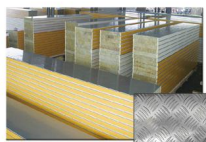


彩钢库板 Colored steel board

以良好隔热性能的聚氨酯为芯材料,外面采用彩钢板做的夹心式结构,可以最大限度地由内往外而产生的传热,以却冰水、冷藏库等,其低效率。它设计简单,简单实用,是达节能降耗、绿色环保的新形式。

With good insulation performance of polyurethane for the inner core material, sandwich type library board outside using color steel plate to can, can reduce the heat transfer due to the temperature difference between inside and outside, in order to achieve maximum efficiency of freezing, refrigerating system. It is of simple design, simple and practical, to save the construction cost of the new heat insulation materials.

Specifications: 50, 75, 100, 120, 150, 200mm



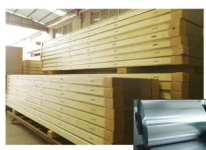
压花铝板 Embossed aluminum

以良好隔热性能的聚氨酯为芯材,外面采用压花铝板的夹心式系统,可以降低由于内外温差而产生的热传导,以达到冷冻、冷藏系统的最大效率。4mm的压花铝与PU的粘合,可以确保土木承建及天气防潮。可开叉式车在上面行走。

库板规格: 50, 75, 100, 120, 150, 200mm

With good insulation performance of polyurethane for the inner core material, outside the sandwich base plate checkered plate to do, can reduce the heat transfer due to the temperature difference between inside and outside, in order to achieve maximum efficiency of the refrigerating system. 4mm of the bonding pattern steel with PU-4mm, you can omit the civil bearing and gas insulation and moistureproof layer. Can withstand forklift walk on.

Specifications: 50, 75, 100, 120, 150, 200mm



**不锈钢板** Stainless steel board

• 具有良好的性能系数且为内芯材料，外面采用不锈钢板做的封闭式库板，可以降低由于内外温差而产生的传热损失，以达到、冷藏系统的最大效率。

库板规格：50、75、100、120、150、200mm

With good insulation performance of polyurethane for the inner core material, sandwich type library board outside adopts stainless steel plate to do, can reduce the heat transfer due to the temperature difference between inside and outside, in order to achieve maximum efficiency of freezing, refrigerating system.

Specifications: 50, 75, 100, 120, 150, 200mm

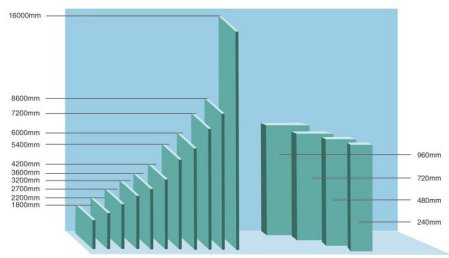


## ■ 库温、库板参考数据 Couvin, the library board reference data

[illegible]

## 冷库板标准尺寸及产品介绍

[illegible]



密度 (kg/m³)	Density (kg/m³)	抗弯强度 (Mpa)	Bending strength (Mpa)	抗压强度 (Mpa)	Compressive strength (Mpa)
38-45	38-45	>0.25	>0.25	>0.2	>0.2
导热系数 (W/m·K)	Thermal conductivity (W/m·K)	吸水率 (kg/m³)	Water absorption (kg/m³)	黄火自燃时间 (s)	Self-extinguishing time (s)
<0.022	<0.022	<0.30	<0.30	<7	<7

冷库板以良好隔热性能的轻质聚氨酯为内芯材料，外面由彩钢板、不锈钢板构成的夹板式库板，可以降低由于内外温差而产生的传热，以达到冷冻、冷藏系统的最大效率。

冷库板厚度规格：50、75、100、120、150、200mm

冷库板库板尺寸规格：标准化的库板宽为960mm、1000mm，高度为1米至12米。

(另：根据您的特殊要求还可特别定制)

Cold plate with lightweight polyurethane good heat-insulating performance as inner material, outside by color steel plate, stainless steel plate, can reduce the heat transfer due to the temperature difference between inside and outside. The maximum efficiency of freezing, refrigerating system.

Cold plate thickness: 50, 75, 100, 120, 150, 200mm

Cold plate base plate dimensions: standardized library board width is 960mm, 1000mm, height of 1 meters to 12 meters.

(other: according to your special requirements can also be customized)

搭钩式冷库板是一种拼装快速简单的冷藏设备，它与传统的土建冷库相比有以下优点：具有良好的保温隔热和防潮防水性能。使用范围可在-50~+100℃。重量轻，不易霉烂，阻燃性能好。抗压强度高，抗震性能好。组合灵活，安装方便。或根据用户需求并配置制冷机组和制冷元件。

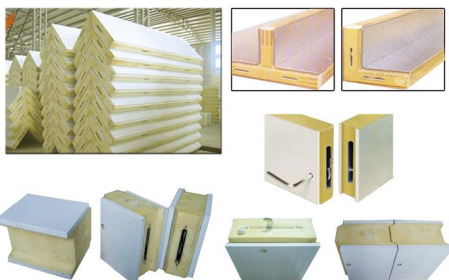
搭钩式冷库为钢结构骨架，并辅以隔热墙体、顶盖和底架，使其达到隔热、防潮及降温等性能要求。装配式冷库保温主要由隔热型板（墙体）、顶板（夹板）、底板、门、支撑板及底座组成。它们是通过特殊结构的子母钩拼装、固定，以保证冷库良好的隔热、气密性。

偏心挂钩锁紧连接 使库板安装便捷。标准宽度：960mm 非标定制长度：1米-12米

Hasp type cold storage construction has the following advantages: good insulation and waterproof performance. Application range in -50 ~ +100 °C. Light weight, not easy to mildew, good flame retardant performance, high compressive strength, good anti-seismic performance, flexible combination, convenient installation. Or according to user needs and the configuration of the refrigeration unit and the control element.

Hasp type cold as steel skeleton, supplemented by heat insulation wall, top and bottom, the heat insulation, moisture-proof and cooling performance requirements, assembled cold storage insulation is mainly composed of a heat insulation wall (wall), roof (patio slab), floor, door, support plate and a base, which is a hook assembly, special the structure of fixed by, to ensure the heat insulation, good air tightness of cold storage.

The eccentric hook lock is connected to the base plate of convenient installation. Standard width: 960mm non-standard custom length: 1 meters - 12 meters



## ■ 聚氨酯冷库板介绍

聚氨酯夹芯板是一种保温性能良好，强度较高的围护结构用板。有良好隔热性能的聚氨酯为内芯材料，外面采用彩钢板的夹心式库板，可以降低由于内外温差而产生的传热，以达到冷冻、冷藏系统的最大效率。它设计科学，简单实用，是达到节约施工成本的新型隔热材料。多品种、多规格的库板，以适应各种场所和工程的需要。经国家权威检测机构测试，各项技术指标符合国家标准规定。产品广泛应用于各种低温冷库、气调库、高温库和大型物流冷库。

冷库板厚度规格：50、75、100、120、150、200mm

冷库板库板尺寸规格：标准化的库板宽为960mm，高度为1米至12米。（另：根据您的特殊要求还可特别定制）

Polyurethane sandwich panel is a kind of good insulation performance, enclosure panel with high strength, good thermal insulation properties of polyurethane as the inner core material, sandwich color steel plate made by the library board outside, can reduce the heat transfer due to the temperature difference between inside and outside, in order to achieve maximum efficiency of freezing, refrigerating system. It is of scientific design, simple and practical, is to save the construction cost of the new heat insulation materials. Base plate varieties, specifications, to meet the needs of various places and engineering. By the national authoritative testing organizations test, the technical indicators of the standard provisions of the state. The products are widely applied to various cold storage, cold storage, high temperature storage and cold storage of large logistics.

Cold plate thickness specifications: 50, 75, 100, 120, 150, 200mm

Cold plate base plate dimensions: standardized library board width is 960mm, the height of 1 meters to 12 meters.

(other: according to your special requirements can also be customized)

## ■ 结构说明

1. 库板基板采用涂塑彩色钢板，防锈铝合金板或不锈钢板，用户根据需要自由选择，金属面板与隔热芯材料用聚氨酯压力注射机一次性成型，粘接成型，加强库板强度和刚性。

2. 库板拼接：1) 一般冷库用库板采用凹凸槽形式，用内嵌钩锁盒，两板缝隙间用密封胶材料密封。

2) 气调库采用平盖结构，面板采用压型板连接中间填充聚氨酯。

聚氨酯冷库板最大的特点是几何连接方式，并采用一个语言式的软便结合密封，确保了冷库和低温结构中的高要求不渗透性，同样也适用于洁净和超洁净的房间。

1, the library board substrate by coating color steel plate, aluminum alloy sheet or stainless steel sheet, according to the requirements of users the freedom to choose, polyurethane pressure injection machine disposable foam, metal panel and the heat insulation sandwich material adhesive molding, strengthen the strength and rigidity of base plate.

2, the library board splicing: 1) general cold storage base plate with concave and convex grooves form, use the offset lock box, two plate gap is sealed with a sealing material.

2) CA storage using planar structure, panel adopts a pressure plate connected with the middle filled polyurethane.

The characteristics of polyurethane cold plate is the largest of the geometric connection mode, and the use of hard and soft with a labyrinth seal, ensure the high requirements of cold storage and low temperature structure of the impermeable, also suitable for clean and ultra clean room.

- 一、组合冷库为室内冷库，外部需要采用钢板屋顶。
- 二、组合式冷库安装要确保强度和安全性，顶板长度大于4米要考虑安装吊梁和蘑菇头连接方式。
- 三、库板与库板采用700胶水密封。
- 四、隔热板和包柱板采用角封和圆弧角铝连接。
- 五、地坪采用保温材料铺设，再在上覆设制水泥或在聚氨酯库板上铺设压花铝板或木条胶板。

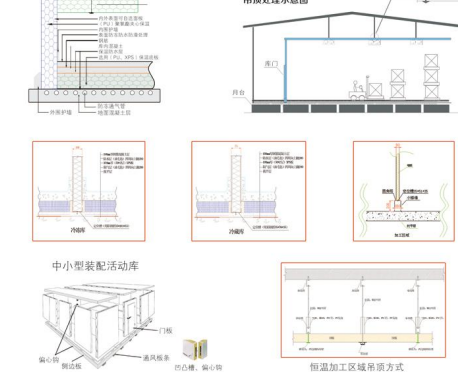
1. A combination of cold storage, cold storage for the interior, exterior need to adopt the steel roof.

2. The combined cold storage installation to ensure strength and safety, roof length greater than 4 meters to consider installing a hanging beam and a mushroom head connection mode.

3. Base plate and the base plate adopts 703 glue sealing.

4. Partition board and the column plate adopts angle seal and the arc angle aluminum connection.

5. Floor insulation material used to pave the way, again above pouring cement or embossed aluminum or wood mat board positions on the floor of the polyurethane base plate.



