



## 北京浩爽制冷工程科技有限公司

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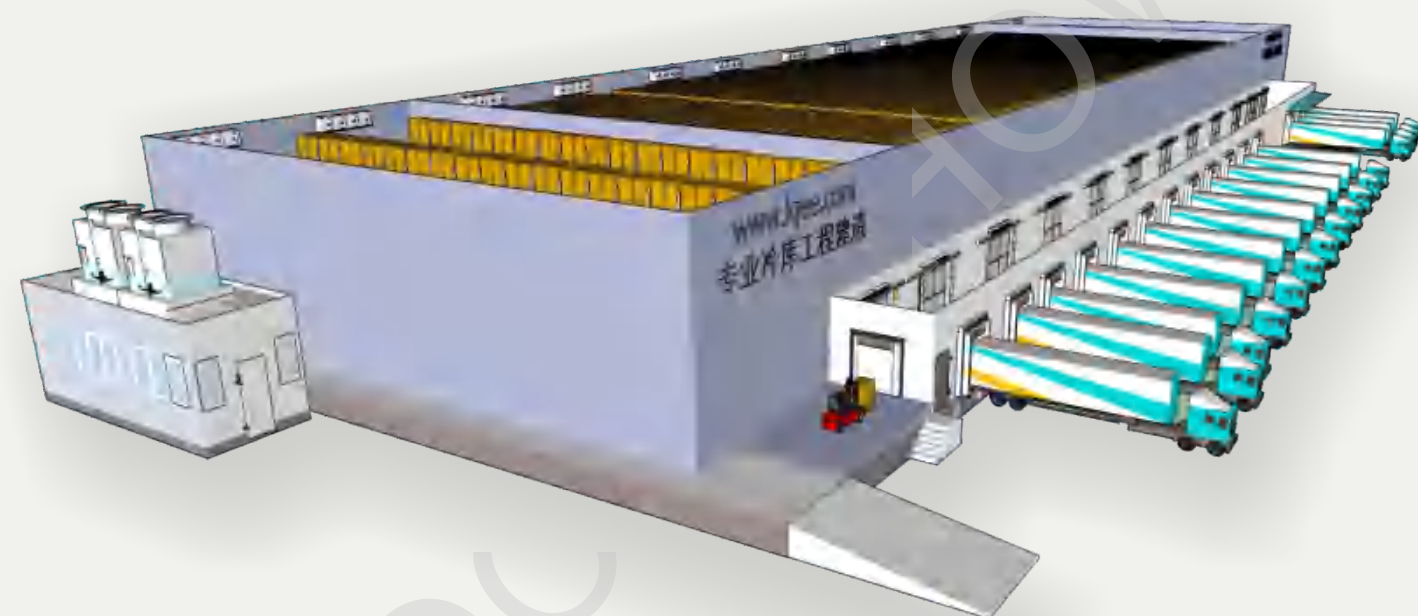
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## EPC COLD STORAGE CONSTRUCTION



BeiJing HowCool Refrigeration Technology Co.,LTD.

## Our ability

### Why do we deserve your trust in me Construction of a cold storage project

You Need To Know Logistics Design, Warehouse Planning, Building Structure Design, Fire Protection Knowledge Professional Refrigeration Knowledge, Electrical And Automatic Control Knowledge, Expertise In The Equipment Selection Configuration Supervise The Engineering Site,

Guarantee Construction Safety And Risk Control Know Clearly Characteristics Of Products, Categories, Inlet And Outlet Of The Material Management Know How To Reduce Energy Consumption And Add Get Investing Return As Soon As It's Finished To Do Well You Need Design A Complete Set Of Drawings For Cold Storage Projects Purchase The Required Materials From At Least 100 Factories Compare Product Prices Horizontally Within More Than 100 Factories Track These Products Manufacture And Shipment To The Site Send The Engineering Staff On-site Installation And Commissioning Do Guidance Training For Later Precautions

With The Above Work Done, It Is Possible To Complete A Cold Storage Project. Besides We Provide You Maintenance And Standard Sop For our Project The Above-mentioned Work Can Not Appear Unreasonable Design, Procurement Products Error, Site Construction Management Error Otherwise, It Is Not A Perfect Quality Project

Precisely We Have Professional Expert And Years Of Engineering Experience

Good Relations Of Cooperation With Many Well-known Brands Around The World Manufacturers Master And Understand The Product Characteristics Of These Cargo

Give The Best Choice For Your Project

Give You A Perfect Project

At first sight it is just a simple cold store project  
Actually we doing not just cold store  
Specialty not just boasting but exquisite detail



## Contents

- Company qualification
- Team ability
- scope of business
- Project case
  - Food, Vegetables and Fruits Refrigeration Bank Project
  - Sea product cold storage project
- Foreign cases
- Domestic cases
- Cold storage products





# Company Qualification

China National High Tech Enterprise Certificate



Zhongguancun Science and Technology Park High Tech Enterprise Certificate

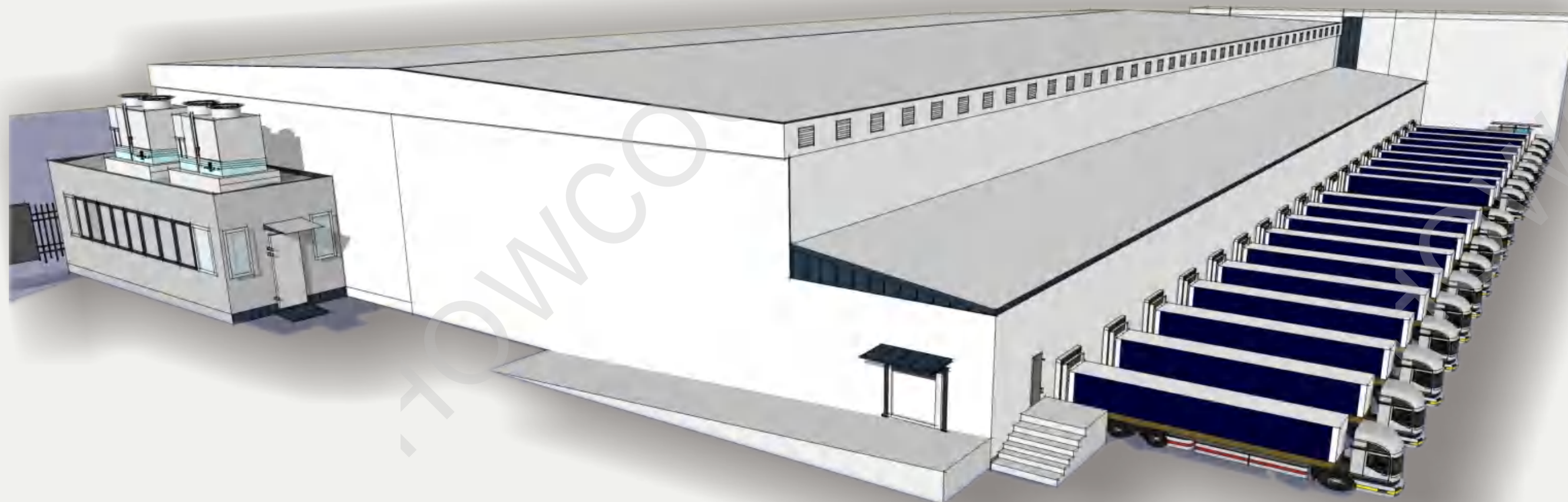


Apply to the State Copyright Administration of the people's Republic of China for the qualification certificate of computer management software for cold storage control system





## Scope of work we provide



### Consultation

Equipment scheme  
Cost budget  
Duration  
Overall Plan

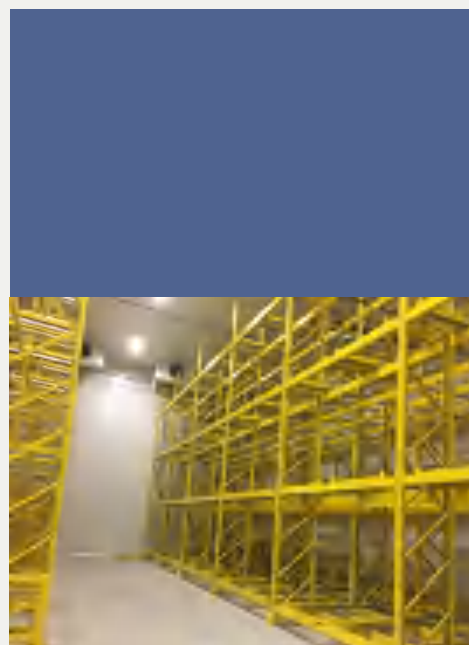


### Architectural structure consultation

Dimension planning of building structure  
Comments on building types  
Storage planning  
Shelf design



### international transport



### Implementation Phase

Cold Storage Door  
Refrigeration Equipment  
Electric Control Piping  
Equipment Cold Storage Lighting  
Rack Forklift



### Operation stage

Provide knowledge of cargo refrigeration  
Knowledge of equipment maintenance and use



