

# 上海平畅实业有限公司

Fair Sky (china) Co., Ltd







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# 01 公司简介 Company profile



# 光辉历程 Glorious history

Since 2014.....

The development history of Fair sky is that

Tap the market based on technology, quality and service,

From a professional sales service company to:

A partner that provides to customer with high airconditioning refrigeration equipment and complete systematic solutions,

scenery along the way.

Witness the journey of struggle of Fair sky.

And bring hope for a better future for Fair sky!

从2014年开始......

平畅的发展历史,

是以技术, 品质和服务开拓市场的历史,

从一个专业的销售服务型公司发展成,

为用户提供高空调制冷装备与完整系统化解决方

案的合作伙伴,

沿途的风景,

见证了平畅走过的奋斗历程,

更承载了平畅未来的精彩!

2022年

o

2014年



## 公司简介

Company profile

上海平畅实业有限公司是专业从事船用空调、冷藏设备的设计研发、销售、维修保养、工程安装及售后服务于一体的综合公司。公司自2014年创办以来,求新求变的平畅人励精图治,奋发图强,铸就了拼搏进取,勇攀高峰的顽强作风。"追求卓越,科学创新"是我们公司的理念,我们全体员工正全力以赴,在每一个细节中追求最高的品质、最优的产品。

我司拥有一批经验丰富的专业工程师和技术员,具备最严谨的工作态度和积极主动的工作作风,急客户之所急,想客户之所想,帮客户之所需!公司秉承"质量上乘、信誉第一、顾客第一"的宗旨,竭诚为用户提供高品质的产品和优良服务,我司已通过 ISO9001:2015质量体系认证。我们诚挚希望与国内外客户合作,为您提供最合适的产品解决方案。

主要产品涉及:空调机组,空调压缩机、冷藏机组,冷藏压缩机、单元柜式空调、蒸发器、冷凝器、制冷剂、冷冻油、冷藏监控系统、冷风机、布风器、壁挂式空调和落地式空调,冷干机、暖风机、空压机、空调通风,机舱通风,自然通风及通风附件等。





Fair sky( china) Co., Ltd is a professional marine company. specializes in the design, supply, Sales, installation and commissioning of Air conditioning(HVAC), Provision system, Ventilation and Heating. Service for maintenance, repairing and equipment retrofitting. Since our company was founded in 2014, the Fair sky people who innovation and work hard, make efforts, cast the enterprising and tenacious style of work and progress and bravely climbing the peak. "Pursuit of excellence, scientific innovation" is our company's philosophy, and all of our employees are going all out to pursue the highest quality and best products to every customer.

We have a group of experienced professional engineers, with rich experience, serious work attitude and high work passion. Our company carries out "Quality First, Credit First, Customers First" of aim, provide the better service for more customers with all sincerity. Our company has passed ISO9001:2015 quality system certification. We sincerely hope to cooperate with domestic and foreign customers to provide you with the most suitable product solutions.

Our extensive product range includes Air Conditioner Plant, Provision plant, Packaged air conditioner, new and reconditioned refrigeration compressors, new and reconditioned air compressors, evaporator, condenser, refrigerants, Lub.oil, Reefer container system, air cooler, cabin unit, split air conditioner pressure controls and service tools, Air conditioning ventilation, engine room ventilation, natural ventilation and ventilation accessories, etc.

Give us a call to find out how we can take care of your refrigeration and air conditioning needs



# 荣誉资质

## Honors and qualifications















# 02 产品介绍 Product introduction





## 一、空调机组 / Air Conditioner Plant

空调机组是船舶空调系统的核心设备,对空气的温、湿度进行直接调节,具有设计新颖、操作方便、运行稳定、安全可靠、维护保养便利等特点,广泛用于各种类型客船、货船及海上石油平台等场合。

#### 机组概述:

- 1. 主要由压缩机、冷凝器、直接蒸发器、膨胀阀、风机等组成;
- 2. 配备品牌制冷压缩机;
- 3. 关键控制元器间选用知名品牌;
- 冷凝器采用抗腐蚀能力强的HALL77-2的高效传热管;并采用特殊结构,有效防止船舶摇摆产生的断流;
- 5. 出厂前已经过压力试验、真空试验及运转动作试验;
- 6. 只需要安装后接上必须的管路及接通电源即可投入使用;
- 7. 设计、制造、验收均按船级社规范等有关标准执行;
- 8. 可根据用户需要设计制造特殊规范的本系产品。

Air conditioner plant is the core equipment of marine air conditioner system. It can be used to adjust air temperature and humidity and provided comfortable working and life environment which is widely applied in all types of passenger ships, cargo ships, naval ships and offshore oil platform.