■ 冷库门系列产品展示



半墙门  
Semi-insulating door



半墙门带小窗  
Semi-insulating door with window



不锈钢双开门  
Double-wing door



改造门  
Modified hinged door



自闭门  
Self-closing door



洁净门  
Clean room door



左开全墙门  
Fully insulated left door



自由门  
Free door



电动垂直升降门  
Electric vertical sliding door



中型平移门  
Manual sliding door



轻型平移门  
Light transition door



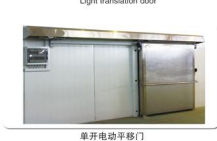
自由自闭门及带小窗  
Self-closing door with window



双开全墙门  
Fully insulated double-wing door



双开电动平移门  
Double electric door



单开电动平移门  
Single electric door



便携式氧和二氧化碳测试仪



超声波加湿器



二氧化碳脱除机

气调贮藏方法是目前国际上使用最普遍、效果最好、最先进的果蔬保鲜技术之一。主要应用于水果、蔬菜等食品贮藏。它是在冷藏的基础上，增加气体成分调节系统，通过对贮藏环境中温度、湿度、二氧化碳、氧气浓度和乙烯浓度等条件的控制，抑制果蔬呼吸作用，延缓其新陈代谢过程，更好地保持果蔬的品质和新鲜度，延长果蔬的贮藏期和保鲜期。通常气调贮藏比普通冷藏可延长贮藏期0.5-1倍，气调库内果蔬的果重、出售后保鲜期较普通冷藏可延长21-28天，是普通冷藏库的3-4倍。

Controlled atmosphere storage of fruits and vegetables preservation method is one of the most widely used technology in the world at present, the best effect, the most advanced. Mainly used in fruit, vegetables and other food storage. It is in cold storage on the basis of increasing the gas composition adjustment system, by controlling the condition of storage environment temperature, humidity, carbon dioxide, oxygen concentration and ethylene concentration, the inhibition of respiration of fruits and vegetables, delaying its metabolic processes, to better maintain the quality of fruits and vegetables and freshness, storage period and prolong the preservation period of fruits and vegetables. Usually the gas storage than ordinary storage could prolong the storage period of 0.5-1 times, controlled atmosphere storage library of fruits and vegetables, after cold storage preservation period than ordinary storage could prolong the 21-28 day, is 3-4 times that of ordinary freezers.

■ 气调冷藏库主要性能指标 The main performance indexes of gas adjustment cold storage  
库内温度：-2℃-15℃可调。相对湿度：RH75%-95%可调。氧含量（O<sub>2</sub>）：1%-10%可调。二氧化碳（CO<sub>2</sub>）：1%-10%可调。乙烯含量：10PPM以下。库体气密指标（国内）：限定压力10mm水柱，10min后残留水柱高度不少于5mm。库体气密指标（国外）：限定压力25mm水柱，30min后残留水柱高度不少于8mm。  
The temperature in the Library: -2℃-15℃ adjustable. Relative humidity: RH75%-95% adjustable. The oxygen content (O<sub>2</sub>): 1%-10% adjustable. Carbon dioxide (CO<sub>2</sub>): 1%-10% adjustable. Ethylene content: 10PPM. A reservoir body tightness index (domestic): the limit pressure of 10mm water column, water column height of not less than 5mm residue after 10min. Library body tightness index (foreign): the limit pressure of 25mm water column, water column height of not less than 8mm residue after 30min.



比泽尔三开压缩机



谷轮风冷制冷机组



谷轮水冷制冷机组



美优乐全封闭机组

利用冷库进行果蔬贮藏，是通过抑制微生物和酶的活性，延长水果蔬菜贮存期的一种贮藏方式。水果蔬菜的保鲜冷藏温度范围一般为-2℃-16℃，湿度在85%-95%之间。保鲜贮藏可以有效降低腐烂率的发生率和果蔬的损耗，延缓果蔬的呼吸代谢，延长贮藏期。果蔬冷库库主要应用于各种蔬菜、水果等食品，另外还有干果类食品等。果蔬冷库可根据实际的货物进库温度和数量进行能量调节。

For storage of fruits and vegetables by cold storage, is through the inhibition of microbial and enzymatic activity, extend a storage the storage period of fruits and vegetables. Preservation temperature range of fruits and vegetables is generally -2-16℃, humidity between 85%-95%, storage can effectively reduce the incidence of pathogens and fruit rot rate of respiratory metabolism slows, fruits, prolong the storage period. Fruit and vegetable cold storage is mainly used in a variety of vegetables, fruit and other food, in addition to dry fruit class food etc. Frozen fruits and vegetables can be based on the actual temperature and the quantity of the goods into the library for energy regulation.

■ 果蔬冷藏库的特点 Characteristics of fruit and vegetable cold storage

- 1、投资小，维护管理费用少；
  - 2、低温稳定，湿度高，保鲜品质好、保鲜期长；
  - 3、自动化程度高，管理方便；
  - 4、隔热保温性能好，重量轻，强度高，耐腐蚀、抗老化、外形美观。
1. the investment is small, less management expenses;  
2. low temperature stability, high humidity, preservation of good quality, long preservation period;  
3. a high degree of automation, convenient management;  
4. good thermal insulating performance, light weight, high strength, corrosion resistance, aging resistance, beautiful appearance.





肉类冷冻库贮藏肉类食品是一种科学的保鲜方法。肉类冷冻库技术是把不同温度的冷却食品和冻结食品在不同温度的冷库内作短期或长期的储备，主要适用于各种肉类、水产品等食品贮存。

Meat freezer storage of meat food preservation is a scientific method. Meat refrigeration technology is the different temperature cooling food and frozen food in cold storage at different temperature in short - or long-term reserves, mainly applicable to a variety of meat, aquatic products and other food storage.

#### ■ 肉类冷冻库特点 Meat freezer features

肉类食品由于受天气温度的影响，可能由于食品酶的分解、氧化和微生物生长繁殖而引起变质。肉类冷库的低温可以抑制酶的分解、减缓氧化、抑制微生物生长繁殖，使肉类食品的化学变化速度显著减缓，在产品生产周期甚至数月后仍保持原有的品质。肉类食品在-18℃以下冷藏即可使微生物和酶对食品的作用变得缓慢，-23℃以下的低温可大幅度延长保质期，在-30℃下的冷藏期比在-18℃下冷藏期长一倍以上，其中猪肉最明显。

Meat as affected by the weather and temperature, may cause deterioration due to food enzyme decomposition, oxidation and microbial growth and reproduction. Meat cold storage at low temperature can control the enzyme decomposition, slow oxygen, inhibit microbial growth and reproduction, so that the chemical change speed of meat significantly slow, in production for several weeks or even months later still maintain the original quality. Meat food cold storage can be at -18℃ to microorganisms and enzyme in food becomes weak. -23℃ the temperature is below can greatly prolong the storage period of under -30℃, cold storage period than at the temperature of -18℃ frozen period more than twice as long, of which the most obvious of pork.



化工防爆冷库采用领先的多功能微电子技术集成防爆器件及优化防爆技术，并采用全光隔爆级安全控制电路，具有多重安全保护功能，配备高精度压力、温度检测系统。

化工防爆冷库由防爆机组、防爆冷风机、防爆控制箱、防爆照明、防火板等特殊设备组成，工作可靠、可维护性好，具有限制最大表面温度、不正常气密检测停机保护等功能，安全性很好。

化工防爆冷库主要用于可燃性气体贮库、化工医药电子类产品原料等的恒温贮藏。一般分为ⅡA、ⅡB、ⅡC三级。

Chemical explosion proof refrigerator adopts the technology of multi function microelectronic integrated explosion-proof devices and optimizing explosion-proof leading, and using all optical isolation micro watt level safety control circuit, with multiple safety protection function, equipped with high-precision pressure, temperature detection system.

Chemical anti cold by the explosion-proof explosion-proof unit, air cooling machine, explosion-proof control box, explosion-proof lighting, fire base plate and other special equipment assembled, reliable work, good maintainability, and has a large quantity of surface temperature limit, not normal leak stop protection function, good safety performance.

Constant temperature storage of chemical explosion proof refrigerator mainly used in explosive gas storage, chemical and pharmaceutical raw materials and other electronic products. Generally divided into II A, II B, II C level three.

#### ■ 化工防爆冷库的特点 The characteristics of the chemical explosion proof refrigerator

冷库制冷系统能使库内环境温度降至-15℃~25℃范围内进行调节使用。由于库内放置的物品易燃易爆，故对该设备中的所有电气进行ⅡC级处理。使设备能安全可靠工作，并设置备用机组，确保冷库的温度始终维持在物品所需的低温工况。

Cold storage refrigeration system can make the Treasury regulation used in ambient temperature to -15℃~25℃ temperature range. Because the goods in the warehouse place flammable and explosive, so for all electric in the device of C class II processing. The equipment can work safely and reliably, and set the standby unit, make sure that the cold storage temperature can always maintain the low temperature condition required in items.



严格遵守国家食品药品监督管理局关于冷库的相关规定标准，高质量高标准地建造医药行业相关冷库工程，配合企业一次通过GSP认证。

Strictly abide by the relevant provisions on cold storage of the State Food and drug administration standards, high standards of quality construction of pharmaceutical industry related cold storage engineering, enterprises with a certified by GSP.

#### ■ 医药冷库种类及适用范围主要如下 Medical cold storage type and applicable range are as follows

- 0-8℃ 可用于贮存疫苗、药剂等；
- 2-8℃ 可用于贮存药品、生物制品等；
- 20~-30℃ 可用于贮存血浆、生物材料、疫苗、试剂等；
- 30~-80℃ 可用于保存细胞、精液、干细胞、血液、骨髓等生物样品。
- 0-8℃ can be used to store vaccines, pharmaceutical etc.;
- 2-8℃ can be used to store the drugs, biological products etc.;
- 20~-30℃ can be used to hold the plasma, biological materials, such as reagents, vaccines;
- 30~-80℃ can be used to save the embryo, semen, stem cells, bone marrow plasma, such as biological samples.

#### ■ 医药试剂冷库的特点 The characteristics of medicine of the cold storage

- 1、冷库内配备专用制冷机组，以保证常用机组遇故障停止工作时，通过备用机组的运转，不影响库内药品、疫苗及相关产品、设备的正常存放；
  - 2、机头设备采用进口零部件，选用优质材料，故障少、噪音低、节能省电、运行可靠；
  - 3、制冷控制系统采用全自动微电脑电气控制技术，自动检测、记录和调控储存区域的温度、湿度，配备具有高精度传感器的温度记录仪以及故障报警装置，保证库内药品、疫苗及相关设备的正常存放。
- 1, cold storage is equipped with standby refrigerating unit, to ensure that the commonly used unit in case of failure to stop working, through the standby unit operation, does not affect the library drugs, vaccines and related products, equipment, the normal storage;
- 2, the machine equipment imported parts, using high quality materials, strict inspection of the factory, less failure, low noise, energy saving, reliable operation;
- 3, refrigeration control system adopts automatic microcomputer control technology, automatic detection, recording and controlling the temperature and humidity of storage area, equipped with high precision sensor temperature and humidity recorder and fault alarm device, ensure the library medicines, vaccines and related equipment of the normal storage



速冻装置主要用于快速冻结产品的加工，使食品迅速通过其冻结过程中的大冰晶生产区，减少食物水分、汁液的流失，且能有效抑制食物内部微生物及酶的作用，最大限度的保持食品原有的营养价值及食香味。目前速冻装置广泛应用于肉类、禽类、水产、调理食品、蔬菜、冰激凌、乳制品、血液制品等多行业品种的快速冻结加工。速冻装置主要包括：隧道式系列冻结装置、螺旋式系列冻结装置、液态化冻结装置、液氮喷淋式冻结装置等。

速冻库的温度一般有一20℃~25℃、-20℃~35℃和-25℃~45℃几种。特殊冷库温度可达-60℃以下，并可实现一库双温或多温，满足不同用户的需求。

Quick freezing device is mainly used for processing quick freezing product, make food quickly through the production area of large ice crystals during freezing process, decrease water, juice mistakes in tissue loss, and can effectively suppress microbes and enzymes in food internal function, maintain the maximum nutritional value and food color original. At present, quick freezing device widely used in meat, poultry, aquatic products, vegetables, prepared food, ice cream, milk products, blood products and other industry many varieties of quick freezing processing, quick freezing device mainly comprises a tunnel type series freezing device, spiral series freezing device, the fluidization device of liquid nitrogen freezing, spray freezing device etc.

Freezer temperature generally -20℃~25℃, -20℃~35℃ and -25℃~45℃ several. Special cold storage temperature is -60℃, and can achieve a double temperature or multi database, to meet the different needs of the user.

