

知冷知热 / 青风圆您节能梦
Make Your Energy Conservation Dreams Come True.

浙江青风环境股份有限公司
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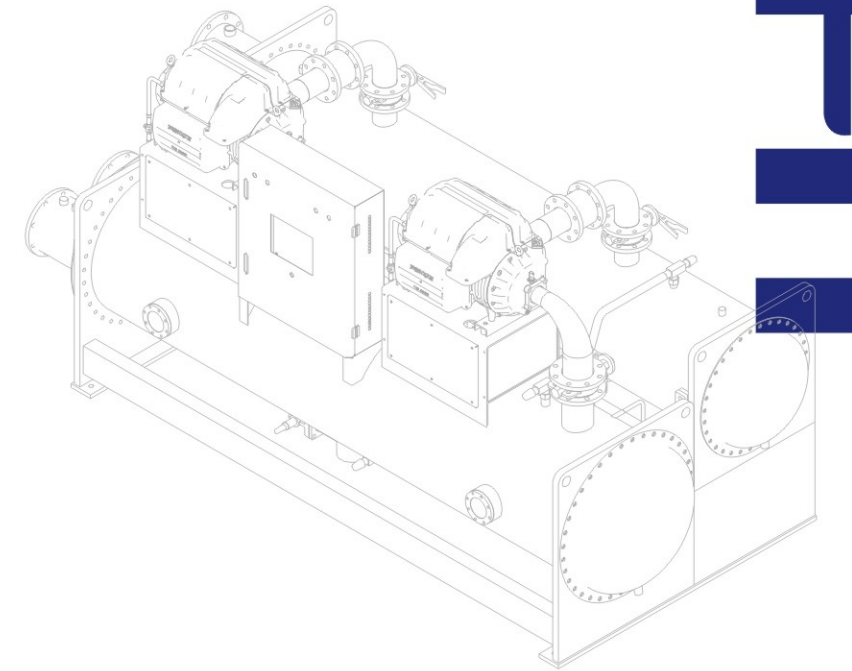
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全国客户服务热线：4008-085-888

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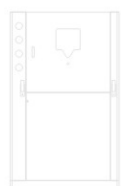


KINGFIT
Oxidation cooling and heating system
氧化专用冷热系统

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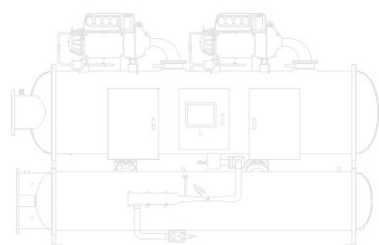
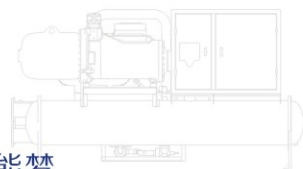
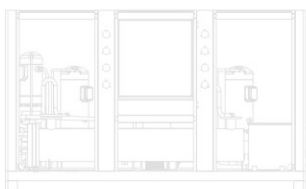
KF KINGFIT青风
环境系统整合专家

生产许可证 / Production Licence: XK06-015-01630



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1 Service 服务 2 Scientific research 科研 3 Trade 贸易 4 Production 生产 5 Investment 投资 6 Engineering 工程 7 Energy management 能源管理



ABOUT US 关于我们
KINGFIT ENVIRONMENT

 1998-2003.3 温州上田	 2003.3-2004.9 温州十里亭	 2004.9-2006.6 温州杨府山	 2006.6-2007.12 温州南白象	 2008-2013 浙江丽水-水阁	 2013—— 浙江丽水-景宁
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浙江青风环境股份有限公司是一家多年致力于现代化工农业智能环境系统一站式解决方案的国家高新技术企业。青风座落于浙江省丽水市水阁工业区，占地面积120亩，建有标准的制冷设备水冷冷水测试装置试验台、焓差实验室等先进的检测设备，达到年产2万套工艺空调的生产规模。

青风自成立以来，积极倡导技术创新，现已拥有12项发明专利、10项实用新型专利，11项计算机软件著作权；先后获得“国家高新技术企业”、“省级高新技术企业研究开发中心”、“浙江名牌产品”、“省科技型企业”、“浙江省装备制造业重点领域首台（套）产品”、“丽水市知识产权示范企业”等荣誉

青风深度了解客户需求，为客户做到产品模块化，需求定制化；不仅在全国设立了20个销售及客服办事处，同时还运用物联网+技术对设备实行时时监控，实现远程预警、诊断并提出解决方案，为客户提供更便捷的服务并实现成本控制；在新型设备的运用上，充分实现能源的有效供应与循环利用，体现促进客户节能环保，与客户合作共赢的决心。目前，产品远销欧美60多个国家和地区，受到了客户的一致认可及好评。

青风将持续致力于为现代化工农业提供更节能、更精准的智能人工环境系统，不遗余力地为全球的节能环保贡献自己的力量。

Zhejiang Kingfit Environmental Co., Ltd. is a national high-tech enterprise that has been committed to the one-stop solution for modern industrial and agricultural intelligent environmental systems for many years. Kingfit is located in Shuige Industrial Zone, Lishui City, Zhejiang Province, and covers an area of 80000m². It has standard cooling equipment, water cooling and cold water test equipment, test benches, enthalpy difference laboratories, and other advanced testing equipment. The scale of production can reach an annual output of 20,000 sets of industrial air conditioners.

Since its establishment, Kingfit has actively promoted technological innovation. Now it has 12 invention patents, 10 utility model patents, and 11 computer software copyrights; it has successively won the "national high-tech enterprise" and "provincial high-tech enterprise research and development center", "Zhejiang Famous Brand Products", "Provincial Science and Technology Enterprise", "Zhejiang Province Equipment Manufacturing Industry First Division (Set) Product", "Lishui Intellectual Property Model Enterprise", and other honors, has repeatedly served as the key research and development program in Zhejiang Province.

Kingfit understands the needs of customers, customizes the products for customers, and customizes the requirements. It not only sets up 20 sales and customer service offices across the country, but also uses the Internet of things+ technology to monitor the equipment from time to time to achieve remote warning and diagnosis. And propose solutions to provide customers with more convenient services and achieve cost control; in the application of new equipment, fully realize the effective supply and recycling of energy, reflecting the customer's determination to promote energy conservation and environmental protection, and mutual y beneficial cooperation with customers. At present, the products are exported to more than 60 countries and regions all over the world and have received unanimous recognition and praise from customers.

Kingfit will continue to commit itself to providing more energy-saving and more accurate intelligent artificial environment systems for modern industrial and agricultural industries, and will spare no effort to contribute its own energy to global energy conservation and environmental protection.

Production Management 生产管理

254 Increased equipment /套

2008-2018公司新增加254套设备，具备完善的设备制造能力，同时也提高了公司的竞争力。

254 equipments were increased in our company from 2008 to 2018.
We have complete equipment manufacturing capability. Also improve the competitive of our company.



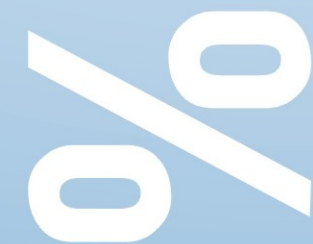
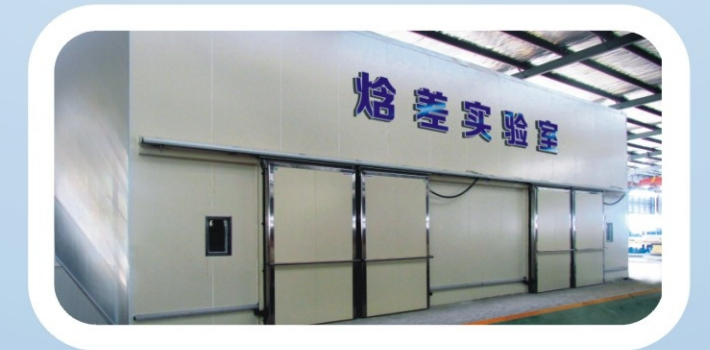
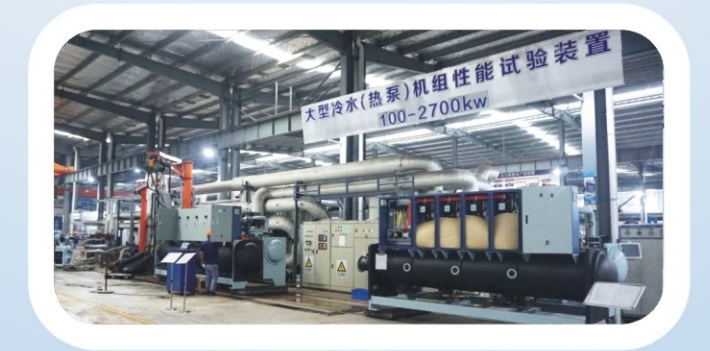
性能测试实验室



Testing Center 检测中心

◎◎与日俱增的创新意识和持之以恒的精工制造，令我们的产品日新月异。无论世界如何变化，青风人对于质量的严格要求始终不变。引进国际先进的检测设备，严谨的工艺流程，严格的100%产品检验，是我们产品质量的可靠保障。

Increasing innovation consciousness and persistent precise manufacturing make our products perfect. No matter how the world changes, KINGFIT staff constantly demands for products quality. It's reliable guarantee of our products quality to introduce international advanced testing equipment, and with strict process and 100% products inspection.



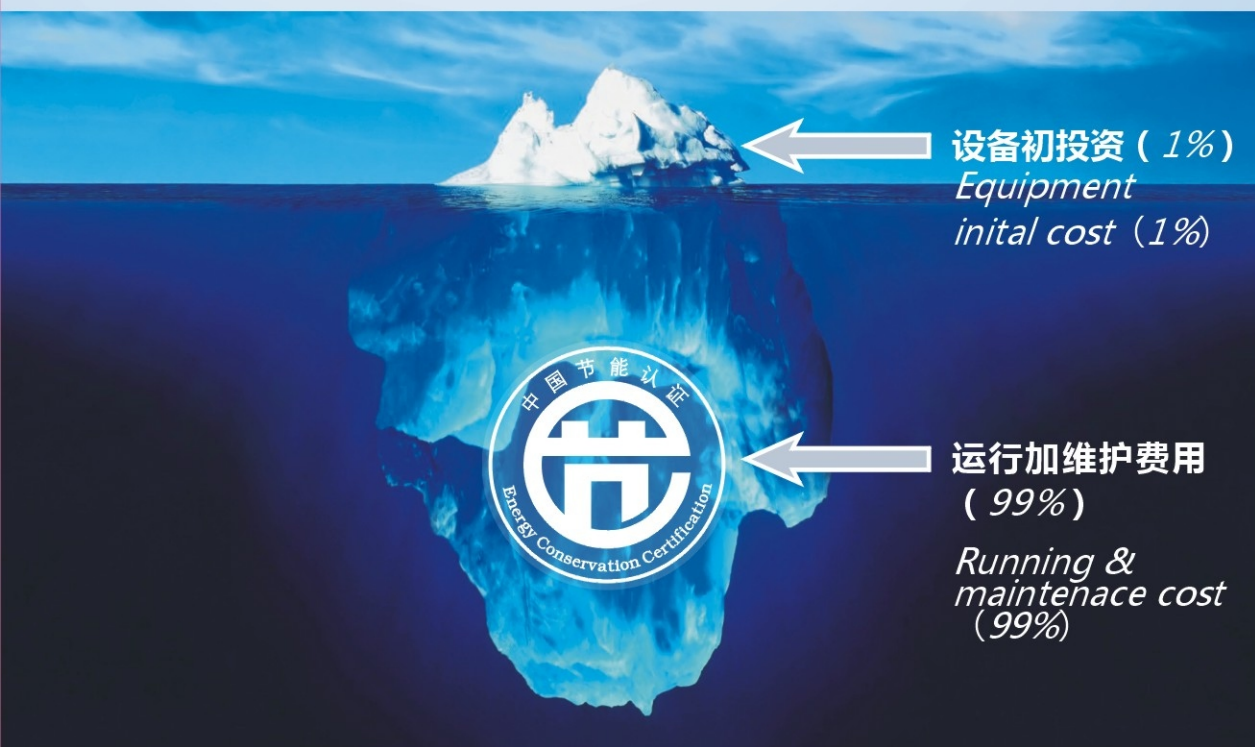
Energy-Efficient, Reliable Operation

高效节能 运行可靠

设备总投入 = 设备初投资 + 运行费用 + 维护费用

Equipment Total Input = Equipment Initial Cost + Running Cost + Maintenance Cost

设备的购买只是设备的初投资，仅仅占设备总投入的1%，而设备在使用过程中，长年累月的运行和维护费用往往占据了总投入的99%，远远大于设备的初投资。青风产品高效节能、运行稳定可靠，为您大大缩减运行和维护费用，帮您解决后顾之忧。



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>> 高效节能

Energy efficient & Energy saving

青风经历二十余年发展，创立了以高效可靠著称的青风品牌。水冷螺杆式冷水机组QLK秉承青风产品的优良传统，获得国家节能证书，QLC系列比一级能效更节能42%。

Through decades of development, Kingfit had been building which brand of efficiency and reliability. QLK series water-cooled screw chiller in accordance with the excellent tradition of the Kingfit products. It also obtains the national energy-saving certificate. QLC series save 42% than A grade energy efficiency.