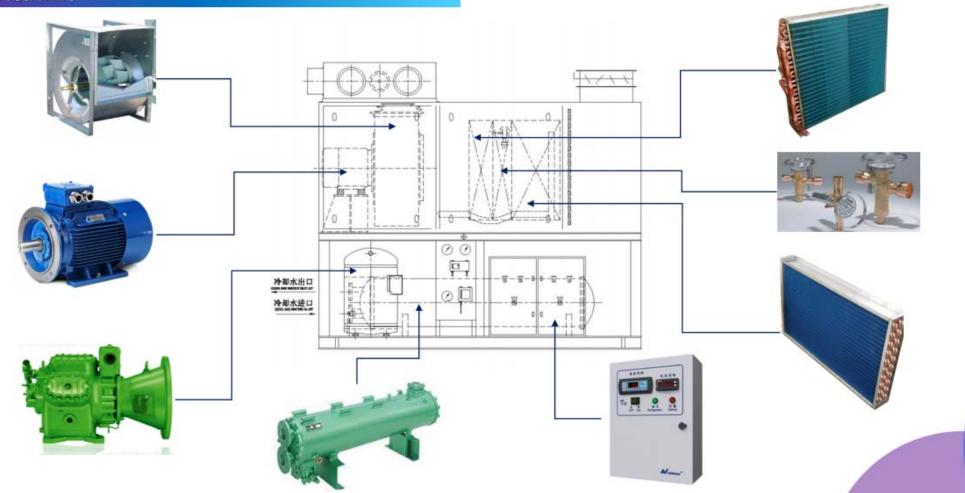
#### **Product Feature:**

- It is mainly composed of compressor, condenser, direct evaporator, expansion valve, fan, etc;
- 2. Equipped with famous brand refrigeration compressor;
- 3. Select well-known brands for key control components;
- The condenser uses the high-efficiency heat transfer tube of HALL77-2 with strong corrosion resistance; and uses a special structure to prevent the current interruption effectively caused by the ship's swaying;
- Pressure test, vacuum test and running test have been carried out before out of the factory;
- It can be put into use only need to connect the necessary pipelines and power on after installation;
- Design, manufacture and acceptance are all carried out in accordance with relevant standards such as classification society regulations;
- 8. It can be designed and manufactured according to user needs.



# 产品介绍 Product introduction

# 一、空调机组 / Air Conditioner Plant







## 二、冷藏机组 / Provision plant

船用冷藏机组系船舶伙食冷库制冷系统的重要设备,依据各食品的保存要求对库温进行调节,具有设计新颖、操作方便、运行稳定、安全可靠、维护保养便利等特点,广泛应用于各种类型货船、客轮、舰艇及海上石油平台等场所。

#### 机组概述:

- 1. 主要由压缩机、冷凝器、阀板 (膨胀阀、电磁阀) 等组成;
- 2. 选用国际知名品牌的压缩机;
- 3. 关键控制元器件选用进口品牌;
- 4. 冷凝器采用抗腐蚀能力强的HAL77-2高效传热管 (可选用B10、B30高效铜镍管) , 并采用特殊结构有效防止船舶摇摆产生的断流;
- 5. 只需要安装接上必须的管路及接通电源即可投入使用;
- 6. 设计制造均按照船级社的标准规范;
- 7. 可以根据用户需求设计制造特殊规格的产品。

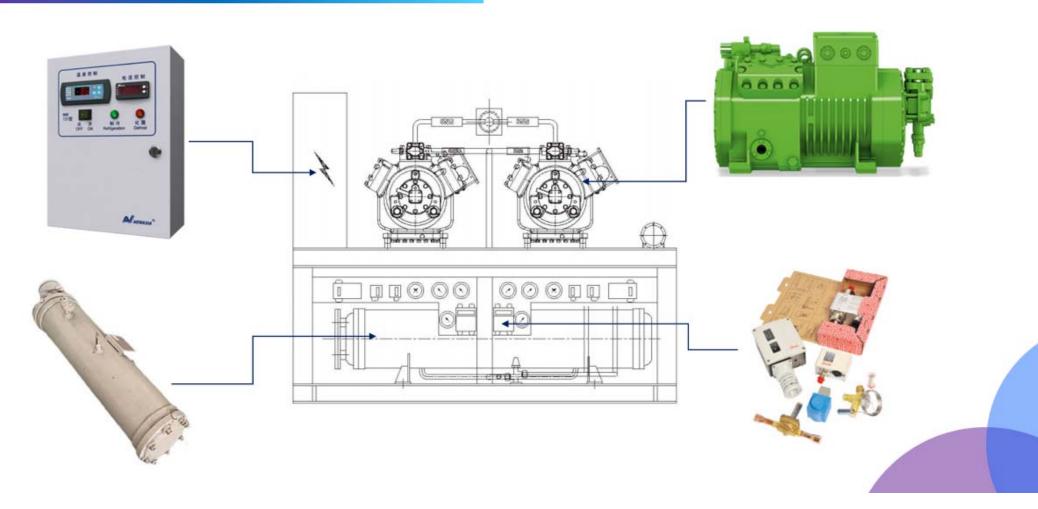
Marine Provision plant is the core equipment of marine food cold storage. It can regulate the room temperature by various food storage requirements, to make sure regular life needs. It has the characteristics of novel design, convenient operation, stable operation, safety and reliability, and convenient maintenance. It is widely used in various types of cargo ships, passenger ships, ships and offshore oil platforms.

#### **Product Feature:**

- 1. It is mainly composed of compressor, valve board, expansion valve, solenoid valve, etc;
- 2. Equipped with famous brand refrigeration compressor;
- 3. Select well-known brands for key control components;
- The condenser uses the high-efficiency heat transfer tube of HALL77-2 with strong corrosion resistance; and uses a special structure to prevent the current interruption effectively caused by the ship's swaying;
- It can be put into use only need to connect the necessary pipelines and power on after installation;
- Design, manufacture and acceptance are all carried out in accordance with relevant standards such as classification society regulations;
- 7. It can be designed and manufactured according to user needs.



