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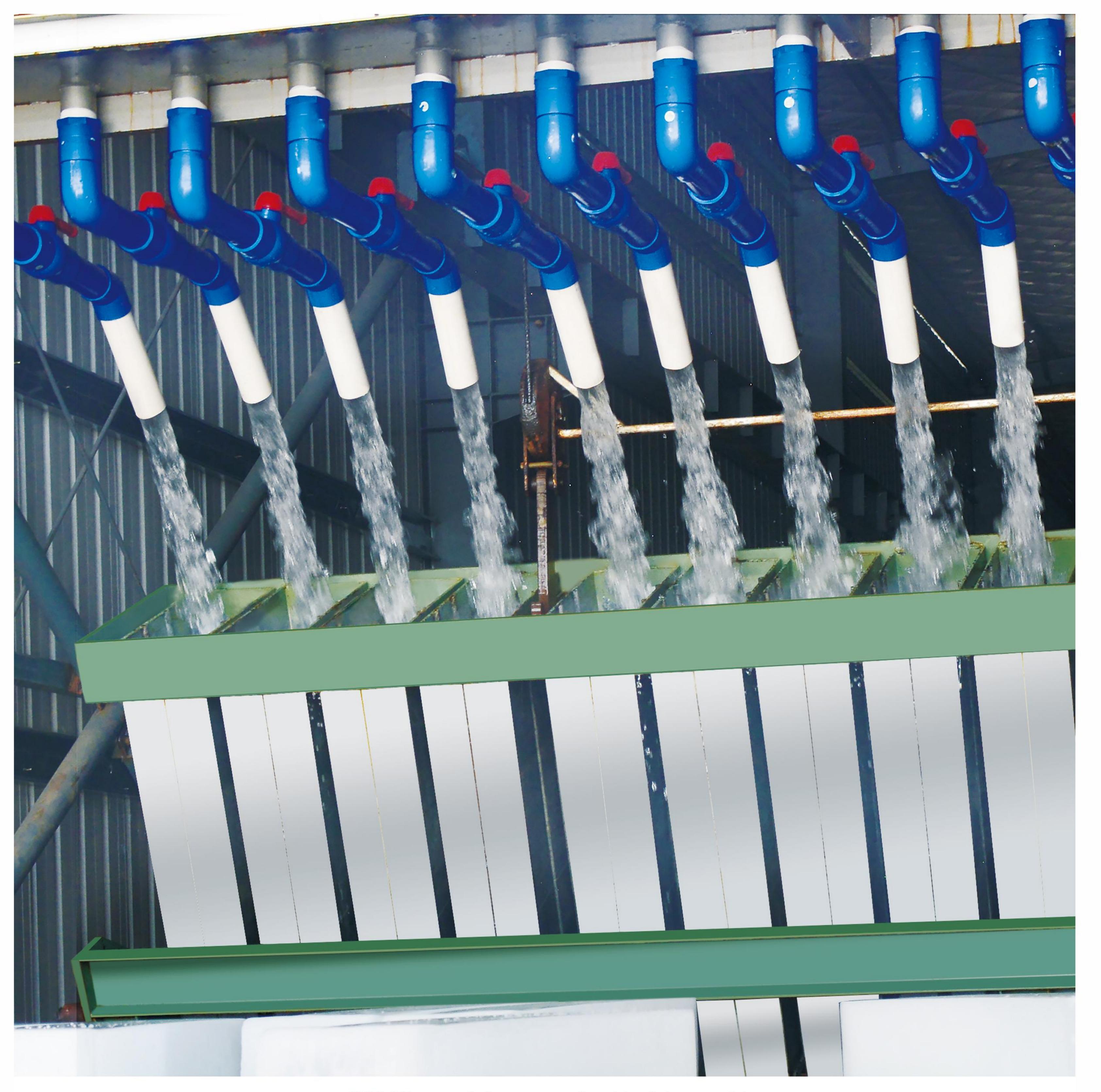
Guang zhou, China.



# Industrial Block Ice Machine

Be engaged in general equipment applications in low temperature technology and developing of exhaust heat utilization technology in refrigeration system.