### Cold storage project operation

Provide knowledge of cargo refrigeration

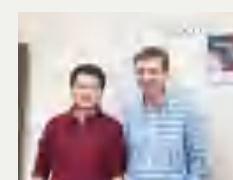
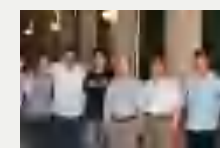
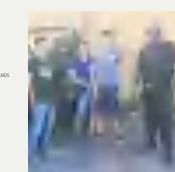
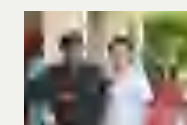
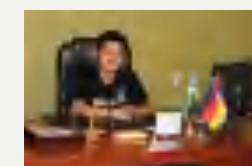
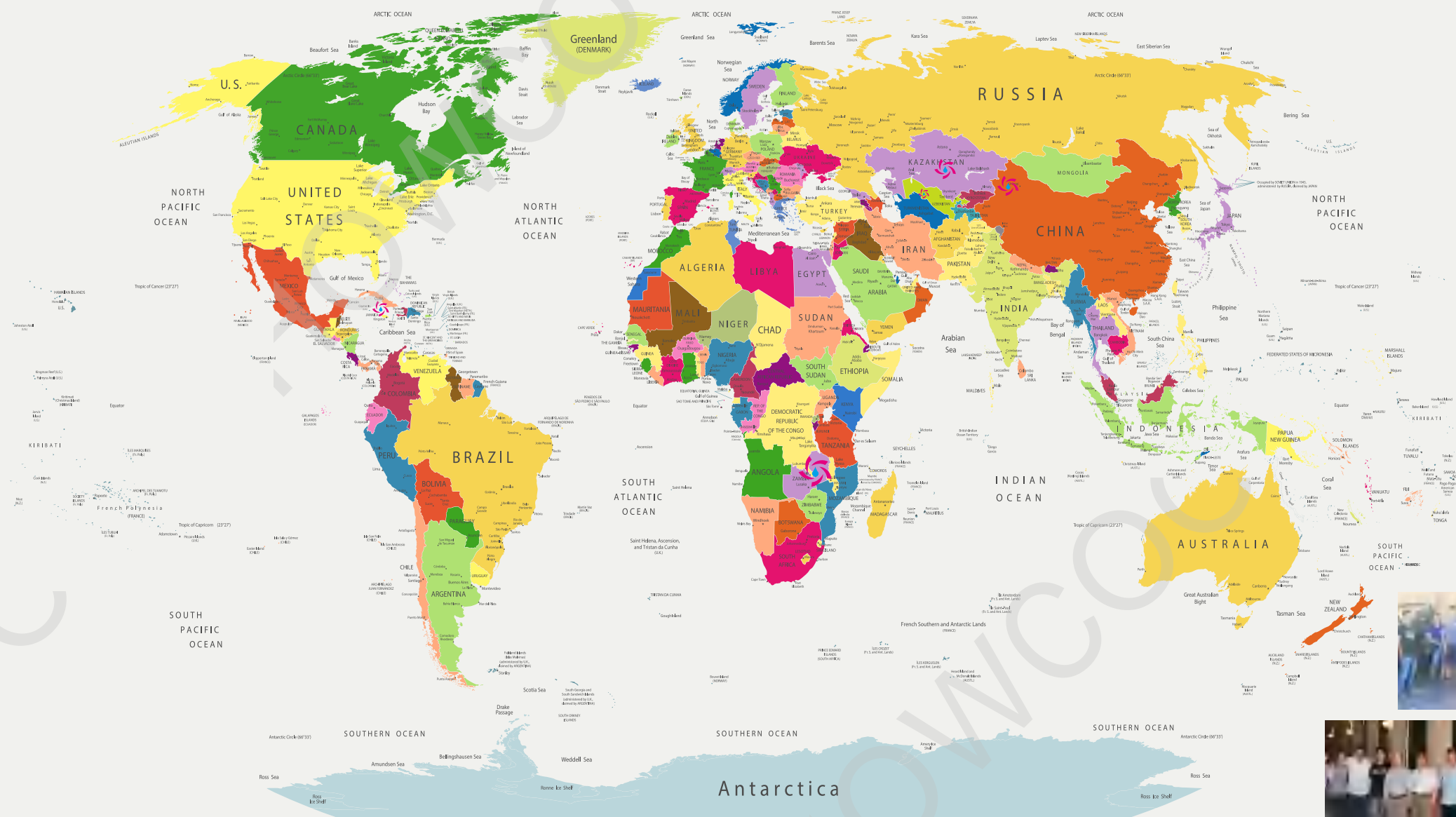




# B&R("The Belt and Road Initiative") Project

Over the past years, Beijing Howcool refrigeration has been actively exploring international market business, since the 'The Belt and Road Initiative' Policy Beijing howcool refrigeration followed up the trend and had make good relationship with these company in Central Asia, south Asia Southeast Asia, South America at the cold store industry. With international standards for FIDIC contracts Until the end of 2020, we have worked with countries and regions as follows.

- Kazakhstan
- Uzbekistan
- Pakistan
- Sri Lanka
- myanmar
- Vietnam
- Philippines.
- Malaysia.
- Papua new guinea.
- Canada
- Ghana.
- Angola.
- Jamaica
- Saudi Arabia
- United Arab Emirates (UAE)





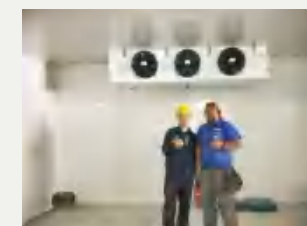


## International projects

Kazakhstan  
Uzbekistan  
Pakistan  
Sri Lanka

Philippines.  
Malaysia.  
Papua new guinea.

Canada  
Ghana.  
Angola.  
Jamaica





3000 MT seafood Cold Store Project

Location: Jamaica



The 3000t freezer customized for customers is mainly used for storage Aquatic fish. The cold storage building is a frame type civil structure, which can protect the environment Temperature plate and refrigeration equipment, shelves, forklifts, pallets are all made up of Our company supplies and undertakes the construction. After 90 days of construction, The project is completed and delivered to the customer for use. After more than two years of inspection, the cold storage has been running safely. Inventory has greatly exceeded the original design



List of basic parameters

Area	3000m2
Refrigerant	R507
Thickness of insulation panel Consumption	PU-150
Service life	20-25Year
Compressor brand	Bitzer
Duration	90day
Contract scope	Insulation board refrigeration equipment rack forklift tray
Cold storage height	8m/26.4'
Cold storage temperature	-18~-25℃ /-0.4-13 (°F)
Storage of goods	Meat, seafood, fish
Forklift type	Electric forklift
Power Supply	380V-415V
Liquid supply mode	Direct expansion liquid supply
Defrosting method	Hot fluorine defrosting

Shelf system of cold storage





## 5000 tons cold chain storage project



Project contracting mode: insulation board + door + refrigeration equipment + control system + technical guidance, installation and debugging + + forklift + shelf + training use



Shuttle Rack Installation

## Cold storage project of food processing cold storage center



Excellent performance of insulation board material to ensure energy saving of cold storage



Flexible selection of shelves, easy to place goods Effectively increased the use of space



Automatic shuttle shelf



Energy saving parallel screw unit is a large cold storage  
The first choice of refrigeration engine  
It has low noise Automatic energy regulation  
The structure of the compressor is simple

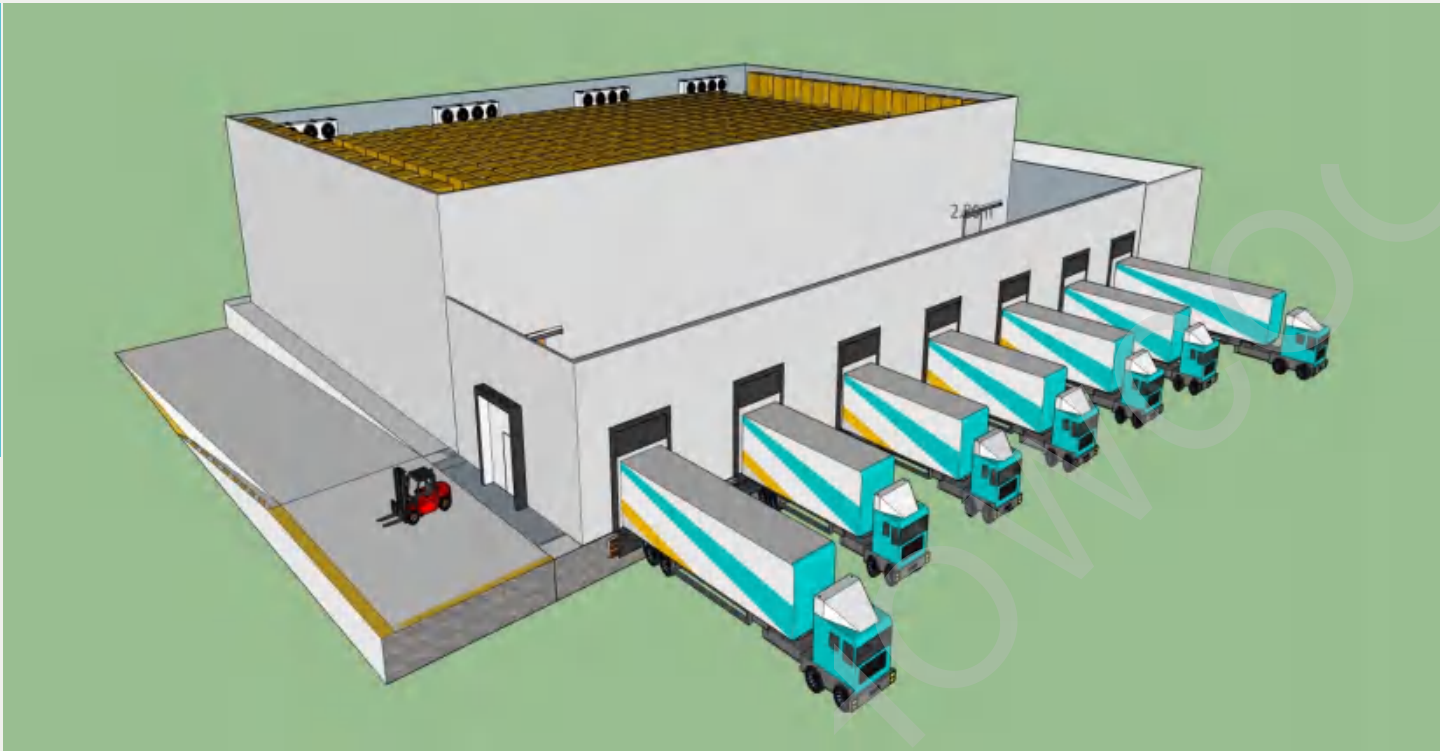
Construction time:2018year  
Construction period:95days



Moisture is easy to appear at the entrance of the cold storage, Adopt stainless steel door body, easy to protect  
The door guard is not rusty