>> 可靠性是工农业生产的必要保障

Reliability is the necessary guarantee of industrial and agricultural production

冷水机组的可靠性将直接影响到工农业用户的正常生产运行。不稳定的机组造成的停机维修将对生产造成巨大的经济损失，远高于机组本身的维修费用。青风冷水机组的可靠性高达99.5%，已被众多重大项目所证实。

Chiller reliability will directly affect of the surface treatment users normal production and operation. Instability of the chiller due to stop and maintenance will be caused huge economic losses, much higher than the chiller itself maintenance costs. KINGFIT chiller reliability attains 99.5%. Has been confirmed by numerous projects.

>> 政府部门的节能政策与规定

Government energy-saving policies and regulations

《冷水机组能效限定值及能源效率等级》(GB19577-2004)和《公共建筑节能设计标准》(GB 50189-2005)均于2005年开始实施，提出了强制性的冷水机组能效比要求，见下表说明。

《Chiller energy efficiency level of limited value and energy efficiency》(GB19577-2004)《the standard of Public architecture energy-saving design》(GB 50189-2005) all implemented began in 2005, proposed mandatory energy efficiency requirements of chillers, See below tabulation:

类型Type	额定制冷量(CC) Rated cooling capacity KW	能效等级 COP, Level				
		1	2	3	4	5
风冷式或蒸发冷却式 Air cooling or evaporative cooling	CC=50	3.20	3.00	2.80	2.60	2.40
	50<CC	3.40	3.20	3.00	2.80	2.60
水冷式 Water cooling	CC=528	5.00	4.70	4.40	4.10	3.80
	528<CC=1163	5.50	5.10	4.70	4.30	4.00
	1163<CC	6.10	5.60	5.10	4.60	4.20

Chiller Description 细节决定品质

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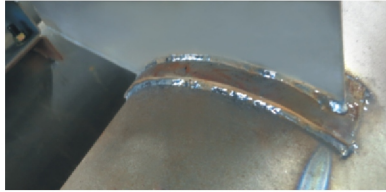
防腐蒸发管
Anti-corrosion evaporating pipe



我司专利高效内外螺纹管，与普通换热管相比能提高3倍的换热面积，安全更加卫生。

Evaporator adopts KINGFIT patent internal & external thread tube, compared with ordinary heat exchange tube can improve the heat transfer area 3 times, which is more safe and clean.

防震动护板
Vibration-proof shield



可有效的减少压缩机的运行的震动波对换热器与系统管路造成共震，同时可减少机组的运行噪音。

Vibration-proof shield is effective in reducing the resonance to heat exchanger and pipe system from the shock wave when compressor runs. And reduce the running voice.

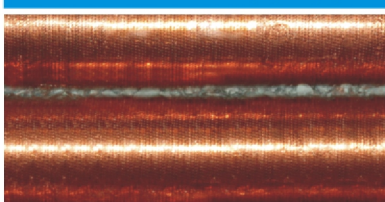
压力变送器
Pressure transmitter



不直接安装在机组上而是安装在控制电箱，可以杜绝变送器因低温结露、结霜而造成变送器渗水产生故障。

Pressure transmitter is installed in the control box instead of chiller directly, it can avoid the transmitter weep when fogging and frosting cause of low temperature.

冷凝铜管 Condenser copper pipe



采用专利的C型换热管，该管采用针刺状结构，换热效率比普通的肋片管换热效率提高20%

Using patented C type heat exchange tube, the tube adopts the needle structure. The heat exchange efficient will be 20% more than ordinary type by using C type tube.

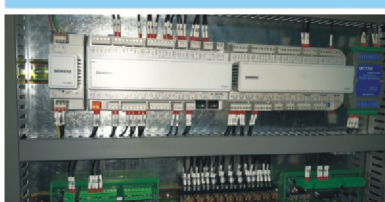
换热器壳体
Heat exchanger shell



采用全自动喷砂机100%喷砂处理，使壳体洁净光亮，确保换热器内部的洁净度和外部喷涂的附着力，壳体焊接采用全自动埋弧焊接，100%射线检测合格，焊缝圆滑美观。

The exchanger shell adopt 100% sand blasting machine. It make the shell clean and shine. To make sure the cleanness of inner heat exchanger and the adhesive attraction of outer spray painting. The shell welding is adopt full automatic submerged arc welding, 100% qualified by ray detection. Welding line is slick in appearance.

电气 Electric



德国DDC工业级可编程控制器，可以轻易的让系统节能方案变的智能，实现所有的保护功能和远程故障预警及数据采集。

Germany DDC, industrial grade programmable controller make the system energy saving scheme more intelligent and release all the protect function and remote fault warning, data acquisition.

防碰撞保护
Protection of anticollision



防止运输与装卸时重要管路及阀门损坏。

Protection of anticollision, avoid the damage of important pipe and valves when transportation and loading & unloading.

铜管固定夹 Copper pipe clamp



使用铜管固定夹，对运行时震动的管路进行固定，防止管路抖动引起泄漏。

Copper pipe clamp instead of Copper capillary tube, it can avoid Screw loosening and copper pipe damaging case of shake of connection tube.

焊接 Welding



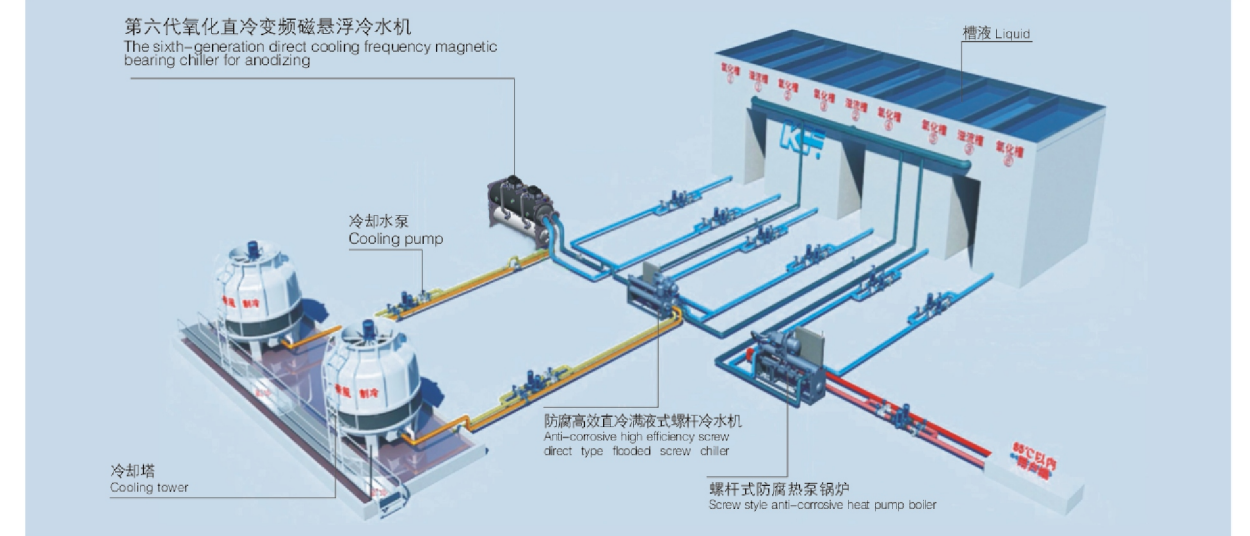
使用德国进口拉边机，大大增加铜管的接触面积，避免了铜渣残留，并大附度降低漏氟的机率。

Adopt Germany imported edge roller, it increases the contact area greatly and avoid the remain of copper residence, it also lower the risk of refrigerant leakage.

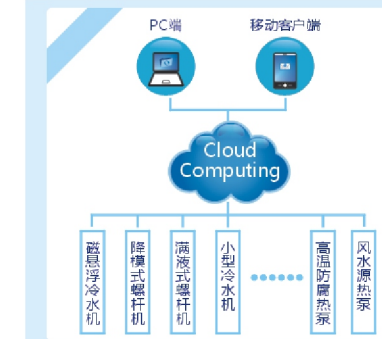
Comparison of chiller power consumption 冰机用电对比表

青风机组序列 KINGFIT Product series	机组类型 Unit type	氧化1吨国标铝型材 耗电量 One-ton of aluminum oxideconsumption	800T/月 耗电量 800T/month consumption	1200T/月 耗电量 1200T/month consumption	1800T/月 耗电量 1800T/month consumption	6000T/月 耗电量 6000T/month consumption
第一代 First generation	R22螺杆干式间冷 R22 Screw Dry Type Indirect Cooling Chiller	170	136000	204000	306000	1020000
第二代 Second generation	R22螺杆干式直冷 R22 Screw Dry Type Direct Cooling Chiller	110	88000	132000	198000	660000
第三代 Third generation	R22螺杆满液式直冷 R22 Screw Flooded Direct Cooling Chiller	90	72000	108000	162000	540000
第四代 Forth generation	R134A螺杆满液式直冷 R134A Screw Flooded Direct Cooling Chiller	80	64000	96000	144000	480000
第五代 Fifth generation	407C无级调节螺杆降膜式直冷 407C Stepless Speed Screw Falling Film Type Direct Cooling Chiller	75	60000	90000	135000	450000
第六代 Sixth generation	直冷变频磁悬浮无油冷水机 Frequency magnetic levitation Oil-free Direct Cooling Chiller	50	36000	54000	81000	270000
其它厂家 Other supplier	型材氧化R134A水冷螺杆直冷机组 R134A aluminum profile Anodizing direct cooling water chiller	108	86400	129600	194400	648000
国外厂家 Oversea supplier	型材氧化R134A水冷离心式间接冷机组 (含冷冻泵耗电量) R134A aluminum profile Anodizing centrifugal indirect water cooling chiller	140	112000	168000	252000	840000

应用效果图 Application effect diagram



远程控制 Remote control



青风自主研发远程控制系统，只要您登录青风官网专属窗口，24小时远程管理您制冷系统设备；具有机器运行隐患远程预警和故障报警远程发送功能，全面解决您的后顾之忧，做您的制冷系统设备的专属管家。

With KINGFIT's self-developed remote control system, you can have your refrigeration system under 24-hour remote management by simply login through the dedicated window of our official website; with functions of remote warning on hidden operational risks and remote transmission of failure alarm, the remote control system can serve as an exclusive housekeeper of your refrigeration system that solves all your worries in a comprehensive manner.



Make Your Energy Conservation Dreams Come True.
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第6代 氧化直冷变频磁悬浮 [冷水机]

The sixth-generation direct cooling frequency magnetic bearing chiller for anodizing

环保冷媒, 无机械磨损, 无需润滑油, 高效节能, 最高能效IPLV高达36.68.

Environment friendly refrigerant, without mechanical friction, no need lubricating oil, High efficiency and energy saving, Max IPLV can reach 36.68.

Make Your Energy Conservation Dreams Come True.
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产品性能对比

Product performance comparison

1. 磁悬浮叶轮直接驱动, 压缩机内只有一个运动组件故障少。普通螺杆机传动复杂故障率较高。
2. 磁悬浮终生不需要油路保养, 螺杆机油路至少每年需要保养一次。
3. 磁悬浮温控精度可达 0.1°C , 而螺杆机只有 0.5°C 。
4. 磁悬浮最高转速48000, 而螺杆机最高转速仅2950。
5. 磁悬浮机组直冷氧化工况能效比可达15以上, 直冷螺杆机氧化工况能效在7.2左右。

1. The direct drive of the impeller of the magnetic suspension centrifugal machine, there is only one moving component in the compressor. Ordinary screw machine transmission complex fault rate is higher.
2. Magnetic bear chiller doesn't require oil maintenance, screw chiller requires oil circuit maintenance at least once a year.
3. The temperature control precision of the magnetic bearing chiller can reach 0.1°C , and the screw chiller is only 0.5°C .
4. Magnetic bearing compressor max rotating speed is 48000rpm, screw compressor is 2950rpm.
5. The COP under anodizing direct cooling condition of the magnetic bearing chiller can reach to 15, and the COP under anodizing direct cooling condition of the screw chiller is 7.2.

磁悬浮与传统机型节能数据大对比

Big Contrast of Magnetic levitation and Normal chillers in energy saving data

电热水壶 启动电流为4A The starting current of the electric kettle is 4A	磁悬浮冷水机 Magnetic bearing chiller	普通螺杆机 Normal screw style chiller
	1. 启动电流从1A开始 Starting current from 1A	1. 启动电流1060A Starting current 1060A
	X 0.25 ↑	X 265 ↑
	2. 运行电流72A Running current 72A	2. 运行电流303A Running current 303A
	X 43 ↑	X 76 ↑

注: 按照型号QLC1060SMBXC 铝氧化工况为1300kw, 平均功率约100kw。
For model QLC1060SMBXC, used for aluminum profile anodizing line cooling capacity is 1300kw, average power about 100kw.