CBFI 80 tons civil construction block ice machine





### **Block Ice**

The biggest ice size, the smallest contact area with the outside world, and difficult to melt.

### **Block Ice Size**

Block ice size can be customized depend on bucket size. It can also crush according to different requirements then applied in different industrial area.

### Ice Feature

Block ice with the feature of large ice size, large refrigeration storage, melting resistance, low cost and easy operation. After crushing, block ice contact area with goods will enlarge, which can quickly cool down the food, slow down food deterioration, and prolong the preservation time.

### **Block Ice Application**

Ports, ice factories in docks, food processing, aquatic products preservation, cooling, long-distance transportation, aquatic products, food preservation, cooling in special fields, ice sculpture, ornamental use, etc. It is especially suitable for the environment with high temperature and unstable voltage.



15

# History Background of Block Ice Machine

### Trace Back To

### History of Block Ice Machine

# Principle of Artificial Refrigeration

In 1748, Professor William Coulomb demonstrated the principle of artificial refrigeration at the University of Glasgow laboratory in Scotland.

# The First Shell Tube Type Block Ice Machine

In 2004 years, Mr. Hongbo Yang firstly made the research and development the first External Circulating Freon Shell Tube Type ice block machine in China.

# Guangzhou Icesource second generation block ice machine

In 2013, Guangzhou Icesource developed the second generation block ice machine - Coil type evaporator block ice machine after technological innovation and sedimentation. CBFI second generation block ice machine energy consumption is as low as 62~68 degrees for making 1 ton ice. Our company improves market competitiveness by saving operating costs for customers with more excellent equipment quality and performance.

1748

# The origin of block ice can be traced back to the Zhou Dynasty.

## 7850 The First Ice Maker

In 1850, John, a physicist from Florida, USA, showed the first ice maker at his private party. It marked the industrialization of artificial ice making.

2007

2013

2004

### Guangzhou Icesource Overseas Market

Guangzhou Icesource catch the development of the market in 2004, and expanded the overseas market. The shell tube type block ice machine is popular in Africa, the Middle East, Southeast Asia, Oceania and South America. the domestic counterparts feel this type of equipment in the heat of overseas markets, competing to imitate this equipment.

## epost

### Large Freon Block Ice Machine Production System

Guangzhou Icesource Co.,Ltd. has been responsible for the construction of several large Freon ice block machine production system, accumulated valuable experience in engineering project design and processing, and successfully applied this experience to the technological transformation of small ice block machine production.



Guangzhou Icesource block ice machine capacity can be 1 ton to 200 tons. 1 tons of -10 tons adopt integrated design.

20 tons -200 tons block ice machine adopts civil design.