# 二、冷藏机组 / Provision plant







## 三、单元柜式空调 / Packaged air conditioner

柜式空调设备具有紧凑的机构和优美的外观。设计用于一些独立于中央空调系统之外的舱室内:如:集控室、设备间、配电室、厨房等。因此该装置包含所有的控制部件,可以被安装加热器和增湿器。多种送风模式及一流的外观设计得到了用户的称赞。

#### 机组概述:

- 1. 主要由压缩机、冷凝器、直接蒸发器、膨胀阀、风机等组成;
- 2. 选用知名品牌全封闭制冷压缩机;
- 3. 关键控制元器间选用进口品牌;
- 4. 冷凝器采用抗腐蚀能力强的铝黄铜管、B10/B30铜镍管;并采用特殊结构,有效防止船舶摇摆产生的断流;
- 5. 出厂前已经过压力试验、真空试验及运转动作试验;
- 6. 只需要安装后接上水管、冲注氟利昂及接通电源即可投入使用
- 7. 设计、制造、验收均按船级社规范等有关标准执行;
- 8. 可根据用户需要设计制造特殊规范的本系产品。

PAC have a compact mechanism and a beautiful appearance. It is designed to be used in some cabins independent of the central air-conditioning system, such as: ECR room, workshop room, power distribution room, Galley room, etc. Therefore the unit contains all the control components and can be fitted with heaters and humidifiers. A variety of air supply modes are designed have been praised by users.

#### **Product Feature:**

- It is mainly composed of compressor, condenser, direct evaporator, expansion valve, fan, etc;
- 2. Equipped with famous brand refrigeration compressor;
- 3. Select well-known brands for key control components;
- The condenser uses aluminum-brass tube with strong corrosion resistance, B10/B30
  copper-nickel tube; and uses a special structure to prevent the current interruption
  effectively caused by the ship's swaying;
- Pressure test, vacuum test and running test have been carried out before out of the factory;
- It can be put into use only need to connect the necessary pipelines and power on after installation;
- Design, manufacture and acceptance are all carried out in accordance with relevant standards such as classification society regulations;
- 8. It can be designed and manufactured according to user needs.



# 产品介绍

#### Product introduction

# 三、单元柜式空调 / Packaged air conditioner

## 具体的参数见下表/ The specific parameters are shown in the following sheet:

	型号 Type		FSP-3WGE	FSP-5WGE	FSP-8WGE	FSP-10WGE	
制冷能量	kw		9.5	17.5	25	32	
Cooling capa	city kcal,	/h	8170	15050	21500	27520	
加热能量	KW		6	9	12	20	
Heating capa	city kcal,	/h	5160	7740	10320	17200	
制冷介质	Cooling medium			R404A	/R407C		
	主电路 Main ci	rcuit	AC 3	380V 50Hz 3Ф (	AC 440V 60Hz	3Ф)	
源 Power supply	控制电路 Control	circuit	AC 2	220V 50Hz 1Φ (	AC 220V 60Hz	1Φ)	
压缩机	型式 Type		hermetic scroll compressor				
Compressor	电机功率 Motor power	KW	2.2	3.7	5.9	8.3	
	型式 Type		卧式壳管式,具有高效冷糊贮液作用 horizontal shell & tube and can condense and receive liqui efficiently				
	海水进水温度 Sea Water inlet temp	°C		≤	32		
冷凝器 Condenser	淡水进水温度 Fresh Water inlet temp	℃		≤	36		
	水流量 Water flow	m³/h	2.74	6.98	8.5	9.25	
	水压损失 Water pressure loss	Кра	0.33	0.33	0.33	0.33	
	进出水口径 Dia.of inlet and outlet water	mm	DN25	DN32	DN32	DN40	



	型号Type		FSP-3WGE	FSP-5WGE	FSP-8WGE	FSP-10WGE
蒸发器	型式 Evaporator		铜管铜 (铅	書) 套片Copper t	ube with coppe	r (Al) fin
	型式 Type		低噪音	音离心风机 low	noise centrifuga	al fan
paen.	风 量 Air flow	m³/h	1700	2400	3800	4500
	电机功率 Motor power	KW	0.41	0.41	0.83	1.8
	噪 音 Noise	dB(A)	≤60	≤64	≤66	≤68
	₭ Length	mm	700	900	1250	1500
外形尺寸	宽 Width	mm	500	500	600	700
Dimension	高(duct) Height	mm	1450	1450	1450	1450
	高(Grill) Height	mm	1750	1750	1750	1750
壨	Weight	kg	190	210	265	370





## 四、船用壁挂式风冷空调/Marine split air conditioner

船用分体式空调是在船用立柜式空调机的基础上适应船舶特殊 区域应用要求的改进型产品,由室内机组和室外机组以及联接管组 成。用户可将室内机和室外机分别安装就位后再将联接管接好,敷 好电缆接通电源即可使用。室内机设计有壁挂式、立柜式多种型式 供用户选择,主要用在船员舱室和驾驶室。

Marine split air conditioner is the approved product applied to special vessel application based on marine cabinet air conditioner. It consists of indoor unit, outdoor unit and connection pipe. Users can install indoor unit and outdoor unit, and then connect the pipes, finish the wire layout and energize the power. There are many types of indoor units for users to choose: wall-mounted, standing type and ceiling type (ceiling hidden) and cabinet etc. Mainly fix in crew cabins and wheelhouses.









