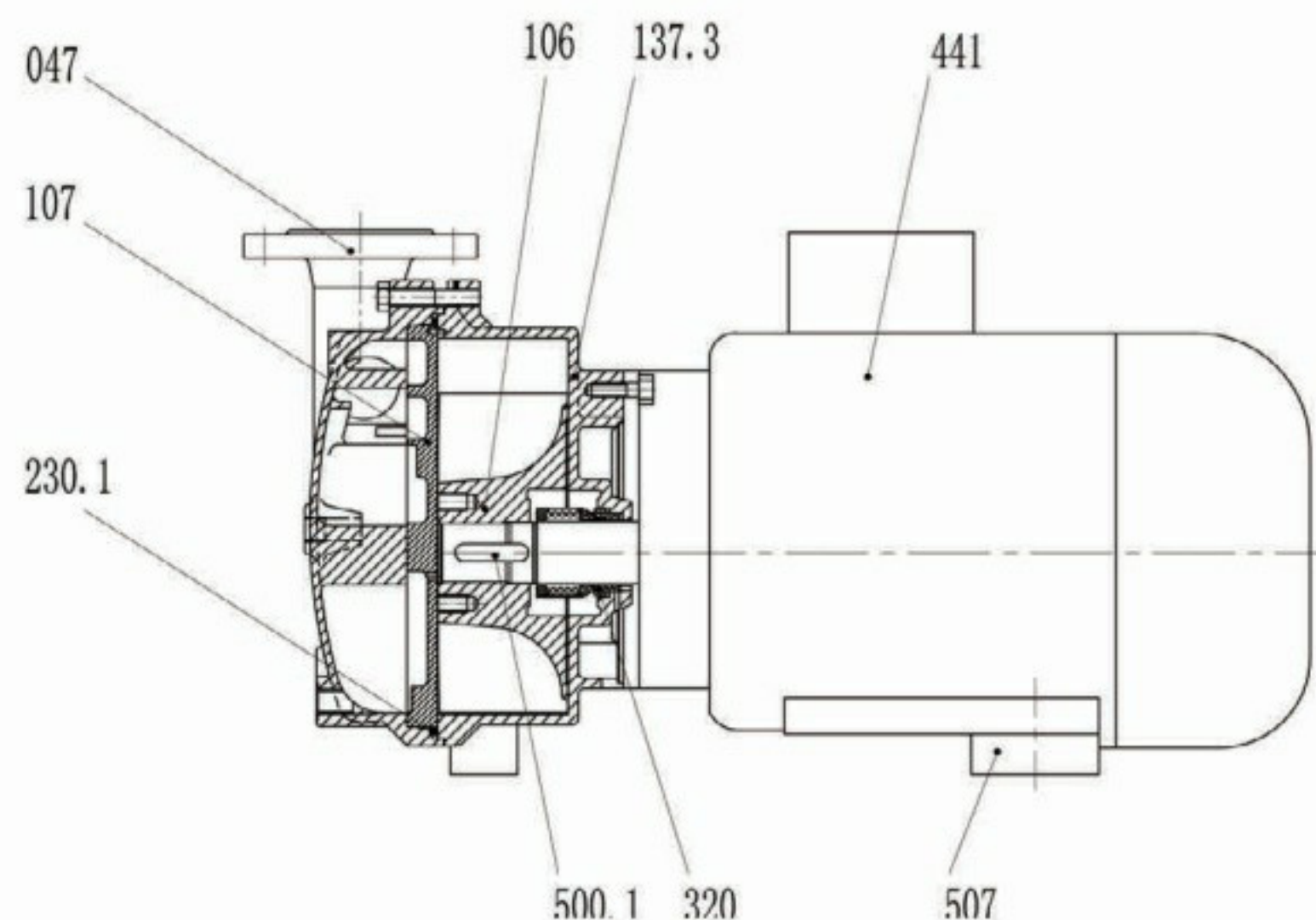
序号 No.	名称 Name	序号 No.	名称 Name
047	泵盖 pump cover	107	圆盘 port plate
106	叶轮 impeller	137.3	泵体 casing
230.1	O型圈 O-ring	320	机械密封 mechanical seal
400	电机轴 shaft	500.1	平键 flat key
441	电机 motor		

2BV6--060/061/070/071 剖面结构图 / Sectional Drawing



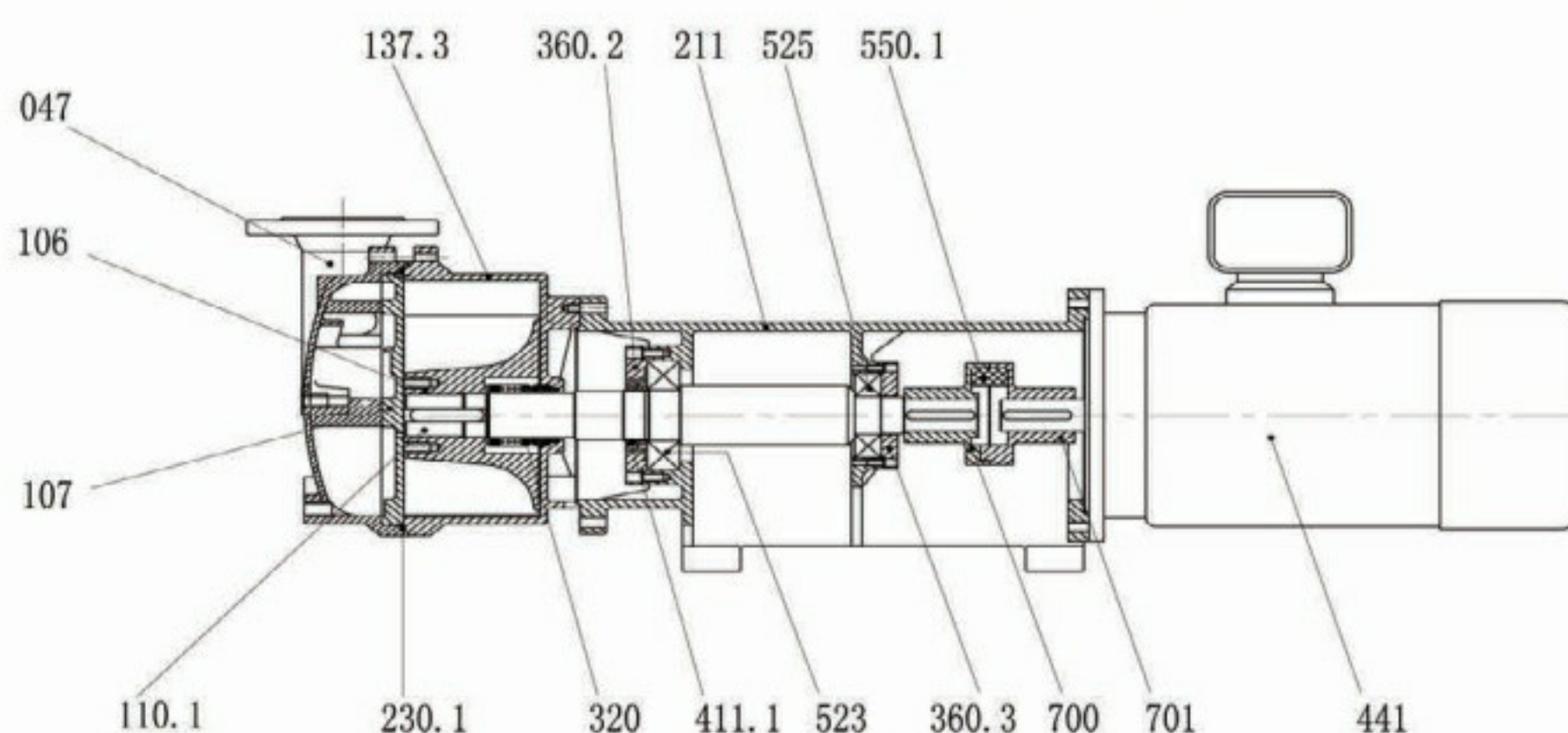
序号 No.	名称 Name	序号 No.	名称 Name
047	泵盖 pump cover	106	叶轮 impeller
107	圆盘 port plate	110.1	轴 shaft
137.3	泵体 casing	211	连接盘 bracket
230.1	O型圈 O-ring	320	机械密封 mechanical seal
330	支撑轴承 axial bearing	360.2	轴承压盖 bearing cap
400	平键 flat key	441	电机 motor
441.1	锁紧螺母 jam nut	500.1	叶轮键 flat key of rotor

2BV5--110/111/121/131/161系列剖面结构图 / Sectional Drawing



序号 No.	名称 Name	序号 No.	名称 Name
047	泵盖 pump cover	107	圆盘 port plate
106	叶轮 impeller	137.3	泵体 casing
230.1	O型圈 O-ring	500.1	平键 flat key
320	机械密封 mechanical seal	441	电机 motor
507	地脚垫板 foot gasket		

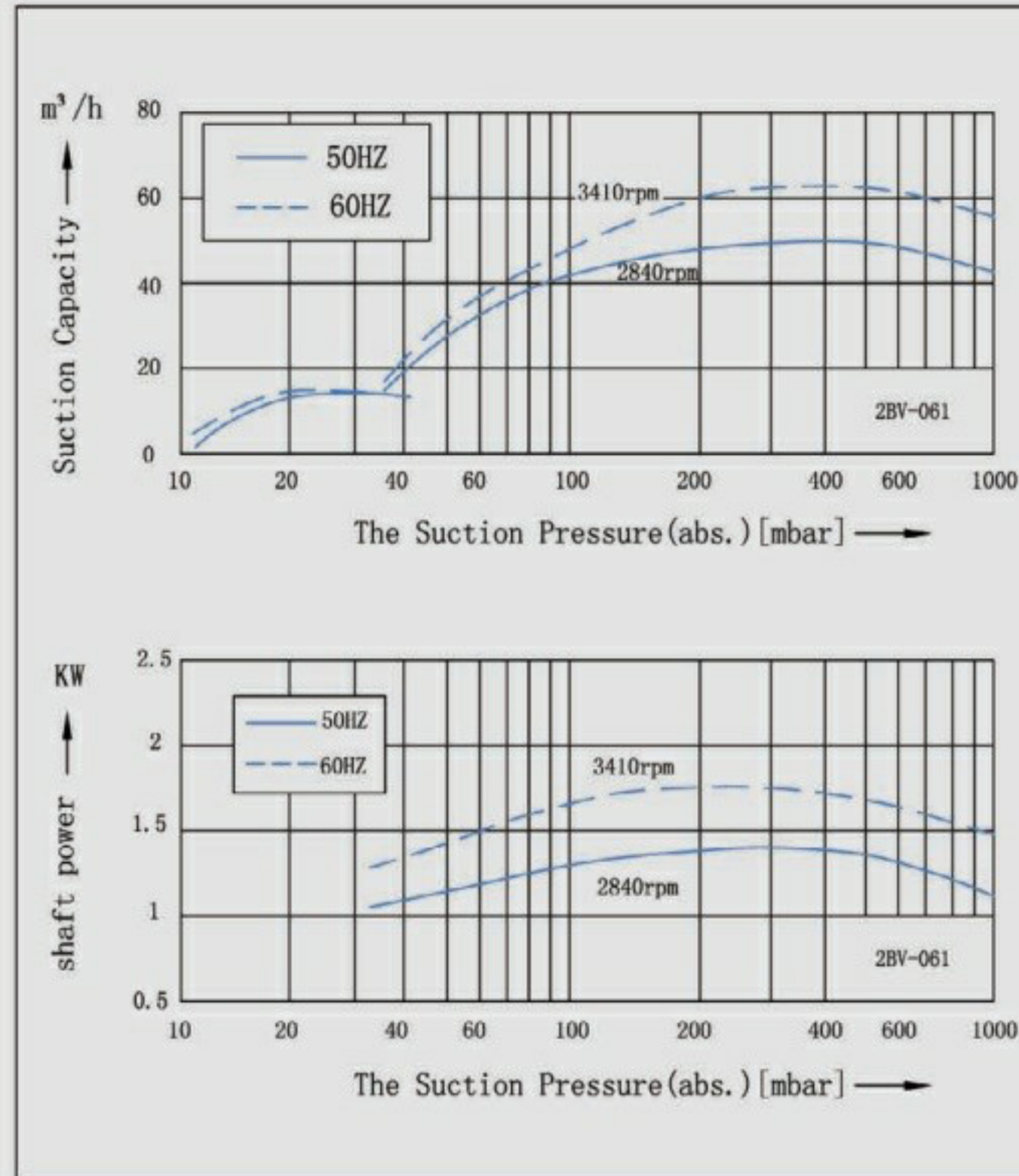
2BV6--110/111/121/131/161剖面结构图 / Sectional Drawing



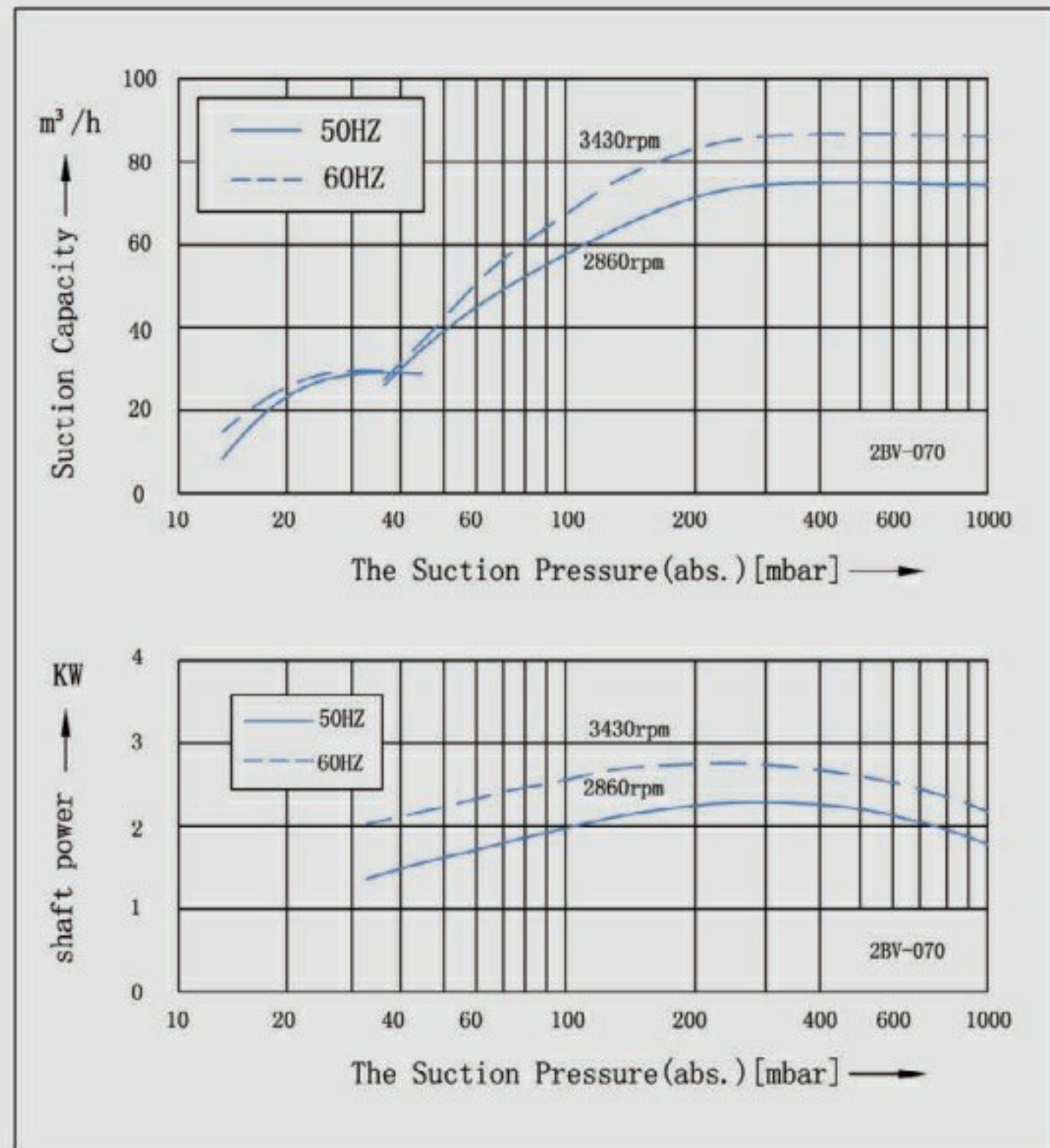
序号 No.	名称 Name	序号 No.	名称 Name
047	泵盖 pump cover	106	叶轮 impeller
107	圆盘 port plate	110.1	轴 shaft
137.3	泵体 casing	211	托架 bracket
360.2	前轴承压盖 front bearing cap	523	托架前轴承 front bearing
525	托架后轴承 back bearing	320	机械密封 mechanical seal
230.1	O型圈 O-ring	411.1	锁紧螺母 jam nut
360.3	后轴承挡盖 back bearing cover	700	泵联轴器 pump coupling
701	电联轴器 motor coupling	550.1	梅花胶圈 plum gasket
441	电机 motor		