第6代 氧化直冷变频磁悬浮 [冷水机]

The sixth-generation direct cooling frequency magnetic bearing chiller for anodizing

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Technical Parameters 技术参数			QLCxxSMABXC系列变频磁悬浮冷水机组 QLCxxSMABXC Series Frequency Magnetic Bearing Chiller			
型号 Model			QLC650SMABXC	QLC1300SMABXC	QLC920SMABXC	QLC1850SMABXC
铝氧化工况 制冷量 Oxidation condition refrigeration	18°C出水 Outlet water	KW	655.00	1310	915.00	1830
	18°C	Kcal/h × 10 ⁴	56.33	112.66	78.69	157.38
	综合能效比IPLV		15.17	15.17	16.00	16.00
冷冻介质 Frozen medium			15%~25%的硫酸槽液 15%~25% Sulfuric acid solution			
输入电源 Input Power			3PH-380V/50HZ			
压缩机 Compressor	形式 Mode		变频磁悬浮离心式 Frequency Magnetic Bearing Type			
	数量 Quantity		1台set	2台set	1台set	2台set
	最大输入功率(kw) Input power		100.0	200	125	250
	最大负载电流(A) Rated load current		156.0	312	220	440
启动电流(A) Starting current		2.0	2.0	2.0	2.0	
配线规格(mm ²) Matching wire			70	2x70	1x95	2x95
卸载方式(%) Way to unload			0~100%			
冷媒 Refrigerant			R134a			
冷凝器 Condenser	形式 Mode		高效内外螺纹管壳管式 High efficient external screwed shell and tube			
	冷却水流量(m ³ /h) Cooling water flow		129.9	259.7	178.9	357.8
	水阻力(kPa) Hydraulic pressure		65.0	66.0	66	69
冷却水温度 Cooling water temperature			进水30°C, 出水35°C Inlet water 30°C, outlet water 35°C			
蒸发器 Evaporator	形式 Mode		高效满液壳管式 High efficient flooded shell and tube type			
	冷冻水(m ³ /h) Liquid flow		280.7	561.4	392.1	784.3
	水阻力(kPa) Hydraulic pressure		63.0	61.0	61.0	63.0
槽液出入温度 Liquid in & outlet temperature			槽液进20°C, 槽液出18°C Inlet liquid 20°C, outlet liquid 18°C			
节流方式 Throttle methods			电子膨胀阀 Eelectronic expansion valve			
安全保护 Safety protection			水泵连锁保护, 漏电保护, 过载保护, 超压 逆相保护, 冷媒异常保护, 压缩机超温保护, 超高压安全阀保护, 缺水保护, 电流保护等 Acid pump interlock protection, leakage protection, overload protection, over voltage and anti-phase protection, refrigerant abnormality protection, compressor over temperature protection, hyper pressure valve protection, lack of water protection, current protection etc.			
管道连接 Piping connection	冷却水出入口 Cooling water in&outlet diameter		DN150	DN200	DN150	DN250
	槽液出入口 Liquid in&outlet diameter		DN200	DN300	DN250	DN350
噪音 Noise(dB)			70	72	70	72
重量 Weight(kg)			2800	3600	3500	5000
外形尺寸(L×W×H) Overall size			3550	3700	3650	4750
			1500	1800	1650	1950
			2050	2150	2200	2250

技术说明:

- 1、蒸发器: 进水温度20°C, 出水温度18°C; 水侧承压: 0.6MPa。
- 2、冷凝器: 进水温度30°C, 出水温度35°C; 水侧承压: 1.0MPa。
- 3、以上参数如有变动, 恕不另行通知, 请以实物为准。

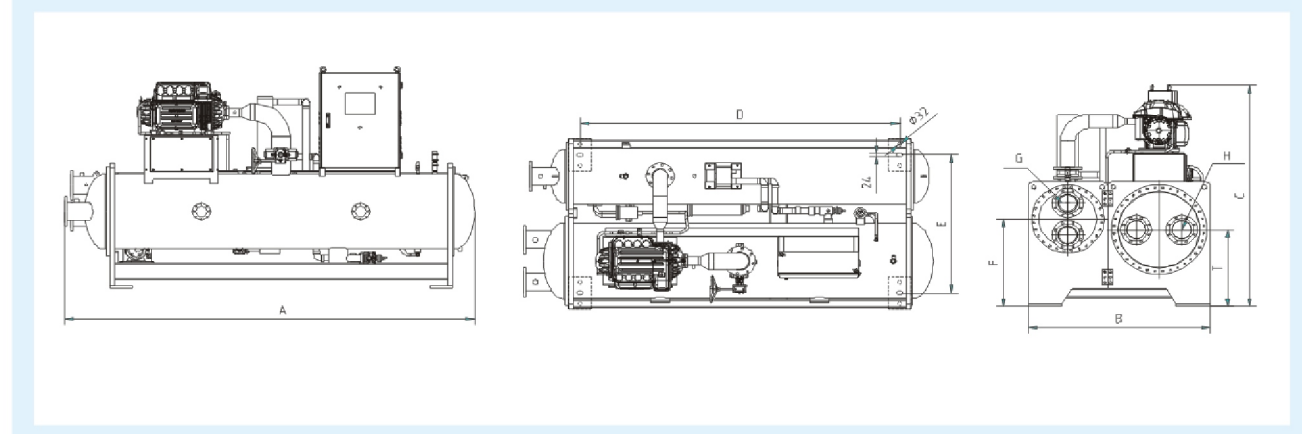
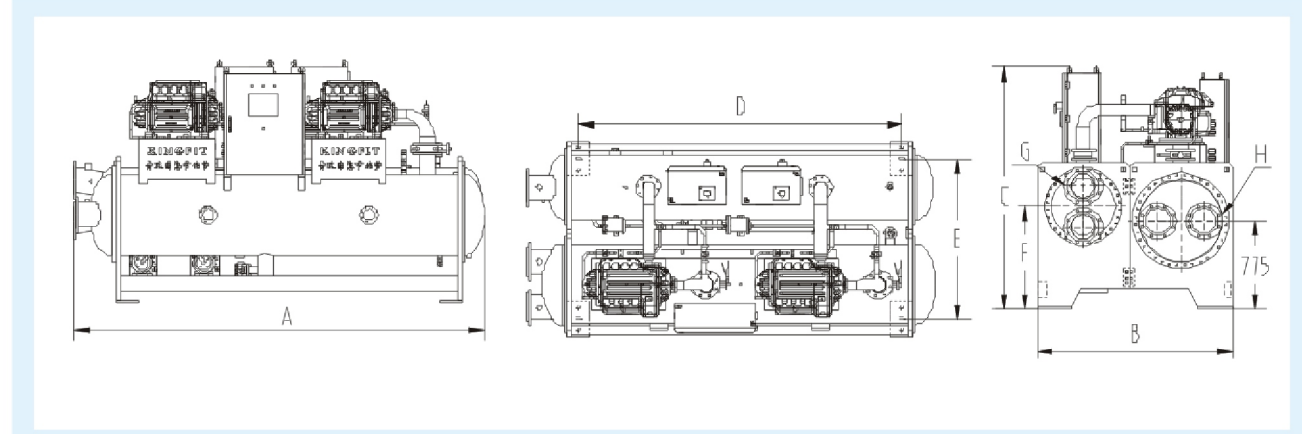
Technical Description:

1. Evaporator: water inlet temperature 20°C, outlet water temperature 18°C; water side pressure: 0.6MPa;
2. Condenser: outlet water temperature 30°C, outlet water temperature 35°C; water side pressure: 1.0MPa;
3. The above parameters are subject to change without notice. Please refer to the actual product.


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变频磁悬浮冷水机组(型材氧化)外形图

The frequency magnetic bearing chiller (for aluminum profile anodizing) outline drawing

机组外形图(单压机) Chiller outline drawing (single compressor)

机组外形图(双压机) Chiller outline drawing (double compressors)

变频磁悬浮冷水机组(型材氧化)产品尺寸表:

The frequency magnetic bearing chiller (for aluminum profile anodizing) overall size chart

产品型号	尺寸	A	B	C	D	E	F	G	H	T
QLC650SMABXC/UH		3550	1500	2050	2820	1200	775	DN150	DN200	675
QLC1300SMABXC/UH		3700	1800	2150	2810	1500	900	DN200	DN300	775
QLC920SMABXC/UH		3650	1650	2200	2810	1350	825	DN150	DN250	775
QLC1850SMABXC/UH		4750	1950	2250	3810	1650	910	DN250	DN350	810

+ 新品推介 NEW



青风 水泵酸泵群控

KINGFIT Water pump and acid pump group control

青风针对型材氧化生产中，酸泵，冷却塔，冷却水泵等设备不根据实际需求长期的满负载运行，严重浪费能源，增加运行成本的情况。开发了智能氧化泵站，采用青风自主研发的软件，通过变频器，比例流量阀，温度传感器，干湿球检测仪，变频器，气象站等设备实时检测设备所需的负荷需求，调节设备的运行能耗，在满足使用要求的同时更加节能省电，相比传统系统整体至少节能20%以上。

Kingfit according to the process of profile oxidation production, acid pump, cooling tower, cooling water pump and other equipments are not based on actual needs of long-term full load operation, a serious waste of energy, increases operating costs. Developing of the intelligent oxidation pump station, using Kingfit independently researched and developed software, through the inverter, proportional flow valve, temperature sensor, dry and wet bulb detector, frequency changing pump, weather station and other equipments real-time detection equipment required load demand, Adjusting energy consumption of the equipment operation, both meet the using requirements and save much more energy, compared to the traditional system as a whole more than 20% energy saving.

+
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智能氧化泵站
Intelligent oxidation pump



酸泵变频控制，通过监测整流器发热量，控制比例流量阀的开度，根据槽液实际冷量需求，调节酸泵的运行功率，降低能耗。
Acid pump frequency converting control, through monitoring the rectifier heat, control the proportion of flow valve opening, according to the actual cooling capacity requirement of the tank liquid, adjusting the operating power of the acid pump so as to reduce energy consumption.



冷却水泵变频控制，通过气象站实时监测室外气温和冷却水温，来调节水泵的转速，在满足冰机冷却的同时将运行能耗降到最低。
Cooling water pump frequency converting control, through the weather station real-time monitoring of outdoor air temperature and cooling water temperature, to adjust the pump rotation speed, while meet the cooling requirement of chiller as well as reduce the running energy consumption to a minimum.



冷却塔风机变频控制，通过气象站采集室外湿球温度和干球温度，一旦冷却水温度达到极限温度，就调节风机的转速，完美的减少能源浪费。
The cooling tower fan frequency converting control, through the weather station to collect outdoor wet bulb temperature and dry bulb temperature, once the cooling water temperature reaches the limit temperature, adjust the fan speed, perfectly reduce energy waste.



泵站系统会将槽液混合平衡槽液浓度，提升工艺性能。
The pump station system will mix the tank liquid and balance the tank liquid concentration and improve the process performance.

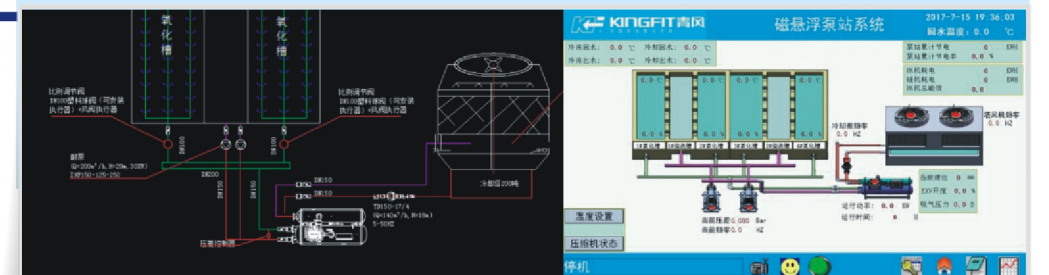


青风将所需辅机合二为一集成为智能群控设备，在节能的同时，设备整体更紧凑、降低占地空间且客户只需将主管道接到智能氧化泵站的接口即可，为客户省去的安装管道的烦恼。
KINGFIT gather all the equipments into a product, while saving energy, at the same time, the overall equipment is more compact, reduce the space and customers only need to connect the main channel to the intelligent oxidation pump station interface, for the customersto avoid the trouble of the pipeline installation.



智能氧化泵站系统通过降膜磁悬浮冷水机智能集成控制，使得设备运行更加节能，稳定。
Intelligent oxidation pump station system through the falling film magnetic levitation centrifugal chiller intelligent integrated control, making the equipment to run more energy saving and stable.