# 四、船用壁挂式风冷空调/Marine split air conditioner

具体的参数见下表/ The specific parameters are shown in the following sheet:

Model 포号	KFR-25GW/M	KFR-35GW/M	KFR-51GW/M	KFR-72GW/M	KFR-80GW/M	KFR-90GW/M
Power souce 电源	220-240V/50Hz-60Hz	220-240V/50Hz-60Hz	220-240V/50Hz-60Hz	220-240V/50Hz-60Hz	220-240V/50Hz-60Hz	220-240V/50Hz-60H
Horsepower(P) 匹数	1	1.5	2	3	3.5	4
Capacity (BTU)	9000BTU	12000BTU	18000BTU	24000BTU	30000BTU	36000BTU
Cooling capacity 制冷量	2500W	3496W	5100W	7200W	7600W	8800W
Cooling powet input 輸入功率	820W	1160W	1650W	2200W	2450W	3220W
Heating capacity 制热量	2550W	3530W	5000W	7000W	7700W	9000W
Heating powet input 輸入功率	860W	1230W	1600W	2100W	2250W	3100W
Current input 輸入电流	4.2A	5.9A	7.8A	9.8A	11.5A	13.8A
Air Flow Volume(M3/h) 风量	450	550	900	950	1350	1500
Ratde current input 额定电流	5.9A	7.9A	12.3A	13	18.5A	21A
Indoor/Ourdoor noise 噪音	30~36/45db(A)	36~42/48db(A)	39~45/55db(A)	42~46/55db(A)	46~51/56db(A)	48~53/58db(A)
Compressor 压缩机	GMCC	GMCC	GMCC	GMCC	GMCC	GMCC
Refrigerants 制冷剂	R22/520g	R410A/860g	R410A/1500g	R410A/1650g	R410A/2130g	R410A/2590g
Pipe diameter 管径	6.35 / 9.52	6.35 / 12.7	6.35 / 12.7	9.52 / 15.88	9.52 / 15.88	9.52 / 15.88
Weight 毛重	9/29KG	11/35KG	13/43KG	14/54KG	18/58KG	20/72KG

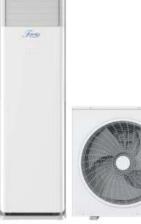




# 五、船用落地式空调 / Marine standing air conditioner

## 具体的参数见下表/The detail parameters are shown in the below sheet:

MODEL 型号	KFR-51GW/M	KFR-70GW/M	KFR-72GW/M	KFR-90GW/M	KFR-120LW/M	KFR-140LW/M	KFR-51GW/MI	KFR-72GW/MI
WORK MODE 工作模式	定额 Not inverter	变频 inverter	变频 inverter					
POWER SOURCE 电源	220-240V/ 50Hz-60Hz	220-240V/ 50Hz-60Hz	220-240V/ 50Hz-60Hz	220-240V/ 50Hz-60Hz	380-440V/ 50Hz-60Hz	380-440V/ 50Hz-60Hz	220-240V/ 50Hz-60Hz	220-240V/ 50Hz-60Hz
HORSEPOWER(P)匹数	2	3	3.5	4	5	6	2	3
TON (吨)	1.5	2	2.5	3	4	5	1.5	2
CAPACITY(BTU)	18000BTU	24000BTU	30000BTU	36000BTU	48000BTU	60000BTU	18000BTU	24000BTU
COOLING CAPACITY制冷量	5100W	7200W	7600W	8499W	11650W	13200W	5100(900-6500)W	7200(900-8200)W
COOLING POWER INPUT 輸入功率	1650W	2200W	2450W	3020W	3500	3960W	1620(230-2560)W	2820(320-3740)W
HEATING CAPACITY 制热量	5000W	7000W	7700W	9000W	18200W	13650W	7100(700-7900)W	9200(900-1100)W
HEATING POWER INPUT 輸入功率	1600W	2100W	2250W	3100W	3600	3800W	2200(230-2700)W	3160(260-3860)W
CURRENT INPUT 輸入电流	7.8A	9.8A	11.5A	13.5A	8.5A	9.6A	3.62	3.42
AIR FLOW VOLUME(M3/h)风量	900	950	1350	1500	1860	2050	980	1230
RATDE CURRENT INPUT額定电流	12.3A	13	18.5A	20A	12A	13A	12.3A	13
INDOOR/OUTDOOR NOISE 噪音	39-45/55db(A)	42-46/55db(A)	46-51/56db(A)	46-53/58db(A)	48~53/58db(A)	49~55/58db(A)	39~45/55db(A)	42~46/55db(A)
COMPRESSOR 压缩机	GMCC	GMCC	GMCC	GMCC	SANYO	SANYO	GMCC	GMCC
PIPE DIAMETER 管径	6.35/12.7	9.52/15.88	6.35/15.88	9.52/15.88	9.52/19.05	9.52/19.05	6.35/12.7	6.35/15.88
REFRIGERANTS 制冷剂	R410A/1500g	R22/1650g	R410A/2130g	R410A/2590g	R410A/3180g	R410A/3500g	R410A/R32	R410A/R32
WEIGHT 毛重	74KG	101KG	119KG	146KG	180KG	201KG	78KG	105KG