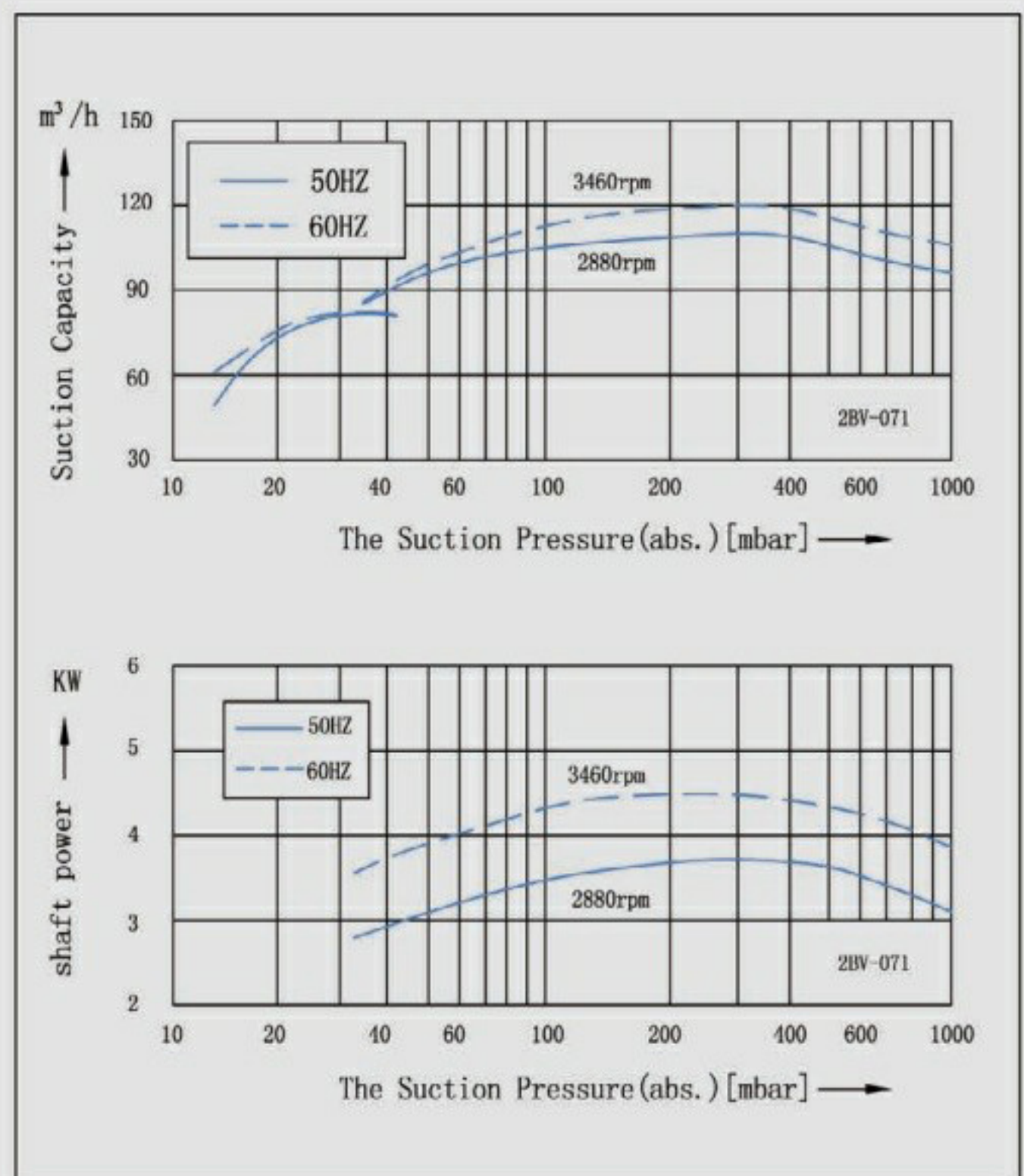
2BV-061



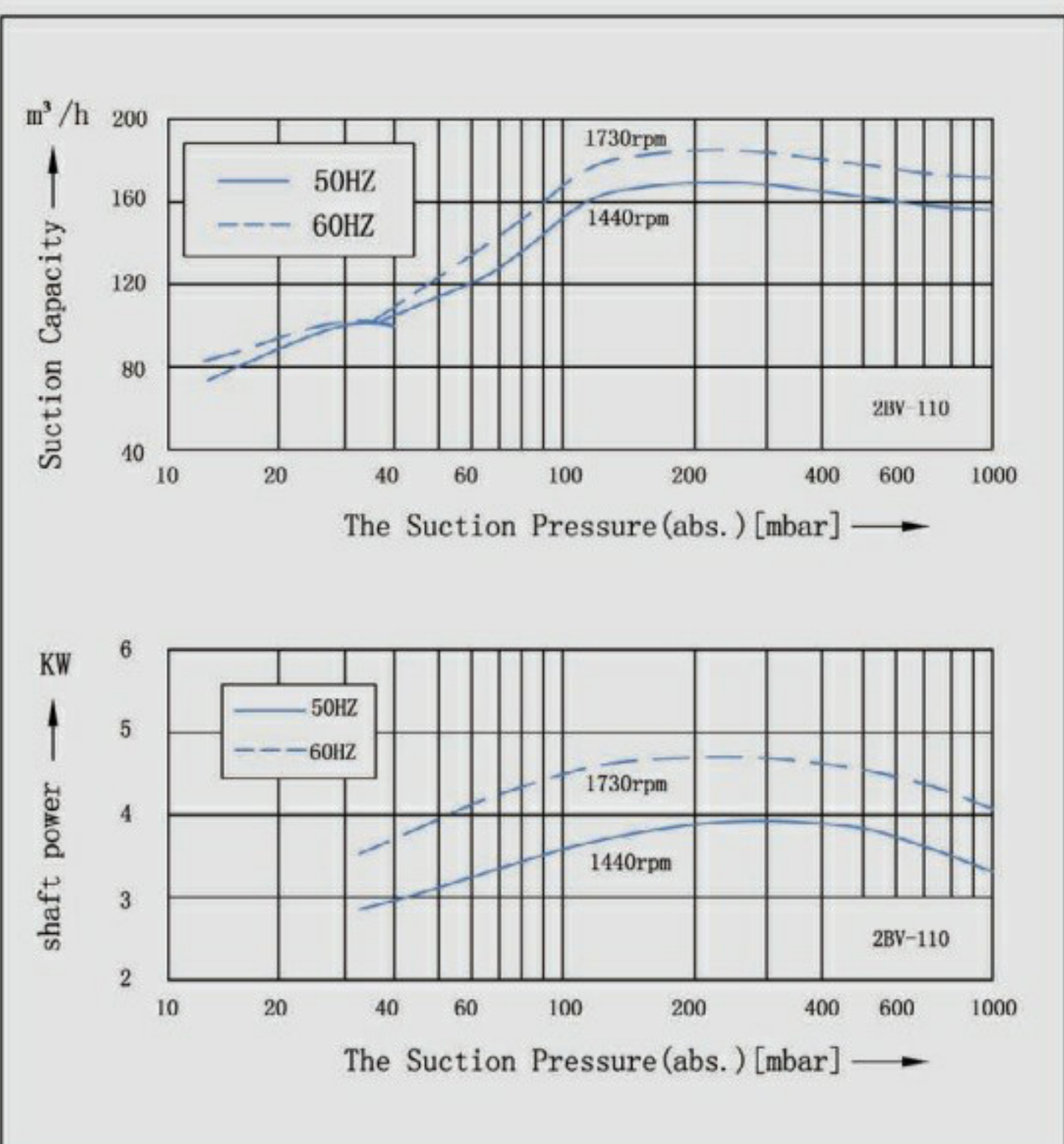
2BV-070



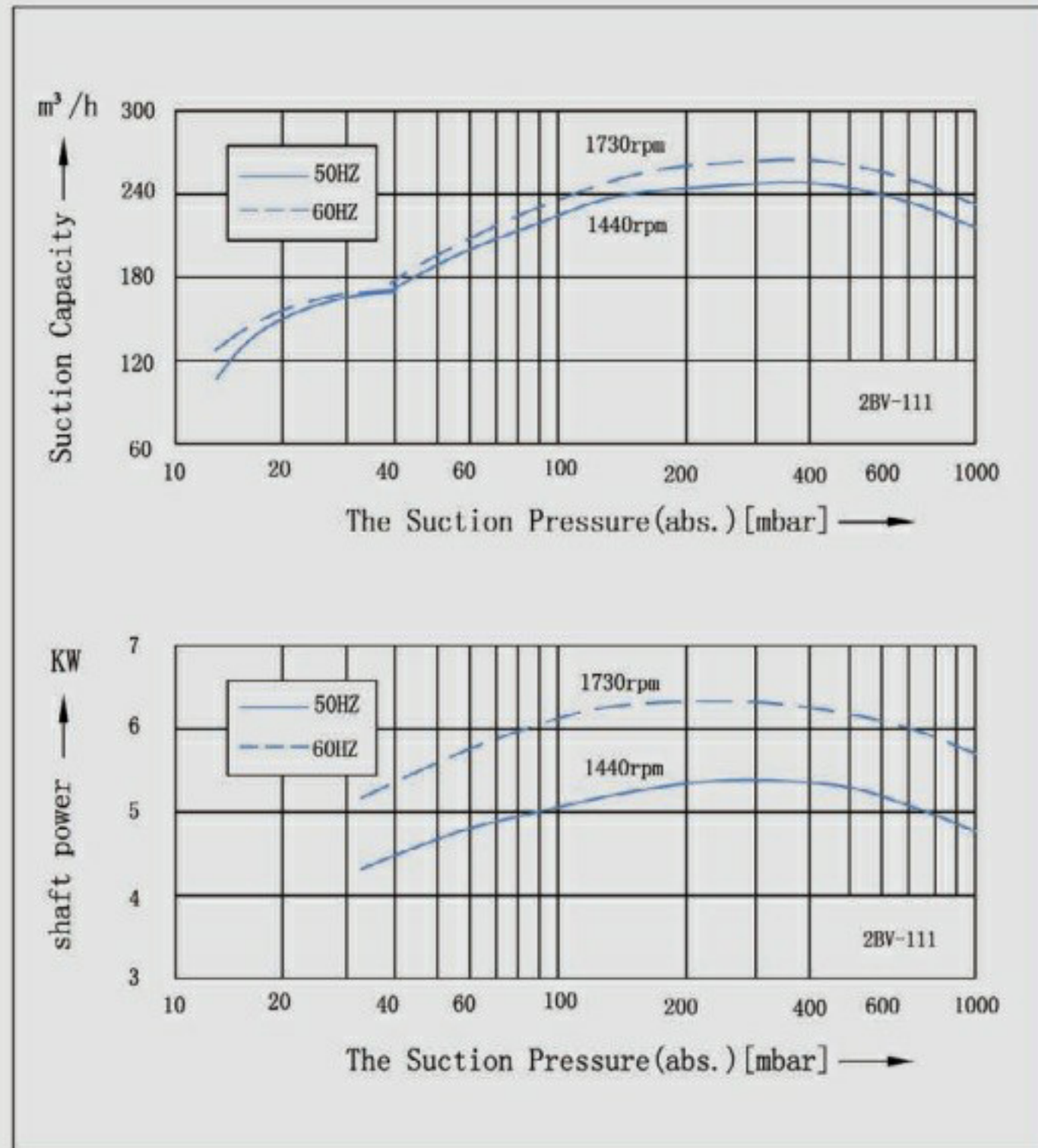
2BV-071



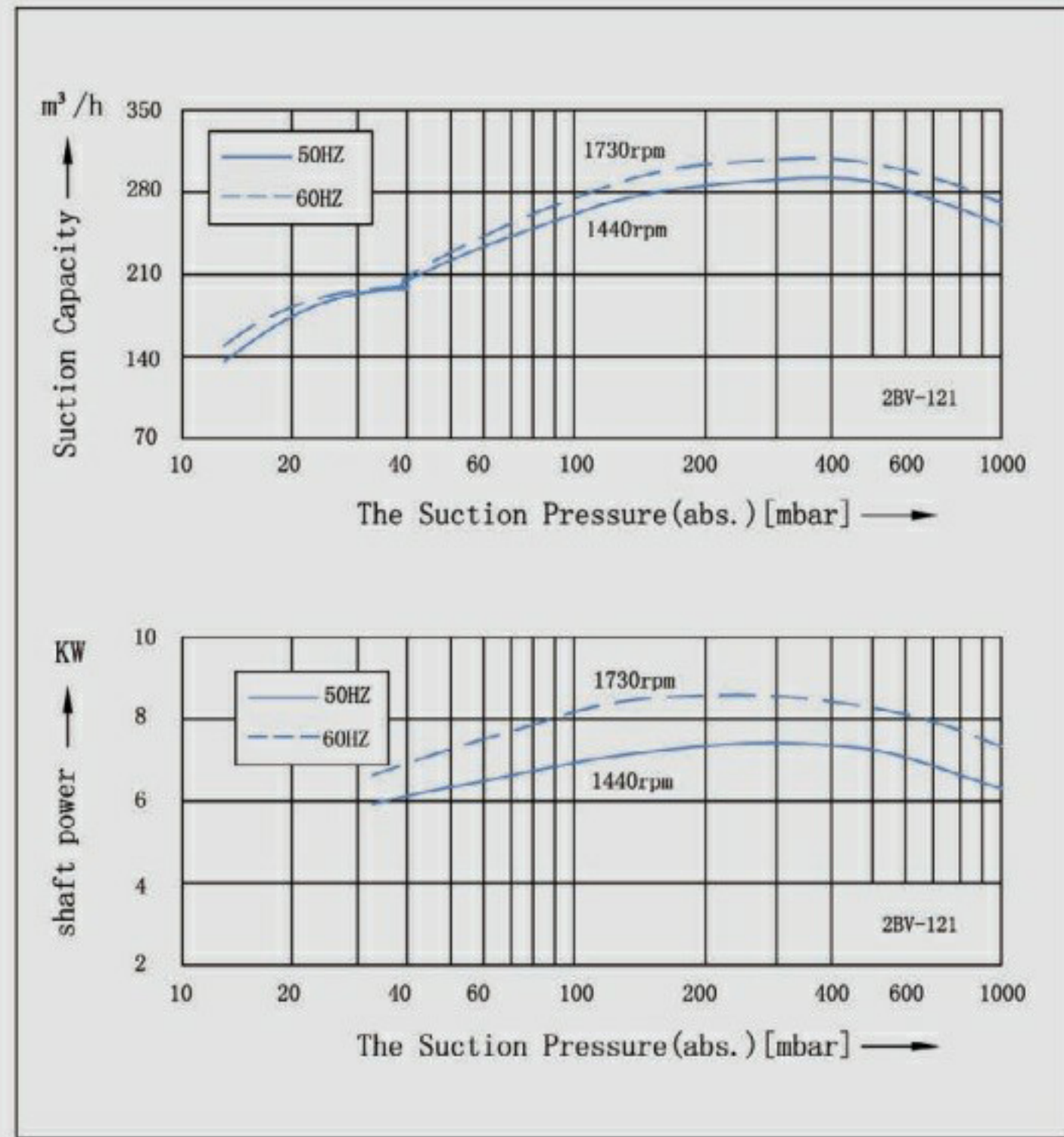
2BV-110



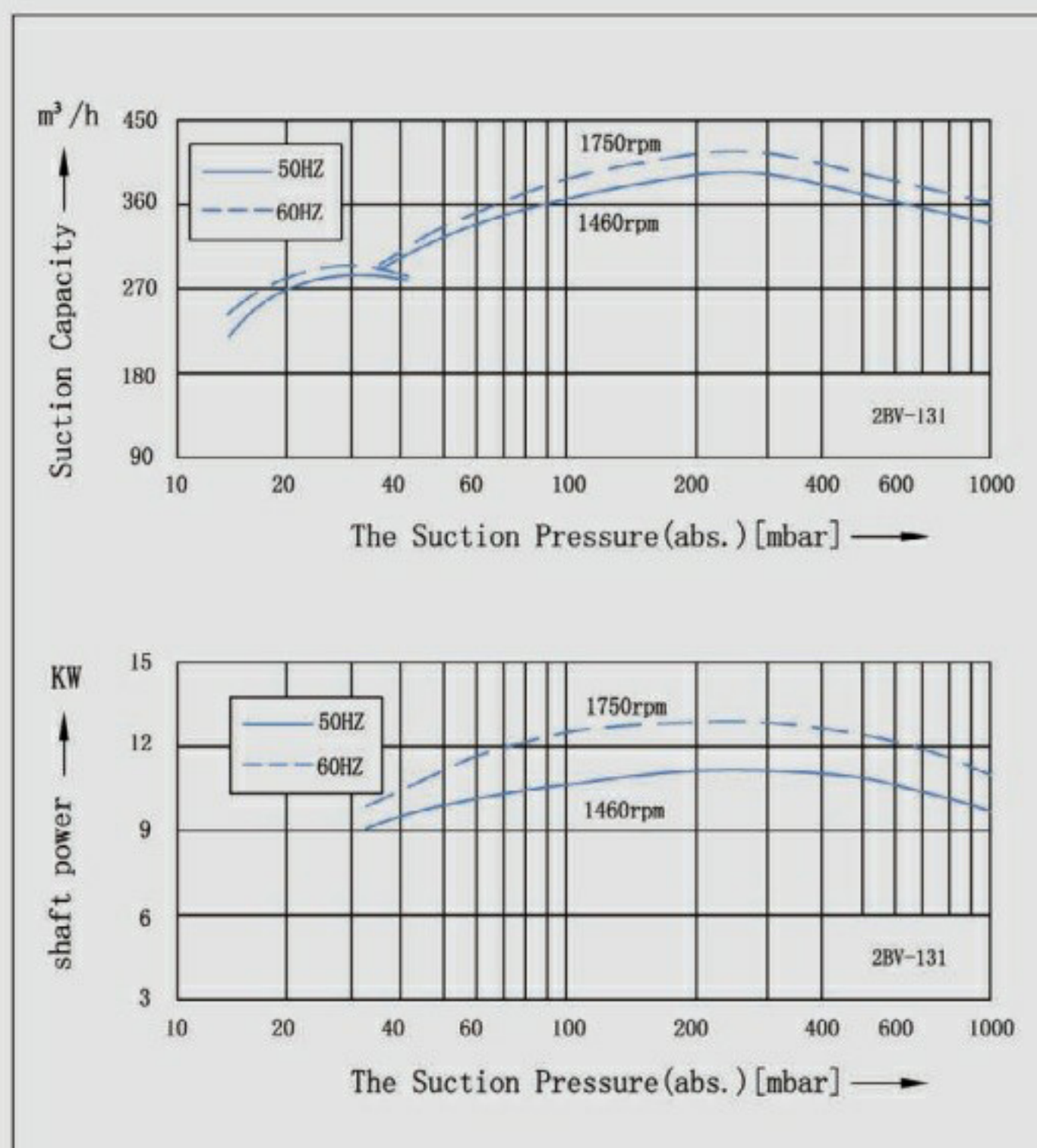
2BV-111



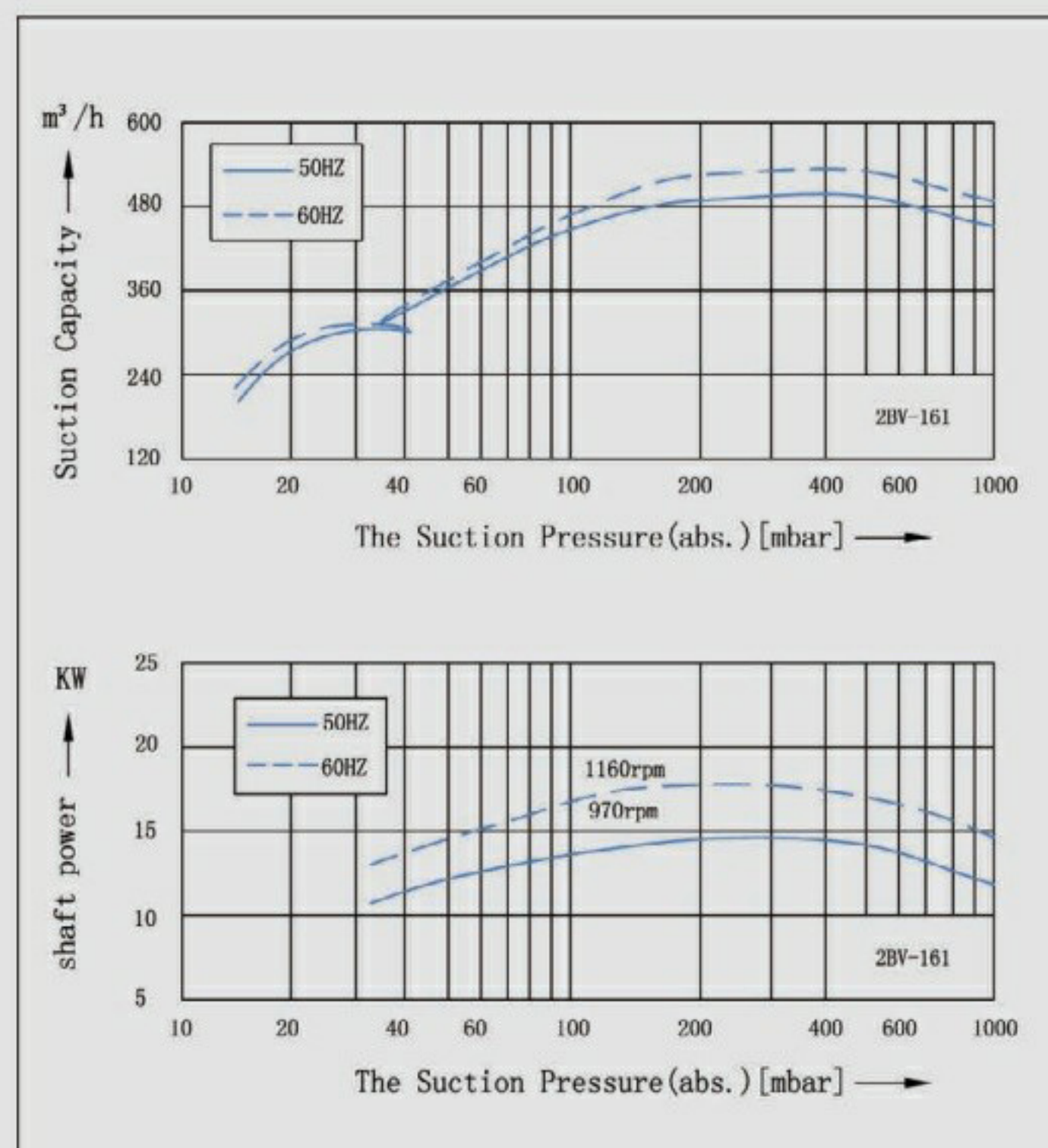
2BV-121



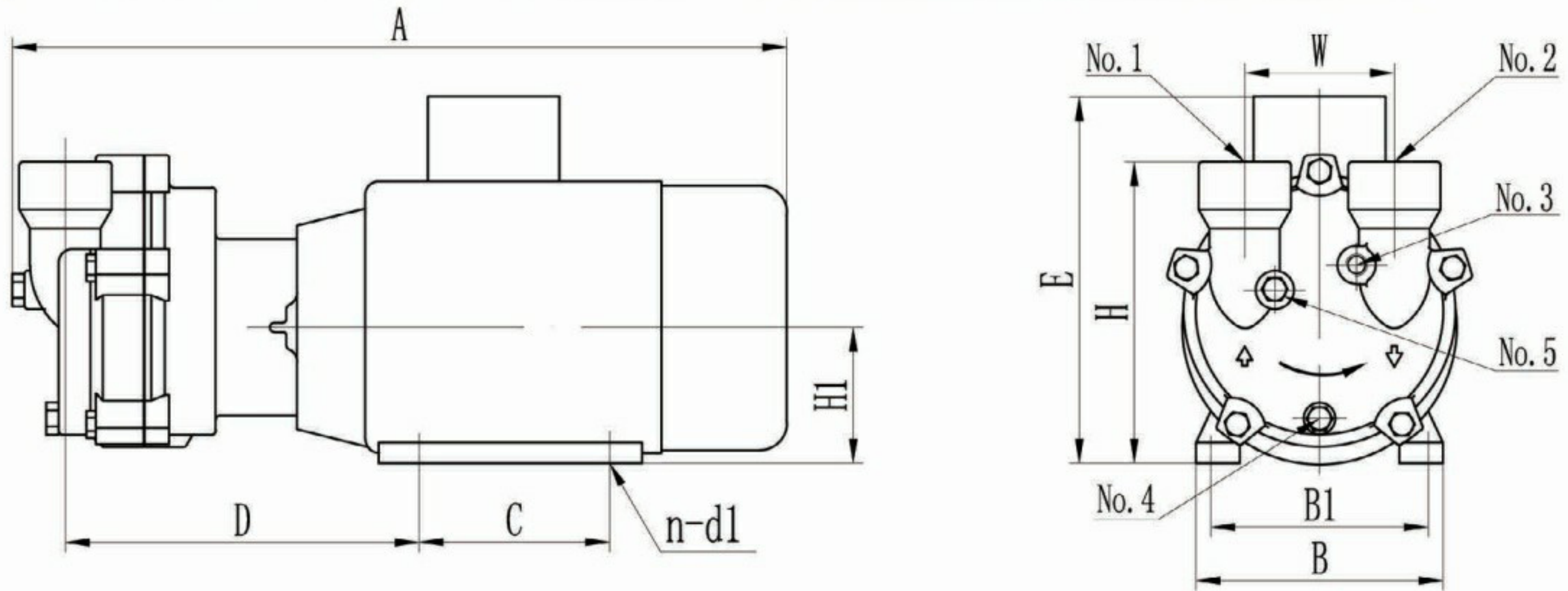
2BV-131



2BV-161

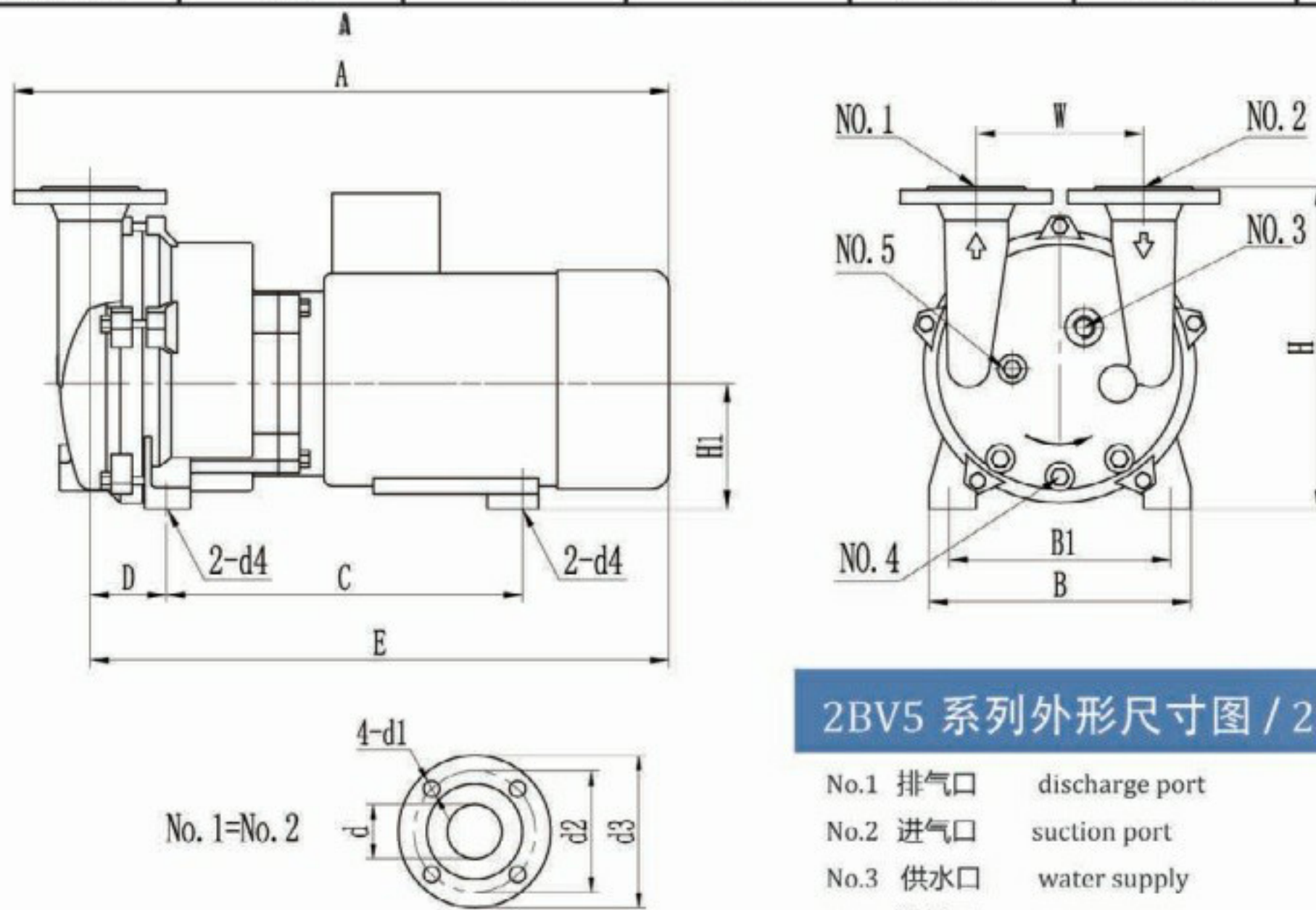


2BV2 系列外形尺寸图 / 2BV2 Series Dimension Drawing



No.1 排气口 discharge port No.2 进气口 suction port No.3 供水口 water supply No.4 放水口 water outlet No. 5 气蚀保护接口 anti-cavitation connection

型号	A	B	B1	C	D	E	H	H1
2BV2-060	450	186	140	100	203	250	196	90
2BV2-061	475	186	140	100	223	250	196	90
2BV2-070	565	224	160	140	260	270	222	100
2BV2-071	590	224	160	140	260	300	222	112
型号	W	n	d1	No. 1	No. 2	No. 3	No. 4	No. 5
2BV2-060	110	4	10	G1"	G1"	G3/8"	G1/4"	G3/8"
2BV2-061	110	4	10	G1"	G1"	G3/8"	G1/4"	G3/8"
2BV2-070	110	4	12	G1 1/2"	G1 1/2"	G3/8"	G1/4"	G3/8"
2BV2-071	110	4	12	G1 1/2"	G1 1/2"	G3/8"	G1/4"	G3/8"

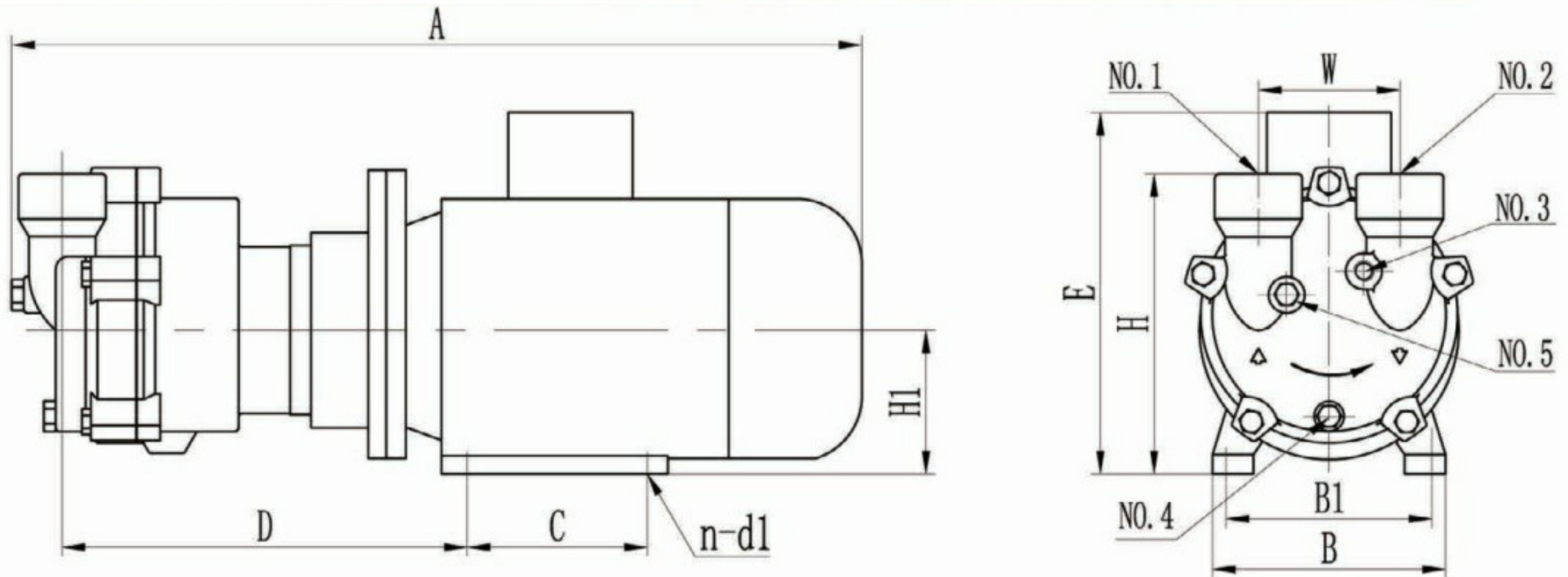


2BV5 系列外形尺寸图 / 2BV5 Series Dimension Drawing

No.1 排气口 discharge port
 No.2 进气口 suction port
 No.3 供水口 water supply
 No.4 放水口 water outlet
 No.5 气蚀保护接口 anti-cavitation connection