500 tons cold storage of fruits and vegetables in Almaty, Kazakhstan



List of basic parameters

Area	1500m2
Refrigerant	R507
Thickness of insulation panel Consumption	PU-150
Service life	20-25Year
Compressor brand	Bitzer
Duration	65day
Contract scope	Insulation board refrigeration equipment rack forklift tray
Cold storage height	7m/23.1'
Cold storage temperature	0~+5℃ / -0.4-13 (°F)
Storage of goods	Fruits and Vegetables
Forklift type	Electric forklift
Power Supply	380V-415V
Liquid supply mode	Direct expansion liquid supply
Defrosting method	Electric defrosting



Design 3D image

500 tons cold storage of fruits and vegetables in Almaty, Kazakhstan



List of basic parameters

Area	700m2
Refrigerant	R404A
Thickness of insulation panel Consumption	PU-150/PU-100
Service life	20-25Year
Compressor brand	Bitzer
Duration	60day
Contract scope	Insulation board refrigeration equipment rack forklift tray
Cold storage height	6m/19.8'
Cold storage temperature	0~+5℃ / -0.4-13 (°F)
Storage of goods	Fruits and Vegetables
Forklift type	Electric forklift
Power Supply	380V-415V
Liquid supply mode	Direct expansion liquid supply
Defrosting method	Electric defrosting





Cold storage of 5000 ton food factory in Malaysia



List of basic parameters

Area	1800m2
Refrigerant	R404A
Thickness of insulation panel Consumption	PU-100/150
Service life	20-25Year
Compressor brand	Bitzer
Duration	100day
Contract scope	Insulation board refrigeration equipment rack forklift tray
Cold storage height	6m/19.8'
Cold storage temperature	-25℃/-13(°F)
Storage of goods	Frozen Foods
Forklift type	Electric forklift
Power Supply	380V-415V
Liquid supply mode	Direct expansion liquid supply
Defrosting method	Electric defrosting

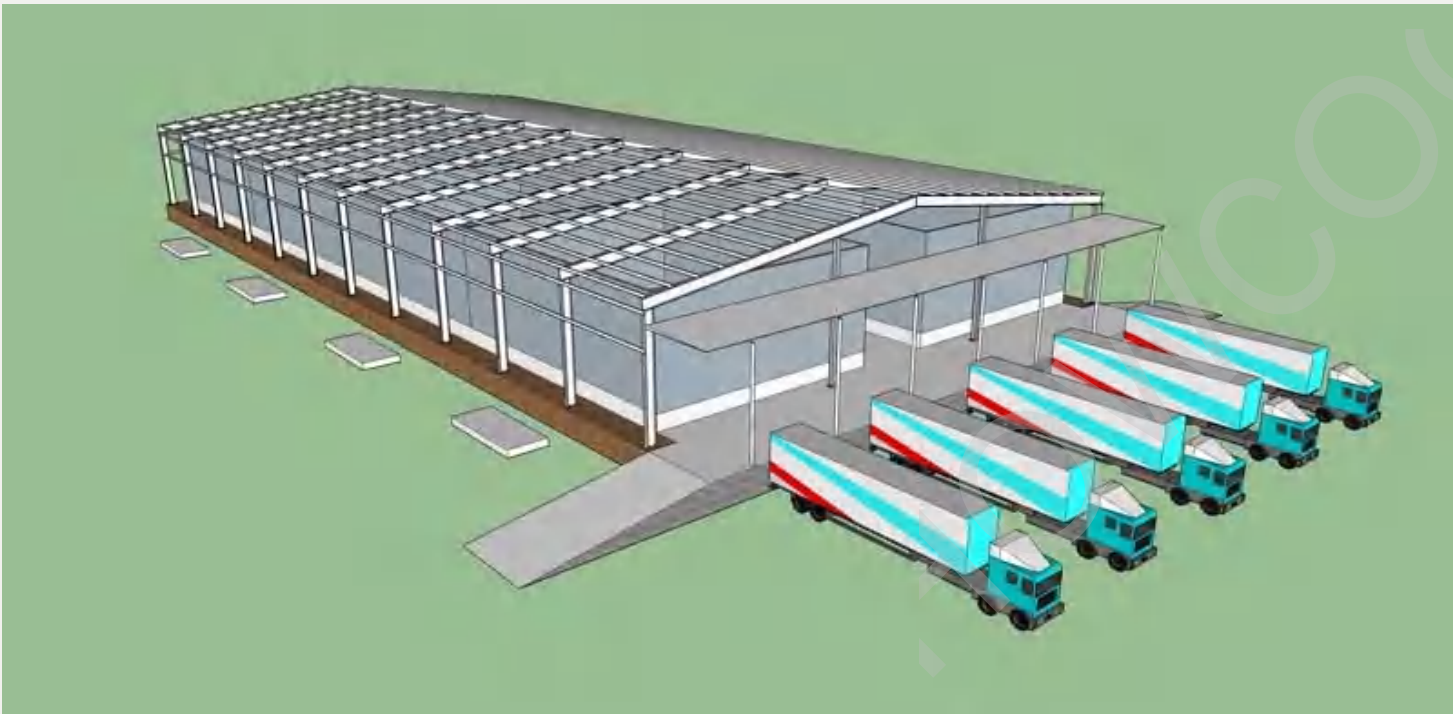
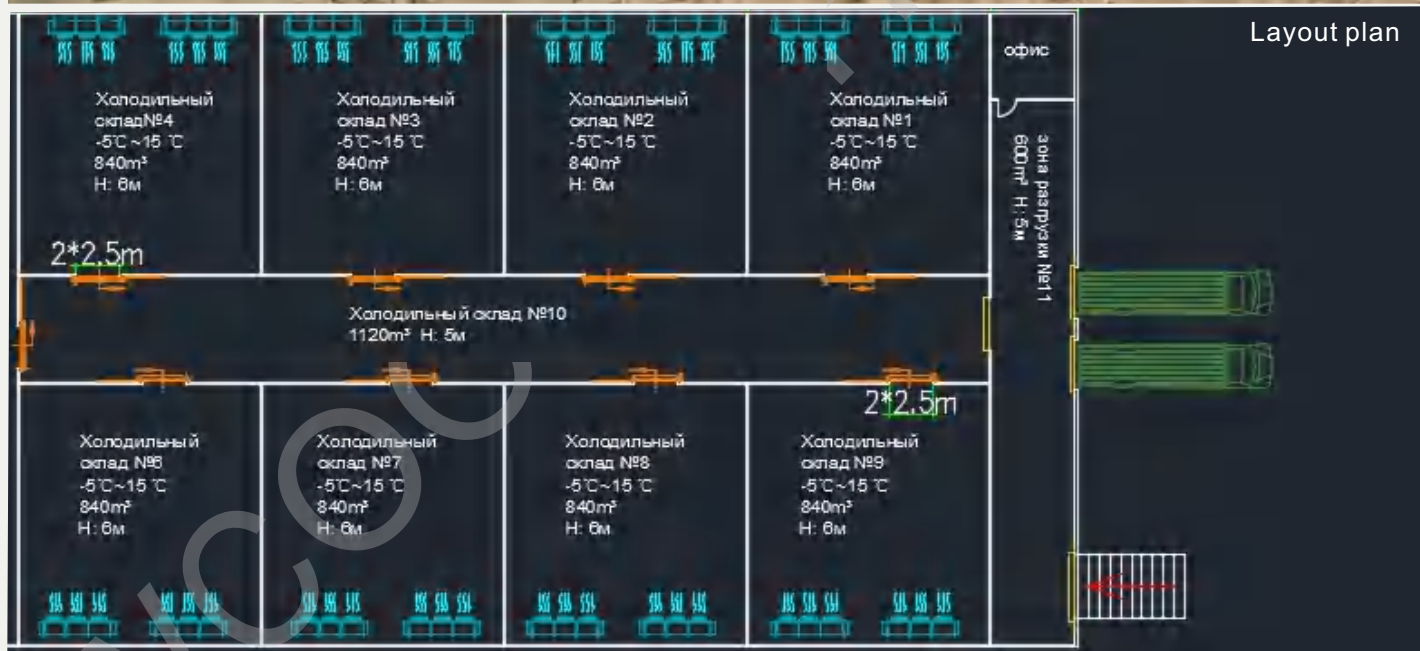


3000 tons fruit and vegetable cold storage

Site construction drawing



Layout plan



List of basic parameters

Area	1400m2
Refrigerant	R404A
Thickness of insulation panel Consumption	PU-100mm
Service life	20-25Year
Compressor brand	Bitzer
Duration	90day
Contract scope	Insulation board refrigeration equipment
Cold storage height	6m/19.8'
Cold storage temperature	-5~+5℃ / 23~41 (°F)
Storage of goods	Fruits and Vegetables
Forklift type	Electric forklift
Power Supply	380V-415V
Liquid supply mode	Direct expansion liquid supply
Defrosting method	Electric defrosting





5000 ton low temperature cold storage project



List of basic parameters

Area	1500m2
Refrigerant	R507A
Thickness of insulation panel Consumption	PU-150mm
Service life	20-25Year
Compressor brand	Bitzer
Duration	110day
Contract scope	Insulation board refrigeration equipment
Cold storage height	10m/33'
Cold storage temperature	-5~+5℃,-18~-25℃
Storage of goods	Fruits and Vegetables\Meat and seafood
Forklift type	Electric forklift
Power Supply	380V-415V
Liquid supply mode	Liquid supply by barrel pump
Defrosting method	Hot fluorine defrosting

2000 tons fruit and vegetable cold storage



List of basic parameters

Area	1200m2
Refrigerant	R404A
Thickness of insulation panel Consumption	PU-100mm
Service life	20-25Year
Compressor brand	Frascold
Duration	80day
Contract scope	Insulation board refrigeration equipment
Cold storage height	5.5m/18.04'
Cold storage temperature	0-5℃/32-41° F
Storage of goods	Fruits and Vegetables
Forklift type	Electric forklift
Power Supply	380V-415V/ 120KW
Liquid supply mode	Direct expansion liquid supply
Defrosting method	Electric defrosting