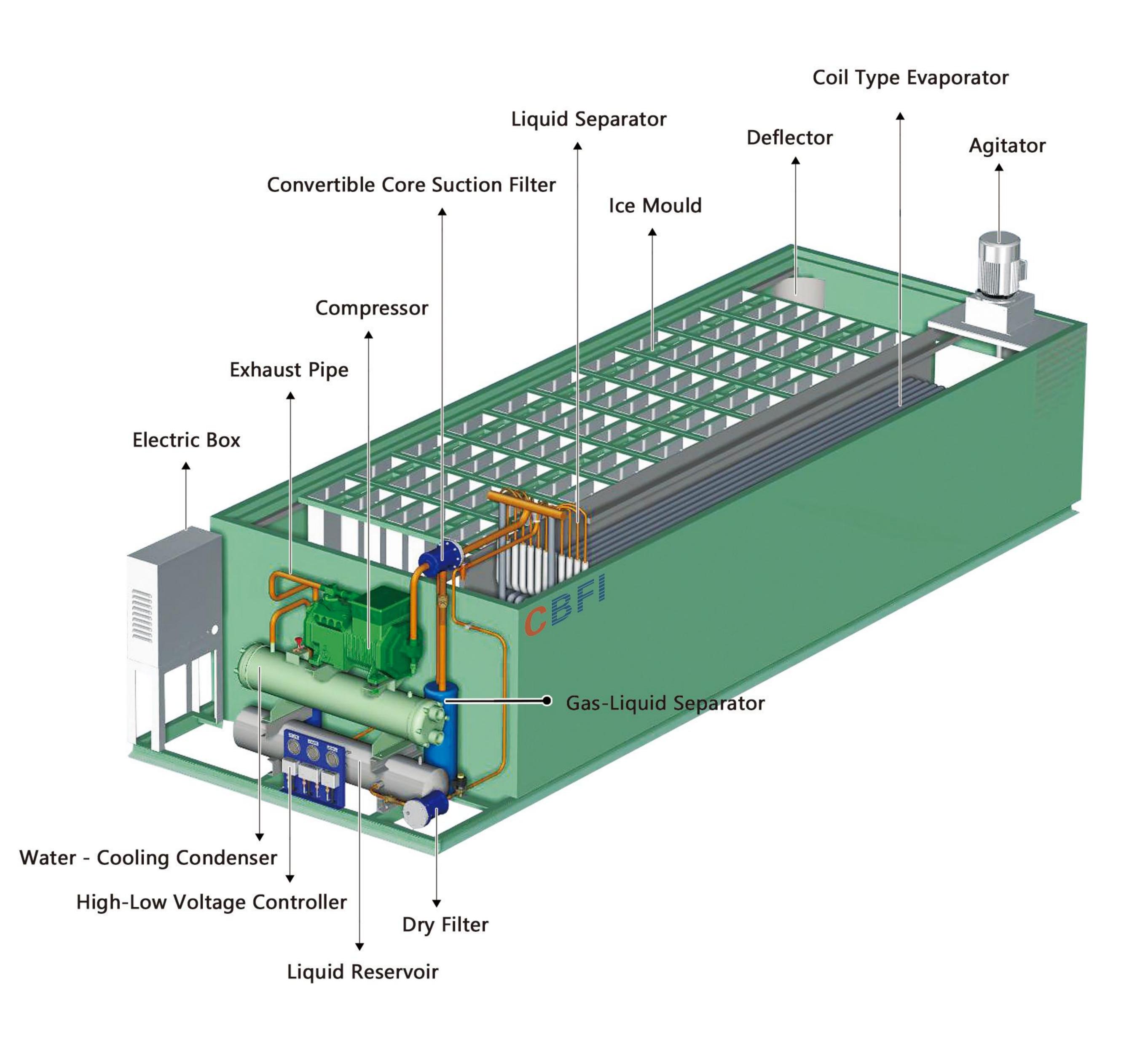
We are the first manufacturer of 100 tons Freon large block ice machine-Malaysia 100 block ice machine project. Guangzhou Icesource invented the first external circulating Freon shell tube type block ice machine, and got the National productive practical patent. The block ice machine easy to install, and the integrated unit makes the ice machine install as easy as air conditioning. The ice block machine adopts intelligent control system, so the ice making process is unmanned. It has high ice making speed, high hardness, difficult to melt and the output capacity is not affected by the environmental temperature. The average life of Guangzhou icesource block ice machine is as long as 20 years.



# Design structure diagram of integrated block ice machine

Integrated block ice machine within 10 tons adopt Integral design. Advantage:

- . Water temperature is as low as -18 degrees centigrade.
- . Small size, easy to move.
- . The design of coil type evaporator can make the system return oil smoothly, which will avoid compressor piston clamping phenomenon.
- . Integrated design, convenient for the whole machine testing in the factory with stable performance, simple installation.