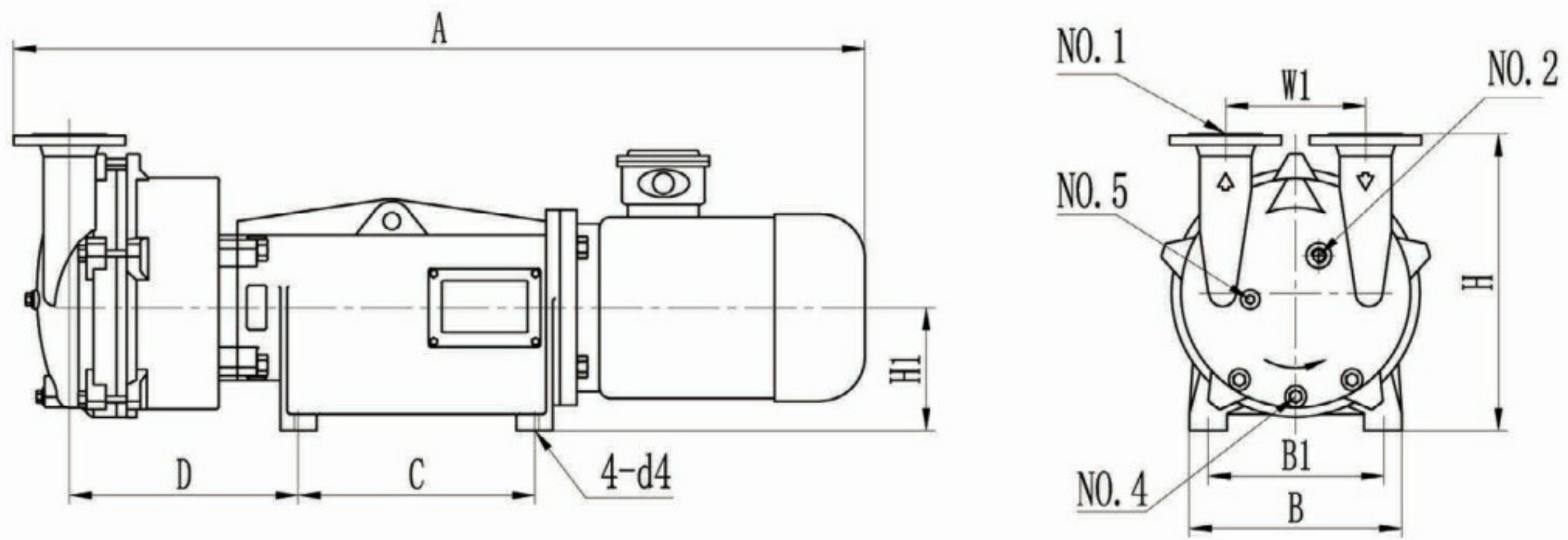
型号	A	B	B1	C	D	E	H	H1	W
2BV5-110	647	325	255	340	97	567	360	140	180
2BV5-111	669	325	265	340	106	589	371	150	180
2BV5-121	772	347	265	420	96	681	385	150	200
2BV5-131	850	377	300	475	103	759	427	175	200
2BV5-161	1060	479	370	570	137	960	521	210	250
型号	d	d1	d2	d3	d4	No. 3	No. 4	No. 5	
2BV5-110	50	19	123	160	13	G1/2"	G3/8"	G3/8"	
2BV5-111	50	19	123	160	14	G1/2"	G3/8"	G3/8"	
2BV5-121	65	19	145	182	14	G3/4"	G3/8"	G3/8"	
2BV5-131	65	19	145	182	14	G3/4"	G3/8"	G3/8"	
2BV5-161	80	22	156	200	14	G3/4"	G3/4"	G3/8"	

2BV6-070/071 外形尺寸图 / 2BV6 Series Dimension Drawing

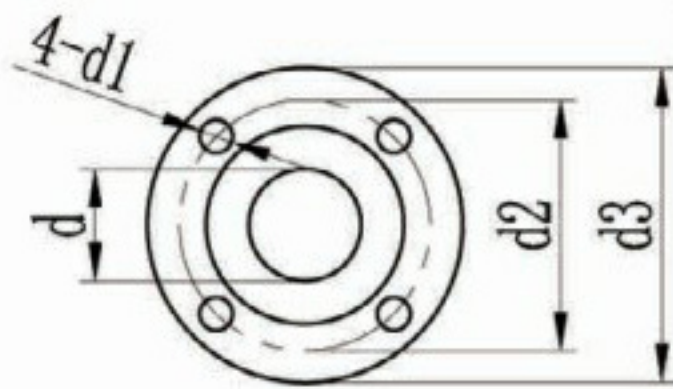


No.1 排气口 discharge port No.2 进气口 suction port No.3 供水口 water supply No.4 放水口 water outlet No.5 气蚀保护接口 anti-cavitation connection

型号	A	B	B1	C	D	E	H	H1
2BV6-070	680	200	160	140	315	325	234	100
2BV6-071	707	245	190	140	329	420	246	112
型号	W	n	d1	No. 1	No. 2	No. 3	No. 4	No. 5
2BV6-070	110	4	12	G1 1/2"	G1 1/2"	G3/8 "	G1/4 "	G3/8 "
2BV6-071	110	4	12	G1 1/2"	G1 1/2"	G3/8 "	G1/4 "	G3/8 "



NO. 1=NO. 2



2BV6 系列外形尺寸图 / 2BV6 Series Dimension Drawing

No.1 排气口 discharge port
 No.2 进气口 suction port
 No.3 供水口 water supply
 No.4 放水口 water outlet
 No.5 气蚀保护接口 anti-cavitation connection

型号	A	B	B1	C	D	H	H1	W
2BV6-060	631	200	175	135	186	211	104	110
2BV6-061	688	200	175	135	217	211	104	110
2BV6-110	1043	340	252	248	281	383	163	180
2BV6-111	1216	340	290	325	332	406	185	180
2BV6-121	1264	382	290	325	349	420	185	200
2BV6-131	1455	390	316	417	351	531	220	200
2BV6-161	1615	480	316	417	409	521	220	200
型号	d	d1	d2	d3	d4	No. 3	No. 4	No. 5
2BV6-060	G1"	-----	-----	-----	12	G3/8 "	G3/8 "	G1/4 "
2BV6-061	G1"	-----	-----	-----	12	G3/8 "	G3/8 "	G1/4 "
2BV6-110	50	19	123	160	13	G3/8 "	G3/8 "	G1/2 "
2BV6-111	50	19	123	160	14	G3/8 "	G3/8 "	G1/2 "
2BV6-121	65	19	145	182	14	G3/8 "	G3/8 "	G3/4 "
2BV6-131	65	19	145	182	14	G3/8 "	G3/8 "	G3/4 "
2BV6-161	80	22	156	200	14	G3/4 "	G3/8 "	G3/4 "

● DLV 系列双级水环真空泵

DLV Series Double-stage Water Ring Vacuum Pumps

● DLV 系列双级水环式真空泵是我公司在 2SK 系列的基础上，结合德国双级泵设计指标研发的新型双级水环式真空泵。DLV 系列水环真空泵设计两级压缩过程，在较高的真空度范围内抽速平稳，或者在很大的抽气速率范围内维持较高的真空度。在较高真空工作状态时效率较单级水环泵提高 35% 至 40%，能耗也相应降低。



DLV series two-stage water-ring vacuum pump is a new type of two-stage water-ring vacuum pump developed by our company on the basis of 2SK series and combined with the design index of German two-stage pump. DLV series water ring vacuum pump is designed with a two-stage compression process, and the pumping speed is stable in a higher vacuum degree range, or maintains a high vacuum degree in a large pumping speed range. Compared with the single-stage water ring pump, the efficiency is increased by 35% to 40% in a higher vacuum working state, and the energy consumption is correspondingly reduced.

● 产品优势

Product Features

● 更宽的吸入压力范围，对比其他的双级泵的吸入压力 50mbar-150mbarA。DLV 系列可在 25mbar ~ 1013mbar 之间工作；更低的能耗，比传统产品节能 15%-20%。

多种规格，满足各种工艺需求。

碳钢、不锈钢、双相钢、钛材等多种材质可选。满足严苛的应用环境。

泵的供货范围可以有多种选择，诸如：泵头；整泵，包括吸气连通管，汽水分离器及液路管件；真空泵机组，包括电机和底座；成套机组，包括全部闭环系统所需的辅助设备；入口压力低于 33mbar (绝压) 时的二 = 级，或多级真空系统。

单、双端面机械密封，多种冲洗方案，

精密铸件、高标准配件、进口轴承、高效节能，品质保证。

Wider suction pressure range, compared with other two-stage pumps, the suction pressure is 50mbar-150mbarA. DLV series can work between 25mbar ~ 1013mbar; lower energy consumption, 15%-20% energy saving than traditional products.

A variety of specifications to meet various process requirements.

Carbon steel, stainless steel, duplex steel, titanium and other materials are available. Meet the harsh application environment.

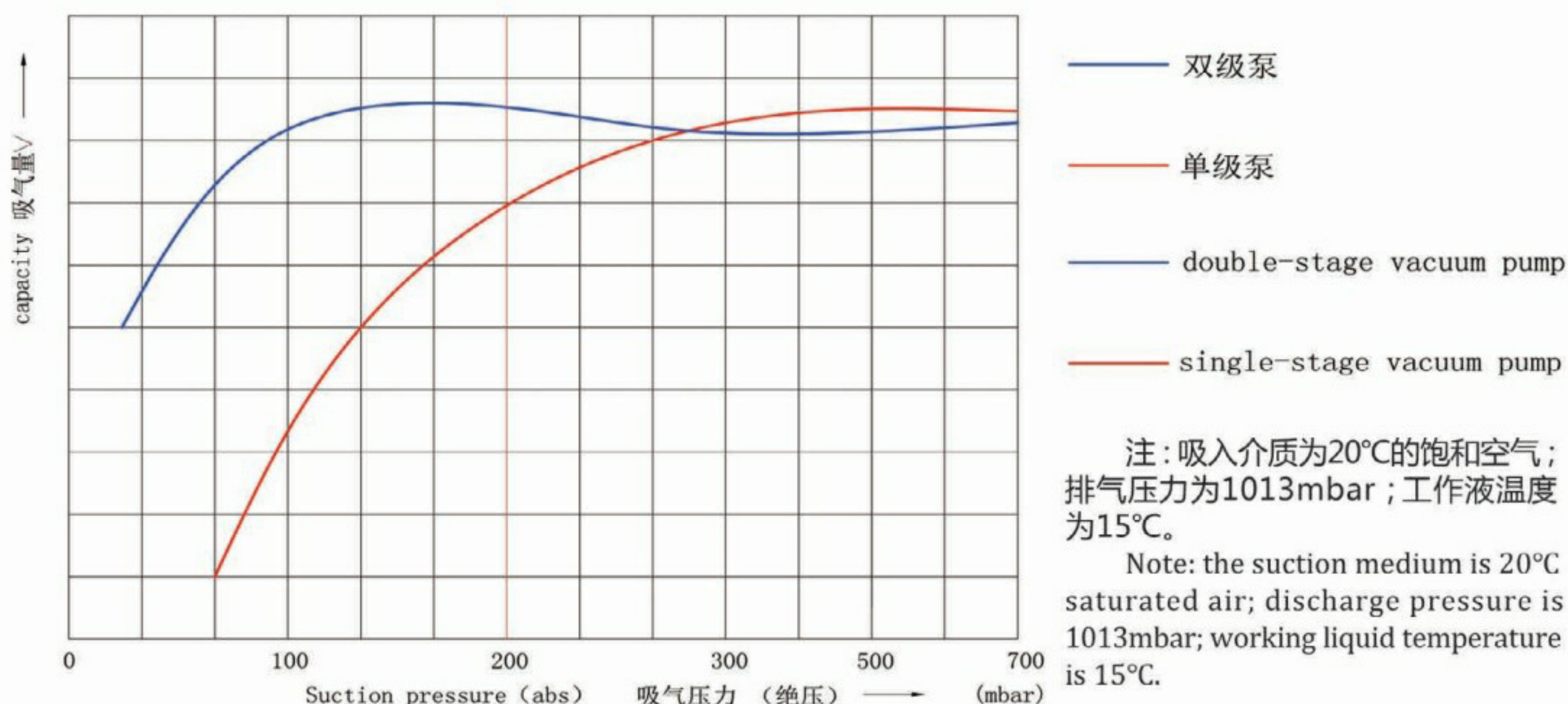
The scope of supply of the pump can have various options, such as: pump head; complete pump, including suction connecting pipe, steam-water separator and liquid pipe fittings; vacuum pump unit, including motor and base; complete unit, including all closed-loop system requirements Auxiliary equipment; two-stage, or multi-stage vacuum system when the inlet pressure is lower than 33mbar (absolute pressure).

Single and double mechanical seals, a variety of flushing schemes,

Precision castings, high standard accessories, imported bearings, high efficiency and energy saving, quality assurance.

双级液环泵与单级液环泵的比较

Compare Double-stage Pump With Single-stage Liquid Ring Pump



从上图曲线中可以看出，单级水环真空泵适合在真空度要求不高的工况下使用，其吸气量较大。但在较高真空度范围内工作的时候，吸气量严重衰减(小于200mbar开始急剧衰减，小于100mbar时衰减严重)，在此工况下，真空泵效率极低，功耗非常高。而双级水环真空泵，在较高的真空度范围内能获得更大的吸气量，在高真空工作状态时效率比单级水环泵高30%到40%，耗能相应降低，因此双级水环泵更适合要求较大的抽气量同时需要维持较高真空度的工况。

From the performance curve above we can see that, single stage pump is suitable to work in a condition which do not ask for high vacuum, and its capacity is large; however in relative high vacuum, its capacity declines obviously (it declines rapidly below 200mbar and below 100mbar it is seriously declined), under this condition, the pump efficiency is quite low but cost more energy. However for double stage pump, it has larger capacity in relative high vacuum, and in high vacuum its efficiency is 30%-40% higher than single stage ones and consume less energy. Therefore double stage pump is more suitable than the single one to work in the condition asking for high vacuum and large capacity at the same time.

应用领域 Fields of Application

DLV 系列特别适用于食品、化工、制药、电力、造纸、纺织、冶金等各种行业中的真空干燥、蒸发、蒸馏、浓缩、过滤、脱水脱气等工艺。

DLV series pumps are very suitable for the process of vacuum drying, evaporation, distillation, concentration, filtering, degassing in industry of food, pharmacy, chemical, power plant, paper making, textile, metallurgy etc.



DLV 系列液环真空泵技术参数 (50HZ电机)

DLV Technical Parameters (50Hz Motor)

型号 Model	极限压力(hpa) Ultimate pressure	最大吸气量(m ³ /h) Max. suction capacity	转速(rpm) Speed	电机功率(kw) Motor power	吸排气口(mm) Inlet/Outlet port	传动方式 Drive model
DLV140	33	145	1450	4.0	DN40	直连 Direct
DLV180	33	186	1450	5.5	DN40	直连 Direct
DLV300	33	270	1450	7.5	DN50	直连 Direct
DLV350	33	342	1450	11.0	DN50	直连 Direct
DLV400	33	425	1450	15.0	DN50	直连 Direct
DLV500	33	501	1450	18.5	DN65	直连 Direct
DLV600	33	616	1450	22.0	DN65	直连 Direct
DLV800	33	862	975	30.0	DN100	直连 Direct
DLV1200	33	1252	975	37.0	DN100	直连 Direct
DLV1600	33	1589	975	45.0	DN100	直连 Direct