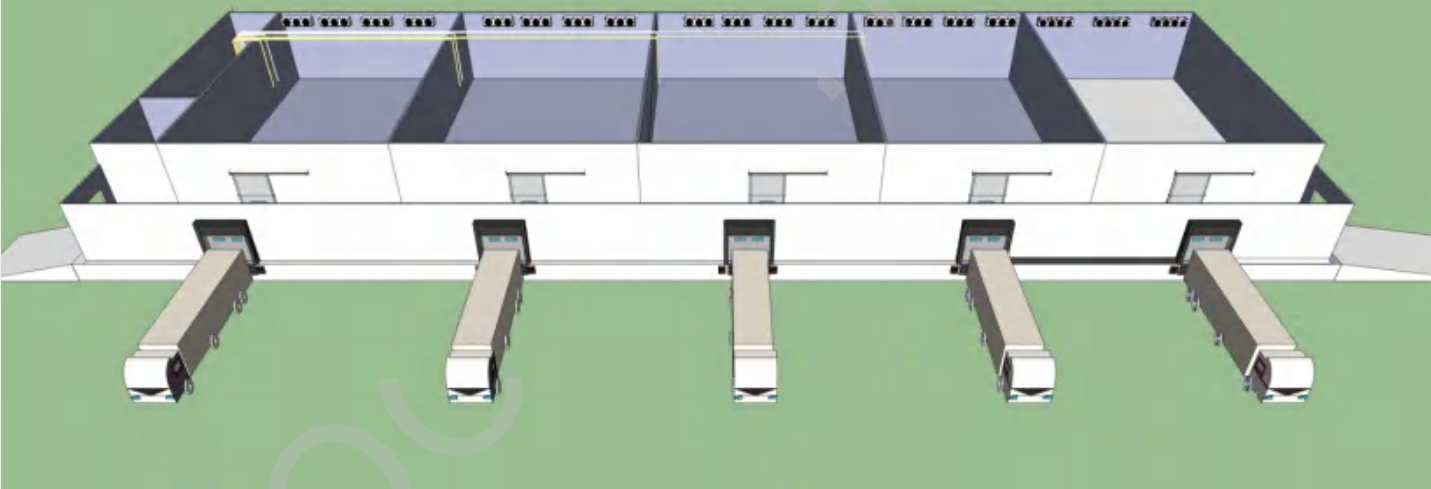


## Agricultural products fruit and vegetable vault

Tomato cucumber potato pepper egg onion



Design renderings



## Modified atmosphere technology for fruit preservation

### 1、Disinfection and cooling of warehouse before storage

After picking fruits and vegetables and before packaging, the warehouse and packaging materials should be disinfected. The ozone generator can be used inside the cold storage to disinfect the cold storage space. The time is 24-48 hours. It can also be disinfected with 40% lime water or 4% formalin solution.

### 2、Stacking of goods

For stacking in the warehouse, it is necessary to have a ventilation gap between the goods and reserve a passage or a passageway. The passage should not be perpendicular to the air flow direction, and a 10 ~ 30cm gap should be left between the fruit basket and the storage body to facilitate



### 3、Cold storage temperature management

Most fruits and vegetables are suitable for storage near their freezing point, while tropical or subtropical fruits and vegetables are not resistant to low temperature. In the cold storage, the temperature difference should be small and the temperature of each part should be uniform, so the fruits and vegetables should be pre cooled before they are put into storage. The fruits and vegetables without pre cooling should be put into storage in



### 4、Humidity management

The frosting of the fan in the warehouse is caused by high humidity and high temperature difference of heat exchange. In order to prevent frosting, it is necessary to narrow the temperature difference between the storage temperature and the outlet air of the evaporator. Generally, small temperature difference refrigeration technology is adopted, and the frosting cycle is short, the defrosting is complete, and the temperature fluctuation is small, so as to master the temperature records of fruits and vegetables at different time points. Fruits and vegetables should be heated gradually after leaving the warehouse. Sudden heating or cooling

### 5、Ventilation

After cold storage of fruits and vegetables, the door should be opened when the temperature difference inside and outside the cold storage is small, such as in the early morning, to eliminate the CO<sub>2</sub> and other irritant gases, such as ethylene, acetaldehyde, ethanol, etc., released from fresh fruits and vegetables, so as to prevent gas accumulation and promote the ripening and aging of fruits and vegetables. Ventilation should be carried out every 48 hours in the first week of storage. In the middle and late stage of storage, ventilation is generally carried out every 10 ~ 15 days.





## CA cold storage



It is widely used in off-season storage of agricultural products, scientific research institutions of colleges and universities, and large and medium-sized fruit circulation enterprises.

Since the cost of building controlled atmosphere storage is much higher than that of ordinary cold storage, when investing in the construction of controlled atmosphere storage, please consider The goods to be stored should be selected with high added value and newly built in the source area of fruit. All kinds of gas parameters need a certain time, and the door can not be opened and closed frequently after the warehouse is full. Therefore, it can't be like ordinary library That way, you go in and out. It is not recommended to store ordinary vegetables in controlled atmosphere storage unless you don't care about investment. At present, there are few people From time to time, ordinary enterprises use modified atmosphere storehouse to store ordinary vegetables. In theory, modified atmosphere storage is suitable for a wide range of fruits and vegetables, but in practice, it is the best in terms of investment and return It is applied to high value-added apple, cherry, blueberry, fragrant pear, navel orange, winter jujube, kiwi, strawberry and other fruits.

cherry



Apple



fragrant pear



orange



Mango



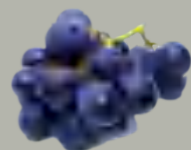
kiwi



Jujube



Grape



onion



Tomatoes



## Introduction of CA cold storage

Controlled atmosphere cold storage is based on the cold storage, increase the gas composition regulation, through the storage environment temperature, humidity, carbon dioxide, oxygen concentration and ethylene concentration, etcThe control of components can inhibit the respiration and self consumption of fruits and vegetables, make them in a near dormant state, reduce water loss, reduce the occurrence of diseases, and delay the metabolic processThe texture, color, taste and nutrition of the stored products are basically unchanged for a long time, so as to better maintain the freshness of fruits and vegetables, and to extend the storage period of fruits and vegetables. It's the eyelt is one of the most popular, effective and advanced storage techniques in the world. It is the most advanced method of fruit and vegetable storage. Generally, controlled atmosphere storage is better than ordinary storageCold storage can prolong the storage period by 2-3 times.

## Principle Of Ca Cold Storage

The traditional storage methods of fruits and vegetables include simple storage, ventilation storage, radiation storage, chemical storage and cold storage. Simple storage, ventilation storage equipment is simpleThe cost is low, but the storage effect is poor, the storage period is short, and the decay loss is serious. Radiation and chemical preservation have certain applicability on some fruits, but there are radiation and chemical residuesPollution, not all fruits and vegetables can be used. Controlled atmosphere storage (CA) can create the best storage environment by changing the gas composition and relative humidity under the suitable low temperature conditionsThe best storage environment for fruits and vegetables is shown in the following aspects: low oxygen (usually 1% - 5% O<sub>2</sub> content) created by controlled atmosphere storage and appropriate CO<sub>2</sub> concentration can effectively inhibit the growth of fruits and vegetablesRespiration can reduce the loss of nutrients in fruits and vegetables, inhibit the growth and reproduction of pathogens, control the occurrence of some physiological diseases, and remove the pollutants in the storage environmentEthylene can inhibit the ripening of fruits and vegetables, delay the ripening and aging process, and increase the relative humidity in the environmental gas to reduce the transpiration of fruits and vegetablesTo the purpose of long-term storage of fruits and vegetables.

## Fruits and vegetables after controlled atmosphere storage have the following characteristics

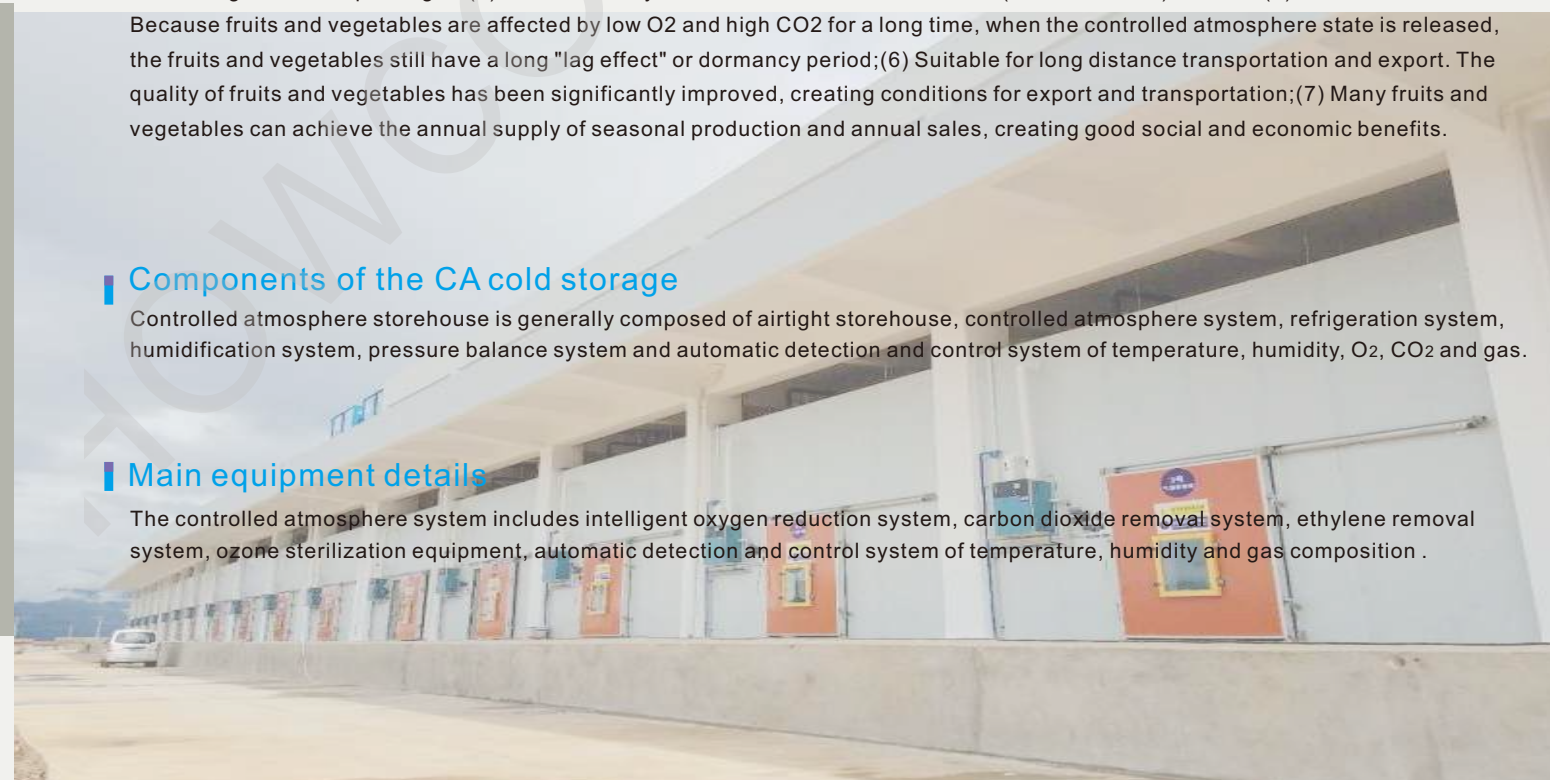
Keep the original shape, color and flavor of fruits and vegetables;(2) The fruit firmness was higher than that of common cold storage;(3) The storage time was prolonged;(4) The fruit decay rate was low and the natural loss (water loss rate) was low;(5) Extend shelf life. Because fruits and vegetables are affected by low O<sub>2</sub> and high CO<sub>2</sub> for a long time, when the controlled atmosphere state is released, the fruits and vegetables still have a long "lag effect" or dormancy period;(6) Suitable for long distance transportation and export. The quality of fruits and vegetables has been significantly improved, creating conditions for export and transportation;(7) Many fruits and vegetables can achieve the annual supply of seasonal production and annual sales, creating good social and economic benefits.

