

ISO9001 ISO14001 GB/T45001



粮食冷却和粮食仓储冷却专用机组

CONTAINER AIR CONDITIONER



创造价格以外的价值

全过程解决方案 
Whole Process Solution

宁波惠康实业有限公司·国家高新技术企业
NINGBO HICON INDUSTRY CO.,LTD. NATIONAL HI-TECH ENTERPRISE

地址：浙江省余姚市泗门镇四海大道77号
ADD: Sihai Road, #77, Simen Town Yuyao Zhejiang P.R.China
电话 (TEL) : 0574-62132299 62132962 62132905
全国统一客服热线 (National Service Hotline): 0574-62132900
传真(FAX): 0574-62131000
邮政编码 (P.C.) : 315470
<http://www.hiconcn.com>

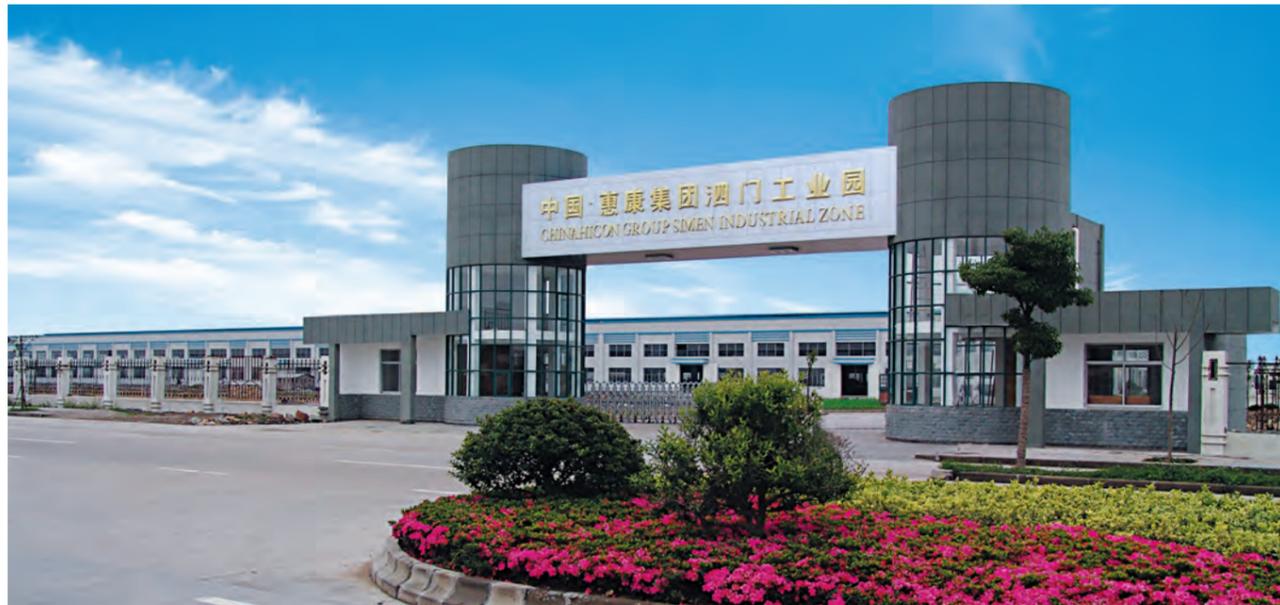
★ 惠康实业保留变更产品设计恕不预先通知的权力
★ 具体产品性能由双方在合同中约定，本样本仅供参考
★ 本公司产品由中国太平洋财产保险股份有限公司承担产品责任险
2025.03A

宁波惠康实业有限公司·国家高新技术企业
NINGBO HICON INDUSTRY CO.,LTD. NATIONAL HI-TECH ENTERPRISE

世界品质 浙江制造

Hi-SURP

粮食冷却和粮食仓储冷却专用机组



机组概述 Product Overview

HICON粮食和粮食仓储冷却专用机组包括粮食冷却机组（谷物冷却机组）和粮食仓储冷却专用机组（粮仓冷却机组）两大系列。公司引入先进设计理念和制造工艺，设计开发的一系列粮食冷却和粮食仓储冷却。为了保证确保库存粮食质量良好、储存安全，充分保障国家粮食安全。

HICON grain cooling and grain storage cooling unit includes two series: grain cooling unit (grain chiller unit) and grain storage cooling unit (granary cooling unit). The Company has introduced advanced design concepts and manufacturing processes to design and develop a series of grain cooling and grain storage cooling units, in order to ensure good quality and safe storage of stored grain, and fully guarantee national food security.

产品特点 Product Features

系列完整/Complete series

机组包括谷物冷却机组和粮仓冷却机组两大系列，粮仓冷却机组包含分体、整体、气调密闭、成品粮机型。多种制冷剂、多种送风距离等参数可供选择，满足不同场合不同环境使用。

The unit includes two series: grain chiller unit and granary cooling unit. The granary cooling unit includes split, integral, controlled atmosphere closed, and processed grain models. A variety of refrigerants, air supply distances and other parameters are available to meet the needs of different occasions and environments.

满足粮食仓储冷却特殊要求/Meeting special requirements of grain storage cooling

粮仓空调粉尘过滤技术。能够有效避免灰尘从进风口进入机组，影响进风口进风量。

粮仓空调防腐技术。能够减小空气中磷化氢对锥形过滤筒的腐蚀，延长锥形过滤筒的使用寿命，保证空调在熏蒸的过程中保持工作。

粮仓空调大进风量技术。有效减少粮食水分流失，保证空调均匀有效的送风，实现了储粮库的均匀降温，提高了粮食的储藏效果。

Dust filtration technology of granary air conditioner. It can effectively prevent dust from entering the unit from the air inlet, affecting the supply air rate of the air inlet.

Anti-corrosion technology of granary air conditioner. It can reduce the corrosion of phosphine in the air to the conical filter cartridge, prolong the service life of the conical filter cartridge, and ensure that the air conditioner keeps working during the fumigation process.

Large supply air rate technology of granary air conditioner. It can effectively reduce the water loss of grain, ensure uniform and effective supply air from the air conditioner, achieve uniform cooling of the granary, and improve the grain storage effect.

超静音运行/Ultra-quiet operation

机组采用先进的压缩机，开发了热交换技术，提高产品散热性能，采用优质双侧进气前倾式低噪音离心风机，内壁贴附优质吸音、保温橡塑材料，使空调运行效率高，振动小，噪音低、性能优良。

The unit adopts an advanced compressor. Heat exchange technology has been developed to improve the heat dissipation performance of the product. High-quality double-side air intake forward tilting type low noise centrifugal blower is adopted. High-quality sound-absorbing and heat-insulating rubber and plastic materials are attached to the inner wall, which makes the air conditioner run efficiently, with small vibration, low noise and excellent performance.

坚固方便/Firm and convenient

机组采用骨架结构内部配件刚度更高，降低机组振动噪音，每一块壳板都粘帖了足够厚度的保温、消音材料，并且可以方便的拆卸，所有机组配件均可从正前方直接检查、维修，并且无须停机。

The unit adopts a skeleton structure and the rigidity of internal parts is higher, reducing the vibration and noise of the unit. Each shell plate is pasted with heat-insulating and sound-absorbing materials with sufficient thickness, and can be easily disassembled. All parts of the unit can be directly inspected and repaired from the front without the need of shutting it down.

微电脑控制/Microcomputer control

微电脑人性化控制，LED大液晶屏显示，具有五种运转模式可供选择（制冷/除湿/通风），具有周定时开关机功能，掉电记忆功能，实时时钟显示等；优化的机组监控逻辑，精心设计的机组运行数据和故障报警全代码查询、提示功能，方便实用，使空调机组稳定、高效、准确控制室内温度，在人体感觉更舒适的同时实现节能运行。

It is featured by microcomputer humanized control, LED large LCD screen display, five operating modes (cooling / dehumidification / ventilation), weekly timed power on/off function, power-off memory function, real-time clock display, etc.; optimized unit monitoring logic and well-designed unit operation data and fault alarm full-code query and prompt functions are convenient and practical, which enable the air conditioning unit to control the indoor temperature stably, efficiently and accurately, and to achieve energy-saving operation while making people feel more comfortable.

控制方式/Control mode

机组均配有标准、通用、完全兼容型的线控器，小巧的体积，超大液晶文本显示屏。采用微处理控制器控制空调机组；预留集中群控接口远程干结点接口、火灾报警输入接口、故障接口，可选装用于通讯控制的485端口。

All units are equipped with standard, universal and fully compatible wire controllers, with compact size and super-large LCD text display screen. A microprocessor controller is adopted to control the air conditioning unit; centralized group control interface, remote dry contact interface, fire alarm input interface and fault interface are reserved, and the 485 port for communication control is optional.

品质保证/Quality guarantee

每台机组出厂前均经过严格检验测试，使机组稳定、可靠，用户只需要连接好液管、气管等管道和控制、电源配线，即可调试投入运行。

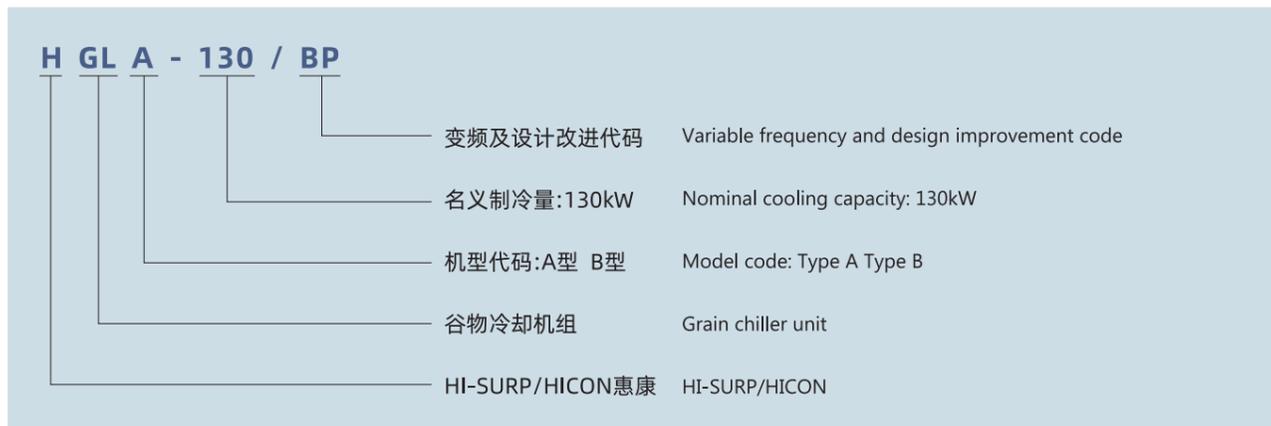
Each unit is strictly inspected and tested before leaving the factory to make the unit stable and reliable. It can be put into operation only when the user connects the pipes such as liquid pipe and air pipe, as well as the control wiring and power supply wiring.

产品选型 Product model selection

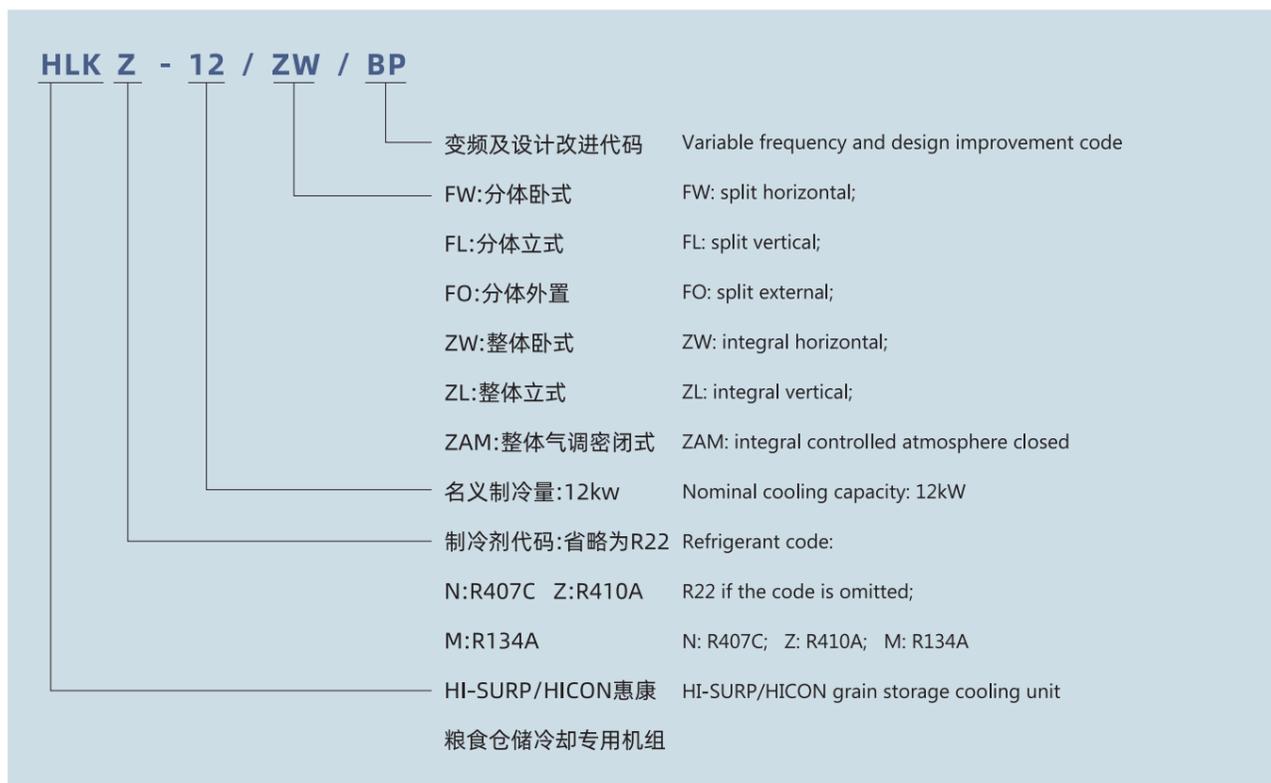
请按照机组型号表示方法写出您需要的机组型号（成套时以内机表示）

Please write out the unit model you need according to the unit model denotation method (expressed in the internal unit in case of a complete set)