#### ■ 速冻库的特点 The characteristics of frozen library

冷库采用先进的微电脑控制系统，液晶显示库内温度、开机时间、化霜时间、风机延时时间、报警指示等各项技术参数。操作简单，用户使用非常方便。

冷库的主要部件均采用进口的国际知名品牌，这些都确保了冷库的配置合理、运行平稳、保温性能好、低耗高能、品质卓越。速冻库的面板玻璃钢化、彩钢板、压花铝板、不锈钢板四种，可以降低由于库内外温差而产生的传热，以达到冷冻、冷藏系统的最大效率。保温板采用硬质聚氨酯发泡或聚苯乙烯复合保温板，其优点为重量轻、强度高、耐腐蚀、抗老化、隔热性好。

The microcomputer control system of cold storage with cash, liquid crystal display the temperature in the library, the boot time, the defrosting time, fan delay time, alarm indication and the technical parameters. The operation is simple, the user is very easy to use.

The main parts are made of imported cold storage of international famous brand, these are to ensure the reasonable storage configuration, stable operation, good heat preservation performance, low energy consumption, quality excellence. Freezer panel divided into glass plate, color steel plate, embossed aluminum, stainless steel plate four. Can reduce the heat transfer due to the temperature difference between inside and outside of the library, in order to achieve maximum efficiency of freezing, refrigerating system. Insulation board adopts hard polyurethane pouring into and polystyrene insulation board, the utility model has the advantages of light weight, high strength, corrosion resistance, aging resistance, good heat insulation performance.



冷藏库主要用于食品的冷藏。不定期的将部分食品放入冷库，同时又要不定期的将另一部分食品取出，对食品的冷藏时间没有具体要求，且库温保持在-15℃—-18℃的范围。  
Cold storage is mainly used for food storage. Do not regularly will be part of the food in the refrigerator, and also not regularly another part is taken out of food, there is no specific requirements for food cold storage time, temperature and keep in the range of -15℃ and -18℃.



食用菌富含多种人体所需的氨基酸、碳水化合物、维生素等，是其珍贵的“绿色健康食品”。随着食用菌需求量的增加，菌菇库的需求量也猛增。易晶在05年开始，先后在北京、深圳、上海、天津、武汉等中心城市承建了总面积达50000m<sup>2</sup>的菌菇库，质量均达到全球标准，深受客户信赖。  
Edible mushroom is rich in the human body needs a variety of amino acids, carbohydrates, vitamins, and green health food of precious ". With the increasing demand for edible mushroom, mushroom base demand has soared. Easy crystal at the start of the 05 years, successively in Beijing, Shenzhen, Shanghai, Tianjin, Wuhan and other central cities for the construction of a total area of 50000m<sup>2</sup> mushroom base, quality reached the global standard, deeply trusted by customers.

### 比泽尔半封闭活塞压缩冷凝机组 Condensing unit with BITZER semi-hermetic piston compressor



#### 产品主要特征

- 1、产品种类齐全，为客户提供了广阔的选择空间；
- 2、产品包括风冷式和水冷式两种，适应不同的应用场合；
- 3、风冷冷凝器在3.0MPa气压下进行气密性试验，保证了冷凝器具有高气密性的质量特性；
- 4、冷凝器管径大，机械性能比高；
- 5、与供应商保持良好的合作关系，保证了原材料的进货质量从而确保为客户提供优质的产品。

#### Product Features

1. Various kinds of models for your choice;
2. Two types: air cooled type and water cooled type to meet your different requirement.
3. Air cooled condenser was did air tightness test under 3.0 MPa atmospheric pressure, to insure condenser quality;
4. Large volume, high efficient;
5. We keep in touch well with our suppliers, which can guarantee material quality and production lead-time of orders.

#### 中高温水冷机组技术参数 Medium and high temperature water cooled unit technical data

主要参数 Technical data	WPB2-003L	WPB2-004L	WPB2-005L	WPB2-007L	WPB2-010L	WPB2-015L	WPB2-020L	WPB2-025L	WPB2-030L	WPB2-040L	WPB2-050L
压缩机型号 Compressor model	2CE5-3	2CE5-4	4PE5-5	4CE5-7	4PE5-10	4PE5-15	4PE5-20	4PE5-25	4PE5-30	4PE5-40	4PE5-50
名义制冷量 (kW) Tuslar ref capacity	6333	7983	8900	13600	16967	23715	28900	37485	43010	64515	76415
压缩机额定输入功率 Compressor rated input power	2.2	3.0	3.7	5.4	7.35	11.0	14.7	18.37	22.0	29.4	36.75
制冷剂 Refrigerant	R22										
电源 Power	380V-3PH-50HZ										
压缩机额定输入电流 Compressor rated input current	37.0	44.2	62.2	82.4	99.0	132.0	158.0	193.0	220.0	323.0	404.0
压缩机最大连续输入电流 Compressor max continuous current	7.8	9.4	10.8	15.9	21.0	31.0	37.0	45.0	53.0	78.0	92.0
冷凝器冷却能力 (kW) Power of condenser heater	0-120	0-120	0-120	0-120	100	100	100	140	140	140	140
蒸发温度范围 (°C) Range of evaporating temperature	0~-20°C (蒸发温度-15°C以下需要采用附加冷却剂或制冷剂气温度等级降低)										
冷库温度 (°C) Cold room temperature	+12~-10°C										

- 1、额定输入功率和电流是在ARI工况下的值。
- 2、机组名义制冷量试验工况为：蒸发温度-7℃，进水温度30℃，出水温度35℃。

- 1 Rated input power and current is the number under ARI working condition.
- 2 Unit nominal refrigeration capacity testing working condition: evaporating temperature -7℃, water inlet temperature 30℃, water outlet temperature 35℃;

#### 中低温水冷机组型号 Low and medium temperature type water cooled unit technical data

主要参数 Technical data	WPB2-003L	WPB2-004L	WPB2-005L	WPB2-007L	WPB2-010L	WPB2-015L	WPB2-020L	WPB2-025L	WPB2-030L	WPB2-040L	WPB2-050L
压缩机型号 Compressor model	4CE5-3	4CE5-4	4CE5-5	4CE5-7	4CE5-10	4CE5-15	4CE5-20	4CE5-25	4CE5-30	4CE5-40	4CE5-50
名义制冷量 (kW) Tuslar refrigeration capacity	5840	7225	8245	13600	15504	22270	27115	35360	40545	60775	72165
压缩机额定输入功率 Compressor rated input power	2.2	3.0	3.7	5.4	7.35	11.0	14.7	18.37	22.0	29.4	36.75
制冷剂 Refrigerant	R22										
电源 Power	380V-3PH-50HZ										
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冷凝器冷却能力 (kW) Power of condenser heater	0-120	0-120	0-120	0-120	100	100	100	140	140	140	140
冷凝器风机额定功率 (kW) Power of condenser fan motor	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
冷凝器风机额定电流 (A) Fan motor working current	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
蒸发温度范围 (°C) Range of evaporating temperature	0~-20°C (蒸发温度-15°C以下需要采用附加冷却剂或制冷剂气温度等级降低)										
冷库温度 (°C) Cold room temperature	+12~-10°C										

#### 中高温风冷机组技术参数 Medium and high temperature type air cooled unit technical data

主要参数 Technical data	WPB2-003L	WPB2-004L	WPB2-005L	WPB2-007L	WPB2-010L	WPB2-015L	WPB2-020L	WPB2-025L	WPB2-030L	WPB2-040L	WPB2-050L
压缩机型号 Compressor model	2CE5-3	2CE5-4	4PE5-5	4CE5-7	4PE5-10	4PE5-15	4PE5-20	4PE5-25	4PE5-30	4PE5-40	4PE5-50
名义制冷量 (kW) Tuslar refrigeration capacity	5840	7225	8245	13600	15504	22270	27115	35360	40545	60775	72165
压缩机额定输入功率 Compressor rated input power	2.2	3.0	3.7	5.4	7.35	11.0	14.7	18.37	22.0	29.4	36.75
制冷剂 Refrigerant	R22										
电源 Power	380V-3PH-50HZ										
压缩机额定输入电流 Compressor rated input current	37.0	44.2	62.2	82.4	99.0	132.0	158.0	193.0	220.0	323.0	404.0
压缩机最大连续输入电流 Compressor max continuous current	7.8	9.4	10.8	15.9	21.0	31.0	37.0	45.0	53.0	78.0	92.0
冷凝器冷却能力 (kW) Power of condenser heater	0-120	0-120	0-120	0-120	100	100	100	140	140	140	140
冷凝器风机额定功率 (kW) Power of condenser fan motor	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
冷凝器风机额定电流 (A) Fan motor working current	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
蒸发温度范围 (°C) Range of evaporating temperature	0~-20°C (蒸发温度-15°C以下需要采用附加冷却剂或制冷剂气温度等级降低)										
冷库温度 (°C) Cold room temperature	+12~-10°C										

- 1、额定输入功率和电流是在ARI工况下的值。
- 2、机组名义制冷量试验工况为：蒸发温度-7℃，进水温度30℃，出水温度35℃。

- 1 Rated input power and current is the number under ARI working condition.
- 2 Unit nominal refrigeration capacity testing working condition: evaporating temperature -7℃, water inlet temperature 30℃, water outlet temperature 35℃;

#### 中低温风冷机组 Low and medium temperature type air cooled unit technical data

主要参数 Technical data	WPB2-003L	WPB2-004L	WPB2-005L	WPB2-007L	WPB2-010L	WPB2-015L	WPB2-020L	WPB2-025L	WPB2-030L	WPB2-040L	WPB2-050L
压缩机型号 Compressor model	4CE5-3	4CE5-4	4CE5-5	4CE5-7	4CE5-10	4CE5-15	4CE5-20	4CE5-25	4CE5-30	4CE5-40	4CE5-50
名义制冷量 (kW) Tuslar ref capacity	5840	7225	8245	13600	15504	22270	27115	35360	40545	60775	72165
压缩机额定输入功率 Compressor rated input power	2.2	3.0	3.7	5.4	7.35	11.0	14.7	18.37	22.0	29.4	36.75
制冷剂 Refrigerant	R22										
电源 Power	380V-3PH-50HZ										
压缩机额定输入电流 Compressor rated input current	37.0	44.2	62.2	82.4	99.0	132.0	158.0	193.0	220.0	323.0	404.0
压缩机最大连续输入电流 Compressor max continuous current	7.8	9.4	10.8	15.9	21.0	31.0	37.0	45.0	53.0	78.0	92.0
冷凝器冷却能力 (kW) Power of condenser heater	0-120	0-120	0-120	0-120	100	100	100	140	140	140	140
蒸发温度范围 (°C) Range of evaporating temperature	0~-20°C (蒸发温度-15°C以下需要采用附加冷却剂或制冷剂气温度等级降低)										
冷库温度 (°C) Cold room temperature	+12~-10°C										



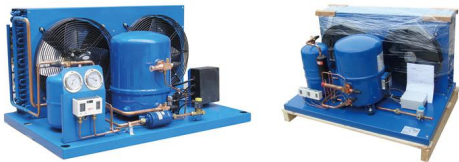
双级压缩冷凝机组  
Two-stage condensing unit



风冷双级冷凝机组 Air-cooled condensing unit with Two-stage compressor

[illegible]

水冷双级冷凝机组型号 Water-cooled condensing unit with Two-stage compressor

[illegible]