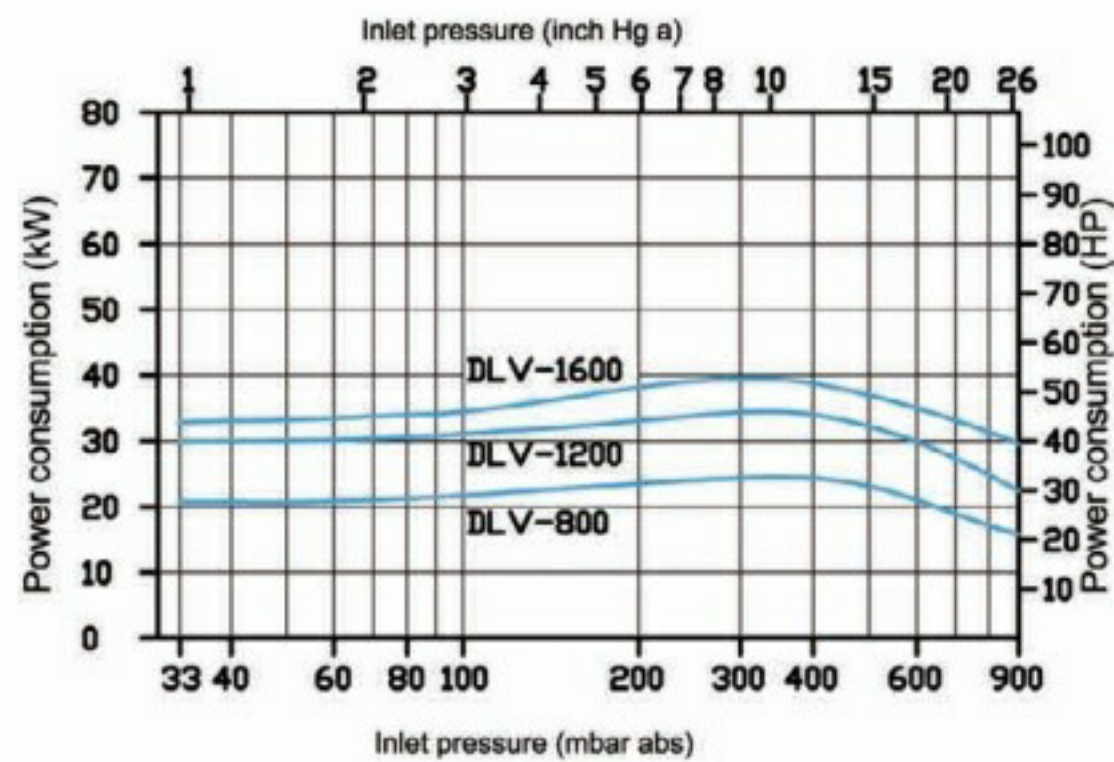
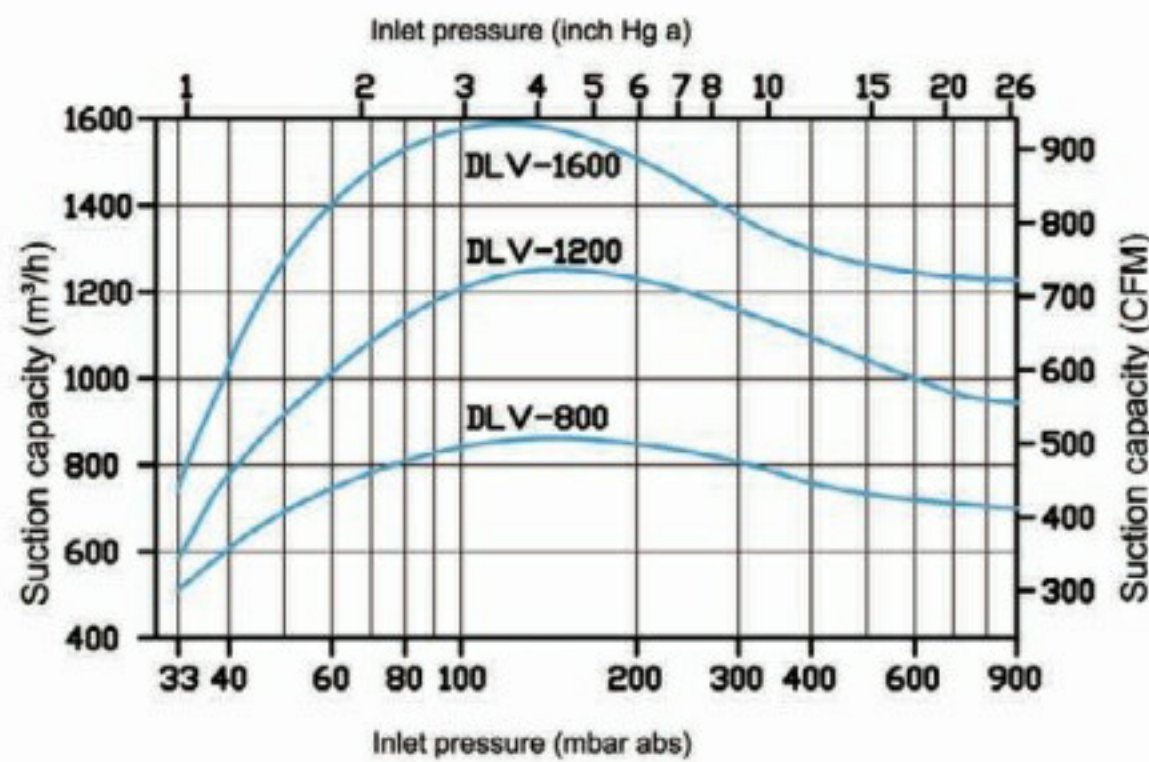
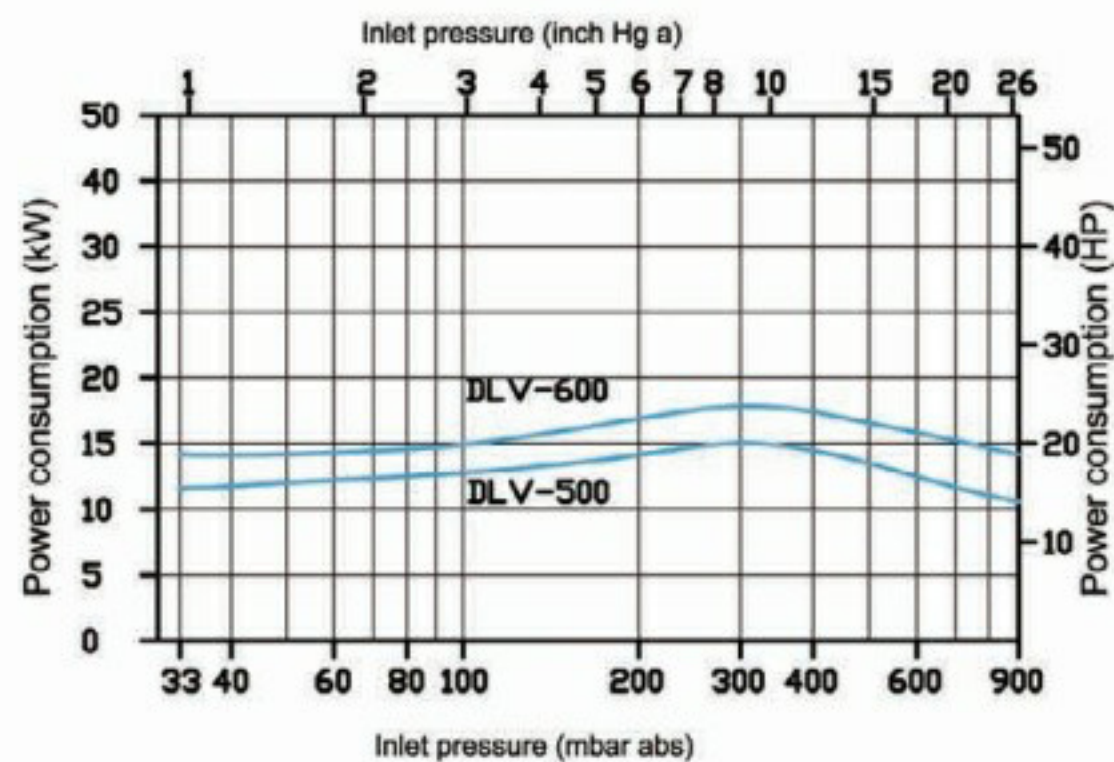
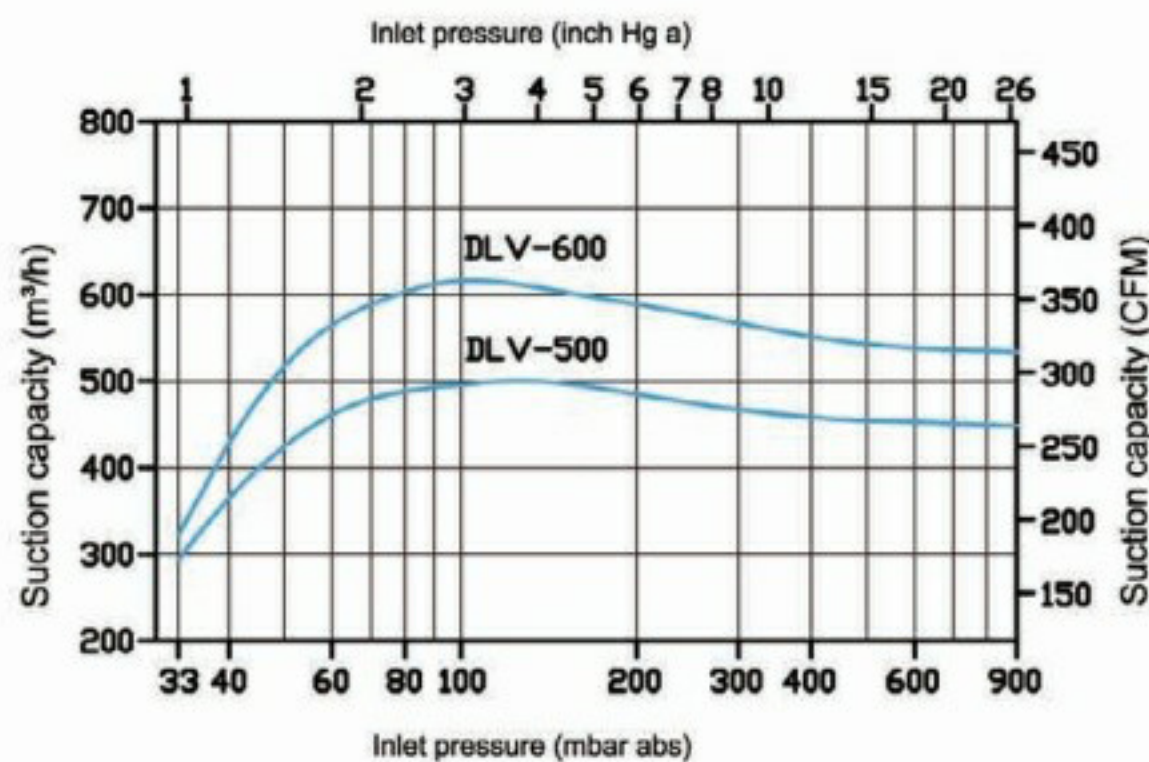
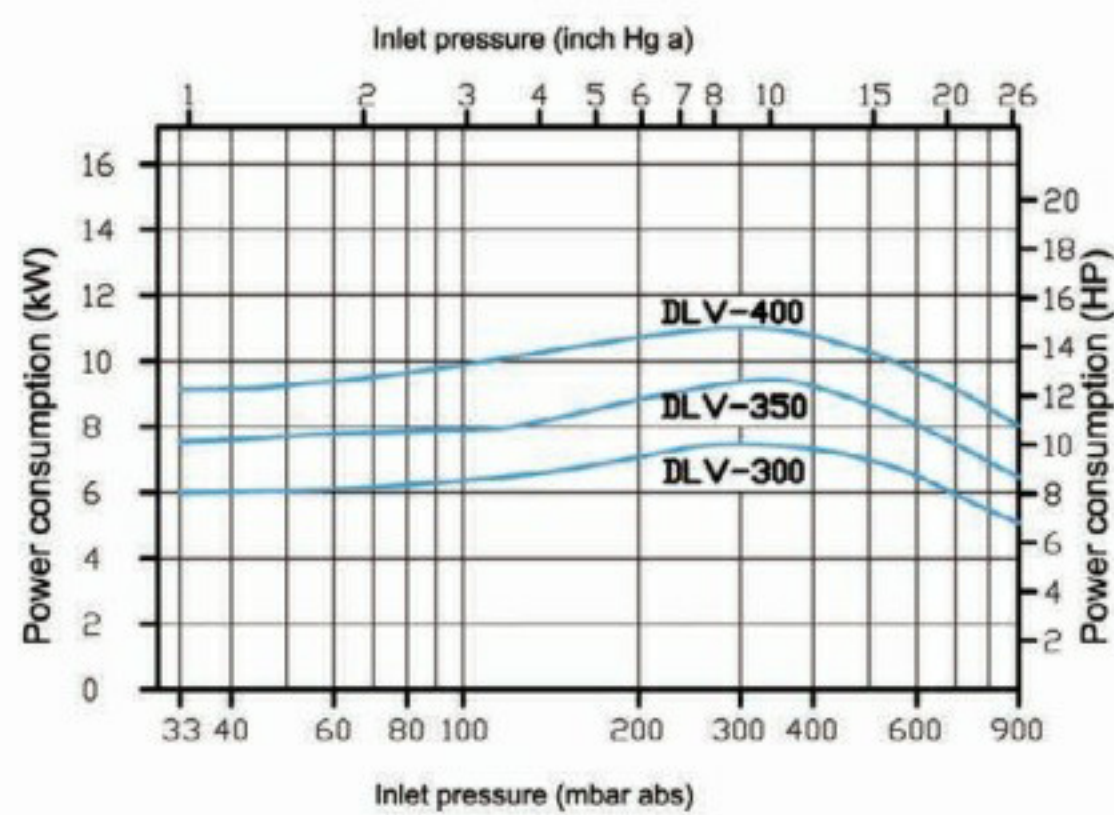
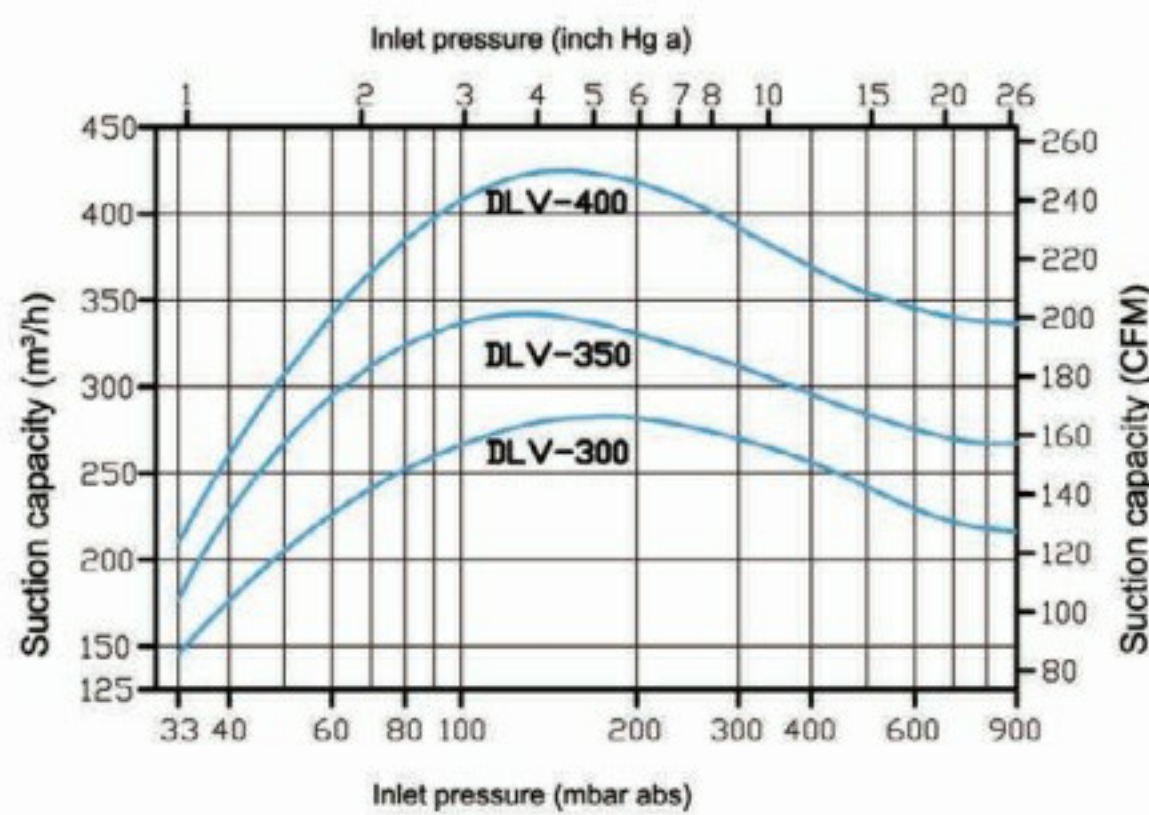
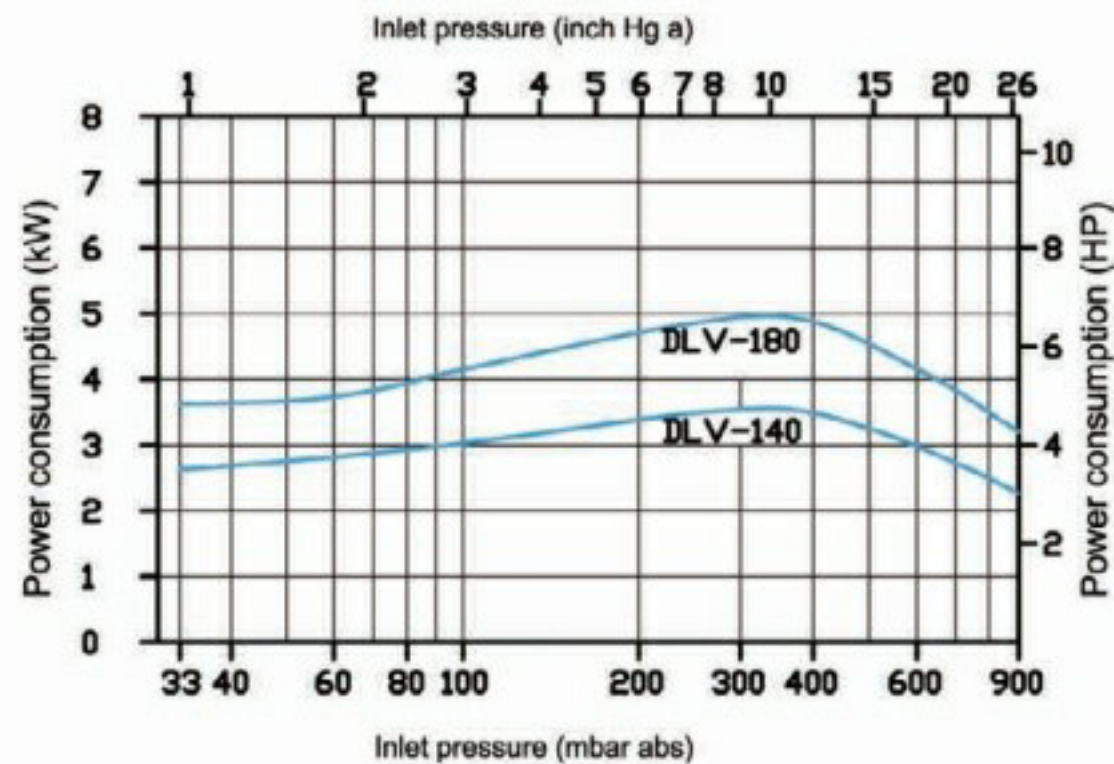
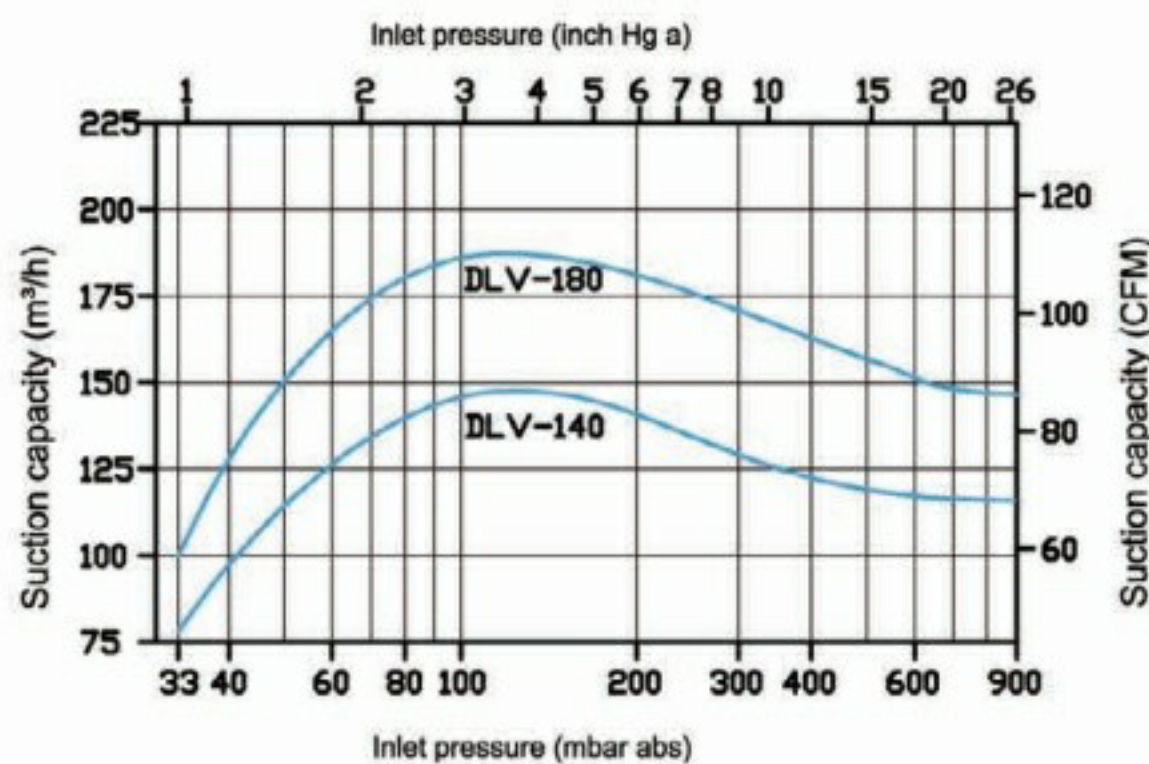
DLV 系列液环真空泵技术参数 (60HZ电机)

DLV Technical Parameters (60Hz Motor)

型号 Model	极限压力(hpa) Ultimate pressure	最大吸气量(m ³ /h) Max. suction capacity	转速(rpm) Speed	电机功率(kw) Motor power	吸排气口(mm) Inlet/Outlet port	传动方式 Drive model
DLV140	33	174	1750	5.5	DN40	直连 Direct
DLV180	33	223	1750	7.5	DN40	直连 Direct
DLV300	33	314	1750	11.0	DN50	直连 Direct
DLV350	33	411	1750	15.0	DN50	直连 Direct
DLV400	33	475	1750	18.5	DN50	直连 Direct
DLV500	33	590	1750	22.0	DN65	直连 Direct
DLV600	33	739	1750	30.0	DN65	直连 Direct
DLV800	33	1032	1175	37.0	DN100	直连 Direct
DLV1200	33	1407	1175	45.0	DN100	直连 Direct
DLV1600	33	1717	1175	75.0	DN100	直连 Direct