◆ 谷物冷却机命名方法 / Naming method of grain chiller



◆ 粮食仓储冷却专用机组命名方法 / Naming method of grain storage cooling unit



订货注意事项说明 Instructions for ordering precautions

- 机组“技术参数表”提供了机组设计性能参数表在标定工况下的制冷量、制热量,如果使用工况与标定工况不同,应按照“变工况性能修正系数”予以修正;

The "Technical Parameter Table" of the unit provides the cooling capacity and heating capacity of the unit under the nominal conditions. If the operating conditions are different from the nominal conditions, they shall be corrected in accordance with the "Correction Factor of Variable Operating Conditions Performance";
- 机组空调系统的风管阻力应和机外静压相匹配,订货请参照“技术参数表”进行合理选择,并必须在机组型号后面加予注明;如有机外静压值超出“技术参数表”要求范围外,可以根据具体要求定制;

The duct resistance of the unit air conditioning system shall be matched to the external static pressure. For ordering, please refer to the "Technical Parameter Table" to make a reasonable choice, and it must be indicated after the unit model; if the value of external static pressure is beyond the range of the "Technical Parameter Table", it can be customized according to specific requirements;
- 压缩机标准默认配置为知名品牌海立/大金/松洋涡旋压缩机,如需要谷轮压缩机配置,请订单中给予注明;如需要请与公司联系,订货请予注明;

The standard default configuration of the compressor is the well-known brand HIGHLY/Daikin/Pansoarc scroll compressor. If a Copeland compressor is needed, please indicate it in the order. If necessary, please contact the Company and indicate when placing the order;
- 机组控制方式,机组采用先进微电脑单片机控制,如需要其他形式控制方式请与公司联系,订货请予注明;控制器(操作器)的连接线标准配置为3M,如需要更长,订货请予注明。

Unit control mode: the unit is controlled by an advanced single chip microcomputer. If other control modes are needed, please contact the Company and indicate when placing the order. The standard configuration of the connecting wire of controller (manipulator) is 3m. If a longer connecting wire is needed, please indicate when placing the order;
- 机组过滤网标准配置为黑色双层尼龙过滤网,本公司可以提供其他过滤型式机组,若需要请与公司联系,订货请予注明;

The standard configuration of the filter screen of the unit is a black double-layer nylon filter screen. We can provide other filter types. If necessary, please contact the Company and indicate when placing the order;
- 机组出厂时自带标准配置制冷剂,机组不带铜管连接管,保温管和连接线,如需要我司购买的话,请在合同中注明长度。

The unit comes with standard refrigerant when leaving the factory, but without copper pipe connecting pipe, thermal insulation pipe and connecting wire. If you need us to buy them, please indicate the length in the contract.
- 如需预制机组基础,请参照机组基础图里面有关说明进行制作;室内外机安装请遵循相关规定,预留空间和检修空间,请参照机组外形图里面有关尺寸规定。

If you need to prefabricate the unit foundation, please refer to relevant instructions in the unit foundation drawing. Please follow relevant regulations to install indoor and outdoor units. Please refer to relevant size regulations in the unit outline drawing to reserve space and maintenance space.
- 为了使机组能够更好的为您服务,请您在订货时注明机组的使用场所和使用季节,我们将有机会为您提供更为稳定可靠的控制系统;

To make the unit serve you better, please indicate the place and season of use of the unit before ordering. We will have the opportunity to provide you with a more stable and reliable control system;
- 本公司产品在安装调试时,可向公司或各地分公司提出技术支持;

Technical support can be requested from the Company or local branch when our products are installed and commissioned;
- 本公司遵循不断完善产品的原则,对产品规格、性能、材料的部分改进或许难以通知阁下,敬请谅解。请与我公司保持联系以索取最新资讯。

We follow the principle of continuous improvement of our products, and it may be difficult to inform you of some improvements in product specifications, performance and materials. Sorry for the inconvenience. Please keep in touch with us for the latest information.

谷物冷却机 Grain Chiller

项目 Item	参数 Parameters		HGLA-55	HGLA-85	HGLA-130
	型号 Model				
性能参数 Performance parameters	名义工况制冷量 Nominal condition cooling capacity	kW	55	85	130
	名义工况送风量 Nominal condition air supply volume	m ³ /h	3500	5500	10000
	机组最大送风量 Maximum air supply volume of the unit	m ³ /h	9000	18600	22600
	名义送风风压 Nominal supply air pressure	Pa	980	980	980
	最大送风风压 Maximum supply air pressure	Pa	2940	2940	2940
	送风温控范围 Air supply temperature control range		10°C ~ 25°C	10°C ~ 25°C	10°C ~ 25°C
	送风相对湿度控范围 Air supply relative humidity control range		65 ~ 90%RH	65 ~ 90%RH	65 ~ 90%RH
机组电源 Unit power supply		3P-AC380V/50HZ	3P-AC380V/50HZ	3P-AC380V/50HZ	
电气参数 Electrical parameters	压缩机功率 Compressor power	kW	17.4	26.3	35.6
	送风机功率 Blower power	kW	15.0	18.5	22.0
	冷凝风机功率 Condensing fan power	kW	2.2	3.3	4.4
	总功率 Total power	kW	34.6	48.1	62.0
	运行电流 Operating current	A	65.5	91.1	117.3
	建议电源电缆 Recommended power cable	m ²	25.0	35.0	50.0
制冷剂 Refrigerant	节流方式 Throttling mode		电子膨胀阀 Electronic expansion valve		
	冷媒型号 Refrigerant type		R410A		
机组特性 Unit characteristics	充注量 Filling volume	kg	38.0	86.0	102.0
	蒸发器 Evaporator	类型 Type	铜管-铝鳍片式 Copper pipe - aluminum fin type		
	挡水板 Water baffle	类型 Type	不锈钢密折 Stainless steel plate		
	再热经济器 Reheat economizer	类型 Type	铜管-铝鳍片式 Copper pipe - aluminum fin type		
	再热电加热(可选配) Reheat electric heater (optional)	类型 Type	不锈钢绕片管 Stainless steel pipe with wound fins		
	送风机 Blower	类型 Type	低噪音离心风机 Low noise centrifugal fan		
		传动 Drive	变频直接驱动 Variable frequency direct drive		
	压缩机 Compressor	类型 Type	涡旋式 Scroll type		
	冷凝器 Condenser	类型 Type	铜管-铝鳍片式 Copper pipe - aluminum fin type		
	冷凝风机 Condensing fan	类型 Type	轴流风机 Axial flow fan		
控制方式 Control mode			西门子PLC全自动 Siemens PLC full-automatic		
			组态远程控制 Configuration remote control		
尺寸参数 Dimension parameters	送风口直径尺寸 Diameter of air supply outlet	mm	500	600	600
	进风口直径尺寸 Diameter of air inlet	mm	500	600	600
	排水管管径 Drain pipe diameter	DN	20	20	20
	长度 Length	mm	3400	3800	3800
	宽度 Width	mm	1700	1900	1900
	高度 Height	mm	2715	2715	2715
重量 Weight	kg	2300	2700	3200	

注：
1、名义工况：进风干球27°C/相对湿度81%RH，静压980PA。
2、可以非标特殊电源和特殊机型。

Note:
1. Nominal conditions: inlet air dry bulb temperature: 27°C/relative humidity: 81%RH, static pressure: 980Pa.
2. Non-standard special power supply and special models

产品用途 Product Purpose

谷物冷却机是实现绿色低碳储粮的关键设备，将空气经过冷却和湿度调节，向仓库内吹入适合所存放谷物特性的一定温度和湿度的空气，满足对整仓粮堆进行降温冷却作业要求，实现谷物的低温储藏。

Grain chiller is the key equipment for achieving green and low-temperature grain storage. After cooling and humidity regulation, the air with a certain temperature and humidity that is suitable for the characteristics of the stored grains is blown into the granary, so as to meet the requirements of cooling the whole grain pile and achieve the low-temperature storage of grains.

适用范围 Range of Application

该设备适用于立筒仓、浅圆仓、平房仓等不同仓型中各种类型粮食和油料的低温通风，谷冷机适用于稻谷、小麦、玉米等平房仓的横向谷冷通风。

This equipment is suitable for low-temperature ventilation of various types of grains and oil seeds in different granary types such as vertical silo, squat silo and horizontal bin. The grain chiller is suitable for horizontal grain cooling and ventilation of horizontal bins such as rice, wheat and corn.

产品优势 Product Advantages

- ◆ 保持储粮品质，延缓粮食陈化，实现粮食保鲜储存
- ◆ 安全储粮，减少损失
- ◆ 运行可靠，操作简便
- ◆ 抑制病虫害，避免化学熏蒸污染，绿色储粮
- ◆ 高效率设计，运行成本低

- ◆ Maintain the grain storage quality, delay grain aging, and achieve preservation and storage of grains
- ◆ Inhibit pests and diseases, avoid chemical fumigation pollution, and achieve green grain storage
- ◆ Store grains safely and reduce losses
- ◆ High efficiency design and low operating cost
- ◆ Reliable operation and easy operation

低温储粮 Low-temperature Grain Storage

低温储粮是使粮堆温度长期保持在15°C（低温）或20°C（准低温）以下。粮食的低温储藏是国际公认的科学、无污染储粮方式。具有以下显著优点：

- ◆ 减少因虫害和微生物滋生造成的损失。不需药物熏蒸，从而减少污染，保持粮食卫生；
- ◆ 减缓谷物颗粒的新陈代谢，延缓品质陈化及劣变，保持成品粮的色、香、味，保持粮食食用品质。特别适用于稻谷、玉米和油料的优质储存；
- ◆ 减少谷物因呼吸、虫害、高温发热、霉变及倒仓而造成的损失，最大限度降低储粮成本；

随着人们对谷物品质的认识不断提高及人民生活水平的不断提高，人们对粮食的品质和无污染的要求会逐步提高。在粮食储存过程中逐步淘汰传统的常温储藏、药物熏蒸杀虫方法，是发展的必然趋势。



Low-temperature grain storage is to keep the grain pile temperature below 15°C (low temperature) or 20°C (quasi-low temperature) for a long time. Low-temperature grain storage is an internationally recognized scientific and pollution-free storage method. It has the following significant advantages:

- ◆ Reduce losses caused by pests and microbial growth. No drug fumigation is required, thus reducing pollution and maintaining grain hygiene
- ◆ Slow down the metabolism of grain pellets, delay the quality aging and deterioration, maintain the color, aroma and taste of processed grains, and preserve the edible quality of grains. It is specially suitable for high-quality storage of rice, corn and oil seeds
- ◆ Reduce the losses of grains caused by respiration, pests, high temperature and heat generation, mildew and granary turnover, and minimize the grain storage cost

With the continuous improvement of people's awareness of grain quality and living standards, their requirements for grain quality and pollution-free grains will gradually increase. It is an inevitable trend in development to phase out the traditional normal temperature storage, drug fumigation and insecticide methods in the process of grain storage.

产品特点 Product Features

1 高效节能/High efficiency and energy saving

- 1.1 制冷效率高，能耗低；
- 1.2 设备热风向上排出，不受环境风向干扰，保证谷物冷却机高效工作；
- 1.3 配有回风口，可实现环流降温通风，明显提高粮堆的降温效率，降低能耗；
- 1.4 采用变频技术控制风机的转速，风量自动调节，高效节能。
- 1.1 High cooling efficiency and low energy consumption;
- 1.2 The hot air of the equipment is discharged upwards, without being disturbed by the environmental wind direction, in order to ensure efficient working of the grain chiller;
- 1.3 Equipped with a return air inlet, it can achieve circulating cooling and ventilation, significantly improving the cooling efficiency of grain pile and reducing the energy consumption;
- 1.4 Variable frequency technology is adopted to control the speed of the fan, and the air flow is automatically regulated, which is highly efficient and energy-saving.

2 智能控制/Intelligent control

- 2.1 控制系统精确严密，可进行智能化远程监控，实现长时间无人值守自控运行；
- 2.2 调控气体恒温恒湿精准输出，实现保水保质、均匀制冷，保障全仓粮食安全通风降温；
- 2.3 采用 PLC 智能化控制，设有自动、手动、通风、定时等多种工作方式。
- 2.1 The control system is precise and rigorous, and intelligent remote monitoring can be performed to achieve long-term unattended auto-control operation;
- 2.2 The regulated air is accurately output at constant temperature and humidity to achieve water retention, quality preservation and uniform cooling, and ensure safe ventilation and cooling of grains in the whole granary;
- 2.3 PLC intelligent control is adopted, with multiple working modes such as automatic, manual, ventilation and timing.

3 安全可靠/Safe and reliable

- 3.1 设备设有各种安全保护装置，保证设备安全运行；
- 3.2 控制系统、制冷系统80%以上的元器件选自国际名牌产品，质量可靠；
- 3.3 不锈钢材料和优良加工工艺，保证长时间室外使用不生锈。
- 3.1 The equipment is configured with various safety protection devices to ensure its safe operation;
- 3.2 More than 80% of the components in the control system and cooling system are selected from internationally renowned products with reliable quality;
- 3.3 Stainless steel material and excellent processing technology can ensure long-term outdoor use without rust.

4 智能简便/Intelligent and simple

- 4.1 操作简便，界面友好设备采用7寸大屏显示，各项结果、参数的设置显示方便、直观。
- 4.2 智能化程度高，仅需根据实际需求和气候条件设置出风温湿度，开机即可自动运行。
- 4.1 Easy operation and friendly interface. The equipment adopts 7-inch large screen display, and the setting and display of various results and parameters are convenient and intuitive.
- 4.2 High degree of intelligence. The user only needs to set the outlet air temperature and humidity according to actual needs and climatic conditions, and the equipment will run automatically when it is turned on.