群控原理图
Performance comparison





第5代 氧化直冷高效降膜式螺杆 [冷水机]

The fifth-generation direct cooling falling-film screw chiller for anodizing

高效配置

1. 采用青风专利，高效降膜式防腐蒸发器，防腐高效换热管。
2. 负荷10-100%精确调节。
3. PLC编程控制器，7寸触摸彩屏，进口电器。
4. PID前馈自适应控制程序。

优点

1. 蒸发器采用降膜式，无论机组工作在何种工况，均能充分利用蒸发面积，维持高效率，且清洗方便，减低了投资成本。
2. 槽液直接进入蒸发器，省去传统的板式换热器、冷冻水泵和水箱，节约装机空间运行电费每吨国际铝型材用电在75度以内，硬质氧化锅用电在0.49度左右。
3. 冷量无级自动调节，冷却水泵变频控制，调节机组负荷速度更快，槽液温度更加稳定，自动适应不同季节变化的制冷需求。
4. 独特的冷冻循环工艺，槽液温差控制在 $\pm 0.5^{\circ}\text{C}$ ，保证产品的颜色和品质的均衡。
5. 智能化控制，与网络连接，实现远程控制。

第五代与三代的区别

- 第五代氧化直冷高效降膜式螺杆相对第三代机组采用环保冷媒，运行能效提升15%以上
- 机组运行更加稳定，回油更顺畅，冷媒充注量更少，后期维护成本更低

Efficient configuration:

1. Equipped with Kingfit patent high efficiency falling film anti-corrosive evaporator and heat exchange tube.
2. Sensitive adjust the loading between 10%~100%.
3. PLC programmed controller, 7 inch touch color screen, famous brand device.
4. PID feed forward self-adaptation control program.

Advantages

1. Falling film evaporator, the unit working under any conditions, can take full advantage of the evaporation area, remained at a high energy efficiency.
2. Space saving, liquid directly cooling by evaporator, no need heat exchanger, cooled water pump and water tank. electric consumption is less than 75kW/ton for oxidation GB aluminum material and about 0.49kWh/pcs hard oxidation pot.
3. Cooling capacity stepless automatic adjustment, the cooling water pump frequency conversion control, adjust the unit load faster. Liquid tanks temperature is more stable, changing cooling requirements automatically adapt to different seasons.
4. A unique refrigeration cycle process, the bath temperature control $\pm 0.5^{\circ}\text{C}$, to ensure the balance of the color and quality of the products.
5. Intelligent control, and network connections, fortune control.

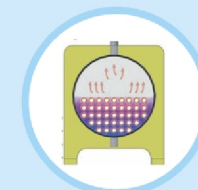
The difference between the fifth and third generations

- The fifth-generation direct-cooling high-efficiency falling film screw chiller for anodizing adopts environmentally friendly refrigerant compared with the third-generation unit, and the energy efficiency of operation is increased by more than 15%.
- The chiller operation is more stable, oil return is smoother, charged less refrigerant and low maintenance cost.

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提高稳定性 Improving stability



第三代
满液式机组
Flooded type

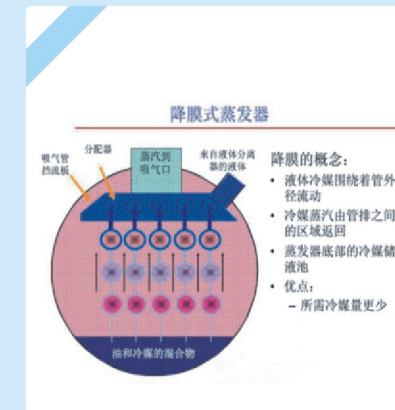


第五代
降膜式机组
Falling-film type

降膜式蒸发器的制冷剂是从换热器上部喷淋到换热管上，制冷机只是在换热管上形成一层薄薄的制冷剂液膜，这样制冷剂在沸腾蒸发时便减少了静液压力，从而提高了换热效率，其换热率远远优于满液式机组。

The refrigerant in the falling film evaporator is sprayed from the upper part of the heat exchanger to the heat exchange tube. The refrigerant only forms a thin layer of refrigerant liquid film on the heat exchange tube, so that when the refrigerant evaporates, Reducing the static level pressure, thereby improving the heat exchange efficiency, the heat exchange efficiency is much higher than the flooded type unit.

高效节能 Energy efficient



采用ODP为0的R407C环保制冷剂10%~100%无级调节，机组在不同整流器负荷下部分负荷优化运行控制，实现大范围精确恒温控制，启动电流仅为总功率的10%，减少对电网冲击和提高氧化膜均匀度。

100%负荷能效COP在7.16以上，使用在全球任何地区氧化国标铝型材用电在75度/吨、硬质氧化锅为0.49度/只左右。

With the use of the R407C environmentally friendly refrigerants having ODP at 0 and 10%~100% stepless adjustment, part of the load under different rectifier loads used for the optimization of operational control, which helps achieving precise and wide range temperature control. The starting current is only 10% of total power which helps reducing the impact on the grid and improving the uniformity of the oxide film.

It can improve the efficiency COP at full load up to 7.16. In any parts of the world, electric consumption is less than 75 kWh/ ton for oxidation GB aluminum material and about 0.49kWh/pcs for hard oxidation pot.

第5代 氧化直冷高效降膜式螺杆 [冷水机]

The fifth-generation direct cooling falling-film screw chiller for anodizing

www.qfzl.com

Technical Parameters 技术参数			QLKxxSJVBC系列型材氧化专用直冷高效环保降膜式螺杆冷水机 QLKxxSJVBC Series Direct Cooling High Efficient Falling Film Screw Style Chiller for Aluminum Profile Anodizing					
型号 Model			QLK550SJVBC	QLK850SJVBC	QLK1000SJVBC	QLK1300SJVBC	QLK1520SJVBC	QLK1930SJVBC
18℃铝氧化工况 18°C Oxidation condition refrigeration	制冷量 Cooling capacity	KW	583.75	829.5	966.13	1276.75	1518.75	1932.25
		Kcal/h × 10 ⁴	50.2	71.34	83.09	109.8	130.61	166.17
	输入功率 Input power	KW	82	117	135	178	210	269
能效比COP			7.16	7.11	7.18	7.17	7.24	7.18
冷冻介质 Frozen medium			15%~25%的硫酸槽液 15%~25% Sulfuric acid solution					
输入电源 Input Power			3PH-380V/50HZ					
压缩机 Compressor	形式 Mode		半封闭螺杆压缩机 Semi-hermetic screw style compressor					
	数量 Quantity		1台 Set			2台 Set		
	额定负载电流(A) Rated load current		139	198	229	303	357	457
配线规格(mm ²) Matching wire			50	70	95	120	150	2795
卸载方式(%) Way to unload			无级 10%~100%					
冷媒 Refrigerant			407C (环保混合冷媒)					
冷凝器 Condenser	形式 Mode		高效外螺纹管壳管式 high efficient external screwed shell and tube					
	冷却水流量(m ³ /h) Cooling water flow		114	162.2	188.7	249.4	296.3	377.4
	水阻力(kPa) Hydraulic pressure		66	67	67	71	75	67
	冷却水温度 Cooling water temperature		进水30℃, 出水35℃ Inlet water 30°C, outlet water 35°C					
蒸发器 Evaporator	形式 Mode		高效防腐降膜式 High efficient anti-corrosion Falling-film type					
	槽液流量(m ³ /h) Liquid flow		250.2	355.5	414.1	547.2	650.9	828.1
	水阻力(kPa) Hydraulic pressure		61	59	60	65	69	68
	槽液出入温度 Liquid in & outlet temperature		槽液进20℃, 槽液出18℃ Inlet liquid 20°C, outlet liquid 18°C					
节流方式 Throttle methods			电子膨胀阀 electronic expansion valve					
安全保护 Safety protection			酸泵连锁保护, 漏电保护, 过载保护, 超压, 逆相保护, 冷媒异常保护, 压缩机超温保护, 超高压安全阀保护, 油压保护, 缺水保护等等 Acid pump interlock protection, leakage protection, overload protection, overpressure and anti-phase protection, refrigerant abnormality protection, compressor over temperature protection, hyperpressure valve protection, oil pressure protection, and lack of water protection, etc.					
管道连接 Piping connection	冷却水出入口 Cooling water in&outlet diameter		DN150	DN150	DN200	DN200	DN250	DN250
	槽液出入口 Liquid in&outlet diameter		DN200	DN250	DN250	DN300	DN350	DN400
噪音 Noise(dB)			75	80	80	80	85	86
重量 Weight(kg)			3270	4650	5120	5820	6300	9740
外形尺寸(L×W×H) Overall size			3600	3600	3600	3650	3650	4650
			1450	1550	1700	1800	1900	2000
			2100	2150	2200	2250	2300	2300

技术说明:

- 1、蒸发器: 进水温度20℃, 出水温度18℃; 水侧承压: 0.6MPa。
- 2、冷凝器: 进水温度30℃, 出水温度35℃; 水侧承压: 1.0MPa。
- 3、以上参数如有变动, 恕不另行通知, 请以实物为准。

Technical Description:

1. Evaporator: water inlet temperature 20°C, outlet water temperature 18°C; water side pressure: 0.6MPa;
2. Condenser: outlet water temperature 30°C, outlet water temperature 35°C; water side pressure: 1.0MPa;
3. The above parameters are subject to change without notice. Please refer to the actual product.

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**Technical Parameters
技术参数**

型号 Model			QLK420 SMBXC	QLK450 SMBXC	QLK550 SMBXC	QLK700 SMBXC	QLK850 SMBXC	QLK1000 SMBXC	QLK1150 SMBXC	QLK1300 SMBXC	QLK1400 SMBXC	QLK1700 SMBXC
18℃铝氧化工况 18°C Oxidation condition refrigeration	制冷量 Cooling capacity	KW	420	460.5	548.7	690	848.9	988.7	1159	1306.6	1380	1697.8
		Kcal/h × 10 ⁴	36.12	39.60	47.19	59.34	73.01	85.03	99.67	112.37	118.68	146.01
	输入功率 Input power	KW	68.60	75.50	91.00	112.30	135.20	155.70	183.50	206.30	224.6	270.4
能效比COP			6.12	6.10	6.03	6.14	6.28	6.35	6.32	6.33	6.14	6.28
冷冻介质 Frozen medium			15%~25%的硫酸槽液 15%~25% Sulfuric acid solution									
输入电源 Input Power			3PH-380V/50HZ									
压缩机 Compressor	形式 Mode		半封闭螺杆压缩机 Semi-closed screw style compressor									
	数量 Quantity		1台 Set					2台 Set				
	额定负载电流(A) Rated load current		110.0	125.0	150.0	180.0	220.0	247.0	291.0	336.0	360	440
配线规格(mm ²) Matching wire			50	50	70	95	120	150	150	2 × 70	2 × 95	
卸载方式(%) Way to unload			无级 10%~100%									
冷媒 Refrigerant			R22									
冷凝器 Condenser	形式 Mode		高效外螺纹管壳管式 High efficient external screwed shell and tube									
	冷却水流量(m ³ /h) Cooling water flow		83.8	91.9	109.7	137.5	168.7	196.2	230.1	259.4	275.1	337.4
	水阻力(kPa) Hydraulic pressure		62.0	65.0	66.0	68.0	67.0	67.0	71.0	69.0	66.0	
	冷却水温度 Cooling water temperature		进水30℃, 出水35℃ Inlet water 30°C, outlet water 35°C									
蒸发器 Evaporator	形式 Mode		高效防腐满液式 High efficient anti-corrosion flooded type									
	槽液流量(m ³ /h) Liquid flow		180.0	197.4	235.2	295.7	363.8	423.7	496.7	560.0	591.4	727.6
	水阻力(kPa) Hydraulic pressure		65.0	63.0	61.0	63.0	59.0	60.0	60.0	65.0	63.0	67.0
	槽液出入温度 Liquid in & outlet temperature		槽液进20℃, 槽液出18℃ Inlet liquid 20°C, outlet liquid 18°C									
热回收器 Heat recovery	形式 Mode		高效外螺纹管壳管式 High efficient external screwed shell and tube									
	热水流量(m ³ /h) Hot water flow		17.0	18.6	22.2	27.9	34.3	39.9	46.8	52.8	55.7	68.6
节流方式 Throttle methods			电子膨胀阀 electronic expansion valve									
安全保护 Safety protection			酸泵连锁保护, 漏电保护, 过载保护, 超压, 逆相保护, 冷媒异常保护, 压缩机超温保护, 超高压安全阀保护, 油压保护, 缺水保护等等 Acid pump interlock protection, leakage protection, overload protection, overpressure and anti-phase protection, refrigerant abnormality protection, compressor over temperature protection, hyperpressure valve protection, oil pressure protection, and lack of water protection, etc.									
管道连接 Piping connection	冷却水出入口 Cooling water in&outlet diameter		DN125	DN125	DN125	DN150	DN150	DN200	DN200	DN200	DN250	DN250
	槽液出入口 Liquid in&outlet diameter		DN150	DN150	DN200	DN200	DN250	DN250	DN300	DN300	DN300	DN350
	热水进水管径 Hot water in & outlet diameter		DN50	DN65	DN65	DN65	DN80	DN80	DN100	DN100	DN100	DN100
噪音 Noise(dB)			61	64	75	75	80	80	80	80	85	85
重量 Weight(kg)			2360	2580	3270	3950	4650	5120	5440	5820	6780	8300
外形尺寸(L×W×H) Overall size			2900	2850	3550	3550	3600	3600	3650	3650	4700	4800
			1250	1250	1400	1500	1600	1600	1650	1800	1800	1800
			1750	1950	1850	2000	2100	2100	2150	2200	2300	2450

技术说明:

- 1、蒸发器: 进水温度20℃, 出水温度18℃; 水侧承压: 0.6MPa。
- 2、冷凝器: 进水温度30℃, 出水温度35℃; 水侧承压: 1.0MPa。
- 3、以上参数如有变动, 恕不另行通知, 请以实物为准。

Technical Description:

1. Evaporator: water inlet temperature 20°C, outlet water temperature 18°C; water side pressure: 0.6MPa;
2. Condenser: outlet water temperature 30°C, outlet water temperature 35°C; water side pressure: 1.0MPa;
3. The above parameters are subject to change without notice. Please refer to the actual product.