DLV性能曲线 / DLV Performance Curve---50HZ Motor



注：1、吸入介质为20°C的干空气，排气压力为1013mbar，工作液为15°C的水；

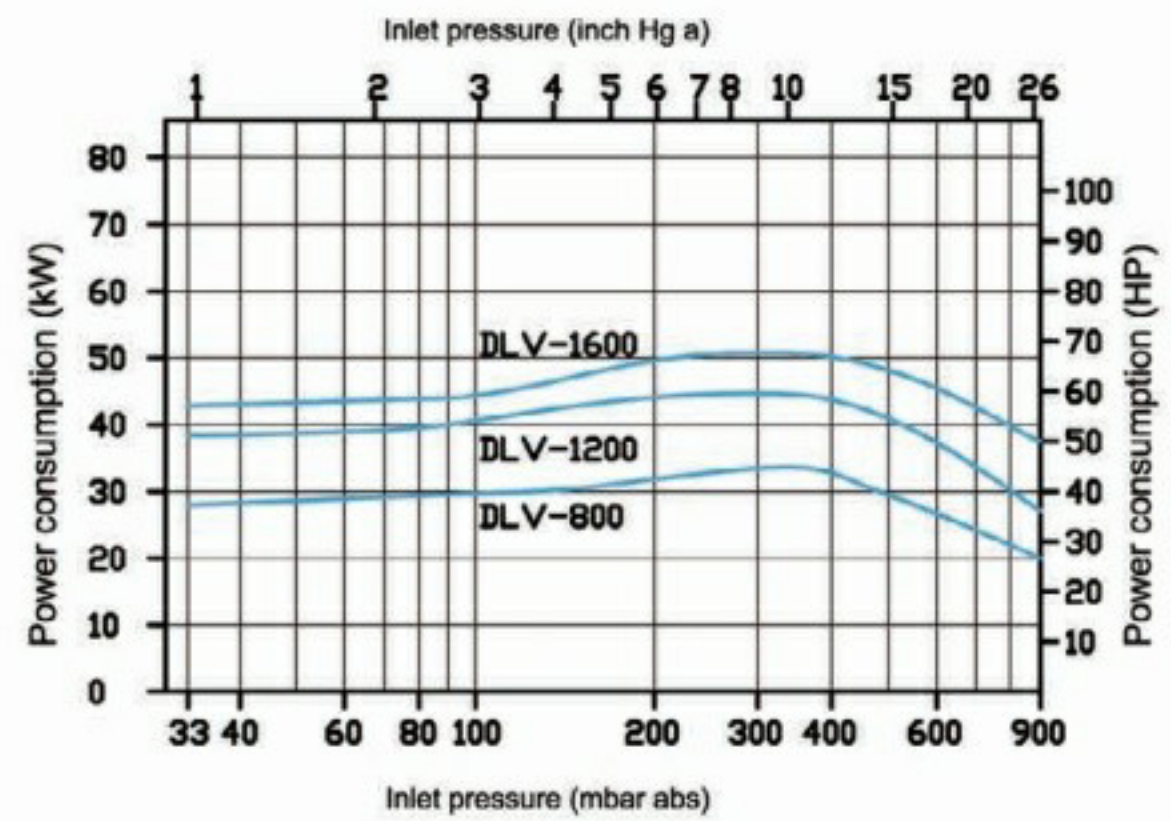
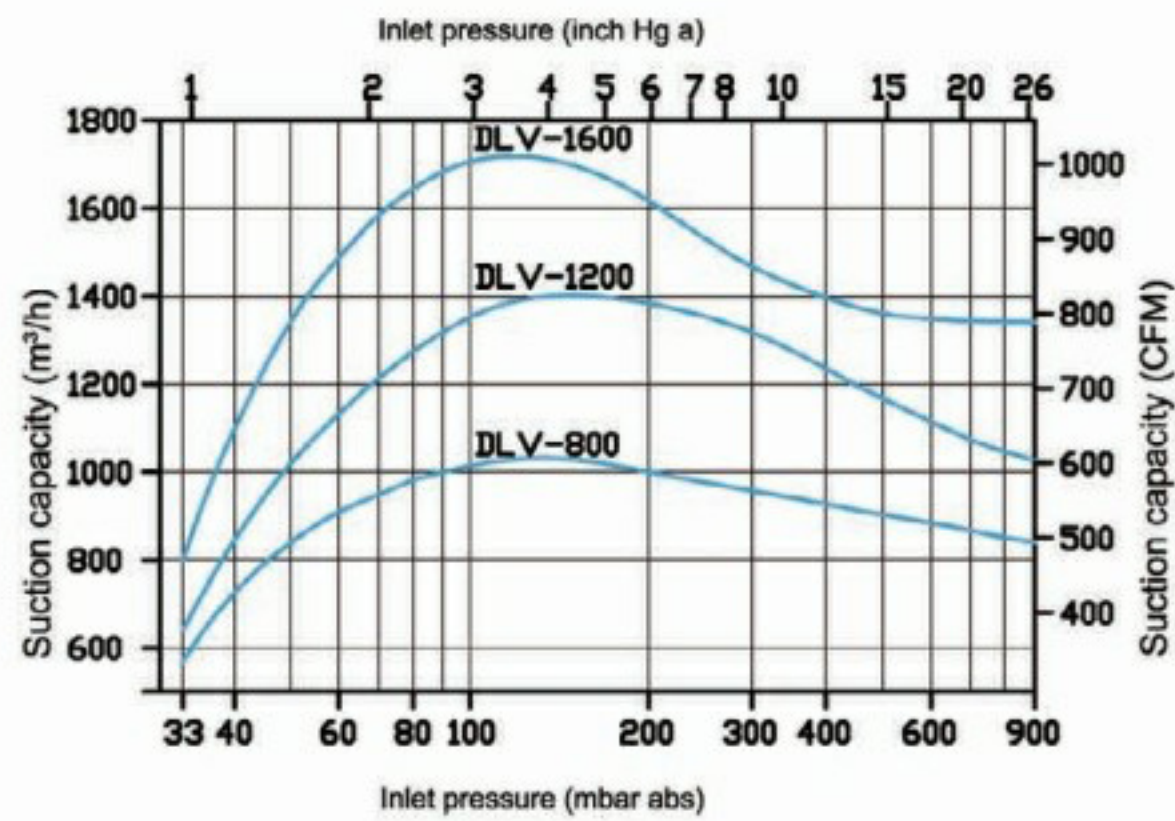
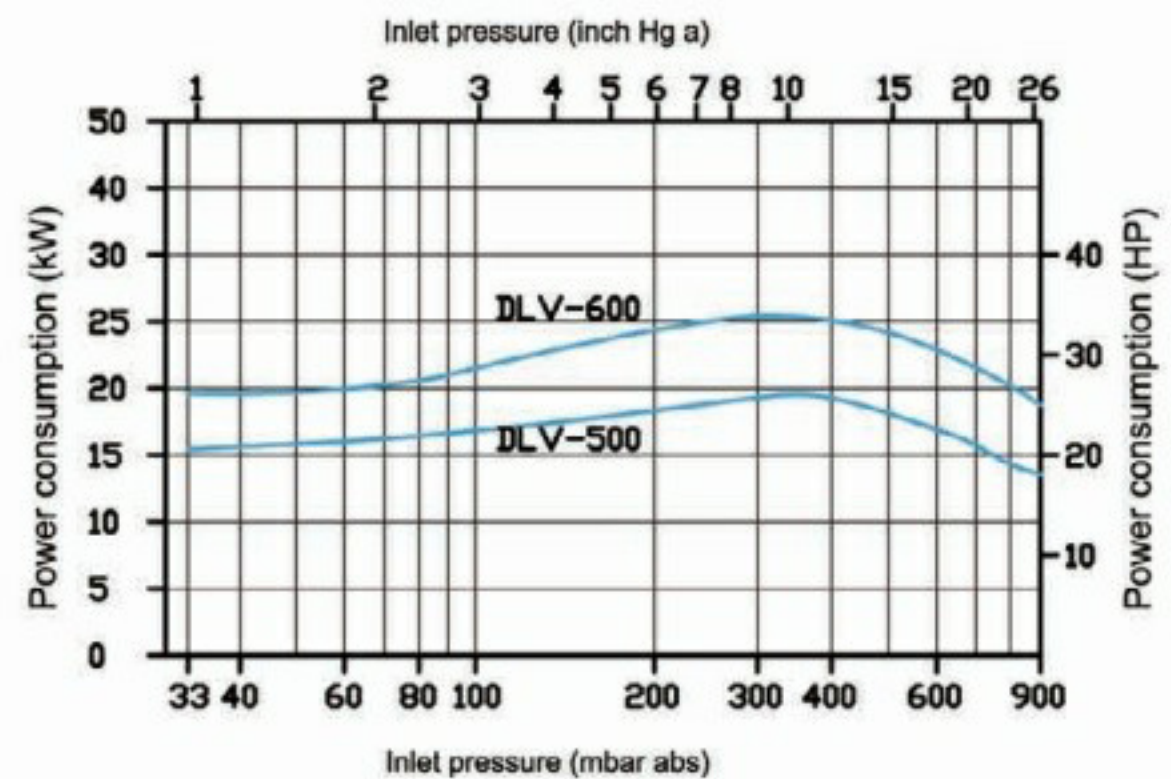
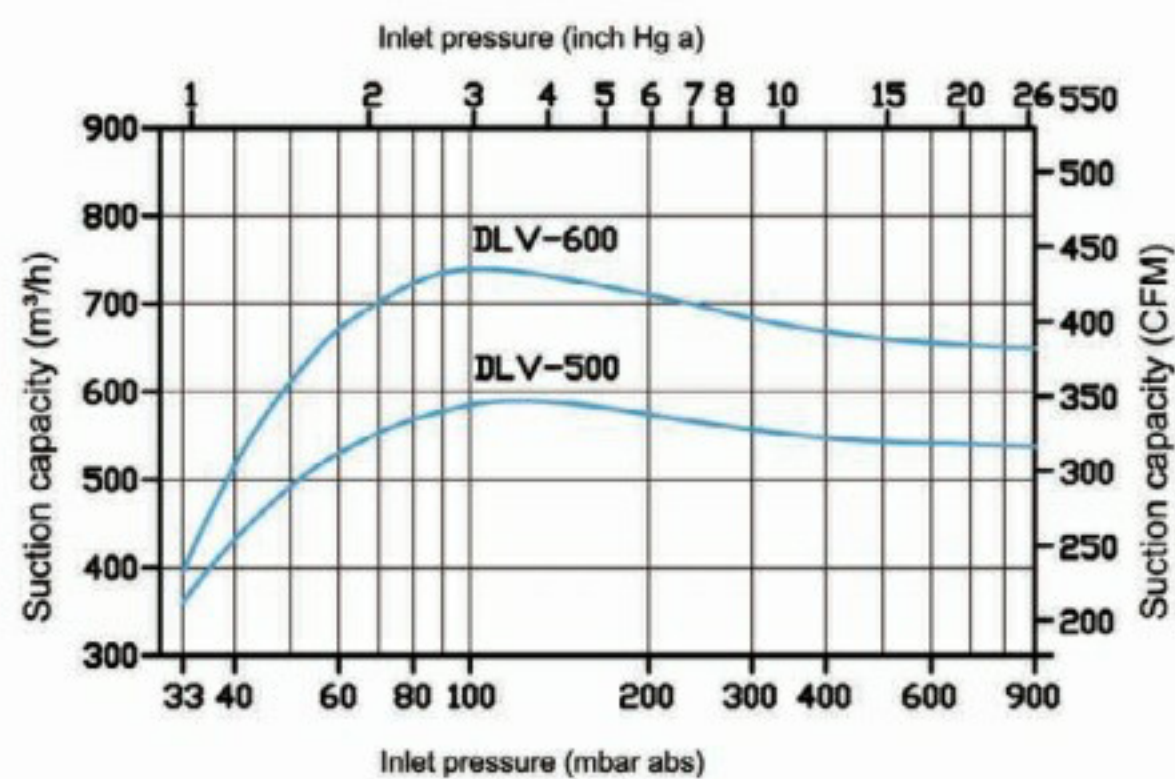
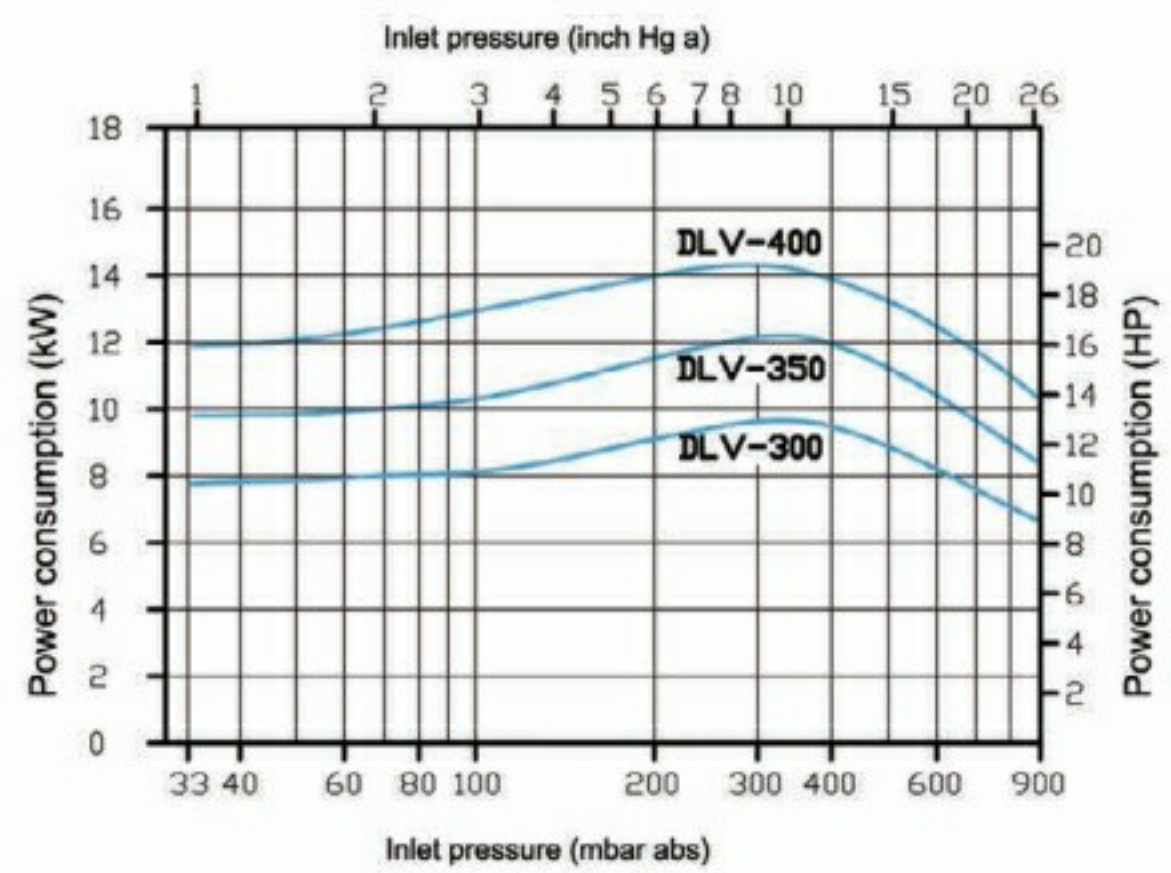
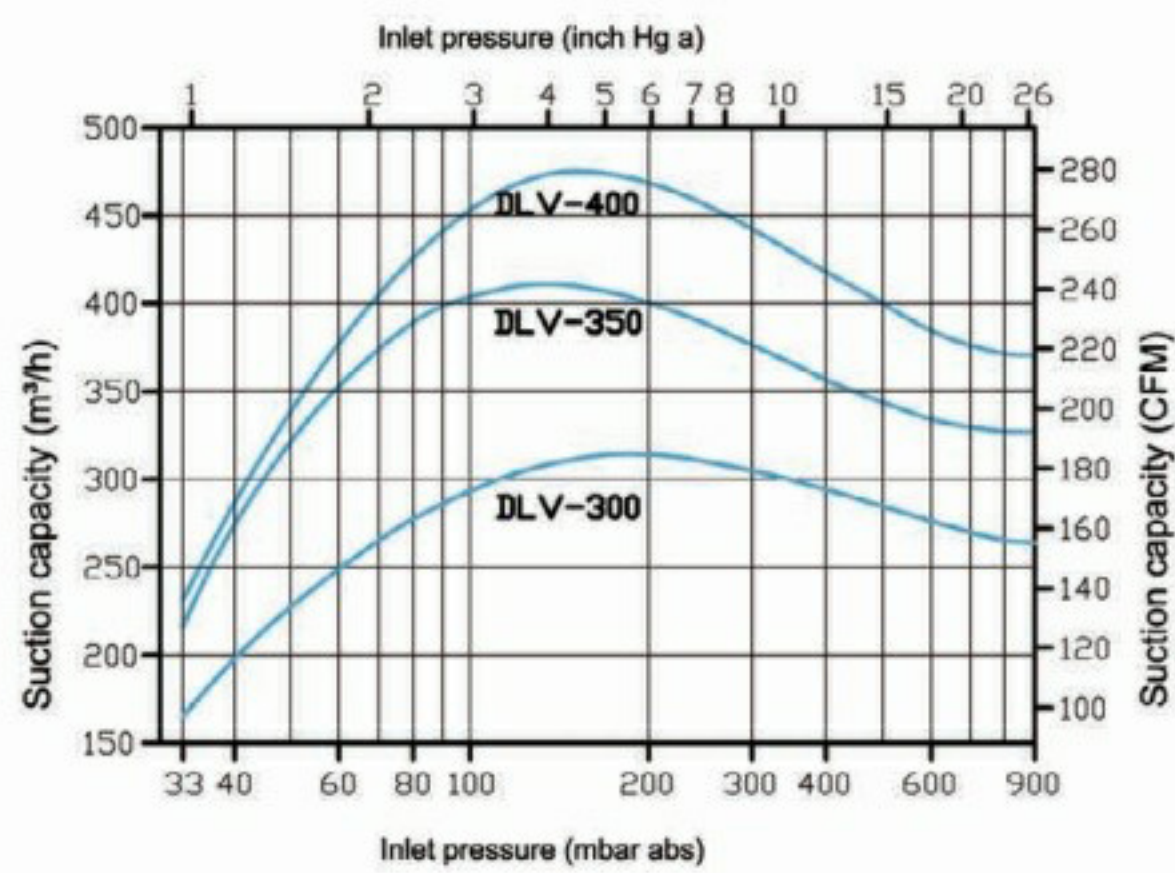
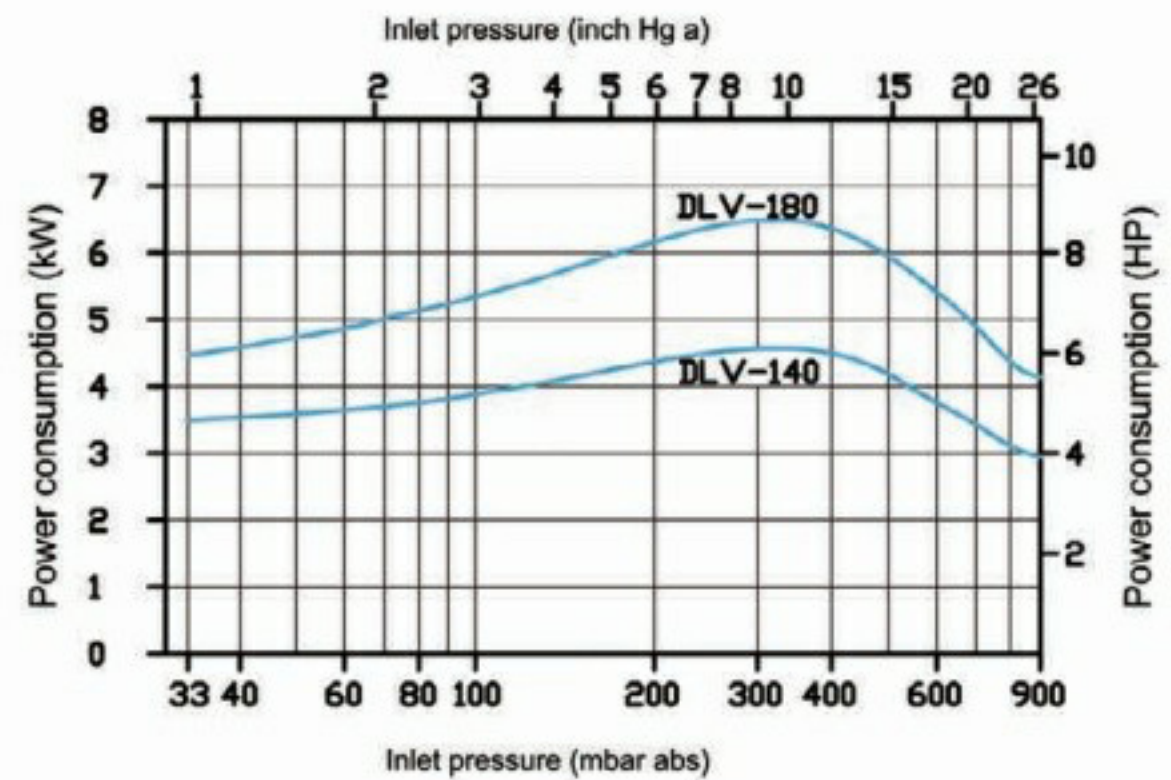
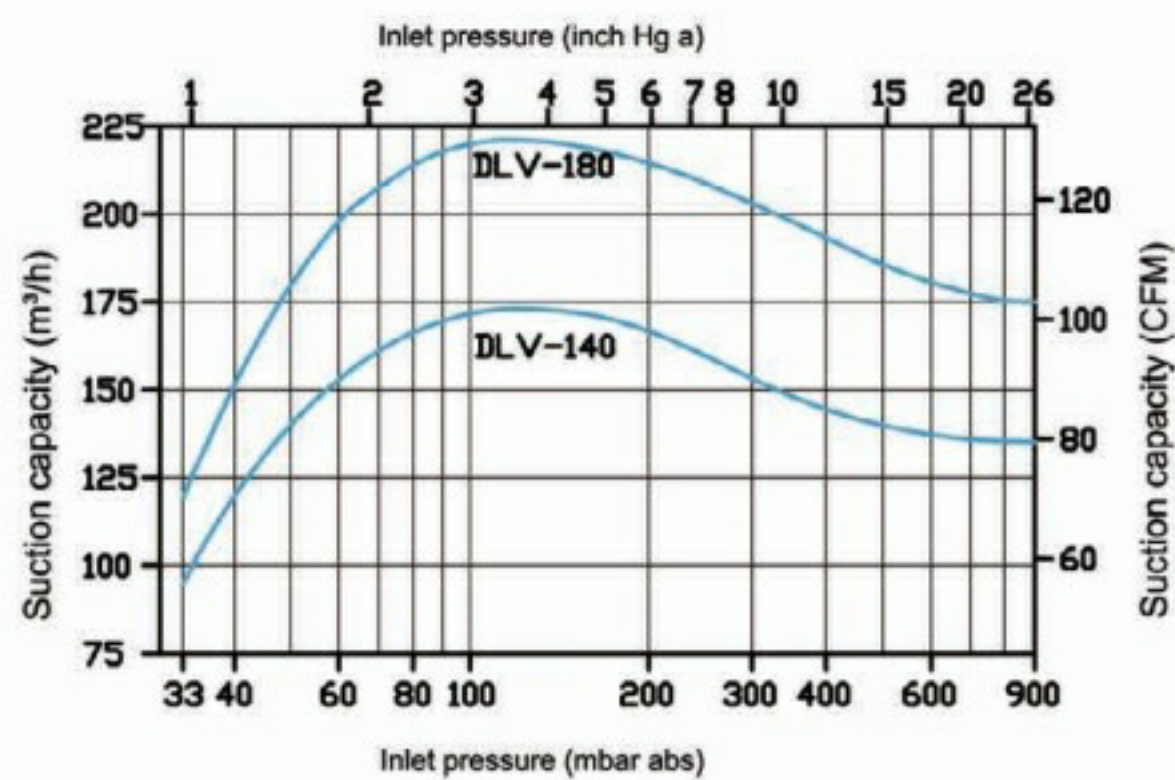
2、性能允差为± 10%。

Note:1. This performance curve is obtained in the state of: suction medium is saturated air 20°C, discharge pressure 1013 mbar, working liquid water temperature 15°C.

2. Tolerance ± 10%.



DLV性能曲线 / DLV Performance Curve----60HZ Motor

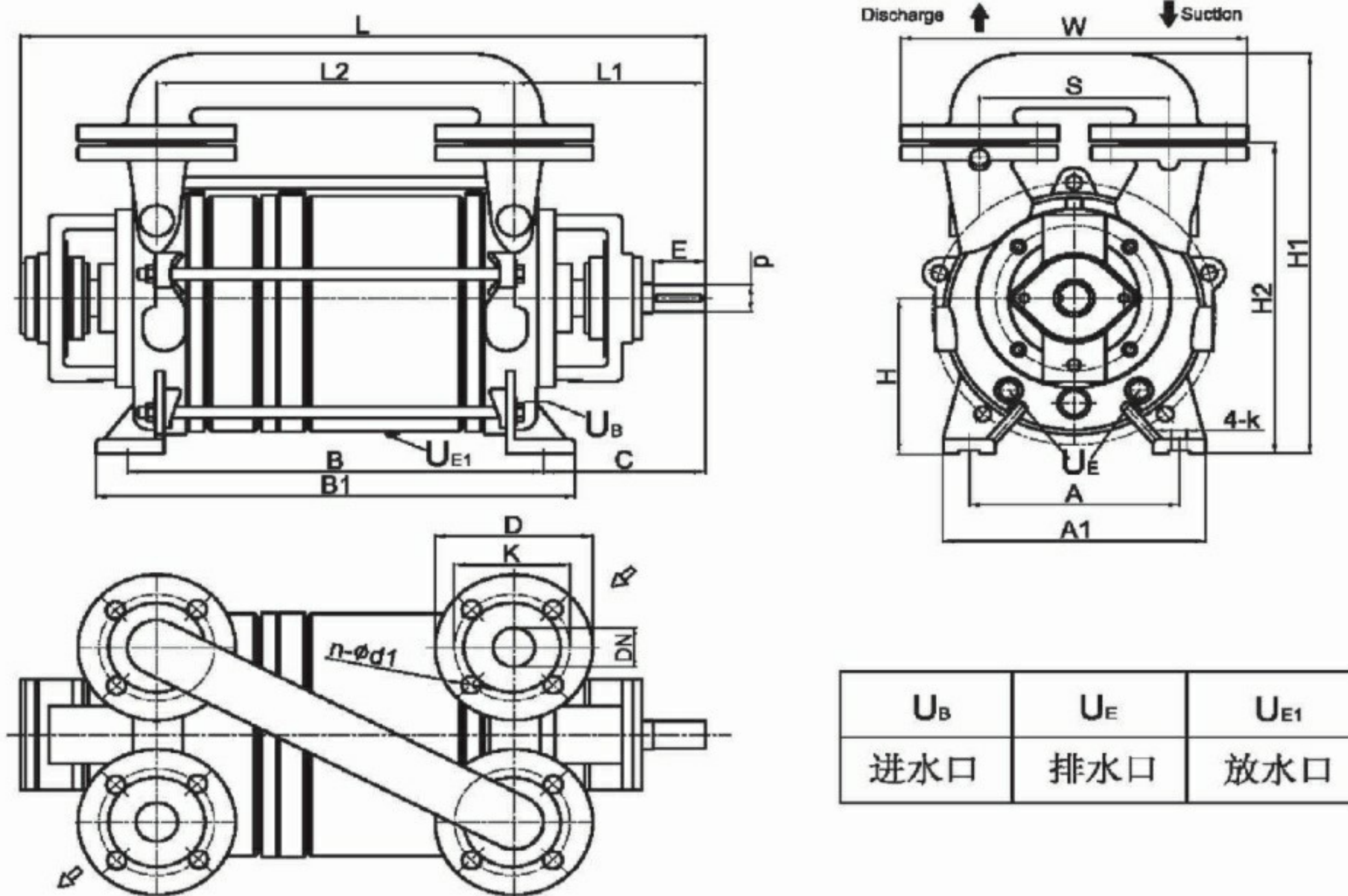


注：1、吸入介质为20°C的干空气，排气压力为1013mbar，工作液为15°C的水；
2、性能允差为± 10%。

Note:1. This performance curve is obtained in the state of: suction medium is saturated air 20°C, discharge pressure 1013 mbar, working liquid water temperature 15°C.

2. Tolerance ± 10%.

DLV系列外形尺寸图 / DLV Dimension Drawing



型号 Model	L	L1	L2	B	B1	C	E	d	H	H1	H2
DLV140	582	183	269	329	385	153	50	28	160	412	320
DLV180	652		339	399	455						
DLV300	816	277	335	385	435	252	80	38	212	512	402
DLV350	856		375	425	475						
DLV400	916		435	485	535						
DLV500	1014	287	501	581	641	247	80	38	225	573	450
DLV600	1080		567	647	707						
DLV800	1233	422	540	620	694	382	140	60	320	776	595
DLV1200	1383		690	770	844						
DLV1600	1483		790	870	944						

型号 Model	W	S	A	A1	DN	D	K	D1	n	UB	UE	UE1
DLV140	330	180	200	250	40	150	110	18	4	G 1/2"	G1/4"	G1/8"
DLV180												
DLV300	395	230	240	302	50	165	125	18	4	G 1"	G1/4"	G1/4"
DLV350												
DLV400												
DLV500	425	240	270	340	65	185	145	18	4	G 1"	G1/2"	
DLV600												
DLV800	590	370	380	480	100	220	180	18	8	G 2"	G1/2"	
DLV1200												
DLV1600												

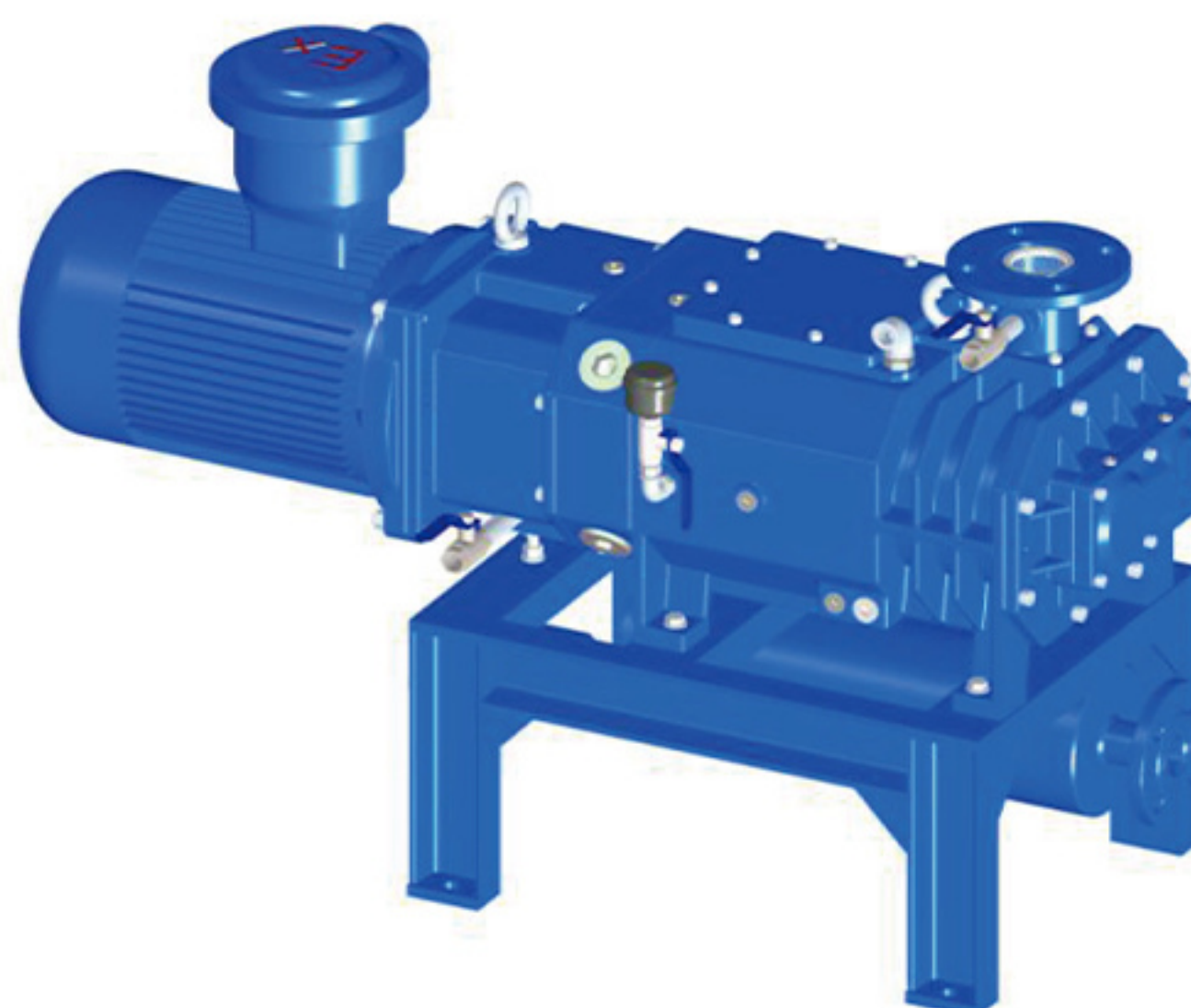
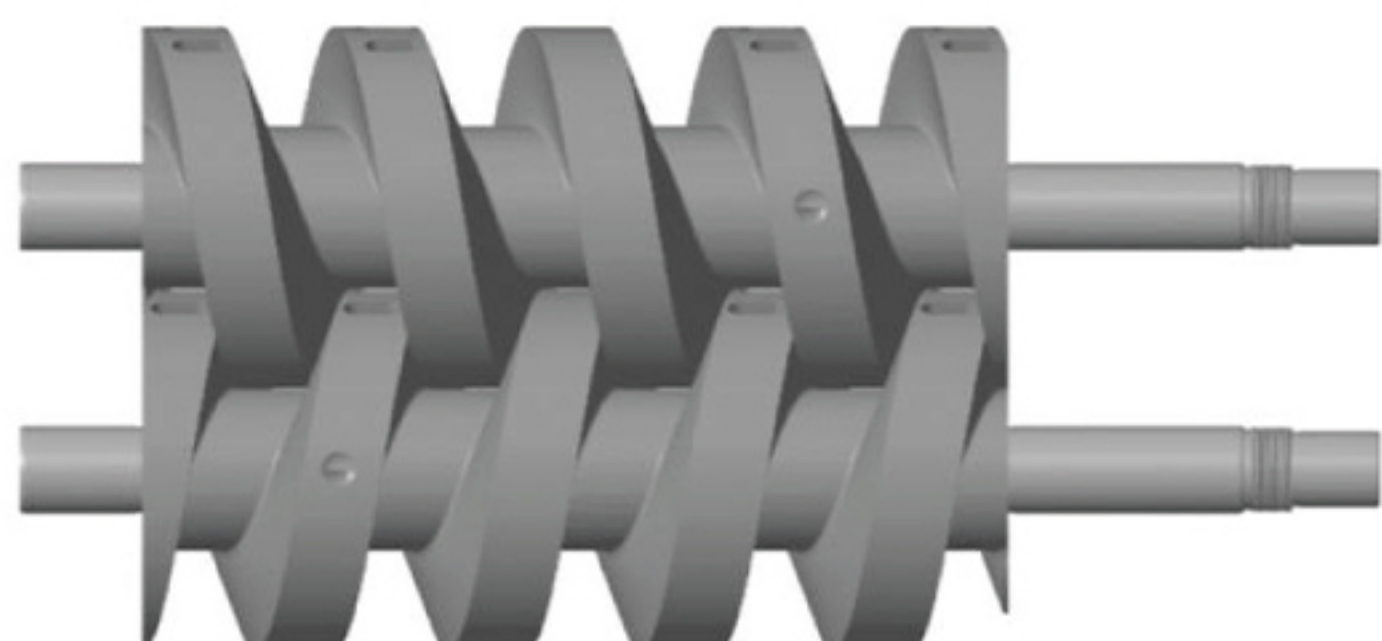
LG 型等螺距螺杆真空泵系列