5 不锈钢外壳/Stainless steel housing

- 5.1 防腐性能好，常年室外使用仍能保持良好外观
- 5.1 With good anti-corrosion performance, it can still maintain a good appearance after outdoor use all year round

6 适用范围广/Wide range of application

- 6.1 产品系列化，型号齐全，可以满足不同仓型、不同粮种的谷冷通风需求。
- 6.2 满足南、北方不同气候条件下谷冷通风使用。
- 6.1 The product serialization and complete models can meet the grain cooling and ventilation needs of different granary types and grain varieties.
- 6.2 It can meet the grain cooling and ventilation needs under different climatic conditions in both the south and north.

工作原理 Operating Principle

冷却过程/Cooling process

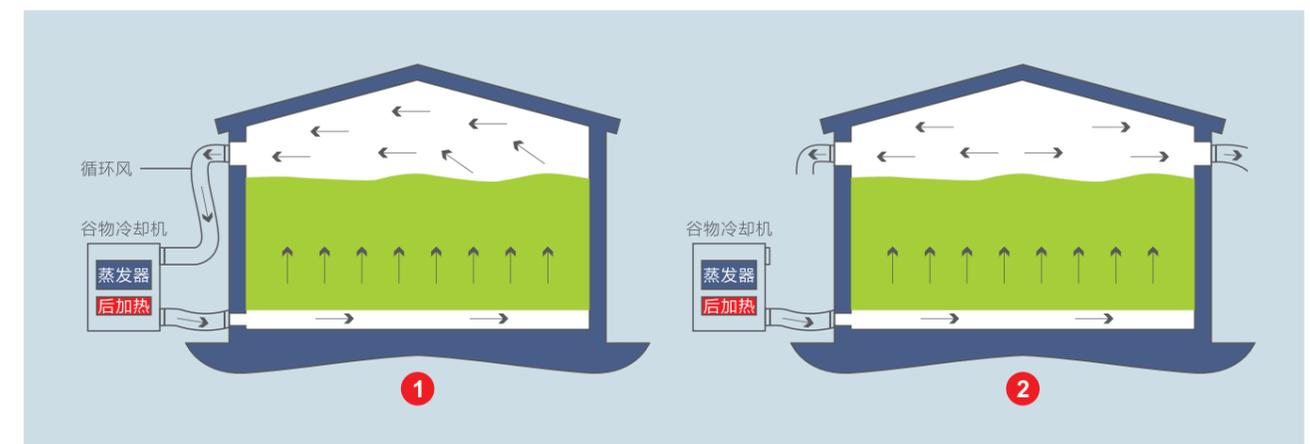
环境空气经过滤器去除尘杂，然后进入蒸发器被冷却，空气温度降低湿度增高成为高湿冷空气，冷湿空气经后加热系统加热干燥调湿，而后通过离心风机（变频调速），将温湿度符合设定值要求的空气送入仓内。送风温度和湿度由PLC系统自动控制调节。

The ambient air passes through the filter to remove dust and impurities, and then enters the evaporator for cooling. The air temperature decreases and the humidity increases to become high-humidity cold air. The cold and humid air is heated, dried and conditioned by the post-heating system, and then the air whose temperature and humidity meet the requirements of the set value is sent into the granary through the centrifugal fan (variable frequency speed regulation). The air supply temperature and humidity are automatically controlled and regulated by PLC system.

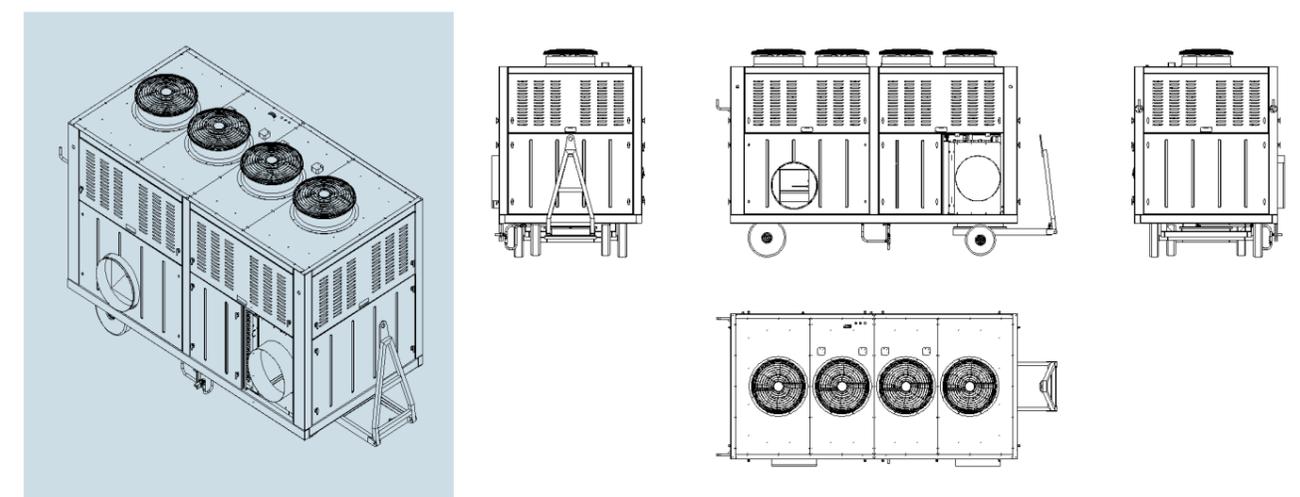
采用PLC控制，自动控制调节送风温度和湿度，变频式离心风机，自动控制送风量和送风静压，采用后端冷凝回收再热，温湿度控制更加精准、节能。对换热器进行计算和匹配，改善机组制冷和除湿效果。

PLC control is adopted to automatically control and regulate the air supply temperature and humidity. The variable frequency centrifugal fan is used to automatically control the air supply volume and static pressure, and the back-end condensate recovery is adopted for reheating, so that the temperature and humidity control is more precise and energy-saving. The heat exchanger is calculated and matched to improve the cooling and dehumidification effect of the unit.

工艺流程图 Process Flow Chart



外形示意图 Outline Diagram



I 粮食仓储冷却专用机组(分体) Grain Storage Cooling Unit (Split)

室内机型号 Indoor unit model		HLK-12FW	HLK-12FL	HLK-12FO
名义制冷量 Nominal cooling capacity	kW	12	12	12
能量调节范围 Energy regulation range		100-0	100-0	100-0
名义制冷运行功率 Nominal cooling operating power	kW	4.3	4.3	4.3
室内机运行功率 Indoor unit operating power	kW	0.5	0.5	0.5
电源 Power supply		3P-AC380V/50HZ	3P-AC380V/50HZ	3P-AC380V/50HZ
空气过滤器 Air filter		Gn初效过滤网 GN primary filter screen		
送风 Air supply	送风量(m ³ /h) Air supply volume (m ³ /h)	3200	3200	3200
	送风距离(m) Air supply distance (m)	15	15	15
风机 Fan	风机类型 Fan type	外转子离心风机 Outer rotor centrifugal fan		
	风机数量 Number of fans	1	1	2
蒸发器参数 Evaporator parameters	铜管类型 Copper pipe type	内螺纹管 Internal ribbed tube		
	翅片类型 Fin type	亲水膜开窗片 Hydrophilic film with shutters		
节流装置 Throttling device		热力膨胀阀 Thermal expansion valve		
接管连接方式 Connection mode of connecting pipe		螺纹 Screw thread		
配管尺寸 Piping size	液管直径(in) Liquid pipe diameter (in)	φ1/2	φ1/2	φ1/2
	气管直径(in) Air pipe diameter (in)	φ3/4	φ3/4	φ3/4
	冷凝水排水管 Condensate drain pipe	DN20	DN20	DN20
室内机尺寸 Indoor unit dimensions	长(mm) Length (mm)	1180	1018	988
	深(mm) Depth (mm)	750	500	586
	高(mm) Height (mm)	450	1261	1061
	重量(Kg) Weight (kg)	96	98	112
	噪音(dB)A Noise (dB)A	59	66	66
室外机型号 Outdoor unit model		HLK-12F	HLK-12F	HLK-12F
数量 Qty.		1	1	1
电源 Power supply		3P-AC380V/50HZ	3P-AC380V/50HZ	3P-AC380V/50HZ
制冷剂 Refrigerant	冷媒型号 Refrigerant type	R22/R410A	R22/R410A	R22/R410A
	充注量kg Filling volume (kg)	4.3	4.3	4.3
压缩机类型 Compressor type		涡旋式 Scroll type		
压缩机数量 Number of compressors		1	1	1
冷凝器类型 Condenser type		铜管铝翅片 Copper pipe aluminum fin		
风机部分 Fan part	风机类型 Fan type	轴流风叶 Axial flow fan blade		
	风机型号 Fan model	RZLC550	RZLC550	RZLC550
	数量 Qty.	1	1	1
	风量(m ³ /h) Air flow (m ³ /h)	6400	6400	6400
外形尺寸 Overall dimensions	功率(kW) Power (kW)	0.37	0.37	0.37
	长(mm) Length (mm)	725	725	725
	深(mm) Depth (mm)	725	725	725
	高(mm) Height (mm)	1156	1156	1156
	重量(Kg) Weight (kg)	136	136	136
	噪音(dB)A Noise (dB)A	63	63	63

注:
1、额定制冷量测试工况: 室外干球/湿球35°C/24°C, 室内干球/湿球27°C/19°C

Note:
1. Test conditions of rated cooling capacity: Outdoor dry bulb/wet bulb: 35°C/24°C, indoor dry bulb/wet bulb: 27°C/19°C

I 特点介绍及外形尺寸图 Features and Outline Dimensional Drawing

惠康粮仓空调是我司根据中储粮的要求, 依据粮仓现场情况并结合惠康四十多年的制冷经验潜心研发而成的专用空调。该空调满足了粮仓特殊的使用环境, 能效比高、噪音低、外形美观且体积小, 安装、维护非常简单、方便。具有的智能控制温度凝露范围, 尽量减少设备结水量, 有效防止表层粮食失水, 有效提高加工品质、提升食用口感; 具有运行时段、时间、时长、任意设置、并可进行远程集中控制, 满足智能化信息化粮库建设需求; 具有耐在熏蒸功能, 解决空调内机被磷化氢气体腐蚀的问题, 使机组完全裸露, 任意熏蒸; 就要防尘功能解决了出入库作业时大量粉尘对空调的影响问题及运行时泥垢堵塞蒸发器的的问题。

Hicon granary air conditioner is a dedicated air conditioner developed by our company according to the requirements of Sinograin, based on the site conditions of granaries and combined with Hicon's over 40 years of refrigeration experience. The air conditioner meets the special service environment of granaries, with high energy efficiency ratio, low noise, attractive appearance and small volume, and its installation and maintenance are very simple and convenient.

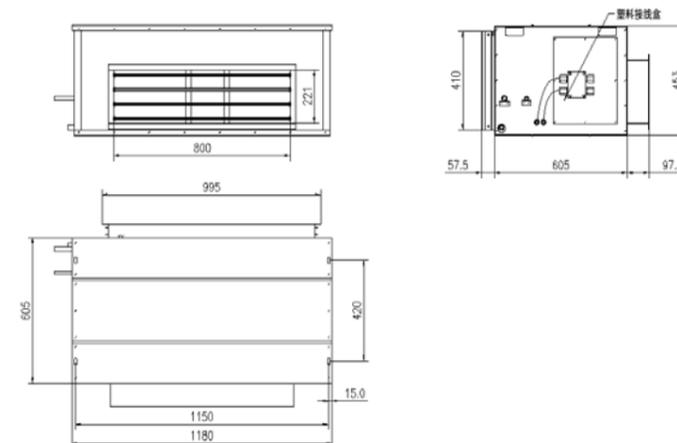
It has intelligent control of temperature and condensation range, which can minimize equipment condensing capacity, effectively prevent surface grain from water loss, improve the processing quality, and enhance the edible taste;

It has running period, time, and duration settings, and remote centralized control can be achieved to meet the needs of intelligent and information-based grain depot construction;

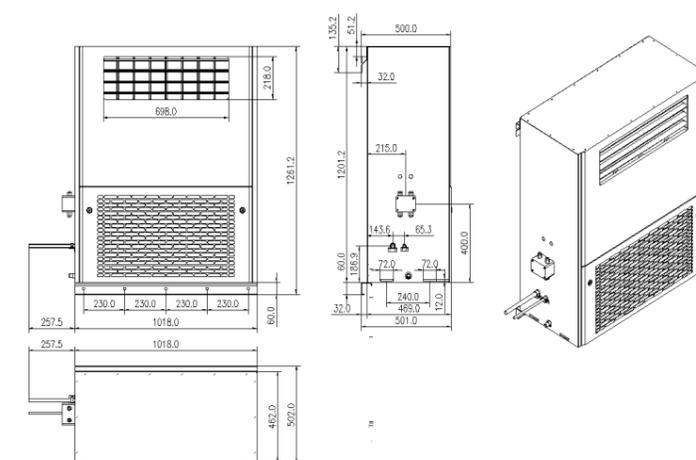
It has the function of resistance to fumigation, which solves the problem that the indoor unit of air conditioner is corroded by phosphine gas, so that the unit is completely exposed for fumigation at will;

The dustproof function solves the problem that a large amount of dust affects the air conditioner during inbound and outbound operations and the problem that the dirt blocks the evaporator during operation.