第3代 型材氧化专用直冷 [满液式螺杆冷水机]

The third generation direct cooling flooded screw chiller for aluminum profile anodizing

www.qfzl.com

Technical Parameters 技术参数		QLKxxSMBYZ系列硬质氧化专用直冷高效满液式螺杆冷水机 QLKxxSMBYZ Series Direct Cooling High Efficient Flooded Type Screw Style Chiller for Hard Anodizing							
型号 Model		QLK220 SMBYZ	QLK300 SMBYZ	QLK350 SMBYZ	QLK420 SMBYZ	QLK590 SMBYZ	QLK660 SMBYZ	QLK700 SMBYZ	QLK840 SMBYZ
制冷量 Cooling capacity	KW	208.2	271.5	341.4	420	573.6	646.4	682.8	840
	Kcal/h × 10 ⁴	17.91	23.35	29.36	36	49	56	59	72
热回收量 Kcal/h × 10 ⁴ Heat recovery volume		5.37	7.00	8.81	11	15	17	18	22
能效比COP		3.52	3.43	3.52	3.60	3.62	3.63	3.52	3.60
冷冻介质 Frozen medium		15%~25%的硫酸槽液 15%~25% Sulfuric acid solution							
输入电源 Input Power		3PH-380V/50HZ							
压缩机 Compressor	形式 Mode	半封闭螺杆压缩机 Semi-hermetic screw style compressor							
	数量 Quantity	1台 Set				2台 Sets			
	输入功率(kw) Input power	59.2	79.1	97.0	116.7	158.5	178.2	194	233
	额定负载电流(A) Rated load current	105.0	140.0	170.0	200.0	275.0	310.0	340	400
配线规格(mm ²) Matching wire		50	70	95	95	150	150	2 × 75	2 × 95
卸载方式(%) Way to unload		无极0%—100%							
冷媒 Refrigerant		R22							
冷凝器 Condenser	形式 Mode	高效外螺纹管壳管式 High efficient external screwed shell and tube							
	冷却水流量(m ³ /h) Cooling water flow	50.4	66.1	82.7	101.2	138.1	155.5	165.3	202.4
	水阻力(kPa) Hydraulic pressure	62.0	66.0	68.0	67.0	67.0	71.0	69.0	66.0
	冷却水温度 Cooling water temperature	进水30℃, 出水35℃ Inlet water 30℃, outlet water 35℃							
蒸发器 Evaporator	形式 Mode	高效防腐满液式 High efficient anti-corrosion flooded type							
	槽液流量(m ³ /h) Liquid flow	82.6	107.7	135.4	166.6	227.5	256.4	270.9	333.2
	水阻力(kPa) Hydraulic pressure	66.0	62.0	64.0	58.0	60.0	61.0	62.0	64.0
	槽液出入温度 Liquid in & outlet temperature	槽液进-2.5℃, 槽液出-5℃ Inlet liquid -2.5℃, outlet liquid -5℃							
节流方式 Throttle methods		电子膨胀阀 Electronic expansion valve							
安全保护 Safety protection		水泵连锁保护, 漏电保护, 过载保护, 超压, 逆相保护, 冷媒异常保护, 压缩机超温保护, 超高压安全阀保护, 油压保护, 缺水保护等等 Acid pump interlock protection, leakage protection, overload protection, over voltage and anti-phase protection, refrigerant abnormality protection, compressor over temperature protection, hyper pressure valve protection, lack of water protection, current protection etc.							
管道连接 Piping connection	冷却水出入口 Cooling water in&outlet diameter	DN100	DN125	DN125	DN150	DN150	DN150	DN200	DN200
	槽液出入口 Liquid in&outlet diameter	DN125	DN150	DN150	DN200	DN200	DN200	DN250	DN250
噪音 Noise(dB)		80	82	82	85	88	88	90	90
重量 Weight(kg)		2729	3877	4260	4613	5900	6200	6780	8226
外形尺寸(L × W × H) Overall size		2900	3500	3550	3600	3650	3650	4700	4800
		1300	1400	1500	1600	1650	1800	1700	1800
		1750	1850	2000	2100	2100	2200	2200	2350

技术说明:

- 1、蒸发器: 进水温度-2.5℃, 出水温度-5℃; 水侧承压: 0.6MPa。
- 2、冷凝器: 进水温度30℃, 出水温度35℃; 水侧承压: 1.0MPa。
- 3、以上参数如有变动, 恕不另行通知, 请以实物为准。

Technical Description:

1. Evaporator: water inlet temperature -2.5℃, outlet water temperature -5℃; water side pressure: 0.6MPa;
2. Condenser: inlet water temperature 30℃, outlet water temperature 35℃; water side pressure: 1.0MPa;
3. The above parameters are subject to change without notice. Please refer to the actual product.

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满液式螺杆冷水机(型材氧化)产品尺寸表

Flooded screw chiller overall size chart

产品型号	尺寸	A	B	C	D	E	F	G	H	T
QLK420SMBXC/UH		2900	1250	1750	2210	1030	510	DN125	DN150	560
QLK450SMBXC/UH		2900	1250	1750	2210	1050	500	DN125	DN150	545
QLK550SMBXC/UH		3550	1300	1850	2810	1100	535	DN125	DN200	570
QLK700SMBXC/UH		3550	1350	1800	2820	1150	545	DN150	DN200	525
QLK850SMBXC/UH		3600	1600	2100	2810	1380	550	DN150	DN250	680
QLK1000SMBXC/UH		3600	1600	2100	2810	1380	550	DN200	DN250	680
QLK1150SMBXC/UH		3650	1650	2150	2810	1430	550	DN200	DN300	699
QLK1300SMBXC/UH		3650	1800	2200	2810	1570	550	DN200	DN300	695
QLK1400SMBXC/UH		4700	1800	2300	3870	1500	700	DN250	DN300	600
QLK1700SMBXC/UH		4800	1800	2450	3870	1500	855	DN250	DN350	825

注: 因技术研发机型会逐步增加, 外形尺寸图未能及时更新请联系各销售人员!

Note: Since the technical R&D model will gradually increase and the dimension drawing cannot be updated in time, please contact sales person!

满液式螺杆冷水机(硬质氧化)产品尺寸表

Flooded screw chiller (for hard oxidation) overall size chart:

产品型号	尺寸	A	B	C	D	E	F	G	H	T
QLK220SMBYZ/UH		2900	1300	1750	2210	1060	510	DN100	DN125	560
QLK300SMBYZ/UH		3500	1400	1850	2810	1170	515	DN125	DN150	570
QLK380SMBYZ/UH		3550	1500	2000	2810	1350	565	DN125	DN150	625
QLK450SMBYZ/UH		3600	1600	2100	2810	1380	550	DN150	DN200	680
QLK590SMBYZ/UH		3650	1650	2100	2810	1430	550	DN150	DN200	699
QLK660SMBYZ/UH		3650	1800	2200	2810	1570	550	DN150	DN200	695
QLK750SMBYZ/UH		4700	1700	2200	3870	1500	850	DN200	DN250	750
QLK900SMBYZ/UH		4800	1800	2350	3870	1570	850	DN200	DN250	750

注: 因技术研发机型会逐步增加, 外形尺寸图未能及时更新请联系各销售人员!

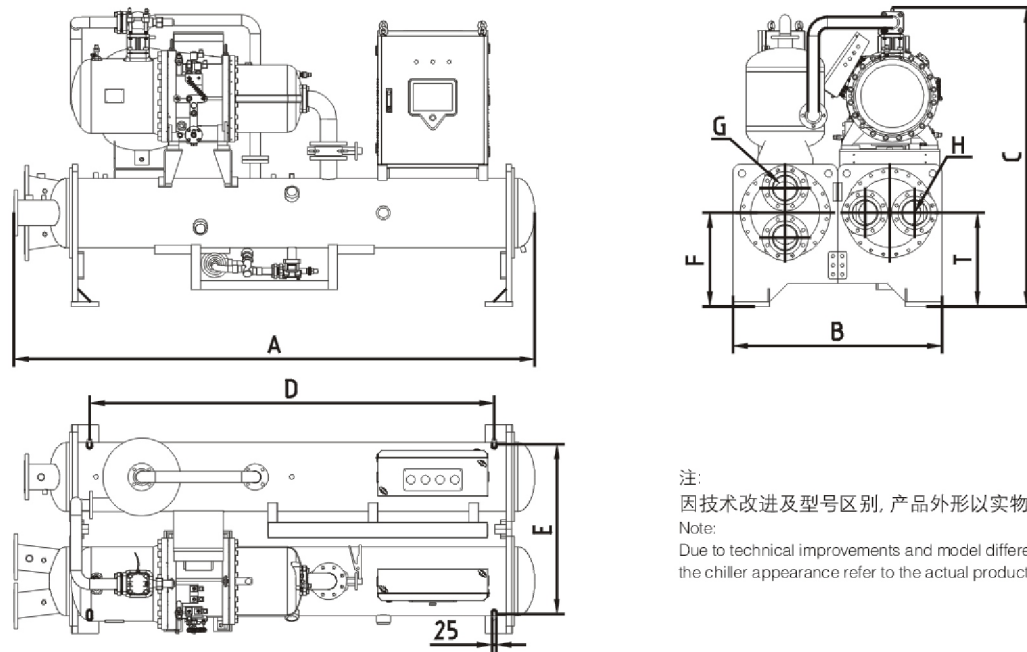
Note: Since the technical R&D model will gradually increase and the dimension drawing cannot be updated in time, please contact sales person!

满液式螺杆冷水机组外形图

Flooded type screw chiller outline drawing

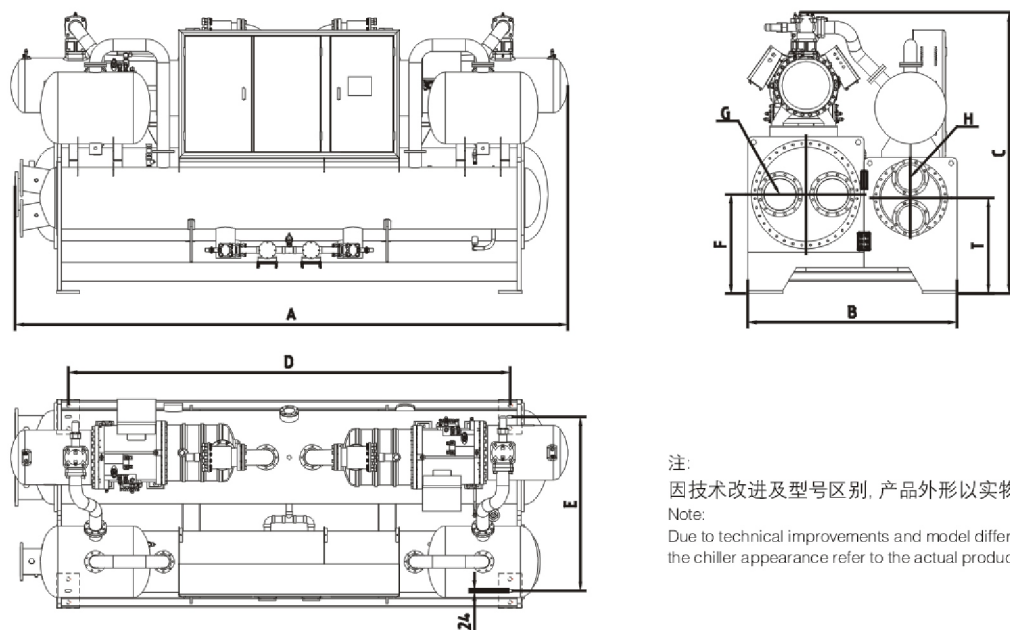
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机组外形图(单压机) Chiller outline drawing (single compressor)



注：
因技术改进及型号区别，产品外形以实物为准
Note:
Due to technical improvements and model differences,
the chiller appearance refer to the actual product.

机组外形图(双压机) Chiller outline drawing (double compressors)



注：
因技术改进及型号区别，产品外形以实物为准
Note:
Due to technical improvements and model differences,
the chiller appearance refer to the actual product.

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青风 型材电泳着色专用 [满液式螺杆冷水机]
KINGFIT Flooded Type Screw Stype Chiller for Aluminum Profile Electrophoresis Coloring

特点

蒸发器采用满液式设计，体积小、维修率低、噪音低、清洗方便等优点，清洗时只需打开两端的盖子，既可清洗，并且蒸发器管采用我公司专利外螺纹管，能效比高达5.34以上，运行电费比常规的干式冷水机节省27%。

定制式工业冷水机组，专为全年365天制冷设计，换热铜管壁厚比商用冷水机厚15%以上，换热面积增加20%以上；工业级PLC控制，全年气候模拟测试，实现机组全年制冷安全高效运行，避免了商用机冬季不能启动、启动故障多等安全隐患。

Advantages

The evaporator adopts flooded design, small volume, low maintenance rate, noise, convenient cleaning, etc. When cleaning, it only needs to open the lids at both ends, which can be cleaned, and the evaporation tube adopts our patented externally threaded tube, and the energy efficiency ratio is up to 5.34. The operating electricity cost is 27% less than the conventional dry type chiller.