外形尺寸及安裝尺寸 Dimension and installing dimension

型号 Unit model	冷凝器 Condenser			蒸发器 Evaporator			室外机尺寸 Outdoor size			室内机尺寸 Indoor size			连接管 Connecting tube		制冷剂 Refrigerant
	风量 Air volume	管径 Pipe size	管长 Volume	外形尺寸 Overall size			安装尺寸 Installation size			管径 Pipe size	管长 Volume	管径 Pipe size	管长 Volume	规格 Specification	
	mm	mm	m	A	B	C	E	F		mm	mm	mm	mm		
FPMT-018	1800	12	1.5	620	600	470	570	310	12	10	4+8				
FPMT-022	2000	15	2.0	680	600	520	570	310	16	10	4+8				
FPMT-028	3000	18	3.0	820	620	570	630	330	16	10	4+10				
FPMT-032	3600	22	3.0	880	620	470	630	330	16	10	5+10				
FPMT-036	3600	22	3.0	880	620	470	630	330	16	10	5+10				
FPMT-040	3600	28	4.0	880	620	520	630	330	16	10	4+8				
FPMT-050	3600	28	6.0	1010	710	520	960	420	22	12	4+8				
FPMT-064	6000	41	6.0	1010	710	570	960	420	22	12	5+8				
FPMT-080	6000	48	6.0	1010	710	680	960	420	28	12	5+12				
FPMT-100	6000	60	8.0	1220	850	970	1170	560	28	12	5+12				
FPMT-125	7200	70	10.0	1220	850	970	1170	560	28	16	4+18				
FPMT-144	12000	80	12.0	1220	850	1070	1170	560	28	16	4+20				
FPMT-160	12000	100	14.0	1220	850	1070	1170	560	28	16	5+20				

## 全封闭冷凝机组 Hermetic condensing unit



### 应用范围

- 1、冷冻行业、冷库工程;
- 2、农业、食品、饭店、化工行业;
- 3、可根据客户要求要求进行非标设计。

### Range of application

1. refrigeration industry, cold room project;
2. Agriculture , food, restaurant, chemical industry ;
3. We offer customize design service.

美优乐MT系列全封闭活塞风冷压缩冷凝机组  
Air cooled condensing unit with MANEUROP MT series hermetic piston compressor

[illegible]

1. 额定输入功率和电流是在ARI工况下的值;  
2. 机组名义制冷量试验工况为: 蒸发温度-7℃, 环境温度32℃。

Ice type	Unit model	+5		0°C		-5°C		-10°C		-15°C		-20°C	
		P.F.	P.F.	P.F.	P.F.	P.F.	P.F.	P.F.	P.F.	P.F.	P.F.		
FPMT-018	27	3842	12	3200	11	2550	16	1850	63	1600	8	109	67
	32	3650	13	2980	12	2390	16	1850	69	1370	0.8	90	6.7
FPMT-022	27	4520	17	4010	15	3400	14	2700	12	2150	10	1420	69
	32	4660	18	3900	18	3190	14	2530	13	1940	1.1	1200	5.9
FPMT-023	38	4220	19	3510	17	2890	15	2240	13	1700	1.1	600	6.1
	32	6120	25	5220	23	4380	26	3580	18	2650	16	2310	1.8
FPMT-032	27	6500	24	5600	22	4710	20	3810	18	3100	1.6	2410	1.4
	32	7000	27	6000	25	5100	23	4200	20	3400	1.6	2600	1.6
FPMT-033	27	7010	27	6110	24	5210	22	4320	20	3460	1.8	2900	1.6
	38	6960	30	6010	27	4520	23	3640	22	2840	1.9		
FPMT-036	32	7130	28	6000	26	4860	23	4010	21	3170	1.9	2430	1.6
	27	8460	31	7270	28	6130	25	5070	23	4100	2.0	3200	1.8
FPMT-038	32	7950	33	6800	30	5720	26	4700	24	3770	2.1	2930	1.9
	27	9070	35	7800	31	6650	28	5500	25	4450	2.2	3300	1.9
FPMT-040	32	9170	37	7740	33	6430	30	5240	27	4180	2.3	3220	2.0
	27	11080	39	9710	35	7980	31	6460	28	5160	2.4	3700	2.2
FPMT-050	38	8500	38	7190	35	5930	31	4770	28	3740	2.4	3020	2.2
	32	10440	41	9000	37	7450	36	6090	32	4790	2.5	4000	2.3
FPMT-054	38	10960	43	9300	39	7970	34	6430	30	4920	2.6	3900	2.3
	27	15110	50	12670	45	10400	41	8450	38	6700	3.2	5100	2.7
FPMT-064	32	14180	53	11860	48	9770	43	7670	38	6100	3.3	4710	2.9
	38	13030	56	10940	51	8970	45	7190	40	5650	3.5	4220	3.0
FPMT-100	27	16990	62	14000	55	12000	50	9740	44	7350	4.0	5600	3.5
	32	17190	64	14200	57	12200	52	9920	46	7500	4.2	5620	3.7
FPMT-125	38	16420	70	13840	63	11420	57	9010	50	6700	4.5	5400	3.9
	27	22320	69	19020	65	16110	60	13090	55	10460	5.0	8190	4.5
FPMT-144	32	2176	73	18150	66	14680	62	12000	57	9470	5.1	7100	4.6
	38	18940	78	16060	71	13490	65	10760	59	8390	5.3	6340	4.7
FPMT-155	32	20700	80	17400	73	14500	68	11900	62	9400	5.4	7100	4.8
	27	27620	82	22280	75	19280	82	15680	75	12400	6.7	8720	5.9
FPMT-160	38	25360	85	21240	78	17590	87	14230	78	11260	7.0	8800	6.2
	27	32480	108	27480	99	22900	90	18770	81	15120	7.9	11000	6.5
FPMT-164	32	30180	114	26530	104	21250	94	17360	85	13810	7.6	10900	6.7
	38	27480	121	23230	109	19390	98	16170	88	12620	7.9	9720	7.0
FPMT-160	27	34940	127	30040	117	25140	107	20240	97	16120	8.8	11400	7.6
	32	30520	128	26530	118	21590	105	18250	95	14500	8.5	10260	7.6
FPMT-160	38	30650	136	26310	125	21440	110	17480	99	13960	8.9	10120	7.9

Note: capacity data is based on 50Hz, superheat 18K, sub-cooling 3K; TE=evaporating temperature, TC=environment temperature, P.F.=refrigeration capacity W, P.A.=output power KW

V型箱式压缩冷凝机组  
Box type condensing unit with V type condenser



应用范围

- 1、冷链行业、冷库工程。
- 2、农业、食品、饭店、化工行业。

Range of application

1. Refrigeration industry, cold room project;
2. Agriculture, food, restaurant, chemical industry.

主要参数 Technical data	机型号 Unit model						
压缩机型号 Compressor model	FVB2-008L	FVB2-010L	FVB2-012L	FVB2-015L	FVB2-020L	FVB2-025L	FVB2-030L
名义制冷量 (kW) Rated refrigeration capacity	12333	14700	16796	21250	24565	31535	36380
压缩机额定输入功率 (kW) Compressor rated input power	6	7.5	9	11.25	15	18.75	22.5
制冷剂 Refrigerant	R22						
功率 Power	380V-3PH-50HZ						
压缩机启动电流 (A) Compressor rated input current	81.0	99.0	113.0	132.0	158.0	193.0	220.0
压缩机额定电流 (A) Compressor rated current	17.0	21.0	24.0	31.0	37.0	45.0	53.0
盘管加热功率 (kW) Power of condenser heater	0-120	0-120	0-120	140	140	140	140
冷凝风机功率 (kW) Power of condensing fan motor	160x2	250x2	250x2	600x2	760x2	800x2	760x2
冷凝风机工作电流 (A) Fan motor working current	0.5x2	0.6x2	0.6x2	1.2x2	1.6x2	1.6x2	1.6x2
冷凝风机工作电压 (V) Fan motor working voltage	380V						
工作温度 (°C) Range of operating temperature	-10~+35°C						
冷库温度 (°C) Cold room temperature	-10~-20°C (当蒸发温度低于-20°C时, 应选用带有附加冷却剂制冷剂/低温制冷剂/低温冷剂等附属)						

- 1、额定输入功率和电流是在ARI工况下的值。
- 2、机型号和制冷量试验工况为：蒸发温度-18°C，环境温度32°C，过热度0°C，5°C过冷度。

- 1 Rated input power and current is the number under ARI working condition.
- 2 Unit nominal refrigeration capacity testing working condition: evaporating temperature-18°C, ambient temperature-32°C, superheat 0°C, and sub-cooling 5°C.

主要参数 Technical data	机型号 Unit model						
压缩机型号 Compressor model	FVB2-008M	FVB2-010M	FVB2-012M	FVB2-015M	FVB2-020M	FVB2-025M	FVB2-030M
名义制冷量 (kW) Rated refrigeration capacity	10030	15504	19500	22270	27115	35390	40540
压缩机额定输入功率 (kW) Compressor rated input power	4.5	7.5	9	11.25	15	18.75	22.5
制冷剂 Refrigerant	R22						
功率 Power	380V-3PH-50HZ						
压缩机启动电流 (A) Compressor rated input current	62.0	99.0	113.0	132.0	158.0	193.0	220.0
压缩机额定电流 (A) Compressor rated current	23.0	21.0	24.0	31.0	37.0	45.0	53.0
盘管加热功率 (kW) Power of condenser heater	0-120	0-120	0-120	0-120	0-120	140	140
冷凝风机功率 (kW) Power of condensing fan motor	160x2	250x2	250x2	600x2	800x2	800x2	800x2
冷凝风机工作电流 (A) Fan motor working current	0.5x2	0.6x2	0.6x2	1.2x2	1.2x2	1.5x2	1.6x2
冷凝风机工作电压 (V) Fan motor working voltage	380V						
工作温度 (°C) Range of operating temperature	-10~+35°C						
冷库温度 (°C) Cold room temperature	+12~-10°C (当蒸发温度低于-10°C时, 需采用附加冷却剂制冷剂/低温冷剂温度等附属)						

- 1、额定输入功率和电流是在ARI工况下的值。
- 2、机型号和制冷量试验工况为：蒸发温度-18°C，环境温度32°C，过热度0°C，5°C过冷度。

- 1 Rated input power and current is the number under ARI working condition.
- 2 Unit nominal refrigeration capacity testing working condition: evaporating temperature-18°C, ambient temperature-32°C, superheat 0°C, and sub-cooling 5°C.

机型号 Unit model	外形尺寸 Overall size			安装尺寸 Installation size			连接管 Connecting tube		重量 Weight
	A	B	C	D	E	F	吸气 Air inlet	供液 Liquid supply	
FVB2-008L	1270	795	1485	1070	520	35	16	16	195
FVB2-010L	1370	775	1590	1170	590	35	16	16	195
FVB2-012L	1390	850	1560	1190	665	35	22	202	202
FVB2-015L	1540	850	1540	1440	665	42	22	250	250
FVB2-020L	1800	935	1635	1600	790	54	22	330	290
FVB2-025L	1940	1060	1765	1640	875	54	22	336	336
FVB2-030L	2270	975	1675	2070	790	54	22	330	380
FVB2-008M	1270	705	1485	1070	520	28	12	165	165
FVB2-010M	1330	850	1540	1190	665	28	16	202	202
FVB2-012M	1640	850	1540	1440	665	35	16	250	250
FVB2-015M	1800	935	1635	1600	790	42	22	290	290
FVB2-020M	1940	1060	1765	1640	875	42	22	336	336
FVB2-025M	2400	1020	1720	2160	855	54	22	401	401
FVB2-030M	2570	1060	1765	2170	875	54	22	440	440

U型箱式压缩冷凝机组  
Box type condensing unit with U type condenser



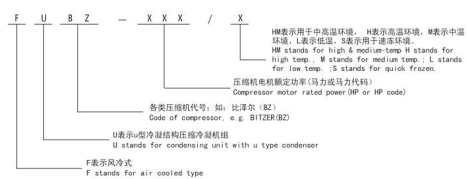
产品特点

- 1、采用箱体式结构，结构紧凑、外形美观；
  - 2、结构合理、风阻均匀，充分发挥了冷凝器的换热能力；
  - 3、性能设计合理，机组能效比高；
  - 4、采用特制电机，风机外形好，运行噪音低；
  - 5、维修方便（面板易拆卸）；
  - 6、与供应商保持良好的协作关系，保证了原材料的进货质量，从而确保为客户提供优质的产品。
- △ 农业、食品、饭店、化工行业；  
★ 可根据客户要求非标设计。

Product Features

1. Box type structure, compact structure and great shape.
  2. Scientific designs, steady air flow, can fully exert heat exchange Capacity.
  3. Rational performance design, high energy efficiency.
  4. Axial fan, good-looking figure, low processing noise level;
  5. Main unit easily (panel can be easily taken down).
  6. We keep in touch well with our supplier, to guarantee material quality and production lead time of every order.
- △ Refrigeration industry, cold room project;  
★ We offer customize design service.