优点:

- 螺杆型线采用自平衡设计，平衡孔少，密封性能好，温度降低 10%，抽气效率提高 15%。
- 全密封结构，齿轮箱与电机隔开，无漏油现象，安全可靠。
- 体积小，结构简单，维修方便。
- 泵腔内无油，对真空系统无污染，提高产品质量。
- 泵腔内无油，解决油乳化及频繁更换工作液、频繁维护和保养等问题，节约使用成本。
- 干式运行，不会产生废水和废油，有利环保，节约石油资源。
- 能抽除大量水蒸汽和少量粉尘的气体。增加附件后，也能抽除易燃、易爆及放射性等气体。
- 极限真空达到 5Pa，适用于中、低真空，与罗茨泵串联可配成无油中真空抽气机组，与分子泵串联可组成无油高真空机组。
- 采用防腐涂层处理后，特别适用于制药、化工工艺中的产品蒸馏、干燥、脱气等使用场合。

主要性能参数:

螺杆真空泵型号		LG30	LG50	LG70	LG110	LG150	LG200
抽气速率(50Hz/60Hz)	升/秒(L/s)	30/36	50/60	70/84	110/130	150/180	200/240
	米 ³ /小时(m ³ /h)	108/130	180/216	250/300	400/475	540/650	720/860
极限全压力(50Hz/60Hz)	帕(Pa)	5/1	5/1	5/1	5/1	5/1	5/1
最大排气压力	巴(bar)	1.2	1.2	1.2	1.2	1.2	1.2
配用电动机功率	千瓦(kW)	4	5.5	7.5	11	15	22
转速(50Hz)	转/分(rpm)	2890	2900	2900	2930	2930	2940
连接	进气口径	毫米(mm)	50	65	65	100	100
	排气口径	毫米(mm)	40	40	40	65	65
冷却水	流量	升/分钟(L/min)	4	5	8	10	16
	压力	兆帕(MPa)	0.15~0.3				
	出水温度	摄氏度(°C)	≤40				
	接口		R3/8"	R1/2"			
密封吹扫气源压力	兆帕(MPa)	0.05~0.1					
噪音	分贝(dB(A))	≤72	≤76	≤78	≤78	≤80	≤80
重量(包括排气罐)	千克(kg)	300	380	410	680	700	800



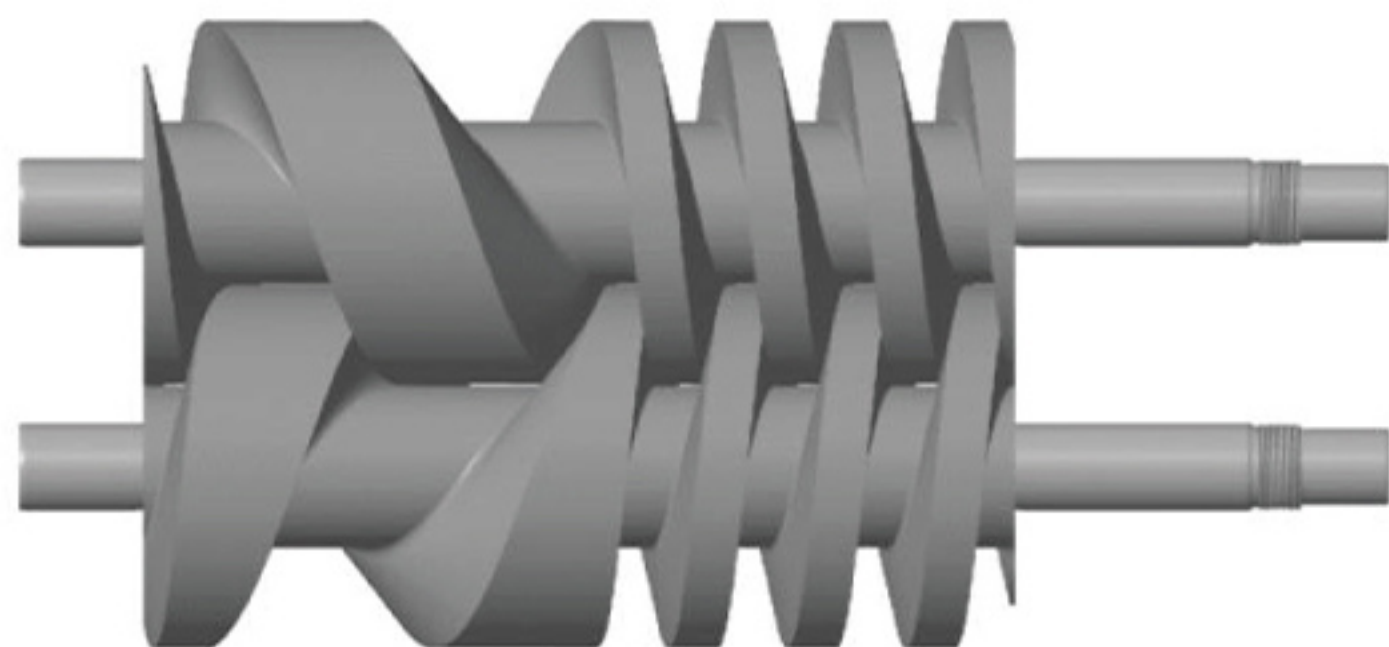
LGB 型变螺距螺杆真空泵系列

优点:

- 采用渐变式螺杆型线，能耗比等螺距降低 30%。
- 极限真空时，温度降低 50%。
- 极限压力：最高可达到1Pa以内。
- 排气喘震改善，比等螺距更加平缓。
- 振动、噪音：螺杆型线采用自平衡设计，低振动、低噪音、高效率。
- 维护、维修：结构设计简单，维护、维修方便，维护成本低。

主要性能参数:

螺杆真空泵型号		LGB50	LGB80	LGB110	LGB150	LGB220	LGB300
抽气速率(50Hz/60Hz)	升/秒(L/s)	50/60	80/96	110/130	150/180	220/260	300/360
	米 ³ /小时(m ³ /h)	180/216	288/345	400/475	540/650	790/950	1080/1300
极限全压力(50Hz/60Hz)	帕(Pa)	5/1	5/1	5/1	5/1	5/1	5/1
最大排气压力	巴(bar)	1.2	1.2	1.2	1.2	1.2	1.2
配用电机功率	千瓦(kW)	4	5.5	7.5	11	15	22
转速(50Hz)	转/分(rpm)	2890	2900	2900	2930	2930	2940
连接	进气口径	毫米(mm)	50	65	65	100	100
	排气口径	毫米(mm)	40	40	40	65	65
冷却水	流量	升/分钟(L/min)	4	5	8	10	16
	压力	兆帕(MPa)	0.15~0.3				
	出水温度	摄氏度(°C)	≤40				
	接口		R3/8"	R1/2"			
密封吹扫气源压力	兆帕(MPa)	0.05~0.1					
噪音	分贝(dB(A))	≤72	≤76	≤78	≤78	≤80	≤80
重量(包括排气罐)	千克(kg)	300	380	410	680	700	800



罗茨螺杆真空机组

罗茨螺杆真空机组是由罗茨真空泵为主泵与中间泵、螺杆真空泵为前级泵，同时配有管路、阀门、机架及电器控制箱等组成的无油真空机组。罗茨真空泵与螺杆真空泵工作原理与结构相似，罗茨真空泵与螺杆真空泵组成的机组具有螺杆真空泵的优点，同时通过串联大抽速的罗茨真空泵，成倍增大抽速，提高极限真空度，同时使抽气系统具有较好的节能效果。罗茨螺杆机组真空度高，高真空区内抽气效率高。通过配套的控制系統，机组可以自动启、停，并具有过载、过流、断水等自动保护功能。整个真空机组可以进行防腐处理，使之能用于抽除腐蚀性气体的场合。机组各真空泵采取合理地布置，机组占地面积小，且各泵与中间管路均不易积存异物，在抽除含少量可凝性气体或少量粉尘的气体时具有明显的优势。

根据被抽真空系统的容积大小、工作压力等因素合理配置真空机组，真空机组中各泵之间的抽速比可选取 1:2~1:8 之间，抽速比增大会使真空泵的抽气效率下降，工作压力范围缩小，造成罗茨泵启动延时，从而使预抽时间延长。

用途：

罗茨螺杆真空机组真空度高，工作压力范围宽，抽气效率高，过流部分能进行防腐蚀处理，属于无油真空获得设备，适用范围很广，能广泛应用于医药、化工、航空航天、电子、太阳能、冶金、食品等各种行业中，也可用于电力行业的真空浸渍、真空干燥工艺中，还是真空镀膜、真空冶炼、真空热处理、真空滤油、冷冻干燥、航空模拟试验等工艺的理想抽真空设备；机组适用于化工、制药行业的高真空蒸馏、真空蒸发、脱水结晶等工艺中；特别在化工行业，单罗茨螺杆机组可以替代双罗茨及三罗茨水环机组。特别适用于要求无油蒸汽污染的半导体行业，同时也适用于含有大量水蒸汽及少量粉尘的场合。

机组型号表示方法：

例 1: JZPLG600-4

(ZJP600+LG150)

J-----机组（汉语拼音“j”第一个字母）

ZP-----主泵为 ZJP 型罗茨真空泵

LG-----前级泵为 LG 型等螺距系列螺杆真空泵

600---主泵抽速 600L/s

4-----主泵与前级泵抽速之比

例 2: JZPLB2500-43

(ZJP2500+ZJP600+LGB220)

J-----机组（汉语拼音“j”第一个字母）

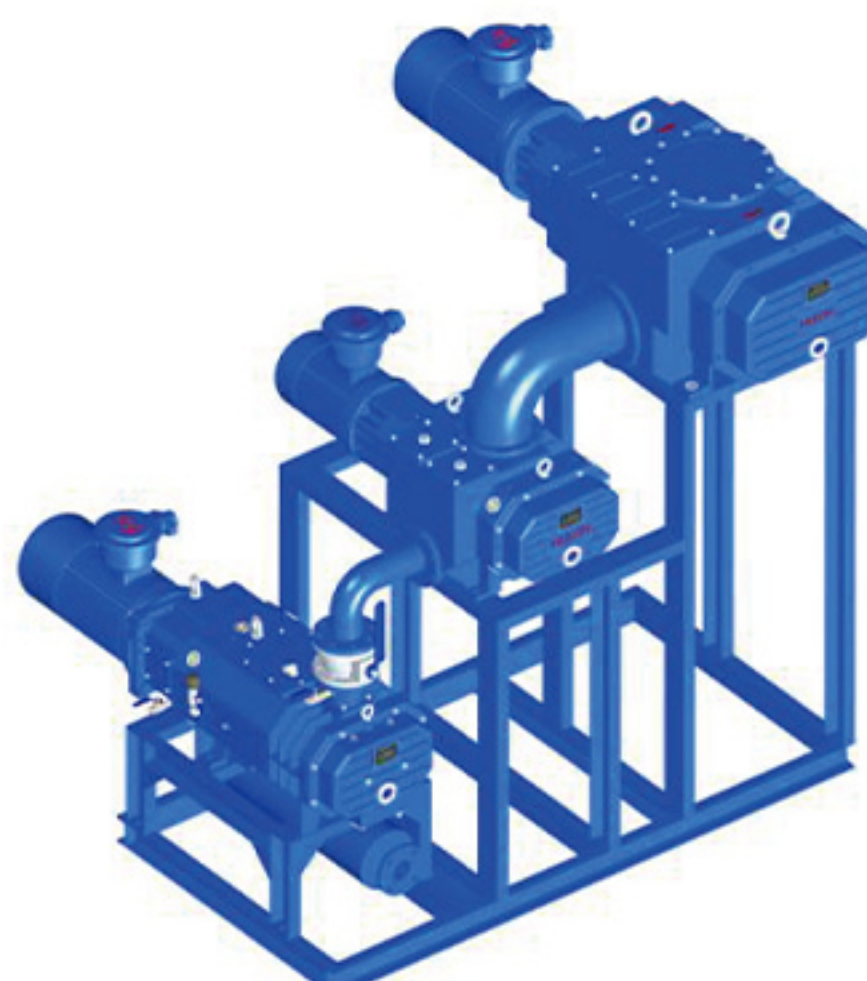
ZP-----主泵为 ZJP 型罗茨真空泵

LB-----前级泵为 LGB 型变螺距系列螺杆真空泵

2500---主泵抽速 2500L/s

4-----主泵与中间泵抽速之比

4-----中间泵与前级泵抽速之比





根据抽速及真空度的不同要求，有以下方案可供选择：

单罗茨螺杆真空机组性能参数表：

型号	泵型号		极限压力 (Pa)	抽气速率 (L/s)	进气口径 (mm)	排气口径 (mm)	配用功率 (kW)	
	主泵	前级泵						
JZJ(P)LG150-3	ZJ(P)150	LG50	5×10^{-1}	150	100	40	2.2	5.5
JZJ(P)LG150-2	ZJ(P)150	LG70		150	100	40	2.2	7.5
JZJ(P)LB150-2	ZJ(P)150	LGB80		150	100	40	2.2	5.5
JZJ(P)LG300-5	ZJ(P)300	LG50		300	150	40	4	5.5
JZJ(P)LG300-4	ZJ(P)300	LG70		300	150	40	4	7.5
JZJ(P)LB300-4	ZJ(P)300	LGB80		300	150	40	4	5.5
JZJ(P)LB300-3	ZJ(P)300	LGB110		300	150	40	4	7.5
JZJ(P)LB600-6	ZJ(P)600	LGB110		600	200	40	7.5	7.5
JZJ(P)LG600-4	ZJ(P)600	LG150		600	200	65	7.5	15
JZJ(P)LB600-4	ZJ(P)600	LGB150		600	200	65	7.5	11
JZJ(P)LG600-3	ZJ(P)600	LG200		600	200	65	7.5	22
JZJ(P)LB600-3	ZJ(P)600	LGB220		600	200	65	7.5	15
JZJ(P)LG1200-8	ZJ(P)1200	LG150		1200	250	65	11	15
JZJ(P)LB1200-8	ZJ(P)1200	LGB150		1200	250	65	11	11
JZJ(P)LG1200-6	ZJ(P)1200	LG200		1200	250	65	11	22
JZJ(P)LB1200-6	ZJ(P)1200	LGB220		1200	250	65	11	15
JZJ(P)LB1200-4	ZJ(P)1200	LGB300		1200	250	65	11	22

双罗茨螺杆真空机组性能参数表：

型号	泵型号			极限压力 (Pa)	抽气速率 (L/S)	进气口径 (mm)	排气口径 (mm)	配用功率 (kW)
	主泵	中间泵	前级泵					
JZJ(P)LG150-21	ZJ(P)150	ZJ(P)70	LG50	1×10^{-1}	150	100	40	8.8
JZJ(P)LG300-22	ZJ(P)300	ZJ(P)150	LG70		300	150	40	13.7
JZJ(P)LB300-22	ZJ(P)300	ZJ(P)150	LGB80		300	150	40	11.7
JZJ(P)LG600-42	ZJ(P)600	ZJ(P)150	LG70		600	200	40	17.2
JZJ(P)LB600-23	ZJ(P)600	ZJ(P)300	LGB110		600	200	40	19
JZJ(P)LG1200-44	ZJ(P)1200	ZJ(P)300	LG70		1200	250	40	22.5
JZJ(P)LB1200-43	ZJ(P)1200	ZJ(P)300	LGB110		1200	250	40	28.2
JZJ(P)LG1200-42	ZJ(P)1200	ZJ(P)300	LG150		1200	250	65	28.2
JZJ(P)LG1200-23	ZJ(P)1200	ZJ(P)600	LG200		1200	250	65	30
JZJ(P)LB1200-23	ZJ(P)1200	ZJ(P)600	LGB220		1200	250	65	33.5
JZJ(P)LG2500-44	ZJ(P)2500	ZJ(P)600	LG150		2500	320	65	44.5
JZJ(P)LB2500-44	ZJ(P)2500	ZJ(P)600	LGB150		2500	320	65	40.5
JZJ(P)LG2500-43	ZJ(P)2500	ZJ(P)600	LG200		2500	320	65	51.5
JZJ(P)LB2500-43	ZJ(P)2500	ZJ(P)600	LGB220		2500	320	65	44.5
JZJ(P)LB2500-42	ZJ(P)2500	ZJ(P)600	LGB300		2500	320	65	51.5



材料及构造

泵体外壳：灰铸铁 HT250

螺旋转子：球墨铸铁 QT500-7

唇形密封：唇封—聚四氟乙烯及石墨混合物

气封轴套：合金材料

同步齿轮：合金钢

镀层标准：耐蚀耐热哈氏合金

润滑：脂润滑和油润滑

轴承：双列角接触球轴承+圆柱滚子轴承

标准配件

机架

排气消声器

吸气口过滤网

冷却水监流器

真空表

可选配件

吸气口过滤器

排气冷凝器

吸入式气液分离器

流量开关及温度开关

氮气保护装置

能够成功地处理

醋酸脂

乙醇

苯

甘油酯

硫化物

无机酸

甲苯

有机酸

硝酸

氨

氯化物

二元醇

酮类

磷酸

硫酸

酚类

烃类

碳酰氯

为了更好地为用户服务，选择合适产品，选型时请提供以下有关资料。

- 被抽介质名称及成份；
- 被抽介质温度、浓度；
- 是否易燃、易爆或有毒气体；
- 被抽系统工作真空度及抽气量要求；
- 泵排出气体、液体是否要求回用；
- 真空系统排出口压力及是否作输送泵用；
- 气体过流部分及电机有无特殊要求及其他特殊要求。



● SY/2SY 系列水环压缩机

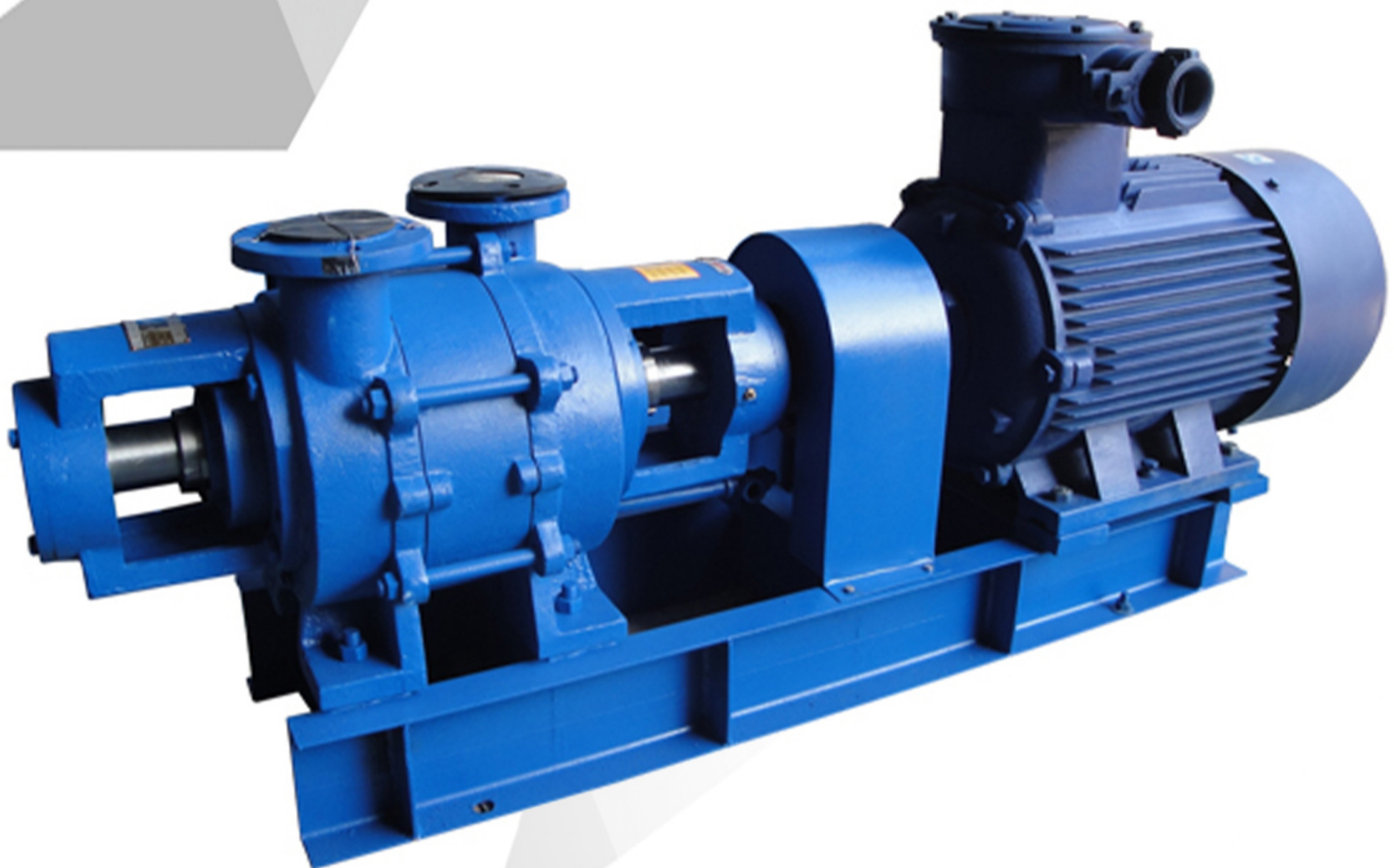
SY/2SY Series Liquid Ring Compressors

● SY/2SY 系列水环压缩机具有排气压力高，结构紧凑，运转平稳，等温压缩等特点。特别适于抽除含有水蒸气、灰尘、易燃易爆和在高温下易产生化学反应的气体。高压端的柔性排气阀结构，保证排气压力在设计范围内（单级 0.1-0.3MPa, 双极 0.3-0.6MPa），采用外冲洗双端面机械密封，保证被压缩介质的完全无泄漏。

该系列水环压缩机广泛应用于化工、石油化工、制药和城市煤气等行业的易燃、易爆气体的压缩输送和尾气回收等工艺流程。

SY/2SY series water ring compressor has the characteristics of high discharge pressure, compact structure, stable operation and isothermal compression. It is especially suitable for extracting gas containing water vapor, dust, flammable and explosive and easy to produce chemical reaction at high temperature. The flexible exhaust valve structure at the high pressure side ensures that the exhaust pressure is within the design range (single-stage 0.1-0.3MPa, bipolar 0.3-0.6MPa), and the external flushing double-end mechanical seal is used to ensure that the compressed medium is completely leak-free.

This series of water ring compressors are widely used in the process of compressing and conveying flammable and explosive gases and recovering tail gas in chemical, petrochemical, pharmaceutical and city gas industries.





SY/2SY 系列技术规格表

SY/2SY Series Technical Parameters

型号表示方法

2SY系列泵的型号以4个位的文字(字母)和数字组合表示, 标记如下:

<1> S Y□--□<2> 其中:

<1>代表级数, 具体如“2”代表两级, 不加则代表单级SY代表高压型水环压缩机系列名称

<2>代表泵最大抽速, 单位 m^3/min

型号示例: “2SY-12”为最大气量为 $12m^3/min$ 的双级水环压缩机.

Pump Model Code

SY/2SY series pump model is expressed in the combination of 4 letters and digits as follows:

<1>SY-<2>

<1> indicates the number of stages: SY indicates single stage high pressure water ring compressor.