## 六、船用顶置式空调机 / Marine roof-mounted air conditioner





#### 产品特点:

- 1. 空调机采用微电脑控制,操作简单,性能稳定,控制可靠;
- 2. 机组具有压缩机高压力、低压力保护、过热保护功能;
- 3. 制热采用电加热, 高效、安全、可靠;
- 4. 所有制冷剂连接用铜管均采用TP2磷脱氧紫铜管、 换热器采用铜管铜片, 防腐蚀性能优越;
- 外壳采用耐腐蚀的不锈钢制成,能适应海上或海边港口的盐雾 环境;
- 6. 空调机组安装在机房顶部, 节约内部空间;
- 7. 温度控制精度±2°C;
- 8. 电压波动范围-10%~+6%。

产品广泛应用于各种起吊设备驾驶室、游艇驾驶室、电控房等。

#### **Product Characteristics:**

- 1. Microcomputer control, simple operation, stable performance and reliable control;
- The unit has the function of compressor high and low pressure protect, overheating protect;
- 3. Heating adopts electrical heating, efficient, safe, reliable;
- All refrigerant connect copper tubes adopt TP2 phosphorous deoxidize copper tube, heat exchanger adopts copper tube with copper fin, superior corrosion resistant performance;
- Casing is made of corrosive resistant stainless steel which can adapt salt-spray environment of offshore and seaside port;
- Air conditioner unit is installed at the top of the machine room which can save internal space;
- 7. Temperature control accuracy ±2°C;
- Voltage fluctuation range: -10% ∽+6%.

Products are widely used in different lifting equipment wheel house, yacht wheel house, traffic police boxes, electric control houses etc.





# 六、船用顶置式空调机 / Marine roof-mounted air conditioner

具体的参数见下表/The detail parameters are shown in the below sheet:

<sup>*</sup> 品型号 Product Type	制冷量 Cooling Capacity KW	制热量 Heating capacity KW	电源 Power supply V/Hz	控制方式 Control Method	整机功率 Unit power 制冷/制热 Cool/ Heat KW	制冷剂 Refrigerant	循环风量 Cycle Air Flow m3/h	外形尺寸 Outline Siz 长x患x高 LxWxH mn
			使用环境	温度: -20°C~45°C Am	bient Temperature			
YSDZ-18	1.8	1.5	220/50(60)	手动+遥控 Manual+remote control	0.82/1.55	R407C/R417A	400	877x504x395
YSDZ-25	2.5	1.8	220/50(60)	手动+遥控 Manual+remote control	1.02/1.86	R407C/R417A	480	877x504x395
YSDZ-35	3.5	2.5	220/50(60)	手动+遥控 Manual+remote control	1.54/2.69	R407C/R417A	600	1090x568x457
YSDZ-50	5	3	220/50(60)	手动+遥控 Manual+remote control	2.1/3.26	R407C/R417A	680	1090x568x457
			使用环境	温度: -20°C~55°C Am	bient Temperature		•	
YSDZ-18H	1.8	1.5	220/50(60)	手动+遥控 Manual+remote control	0.99/1.55	R134A	400	877x504x395
YSDZ-25H	2.5	1.8	220/50(60)	手动+遥控 Manual+remote control	1.24/1.86	R134A	480	1090x568x457
YSDZ-35H	3.5	2.5	220/50(60)	手动+遥控 Manual+remote control	1.94/2.69	R134A	600	1090x568x457
YSDZ-50H	5	3	220/50(60)	手动+遥控 Manual+remote control	2.37/3.26	R134A	680	1196x624x575





# 七、冷冻式冷干机 / Refrigeration type compressed air dryer

潮湿高温的压缩空气流入前置冷却器(高温型专用)散热后流入热交换器与从蒸发器排出来的冷空气进行热交换,使进入蒸发器的压缩空气的温度降低。换热后的压缩空气流入蒸发器通过蒸发器的换热功能与制冷剂热交换,压缩空气中的热量被制冷剂带走,压缩空气迅速冷却,潮湿空气中的水份达到饱和温度迅速冷凝,冷凝后的水分经凝聚后形成水滴,经过独特气水分离器高速旋转,水分因离心力的作用与空气分离,分离后水从自动排水阀处排出。经降温后的空气压力露点最低可达2°C。降温后的冷空气流经空气热交换与入口的高温潮湿热空气进行热交换,经热交换的冷空气因吸收了入口空气的热量提升了温度,同时压缩空气还经过冷冻系统的二次冷凝器(同行独有的设计)与高温的冷媒再次热交换使出口的温度得到充分的加热,确保出口空气管路不结露。同时充分利用了出口空气的冷源,保证了机台冷冻系统的冷凝效果,确保了出口空气的质量。

The compressed air flows into the pre-cooler (for high temperature type) for heat dissipation, and then flows into the heat exchanger for heat exchange with the cold air discharged from the evaporator, so that the temperature of the compressed air entering the evaporator is lowered. After the heat exchange, the compressed air flows into the evaporator to heat exchange. The condensed water is condensed into water droplets, which rotate at a high speed separator, and the water is separated from the air due to centrifugal force. After separation, the water is discharged from the automatic drain valve. The dew point of the air pressure after cooling can be as low as 2°C. The cooled air flows through the air heat exchange to heat exchange with the high temperature. The cold air absorbs the heat of the inlet air to increase the temperature, and the compressed air also passes through the secondary condenser. it makes the temperature of the outlet fully heated to ensure that the outlet air pipeline does not condense. At the same time, the cold source of the outlet air is fully utilized to ensure the condensation effect of the air dryer and the quality of the outlet air.