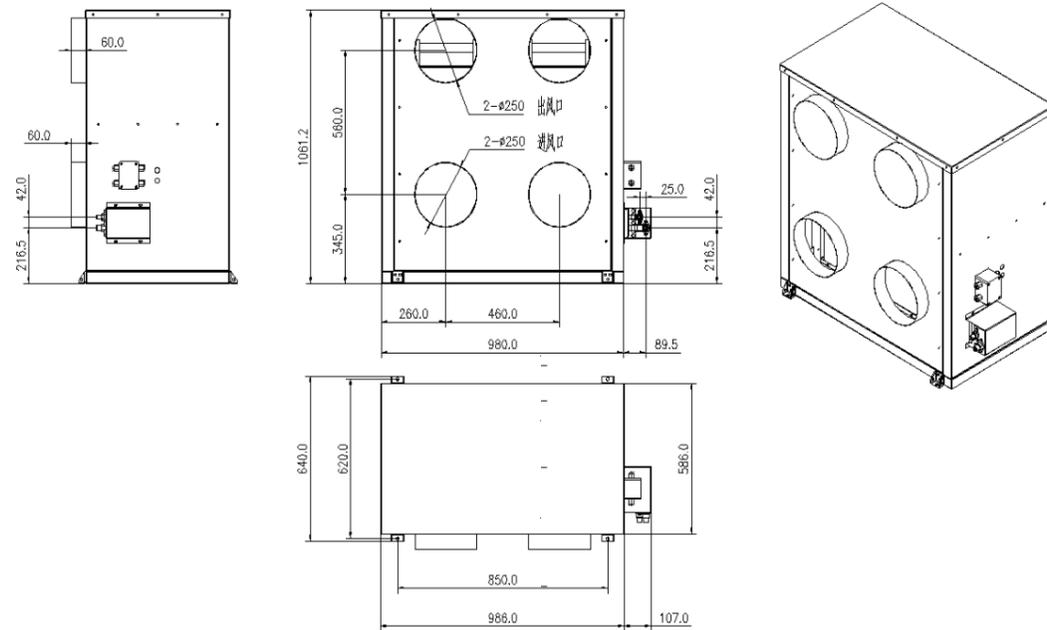
HLK-12FW外形和接口尺寸/HLK-12FW Outline and Interface Dimensions



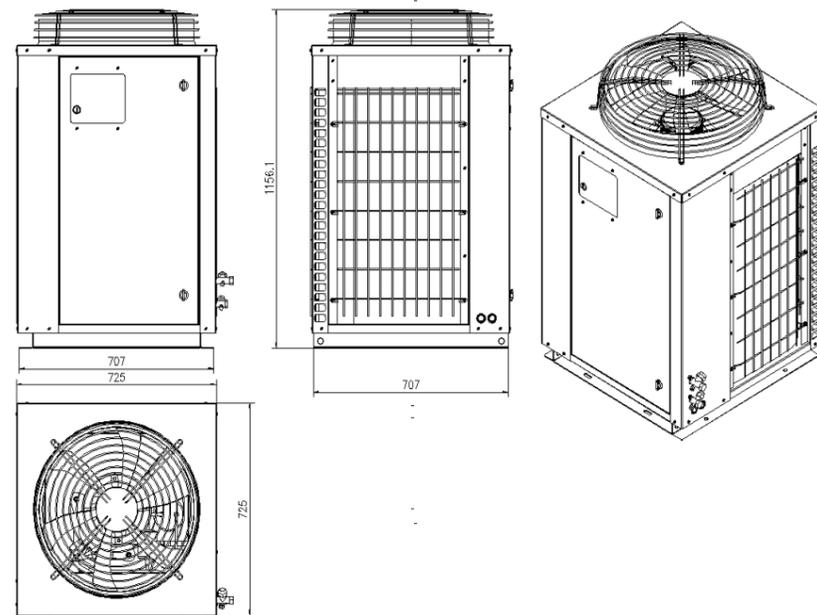
HLK-12FL外形和接口尺寸/HLK-12FL Outline and Interface Dimensions



HLK-12FO外形和接口尺寸/HLK-12FO Outline and Interface Dimensions



HLK-12F外形和接口尺寸/HLK-12F Outline and Interface Dimensions



粮食仓储冷却专用机组(整体立式) Grain Storage Cooling Unit (Integral Vertical Type)

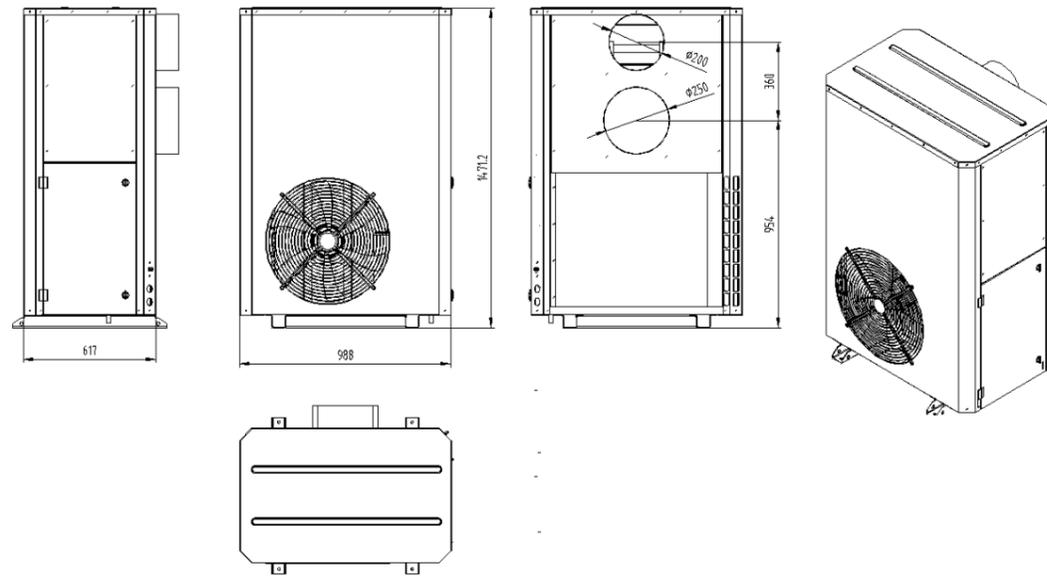
项目 Item	参数 Parameters	型号 Model						
		HLK-8ZL	HLK-10ZL	HLK-12ZL	HLK-15ZL	HLK-20ZL	HLK-22ZL	
机组特性 Unit characteristics	制冷量 Cooling capacity	kW	8	10	12	15	20	22
	循环风量 Circulating air flow	m ³ /h	1500	2400	2700	3200	3800	4300
	送风距离 Air supply distance	m	15	18	18	22	22	22
	温控范围及精度 Temperature control range and accuracy		18°C ~ 28°C±1°C					
	能量调节范围 Energy regulation range		100-0	100-0	100-0	100-0	100-0	100-0
	电源 Power supply		3P-AC380V/50HZ					
	制冷功率 Cooling power	kW	2.9	3.6	4.4	5.5	7.3	8.0
	最大运行功率 Maximum operating power	kW	3.9	4.9	5.9	7.4	9.8	10.8
建议电源电缆 Recommended power cable	mm ²	2.5	4.0	4.0	4.0	6.0	6.0	
室内机 Indoor unit	蒸发器 Evaporator	类型 Type	铜管-铝鳍片式 Copper pipe - aluminum fin type					
		翅片形式 Fin form	亲水百叶窗型铝翅片 Hydrophilic shutter aluminium fins					
		迎风面积(m ²) Windward area (m ²)	0.17	0.28	0.31	0.37	0.44	0.50
	制冷剂 Refrigerant	节流方式 Throttling mode	热力膨胀阀 Thermal expansion valve					
		冷媒型号 Refrigerant type	R410A	R410A	R410A	R410A	R410A	R410A
		充注量(kg) Filling volume (kg)	2.0	2.5	3.0	3.8	5.0	5.5
	送风机 Blower	类型 Type	低噪音离心风机 Low noise centrifugal fan					
		传动方式 Drive mode	直接驱动 Direct drive					
	压缩机 Compressor	类型 Type	转子式 Rotor type					
		数量 Qty	1	1	1	1	1	1
风机部分 Fan part	冷凝器类型 Condenser type		铜管铝翅片 Copper pipe aluminum fin					
	风机类型 Fan type	风机型号 Fan model	ABS490	ABS556	ABS556	ABS556	RZLC550	RZLC650
		数量 Qty	1	1	1	1	1	1
		风量(m ³ /h) Air flow (m ³ /h)	3800	5600	5600	5600	8040	9930
		功率(kW) Power (kW)	0.15	0.2	0.2	0.2	0.55	0.55
	配管尺寸 Piping size	进风口尺寸 Size of air inlet	200	250	250	250	315	315
		送风口尺寸 Size of air supply outlet	250	315	315	315	400	400
		排水管管径 Drain pipe diameter	DN20	DN20	DN20	DN20	DN20	DN20
	外形尺寸 Overall dimensions	长(mm) Length (mm)	988	988	988	988	1080	1280
		宽(mm) Width (mm)	617	617	617	617	718	718
高(mm) Height (mm)		1471	1521	1521	1521	1761	1761	
重量(Kg) Weight (kg)		126	148	158	168	228	248	
噪音(dB)A Noise (dB)A		61	62	63	63	68	69	
安装附件 Installation accessories	附件 Accessories	送风管 Air supply pipe	√	√	√	√	√	√
		进风管 Air inlet pipe	√	√	√	√	√	√
		密闭门(带滤网) Sealed door (with filter screen)	√	√	√	√	√	√
		安装支架 Mounting bracket	√	√	√	√	√	√

注：
1. 额定制冷量测试工况：室外干球/湿球35°C/24°C，室内干球/湿球27°C/19°C

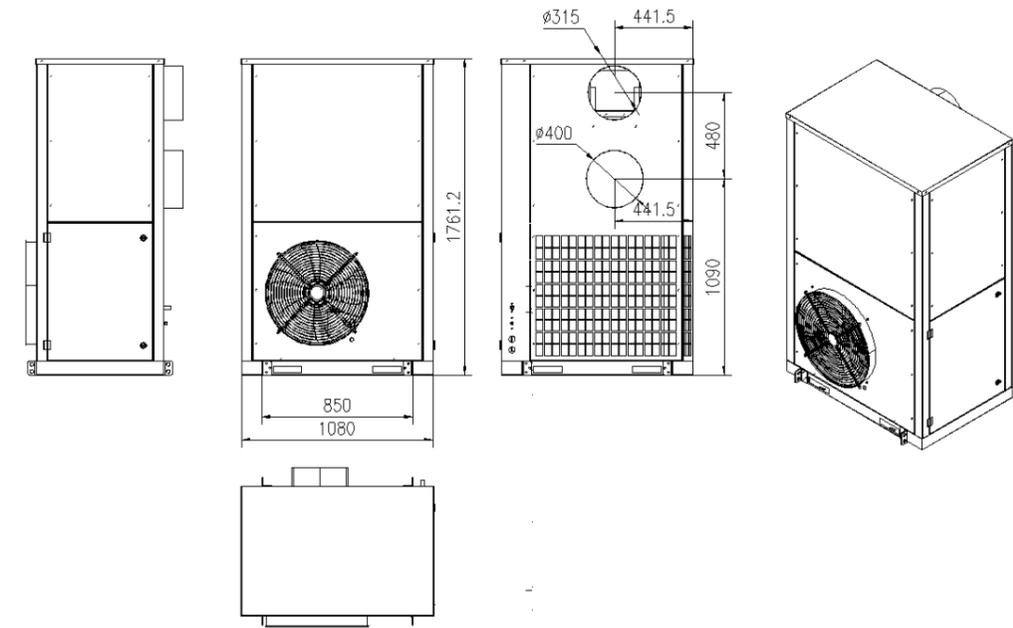
Note:
1. Test conditions of rated cooling capacity: Outdoor dry bulb/wet bulb: 35°C/24°C, indoor dry bulb/wet bulb: 27°C/19°C

外形尺寸图 Outline Dimensional Drawing

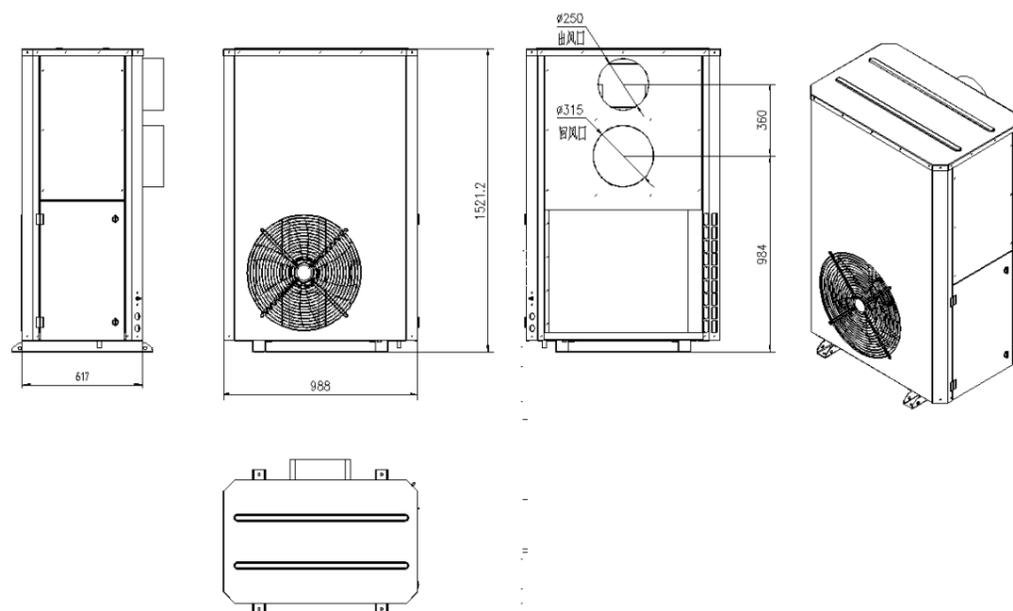
HLKZ-8ZL外形和接口尺寸/HLKZ-8ZL Outline and Interface Dimensions