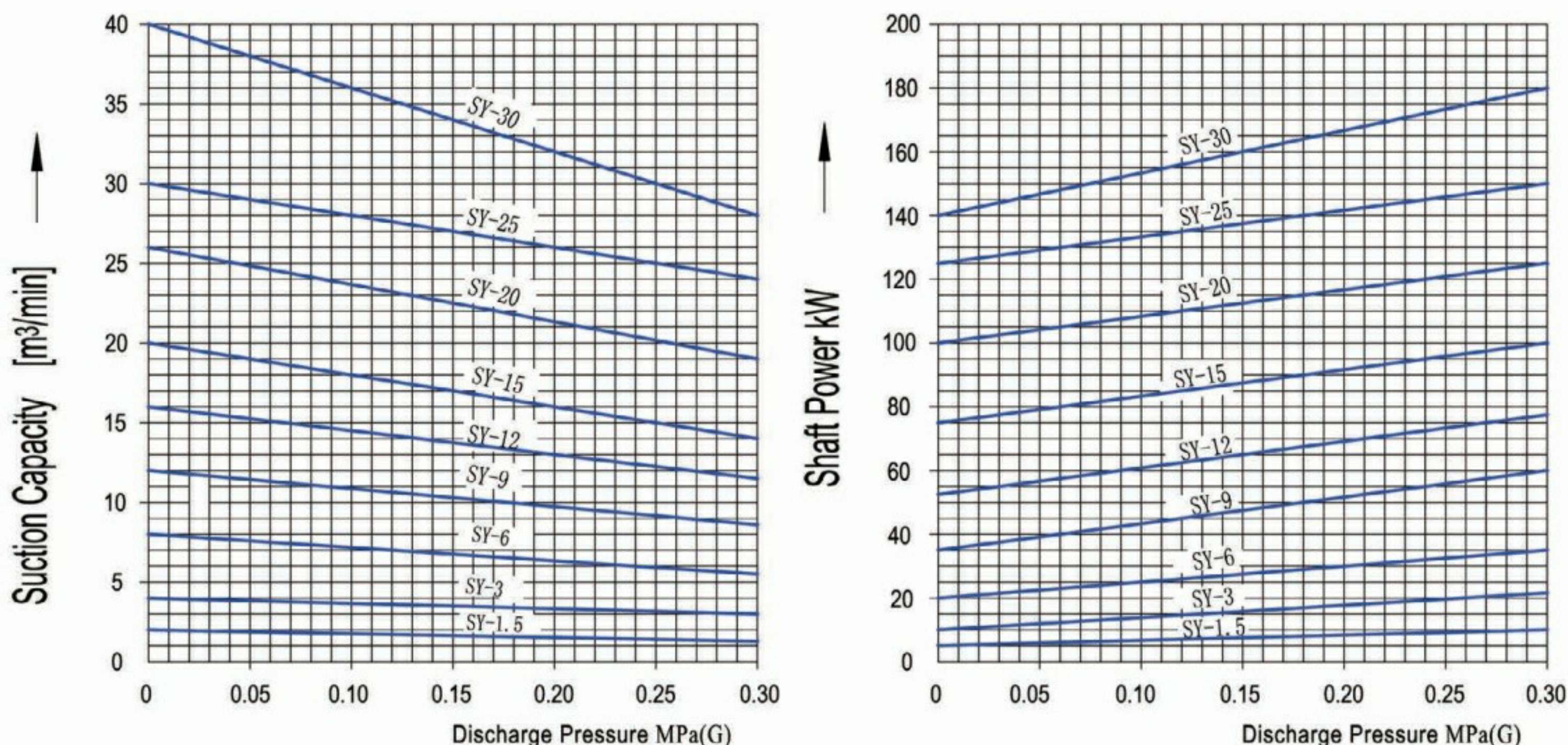
<2> indicates max.capacity of pump, unit is m^3/min . For example, 2SY-12 is a double stage water ring com-pressor with max.capacity $12m^3/min$.

型号 Model	排气量 Discharge Capacity	工作压力范围 Working pressure range	电机功率 Motor Power	转速 Speed	吸排气口径 In/Out Port Diameter	供水量 Water Supply
	m^3/min	MpaG	KW	r/min	mm	L/min
SY-1.5	1.5	0.15-0.3	2-18.5	2940	65	30-50
SY-3	3		2-22	2940	65	50-80
SY-6	6		2-37	2970	65	80-120
SY-9	9		4-75	1480	125	120-150
SY-12	12		4-90	1480	125	156-200
SY-15	15		4-110	1480	150	180-220
SY-20	20		6-132	980	150	200-250
SY-25	25		6-160	980	200	250-300
SY-30	30		6-185	980	200	300-350
2SY-1.5	1.5		0.3-0.6	2-22	2940	65
2SY-3	3	2-37		2940	65	80-120
2SY-6	6	2-75		2970	65	120-150
2SY-9	9	4-110		1450	125	150-170
2SY-12	12	4-132		1450	125	170-200
2SY-15	15	4-185		1450	150	200
2SY-20	20	6-250		980	150	250
2SY-25	25	6-315		980	200	300
2SY-30	30	6-355		980	250	350
2SY-35	35	6-400		980	250	400



SY 单级水环压缩机性能曲线

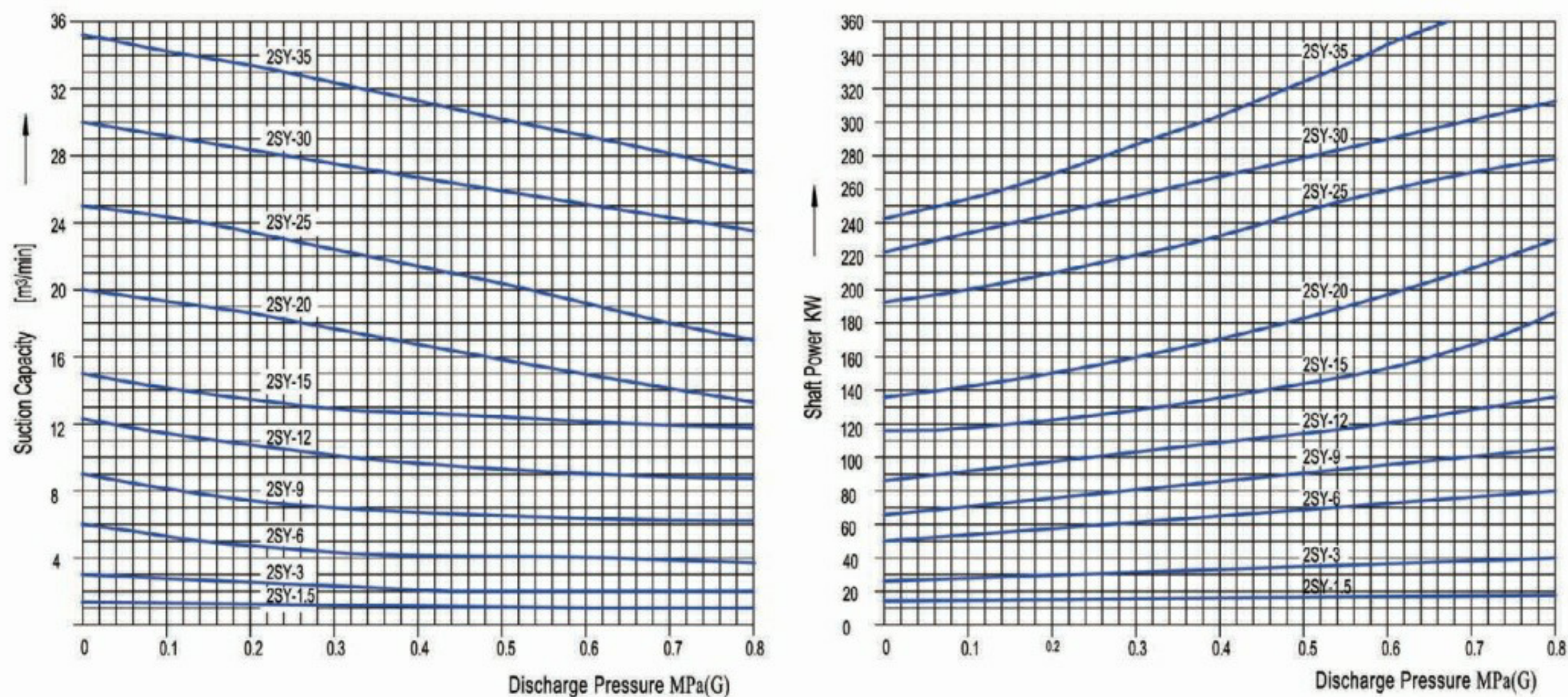
SY Single-stage Water Ring Compressor Performance Curve



注：1.SY/2SY曲线图是以空气为实验气体，在下列条件下列出：吸入气体压力为0.1013MPa;供水温度为15-20°C吸入气体温度为20°C;吸入气体相对湿度为70%
 2.供水量随着排气压力的升高而增加 3.性能允差为±10%

2SY 双级水环压缩机性能曲线

2SY Double-stage Water Ring Compressor Performance Curve



NOTE:1.The curve is taken air as suction gas and is obtained under the following condition:suction pressure 0.1013 MPa; water temperature 15-20°C; suction temperature 20°C relative humidity 70%
 2.Water supply should be increased with discharge pressure rises.
 3.Performance tolerance ±10%.

WL/WLW 系列立式（无油）往复真空泵

WL/WLW Series Vertical Reciprocating Vacuum Pumps (Oil-free)

新型 WL/WLW 系列立式往复真空泵，是原 W 型卧式往复真空泵的更新换代产品，与 W 型泵相比，具有以下特点：

- （1）由于气阀布置在汽缸盖和汽缸颈上（W 是布置在汽缸上），因而增加了汽缸冷却水的面积，减少了功率消耗，节能 10~15%，占地面积减小 1/2；
- （2）改善了卧式泵活塞自重下垂磨损不均匀的特点，使活塞、连杆等运动部件磨损减小；
- （3）WL 系列立式往复真空泵为有油型，WLW 系列立式往复泵为无油型。



The new type WL/WLW series vertical reciprocating vacuum pump are the renewed products based on the primary W lying reciprocating vacuum pump. Compared with the W type pump, they have the following features:

- 1) As the gas valves are installed on the cover and neck of the cylinder (the W series are on the body of the cylinders), thus increase the area of the cooling water in the cylinder, decrease the loss of power and save energy by 10-15%. The area it occupies can decrease by 1/2.
- 2) The piston of the lying reciprocating vacuum pump will go down because of the weight of itself, so it will be worn away unevenly. The WL series improved this shortcoming. It can decrease the wearing of the moving units as piston and connecting poles.
- 3) WL series vertical reciprocating vacuum pumps is oil type, while WLW series is oil-free.

WL/WLW 系列往复真空泵技术性能表

WL/WLW Technical Parameters

型号 Model	WL-100 WLW-100	WL-200 WLW-200	WL-300 WLW-300	WL-600 WLW-600
抽气速率 (L/S) Suction rate	100	200	300	600
极限压力 (Pa) Ultimate pressure	2600	2600	2600	2600
转速 (rpm) Speed	350	310	350	320
电机功率 (KW) motor power	7.5	22	30	55
电机型号 motor model	Y160M-6	Y200L2-6	Y225M-6	Y280S-6
吸排气口径 (mm) inlet/outlet size	100	125	150	200
整机重量 (kg) Whole weight	820	1400	2000	2800

ZJP 系列罗茨真空泵

ZJP Series Booster Pumps

罗茨真空泵的做大优点是在较低的入口压力时具有较高的抽气速率，但他不能单独使用，必须有一台前级真空泵串联，带被抽系统中的压力被前级真空泵抽到罗茨真空泵允许入口压力时，罗茨真空泵才能开始工作，并且在一般情况下，罗茨真空泵不允许高压差工作，否则将会过载和过热而损坏，因此使用罗茨真空泵必须合理地选用前级真空泵，安装必要的保护设备。

其前级泵可用滑阀泵或旋片泵，水环泵、油环泵等真空泵。特别在抽除有大量水蒸气的气体时，选用水环真空泵作为前级泵是很理想的。采用精密齿轮，故运转噪声极低；内部设置溢流阀，从而允许罗茨真空泵和前级真空泵几乎可以同时在大气条件下启动，以缩短抽气时间；采用国际标准进出口法兰精密动平衡，故振动极低；在中真空范围内具有高抽速，从而降低运转成本。由于严格控制转子和转子与泵体间的间隙，泵腔内部运动部件无摩擦存在，所有法兰部件均采用“O”型密封圈取代有机硅橡胶平面密封，从而维护更方便；精选的轴承加以良好的润滑，可极大的延长泵的使用寿命，泵腔无润滑油，从而保证泵腔干燥。



The greatest advantage of booster pump is high exhaust speed under low inlet pressure. However, the pump must be connected with a backing vacuum pump since the booster pump cannot work until the backing pump vanuumizes the pumped system to the allowed inlet pressure of the roots vacuum pump. Moreover, the roots vacuum pump cannot tolerate large pressure difference; otherwise, the pump will be damaged by overload and overheat, so a suitable backing pump and safety devices are indispensable for the booster vacuum pump.

The backing pump can be vacuum pump like slide valve pump, rotary vane pump, water ring pump or oil ring pump. The water ring pump is quite ideal for gas with a great deal of vapour. The precise gear is installed thus the operation noise is quite low. The internal ZJP overflow valves allow the booster pump and backing pump to start synchronously under atmosphere condition, shortening exhaust time. The vibration is extremely low because of perfect dynamic balance generated by discharge flange and suction flange which meet the international standards. High exhaust speed can be obtained in medium vacuum, thus running cost is lowered. The gap between rotators and between the pump body and rotators is strictly controlled to avoid frictions between moving parts in the pump cavity. All the flange parts are sealed by O-rings instead of flat organic silicon rubber, marking maintenance more convenient. Service life of the pump is greatly prolonged by well-chosen bearings and satisfactory lubrication. No lubricant exists in the pump cavity to ensure the dryness.

型号 model	ZJP-30	ZJP-70	ZJP-150	ZJP-300	ZJP-600	ZJP-1200	ZJP-2500
抽速 capacity(L/s)	35	70	150	300	600	1200	2500
极限压力 limit pressure(Pa)	0.05	0.05	0.05	0.05	0.05	0.05	0.05
转速 speed(r/min)	1420	2840	2880	2900	2900	2940	2940
口径 aperature (mm)	进口 inlet	80	80	100	150	200	250
	出口 outlet	50	50	80	100	150	200
重量 weight (kg)	75	100	200	490	500	1200	1300
罗茨水环机组配用电动机功率 motor power(kW)	Y90-4-1.5	Y90-2-1.5	Y100-2-3	Y112-2-4	Y132-2-7.5	Y160-2-11	Y180-2-22
噪音 noise <dB	78	78	81	82	84	85	87
最大零流量压缩比 max compression ratio at zero flow	26	26	30	30	35	40	40
最大允许压差 max allowable pressure difference Pa	8000	6000	6000	5000	4000	3000	3000



● JZJ2B 系列罗茨—水环机组 JZJ2B Series Booster---Water Ring Vacuum Systems

● JZJ2B 系列罗茨--水环机组是由 ZJ 型罗茨真空泵作为主抽泵，2BE/2BV/2SK 系列水环泵作为前级泵组成的抽气机组。它不仅可以用来抽除一般气体，还可以抽吸含有少量灰尘的气体。它与一般式机械真空泵和一般水环式真空泵相比，具有不怕油污染，不怕水汽及微尘，极限真空度高及在较高真空度工况下抽速大的优点，是轻纺、食品、化工等行业领域的干燥、脱水及真空除的一种理想的真空抽气设备。



JZJ2B series Roots--Water ring unit is an air pumping unit composed of ZJ Roots vacuum pump as the main pump and 2BE/2BV/2SK series water ring pump as the backing pump. It can not only be used to extract general gases, but also gases containing a small amount of dust. Compared with general mechanical vacuum pumps and general water ring vacuum pumps, it has the advantages of not being afraid of oil pollution, water vapor and fine dust, high ultimate vacuum and high pumping speed under higher vacuum conditions. It is an ideal vacuum pumping equipment for drying, dehydration and vacuum removal in the fields of chemical industry and other industries.



型号表示方法 Model Presentation

如：

J代表机组的第一个字母

J: stand for pump unit

ZJ代表主泵为ZJ系列罗茨真空泵

ZJ: ZJ series booster pump as main pump

2B代表前级泵为2BV/2BE系列水(液)环真空泵

2B: backing pump series 2BV/2BE water (liquid) ring vacuum pump

150为主泵(罗茨泵)抽速L/s

150: suction speed of main pump(booster pump) L/s

2.1为抽速配比代号

(即主泵与二级泵抽速比为2, 二级泵与前级泵抽速比为1)

2.1: indicate suction speed ratio

(main pump and second stage pump suction speed ratio is 2, second stage pump and backing pump speed ratio is 1).

J Z J 2 B 1 5 0 - 2.1

JZJ2B系列罗茨水(液)环真空机组技术指标：

机组型号 Unit type	泵型号 Pump model		抽速 Speed l/s	最高吸入压力 Max suction pressure pa	极限压力 Ultimate pressure pa (绝压)		总功率 Total power kw
	主泵 Main pump	前级泵 Backing Pump			水环机组 Water ring unit	油环机组 Oil ring unit	
JZJ2B30-2	ZJ30	2BV2-061	30	8000	300	80	3
JZJ2B30-1	ZJ30	2BV5-110	30	12000			5.5
JZJ2B70-2	ZJ70	2BV5-110	70	6000			5.5
JZJ2B70-1	ZJ70	2BV5-111	70	12000			7
JZJ2B150-2A	ZJ150	2BV5-111	150	6000			8.5
JZJ2B150-2B	ZJ150	2BV5-121	150	8000			10.5
JZJ2B150-1	ZJ150	2BV5-131	150	10000			14
JZJ2B300-2A	ZJ300	2BV5-131	300	4000			15
JZJ2B300-2B	ZJ300	2BV5-161	300	5000			19
JZJ2B300-1	ZJ300	2BE1-202	300	10000			26
JZJ2B600-2A	ZJ600	2BE1-202	600	4000			29.5
JZJ2B600-2B	ZJ600	2BE1-203	600	5000			44.5
JZJ2B600-1	ZJ600	2BE1-252	600	12000			52.5
JZJ2B1200-2A	ZJ1200	2BE1-252	1200	2500			56
JZJ2B1200-2B	ZJ1200	2BE1-253	1200	4000			86
JZJ2B1200-1	ZJ1200	2BE1-303	1200	8000			121
JZJ2B2500-2	ZJ2500	2BE1-303	2500	3000	132		



JZJ2B Series Booster---Water Ring Pump System Technical Parameters

机组型号 Unit type	泵型号 Pump model		抽速 Speed l/s	最高吸入压力 Max suction pressure pa	极限压力 Ultimate pressure pa (绝压)		总功率 Totalpower kw
	主泵 Main pump	前级泵 Backing Pump			水环机组 Water ring unit	油环机组 Oil ring unit	
JZJ2B70-2.1	ZJ70	ZJ30/2BV5-110	70	6000	100	1	7
JZJ2B150-2.1	ZJ150	ZJ70/2BV5-111	150	6000			10
JZJ2B150-4.1	ZJ150	ZJ30/2BV5-110	150	3000			10
JZJ2B300-2.1	ZJ300	ZJ150/2BV5-131	300	5000			18
JZJ2B300-2.2	ZJ300	ZJ150/2BV5-121	300	4000			14.5
JZJ2B300-4.1	ZJ300	ZJ70/2BV5-111	300	2000			11
JZJ2B600-4.1	ZJ600	ZJ150/2BV5-131	600	1500			21.5
JZJ2B600-2.2	ZJ600	ZJ300/2BV5-161	600	2000			26.5
JZJ2B1200-4.2	ZJ1200	ZJ300/2BV5-161	1200	1000			30
JZJ2B1200-4.1	ZJ1200	ZJ300/2BE1-202	1200	1200			37
JZJ2B1200-2.2	ZJ1200	ZJ600/2BE1-203	1200	2500			53.5
JZJ2B1200-2.1	ZJ1200	ZJ600/2BE1-252	1200	3000			61.5
JZJ2B2500-4.1	ZJ2500	ZJ600/2BE1-252	2500	1000			72.5
JZJ2B70-2.1.1	ZJ70	ZJ30/ ZJ30/2BV5-110	70	6000			0.5
JZJ2B150-2.2.1	ZJ150	ZJ70/ ZJ30/2BV5-110	150	3000	10		
JZJ2B300-2.2.1	ZJ300	ZJ150/ ZJ70/2BV5-111	300	3000	14		
JZJ2B300-4.2.1	ZJ300	ZJ70/ ZJ30/2BV5-110	300	1200	11		
JZJ2B600-2.2.1	ZJ600	ZJ300/ ZJ150/2BV5-131	600	2500	25.5		
JZJ2B600-4.2.1	ZJ600	ZJ150/ ZJ70/2BV5-111	600	1200	17.5		
JZJ2B1200-4.2.1	ZJ1200	ZJ300/ ZJ150/2BV5-131	1200	1000	29		
JZJ2B2500-4.2.1	ZJ2500	ZJ600/ ZJ300/2BE1-202	2500	1000	55.5		

注：1. 以上表格为推荐标准系列，因在实际生产应用中工作条件的不同，吸入气体及压力会发生很多变化，所以在选型时应根据实际抽气过程、气体释放过程、可凝性气体冷凝情况、吸入压力的时间变化等等进行校核计算或参照现有设备使用情况选型。单泵的技术指标详见各泵参数表。

2. 最高吸入压力是指主泵能够启动的最高压力，如在高于该压力下长时间运行，会造成主泵过载。

3. 如真空泵电机、电接点真空表、电控柜需防爆，请在订货时注明，上表中的2BV2、2BV5系列相应改为2BV6系列。

Note:1.The form above shows suggested standard pump model, because of working condition difference in site application, the suction gas and pressure may be different, so in the process of model selection, the suction process, gas discharge, gas condensate and time changes of suction pressure etc. should be considered for calculation and adaptable for current equipment. Parameters of single pump is included in the parameter form.

2.Max. suction pressure means the max. pressure for main pump to start up. Long term operation in higher pressure will lead to overload of main pump.

3.If the motor, electric contact vacuum meter, electric control cabinet are required to be antiexplosion, please remark when place an order, and 2BV2, 2BV5 series will be upgraded to 2BV6 modle.



SK/2SK 系列液环真空泵 及压缩机

SK/2SK Series Liquid Ring Vacuum Pumps and Compressors

SK/2SK系列产品被广泛用于机械、石油、工业食品和电力领域。其中SK系列适宜的工作区间是：0~0.085Mpa，做压缩机用时排气压力为0~0.2Mpa。2SK系列真空泵在较高真空下有较大的抽气量，最适宜在吸气压力为-0.085Mpa~0.095Mpa范围内工作。



SK/2SK series are widely used in industries of mechanical, petrochemical, food, and electronics. The suitable working pressure of SK series is 0~0.085Mpa, while its discharge pressure is 0~0.2Mpa if used as compressors. 2SK pumps have larger capacity in high vacuum, most suitable in suction pressure -0.085Mpa~0.095Mpa.

SK/2SK 技术性能表 SK/2SK Technical Parameters

型号 Model	抽气量 Suction capacity	极限真空度 Ultimate vacuum	电机功率 Power kW		转速 rpm	压缩机 排气压力 Pressure	供水量 Water supply	吸/排气口 Suction/ Discharge port	进水口 Water inlet
	m ³ /min	MPa (G)	真空泵 Vacuum pump	压缩机 compressor	R /min	MPa	L/min	DN(mm)	(mm)
SK1.5	1.35	-0.089	3	4	1440	0-0.1	10-15	65	G1/2"
SK-3	2.7	-0.093	5.5	7.5	1440	0-0.1	15-20	65	G1/2"
SK-6	5.4	-0.093	11	15	1440	0-0.1	20-30	65	G1/2"
SK-9	8.1	-0.093	15	22	1440	0-0.1	30-40	65	G1/2"
SK-12	10.8	-0.093	18.5	30	970	0-0.1	40-50	80	G1/2"
SK-20	18	-0.093	37	55	740	0-0.1	60-80	150	G3/4"
SK-30	27	-0.093	45/55	75	740	0-0.1	70-100	150	G3/4"
SK-42	37.8	-0.093	75	-	740	-	95-130	150	G3/4"
型号 Model	抽气量 Suction capacity	极限真空度 Ultimate vacuum	电机功率 Power		转速 rpm	供水量 Water supply	吸/排气口 Suction/ Discharge port	进水口 Water inlet	
	m ³ /min	MPa	kW		r/min	L/min	DN(mm)	(mm)	
2SK1.5	1.35	-0.097	4		1440	10-15	40	G1/2"	
2SK-3	2.7	-0.098	7.5/11		1440	15-20	40	G1/2"	
2SK-6	5.4	-0.098	15		1460	25-35	65	G1/2"	
2SK12	10.8	-0.098	22/30		970	40-50	100	G1/2"	
2SK20	18	-0.098	45		740	60-80	125	G3/4"	
2SK30	27	-0.098	55/75		740	70-90	125	G3/4"	



注：1，SK/2SK 系列泵性能曲线在标准条件下得到。

2，SK系列的泵在排气压力较大时，建议加大电机功率。

3，2SK系列的泵只适合高真空状态，若长时间处于低真空或运行工作范围较宽时，建议加大电机功率。

Note:1.The SK/2SK series pump performance curve is obtained under the standard condition.

2.Motor with higher power is suggested if SK series pump has bigger discharge pressure.

3.2SK series pumps are suitable to deal with high vacuum only, but if it is long term low vacuum or has wide working range, the motor should have higher power.