U型箱式压缩冷凝机组命名规则 NAMING RULES



主要参数 Technical data	机型号 Unit model						
压缩机型号 Compressor model	FUBZ-008L	FUBZ-010L	FUBZ-012L	FUBZ-015L	FUBZ-020L	FUBZ-025L	FUBZ-030L
名义制冷量 (kW) Rated refrigeration capacity	7284	12333	14722	16796	21250	24565	31535
压缩机额定输入功率 (kW) Compressor rated input power	3.75	6	7.5	9	11.25	15	18.75
制冷剂 Refrigerant	R22						
功率 Power	380V-3PH-50HZ						
压缩机启动电流 (A) Compressor rated input current	62.2	81.0	99.0	113.0	132.0	158.0	193.0
压缩机额定电流 (A) Compressor rated current	13.5	17.0	21.0	24.0	31.0	37.0	45.0
盘管加热功率 (kW) Power of condenser heater	0-120	0-120	0-120	0-120	140	140	140
冷凝风机功率 (kW) Power of condensing fan motor	230	160x2	250x2	250x2	600x2	800x2	800x2
冷凝风机工作电流 (A) Fan motor working current	0.8	0.5x2	0.6x2	0.6x2	1.2x2	1.5x2	1.6x2
冷凝风机工作电压 (V) Fan motor working voltage	380V						
工作温度 (°C) Range of operating temperature	-10~+35°C						
冷库温度 (°C) Cold room temperature	-10~-20°C (当蒸发温度低于-20°C时, 需采用附加冷却剂制冷剂/低温冷剂温度等附属)						

- 1、额定输入功率和电流是在ARI工况下的值。
- 2、机型号和制冷量试验工况为：蒸发温度-18°C，环境温度32°C，过热度0°C，5°C过冷度。

- 1 Rated input power and current is the number under ARI working condition.
- 2 Unit nominal refrigeration capacity testing working condition: evaporating temperature-18°C, ambient temperature-32°C, superheat 0°C, and sub-cooling 5°C.

外形尺寸及安装尺寸 Dimensions and installation size

机型号 Unit model	制冷量 Refrigeration volume	外形尺寸 Overall size			安装尺寸 Installation size			连接管 Connecting tube		重量 Weight
		A	B	C	E	F	G	吸气 Air inlet	供液 Liquid supply	
FUBZ-008L	8	890	753	857	850	530	1-1/8	1/2	113	113
FUBZ-010L	12	1240	803	852	1220	580	1-3/8	1-3/8	195	195
FUBZ-012L	14	1500	854	857	1460	630	1-3/8	5/8	210	210
FUBZ-015L	19	1990	853	875	1460	730	1-3/8	5/8	275	275
FUBZ-020L	22	1900	853	857	1460	730	1-3/8	3/4	281	281
FUBZ-025L	30	1694	1003	1004	1694	760	1-3/8	3/4	299	299
FUBZ-030L	38	1704	1053	1108	1664	830	2-1/8	3/4	326	326
FUBZ-030L	45	1704	1053	1108	1664	830	2-1/8	7/8	344	344

型号 Unit model	冷凝温度 Condensing temperature		制冷量Qo(W) Refrigeration capacity 功率消耗Pi(KW) power of working				
			蒸发温度℃ Evaporating temperature				
			-15	-20	-25	-30	-35
FUBZ-005L	30	Qo	12540	10500	8110	6260	4690
		Pi	4.21	3.53	3.02	2.72	2.51
	40	Qo	10800	8850	6880	5270	3820
		Pi	4.7	4.35	3.92	3.49	3.05
	50	Qo	9020	7280	5570	4120	2920
FUBZ-008L	30	Qo	15650	12970	9930	7330	5160
		Pi	5.09	4.67	4.23	3.82	3.39
	40	Qo	13630	11030	8700	6700	4830
		Pi	6.27	5.85	5.31	4.75	4.18
	50	Qo	11440	9260	7030	5260	3760
FUBZ-010L	30	Qo	18530	15460	11930	8700	6330
		Pi	7.42	6.58	5.71	4.93	4.30
	40	Qo	15960	12970	9930	7330	5160
		Pi	8.97	8.32	7.58	6.69	5.83
	50	Qo	14140	10960	8300	6050	4180
FUBZ-012L	30	Qo	22515	18515	14117	10764	7970
		Pi	7.49	6.64	5.71	4.93	4.30
	40	Qo	19668	15968	12078	9025	6558
		Pi	8.25	7.55	6.78	5.89	5.13
	50	Qo	16815	13615	9985	7315	5263
FUBZ-015L	30	Qo	26562	21562	16460	12530	9170
		Pi	8.84	7.92	6.92	6.03	5.28
	40	Qo	23562	19562	14560	10860	7730
		Pi	9.76	8.78	7.60	6.58	5.55
	50	Qo	20562	16562	12570	9210	6580
FUBZ-020L	30	Qo	34580	28580	21580	16430	12050
		Pi	11.01	9.82	8.52	7.21	6.16
	40	Qo	31000	25000	19000	13910	9860
		Pi	12.54	11.24	9.81	8.47	7.29
	50	Qo	27200	21200	15200	11040	8020
FUBZ-025L	30	Qo	45000	37000	28000	21000	15000
		Pi	15.61	13.92	12.09	10.44	9.01
	40	Qo	39500	32500	24500	18450	13450
		Pi	14.63	12.89	11.09	9.54	8.13
	50	Qo	31500	25500	19500	13950	10000
FUBZ-030L	30	Qo	52000	42000	32450	24500	18000
		Pi	16.52	14.52	12.33	10.32	8.74
	40	Qo	46500	38500	29000	20900	14900
		Pi	15.83	13.83	11.63	9.91	8.44
	50	Qo	40950	32950	24000	17480	12550

MINI型压缩冷凝机组  
MINI Box type condensing unit

## 产品特点

- 省力--改传统型材料结构为钣金结构, 重量轻, 更有力;
- 省时--连接管采用喇叭口形式, 连接方便, 安装方便, 安装时间少50%, 就像安装空调一样简单;
- 省地--新型薄壁式设计, 能够在幕墙附近安装, 不占用门的安装空间;
- 静音制冷技术
- 机组风叶采用了大角, 阻抗压缩机静音技术;
- 压缩机全封闭式结构, 安全, 低噪音;
- 防腐外壳
- 采用经受过盐雾试验的防腐镀锌钢板, 再加上高防腐的喷漆层, 使机组能经受恶劣的室外气候环境;
- 主机采用谷轮ZB涡旋压缩机是高品质、高效率、更低的噪音和振动;
- 机组进出口管接口装有截止阀, 安装维修方便。

## Product Features

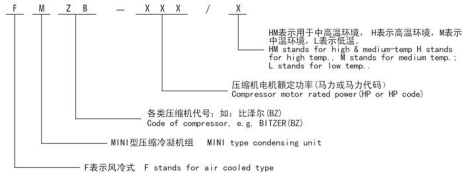
- Save labor Change traditional structure to plate work structure, well formed, light weight, saving labor;
- Save time ----- Connecting tube adopt bell like mouth, more convenient for connecting, will save 50% of installation time, it is as easy as install air conditioner;
- Save space ----- New type of thin-wall design, can install back by wall and save space;
- Mute refrigerating technology;
- Fans of the unit are designed in a big angle, pit impressing and other mute technology;
- Hermetic structure compressor safe and low noisy;
- Anticorrosive shell;
- Use anticorrosive galvanized sheet which experienced strict salt spray test, with additional spray cooling, it makes condensing unit can suitable for bad weather environment;
- Equipped with COPELAND ZB screw compressor, reliable, high efficient and lower noise and little vibration;
- Our condensing unit equip with check valve in inlet and outlet, easy for installation and maintenance.

## 产品特点

- △ 冷库行业、冷库工程;
- △ 农业、食品、饭店、化工行业;
- ★ 内置电磁阀, 膨胀阀用户可选。

- △ Refrigeration industry, cold room project;
- △ Agriculture, food, restaurant, chemical industry;
- ★ Optional accessories--built-in solenoid valve, expansion valve.

## MINI型压缩冷凝机组命名规则 NAMING RULES



## 产品技术参数、外形及安装尺寸 Technical data, dimension &amp; installation size

主要参数 Technical data	机组型号 Unit model				
	FMZB-015	FMZB-021	FMZB-030	FMZB-038	FMZB-045
名义制冷量 (kW) Rated refrigeration capacity	32.11	42.63	51.85	71.28	80.60
压缩机名义功率 (kW) Compressor rated input power	1.47	2.2	2.94	3.87	4.41
制冷剂 Refrigerant	R22				
电源 Power	380V-3PH-50HZ				
压缩机额定电流 (A) Compressor rated input current	58	40	49.3	65.5	74.0
压缩机最大工作电流 (A) Compressor max continuous current	16	8.0	10.4	12.5	16.1
冷凝器加热功率 (W) Power of condenser heater	70	70	70	70	70
冷凝器电机功率 (W) Power of condenser fan motor	60	60	2x60	2x60	2x60
冷凝器电机工作电流 (A) Fan motor working current	0.26	0.26	2x0.26	2x0.26	2x0.26
蒸发温度范围 Range of evaporating temperature	-15℃~5℃				

- 额定输入功率和电流是在ARI工况下的值。
- 机组名义制冷量试验工况为: 蒸发温度-18℃, 环境温度32℃, 过热度0℃, 过冷度5℃。

## 产品技术参数、外形及安装尺寸 Technical data, dimension &amp; installation size

机组型号 Unit model	制冷剂容量 Receiver volume	外形尺寸 Overall size			接管尺寸 Installation size		连接管 Connecting tube		重量 Weight
		A	B	C	E	F	吸气 Air inlet	供液 Liquid supply	
FMZB-015	2.0	850	290	600	550	390	1/2"	3/8"	70
FMZB-021	2.8	910	340	630	630	380	5/8"	3/8"	75
FMZB-030	4.0	910	340	630	630	380	3/4"	1/2"	86
FMZB-038	4.0	930	340	1310	630	380	3/4"	1/2"	90
FMZB-045	6.0	930	430	1310	630	380	3/4"	1/2"	90

## MINI型压缩冷凝机组不同工况制冷量 (W) Refrigerant capacity in change working condition

机组型号 Unit model	名义功率 Rated power	蒸发温度℃ Evaporating temperature						
		-12	-10	-5	0	5	10	
FMZB-015	2HP	30	3145	3400	4080	4930	5865	6970
		40	2805	3017	3698	4420	5313	6290
		50	2372	2583	3188	3868	4678	5568
FMZB-021	3HP	30	4378	4780	5780	6928	8223	9680
		40	3952	4292	5270	6332	7522	8925
		50	3442	3740	4675	5610	6719	8032
FMZB-030	4HP	30	5227	5780	7210	9085	11092	13345
		40	4590	5142	6545	8202	10115	12240
		50	3910	4377	5780	7267	9010	10965
FMZB-038	5HP	30	6927	7595	9350	11390	13600	15980
		40	6205	6800	8457	10370	12452	14705
		50	5312	5885	7480	9180	11135	13260
FMZB-045	6HP	30	8797	9520	11517	13855	16405	19380
		40	7990	8670	10640	12865	15130	17890
		50	6970	7607	9435	11347	13600	16085

## 注意

本公司保留变更产品设计恕不预先通知的权利。  
All detailed specifications shall be indicated in contract. This catalogue is just for your reference.