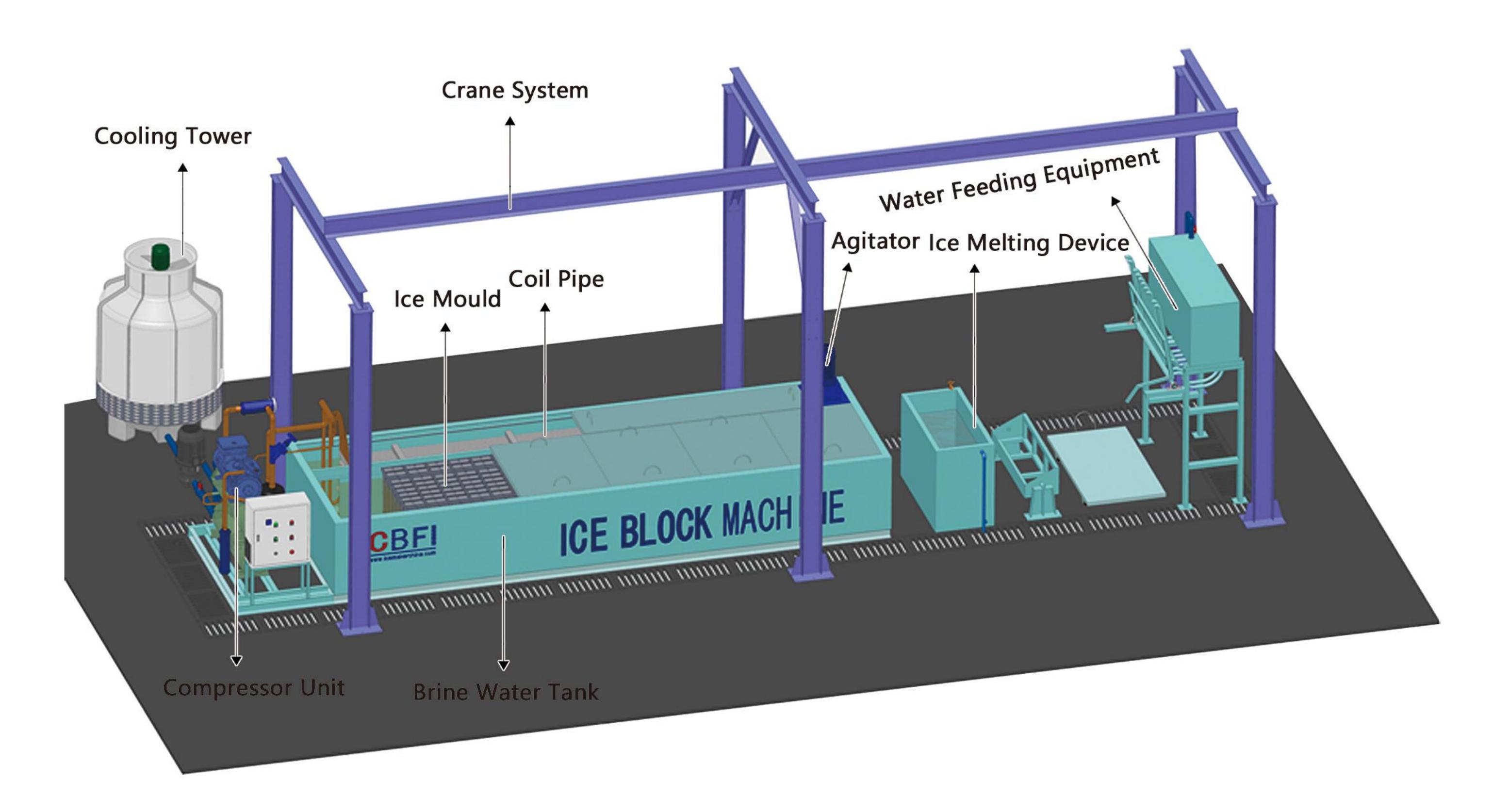


# 3D Block ice machine ice making diagram

It has been 10 years since the invention of the first generation of shell tube type block ice machine. After 10 years technical precipitation, Guangzhou Icesource developed the second generation coil type block ice machine.

It achieved Guangzhou Icesource original dream: to make more ice with less electricity.