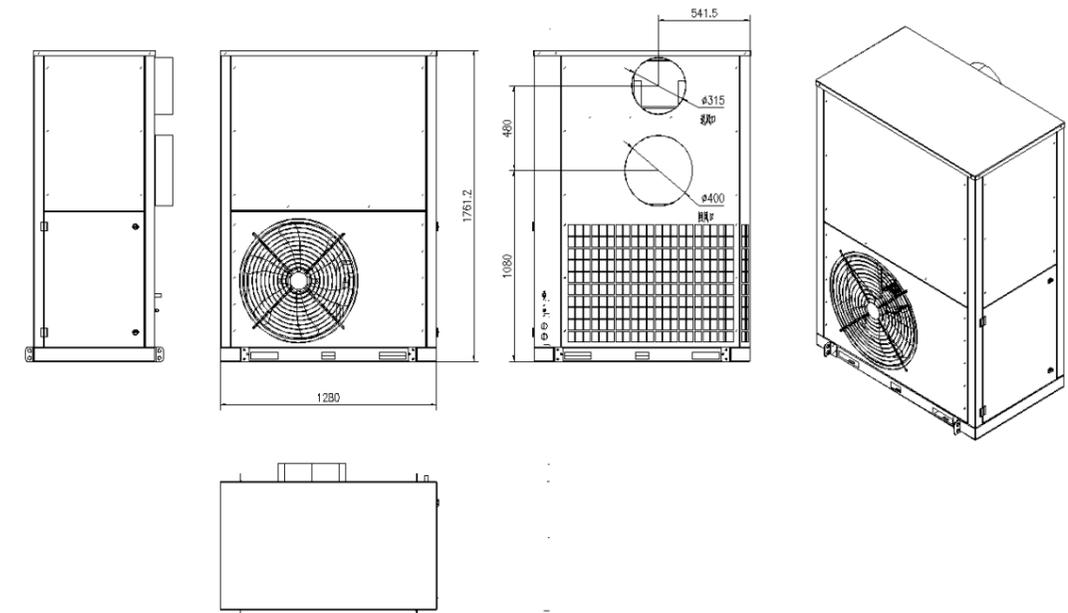
HLKZ-20ZL外形和接口尺寸/HLKZ-20ZL Outline and Interface Dimensions



HLKZ-10ZL/12ZL/15ZL外形和接口尺寸/HLKZ-10ZL/12ZL/15ZL Outline and Interface Dimensions



HLKZ-22ZL外形和接口尺寸/HLKZ-22ZL Outline and Interface Dimensions



I 粮食仓储冷却专用机组(整体卧式)

Grain Storage Cooling Unit (Integral Horizontal Type)

项目 Item	参数 Parameters	型号 Model				
		HLK-12ZW	HLK-15ZW	HLK-20ZW	HLK-33ZW	
机组特性 Unit characteristics	制冷量 Cooling capacity	kW	12	15	20	33
	循环风量 Circulating air flow	m ³ /h	2700	3800	4300	4300
	送风距离 Air supply distance	m	18	22	22	25
	温控范围及精度 Temperature control range and accuracy	18°C ~ 28°C±1°C				
	能量调节范围 Energy regulation range		100-0	100-0	100-0	100-0
	电源 Power supply	3P-AC380V/50HZ				
	制冷功率 Cooling power	kW	4.4	5.5	7.3	12.0
	最大运行功率 Maximum operating power	kW	5.9	7.4	9.8	16.2
建议电源电缆 Recommended power cable	mm ²	2.5	4.0	6.0	10.0	
室内机 Indoor unit	蒸发器 Evaporator	类型 Type	铜管-铝鳍片式 Copper pipe - aluminum fin type			
		翅片形式 Fin form	亲水百叶窗型铝翅片 Hydrophilic shutter aluminium fins			
		迎风面积(m ²) Windward area (m ²)	0.31	0.44	0.50	0.50
	制冷剂 Refrigerant	节流方式 Throttling mode	热力膨胀阀 Thermal expansion valve			
		冷媒型号 Refrigerant type	R410A	R410A	R410A	R410A
		充注量(kg) Filling volume (kg)	3.0	3.8	5.0	8.3
	送风机 Blower	类型 Type	低噪音离心风机 Low noise centrifugal fan			
		传动方式 Drive mode	直接驱动 Direct drive			
	压缩机 Compressor	类型 Type	转子式 Rotor type		涡旋式 Scroll type	
		数量 Qty	1	1	1	1
	冷凝器类型 Condenser type		铜管铝翅片 Copper pipe aluminum fin			
	风机部分 Fan part	风机类型 Fan type	轴流风叶 Axial flow fan blade			
		风机型号 Fan model	ABS556	ABS556	RZLC550	RZLC750
		数量 Qty	2	1	1	1
		风量(m ³ /h) Air flow (m ³ /h)	5600	8040	8040	8040
		功率(kw) Power (kw)	0.1	0.37	0.37	0.37
	配管尺寸 Piping size	进风口尺寸 Size of air inlet	250	250	315	400
		送风口尺寸 Size of air supply outlet	315	315	400	400
排水管管径 Drain pipe diameter		DN20	DN20	DN20	DN20	
外形尺寸 Overall dimensions	长(mm) Length (mm)	1765	1765	2065	2080	
	宽(mm) Width (mm)	718	718	718	1000	
	高(mm) Height (mm)	1011	1011	1011	1381	
	重量(Kg) Weight (kg)	162	172	238	178	
	噪音(dB)A Noise (dB)A	62	63	68	73	
安装附件 Installation accessories	附件 Accessories	送风管 Air supply pipe	√	√	√	/
		进风管 Air inlet pipe	√	√	√	/
		密闭门(带滤网) Sealed door (with filter screen)	√	√	√	/
		安装支架 Mounting bracket	√	√	√	/

注：
1、额定制冷量测试工况：室外干球/湿球35°C/24°C，室内干球/湿球27°C/19°C

Note:
1. Test conditions of rated cooling capacity: Outdoor dry bulb/wet bulb: 35°C/24°C, indoor dry bulb/wet bulb: 27°C/19°C

I 特点介绍及外形尺寸图

Features and Outline Dimensional Drawing

适用安装高度有限，允许长度和宽度安装空间大的场所
It is applicable to places with limited installation height and large installation space with allowable length and width

性能卓越/Excellent performance

高效制冷：采用知名品牌压缩机，配合高效换热器，热交换性能好，机组效率高，确保快速降温。
节能环保：应用节能技术、循环风技术、压缩机自动加载/卸载技术等，提高节能效果，降低运行成本。
精准调控：具备温度控制功能，温度控制精度≤1°C，确保粮食处于最佳储存状态。
Efficient cooling: Well-known brand compressor and high-efficiency heat exchanger are adopted, so that the unit has good heat exchange performance and high unit efficiency to ensure rapid cooling.
Energy saving and environmental protection: Energy-saving technology, circulating air technology, and compressor automatic loading/unloading technology are applied to improve energy-saving effect and reduce operating cost.
Precise regulation: Equipped with temperature control function, the temperature control accuracy is ≤1°C to ensure that the grains are in the best storage state.

稳定可靠/Stable and reliable

运行稳定：采用自动控制模式，可根据回风的温度自动调节能量，实现无人值守运行。
多重保护：设有相序保护、高压、低压、压缩机及风机电机过载等保护措施，保证设备安全运行。
Stable operation: Automatic control mode is adopted, so the energy can be automatically regulated according to the temperature of return air to achieve unattended operation.
Multiple protection: It is equipped with phase sequence protection, high voltage, low voltage, compressor and fan motor overload and other protection measures to ensure safe operation of the equipment.

灵活便捷/Flexible and convenient

安装简便：整体卧式设计，安装简单，无需复杂的基础设施，节省安装时间和成本。
Easy installation: Integral horizontal design is adopted, with easy installation and without the need for complicated infrastructure, saving installation time and cost.

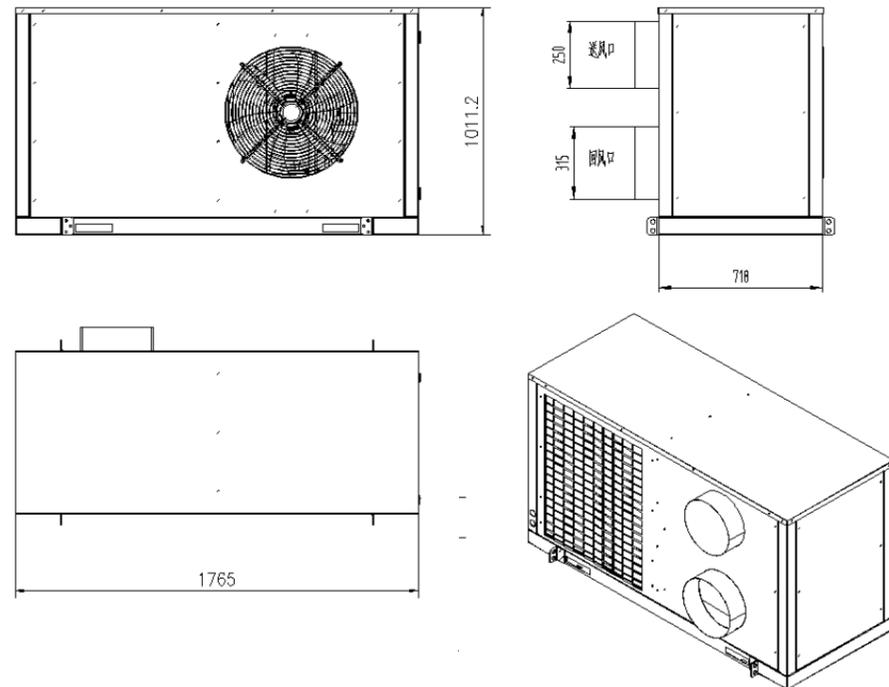
适应性强/Strong adaptability

环境适应：可在环境温度10-60°C，相对湿度10-95%的工况条件下运行，满足不同地区和季节的储粮需求。
粮种适应：适用于稻谷、小麦、玉米、大豆等多种粮食的冷却储存，满足不同粮种的降温需求。
Environmental adaptability: It can be operated under the working conditions with ambient temperature of 10-60°C and relative humidity of 10-95%, meeting the grain storage needs in different regions and seasons.
Grain variety adaptability: It is suitable for cooling storage of various types of grains such as rice, wheat, corn and soybean, meeting the cooling needs of different grain varieties.

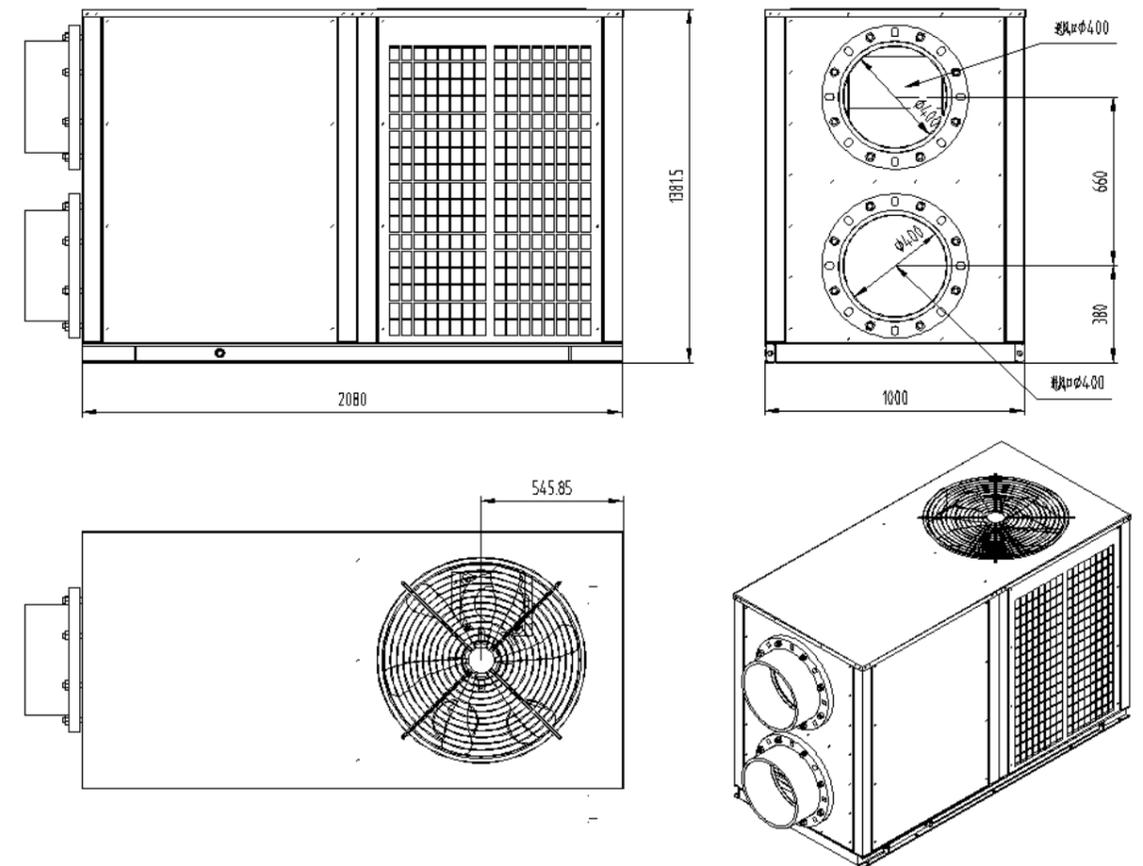
智能控制/Intelligent control

信息化管理：具备信息化接口，实现运行数据的监测与在线传输、远程控制功能，方便管理人员实时掌握设备运行状态和粮仓温湿度情况。
智能调节：根据粮仓温度和湿度变化，自动调节风量和送风温度，实现精准控温。
粮食仓储冷却专用机组能够有效保障粮食储存的品质和安全。
Information management: Equipped with an information interface, it achieves operation data monitoring and online transmission, and remote control functions, which are convenient for management personnel to master the equipment operating status and the granary temperature and humidity in real time.
Intelligent regulation: According to the changes in granary temperature and humidity, the air flow and air supply temperature are automatically regulated to achieve accurate temperature control.
The grain storage cooling unit can effectively guarantee the quality and safety of grain storage.