## Attention

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All detailed specifications shall be indicated in contract. This catalogue is just for your reference.



### 活塞式并联压缩冷凝机组 Multiple Reciprocating compression condensing units



#### 产品主要特点

1. 节省投入，降低一次性设备投资；
2. 节约能源，按需提供冷量，比配备单独式机组可节约20%以上；
3. 安全运行，时刻监控机组运行各项参数，有故障报警功能，确保运行安全可靠。
4. 结构紧凑，多个机头集中安装，节约机房占地面积，施工周期短；
5. 全自动化，采用意大利DIXELL或美国先进的并联机组专用控制器；
6. 不仅保护功能完备，同时具备多次报警锁定功能，故障代码显示功能，提供机组的可维修性和可保护性；
7. 应用范围广泛，总功率可从6HP~420HP，制冷温度12.5℃~50℃；
8. 运转率自动平衡，大大延长了机组的整体使用寿命；
9. 独立设置的油位控制阀，有效防止了各压缩机油的交叉污染。

#### Product Features

1. Save investment to reduce first-time equipment investment;
2. Save power, supply ref.capacity according to need, save 20% power compared to equip condensing unit with single compressor;
3. Safe processing, moment monitoring and controlling every processing date, with damage warning function to insure processing security.
4. Compact structure, multi compressors concentrate installed, save space and construction period.
5. Full automation, equip with Italian DIXELL or EVERY CONTROL advanced special controller for multi-compressor condensing unit.
6. Full protecting function, together with multi-time warning-to-lock function, function of showing failure code, to advanced reliability and maintainability.
7. Far-flung field of application, total power from 6HP to 420HP refrigeration temperature from 12.5°C to 50°C.
8. Automatic processing balances, greatly extend the general service period of the unit.
9. Separately equipped oil level controller, efficiently prevent compressors oil from deteriorating and polluting.

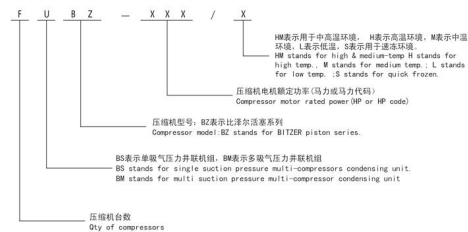
#### 产品特点

- △ 冷库行业、冷库工程；
- △ 农业、食品、医药、化工行业；
- ★ 可根据客户要求非标设计。

#### Product Features

- △ Refrigeration industry, cold room project.
- △ Agriculture, food, restaurant, chemical industry;
- ★ We according to the requirements of customer for non-standard design.

#### 活塞式并联压缩冷凝机组命名规则 Naming rules



#### 比泽尔压缩机制冷量 BITZER compressor ref.capacity sheet

压缩机型号 Compressor model	匹数 (HP)	蒸发温度 Evap. temp. -35℃ 制冷量 Ref. capacity (kW)	压缩机型号 Compressor model	匹数 (HP)	蒸发温度 Evap. temp. -35℃ 制冷量 Ref. capacity (kW)
4PES-12	10	6.05	4VCS-10.2	10	17.03
4NES-14	12	7.06	4TCS-12.2	12	20.90
4HE-18	15	8.81	4PCS-15.2	15	24.50
4GE-23	20	10.27	4VCS-20.2	20	28.30
6HE-26	25	13.22	6H-25.5	25	36.60
6GE-34	30	15.42	6G-30.2	30	42.00
6FE-44	40	18.92	6G-40.2	40	63.00

#### 风冷机组: Air cooled condensing unit

机组型号 Unit model	压缩机 Compressor		制冷量 Ref. capacity	连接管径 Size of connecting pipe		外形尺寸 (mm) Overall size			安装尺寸 (mm) Installation size		
	数量 QTY	型号 Model	功率 Power (kW)	W	管径 管径 Data pipe	A	B	C	a	b	
385BZ-090M	3	4GE-30	57.1	145500	Φ76	Φ42	2430	900	1900	1850	920
385BZ-105M	3	6HE-35	72.6	190200	Φ85	Φ42	2550	960	1900	1850	920
385BZ-120M	3	6GE-40	85.5	218400	Φ85	Φ42	2550	960	1900	1850	920
385BZ-090L	3	4GE-23	44.6	73250	Φ76	Φ35	2430	900	1900	1850	920
385BZ-075L	3	6HE-26	36.1	88100	Φ76	Φ35	2550	960	1900	1850	920
385BZ-090L	3	6GE-34	66.9	110100	Φ85	Φ35	2550	960	1900	1850	920
385BZ-120L	3	6FE-44	81.3	122300	Φ85	Φ42	2550	960	1900	1850	920

注:

1. 制冷量标准工况为: 中高温-7℃/45℃, 中低温-18℃/45℃;
2. 机组使用电源380V/50HZ, 使用制冷剂R22;
3. 当使用于较低温度时, 必须选用缸头风箱及CIC润滑油装置。

Remark:

1. Ref. capacity working condition: high & medium temperature -7℃/45℃, low temperature -18℃/45℃;
2. Power supply: 380V/50HZ, Refrigerant R22;
3. When applied to a lower temperature must be selected cylinder head and CIC system.

#### 水冷机组: Water cooled condensing unit

机组型号 Unit model	压缩机 Compressor		制冷量 Ref. capacity	管径 connecting pipe		外形尺寸 (mm) Overall size			安装尺寸 (mm) Installation size		
	数量 QTY	型号 Model	功率 Power(W)	W	管径气 Data pipe	管径液 Liquid pipe	A	B	C	a	b
385BZ-090M	3	4GE-30	50.3	145500	Φ76	Φ42	2430	900	1900	1850	920
385BZ-105M	3	6HE-35	63.9	190200	Φ85	Φ42	2550	960	1900	1850	920
385BZ-120M	3	6GE-40	75.6	218400	Φ85	Φ42	2550	960	1900	1850	920
385BZ-060	3	4GE-23	39.2	73250	Φ76	Φ35	2430	900	1900	1850	920
385BZ-075	3	6HE-26	56.1	88100	Φ76	Φ35	2550	960	1900	1850	920
385BZ-090	3	6GE-34	66.9	110100	Φ85	Φ35	2550	960	1900	1850	920
385BZ-120	3	6FE-44	81.3	122300	Φ85	Φ42	2550	960	1900	1850	920
385BZ-150	3	6FE-50	72.9	151500	Φ85	Φ42	2550	960	2040	1850	920

注:

1. 制冷量标准工况为: 中高温-7℃/45℃, 中低温-18℃/45℃;
2. 机组使用电源380V/50HZ, 使用制冷剂R22;
3. 当使用于较低温度时, 必须选用缸头风箱及CIC润滑油装置。

Remark:

1. Ref. capacity working condition: high & medium temperature -7℃/45℃, low temperature -18℃/45℃;
2. Power supply: 380V/50HZ, Refrigerant R22;
3. When applied to a lower temperature must be selected cylinder head and CIC system.



单风口冷风机  
Air cooler with single air vent



双侧吹风冷机  
Air cooler with double side blow



双风口冷风机  
Air cooler with double air vents



斜侧出风冷风机  
Oblique side outlet of air cooler



水冲霜冷风机  
Water defrost air cooler



平板冷凝器  
Flat-plate condenser

## ■ 冷风机的用途 Application of air cooler

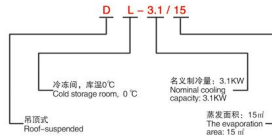
冷风机（又称空气冷却器）是一种适用于各种冷库（如土建冷库或组合冷库）的冷却降温设备。D型冷风机有DL、DD和DJ三大常规系列（制冷量：0.45KW~161.0KW）。其中DL系列适用于库温为0℃以上的冷库，如保存鲜蛋或蔬菜的冷库；DD系列适用于库温为-18℃左右的冷库，作为肉类、鱼类等冷冻食品的冷藏用；DJ系列适用于库温为-25℃左右的冷库，作为鲜肉和鲜鱼制品或调理食品的速冻用。



Air cooler (also called air cooler) is a kind of applicable to various cold storage (such as cold storage construction or combination of cold storage) cooling equipment. D type air cooling machine with DL, DD and DJ three regular series (refrigerating capacity 0.45KW~161.0KW). The DL series is suitable for the temperature of 0 DEG C and above, cold storage, such as the preservation of cold storage eggs or vegetables cold storage temperature; the DD series can be used to -18 DEG C, as meat, fish and other frozen food cold storage; cold storage temperature for DJ series can be used to -25 DEG C, as fresh meat and fish products or frozen conditioning food with.

## ■ 冷风机的特点 Features of air cooler

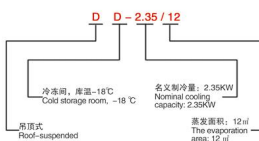
- 1、外壳采用磷化及二次喷塑工艺处理，方便清洁，高度防腐，外观美观，可根据用户需求选用铁板、镀锌板、压花铝板和不锈钢板等材质。
  - 2、盘管有φ16、φ12，可按客户要求选择。套片后，通过机械或液压管将铝翅片紧裹在钢管上，减少接触热阻，提高传热效率。
  - 3、产品经风压后，再经过管内的清洗，以彻底去除管内的油污、水垢和氧化皮等。
  - 4、电加热管间距和功率经过精心计算，从而保证高效化霜。此外，还有水冲霜、热气冲霜两种除霜方式供用户选择。
  - 5、采用专用的电机，以保证冷风机在潮湿低温状态下也能正常运转。另外，可根据用户需要选用适配的防爆型电机。
  - 6、采用不锈钢槽钢吊架，方便安装。
  - 7、出厂前全部经过保压充氮处理。
- 1, the shell adopts phosphating and two spray process, convenient cleaning, high anti-corrosion, beautiful appearance, according to user requirements and selection of iron plate, galvanized plate, embossed aluminum and stainless steel plate material.
- 2, coil has 16, 12, can choose according to customer requirements. Chip set, by mechanical or hydraulic pipe expansion will be tightly wrapped in aluminum fin tube, reduces the contact resistance, improves heat transfer efficiency.
- 3, the product after the pressure test, then clean through the tube, in order to completely remove the oil, the pipe with water and oxide.
- 4, the electric heating tube spacing and power carefully calculated, so as to ensure the effective defrosting. In addition, there are water defrosting, hot gas defrosting two defrosting method for the user to choose.
- 5, use special motor, to ensure that the air cooler can operate normally in the supermarket under the low temperature. In addition, according to the user need to use explosion-proof motor adaptation.
- 6, adopt the stainless steel groove type hanger, convenient installation.
- 7, the factory before all through the holding pressure filling nitrogen.