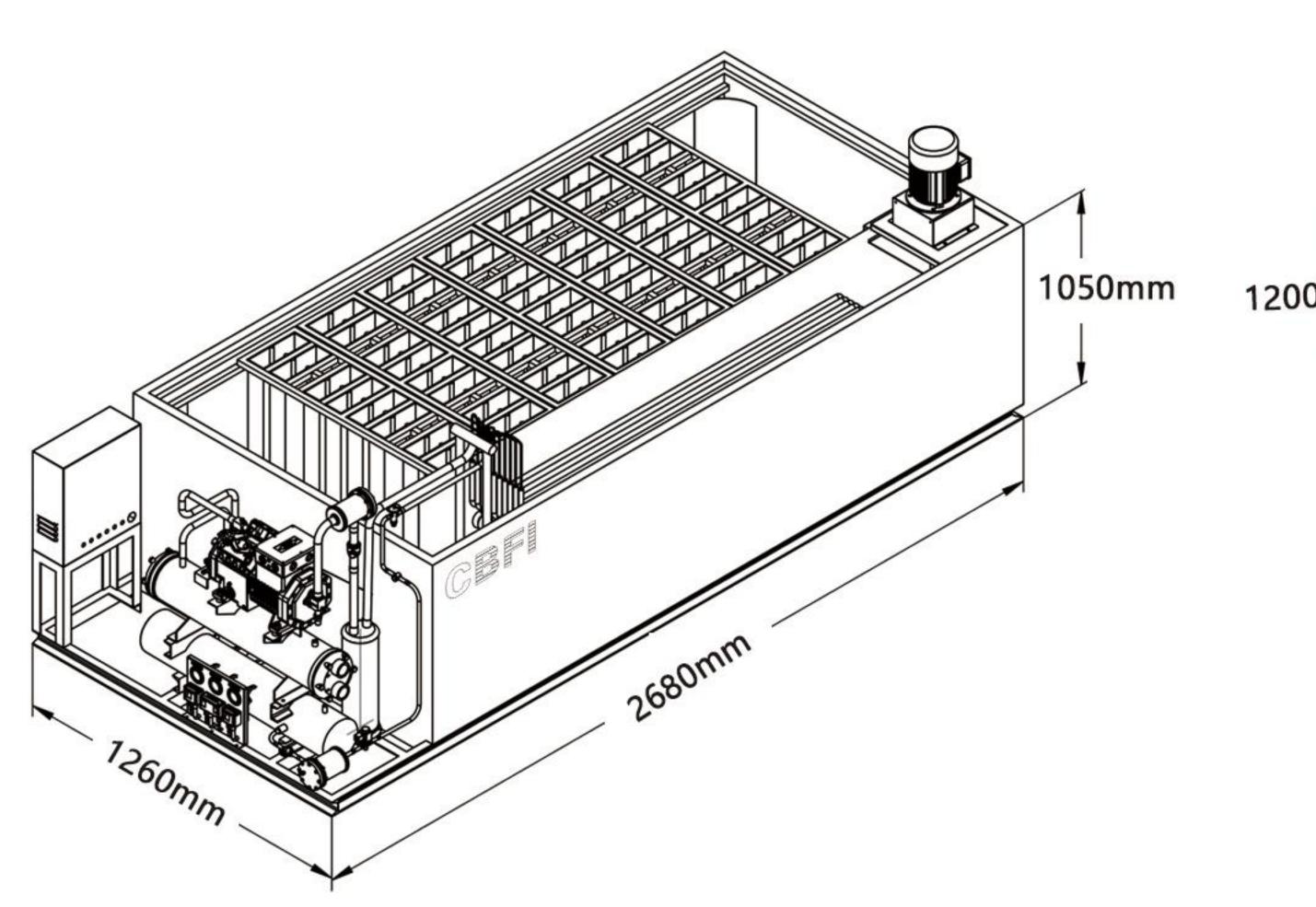
- 1. After adopting coil type evaporator, it is no need to worry about the damage of evaporator due to not adding salt in time and the density of the brine water become low during ice making.
- 2. The power consumption of ice making reduce from 110 k.w per ton ice to 75 k.w per ton ice, which means the equipment is more energy saving.