## 七、冷冻式冷干机 / Refrigeration type compressed air dryer

#### 产品特点:

- 采用全新进口全封闭制冷压缩机,超强制冷,运转稳定,噪音低,性能可靠,省电,使用寿命长;
- 热交换器、冷凝器选用优质材料制作,传热系数高,体积小, 结构紧凑;
- 3. 制冷控制元件采用国际先进的制冷元件, 性能优良;
- 4. 设备结构设计合理, 便于维护保养, 箱式外形, 美观大方。

#### 产品设计准则:

- A. 入口温度80°C;
- B. 周围温度45°C;
- C. 空气压力7Kg/cm², 最低压力4Kg/cm², 最高压力10Kg/cm² (超压力接受特殊订制)



#### **Product Characteristics:**

- Using a new brand hermitic compressor, super cooling, stable operation, low noise, reliable performance, power saving and long service life;
- The heat exchanger and condenser are made of high-quality materials, with high heat transfer coefficient, small volume and compact structure;
- 3. The control element uses the international element with excellent performance.
- The design of the equipment structure is reasonable, easy to maintain, and the appearance is beautiful and generous.

#### **Product Design Guidelines:**

- A. Air Inlet temperature 80°C;
- B. Ambient temperature 45 °C;
- C. The work pressure 7Kg/cm², minimum pressure 4Kg/cm², maximum pressure 10Kg/cm² (overpressure can be customized).





# 七、冷冻式冷干机 / Refrigeration type compressed air dryer

具体的参数见下表/The detail parameters are shown in the below sheet:

型号 model	处理风量 Capacity M³/Min	电压 Voltage AC	功率 Power KW	电流 Current A	制冷剂 Refrigeratio n	管 径 Connection (in and out)	重量 Weight KG	尺寸 Dimension L*W*H
FS-10	1.5		0.37	3.90		1' PT	60	700x450x730
FS-20	2.5		0.37	3.90			70	700x450x780
FS-30	3.8	1P*220V 50HZ 1P*230V 60HZ	0.74	4.00		1 1/2' PT	90	950x500x840
FS-50	7.0	TO CONTE	1.09	6.70			120	1030x500x800
FS-75	10.0		1.58	8.80	R407C R134A		160	1200x600x1140
FS-100	13.0		1.94	10.70		2' PT	200	1300x700x1220
FS-150	18.0		2.57	7.50		DN80	230	1350x700x1440
FS-200	23.0		3.10	8.50			240	1350x800x1640
FS-250	28.0	3P*380V 50HZ 3P*440V 60HZ	4.40	12.00			330	1500x800x1640
FS-300	36.0	3F 440V 00HZ	5.78	13.00		DN100	330	1500x800x1640
FS-400	45.0		6.51	16.00			600	2000x1100x1460
FS-500	55.0		8.62	20.00		DN125	710	2100x1050x2010





## 八、冷热式饮水机 / Marine drink water fountain

#### 产品特点:

- 1. 船舶冷热两用饮水机,冷、热可以单独或者同时使用;
- 2. 采用优质不锈钢材质,饮水健康安全;
- 3. 冷热两用满足一年四季的饮水需求;
- 4. 自带多级过滤系统;
- 5. 电制: 220-230V-1P-50/60HZ。

#### Product Characteristics:

- 1. Marine drink water fountain cold and hot can be used separately or at the same time;
- 2. Stainless steel structure:
- 3. to meet the needs of drinking water at all se
- 4. With a multi-level filtration system;
- Power supply: 220-230V-1P-50/60Hz.

#### 具体的参数见下表/The detail parameters are shown in the below sheet:

型号 Type	电制 Voltage	出口压力 Pressure	功率 Power	尺寸 Size	重量 Weight
FSDW-061DS	1P*220V 50HZ	0.1-0.45MPa	0.98kw	425x325x970mm	30kg
FSDW-061D	1P*230V 60HZ	0.1-0.45MPa	0.22kw	425x325x970mm	28kg







# 九、船用立式冰箱 / Marine stainless steel refrigerator

#### 产品特点:

- 1. 不锈钢整体结构;
- 2. 采用高品质进口压缩机;
- 3. 制冷剂为环保制冷剂;
- 4. 数字显示温控;
- 5. 冷藏、冷冻及双温三种形式。

#### **Product Characteristics:**

- 1. Stainless steel structure;
- 2. Use high quality import compressor;
- 3. The refrigerant is an environmentally friendly refrigerant;
- 4. Digital display temperature control;
- 5. Single-refrigerating, single-freezing and dual temperature types are optional.