Customized industrial chiller, designed for 365 days of refrigeration throughout the year, the thickness of the heat exchange copper tube is more than 15% thicker than the commercial chiller, and the heat exchange area is increased by more than 20%; industrial grade PLC control, annual climate simulation test, make sure the chiller's refrigeration is safe and efficient throughout the year, which avoids the safety risks caused by the failure of the commercial machine to start in winter and start the failure.

青风 型材电泳着色专用 [满液式螺杆冷水机]

KINGFIT Flooded Type Screw Style Chiller for Aluminum Profile Electrophoresis Coloring

Technical Parameters 技术参数		QLKxxSMC系列高效满液式螺杆冷水机技术参数 QLKxxSMC Series High Efficient Flooded Type Screw Style Chiller for Aluminum Profile Anodizing										
型号 Model		QLK380 SMC	QLK470 SMC	QLK580 SMC	QLK710 SMC	QLK810 SMC	QLK920 SMC	QLK1030 SMC	QLK1160 SMC	QLK1410 SMC	QLK1610 SMC	QLK1830 SMC
制冷量 Cooling capacity	KW	361.8	431.1	541.7	667	776.8	910.8	1026.5	1083.4	1334	1553.6	1821.6
	Kcal/h × 10 ⁴	31.11	37.07	46.59	57.36	66.80	78.33	88.28	93.17	114.72	133.61	156.66
能效比COP		5.09	5.00	5.12	5.24	5.29	5.27	5.28	5.12	5.23	5.29	5.26
输入电源 Input Power		3PH-380V/50HZ										
压缩机 Compressor	形式 Mode	半封闭螺杆压缩机 Semi-closed screw style compressor										
	数量 Quantity	1台 Set					2台 Set					
	输入功率(kw) Input power	71.1	86.3	105.8	127.4	146.8	172.9	194.4	211.6	255.0	293.6	346.0
	额定负载电流(A) Rated load current	125.0	150.0	180.0	220.0	247.0	291.0	336.0	360.0	440.0	494.0	582.0
配线规格(mm ²) Matching wire		50	70	95	95	120	150	150	2X70	2X95	2X120	2X120
卸载方式(%) Way to unload		无级 0% ~ 100%										
冷媒 Refrigerant		R22										
冷凝器 Condenser	形式 Mode	高效外螺纹管壳管式 High efficient external screwed shell and tube										
	冷却水流量(m ³ /h) Cooling water flow	77.8	92.7	116.5	143.4	167.0	195.8	220.7	232.9	286.8	334.0	391.6
	水阻力(kPa) Hydraulic pressure	65.0	66.0	68.0	67.0	67.0	67.0	71.0	69.0	66.0	72.0	73.0
冷却水温度 Cooling water temperature		进水30℃, 出水35℃ Inlet water 30℃, outlet water 35℃										
蒸发器 Evaporator	形式 Mode	高效防腐满液式 High efficient anti-corrosion flooded type										
	冷冻液流量(m ³ /h) Liquid flow	62.2	74.1	93.2	114.7	133.6	156.7	176.6	186.3	229.4	267.2	313.3
	水阻力(kPa) Hydraulic pressure	63.0	61.0	63.0	59.0	60.0	60.0	65.0	63.0	67.0	66.0	67.0
冷冻液出入温度 Liquid in & outlet temperature		槽液进12℃, 槽液出7℃ Inlet liquid 12℃, outlet liquid 7℃										
节流方式 Throttle methods		电子膨胀阀 electronic expansion valve										
管道连接 Piping connection	冷却水出入口 Cooling water in&outlet diameter	DN125	DN125	DN150	DN150	DN200	DN200	DN200	DN250	DN250	DN250	DN250
	冷冻液出入口 Liquid in&outlet diameter	DN125	DN125	DN150	DN150	DN200	DN200	DN200	DN300	DN350	DN300	DN250
重量 Weight(kg)		2580	3270	3950	4650	5120	5440	5820	6780	6900	9240	9880
外形尺寸(L×W×H) Overall size		2850	3500	3500	3550	3550	3550	3600	4600	4600	4800	4800
		1250	1250	1400	1450	1550	1550	1650	1700	1700	1850	2000
		1800	1800	1950	1950	2050	2050	2050	2200	2200	2400	2400

技术说明:

- 1、蒸发器标准工况：进水温度12℃，出水温度7℃；水侧承压：1.0MPa。
- 2、冷凝器：进水温度30℃，出水温度35℃；水侧承压：1.0MPa。
- 3、以上参数如有变动，恕不另行通知，请以实物为准。

Technical Description:

1. Evaporator: water inlet temperature 12℃, outlet water temperature 7℃; water side pressure: 1.0MPa;
2. Condenser: outlet water temperature 30℃, outlet water temperature 35℃; water side pressure: 1.0MPa;
3. The above parameters are subject to change without notice. Please refer to the actual product.



高温 螺杆式热泵机组

High Temperature Screw Style Heat Pump Boiler

防腐热泵锅炉在型材氧化工艺中的完美应用
Anti-corrosive heat pump boiler in aluminum profile oxidation process application effect diagram.

适用于电泳生产线、电镀生产线、氧化生产线。
Applied to the heating of electrophoresis production line, electroplating production line, oxidation production line.

超高温防腐热泵采用双级螺杆压缩机，同工况下运行能效相比普通高温热泵提升10%以上，最高水温度可达90℃，蒸发器、冷凝器全部采用防腐材质，可直接对槽液进行加热和降温，换热效果更好。
The ultra-high temperature anti-corrosion heat pump adopts a two-stage screw compressor. Compared with the ordinary high-temperature heat pump, the energy efficiency of the ultra-high temperature anti-corrosion heat pump is increased by more than 10%, and the maximum water temperature can reach 90 degrees. The evaporator and the condenser are all made of anti-corrosion material, which can directly apply to the chill or heat acid solution in high exchange rate.

最节能的方案：**磁悬浮+热泵**
Golden Combination. Energy First 黄金组合, 节能至上。

高温 螺杆式热泵机组

High Temperature Screw Style Heat Pump Boiler

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功能及优点
Features and Benefits

1. 利用热泵原理，能效比高，运行节能，是传统锅炉的替代品。
2. 水电不直接接触，无漏电危险，噪音低，运行稳定。
3. 智能控制温度可根据需求设定，运行期间无需专人值守。
4. 蒸发器，冷凝器采用防腐设计，直接将槽液加热或降温。
5. 运行节能，比天然气锅炉节能59.8%以上。
6. 使用青风二号混合冷媒，热侧最高温度可达90℃，冷侧温度可控制在15-35℃之间，冷量可供其它酸碱槽使用。

1. The use of heat pump principle, high energy efficiency, run energy-saving substitute for traditional boiler.
2. Hydro power is not in direct contact, no risk of leakage, low noise, stable operation.
3. Intelligent control temperature can be set according to the demand, no staff on duty during operation.
4. Evaporator, condenser, anti-corrosion design, direct heating of the bath or cooling
5. Run energy-saving, energy-saving 59.8% than gas boilers
6. KINGFIT No. two mixed refrigerant, the maximum temperature of the hot side up to 90 °C, cold side temperature can be controlled between 15-35 °C, the cooling capacity available for use by other acid-base slot.

防腐热泵与其它锅炉费用运行比较

Anti-Corrosion heat pump boiler with other boiler running costs comparative

燃料方式 Fuel way	燃料单价 (yuan / kg) Fuel Price	理论热值 (Kcal/h) Theoretical heat value	综合利用率 (%) Comprehensive utilization rate	清洗1吨国标料 所需费用 1ton GB standard materials	800T/月 800T/month	1200T/月 1200T/month	1800T/月 1800T/month	6000T/月 6000T/month
柴油锅炉 Diesel boilers	7.29元/kg 7.29 yuan / kg	10200	85%	¥ 108.47	¥ 86,774	¥ 130,161	¥ 195,241	¥ 650,803
天然气锅炉 Natural gas boiler	3.4元/m³ 3.4yuan / m³	8500	90%	¥ 57.33	¥ 45,867	¥ 68,800	¥ 103,200	¥ 344,000
液化石油气锅炉 LPG boiler	6.4元/kg 6.4 yuan / kg	12000	70%	¥ 98.29	¥ 78,629	¥ 117,943	¥ 176,914	¥ 589,714
管道煤气锅炉 Pipeline gas boiler	2.4元/m³ 2.4 yuan / m³	3800	70%	¥ 116.39	¥ 93,113	¥ 139,669	¥ 209,504	¥ 698,346
电加热锅炉 Electric Boiler	0.8元/度 0.8 yuan / kWh	860	95%	¥ 126.32	¥ 101,053	¥ 151,579	¥ 227,368	¥ 757,895
燃煤锅炉(FM25) Coal-fired boiler	1.0元/kg 1.0 yuan / kg	7000	0.55	¥ 33.51	¥ 26,805	¥ 40,208	¥ 60,312	¥ 201,039
蒸汽 Steam	180元/m³ 180 yuan / m³	574405	0.86	¥ 47.01	¥ 37,604	¥ 56,406	¥ 84,609	¥ 282,031
青风高温热泵机组 Heat Pump Boiler	0.8元/度 0.8yuan / kWh	3142	100%	¥ 21.90	¥ 17,517	¥ 26,276	¥ 39,414	¥ 131,379

注：以上节省费用是以热泵锅炉出水温度75℃为标准，不包含维护保养费用，且未包含冷侧利用所节约的费用。
Notes: the above cost saving are use outlet water temperature of heat pump boiler as a standard and does not including maintenance costs.
And does not contain the cold side of the cost savings.


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**Technical Parameters
技术参数**
**QRKxxSMK2H系列型材氧化专用高温螺杆式热泵机组
QRKxxSMK2H Series High Temperature Screw Style Heat Pump for
Aluminum Profile Anodizing**

型号 Model	QRK255SMK2H	QRK510SMK2H	QRK610SMK2H	QRK720SMK2H	
85℃高温 烫洗工况 85 degree high temperature scald condition	制热量 Hot capacity KW Kcal/h × 10 ⁴ 248.94 21.41	500.1 43.01	611.23 52.57	722.36 62.12	
	制冷量 Cooling capacity KW Kcal/h × 10 ⁴ 165.9 14.27	333.27 28.66	407.33 35.03	481.39 41.40	
	输入功率(kw) Input power 83	167	204	241	
综合能效COP	5.00	5.00	5.00	5.00	
冷冻介质 Frozen medium	15%~25%的硫酸槽液 15%~25% Sulfuric acid solution				
输入电源Input Power	3PH-380V/50HZ				
压缩机 Compressor	形式 Mode	半封闭螺杆压缩机 Semi-closed screw style compressor			
	数量 Quantity	1台 Set			
	额定负载电流(A) Rated load current	141	284	347	410
配线规格(mm²) Matching wire	50	95	120	150	
卸载方式(%) Way to unload	有级 25-50-75-100%				
冷媒 Refrigerant	KF-02				
冷凝器 Condenser	形式 Mode	高效内外螺纹管壳管式 Efficient internal and external thread tube shell and tube			
	热水流量(m³/h) Hot water flow	42.7	85.7	104.8	123.8
	水阻力(kPa) Hydraulic pressure	66	66	67	67
	热水温度 Hot water temperature	进水80℃, 出水85℃ Inlet water 80℃, outlet water 85℃			
蒸发器 Evaporator	形式 Mode	高效防腐满液式 High efficient anti-corrosion flooded type			
	槽液流量(m³/h) Liquid flow	71.1	142.8	174.6	206.3
	水阻力(kPa) Hydraulic pressure	61	61	61	60
	槽液出入温度 Liquid in & outlet temperature	槽液进20℃, 槽液出18℃ Inlet liquid 20℃, outlet liquid 18℃			
节流方式 Throttle methods	电子膨胀阀 Electronic expansion valve				
安全保护 Safety protection	酸泵连锁保护, 漏电保护, 过载保护, 超压, 逆相保护, 冷媒异常保护, 压缩机超温保护, 超高压安全阀保护, 油压保护, 缺水保护等等 Acid pump interlock protection, leakage protection, overload protection, overpressure and anti-phase protection, refrigerant abnormality protection, compressor over temperature protection, hyperpressure valve protection, oil pressure protection, and lack of water protection, etc.				
管道连接 Piping connection	热水出入口 Hot water in&outlet diameter	DN100	DN125	DN125	DN150
	槽液出入口 Liquid in&outlet diameter	DN125	DN200	DN200	DN200
	油冷出入口 Oil cooler in&outlet diameter	DN40	DN50	DN50	DN50
噪音 Noise(dB)	75	75	80	80	
重量 Weight(kg)	3270	3270	4650	5120	
外形尺寸(L×W×H) Overall size	3450	3550	3550	3550	
	1400	1850	1850	1920	
	1800	2150	2150	2200	