## Components of the CA cold storage

Controlled atmosphere storehouse is generally composed of airtight storehouse, controlled atmosphere system, refrigeration system, humidification system, pressure balance system and automatic detection and control system of temperature, humidity, O<sub>2</sub>, CO<sub>2</sub> and gas.

## Main equipment details

The controlled atmosphere system includes intelligent oxygen reduction system, carbon dioxide removal system, ethylene removal system, ozone sterilization equipment, automatic detection and control system of temperature, humidity and gas composition .





## Fruits Of Ca Cold Storage



Controlled atmosphere cold storage of fruits and vegetables is the most popular, effective and advanced storage technology in the world. One of the fresh-keeping technologies is the controlled atmosphere cold storage, which is the artificial control of nitrogen, oxygen, carbon dioxide and ethylene in the gas. By controlling the ratio of components, humidity, temperature (above the freezing critical point) and air pressure, it is possible to control the storage cell respiration to slow down its metabolic process, so that it is in a state of near dormancy, so as to be able to keep the texture, color, taste and nutrition of the stored products unchanged for a long time and achieve the effect of long-term preservation. Even after being removed from the controlled atmosphere storage environment by fresh-keeping products, the storage quality of fresh-keeping products will be improved. Cell life activities will still maintain the normal metabolic rate in the natural environment, and will not mature and decay soon. Compared with the traditional cold storage, modified atmosphere preservation is an alternative to the preservation industry. New. The reason why the technology of controlled atmosphere cold

### ■ Main material parameters

Design temperature:  $-5 \sim +5^{\circ}\text{C}$

Gas composition:  $\text{O}_2$  3% ~ 8%  $\text{CO}_2$  3% ~ 8%

Humidity index: 80% ~ 95%

Refrigeration unit: semi closed compressor unit



## Tomatoes

The fruits should be picked in the semi mature stage without dew on a sunny day and packed in a turnover box with soft package. The weight of the fruits should not exceed 25kg. The fruits should be disinfected before packaging. Precooling: the harvested fruits should be pre-cooled quickly in the cold storage to dissipate the waste heat in the field. The suitable storage temperature is  $13 \sim 16^{\circ}\text{C}$ . If stored under  $+8^{\circ}\text{C}$  for a long time, it can't be red ripe and may cause chilling injury. In morphology, it shows that the fruit pedicel is cracked, the epidermis appears small brown spots, water extravasation and begins to rot. The ripe fruit can be stored at  $0 \sim 2^{\circ}\text{C}$  for a short time. The relative humidity of storage is 80 ~ 85%, and the relative humidity of ripe fruit



## Apple

Apple storage temperature:  $-1 \sim 0^{\circ}\text{C}$ . The humidity is 85 ~ 95%. 2-4%  $\text{O}_2$  and 3-5%  $\text{CO}_2$

Storage time: 8-10 months



## kiwifruit

The suitable storage temperature of kiwi fruit is  $0-1^{\circ}\text{C}$ . Storage temperature  $-0.5 \sim +0.5^{\circ}\text{C}$ . Relative humidity 90% ~ 98%. Gas composition:  $\text{O}_2$ : 2% ~ 3%,  $\text{CO}_2$ : 4% ~ 5%. Ethylene content:  $\text{C}_2\text{H}_4 < 0.02$ . Storage time: 6 ~ 8 months. Note: kiwi fruit is one of the most suitable fruits for controlled atmosphere storage. It is very sensitive to ethylene gas and should be stored separately.



## Cherry

Storage temperature  $0 \sim 1^{\circ}\text{C}$ . Relative humidity 90% ~ 95%. Gas composition:  $\text{O}_2$ : 3% ~ 5%,  $\text{CO}_2$ : 10% ~ 25%. Storage time: 1 ~ 2 months. Note: cherries are prone to over ripening, decay and browning. Cherry is mainly stored in cold storage or controlled atmosphere cold storage. Cherries are usually packaged in small packages, 2-5kg per box, packed in plastic bags and cartons, tightly sealed, and stored at  $0-2^{\circ}\text{C}$  after rapid precooling. The fruit can be stored for 30-45 days under the condition of 10% - 25%  $\text{CO}_2$  and 3% - 5%  $\text{O}_2$ . Better storage effect can be obtained if the bag is cooled immediately after harvest, packed and put into storage at low temperature, and 20-25%  $\text{CO}_2$  gas is flushed.





2000MT Fruit and Vegetable Cold Store(Inner Mongolia China)



3D Diagram



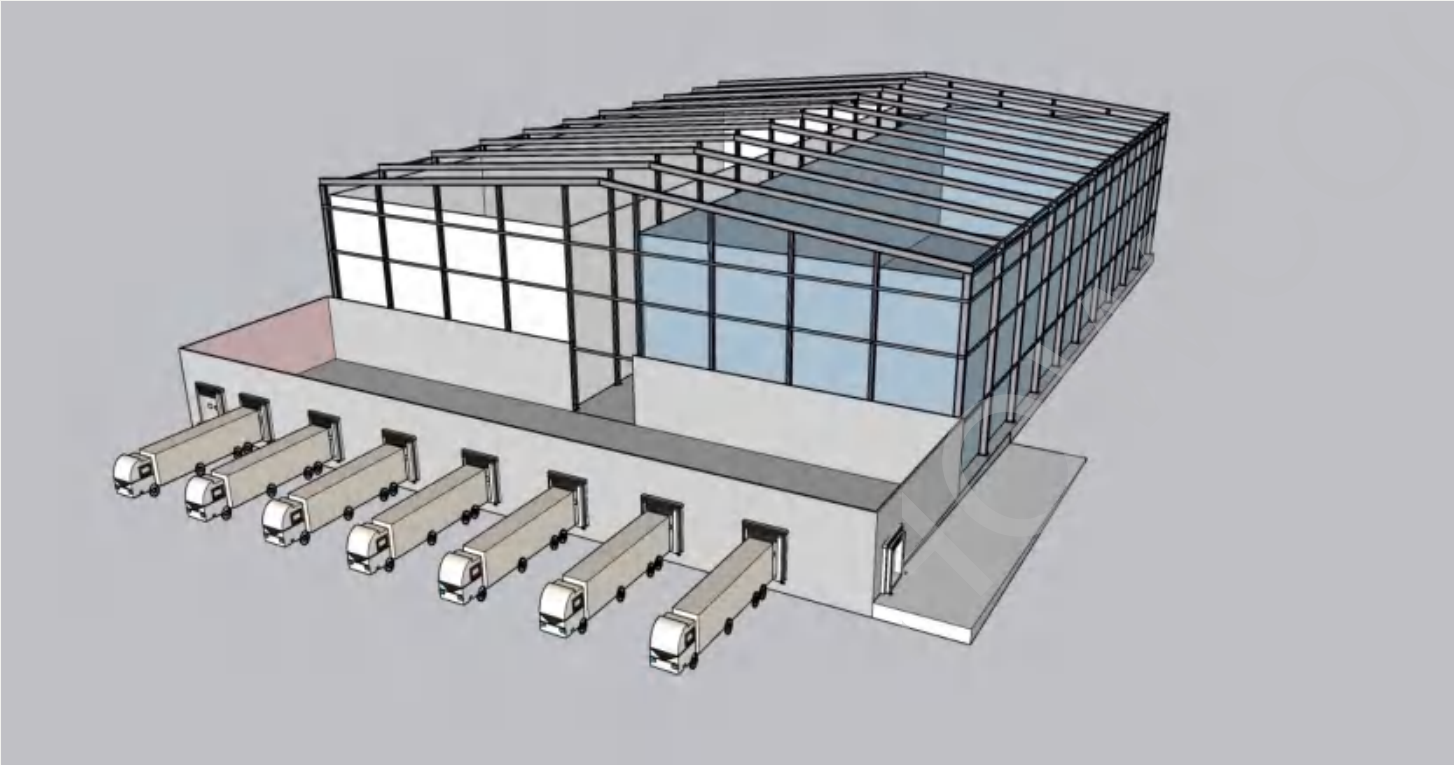
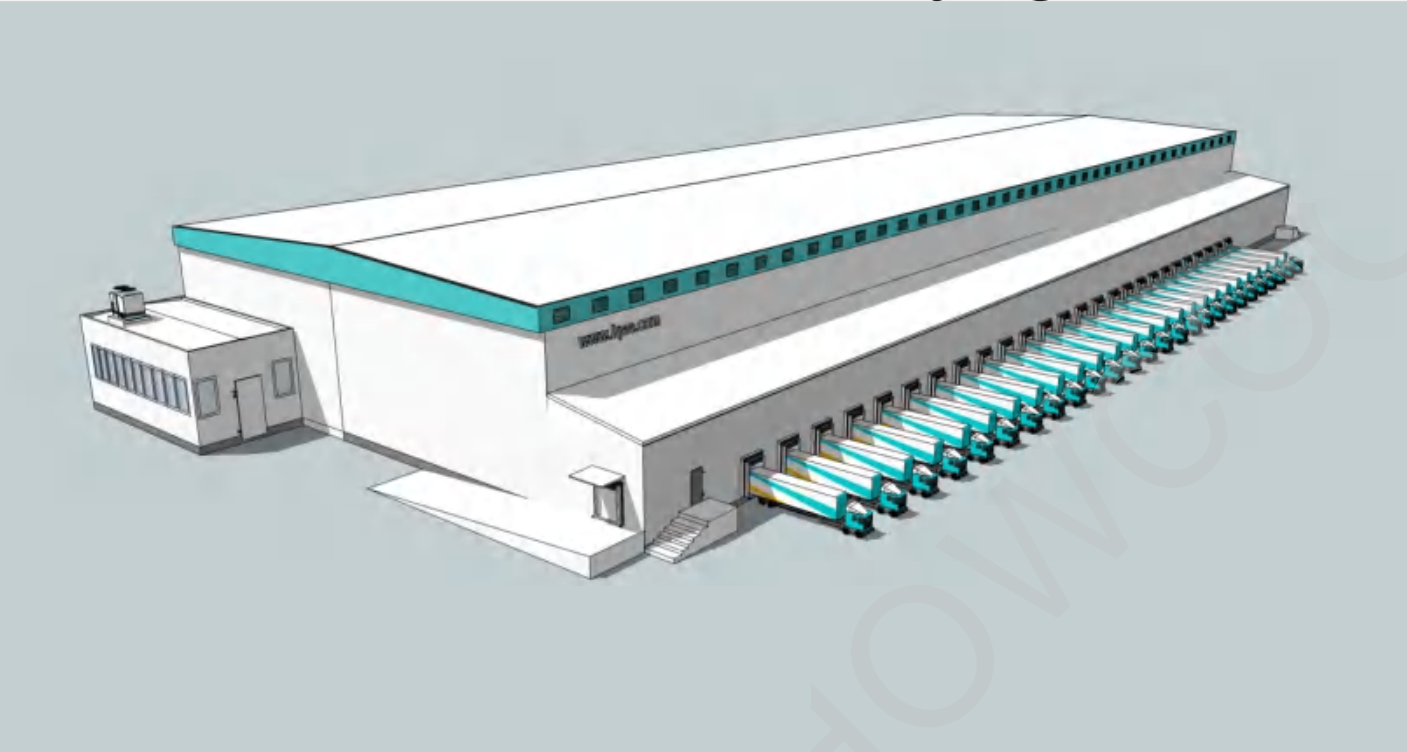
StructureParallel Reciprocating Refrigeration UnitEvaporative Condenser