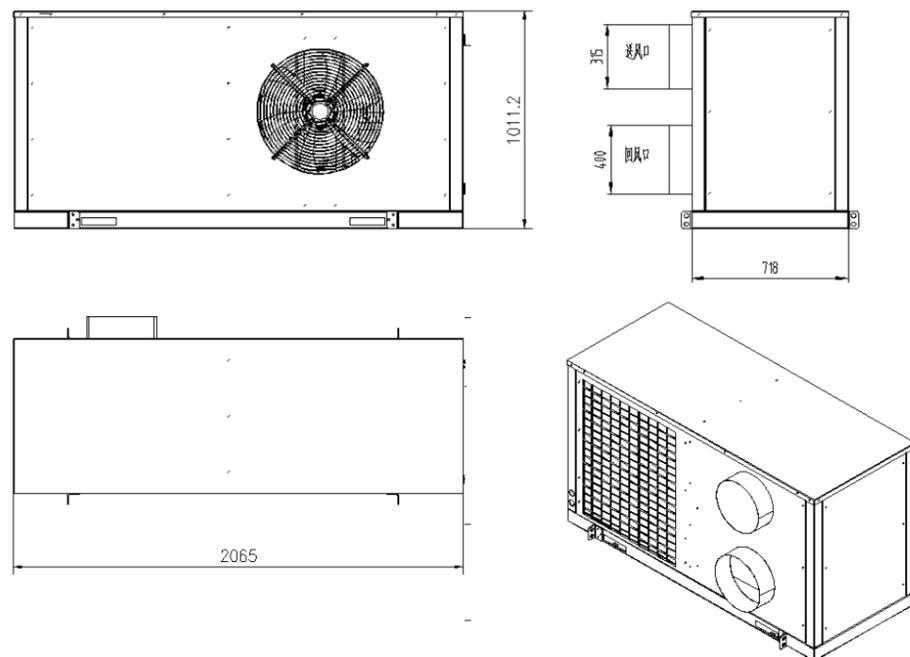
HLKZ-12ZW/15ZW外形和接口尺寸/HLKZ-12ZW/15ZW Outline and Interface Dimensions



HLKZ-33ZW外形和接口尺寸/HLKZ-33ZW Outline and Interface Dimensions



HLKZ-20ZW外形和接口尺寸/HLKZ-20ZW Outline and Interface Dimensions



粮食仓储冷却专用机组(整体气调密闭式) Grain Storage Cooling Unit (Integral Controlled Atmosphere Closed Type)

项目 Item	参数 Parameters	型号 Model			
		HLK-12ZAM	HLK-15ZAM	HLK-33ZAM	
机组特性 Unit characteristics	制冷量 Cooling capacity	kW	12	15	33
	循环风量 Circulating air flow	m ³ /h	2700	3800	6500
	送风距离 Air supply distance	m	18	22	25
	温控范围及精度 Temperature control range and accuracy		18°C ~ 28°C±1°C		
	能量调节范围 Energy regulation range		100-0	100-0	100-0
	电源 Power supply		3P-AC380V/50HZ		
	制冷功率 Cooling power	kW	4.4	5.5	12.0
	最大运行功率 Maximum operating power	kW	5.9	7.4	16.2
	建议电源电缆 Recommended power cable	mm ²	2.5	4.0	10.0
室内机 Indoor unit	蒸发器 Evaporator	类型 Type	铜管-铝鳍片式 Copper pipe - aluminum fin type		
		翅片形式 Fin form	亲水百叶窗型铝翅片 Hydrophilic shutter aluminium fins		
		迎风面积(m ²) Windward area (m ²)	0.31	0.44	0.75
	制冷剂 Refrigerant	节流方式 Throttling mode	热力膨胀阀 Thermal expansion valve		
		冷媒型号 Refrigerant type	R410A	R410A	R410A
		充注量(kg) Filling volume (kg)	3.0	3.8	8.3
	送风机 Blower	类型 Type	低噪音离心风机 Low noise centrifugal fan		
		传动方式 Drive mode	直接驱动 Direct drive		
	压缩机 Compressor	类型 Type	转子式 Rotor type		涡旋式 Scroll type
		数量 Qty	1	1	1
	冷凝器类型 Condenser type		铜管铝翅片 Copper pipe aluminum fin		
	风机部分 Fan part	风机类型 Fan type	轴流风叶 Axial flow fan blade		
		风机型号 Fan model	ABS556	ABS556	RZLC750
		数量 Qty	2	1	1
		风量(m ³ /h) Air flow (m ³ /h)	5600	8040	8040
		功率(kw) Power (kw)	0.1	0.37	0.37
	配管尺寸 Piping size	进风口尺寸 Size of air inlet	250	250	500
送风口尺寸 Size of air supply outlet		315	315	500	
排水管管径 Drain pipe diameter		DN20	DN20	DN25	
外形尺寸 Overall dimensions	长(mm) Length (mm)	1080	1080	2080	
	宽(mm) Width (mm)	718	718	1604	
	高(mm) Height (mm)	1761	1761	1241	
	重量(Kg) Weight (kg)	320	320	680	
	噪音(dB)A Noise (dB)A	63	63	72	
安装附件 Installation accessories	附件 Accessories	送风管 Air supply pipe	√	√	/
		进风管 Air inlet pipe	√	√	/
		密闭门(带滤网) Sealed door (with filter screen)	√	√	/
		安装支架 Mounting bracket	√	√	/

注:
1、额定制冷量测试工况: 室外干球/湿球35°C/24°C, 室内干球/湿球27°C/19°C

Note:
1. Test conditions of rated cooling capacity: Outdoor dry bulb/wet bulb: 35°C/24°C, indoor dry bulb/wet bulb: 27°C/19°C

粮食仓储冷却专用机组(整体变频气调密闭式) Grain Storage Cooling Unit (Integral Variable Frequency Controlled Atmosphere Closed Type)

项目 Item	参数 Parameters	型号 Model			
		HLKZ-12ZAM/BP	HLKZ-15ZAM/BP	HLKZ-33ZAM/BP	
机组特性 Unit characteristics	制冷量 Cooling capacity	kW	12	15	33
	循环风量 Circulating air flow	m ³ /h	2700	3800	6500
	送风距离 Air supply distance	m	18	22	25
	温控范围及精度 Temperature control range and accuracy		18°C ~ 28°C±1°C		
	能量调节范围 Energy regulation range		100-0	100-0	100-0
	电源 Power supply		3P-AC380V/50HZ		
	制冷功率 Cooling power	kW	4.2	5.2	11.5
	最大运行功率 Maximum operating power	kW	5.7	7.1	15.6
	建议电源电缆 Recommended power cable	mm ²	2.5	4.0	10.0
室内机 Indoor unit	蒸发器 Evaporator	类型 Type	铜管-铝鳍片式 Copper pipe - aluminum fin type		
		翅片形式 Fin form	亲水百叶窗型铝翅片 Hydrophilic shutter aluminium fins		
		迎风面积(m ²) Windward area (m ²)	0.31	0.44	0.75
	制冷剂 Refrigerant	节流方式 Throttling mode	电子膨胀阀 Electronic expansion valve		
		冷媒型号 Refrigerant type	R410A	R410A	R410A
		充注量(kg) Filling volume (kg)	3.0	3.8	8.3
	送风机 Blower	类型 Type	低噪音离心风机 Low noise centrifugal fan		
		传动方式 Drive mode	直接驱动 Direct drive		
	压缩机 Compressor	类型 Type	直流变频转子式 DC variable frequency rotor type		
		数量 Qty	1	1	1
	冷凝器类型 Condenser type		铜管铝翅片 Copper pipe aluminum fin		
	风机部分 Fan part	风机类型 Fan type	轴流风叶 Axial flow fan blade		
		风机型号 Fan model	ABS556	ABS556	RZLC750
		数量 Qty	2	1	1
		风量(m ³ /h) Air flow (m ³ /h)	5600	8040	8040
		功率(kw) Power (kw)	0.1	0.37	0.37
	配管尺寸 Piping size	进风口尺寸 Size of air inlet	250	250	500
送风口尺寸 Size of air supply outlet		315	315	500	
排水管管径 Drain pipe diameter		DN20	DN20	DN25	
外形尺寸 Overall dimensions	长(mm) Length (mm)	1080	1080	2080	
	宽(mm) Width (mm)	718	718	1604	
	高(mm) Height (mm)	1761	1761	1241	
	重量(Kg) Weight (kg)	320	320	680	
	噪音(dB)A Noise (dB)A	63	63	72	
安装附件 Installation accessories	附件 Accessories	送风管 Air supply pipe	√	√	/
		进风管 Air inlet pipe	√	√	/
		密闭门(带滤网) Sealed door (with filter screen)	√	√	/
		安装支架 Mounting bracket	√	√	/

注:
1、额定制冷量测试工况: 室外干球/湿球35°C/24°C, 室内干球/湿球27°C/19°C

Note:
1. Test conditions of rated cooling capacity: Outdoor dry bulb/wet bulb: 35°C/24°C, indoor dry bulb/wet bulb: 27°C/19°C

特点介绍及外形尺寸图 Features and Outline Dimensional Drawing

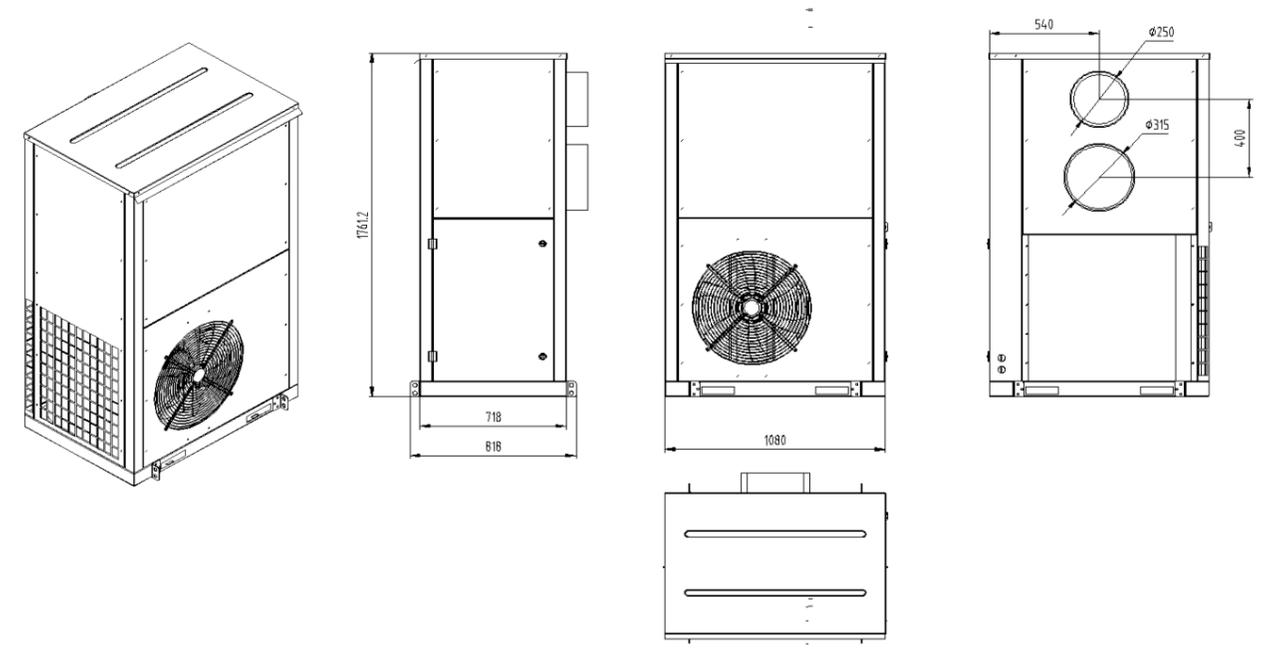
气调储粮是公认的绿色储粮技术，既能保证粮食品质、延缓储粮品质劣变、抑制虫霉孳生、减少化学药剂污染，还能大大提高企业经济效益和社会效益，是符合我国国情的绿色储粮技术之一。因此，以储粮生态系统理论为基础，充分应用气调储粮技术与低温储粮技术相结合的控温气调储粮经济运行模式，成为我国绿色储粮技术发展方向。

Controlled atmosphere grain storage is a recognized green grain storage technology, which can not only ensure grain quality, delay the quality deterioration of stored grains, inhibit the breeding of pests and molds, and reduce the pollution of chemical agents, but also greatly improve the economic and social benefits of enterprises. It is one of the green grain storage technologies in line with China's national conditions. Therefore, the economic operation mode of temperature-controlled controlled atmosphere grain storage, which is based on the theory of grain storage ecosystem and fully applies the combination of controlled atmosphere grain storage technology and low-temperature grain storage technology, has become the development direction of green grain storage technology in China.

氮气气调储粮基本原理：氮气气调储粮是从空气中分离出高浓度氮气，通过供气管道，充入气密性达标的粮仓中，置换出粮堆内的氧气，长期保持高浓度氮气，在粮堆内形成不利于害虫、霉菌生长繁殖的生态环境，减弱粮食自身的呼吸代谢，实现虫霉物理防治、延缓粮食品质劣变、抑制发热生霉等安全储粮的目的。绿色环保的储粮害虫防治技术，均可实现免磷化铝熏蒸，既避免员工接触有毒气体，又避免了粮食对熏蒸气体的吸附，对保持粮食品质和减少大气污染都具有积极作用。

Basic principle of nitrogen controlled atmosphere grain storage: Nitrogen controlled atmosphere grain storage is to separate high-concentration nitrogen from the air, then fill it into a granary with air tightness up to standard through the gas supply line, replace the oxygen in the grain pile, and maintain high-concentration nitrogen for a long time. In this way, it forms an ecological environment in the grain pile that is unfavorable to the growth and reproduction of pests and molds, and weakens the respiratory metabolism of grain itself, so as to achieve the purposes of safe grain storage such as physical control of pests and molds, delayed deterioration of grain quality, and inhibited heat generation and mold growth. Green and environmentally friendly stored grain pest control technology can achieve fumigation free of aluminium phosphide, which not only prevents employees from being exposed to toxic gases, but also avoids the adsorption of fumigation gases by grains, having a positive effect on both maintaining grain quality and reducing air pollution.