高温 螺杆式热泵机组

High Temperature Screw Style Heat Pump Boiler

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Technical Parameters 技术参数		QRKxxSMK2G/GH系列型材氧化专用高温螺杆式热泵机组 QRKxxSMK2G/GH Series High Temperature Screw Style Heat Pump for Aluminum Profile Anodizing				
型号 Model		QRK160SMK2G/GH	QRK300SMK2G/GH	QRK400SMK2G/GH	QRK570SMK2G/GH	QRK740SMK2G/GH
75°C 烫洗工况 75 degree scald condition	制热量 Hot capacity KW Kcal/h × 10 ⁴	154 13.25	294 25.24	396 34.08	543 46.70	719 61.84
	制冷量 Cooling capacity KW Kcal/h × 10 ⁴	105 9.03	200 17.20	270 23.22	370 31.82	490 42.14
输入功率(kw) Input power		49	94	126	173	229
综合能效COP		5.28	5.28	5.28	5.28	5.28
冷冻介质 Frozen medium		15%~25%的硫酸槽液 15%~25% Sulfuric acid solution				
输入电源Input Power		3PH-380V/50HZ				
压缩机 Compressor	形式 Mode	半封闭螺杆压缩机 semi-closed screw style compressor				
	数量 Quantity	1台/set				
	额定负载电流(A) Rated load current	83	159	215	294	389
配线规格(mm ²) Matching wire		35	70	70	95	150
卸载方式(%) Way to unload		有级 25-50-75-100%				
冷媒 Refrigerant		KF-02				
冷凝器 Condenser	形式 Mode	高效内外螺纹管壳管式 Efficient internal and external thread tube shell and tube				
	热水流量(m ³ /h) Hot water flow	26.4	50.3	67.9	93.1	123.3
	水阻力(kPa) Hydraulic pressure	62	66	66	67	67
热水温度 Hot water temperature		进水70°C, 出水75°C Inlet water 70°C, outlet water 75°C				
蒸发器 Evaporator	形式 Mode	高效防腐满液式 high efficient anti-corrosion flooded type				
	槽液流量(m ³ /h) Liquid flow	45.0	85.7	115.7	158.6	210.0
	水阻力(kPa) Hydraulic pressure	61	65	67	70	71
	槽液出入温度 Liquid in & outlet temperature	槽液进20°C, 槽液出18°C Inlet liquid 20°C, outlet liquid 18°C				
节流方式 Throttle methods		电子膨胀阀 electronic expansion valve				
安全保护 Safety protection		酸泵连锁保护, 漏电保护, 过载保护, 超压, 逆相保护, 冷媒异常保护, 压缩机超温保护, 超高压安全阀保护, 油压保护, 缺水保护等等 Acid pump interlock protection, leakage protection, overload protection, overpressure and anti-phase protection, refrigerant abnormality protection, compressor over temperature protection, hyperpressure valve protection, oil pressure protection, and lack of water protection, etc.				
管道连接 Piping connection	热水出入口 Hot water in&outlet diameter	DN65	DN100	DN125	DN150	DN150
	槽液进出口管径 Liquid in&outlet diameter	DN100	DN125	DN150	DN200	DN200
油冷出入口 Oil cooler in&outlet diameter		DN40	DN40	DN50	DN50	DN50
噪音 Noise(dB)		65	75	75	80	80
重量 Weight(kg)		2850	3950	4500	5300	6100
外形尺寸(L × W × H) Overall size		3000	3500	3550	3550	3650
		1450	1550	1700	1950	2050
		2100	2000	2100	2250	2400

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Variable Condition Table 变工况表

热测出水温度 Hot side outlet temp	制热量 Hot capacity	制冷量 Cooling capacity	输入功率 Input power	总能效比 COP
QRK255SMK2H				
85°C	248.9	165.9	83	5
80°C	247.7	169.8	77.9	5.4
75°C	247.5	174.5	73.1	5.8

QRK510SMK2H				
85°C	500.1	333.3	166.8	5
80°C	497.7	341.2	156.5	5.4
75°C	497.4	350.6	146.8	5.8

QRK610SMK2H				
85°C	611.2	407.3	203.9	5
80°C	608.2	417	191.3	5.4
75°C	607.9	428.5	179.4	5.8

QRK720SMK2H				
85°C	722.4	481.4	241	5
80°C	718.8	492.8	226	5.4
75°C	718.4	506.4	212.1	5.8

Variable Condition Table 变工况表

热测出水温度 Hot side outlet temp	制热量 Hot capacity	制冷量 Cooling capacity	输入功率 Input power	总能效比 COP
QRK160SMK2G				
75°C	154.1	105.0	49.1	5.3
70°C	160.1	114.0	46.1	5.9
65°C	164.8	122.0	42.8	6.7

QRK300SMK2G				
75°C	293.5	200.0	93.5	5.3
70°C	304.7	217.0	87.7	5.9
65°C	314.7	233.0	81.7	6.7

QRK400SMK2G				
75°C	396.3	270.0	126.3	5.3
70°C	410.0	292.0	118.0	5.9
65°C	422.7	313.0	109.7	6.7

QRK570SMK2G				
75°C	543.0	370.0	173.0	5.3
70°C	561.7	400.0	161.7	5.9
65°C	579.4	429.0	150.4	6.7

QRK740SMK2G				
75°C	719.1	490.0	229.1	5.3
70°C	744.3	530.0	214.3	5.9
65°C	767.1	568.0	199.1	6.7

热源测变工况表 Variable Condition Table

热测出水温度 Hot side outlet temp	制热量 Hot capacity	制冷量 Cooling capacity	输入功率 Input power	总能效比 COP
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70°C	160.1	114.0	46.1	5.9
65°C	164.8	122.0	42.8	6.7

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75°C	719.1	490.0	229.1	5.3
70°C	744.3	530.0	214.3	5.9
65°C	767.1	568.0	199.1	6.7



青风 型材电泳着色专用涡旋满液式 [冷水机]

KINGFIT Flooded Type Scroll Chiller for Electrophoresis Coloring

- | | |
|--|---|
| <ol style="list-style-type: none"> 1、产品获得发明专利。 2、蒸发器采用满液式设计，具有体积小，维修率低、噪音低、清洗方便等优点，清洗时只需要打开两端的盖子，即可清洗。 3、涡旋满液机组采用共用油分，独立回油，回油稳定，操控简单，且安装油位开关，对压缩机起到保护作用。 4、涡旋满液的外形美观，结构简单，安装及维护方便，无需保养，年节约费约1万元。 5、采用环保冷媒：R410A 6、采用的新一代涡旋满液系统在小冷量范围内较螺杆满液系统能效增加15%以上，氧化工况COP在7以上。 | <ol style="list-style-type: none"> 1. Obtain patent for invention 2. Flooded type evaporator, small volume, low malfunction, low noise, easy cleaning, only need to open the lids of two sides. 3. Independent oil return, reliable and easy control, with oil level switch to protect the compressor. 4. Beautiful appearance, simple structure, easy installation and maintenance, low maintain cost. 5. Environment friendly refrigerant: R410A 6. In small scope of request cooling capacity, the affined of new generation scroll flooded system has more than 15% higher than screw flooded system. In the oxidation condition COP more than 7. |
|--|---|

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Technical Parameters 技术参数

型号 Model		QLB170SMPBXC/UH	QLB350SMPBXC/UH
氧化工况 Oxidation condition refrigeration	18°C出水 Outlet water 18°C	175.00	350
	功率(kW) Power	15.05	30.10
能效比COP		24.80	49.60
冷冻介质 Frozen medium		15%~25%硫酸槽液 15%~25% Sulfuric acid solution	
输入电源Input Power		3PH-380V/50HZ	
压缩机 Compressor	形式 Mode	全封闭涡旋压缩机 Full-hermetic Scroll Compressor	
	数量 Quantity	1台 Set	2台 Sets
	最大负载电流(A) Rated load current	56.7	113.4
配线规格(mm²) Matching wire		16	2x16
卸载方式(%) Way to unload		0,100%	0,50%, 100%
冷媒 Refrigerant		环保 R410A	
冷凝器 Condenser	形式 Mode	高效内外螺纹管壳管式 High efficient internal and external thread tube shell and tube type	
	冷却水流量(m³/h) Cooling water flow	34.4	68.7
	水阻力(kPa) Hydraulic pressure	56.0	61.0
冷却水温度 Cooling water temperature		进水30°C, 出水35°C Inlet water 30°C, outlet water 35°C	
蒸发器 Evaporator	形式 Mode	高效满液壳管式 High efficient flooded shell and tube type	
	冷冻水(m³/h) Liquid flow	75.0	150.0
	水阻力(kPa) Hydraulic pressure	56.0	60.0
槽液出入温度 Liquid in & outlet temperature		槽液进22°C, 槽液出20°C inlet liquid 22°C, outlet liquid 20°C	
节流方式 Throttle methods		外平衡膨胀阀 External balance expansion valve	
管道连接 Piping connection	冷却水出入口 Cooling water in&outlet diameter	DN80	DN100
	冷冻水出入口 Liquid in&outlet diameter	DN100	DN150
噪音 Noise(dB)		72	75
重量 Weight(kg)		472	655
外形尺寸(L×W×H) Overall size		2400	2450
		1000	1100
		1450	1600

技术说明:

- 1、蒸发器：进水温度22°C，出水温度20°C；水侧承压：0.6MPa。
- 2、冷凝器：进水温度30°C，出水温度35°C；水侧承压：1.0MPa。
- 3、以上参数如有变动，恕不另行通知，请以实物为准。

Technical Description:

1. Evaporator: water inlet temperature 22°C, outlet water temperature 20°C; water side pressure: 0.6MPa;
2. Condenser: inlet water temperature 30°C, outlet water temperature 35°C; water side pressure: 1.0MPa;
3. The above parameters are subject to change without notice. Please refer to the actual product.

青风 涡旋满液式 [冷水机]

KINGFIT Flooded Type Scroll Chiller

www.qfzl.com
**Technical Parameters
技术参数**

 QLBxxSMPBYZ系列涡旋满液式冷水机
 QLBxxSMPBYZ Series Flooded Type Scroll Chiller

型号 Model		QLB80SMPBYZ/UH	QLB160SMPBYZ/UH
硬质氧化 工况制冷量 hard anodizing condition cooling capacity	-5℃出水 Outlet water -5℃	84.3	168.6
	功率(kW) Power	7.25	14.50
	能效比COP	24.70	49.40
		3.41	3.41
冷冻介质 Frozen medium 15% ~ 25%硫酸槽液 Sulfuric acid solution			
输入电源Input Power 3PH-380V/50HZ			
压缩机 Compressor	形式 Mode	全封闭涡旋压缩机 Full-hermetic Scroll Compressor	
	数量 Quantity	1台 Set	2台 Sets
	最大负载电流(A) Rated load current	56.7	113.4
配线规格(mm ²) Matching wire		16	2x16
卸载方式(%) Way to unload		0,100%	0,50%, 100%
冷媒 Refrigerant 环保 R410A			
冷凝器 Condenser	形式 Mode	高效内外螺纹管壳管式 High efficient internal and external thread tube shell and tube type	
	冷却水流量(m ³ /h) Cooling water flow	22.5	45.0
	水阻力(kPa) Hydraulic pressure	56.0	61.0
	冷却水温度 Cooling water temperature	进水30℃, 出水35℃ Inlet water 30℃, outlet water 35℃	
蒸发器 Evaporator	形式 Mode	高效满液壳管式 High efficient flooded shell and tube type	
	冷冻水(m ³ /h) Liquid flow	36.1	72.3
	水阻力(kPa) Hydraulic pressure	56.0	60.0
	槽液出入温度 Liquid in & outlet temperature	槽液进-2.5℃, 槽液出-5℃ Inlet liquid -2.5℃, outlet liquid -5℃	
节流方式 Throttle methods 外平衡膨胀阀 External balance expansion valve			
管道连接 Piping connection	冷却水出入口 Cooling water in&outlet diameter	DN80	DN100
	冷冻水出入口 Liquid in&outlet diameter	DN100	DN100
噪音 Noise(dB)		72	75
重量 Weight(kg)		472	655
外形尺寸(L×W×H) Overall size		2400	2450
		1050	1100
		1450	1600

技术说明:

1. 蒸发器: 进水温度-2.5℃, 出水温度-5℃; 水侧承压: 0.6MPa。
2. 冷凝器: 进水温度30℃, 出水温度35℃; 水侧承压: 1.0MPa。
3. 以上参数如有变动, 恕不另行通知, 请以实物为准。