型号设计说明:  
Model design description:

翅片间距 Fin spacing: 4.5mm

型号	制冷 (R22)	蒸发面积	管道容积	风扇参数 3~380V				电辅热				重量
Model	Capacity	Surface	Volume	Fans Data				Electrical defrosting				N.W.
	DT=7K			直径	单个功率	总风量	射程	噪音	盘管	水箱	总功率	
				Diameter	single power	Airflow	Arthrow	Noise	Coil	Tray	Total	
	KW	㎡	dm³	mm	W	m³/h	m	mdB(A)	KW	KW	KW	KG
DL-2.1/10	2.1	10	0.88	1×300	75	1220	9	58	0.6	0.6	1.2	20
DL-3.1/15	3.1	15	1.53	2×300	75	2440	9	58	0.9	0.9	1.8	28
DL-4.2/20	4.2	20	1.77	2×300	75	2440	9	58	1	1	2	35
DL-5.2/25	5.2	25	2.26	3×300	75	3660	9	58	1.2	1.2	2.4	42
DL-6.2/40	6.2	40	3.23	2×400	180	6800	12	68	1.4	0.7	2.1	65
DL-11.5/55	11.5	55	4.31	2×400	180	6800	12	68	1.8	0.9	2.7	72
DL-16.7/80	16.7	80	6.39	2×450	250	9600	15	68	2.4	1.2	3.6	97
DL-22.0/105	22.0	105	7.99	2×450	250	9600	15	68	3.2	1.6	4.8	106
DL-25.8/125	25.8	125	10.53	3×450	250	14400	15	68	3.8	1.9	5.7	140
DL-33.6/160	33.6	160	12.72	3×450	250	14400	15	68	4.6	2.3	6.9	160
DL-38.7/185	38.7	185	14.66	4×450	250	19200	15	68	5.4	2.7	8.1	195
DL-44.0/210	44.0	210	16.79	4×450	250	19200	15	68	6	3	9	208
DL-52.9/260	52.9	260	45.73	2×600	1500	20000	17	72	9	1.8	10.8	296
DL-67.2/330	67.2	330	57.34	3×600	1500	30000	17	73	11	2.2	13.2	376
DL-83.4/410	83.4	410	68.48	3×600	1500	30000	17	73	13	2.6	15.6	435
DL-95.5/475	95.5	475	81	3×700	2200	48000	22	73	16.5	2.5	19	585
DL-117.0/580	117.0	580	100	3×700	2200	48000	22	75	20	3	23	625
DL-140.0/695	140.0	695	117	4×700	2200	64000	22	75	24.5	3	27.5	750
DL-161.0/795	161.0	795	135	4×700	2200	64000	22	75	28	3	31	770

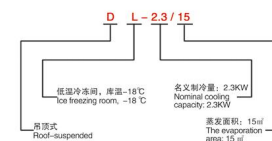
备注：1.数据如有变动恕不另行通知。2.可根据用户需要进行特殊加工。3.φ450电机可转换成φ500电机。  
Remarks: 1. data if there is any change without notice. 2. can perform special processing according to user needs. 3. φ450 motor can be replaced with φ500 motor.

型号设计说明:  
Model design description:

翅片间距 Fin spacing: 6.0mm

型号	制冷 (R22)	蒸发面积	管道容积	风扇参数 3~380V				电辅热				重量
Model	Capacity	Surface	Volume	Fans Data				Electrical defrosting				N.W.
	DT=7K			直径	单个功率	总风量	射程	噪音	盘管	水箱	总功率	
				Diameter	single power	Airflow	Arthrow	Noise	Coil	Tray	Total	
	KW	㎡	dm³	mm	W	m³/h	m	mdB(A)	KW	KW	KW	KG
DD-1.4/7	1.4	7	0.88	1×300	75	1220	9	58	1.2	0.6	1.8	19
DD-2.35/12	2.4	12	1.53	2×300	75	2440	9	58	1.8	0.9	2.7	26
DD-3.0/15	3.0	15	1.77	2×300	75	2440	9	58	2	1	3	33
DD-4.1/22	4.0	22	1.77	3×300	75	3660	9	58	2.4	1.2	3.6	40
DD-6.0/30	6.0	30	3.23	2×400	180	6800	12	68	2.6	1.3	3.9	63
DD-8.0/40	8.0	40	4.31	2×400	180	6800	12	68	3.6	1.8	5.4	68
DD-12.0/60	12.0	60	6.39	2×450	250	9600	15	68	6.5	1.3	7.8	92
DD-15.9/80	15.9	80	7.99	2×450	250	9600	15	68	8.5	1.7	10.2	110
DD-20.1/100	20.0	100	10.53	3×450	250	14400	15	68	10.5	2.1	12.6	131
DD-24.9/120	24.0	120	12.72	3×500	250	14400	15	68	12	2.4	14.4	149
DD-29.2/140	28.2	140	14.86	4×450	250	19200	15	68	15	3	18	178
DD-32.1/160	32.1	160	16.79	4×450	250	19200	15	68	16	3.2	19.2	194
DD-37.4/200	37.4	200	45.73	2×600	1500	20000	17	72	21.6	2.7	24.3	278
DD-46.8/250	46.8	250	57.31	3×600	1500	30000	17	73	26.4	3.3	29.7	352
DD-56.2/310	56.2	310	68.48	3×600	1500	30000	17	73	28	3.5	31.5	406
DD-68.4/360	68.4	360	81	3×700	2200	48000	22	72	32.5	3	35.5	570
DD-83.6/440	83.6	440	100	3×700	2200	48000	22	75	39.5	3	42.5	610
DD-99.7/525	99.7	525	117	4×700	2200	64000	22	75	48	3	51	730
DD-114.0/600	114.0	600	135	4×700	2200	64000	22	75	51.5	3	55	750

备注：1.数据如有变动恕不另行通知。2.可根据用户需要进行特殊加工。3.φ450电机可转换成φ500电机。  
Remarks: 1. data if there is any change without notice. 2. can perform special processing according to user needs. 3. φ450 motor can be replaced with φ500 motor.

型号设计说明:  
Model design description:

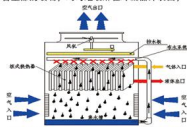
翅片间距 Fin spacing: 9.0mm

型号	制冷 (R22)	蒸发面积	管道容积	风扇参数 3~380V				电辅热				重量
Model	Capacity	Surface	Volume	Fans Data				Electrical defrosting				N.W.
	DT=7K			直径	单个功率	总风量	射程	噪音	盘管	水箱	总功率	
				Diameter	single power	Airflow	Arthrow	Noise	Coil	Tray	Total	
	KW	㎡	dm³	mm	W	m³/h	m	mdB(A)	KW	KW	KW	KG
DJ-1.32/8	1.32	8	1.67	2×300	75	2440	9	58	1.8	0.9	2.7	25
DJ-2.3/15	2.3	15	2.46	3×300	75	3660	9	58	2.4	1.2	3.6	39
DJ-4.0/20	4.0	20	3.46	2×400	180	6800	12	58	2.6	1.3	3.9	61
DJ-5.1/30	5.1	30	4.61	2×400	180	6800	12	58	3.6	1.8	5.4	65
DJ-7.9/40	7.8	40	6.83	2×450	250	9600	15	68	6.5	1.3	7.8	95
DJ-9.8/55	9.8	55	8.54	2×450	250	9600	15	68	8.5	1.7	10.2	105
DJ-12.8/70	12.8	70	11.15	3×450	250	14400	15	68	10.5	2.1	12.6	123
DJ-15.7/85	15.7	85	13.44	3×450	250	14400	15	68	12	2.4	14.4	139
DJ-18.8/100	18.8	100	15.62	4×450	250	19200	15	68	15	3	18	165
DJ-21.6/115	21.6	115	17.79	4×450	250	19200	15	68	16	3.2	19.2	180
DJ-23.9/140	23.9	140	45.73	2×600	1500	20000	22	68	21.6	2.7	24.3	260
DJ-29.0/170	29.0	170	57.34	2×600	1500	30000	22	68	26.4	3.3	29.7	328
DJ-35.9/210	35.9	210	68.48	3×600	1500	30000	22	72	28	3.5	31.5	376
DJ-42.5/250	42.5	250	81	3×700	2200	48000	22	72	32.58	3	35.5	550
DJ-51.0/300	51	300	100	3×700	2200	48000	22	75	39.5	3	42.5	590
DJ-59.6/360	59.5	360	117	4×700	2200	64000	22	75	48	3	51	710
DJ-68.0/400	68.0	400	135	4×700	2200	64000	22	75	51.5	3.5	55	730

备注：1.数据如有变动恕不另行通知。2.可根据用户需要进行特殊加工。  
Remarks: 1. data if there is any change without notice. 2. can perform special processing according to user needs.

## 蒸发式冷凝器工作原理 Working principle of evaporative condenser

蒸发式冷凝器以水和空气作为冷却剂，它主要利用部分水的蒸发带走工艺介质冷凝过程放出热量。它的外壳为一个圆筒体和长方形箱体，内有冷凝管组、淋水装置、收水器、底部设集水盘，箱体外部设循环水泵，箱体顶部装设轴流风机。蒸发式冷凝器工作时，冷却水由水泵送到冷凝排管上部的喷嘴，均匀地喷淋在冷凝器外表面上，形成一层很薄的水膜，高温工艺介质从冷凝排管上部进入，被冷却后的液体从下部流出，喷淋到冷凝排管上的水吸收了高温工艺介质的热量后，一部分蒸发变成水蒸气，其余落在下部集水盘内，供水泵循环使用。风机强制空气以3~5m/s速度通过冷凝排管，促进水蒸发，强化冷凝管冷却，并使喷淋后的水落在落下过程中为空气所冷却；蒸发过程中未被气化的水滴，经上部收水器后落到下部水箱中，以减少水的消耗，此外水箱内还设浮球阀，当水不断地蒸发消耗水箱中的水，水位过低时，浮球阀就自动打开补充冷却水。



The evaporating condenser takes water and air as refrigerant, and it mainly makes use of water evaporation to take away the heat generated during condensation of process medium. The casing is a thin steel sheet and square box, and there are condensing coil group, water spray device and water collector in it, the bottom is equipped with water collector disk, the exterior of box body is equipped with circulating water pump, the top of box body is equipped with axial-flow fan. When evaporating condenser works, the refrigerating water is sent to the nozzle above condensing coil via water pump and uniformly sprayed on the external surface of condenser to form a thin water film. The high-temperature process medium enters from the top of condensing coil and the condensed liquid flows from the bottom. After the water sprayed onto condensing coil absorbs the heat of high-temperature process medium, a part of it evaporates to form steam and other falls into water collector disk for recycling use of water supply pump. The fan forces the air to pass through condensing coil at 3~5m/s to promote the evaporation of water film, intensify the heat release outside condensing coil and make the water drop after heat absorption is cooled by air in the course of drop; the water drop not gasified during evaporation falls into lower water tank via upper water collector to reduce water consumption; in addition, floating-ball valve is equipped in the water tank, when the water in the tank is consumed by ceaseless evaporation and water level is too low, the valve will open automatically to complement refrigerating water.

## 优点 Advantages:

- 1、节能：由于蒸发式冷凝器的冷凝温度随环境温度变化，一般环境温度比干球温度低6~8℃，这就意味着在同样环境下，使用蒸发式冷凝器，可使系统总的冷凝温度下降6~8℃和带冷量冷水冷凝量相比，由于它是一次性直接向环境空气散热，可使系统和压缩机节能20%以上。
- 2、运行费用低，寿命长：维修费用低。蒸发式冷凝器全部部件为不锈钢或镀锌钢管热镀锌，运行时间长，维修成本低。
- 3、节水：水冷冷凝器1kg冷却水能带走4.6~6.9w的热量，而1kg水在常压下蒸发能带走676w热量，因而蒸发式冷凝器理论耗水量仅为一般水冷冷凝器的1%，实际上由于收效损失、排污损失等，耗水量为一般水冷冷凝器的5%~10%，因而它特别适用于缺水地区。

1. Energy-saving for the condensation temperature of evaporating condenser changes with the temperature of wet ball. Generally, the temperature of wet ball is 6~8℃ lower than that of dry ball, which means that, at the same environment, evaporating condenser can reduce the condensation temperature of condensation system by 6~8℃. Compared to water-cooling condenser with cooling tower, it releases the heat directly to exterior in a lump sum and over 20% energy of the system and compressor can be saved.