HLKZ-12ZAM/HLKZ-12ZAM/BP外形和接口尺寸/HLKZ-12ZAM/HLKZ-12ZAM/BP Outline and Interface Dimensions
HLKZ-15ZAM/HLKZ-15ZAM/BP外形和接口尺寸/HLKZ-15ZAM/HLKZ-15ZAM/BP Outline and Interface Dimensions



整体式气调密闭型粮库空调特点/Features of integral controlled atmosphere closed grain depot air conditioner

1、具有高密闭型，机组完成充氮500Pa，确保24小时后衰减压力下降小于250Pa。

1. It is a highly sealed type, and the unit is filled with nitrogen at 500Pa, ensuring that the attenuation pressure drops by less than 250Pa after 24h.

2、机组蒸发侧采用PVC壳体，内层为全焊接密封壳体保证机组有很好的密封性，内壳外壁贴敷橡塑保温层，确保就拥有良好的保温特性。外层外壳采用不锈钢材质，具有良好的防腐和抗老化特性。机组配检修口，采用法兰结构橡胶密封垫密封。

2. The evaporation side of the unit adopts a PVC housing, and the inner layer is a fully welded sealed housing to ensure good sealing property of the unit. The outer wall of the inner shell is pasted with rubber and plastic thermal insulation layer to ensure good thermal insulation properties. The outer shell is made of stainless steel with good anti-corrosion and anti-aging properties. The unit is equipped with an access port, which is sealed with flange structure rubber gasket.

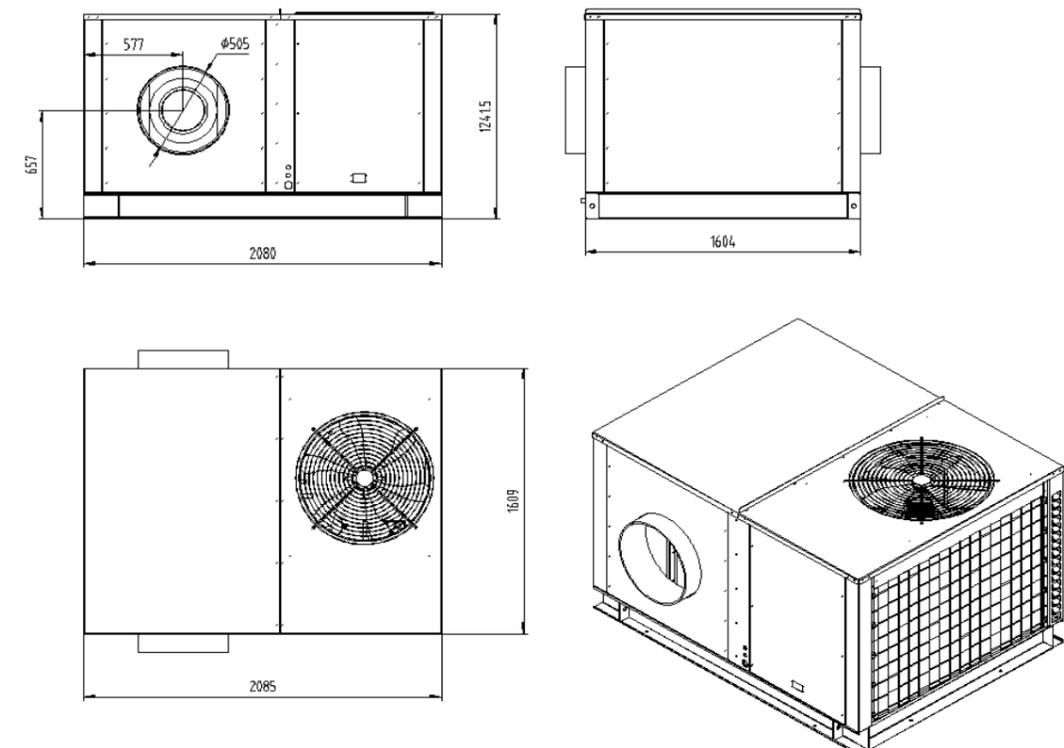
3、连接管路和电线引出部分的密封，管道和电线连接完成后在密封盒导入环氧树脂进行密封隔绝。这是我方的专利技术保证的密封性。使普通空调无法比拟的。

3. For the sealing of the lead-out part of the connecting pipe and electric wire, epoxy resin is filled into the sealing box for sealing and isolation after the connection of the pipe and electric wire is completed. This sealing property is guaranteed by our patented technology. It is incomparable to ordinary air conditioners.

4、机组进出风接口采用管道口法兰连接，高机组整体的密封性。

4. The air inlet and outlet interfaces of the unit are connected by pipe opening flanges to improve the overall sealing property of the unit.

HLKZ-33ZAM/HLKZ-33ZAMB P外形和接口尺寸/HLKZ-33ZAM/HLKZ-33ZAMB P Outline and Interface Dimensions



粮食仓储冷却专用机组(成品粮分体式) Grain Storage Cooling Unit (Processed Grain Split Type)

室内机型号 Indoor unit Model		HLK-30FWSL	HLK-35FWSL	HLK-40FWSL	HLK-45FWSL	HLK-50FWSL	HLK-60FWSL	HLK-70FWSL
制冷量 Cooling capacity	kW	30	35	40	45	50	60	70
循环风量 Circulating air flow	m ³ /h	6400	6800	8000	8200	9400	11600	12800
送风距离 Air supply distance	m	20	20	25	25	25	25	25
能量调节范围 Energy regulation range		100-0	100-0	100-50-0	100-50-0	100-50-0	100-50-0	100-50-0
电源 Power supply		3P-AC380V/50HZ						
制冷运行功率 Cooling operating power	kW	10.6	12.6	14.4	16.4	18.1	21.4	25.5
室内机运行功率 Indoor unit operating power	kW	2.2	3	3	3	4	5.5	5.5
最大运行功率 Maximum operating power	kW	13.8	16.4	18.7	21.3	23.6	27.9	33.2
建议电源电缆 Recommended power cable	mm ²	6.0	6.0	10.0	10.0	10.0	16.0	16.0
空气过滤器 Air filter		Gn初效过滤网 GN primary filter screen						
风机 Fan	风机类型 Fan type	外转子离心风机 Outer rotor centrifugal fan						
	风机数量 Number of fans	2	2	2	2	2	3	3
蒸发器参数 Evaporator parameters	铜管类型 Copper pipe type	内螺纹管 Internal ribbed tube						
	翅片类型 Fin type	亲水膜开窗片 Hydrophilic film with shutters						
节流装置 Throttling device		热力膨胀阀 Thermal expansion valve						
接管连接方式 Connection mode of connecting pipe		焊接 Welding		螺纹 Screw thread		焊接 Welding		
配管尺寸 Piping Dimensions	液管直径(in) Liquid pipe diameter (in)	Φ5/8	Φ5/8	Φ1/2×2	Φ5/8×2	Φ5/8×2	Φ5/8×2	Φ5/8×2
	气管直径(in) Air pipe diameter (in)	Φ1-1/8	Φ1-3/8	Φ3/4×2	Φ7/8×2	Φ1-1/8×2	Φ1-1/8×2	Φ1-3/8×2
	冷凝水排水管 Condensate drain pipe	DN20	DN20	DN20	DN20	DN20	DN20	DN20
室内机尺寸 Indoor unit dimensions	长(mm) Length (mm)	1800	1800	2010	2010	2010	2660	2660
	深(mm) Depth (mm)	1360	1360	1410	1410	1410	1410	1410
	高(mm) Height (mm)	660	660	835	835	835	835	835
	重量(Kg) Weight (kg)	320	340	460	470	480	580	630
	噪音(dB)A Noise (dB)A	68	68	70	71	72	73	74
室外机型号 Outdoor unit model		HAS(Z)-300WSL-C	HAS(Z)-350WSL-C	HAS(Z)-400WDL-C	HAS(Z)-450WDL-C	HAS(Z)-500WDL-C	HAS(Z)-600WDL-C	HAS(Z)-700WDL-C
数量 Qty.		1	1	1	1	1	1	1
电源 Power supply		3P-AC380V/50HZ						
制冷剂 Refrigerant	冷媒型号 Refrigerant type	R22/R410A						
	充注量kg Filling volume (kg)	10.2	11.2	7.2×2	7.9×2	8.3×2	10.2×2	11.2×2
压缩机类型 Compressor type		涡旋式 Scroll type						
压缩机数量 Number of compressors		1	1	2	2	2	2	2
冷凝器类型 Condenser type		铜管铝翅片 Copper pipe aluminum fin						
风机部分 Fan part	风机类型 Fan type	轴流风叶 Axial flow fan blade						
	风机型号 Fan model	RZLC750	RZLC750	RZLC600	RZLC650	RZLC650	RZLC750	RZLC750
	数量 Qty.	1	1	2	2	2	2	2
	风量(m ³ /h) Air flow (m ³ /h)	14360	14360	8040	9930	9930	14360	14360
功率(kW) Power (kW)	1.1	1.1	0.37	0.55	0.55	1.1	1.1	
外形尺寸 Overall dimensions	长(mm) Length (mm)	915	915	2018	2200	2200	2330	2330
	宽(mm) Width (mm)	915	915	760	850	850	915	915
	高(mm) Height (mm)	1300	1300	1360	1400	1400	1420	1420
	重量(Kg) Weight (kg)	252	270	400	500	520	580	620
	噪音(dB)A Noise (dB)A	76	76	68	72	72	76	76

注: 1、额定制冷量测试工况: 室外干球/湿球35°C/24°C, 室内干球/湿球27°C/19°C

Note: 1. Test conditions of rated cooling capacity: Outdoor dry bulb/wet bulb: 35°C/24°C, indoor dry bulb/wet bulb: 27°C/19°C

特点介绍及外形尺寸图 Features and Outline Dimensional Drawing

高效节能/High efficiency and energy saving

变流量多联技术: 融入先进的变流量技术, 优化系统运行效率, 实现节能高效。
 特制循环送风系统: 通过特制循环送风系统, 降低能耗, 提高能源利用效率。
 Variable flow multi-connection technology: Advanced variable flow technology is integrated to optimize system operation efficiency and achieve energy saving and high efficiency.
 Special circulating air supply system: Energy consumption is reduced and energy utilization efficiency is improved through the special circulating air supply system.

精准控制/Precise control

射流风口超远距离送风: 室内机采用射流风口, 送风距离远, 风力强劲, 确保粮仓内温度均匀。
 送风角度可自由调节: 送风角度可根据需要进行调节, 满足不同粮仓布局的控温需求。
 Ultra-long distance air supply with jet flow tuyere: The indoor unit adopts a jet flow tuyere, offering long air supply distance and powerful air flow to ensure uniform temperature in the granary.
 Adjustable air supply angle: The air supply angle can be adjusted as needed to meet the temperature control requirements of different granary layouts.

防腐防霉/Anti-corrosion and mold prevention

防腐蚀设计: 采用防腐蚀材料和工艺, 有效抵御磷化氢熏蒸气体侵蚀, 延长设备使用寿命。
 除湿功能: 具有除湿功能, 降低粮仓内湿度, 防止粮食霉变。
 Anti-corrosion design: Anti-corrosion materials and processes are adopted to effectively resist the erosion of phosphine fumigation gas and prolong the service life of equipment.
 Dehumidification function: It has the dehumidification function to reduce the humidity in granary and prevent grain mildew.

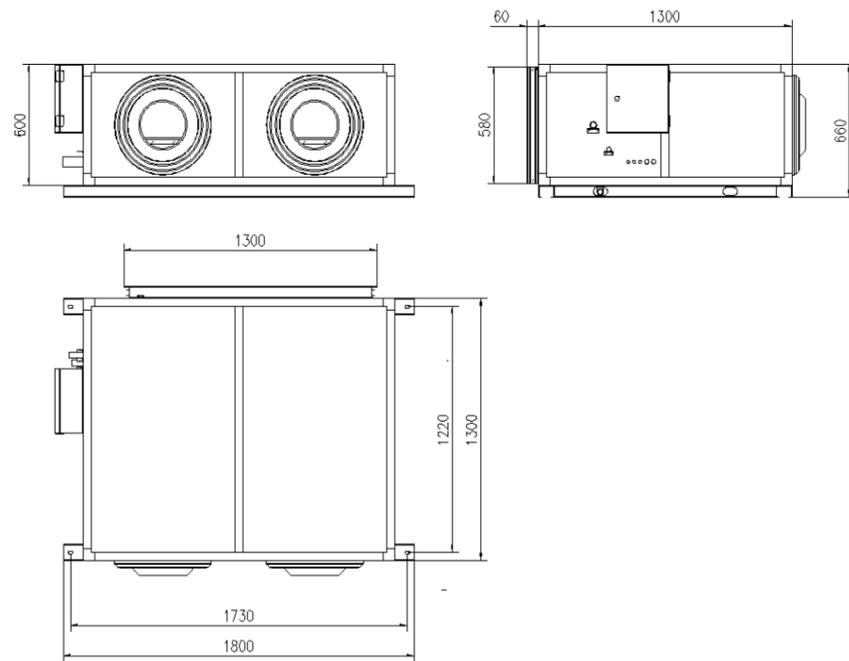
安全可靠/Safety and reliability

高品质元器件: 采用国际领先的制冷组件和高品质元器件, 确保设备稳定可靠运行。
 安全保护措施: 具备先进的控制系统和安全保护措施, 保障设备运行安全。
 High-quality components: International advanced cooling components and high-quality components are adopted to ensure stable and reliable operation of the equipment.
 Safety protection measures: It has advanced control system and safety protection measures to ensure the safety of equipment operation.