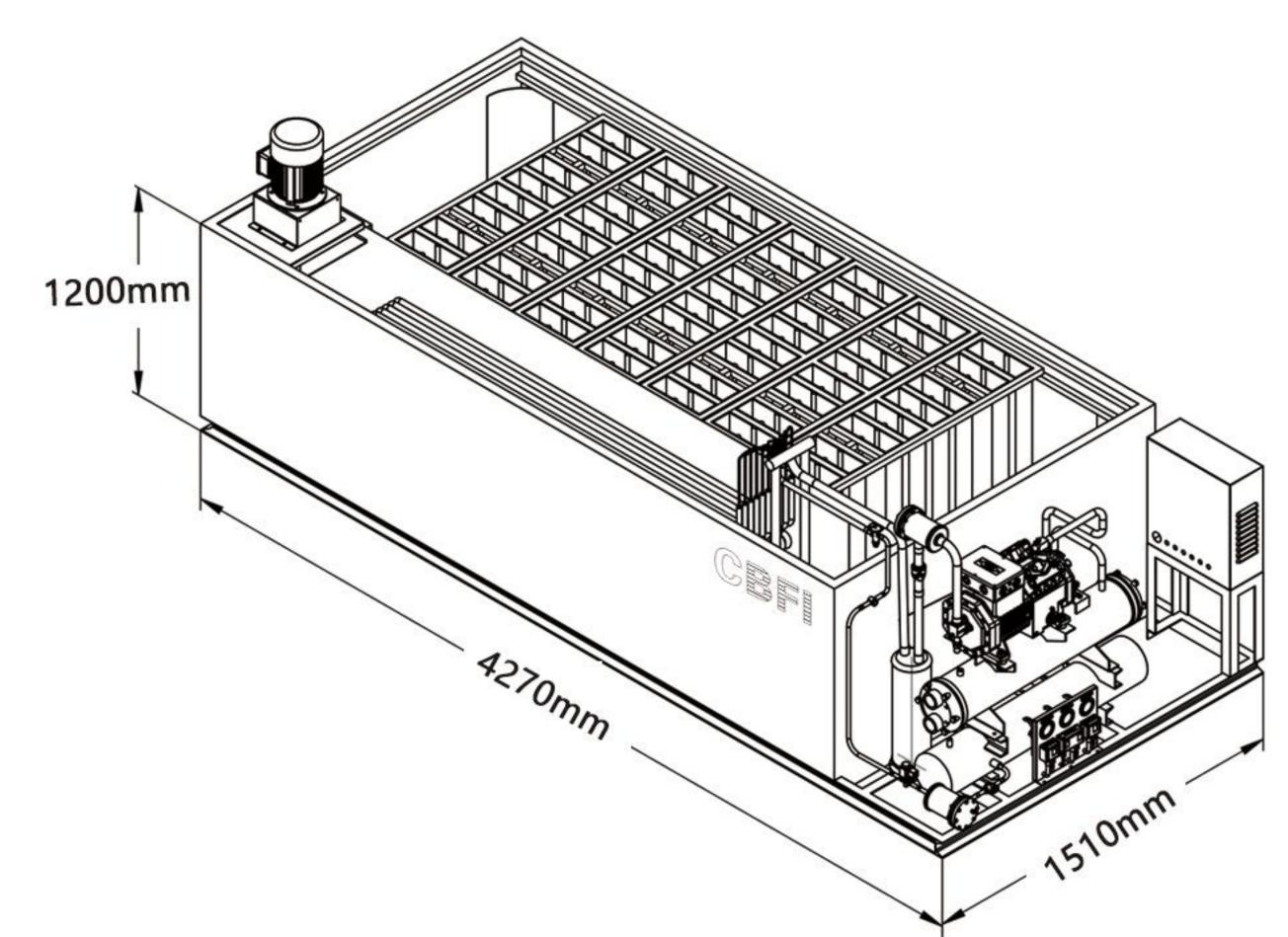




# Integrated block ice machine

Small type block ice machine capacity can be 1 ton, 2 ton, 3 ton, 5 ton, 6 ton, 8 ton and 10 ton. Special design can be customized.