1500m <sup>2</sup> 5m height	
Project Area	1500m2
Refrigerant	Environment-Friendly R507
Thickness of insulation panel	PIR-100mm
Consumption	120KW
Service life	25-30 years
Compressor	Bitzer
Construction period	80 days
Project scope	Insulation Panel, Refrigeration equipment , Rack , Pallet
Net Height	5m
Temp.	-5℃~+5℃
Food storage	Fruit , Vegetable
Forklift height	5 Meter
Number of pallets	2000 set
Power	380V~415V 50Hz
Liquid supply mode	Directly
Defrosting Mode	Electrical Defrosting
Humidity Control	PLC Automatic



5000MT Freezer Room ( Beijing )



Building structure installation



Project Area	3000m2
Refrigerant	Environment-Friendly R
Thickness of insulation panel	PIR-150mm
Consumption	180KW
Service life	25-30 years
Compressor	Bitzer
Construction period	90days
Project scope	Insulation Panel,Refrigeration equipment , Rack , Pallet
Net Height	6m
Temp.	-18~-25℃
Food storage	Frozen meat and seafood
Forklift height	5 Meter
Number of pallets	5000个
Power	380V~415V
Liquid supply mode	Liquid supply by barrel pump
Defrosting Mode	Hot fluorine defrosting





5000MT Fruit and Vegetable Cold Store



Architectural Renderings



Project Area	2500m2
Refrigerant	Environment-Friendly R507
Thickness of insulation panel	PIR-150mm
Consumption	200KW
Service life	25-30 years
Compressor	Bitzer
Construction period	100days
Project scope	Insulation Panel,Refrigeration equipment,
Net Height	7m
Temp.	+5~-5℃
Food storage	Apple, Pear, Mango, Veg. Kiwi
Forklift height	8Meter
Number of pallets	5000 set
Power	380V~415V
Liquid supply mode	Direct injection liquid supply
Defrosting Mode	Electric defrosting





Slaughterhouse cold storage project

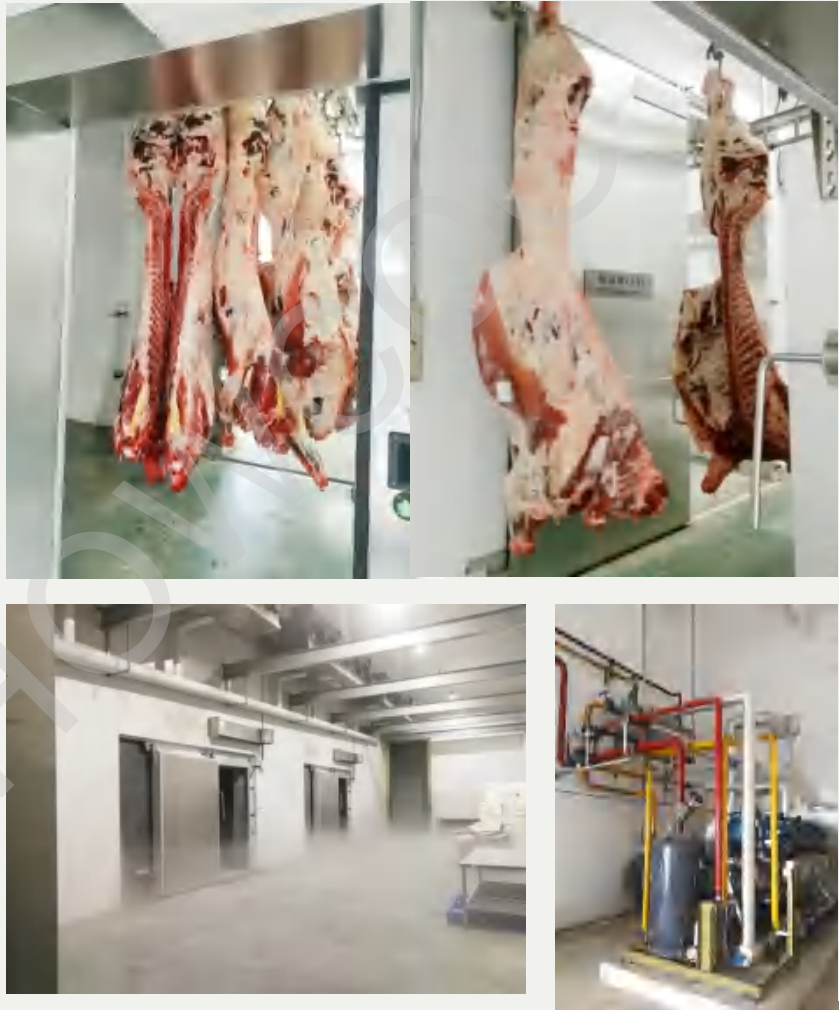


Frozen meat with Slaughter

Project Area	2500m2
Refrigerant	Environment-Friendly R507
Thickness of insulation panel	PIR-150mm
Consumption	200KW
Service life	25-30 years
Compressor	Bitzer
Construction period	100days
Project scope	Insulation Panel,Refrigeration equipment,
Net Height	5m
Temp.	+5~-5℃,-18~-25℃,-35℃
Food storage	Pig Meat
Forklift height	8Meter
Number of pallets	3000 set
Power	380V~415V
Liquid supply mode	Direct injection liquid supply
Defrosting Mode	Electric defrosting\Water/Hot Gas



Cold storage project of cattle slaughterhouse



Slaughter capacity	15T/12h
Refrigerant	Environment-Friendly R404
Thickness of insulation panel	PIR-150mm
Consumption	220KW
Service life	25-30 years
Compressor	Frascold
Construction period	55days
Project scope	Insulation Panel, Refrigeration equipment,
Net Height	5m
Temp.	-18~-25℃,-35℃
Food storage	cattle Meat
Forklift height	4Meter
Quick frozen quantity	15T/12h
Power	380V~415V
Liquid supply mode	Direct injection liquid supply
Defrosting Mode	Electric defrosting\Water/Hot Gas



5000 ton port logistics cold storage project(TianJing City)