型号 Type	电制 Voltage	容量 Capacity	功率 Power	尺寸 Size	重量 Weight
FS50R		50L	0.15kw	480x450x500mm	21kg
FS100R		100L	0.35kw	495x535x860mm	30kg
FS130R		130L	0.45kw	480x550x1200mm	40kg
FS190R	***************************************	190L	0.55kw	550x600x1650mm	55kg
FS210R	1P*220V 50HZ 1P*230V 60HZ	210L	0.68kw	560x600x1750mm	60kg
FS300R		300L	0.25kw	600x600x1800mm	100kg
FS500R		500L	0.35kw	620x760x1920mm	120kg
FS600R		600L	0.55kw	600x800x1950mm	120kg
FS1000R		1000L	0.7kw	1220x760x1920mm	180kg





# 十、船用不锈钢工作台冰箱 / Marine stainless steel worktable refrigerator

#### 产品特点:

- 1. 不锈钢整体结构;
- 2. 采用高品质进口压缩机;
- 3. 制冷剂为环保制冷剂;
- 4. 冷藏、冷冻两种形式。

型号 Type	电制 Voltage	容量 Capacity	功率 Power	尺寸 Size	重量 Weight
FW300R	1P*220V 50HZ	300L	0.6kw	1500x760x850mm	110kg
FW400R	1P*230V 60HZ	450L	0.65kw	1800x760x850mm	130kg

#### **Product Characteristics:**

- 1. Stainless steel structure;
- 2. Use high quality import compressor;
- 3. The refrigerant is an environmentally friendly refrigerant;
- 4. Single-refrigerating and single-freezing are optional.







## 1. 活塞式压缩机 / Compressors

涉及品牌Main brands: 萨博罗 (Sabroe) , 比泽尔 (Bitzer)、开利(Carlyle) 、大金 (Daikin) 、博克 (BOCK)、都灵 (Dorin),三菱 (Mitsubishi)等。







## 2. 全封闭式压缩机/Hermitic compressor

涉及品牌Main brands: 大金 (Daikin) , 谷轮 (Copeland), 丹佛斯 (Danfoss)等。





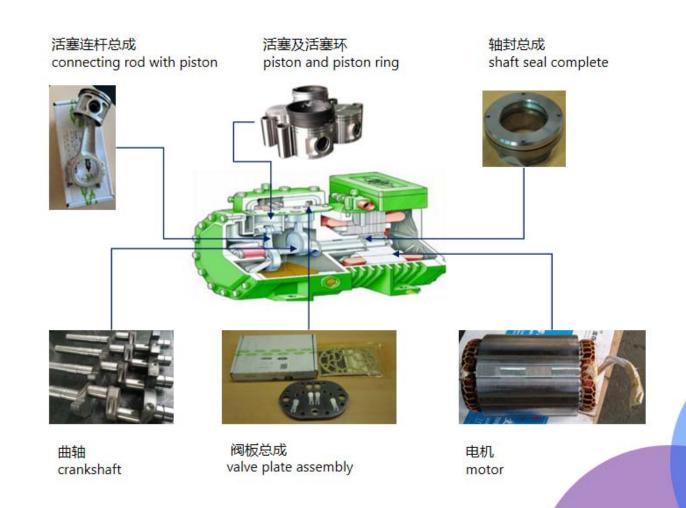
# 产品介绍 Product introduction

## 十一、备品备件 / Spare parts

### 3. 压缩机备件 / Compressor parts

压缩机主要由机体、曲轴、连杆、活塞组、阀板总成、轴封、油泵、能量调节装置、油滤器吸排气截止阀及垫片等部件组成。

The compressor is mainly composed of house, crankshaft, connecting rod, piston, valve plate assembly, shaft seal complete, oil pump, capacity regulator, oil filter, suction and exhaust shut-off valve and set of gasket etc.







## 压缩机备件 / Compressor parts 涉及以下型号(main type as the below)

品牌	系列	型号			
Brand	series	type			
	СМО	CMO24, CMO26, CMO28			
Sabroe SMC SBO	SMC104, SMC106, SMC108, SMC112, SMC116				
	SBO	SBO21, SBO22, SBO41, SBO42, SBO43			
	BFO	BFO3, BFO4, BFO5			
		2FC-2.2(Y), 2FC-3.2(Y), 2EC-2.2(Y), 2EC-3.2(Y) 2DC-2.2(Y), 2DC-3.2(Y), 2CC-3.2(Y), 2CC-4.2(Y)			
Bitzer	半封闭式 Semi Hermitic type	4FC-3.2(Y), 4FC-5.2(Y), 4EC-4.2(Y), 4EC-6.2(Y), 4DC-5.2(Y), 4DC-7.2(Y) 4CC-6.2(Y), 4CC-9.2(Y), 4NC-12.2(Y),4NC-20.2(Y), 4J-13.2(Y) 4J-22.2(Y), 4H-15.2(Y), 4H-25.2(Y), 4G-20.2(Y), 4G-30.2(Y)			
		6J-22.2(Y), 6J-33.2(Y), 6H-25.2(Y), 6H-35.2(Y),6G-30.2(Y),6G-40.2(Y) 6F-40.2(Y),6F-50.2(Y),8GC-50.2(Y),8GC-60.2(Y),8FC-60.2(Y),8FC-70.2(Y)			
	开启式 Open type	2T.2Y, 2N.2Y, 4T.2Y, 4P.2Y, 4N.2Y, 4H.2Y, 4G,2Y 6H.2Y, 6G.2Y, 6F.2Y,IV, V,VIW,VIIW			
Pools	半封闭式 Semi Hermitic type	HG4,HG5,HG6,HG7,HG8,HG22e,HG34e,HG44e			
Bock	开启式 Open type	FX3, FX4, FX5, FX14, FX16, FX18			
Carlula	半封闭式 Semi Hermitic type	06EA550, 06EA565, 06EA575, 06EA599, 06EM450, 06EM475,06EM499			
Carlyle 开启式 Open type	5F20, 5F30, 5F40, 5F60, 5H40, 5H60, 5H80, 5H120, 5H46, 5H66, 5H86, 5H126				
Dakin	半封闭式 Semi Hermitic type	2C582SE-F, 4C552A-F, 6C75-EB, 6C752-EB, 6HC582SE, 8HC752L			
Mitsubishi	半封闭式 Semi Hermitic type	FA-2LSY, MR-4SS, MR-B4MS, MS-4LS, MR-6MS			