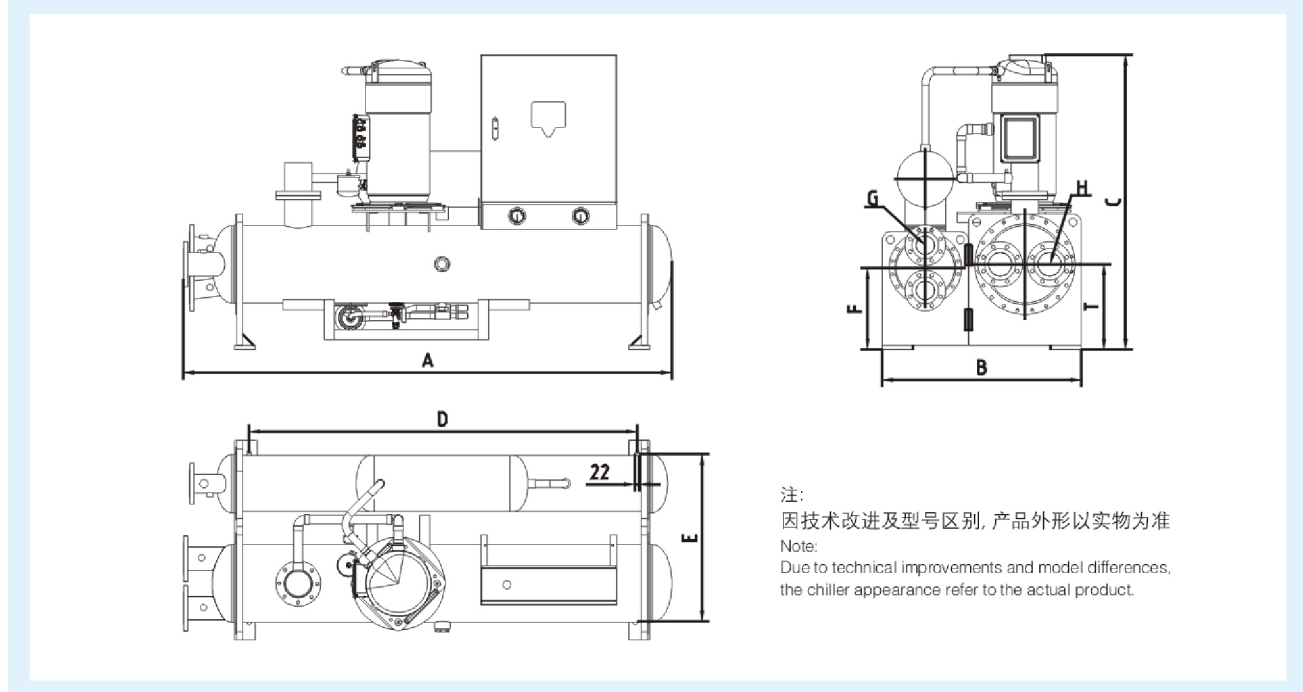
Technical Description:

1. Evaporator: water inlet temperature -2.5℃, outlet water temperature -5℃; water side pressure: 0.6MPa;
2. Condenser: inlet water temperature 30℃, outlet water temperature 35℃; water side pressure: 1.0MPa;
3. The above parameters are subject to change without notice. Please refer to the actual product.

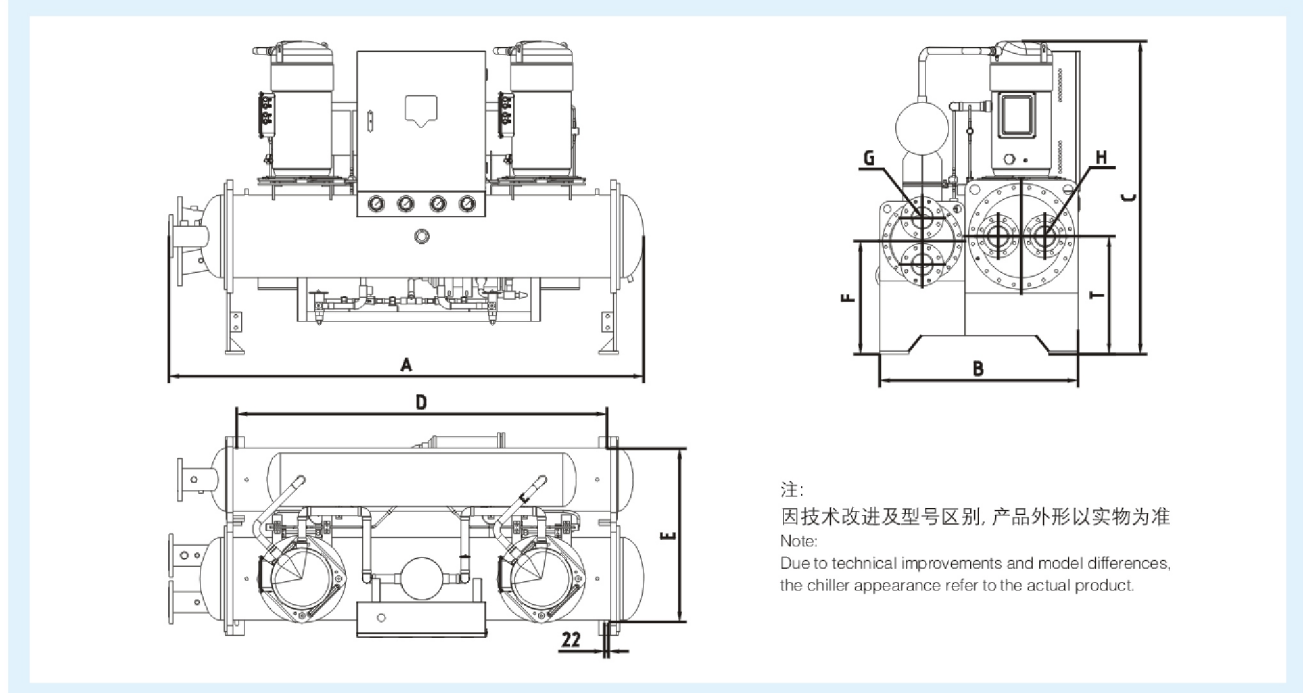
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满液式涡旋冷水机组外形图

Flooded type scroll chiller outline drawing:

机组外形图(单压机) Chiller outline drawing (single compressor)


注:
因技术改进及型号区别, 产品外形以实物为准
Note:
Due to technical improvements and model differences,
the chiller appearance refer to the actual product.

机组外形图(双压机) Chiller outline drawing (double compressors)


注:
因技术改进及型号区别, 产品外形以实物为准
Note:
Due to technical improvements and model differences,
the chiller appearance refer to the actual product.

机器型号说明
Model Description

冷水机组

QL/C/650/S/M/A/BX/C/R

热回收: R-带热回收; 省略-不带热回收 Heat Recovery: R-part of the heat recovery Blank - without heat recovery
温度: C-常温; Z-中温; D-低温 Temp.: C- Normal Temp.; Z- Intermediate Temp.; D- Low Temp.
行业: BY-表面处理硬质氧化; BX-表面处理型材氧化; 省略-通用型 Industry: BY-surface treatment hard anodizing industry BX-surface treatment aluminum profile anodizing industry Blank-universal type
制冷剂: A-R134A制冷剂, P-R410A制冷剂 V-R407C制冷剂 省略-R22制冷剂 Refrigerant: A--R134A, P--R410A V--R407C No mark--R22
效率: M-满液式高效型机组; J-降膜式高效型机组; 省略-干式经济型机组 Efficiency: M-high efficient flooded type machine J-for falling film style high efficiency chiller Blank-dry type economical unit
冷却方式: F-风冷式; S-水冷式; Z-蒸发冷 Cooling Method F-air cooling S-water cooling Z-Evaporative Condenser
机组名义制冷量 单位(kW) Machine Name Refrigerating Capacity Unit(KW)
外型结构: K-螺杆开放式机组; B-涡旋式机组 C-磁悬浮机组 Outline Structure: K-screw open type machine B-closed and box-type machine C-for Magnetic bearing chiller
青风牌冷水机 KINGFIT Brand Chiller

热泵机组

QR K xx S M K2 H

温度: G-高温; H-超高温 Temperature G-High temperature H-Super high temperature
K2-特殊制冷剂 省略-普通;
效率: M-满液式高效型机组; J-降膜式高效型机组; 省略-干式经济型机组 Efficiency: M- high efficient flooded type machine J- for falling film style high efficiency chiller Blank- dry type economical unit
冷却方式: S-水冷式; Cooling Method S-water cooling
机组名义制冷量 单位(kW) Machine Name Refrigerating Capacity Unit(KW)
外型结构: K-螺杆开放式机组; Outline Structure: K-screw open type machine
青风热泵 KINGFIT Brand Heat Pump

坚美铝业
SUCCESSFUL CASE SHARING



设计要求:

铝型材氧化线的降温和加热
增加立式线2条, 产量5000吨/月

选型方案:

满液式变频磁悬浮直冷冰机
QLC1060SMABXC×3 +
间冷满液式螺杆冰机
QLK710SMC +
高温螺杆单机双极高温热泵
QLK500SMBXRR×2
2台

解决办法

案例成果:

针对坚美立式线大规模、高产能的特点, 设计选用了最节能最经济的方案, 磁悬浮+热泵黄金组合。

氧化槽采用青风直冷磁悬浮变频离心机, 一机一槽, 控制精准(0.1℃), 使用灵活。

烫洗、封孔、及其他加热工艺采用青风最高效率的单机双级高温防腐热泵机组加热, 同时热泵冷端接入氧化槽辅助磁悬浮降低负荷。

着色、电泳制冷负荷相对较少, 采用青风满液式螺杆冷水机降温。

以上温控方案组合使该套系统在制冷运行上相对于普通间接冷却系统节约率可达60%以上, 加热运行相对于天然气锅炉节约50%以上。完美实现了氧化车间的冷热搬运, 能源100%利用。

SUCCESSFUL CASE

According to the characteristics of the large scale and high production capacity of the vertical line in JMA Aluminium company, the most energy-saving and economical plan is designed and selected, Magnetic bearing chiller+heat pump Golden combination.

1. anodizing tank adopts Kingfit direct cooling frequency anodizing tank magnetic bearing chiller, one chiller control one tank, control precision (0.1 °C), flexible use.

2. Hot water washing, hole sealing, and other heating process heating by Kingfit highest efficiency Two stage high temperature anti-corrosion heat pump, and the same time heat pump cooling side connect with oxidation tank anodizing tank to reduce the cooling load of magnetic levitation chiller.

3. coloring and electrophoresis tank cooling load is relatively small, so it can be cooled by Kingfit Flooded type screw chiller.

The temperature control system above in cooling system compare with conventional indirect cooling system energy saving more than 60%, and heating system compare with natural gas boiler energy saving more than 50%. Perfect realized the cooling and heating exchange in oxidation workshop, energy 100% recycle use.

经典案例分享

CLASSIC SUCCESSFUL CASE SHARE

项目名称：湖北佳美铝业

佳美铝业是华中地区一家大型铝型材生产企业，拥有先进的天然气熔铸炉、精密的挤压生产线、阳极氧化生产线、电泳涂装生产线、立式粉末喷涂生产线、卧式粉末喷涂生产线及晶泳生产线。

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解决办法

选型方案：

卧式线铝型材磁悬浮+高温热泵

案例成果：

2016使用，湖北地区型材行业第一家使用：变频磁悬浮直冷冰机+高温热泵，旧线改造替换原有间冷冰机，节能率50%以上。

项目名称：亚洲铝厂有限公司

肇庆亚洲铝厂有限公司是亚洲地区最大的铝型材制造商之一，主营高精度铝板带产品，产能达40万吨每年。产品覆盖建筑、运输、包装、印刷、汽车、航空航天等行业。

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解决办法

选型方案：

直冷满液式环保冷水机
QLK1080SMABXC/UH 2台
高温热泵 2台

案例成果：

本项目为旧线改造工程，在2017年立式氧化线采购我司两台螺杆热泵，QRK570SMK2G，使用正常客户比较满意采用青风第四代直冷满液式环保冷媒冷水机，国际铝型材耗电量为75度电每吨。槽液直接进入机组蒸发器循环冷却，减少板换冷却水池的冷损，以及冷冻循环泵的电耗，相当于每吨节约60度电以上。

项目单位：苏州罗普斯金（铭德铝业）

目前中国铝合金挤压生产行业中，开发种类多、产品范围广、规模和实力一流的专业性大型企业。现拥有三十五套进口挤压生产线

...



解决办法

选型方案：

卧式线铝型材磁悬浮冷水机

案例成果：

2017年10月采用青风磁悬浮QLC700SMABXC*2台，2018年调试使用。

项目名称：江阴海达铝材科技有限公司(东华)

江阴海达东华铝材科技有限公司，是目前国内规模强大、实力雄厚的新型铝材生产基地之一，现拥有熔铸炉、660-4000美吨铝型材生产线、氧化电泳线、粉末喷涂线（其中一条为立式线）、氟碳喷涂线、隔热条复合生产线及模具加工设备，拥有年生产18万吨新型铝型材(其中工业型材占50%)的生产能力。

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解决办法

选型方案：

卧式氧化自动线节能改造，
磁悬浮离心机
QLC1060SMABXC(120万大卡) 3台

案例成果：

2018年采购，东华铝业产能升级，旧线节能改造重建，新自动卧式线月产量可达3000吨/月，直冷磁悬浮离心机相对直冷螺杆冷水机节能40%以上，节能效果极为显著。

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经典案例分享

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 AAG 亞鋁 > 亚洲铝业	

截止2017年，已有15350家厂家使用青风机组。
Kingfit have more than 15350 customers at the end of 2017

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