● 真空 / 压缩机系统

Vacuum/Compressor Systems

● 作为标准泵 / 电机单机设备的补充公司
提供全系列的水环泵成套机组，如 2BE
系列，2BV 系列，2SY 系列，ZJZ 系列的
所有成套机组。其中包括汽水分离器，换
热器，连结管路等，有利于用户的安装，
可大大缩短用户的安装周期。工作液可采
用水或各种化工溶剂等进行循环使用，大
大减少了化工行业对环境的污染。如果采
用所抽除的介质作为工作液

时，可回收所抽除的介质。闭式循环系统
需根据用户的入口条件、冷却水的条件、
排气口的条件进行设计。系统主要部件包
括：真空泵 / 压缩机汽水分离器换热器共
用底盘内部管线。

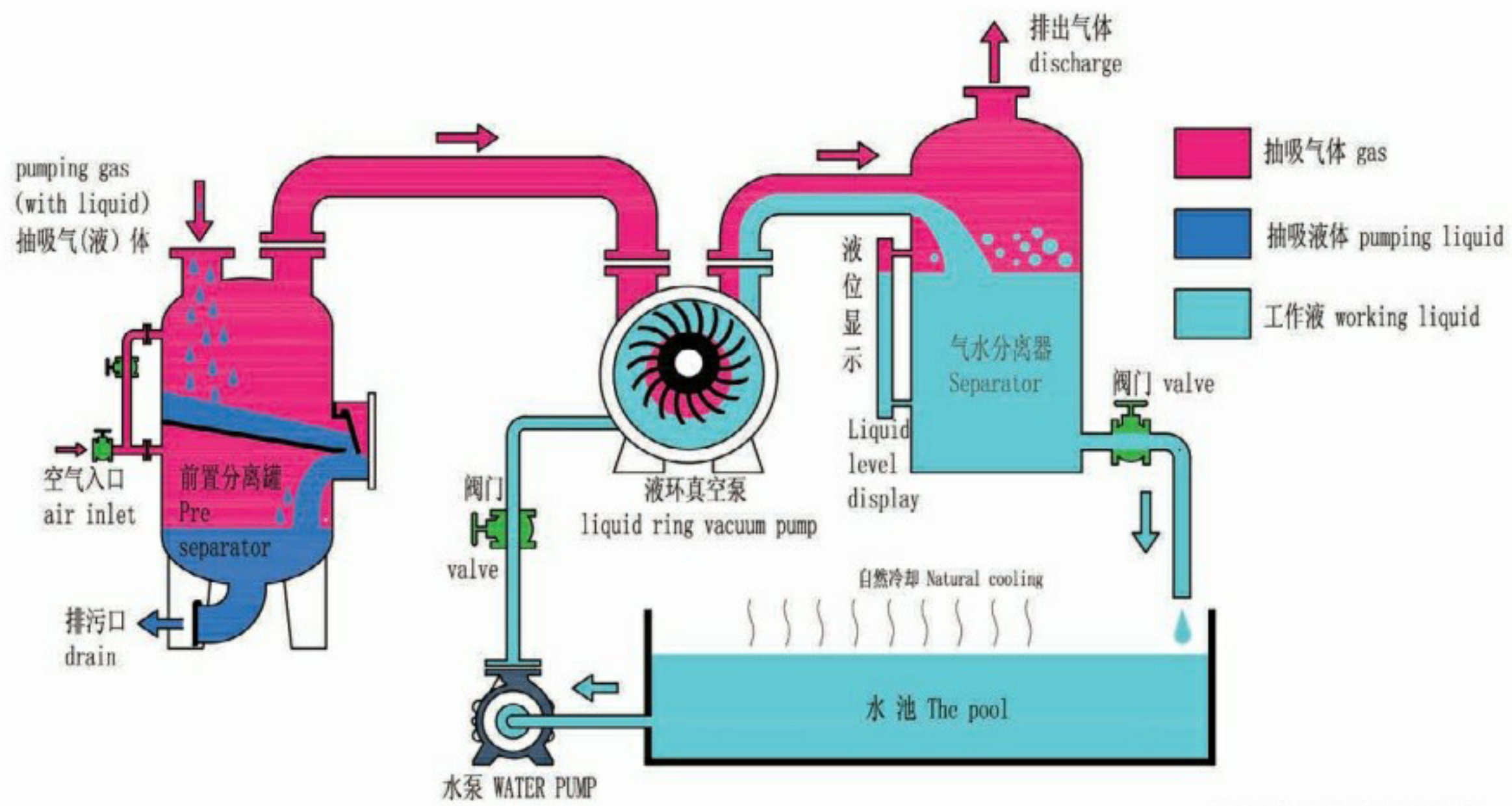
客户可根据需求对系统中的设备、附
件、测控仪表、开关柜、电控装置等进行
选择配置。因真空泵 / 压缩机的选型需根
据详细的工况条件进行计算，如需我公司
进行设计选型，请务必提供详细的工况。
可填写附录：液环真空泵 / 液环压缩机 /
液环机组参数表。



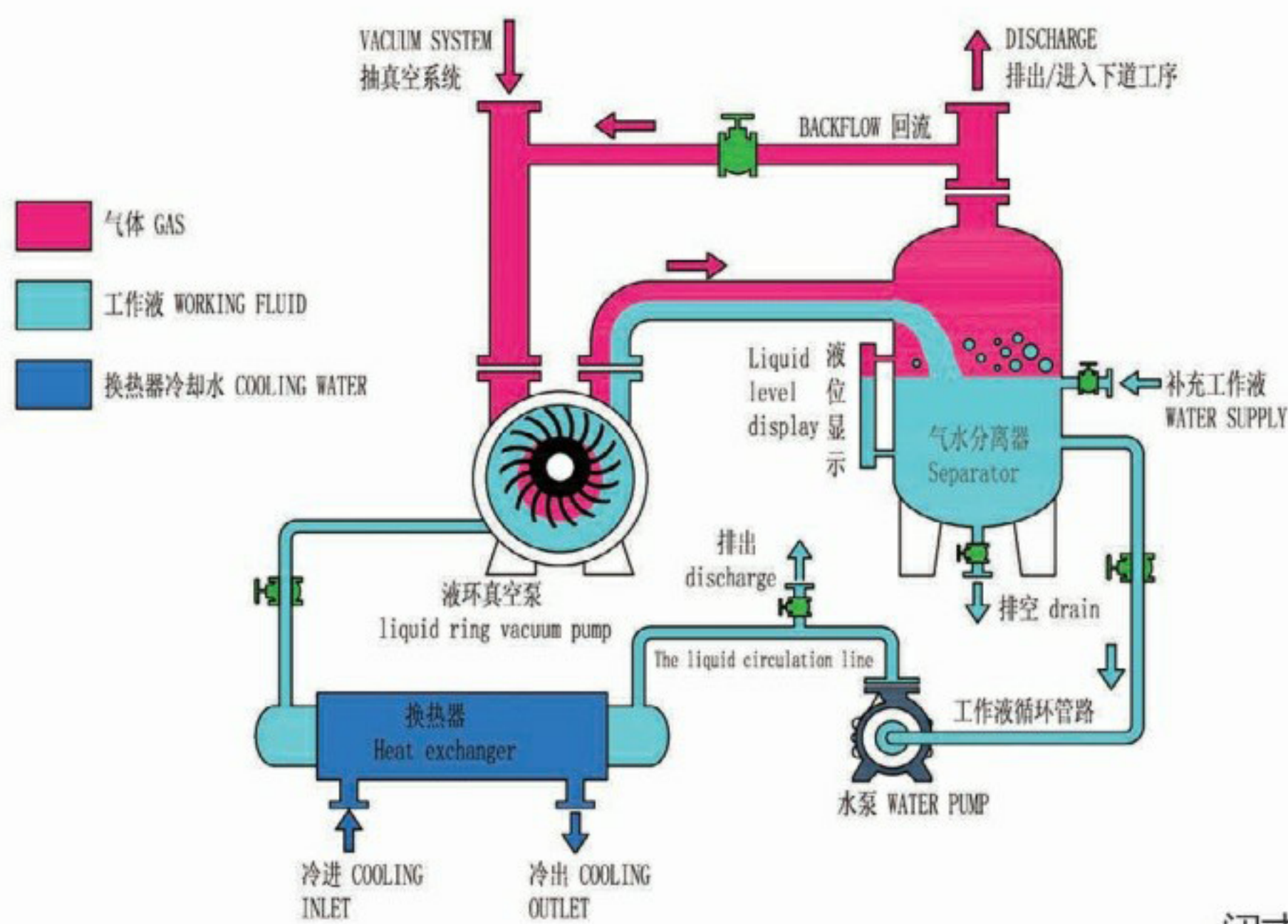
As a supplement to standard pump/motor stand-alone equipment, the company provides a full range of water ring pump complete sets, such as 2BE series, 2BV series, 2SY series, ZJZ series of all complete sets. These include steam-water separators, heat exchangers, connecting pipes, etc., which are beneficial to the user's installation and can greatly shorten the user's installation cycle. The working fluid can be recycled using water or various chemical solvents, which greatly reduces the environmental pollution caused by the chemical industry. If the extracted medium is used as the working fluid

At the time, the removed medium can be recycled. The closed circulation system needs to be designed according to the user's inlet conditions, cooling water conditions, and exhaust port conditions. The main components of the system include: vacuum pump/-compressor, steam-water separator, heat exchanger, and common chassis internal pipeline.

Customers can choose and configure the equipment, accessories, measurement and control instruments, switch cabinets, electronic control devices, etc. in the system according to their needs. Because the selection of vacuum pump/compressor needs to be calculated according to the detailed working conditions, if you need our company to design and select, please be sure to provide the detailed working conditions. You can fill in the appendix: liquid ring vacuum pump/liquid ring compressor/liquid ring unit parameter table.



开式循环示意图
Open cycle diagram



闭式循环示意图
Closed cycle diagram



真空引水/vacuum diversion



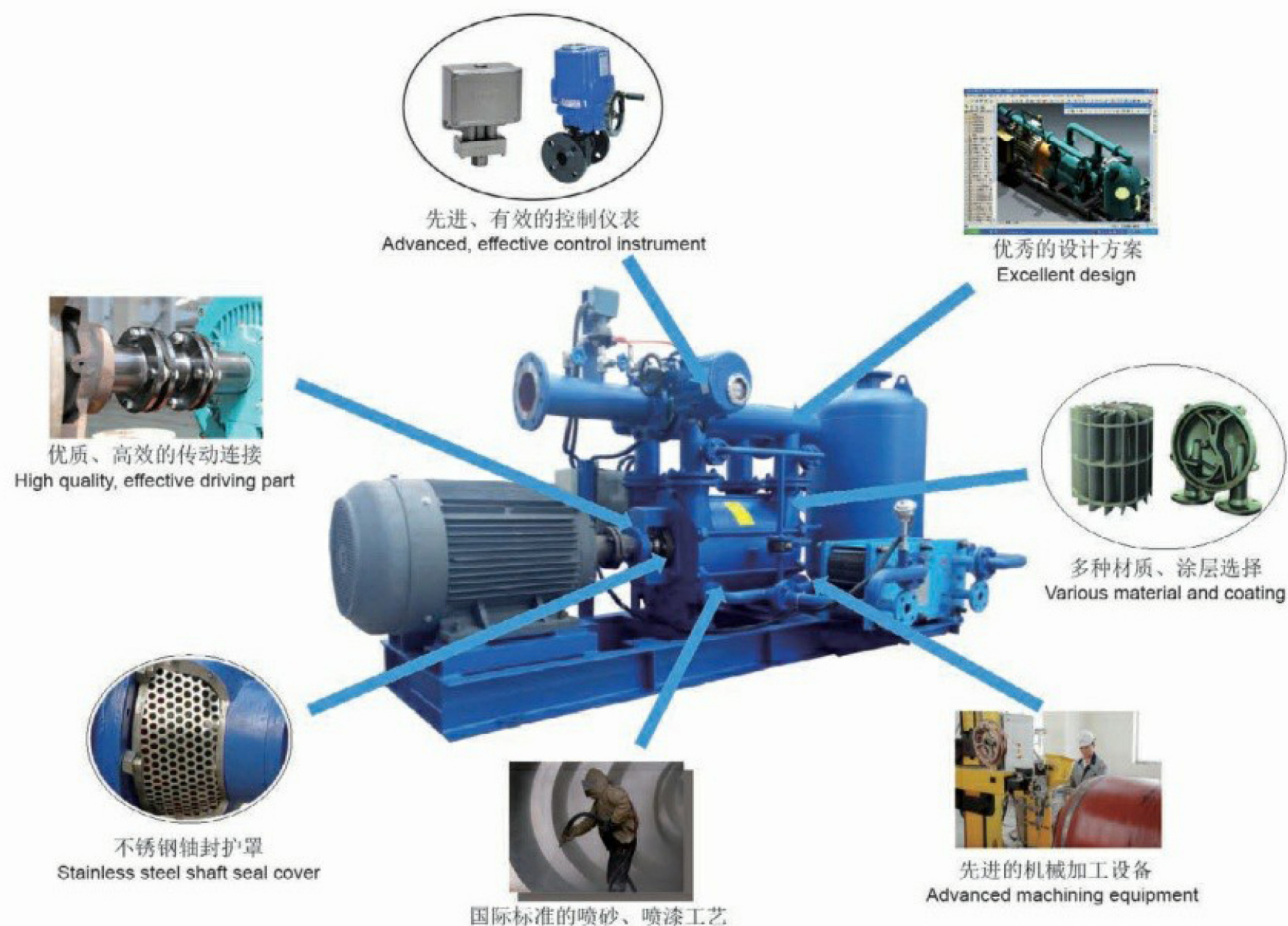
制糖行业/Sugar industry



工匠精神 The Craftsman Spirit

工匠对于产品和服务的研发和制造，会采取严格的标准：工匠不会把品质当做上天的恩赐，而是看做竞争的必要条件；工匠会竭尽全力制造出最优质的产品，即使其他获利导向的对手投机取巧，我们一样坚持理念。

Craftsmen are always strict to product upgrading and service, and we don't take quality as god's gift but an indispensable factor for competition; Craftsmen will try every possible ways to make the best product, and we will persist our philosophy regardless of competitors' speculation.



SEN 将继续坚持“工匠精神”，依靠信念、信仰，将设计产品不断改进、不断完善，最终，通过高标准要求历练之后，成为众多用户的骄傲。

SEN will continue to carry out the craftsman spirit, insist on our belief, and keep improving and perfecting our products, aiming to become the pride of customers through consistently high standards.



机组用分离器、换热器型号配置表

Separators and Heat Exchangers for Pump Units

泵型号 Pump model	换热器 Heat exchanger		分离器 Separator	泵型号 Pump model	换热器 Heat exchanger		分离器 Separator
	板式 Plate	列管 Tube			板式 Plate	列管 Tube	
2BV-060/061	1m ²	1.5m ²	φ350x650	SK-20	8m ²	10m ²	φ700x1400
2BV-070/071	2m ²	2m ²	φ350x650	SK-30	10m ²	12m ²	φ800x1600
2BV-110/111	2-3m ²	3m ²	φ400x800	2SK-6	4m ²	5m ²	φ500x900
2BV-121	3m ²	3.5m ²	φ450x800	2SK-9	5m ²	7m ²	φ600x1200
2BV-131	3-4m ²	4m ²	φ450x900	2SK-12	6m ²	8m ²	φ700x1400
2BV-161	4-5m ²	4-5m ²	φ500x900	2SK-20	8m ²	10m ²	φ800x1600
2BE-152/153	4-5m ²	5m ²	φ500x900	2SK-30	10m ²	12m ²	φ900x1800
2BE-202/203	5-7m ²	7m ²	φ650x1300	SY-1.5/3	5m ²	8m ²	φ800x1600
2BE-252/253	8-10m ²	10m ²	φ700x1400	SY-6	8m ²	10m ²	φ900x1800
2BE-303/305	15-18m ²	18m ²	φ800x1600	SY-9	12m ²	15m ²	φ1000x2000
2BE-353/355	18-20m ²	25m ²	φ900x1800	SY-12	15m ²	18m ²	φ1000x2000
2BE-403/405	25-28m ²	30m ²	φ1100x2200	SY-15	18m ²	20m ²	φ1200x2400
2BE-40/42	25-28m ²	30m ²	φ1100x2200	SY-20	20m ²	25m ²	φ1200x2400
2BE-50/52	30-35m ²	38m ²	φ1200x2400	SY-30	25m ²	30m ²	φ1300x2600
2BE-60/62	35-40m ²	40m ²	φ1300x2600	2SY-1.5/3	6m ²	8m ²	φ600x1500
2BE-67	40-45m ²	45m ²	φ1400x2800	2SY-6	8m ²	10m ²	φ900x1800
2BE-72	45-50m ²	50m ²	φ1500x3000	2SY-9	15m ²	18m ²	φ1000x2000
SK-1.5/3	3m ²	4m ²	φ450x800	2SY-12	18m ²	22m ²	φ1000x2000
SK-6	4m ²	5m ²	φ500x900	2SY-15	20m ²	25m ²	φ1100x2200
SK-9	5m ²	7m ²	φ600x1200	2SY-20	25m ²	28m ²	φ1200x2400
SK-12	6m ²	8m ²	φ600x1200	2SY-30	30m ²	35m ²	φ1300x2600

1.表内数据是在进气温度30°C、冷却水温度25°C下的数值，应根据实际工况调整。

2.实际应用机组包括但不限于上述配置，详情请电话咨询。本表解释权归我公司所有。

1. The value included in this table is obtained in state of 30°C, and cool water temp. 25°C, and they may be different according to different working condition.

2. The actual pump units include the facility above but not limited to them, please contact us for details. We reserve the right to explain.



应用行业介绍

Industries and Application

客户受益点

液环设计原理使设备能够处理饱和蒸汽、腐蚀性气体或被污染的蒸汽；
设备运行期间零部件之间无接触，这样能够减小磨损并能够减少产生的热量、振动、噪音以及相应的维修；

当处理危险、易爆、或热敏气体时，连续供应的冷却工作液可以带走压缩过程中产生的热，保持系统平衡，压缩过程更安全；

等温压缩使压缩机可以低温运转，有效延长使用寿命。

Customer benefits:

Based on liquid ring principle theory, vacuum pumps are capable to handle saturated steam, corrosive gas, or contaminated steam.

No contact between components, this reduces friction and reduce heat, vibration, noise and maintenance. When handling hazardous, explosive, or heat sensitive gas, the continuous supply of cooling liquid will take away the heat in compression, and keep a thermally stable condition for safety. Isothermal compression makes it possible for compressor operation in low temperature, and has longer service life.

行业与应用

- | | | |
|---------|-----------|-----------|
| ● 化工流程 | ● 纸浆&造纸 | ● 尾气回收 |
| ● 氯碱 | ● 精炼业 | ● 聚乙烯回收 |
| ● 饮用水 | ● 氢气&光气压缩 | ● 臭氧&氧气压缩 |
| ● 气体制造 | ● 氯气压缩 | ● 火炬气回收 |
| ● 聚合物生产 | ● 二氧化碳压缩 | |

Industries and Applications

- | | | |
|------------------------------|-----------------------------------|------------------------|
| ● Chemical | ● Pulp & Paper | ● Vent Gas Compression |
| ● Chlor-Alkali | ● Refineries | ● VCM Recovery |
| ● Drinking Water | ● Hydrogen & Phosgene Compression | |
| ● Ozone & Oxygen Compression | | |
| ● Gas Product | ● Chlorine Gas Compression | ● Flare Gas Recovery |
| ● Polymers | ● Carbon dioxide Compression | |



市政环保

Municipal environment protection



钛材氯气输送

Titanium whole set for chlorine transporting



凝汽器抽真空 / Condenser Vacuum System



造纸工程 Paper making



氯碱化工 Chlorine



业绩应用 Typical Application



石油化工 Petrochemical



浓缩工段 Concentration and distillation

SEN 咨询服务将提供改进工艺流程和复杂工况下的真空设备选型，提升可靠的技术参数。我们的顾问拥有对广泛行业、复杂工程和维护操作的深入了解及现场实践技能。

不仅仅是卓越的产品，SEN 还通过技术方案和综合售后服务体系，增强产品价值，为您的工厂提供全面支持！



氢气乙炔压缩
Hydrogen and acetylene compression



食品制药 Food and pharmacy

We provide consultation service in vacuum pump selection of improved process or complicated working condition, and upgrade customer performance. Our counselors are intensive in industries, projects, operation, and field practice.

We produce not merely excellent products, but also our support to customer as well as its value promotion through technical solution and after-sale system,



煤矿瓦斯抽放 Coal mine gas



医疗负压站 Medical negative pressure station



变压吸附 Pressure swing adsorption

技术资料

容积的计算

例：空气 35Kg/h、真空度 10.66KPa(abs)、温度 25℃、伴有饱和蒸汽。此时的容积量的计算方式：
设空气量的容积量为 QA

$$\frac{35}{29} \times 22.4 = 27.03 \text{ Nm}^3 / \text{h} \quad (29=\text{空气分子量})$$

(空气质量 Kg-mol 为 22.4Nm³/h)

$$Q_A = \frac{101.3 \times 27.03 \times 298}{10.66 \times 273} = 280.4 \text{ m}^3 / \text{h} = 4.67 \text{ m}^3 / \text{min}$$

此时伴随的水蒸汽量为 Qw

25℃的水蒸汽压为 3.17KPa, 所以

$$\frac{Q_w}{Q_A} = \frac{3.17}{10.66 - 3.17} \quad (\text{容积与分压的比例})$$

$$Q_w = Q_A \times \frac{3.17}{7.49} = 4.67 \times \frac{3.17}{7.49} = 1.98 \text{ m}^3 / \text{min}$$

因此, 吸入状态容积为
QA + Qw = 4.67 + 1.98 = 6.65
根据容积计算, 即可参照选型表选择合适的真空泵型号。

Calculation of volume

eg: air 35Kg/h, vacuum degree 10.66KPa(abs), temp.25℃, with saturated vapor. Volume is calculated as follows:
Suppose cubical content of air quantity is QA

$$\frac{35}{29} \times 22.4 = 27.03 \text{ Nm}^3 / \text{h} \quad (29=\text{空气分子量}) \text{ air molecular weight}$$

(air quality Kg - mol as 22.4)

$$Q_A = \frac{101.3 \times 27.03 \times 298}{10.66 \times 273} = 280.4 \text{ m}^3 / \text{h} = 4.67 \text{ m}^3 / \text{min}$$

at this moment the vapor amount is Qw
vapor pressure is 3.17KPa at 25℃, so

$$\frac{Q_w}{Q_A} = \frac{3.17}{10.66 - 3.17} \quad (\text{ratio of volume and partial pressure})$$

$$Q_w = 4.67 \times \frac{3.17}{7.49} = 1.98 \text{ m}^3 / \text{min}$$

Therefore, volume of suction state is
QA + Qw = 4.67 + 1.98 = 6.65
Through volume calculation, the pump model is chosen according to model selection form.

真空达到时间的计算

即真空容器 (V m³) 减压所需要的时间。(又称为加快启动、真空抽吸、吸空、高真空的粗抽、真空搬运等) 计算公式为:

$$t = \frac{V}{Q} \ln \frac{P_1}{P_2}$$

Q: 真空泵的吸入状态容积量 t: 所要的时间 min
P1: 开始的压力 P2: 要求的压力
在真空泵的性能曲线上查到真空泵的吸入容积量后, 按此公式可以计算出达到真空所需要的时间。

Calculation of vacuum reaching

It is the time for vacuum vessel (V m³) to reduce pressure (also called fast start, vacuum suction, rough suction of high vacuum, vacuum transportation etc.). Calculation method is:

$$t = \frac{V}{Q} \ln \frac{P_1}{P_2}$$

Q: cubical content of vacuum pump suction state
t: time needed (min). P1: initial pressure. P2: required pressure
Find out the suction cubical content of vacuum pump from the performance curve, and calculate the time needed for reaching vacuum through this formula.

➤ 水的蒸汽压表 Saturated vapor pressure of water

单位 kpa(abs)

t℃	0	1	2	3	4	5	6	7	8	9
0	0.61	0.66	0.71	0.76	0.81	0.87	0.93	1	1.07	1.15
10	1.23	1.31	1.40	1.50	1.59	1.70	1.82	1.94	2.06	2.20
20	2.34	2.49	2.64	2.81	2.98	3.17	3.36	3.56	3.78	4
30	4.24	4.49	4.75	5.03	5.32	5.62	5.94	6.27	6.62	6.99
40	7.37	7.78	8.20	8.64	9.10	9.58	10.08	10.61	11.16	11.73
50	12.33	12.96	13.61	14.29	15.00	15.73	16.50	17.30	18.14	19.01
60	19.92	20.85	21.83	22.85	23.90	24.99	26.14	27.33	28.55	29.82

➤ 压力单位换算表 Pressure unit conversion

KPa	Pa	bar	Kgf/cm ²	atm	mAq	Torr(mm Hg)
1	10 ³	1X10 ²	1.0197 X10 ⁻²	9.869 X10 ⁻³	0.10197	7.501
1X10 ⁻³	1	1X10 ⁵	1.0197 X10 ⁻⁵	9.869 X10 ⁻⁶	1.0197 X10 ⁴	7.501 X10 ⁻³
1X10 ⁻²	1X10 ⁵	1	1.0197	0.9869	10.197	750.1
98.07	9.807 X10 ⁴	0.9807	1	0.9687	10	735.6
1.013 X10 ²	1.013X10 ⁵	1.013	1.0332	1	10.33	760
9.807	9.807 X10 ³	0.09807	0.1	0.09678	1	73.55
0.1333	133.3	1.333 X10 ³	0.3595X10 ⁻³	1.316X10	0.0136	1



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