## 4. 冷冻油及制冷剂 / Refrigerants and Lub. Oil

冷冻油涉及品牌(Main brands): 比泽尔 (Bitzer) , 冰熊 (Copeland), 丹佛斯 (Danfoss)。









## 5. 制冷控制元器件及附件 / Refrigeration controls and Accessories













## 6. 制冷工具 / Refrigeration Tools







## 7. 冷库冷风机 / Air cooler







8. 冷凝器和蒸发器 / Seawater Cooled Condensers and Plated Heat Exchangers







9. 离心风机和轴流风机 / Centrifugal fan and axial fan







## 10. 布风器 / Cabin unit







## 11. 电机 / Electrical motors

包含 (including):

通用电机 General motors

防爆电机 ATEX Motors

集成变频器 Integrated frequency inverters

中高压电机 Medium and High voltage motors







### 12. 维修保养与服务 / Refrigeration Services

我们可以为客户提供专业的船用空调冷藏维修服务,我们在中国、台湾,新加坡,英国,德国等地的许多港口都拥有一支专业的制冷工程师团队,可以安排一名经验丰富的工程师上船为客户排忧解难。我们服务包括故障分析、诊断,以及故障排除,同时还可以做制冷剂转换的工程。我们还可以为客户提供年度检查协议,以确保空调及冷藏系统运行在最佳工况,同时确保系统得到良好的维护,延长设备的使用寿命,我们为客户可以提供"7\*24"模式的支持。

We can offer many aspects of refrigeration services. We have a team of refrigeration engineers in many ports around the world and can arrange for a fully-qualified engineer to attend vessels in many locations. Our vast experience includes trouble-shooting and problem-solving, as well as full plant conversions to new refrigerants. We can also provide annual inspection agreements to ensure that breakdowns and failures are kept to a minimum and systems are well maintained. We can provide customers with "7\*24" mode support.





## 12. 维修保养与服务 / Refrigeration Services







- 12. 维修保养与服务 / Refrigeration Services
- ◆ 控制系统升级改造(Retrofit & upgrade)

显示屏和PLC控制系统升级(Display and PLC control system)

配电板换新(Electrial switchboards replacement)



Upgrade kit

E200

olack, out of control

E410

No driver, black

E1041

black,flash











## 12. 维修保养与服务 / Refrigeration Services

### ◆ 系统捡漏及维修(Leakage test and Repair)

使用检测器或肥皂水进行泄漏测试 (Leakage test with detector or soap water)

- 电焊 (Elec. welding )
- 气焊 (Gas welding)
- 压力测试 (Pressure test)









## 12. 维修保养与服务 / Refrigeration Services

#### ◆ 故障维修服务Mantenance

- 故障分析、诊断及解决服务 Fault analysis, diagnosis and resolution services
- 定期维修 Scheduled Maintenance
- 预防性的维护 Preventive Maintenance
- 故障解决服务 Shutdown Service
- 年检 Annual inspection
- · 定制化服务 Modernization Service
- 制冷剂转换 R22 and R404A phase out / retrofit

















### 13. 其他备件 / other spare parts

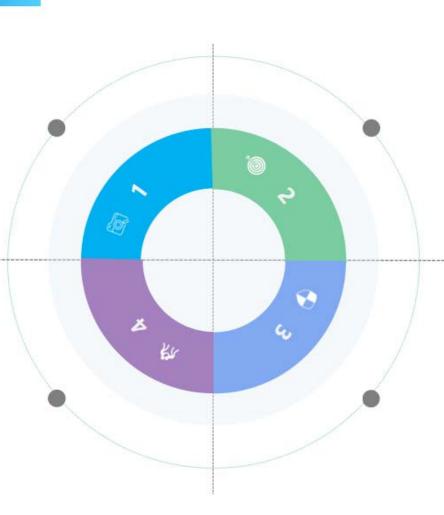
## Air compressors (空压机, 涉及以下品牌)

Tanabe, Yanmar, Sperre, Hatlapa, Hamworthy, JP Sauer, Teikoku

# Others parts

(其他备件,涉及以下品牌)

TTS, JOWA, Sondex, Taikokangda, TBGmarinetec, Wuhan marine machinery.



## Oil purifier (分油机, 涉及以下品牌)

Alfa Laval, Mitsubishi, Westfalia

### Pump (泵, 涉及以下品牌)

TAIKOKIKAL, NANIWA, SHINKO, IMO, Hamworthy, DESMI, ALLWEILER, Azure.



# 03 合作品牌 Cooperative brand









# When you think Refrigeration, Think Fair Sky!

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# THANK YOU