2. Low running and repair cost, long service time: all the parts of evaporating condenser is made of stainless steel or hot-dip galvanized steel with long running time and low repair cost.

3. Water-saving for water-cooling condenser, 1kg refrigerating water can take away 4.6~6.9w heat, while the evaporation of 1kg water can take away 676w heat, so the theoretic water consumption of evaporating condenser is 1% of that of ordinary water-cooling condenser. In fact, due to blow loss, water exchange for sewage, etc, the water consumption is 5%~10% of that of ordinary water-cooling condenser.



## 冷却塔的工作原理及用途: Working principle and purpose of cooling tower

冷却塔是水与空气直接接触进行热交换的一种设备，它主要由风机、电机、填料、喷淋系统、塔身、水箱等组成。主要由风机作用下的流量比较大的空气与填料中的水进行热交换从而达到降低水温的目的。水塔的结构及设计工况在说明书上有注明，而我们现在采用的水吨为单位是国际上比较常用的单位。我们通常所说的冷却塔是指开放式冷却塔：

- A. 它是一种在塔内通过布水系统将热水喷淋成水滴或水球状，水在填料中从上向下流动，空气在填料中由下向上或水平方向流动，利用水的蒸发及冷空气和热水的热传递带走水中废热的设备。
- B. 横流塔是热水从上向下流过填料，而空气从水平方向流动穿过填料，热水和空气的流动方向呈近乎90°的一种冷却塔（有些厂家称为直立式或正交式冷却塔）。
- C. 逆流塔是热水从上向下流过填料，而空气从下向上流动穿过填料，热水和空气的流动方向呈近乎180°的一种冷却塔。



The cooling tower is a kind of heat-exchange equipment where water and air contact directly. It mainly consists of fan, motor, filler, water distributing system, tower body, water disk, etc. Thewater temperature is reduced via heat exchange between air at relatively low temperature and the water in the filler under the effect of fan. The structure and designed working condition of water tower are specified in the manual. The water ton adopted by us is a relatively common unit in the world wide. The cooling tower generally means open cooling tower.

A. It sprays the hot water into water drop or water film via water distributing system, the water flows from up to bottom in the filler, and the air flows from bottom to up or horizontally in the filler, thus the waste heat in the water is taken away via water evaporation and heat transmission between cool air and hot water.

B. In the horizontal-flow tower, the hot water flows from up to bottom in the filler, the air flows horizontally in the filler, and the flow of hot water and air nearly appears 90° . (Some manufacturers call it orthogonal or orthometric tower.)

C. In the countercurrent tower, the hot water flows from up to bottom in the filler, the air flows from bottom to up, and the flow of hot water and air nearly appears 180° .

## 逆流冷却塔工作原理 Working principle of countercurrent cooling tower

逆流横管型逆流式冷却塔的工作原理为：热水经入侧面入水管进水，经过固定喷嘴喷淋到塔内部水片，热水经散水片均匀布水，可确保热水均匀分布到填料中，热水在填料中依靠自身重力缓慢落下，保证热交换充分；风机由外置式马达带动抽风使冷空气由底部回风罩进风罩透散材料，这样冷空气与水形成垂直相会，使热水与最冷的空气进行最充分的热交换，换热效率高。



The working principle of super-low noise countercurrent cooling water: the hot water enters via lateral water intake pipe and is sprayed on water spread fin in the tower via fixed nozzle, so that the hot water is uniformly distributed in the filler. The hot water falls slowly by its gravity to ensure full heat exchange; the fan drives air draft via external motor so that the cool air passes through radiating material from the bottom and vertically meets the water, thus fullest heat exchange and highest efficiency are achieved between hot water and coolest air.

## 铝排的7大优点

## 7 advantages of aluminum coil

## ◆ 节能效果卓越 Outstanding energy-saving effect

铝的导热系数为210W (m<sup>2</sup>·℃)，铁的导热

系数为46W (m<sup>2</sup>·℃)，由此可见铝的导热能力应是铁

的4.56倍。铝合金的使用下限温度达-269℃，而无缝钢管的使用下限温度为-20℃，所以铝排较铁排节能30%，其导热性更好，制冰更快，且更能胜任低温环境下工作。The heat conduction coefficient of aluminum is 120W (m<sup>2</sup>·℃), and iron, 46W (m<sup>2</sup>·℃). By this token, the heat conduction coefficient of aluminum is 4.56 times larger than that of iron. The lower limit temperature of aluminum alloy is -269℃, and seamless steel tube, -20℃. By this token, aluminum coil can save 30% more energy than iron coil, and it has better heat conduction and higher refrigeration speed, and is more suitable for low-temperature environment.

## ◆ 重量轻安装方便 Light weight, convenient installation

铝排的投影面积和蒸发面积可达1:3或1:4，铝排只需安装在冷库的顶部就能达到理想的制冷效果，由于其重量轻、安装快捷、省工省力，并保证库体结构的稳定性，降低建造造价。The projection and evaporation area of aluminum coil can reach 1:3 or 1:4. The ideal refrigeration effect can be realized when aluminum coil is mounted on the top of refrigerating house. For it is light in weight and convenient in installation, labor and time is saved, structural stability is ensured and construction cost is reduced.

## ◆ 增加库容量 Increased capacity

由于铝排安装于顶部，库体四周不需要安装顶排管，新箱的设计，无形中增加了冷库的容量，提高了冷库的利用率。For the aluminum coil is mounted on the top and there is no need to install wall coil around the house, this unique design increase the capacity and utilization ratio of refrigerating house.

## ◆ 制冷剂用量小、节约成本 Low refrigerant consumption, reduced cost

同样的制冷量铝管长度少于铁排，因此制冷剂的充注量小，既节省了成本且制冷效果更好。

For the same refrigeration capacity, the required aluminum tube is shorter than iron coil, therefore the charging quantity of refrigerant is small, which economizes the cost and gets better refrigeration effect.

## ◆ 食品干耗少 Low weight loss of food

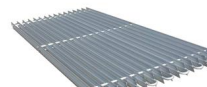
食品干耗在压缩机工作时间长，停机时极慢。由于铝排降温速度特别快，压缩机工作时间短，停机时间长，所以用铝排制作的冷库与用传统铁排或风机的冷库相比，食品干耗少，食品保鲜效果也更理想。The weight loss of food gets maximal when compressor is functioning, and drops after shutdown. For temperature-drop speed of aluminum coil is very fast, working duration of compressor is short and shutdown duration is long, compared with traditional iron-coil or air-cooler refrigerating house, there is less weight loss and the fresh-keeping effect will be better.

## ◆ 易除霜 Easy to defrost

铝排冷库，特别是面积大的冷库铝排上基本无需或只有少量的浮霜，因此除霜方便，恒湿恒速效果佳。Basically there is no frost or only a few foot on the aluminum coil of large-scale refrigerating houses, therefore, it is easy to defrost, and constant temperature and humidity effect is good.

## ◆ 延长机组使用寿命 Extended service life of compressor unit

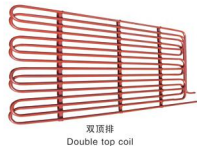
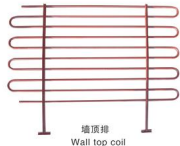
铝排管壁内采用能沙，表面氧化处理工艺，表面洁净光滑无油垢、耐腐蚀，外表20年不氧化，更符合食品卫生标准，能有效延长压缩机使用寿命。Treated by acid sand and oxidation process, the inner wall is clean and smooth without oil stain, it can resist corrosion and will not be oxidized for 20 years, which complies with food hygiene standard and effectively extends the service life of compressor unit.



38 铝合金光管搁架管  
38 aluminum alloy light pipe rack pipe

32 铝合金光管搁架管  
32 aluminum alloy light pipe rack pipe





#### ■ 安装步骤及注意事项

- 1、检测门洞与门尺寸是否相符，门洞地面与滑道平行，门洞地面必须水平，不应有凹凸现象。
- 2、材料门框表面要平直，不得有扭曲，内可敷电热带。
- 3、滑道安装：出厂前滑道和托架已固定，现场安装时要求：所有托架在同一个平面，水平方向与地面一致。
- 4、下轨板与下轨座头时压盖应适中，尽量减少摩擦，保持轻松自如。
- 5、机械传动出厂已调试完毕，现场安装首先将库门关闭到位，然后用调节螺栓拉紧钢丝绳后用U型螺栓紧固，牵引块与库门牵引架连接，再用螺栓压紧钢丝绳即可。
- 6、两端设行程开关，中间挡块随时可调，准确到位。
- 7、安装时螺钉不能松动，牢固可靠，并经常检查，当发现零件损坏时应及时更换。
- 8、下轨座必须安装在水平地面上，牢固且不准松动，否则会导致库门、关门不畅。
- 9、电动门：必须确保电源无安全隐患的前提下，方可通电操作。

#### ■ 冷库门安装使用及注意事项

- 1、安装时请严格按“安装步骤及注意事项”调节操作流程进行操作。
- 2、使用中要经常对滑道和内部轴承等部件加注润滑油，保证动作灵活，使用安全。
- 3、使用过程中发现螺栓松动，零件损坏请及时调整更换。
- 4、使用过程中不准用“蛮力”开关门。
- 5、使用过程中发现传动绳索松动时，请及时调整。
- 6、电动平移门的电气开关等装置必须安装在安全，便于操作的位置。
- 7、不可预见或损坏我公司随时增补、改动，恕不另行通知。
- 8、电动平移门无“外开门手柄”。
- 9、因安装不符合规程或使用不当造成一切事故后果，责任自负。

#### ■ 板式冷库安装——规范点控制

##### ■ “冷桥”阻碍

隔热夹芯板是阻断冷库内外热交换的屏障，除其厚度设置符合规定外，杜绝因选材连接、建筑结构、设备管路、支架穿透隔热夹芯板等方面形成的“冷桥”至关重要。减少这部分负荷，不仅可以减少运行费用，更重要的是符合食品冷藏、冷加工“库温少波动”的工艺要求，利于降低食品损耗，保持食品品质。阻断“冷桥”，靠切实可行的节点做法完成。

##### ■ “汽桥”阻碍

冷库降温后，隔热层中的气体体积缩小，而空气中所含的水蒸气，由高压侧向低压侧发生作用，即隔热层内形成汽压力差。水蒸气受压后，能透过细微缝隙进入隔热层，并向温度更低、压力更低的内部渗透。水蒸气被冷却后变成水，温度进一步降低后，水凝结为冰，隔热层泡沫呈含水或冰状态，就会破坏其绝缘性能，进而影响整体冷库的运转，缩短其使用年限。相对“冷桥”而言，“汽桥”往往被忽视。安装板材时必须阻断所有“冷桥”，减少水蒸气对隔热泡沫的侵入。

##### ■ 温度要求

冷库是内外温差最大，制冷设备长期运转的建筑物。夹芯板固定方式和构造节点的设计、安装必须能够抗御各种可能的各种外力组合。



百胜物流保鲜冷库



丁家宜冷库



海口冷库板安装



石家庄永辉超市冷库工程



北京金沟河永辉超市冷库工程



超市配送冷库



西塞集装箱冷库-现场一



西塞集装箱冷库-现场二



江苏国韵天红酒冷库-现场一



江苏国韵天红酒冷库-现场二

#### 我们的案例

# Case Show.



清华北大汽车环境-50/60测试工程



江苏省农科院净菜加工工程



上海食用蛋冷库



上海津浦冷链库体保温工程



上海交大康阳汽车环境模拟测试冷库



云南白药(无锡)有限公司工程



上海冷链物流冷库



合作共赢  
Wincooperation