Main body of steel structure

Inside picture of cold storage



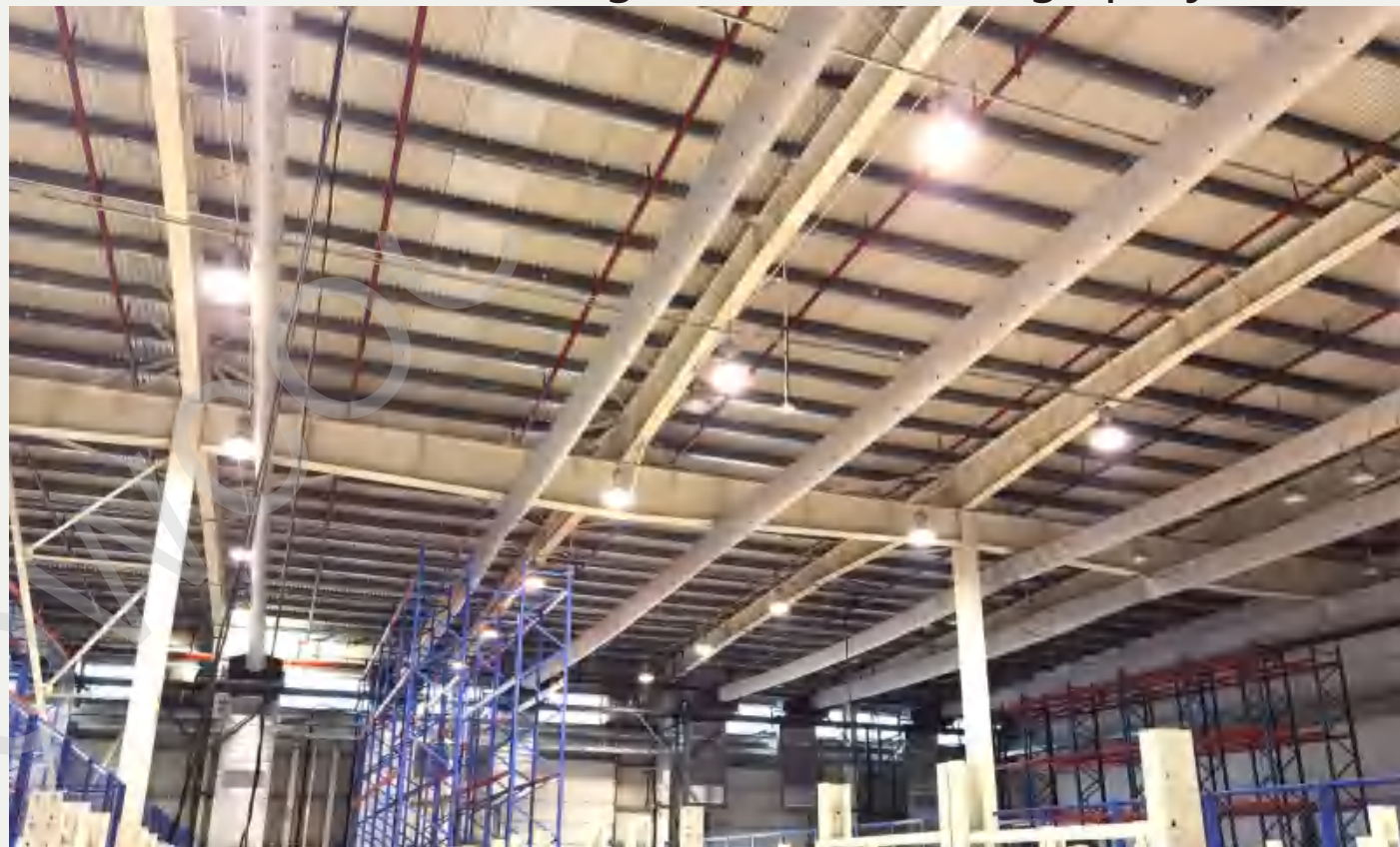
Storage tonnage capacity	5000T
Refrigerant	Environment-Friendly R404
Thickness of insulation panel	PIR-150mm
Consumption	220KW
Design service life	25-30 years
Compressor	Bitzer
Construction period	100days
Project scope	Insulation Panel, Refrigeration equipment,
Net Height	10m
Temp.	-18~-25℃,0-5℃
Food storage	Frozen products
Forklift height	9Meter
Storage tonnage	5000T
Power	380V~415V
Liquid supply mode	Liquid supply by barrel pump
Defrosting Mode	Hot Gas



50000 m3 cold storage project



10000 tons cold chain logistics cold storage project



20000 tons cold chain logistics cold storage project



logistics Cold Store Project At Shanghai





E-Commerce Distribution Center At Beijing



Jamaica 3000 ton cold storage project



Cold storage of port aquatic products processing plant



Cold storage project of agricultural products logistics center





5000 ton cold storage project at railway port



Cold storage project of central kitchen



4000t logistics cold storage project



Cold storage of agricultural products logistics center





50000 cubic meters of e-commerce food cold storage



Cold storage of Coca Cola Beijing factory



National intelligent casting 3D printing center



Cold storage project of food processing plant





Main structure of large steel cold storage



Main structure of large steel cold storage



Main structure of large steel cold storage



Customs inspection cold storage project of Beijing Shunyi Airport Logistics Park





Cold storage door



Platform unloading door



Fast sliding door

Fast sliding door

Fast sliding door



CA cold storage door



S304 Stainless steel sliding door



Electric sliding door



S304 Stainless steel sliding door



Buffer Platform



Buffer Platform



# PU/PIR

## PIR panels

Dimension	1150mm 940mm
Thickness	50mm/75mm/100mm/150mm/200mm
Weight	varies in accordance to thickness
Skins	Minimum 0.5mm/0.6mm thick painted
	galvanized steel exterior and interior facers

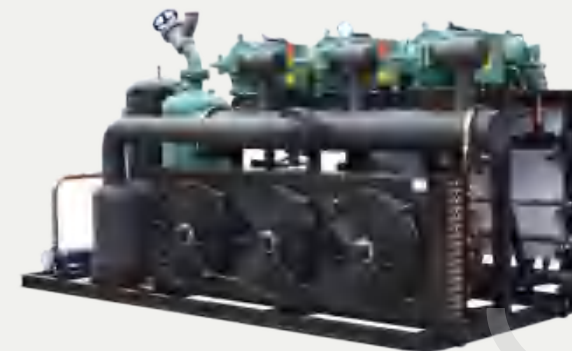
## PU panels

Dimension	1150mm 940mm
Thickness	50mm/75mm/100mm/150mm/200mm
Weight	varies in accordance to thickness
Skins	Steel 0.36/0.426/0.476/0.5/0.6/0.7mm thick painted
	galvanized steel exterior and interior facers
density	40~42kg/m3 88~92.4lb/m3
Joints	Clip-lock, Cam-lock system, Semi cam-lock system



# R

## refrigeration compressor unit

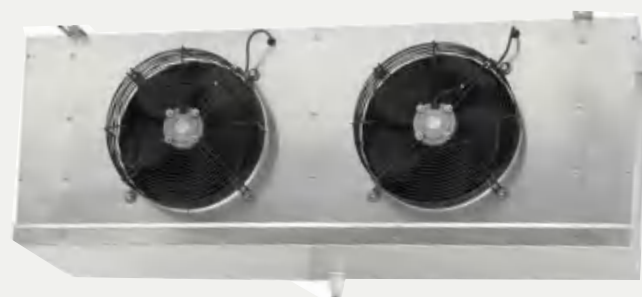




Air cooler



Air cooler

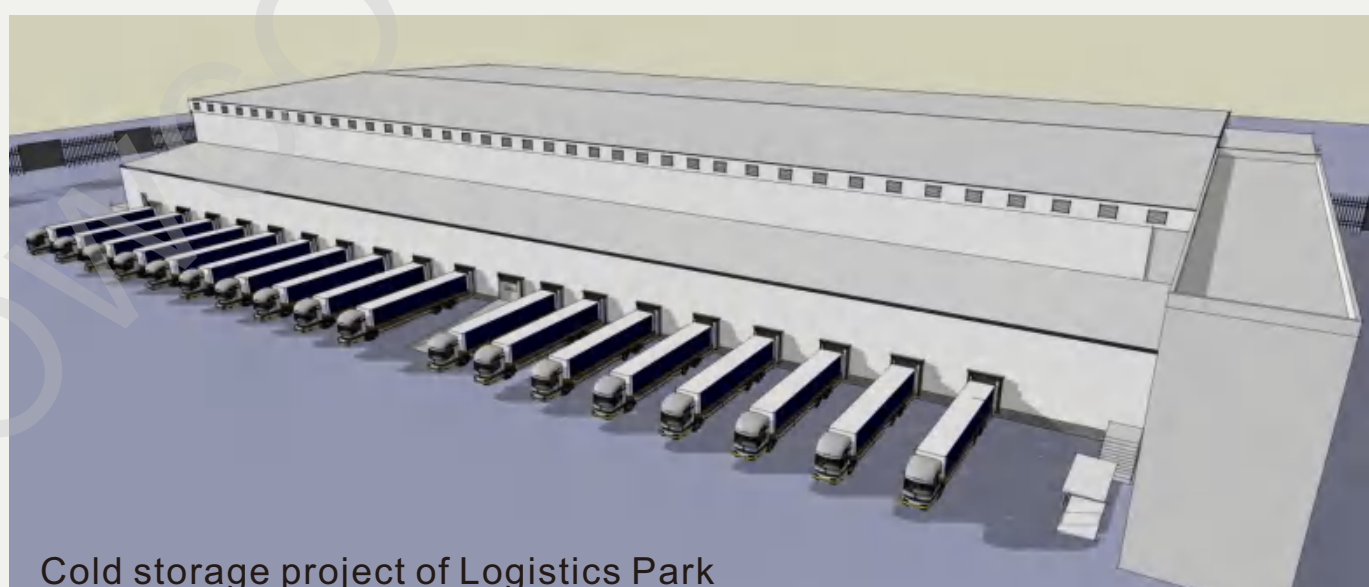
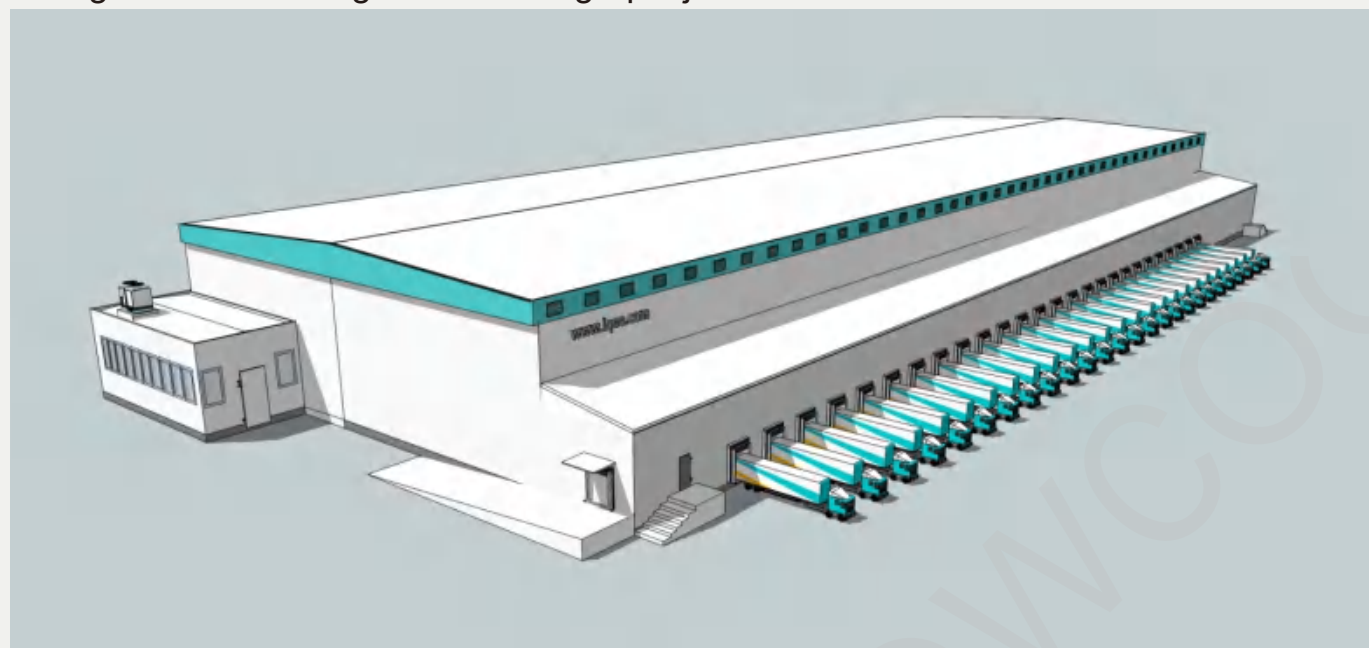