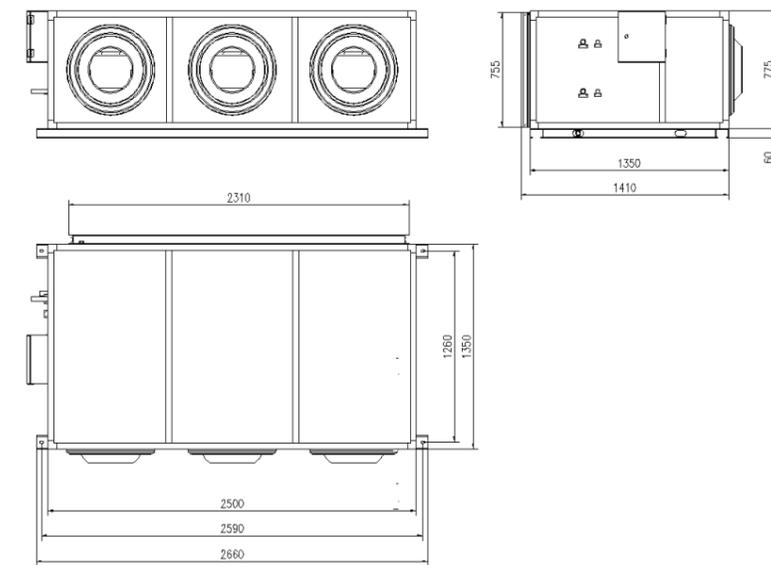
方便操作/Easy operation

智能化操作: 具备自动运行、定时开关机等智能化操作功能, 提升管理便捷性。
 简单易懂的操作界面: 操作界面简洁明了, 方便用户进行操作和管理。
 综上所述, 成品粮仓空调凭借其高效节能、精准控制、防腐防霉、安全可靠和方便操作等特点, 为粮食储存提供了有力保障, 推动了粮食仓储行业向更加环保、高效的未来迈进。
 Intelligent operation: It has intelligent operation functions such as automatic operation and timed startup & shutdown to improve management convenience.
 Simple and intuitive operation interface: The operation interface is concise and clear, which is convenient for users to operate and manage.
 To sum up, with its features of high efficiency and energy saving, precise control, anti-corrosion and mold prevention, safety and reliability and easy operation, the processed grain granary air conditioner provides a powerful guarantee for grain storage and drives the grain storage industry to move towards a more environmentally friendly and efficient future.

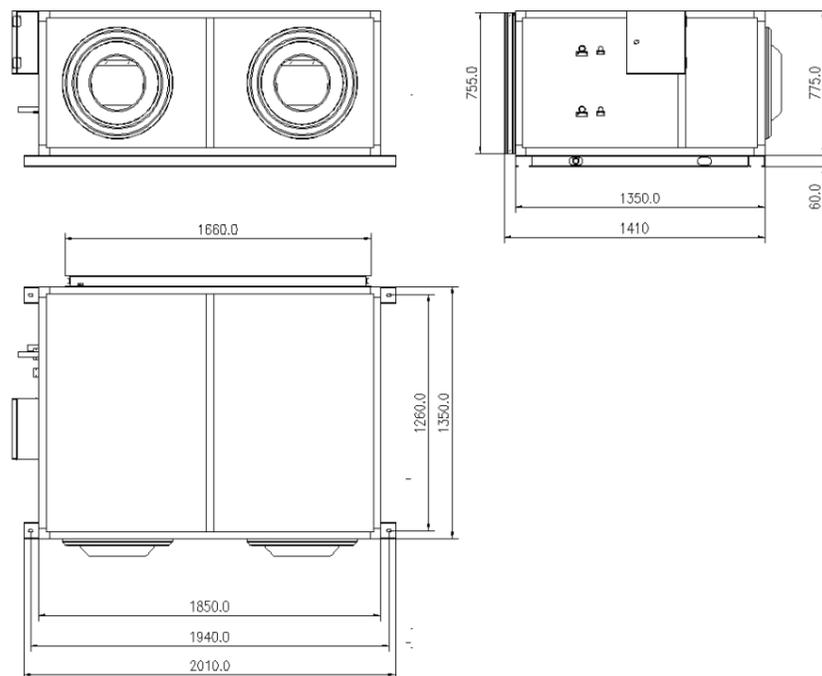
室内机HLK-30/35FWSL / Indoor Unit HLK-30/35FWSL



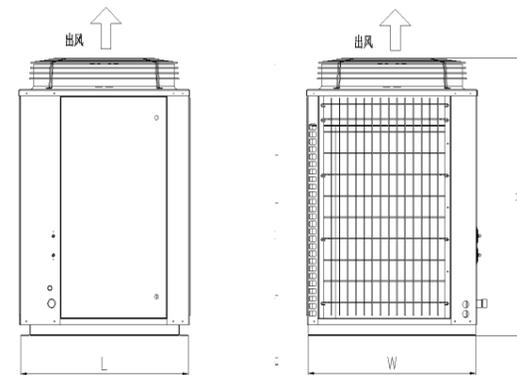
室内机HLK-60/70FWSL / Indoor Unit HLK-60/70FWSL



室内机HLK-40/45/50FWSL / Indoor Unit HLK-40/45/50FWSL

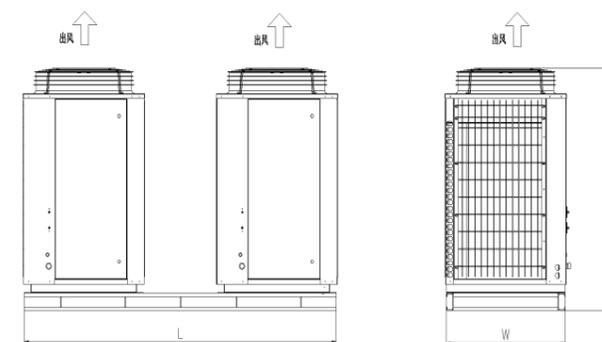


室外机HAS(Z)-300/350WSL-C / Outdoor Unit HAS(Z)-300/350WSL-C



机组型号 Unit model	L(mm)	W(mm)	H(mm)
HAS(Z)-300WSL-C	915	915	1300
HAS(Z)-350WSL-C	915	915	1300

室外机HAS(Z)-400/450/500/600/700WDL-C / Outdoor Unit HAS(Z)-400/450/500/600/700WDL-C



机组型号 Unit model	L(mm)	W(mm)	H(mm)
HAS(Z)-400WDL-C	2018	760	1360
HAS(Z)-450WDL-C	2200	850	1400
HAS(Z)-500WDL-C	2200	850	1400
HAS(Z)-600WDL-C	2330	915	1420
HAS(Z)-700WDL-C	2330	915	1420

变工况性能修正系数 Correction Factor of Variable Operating Conditions Performance

室内机外环境温度的变化对机组的稳定运行有较大的影响，如果使用范围超出允许的参数，将对机组的使用造成不良的影响，下表为机组的使用条件

Changes in the ambient temperature outside the indoor unit have a greater impact on the stable operation of the unit. If the range of use exceeds the permissible parameters, it will adversely affect the use of the unit. The conditions of use of the unit are shown in the table below.

制冷、制热量变化系数与室内外工况的关系 / Relationship between the coefficient of variation of cooling and heating capacity and indoor and outdoor working conditions

条件 Conditions	类型 Type	风冷型 Air-cooled
室外环境温度 Outdoor ambient temperature		15 ~ 45°C
室内环境干球温度 Dry bulb temperature of indoor environment		18 ~ 28°C
室内环境相对湿度 Relative humidity of indoor environment		50 ~ 70%RH
电压偏差 Voltage deviation		10%

制冷运行变化系数 / Coefficient of variation of cooling operation

室外温度 Outdoor temperature	室内湿球温度 Indoor wet bulb temperature							
	14°C	15°C	16°C	17°C	18°C	19°C	20°C	
25°C	1.03	1.09	1.11	1.13	1.15	1.16	1.17	
30°C	1	1.03	1.06	1.09	1.11	1.13	1.15	
35°C	0.92	0.96	0.97	1	1.06	1.09	1.09	
40°C	0.82	0.87	0.92	0.96	1	1.03	1.06	
43°C	0.76	0.82	0.86	0.91	0.96	0.99	1.02	

制冷运行时，影响制冷量的主要因素是室内湿球温度和室外干球温度，室内干球温度和室外湿球温度对冷量的影响较小，因此，为了更明了地向客户表达室内、外工况对制冷量的影响。上述我们忽略了室内干球温度和室外湿球温度。

上表反映了HAS1R系列空调机随室内、外工况变化的大致变化趋势，仅提供客户选型时作参考。

During cooling operation, the main factors affecting the cooling capacity are indoor wet bulb temperature and outdoor dry bulb temperature, while indoor dry bulb temperature and outdoor wet bulb temperature have little influence on the cooling capacity. Thus, in order to express the influence of indoor and outdoor working conditions on the cooling capacity to the customer more clearly, we ignored the indoor dry bulb temperature and outdoor wet bulb temperature as mentioned above.

The above table reflects the general trend of HAS1R series air conditioners with the changes in indoor and outdoor working conditions, and is only provided for reference by customers during model selection.

室内机风量变化对制冷量影响的修正系数 / Correction coefficient for the effect of changes in indoor unit air flow on cooling capacity

室内机额定风量% Rated air flow of indoor unit %	80	90	100	110	120
风量修正系数 Correction coefficient of cooling capacity	0.89	0.95	1	1.05	1.09

内外机连接管修正系数 / Correction coefficient for connecting pipes of indoor and outdoor units
机型加长连接管制冷量修正系数 / Correction coefficient for cooling capacity of model with extended connecting pipe

影响因素 Influence factor	制冷量修正系数 Correction coefficient of cooling capacity								
	单程连接管总长 Total length of one-way connecting pipe		7.5m	10m	15m	20m	25m	30m	35m
顺落差（室外机高于室内机） Forward drop (outdoor unit is higher than indoor unit)	0m	1	0.98	0.96	0.94	0.92	0.9	0.88	0.86
	5m	1	0.97	0.95	0.93	0.91	0.89	0.87	0.85
	10m	—	0.96	0.94	0.92	0.9	0.88	0.86	0.84
	15m	—	—	0.93	0.91	0.89	0.87	0.85	0.83
	20m	—	—	—	0.9	0.88	0.86	0.84	0.82
	25m	—	—	—	—	0.87	0.85	0.83	0.81
逆落差（室内机高于室外机） Inverse drop (indoor unit is higher than outdoor unit)	0m	1	0.98	0.96	0.94	0.92	0.9	0.88	0.86
	5m	1	0.98	0.96	0.94	0.92	0.9	0.88	0.86
	10m	—	0.98	0.96	0.94	0.92	0.9	0.88	0.86
	15m	—	—	0.96	0.94	0.92	0.9	0.88	0.86
	20m	—	—	—	0.94	0.92	0.9	0.88	0.86
	25m	—	—	—	—	0.92	0.9	0.88	0.86

机组电气参数

Electrical Parameters Of The Unit

性能 Performance		型号 Model	8机型 Model 8	10机型 Model 10	12机型 Model 12	15机型 Model 15	200机型 Model 200	220机型 Model 220	30机型 Model 30	33/35机型 Model 8	40机型 Model 40	45机型 Model 45	50机型 Model 50	60机型 Model 60	70机型 Model 70
室外机 Outdoor unit	使用电源 Power supply	3P-AC380V/50HZ/N/PE													
	模块数 Number of module	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	外机间连接信号线 (mm ²) Outdoor unit connection signal line (mm ²)	/	/	/	/	/	/	/	/	/	/	/	/	/	/
	最大运行电流(A) Maximum operating current (A)	7.4	9.3	11.2	16.0	18.8	20.3	27.6	32.9	37.4	42.5	47.1	55.7	66.4	
	电源进线建议规格 (mm ²) Recommended specification of incoming power line (mm ²)	2.0	2.5	2.5	2.5	4	4	6	6	10	10	10	16	16	
内外机信号线 (mm ²) Indoor & outdoor unit signal line (mm ²)		3×0.3(1根) 3×0.3 (1 piece)													
手抄器信号线 (mm ²) Hand reader signal line (mm ²)		4×0.3(1根) 4×0.3 (1 piece)													
室内机 Indoor unit	使用电源 Power supply	3P-AC380V/50HZ/N/PE													
	最大运行电流(A) Maximum operating current (A)	0.5	1.2	1.2	1.6	3.6	3.6	4.9	6.7	6.7	6.7	8.9	12.2	12.2	
	电源进线建议规格 (mm ²) Recommended specification of incoming power line (mm ²)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2.5	2.5	2.5	
整体式 Integral type	使用电源 Power supply	3P-AC380V/50HZ/N/PE													
	最大运行电流(A) Maximum operating current (A)	8.1	8.8	8.8	11.8	18.8	18.8	25.2	27.0	37.2	37.2	39.4	52.9	52.9	
	电源进线建议规格 (mm ²) Recommended specification of incoming power line (mm ²)	2.5	2.5	2.5	2.5	4.0	4.0	6.0	6.0	10.0	10.0	16.0	16.0	16.0	

备注：用户用电电源线分别引入室内机和室外机。

注意：

- 1、用户自行配备室内机、外机空气开关以及空气开关至电控箱的五芯电缆线，并负责将电源进线接入室内机、外机电控箱；
- 2、空气开关额定电流值可按最大运行电流的1.2倍选取，不宜过大或过小，且为热磁脱扣特性；
- 3、连接室外机、室内机的控制线由用户自行配备。

Remarks: The users' power cords are led into the indoor unit and outdoor unit respectively.

Notes:

1. The users should provide their own air switches for indoor and outdoor units, as well as the 5-core cables from the air switches to the electrical control box, and be responsible for connecting the incoming power lines to the electrical control box of indoor and outdoor units;
2. The rated current value of the air switches can be selected based on 1.2 times the maximum operating current, should not be too large or too small, and should be featured by thermomagnetic tripping;
3. The control line connecting the outdoor and indoor units should be provided by the users themselves.