Bitzer compressor unit





Design sketch of large cold storage project



Cold storage project of Logistics Park

Design sketch of large cold storage project

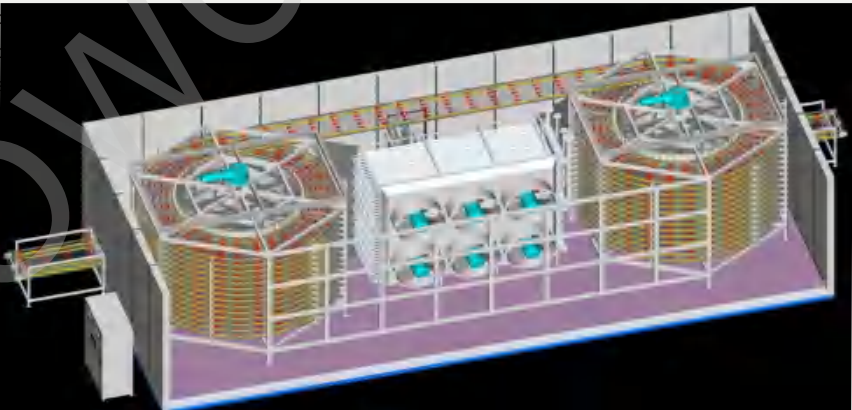
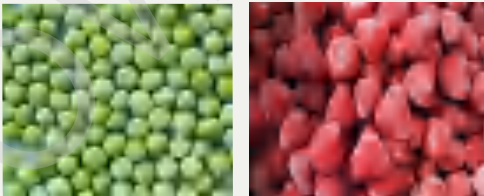




Quick freezing tunnel



Structural features of fluidization quick freezer 1. Overall design:1. According to the characteristics of quick-frozen products, the process structure parameters were designed, with super large effective surface area; the monomer quick-frozen did not adhere, the temperature difference between evaporation temperature and quick-frozen room was reduced, and the defrosting period was extended, which fully met the requirements;2. By using the fluidized bed principle of -35 temperature in the warehouse and tunnel downdraft and the vibrating device of surface freezing section, the frozen products can be reduced from +15 to -18 under the joint action of suspension and frequency conversion conveyor belt, and the products can be frozen uniformly and quickly, and the products can be automatically dropped when they are delivered.3. The organic combination of evaporator, fan, air guide device and vibration device forms a uniform and stable suspension of frozen products and a negative feedback fluidized bed with multi-directional monomer air impingement, which makes the monomer freezing of frozen products faster and the quality uniform;4. Adjustable wind proof and heat preservation device with adjustable height limit is set at the feeding port to distribute the products evenly and avoid the loss of cold energy. The wind guide adjusting device can adjust the wind direction and control the uniformity of cold air;5. The full-length stainless steel edge and the full-length stainless steel screen can avoid the overflow of frozen products;6. The cold air circulation channel is smooth, and it can also be used as the channel for quick freezing and maintenance of other products;7. Large roller conveyor chain network rolling transmission;8. Ultra thick polyurethane insulation board; the access door is equipped with double hinge, double door plug, low temperature, aging and oil resistant sealing double rubber strip;9. The frame structure, bracket, support, platform, air duct plate, mesh belt, guide rail framework and machine parts in the quick freezing area are made of SUS304 stainless steel (except standard



Refrigeration unit

It adopts special refrigeration unit for low temperature quick freezing, with high refrigeration efficiency, long service life and small vibration, Low noise. With multi-stage energy regulation, effectively reduce energy consumption. Machine tool Compressor coil temperature protection, exhaust temperature protection, low oil level, oil pressure difference and system Unified high and low voltage and other protection functions.



Spiral type quick freezing tunnel equipment belongs to a form of quick freezing machine, which is a kind of high efficiency and saving. The quick freezing device can represent the development direction of the current quick freezing machine market. Users need to customize single screw and double screw. The utility model has the advantages of small floor area and tight structure. The nominal output is 300 ~ 6000 kg / h,

Parameters of net belt quick freezer

Model	Quick Freezing Capacity	Power Consumption	Cooling Capacity	Belt Speed	Overall Dimension Length Width Height
Hc100	100kg/h	2.25KW	15	1m/s	6.8*1.5*2.2m
Hc150	150kg/h	3KW	21.5	1.3m/s	8*1.8*2.2M
Hc300	300kg/h	6.5KW	43.5	1.8m/s	10*2.3*2.4
Hc500	500kg/h	10.3KW	75	2.5m/s	12*3*2.6
Hc1000	1000kg/h	20KW	165	3m/s	22.5*3.5*2.65
Hc1500	1500kg/h	28.6KW	225	3m/s	22.5*3.5*2.65
Hc2000	2000kg/h	29.2KW	276	3 m/s	30*3.5*2.45

Inlet temperature 20℃-15℃ internal temperature -35℃ outlet temperature -18℃

Parameters of single screw quick freezer

Model	Quick Freezing Capacity	Power Consumption	Cooling Capacity	Belt Speed	Overall Dimension Length Width Height
Lc300	300kg/h	7.9KW	46	1.8m/s	6.4*3.8*3
Lc500	500kg/h	10.1KW	77	2.5m/s	7.7*4.4*3
Lc1000	1000kg/h	14.5KW	153	3m/s	8.3*5*3.6
Lc1500	1500kg/h	21.1KW	230	3m/s	9*6*4
Lc2000	2000kg/h	29.2KW	307	3 m/s	9*6.5*4.5
Lc3000	3000kg/h	35KW	430	3 m/s	9*6.5*5

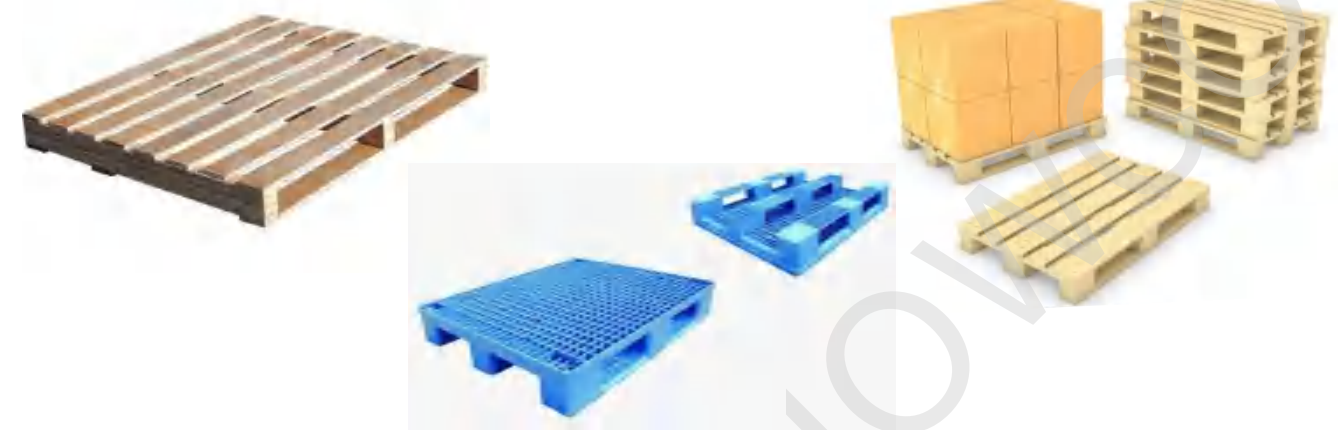
Inlet temperature 20℃-15℃ internal temperature -35℃ outlet temperature -18℃



Electric forklift



Tray



Turnover Box



Manual pulling



Conveyor belt



Goods Shelves







## EPC COLD STORAGE CONSTRUCTION

BeiJing HowCool Refrigeration Technology Co.,LTD.

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