### Stainless steel liquid head protective cover



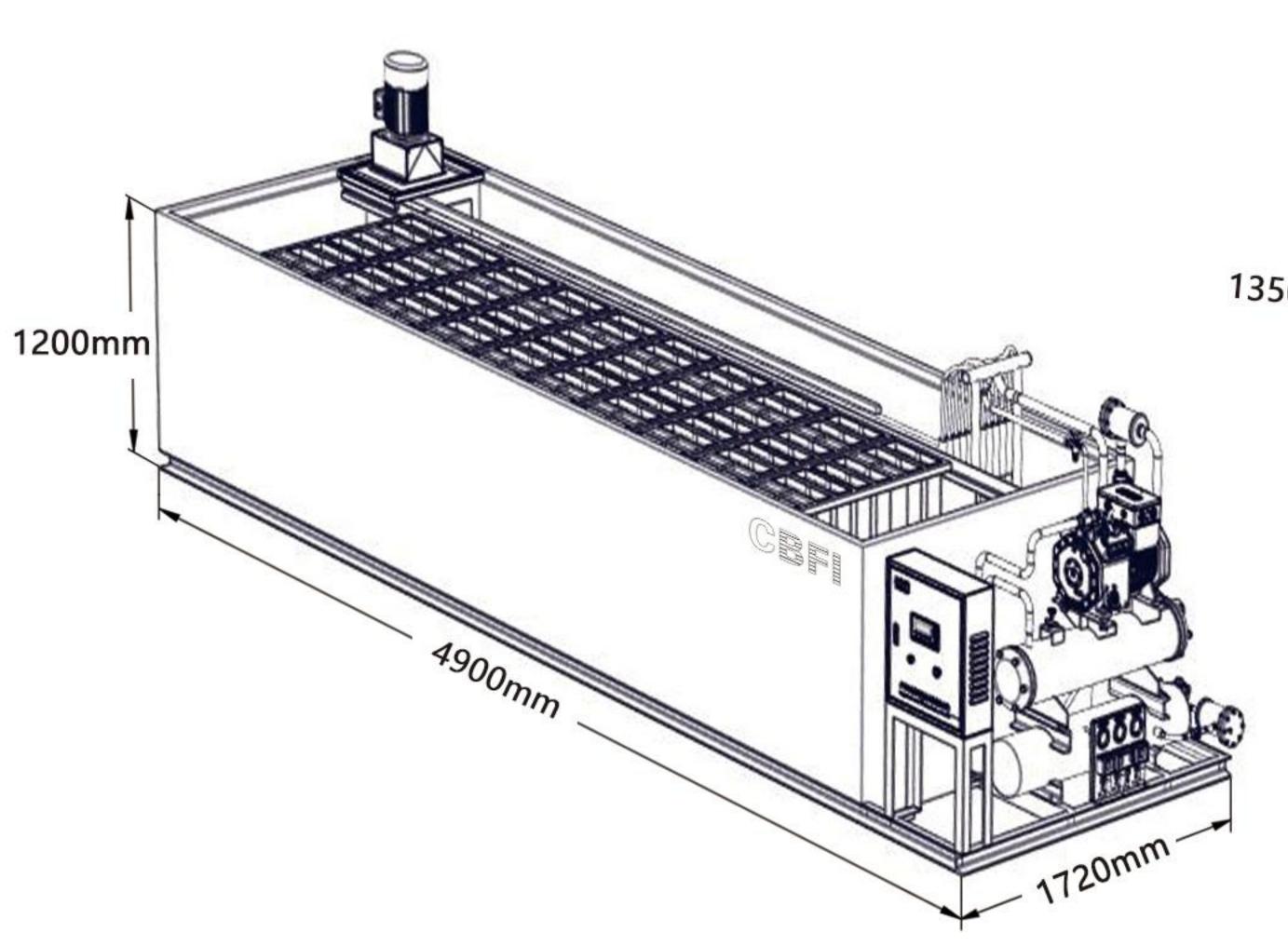


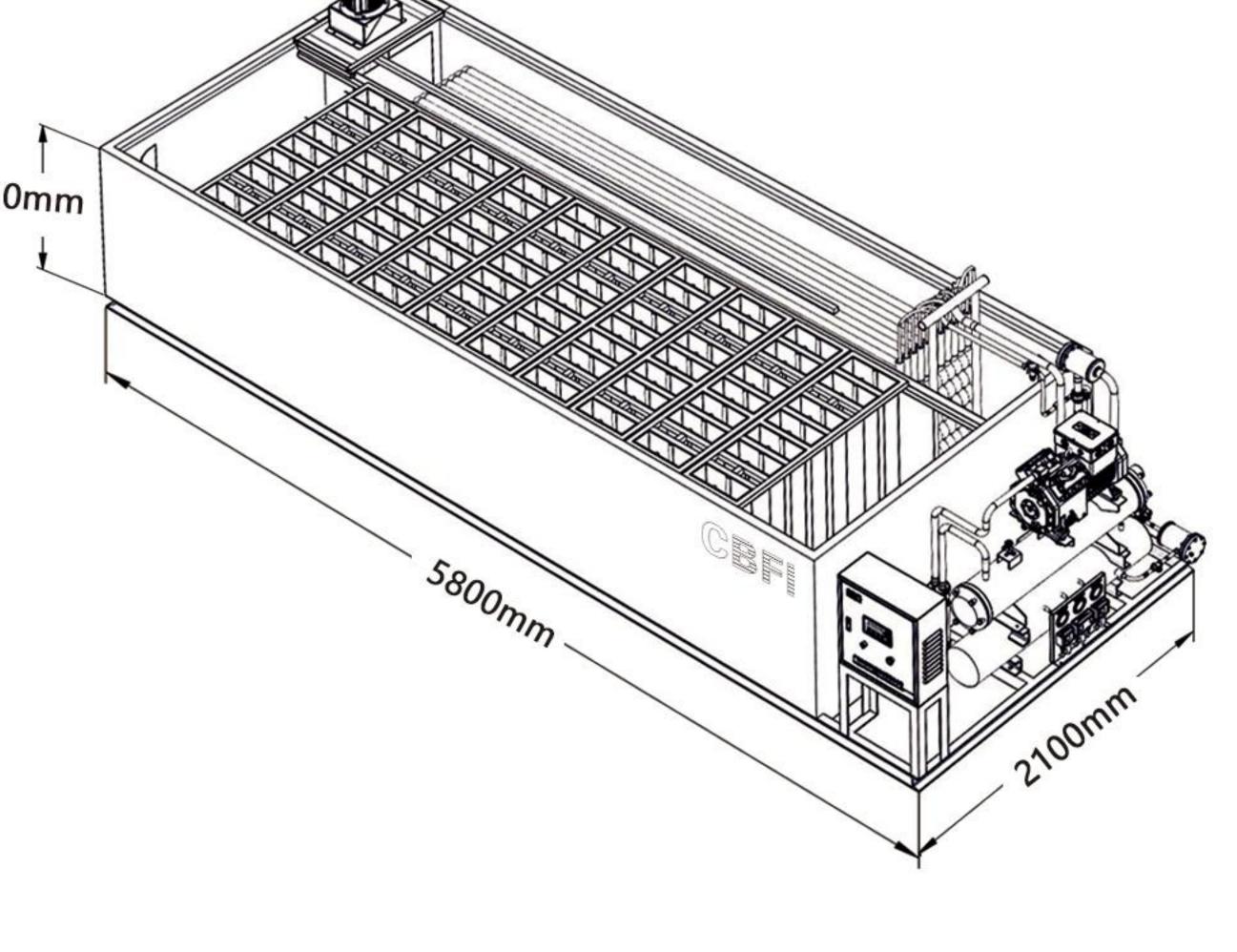
### BBI1 1ton Block Ice Machin

Ice machine capacit: 1Ton/24h
Rated power of compressor: 3KW
Rated power of agitator: 1.5KW
Rated power of cooling pump: 1.1KW
Rated power of cooling fan: 0.18KW
Ice machine size: 2680x1260x1050
Weight: 990KG

### BBI2 2 tons Block Ice Machin

Ice machine capacit: 2Ton/24h
Rated power of compressor: 6KW
Rated power of agitator: 2.2KW
Rated power of cooling pump: 1.5KW
Rated power of cooling fan: 0.37KW
Ice machine size: 4270x1510x1200
Weight: 1100KG









### BBI3 3 tons Block Ice Machin

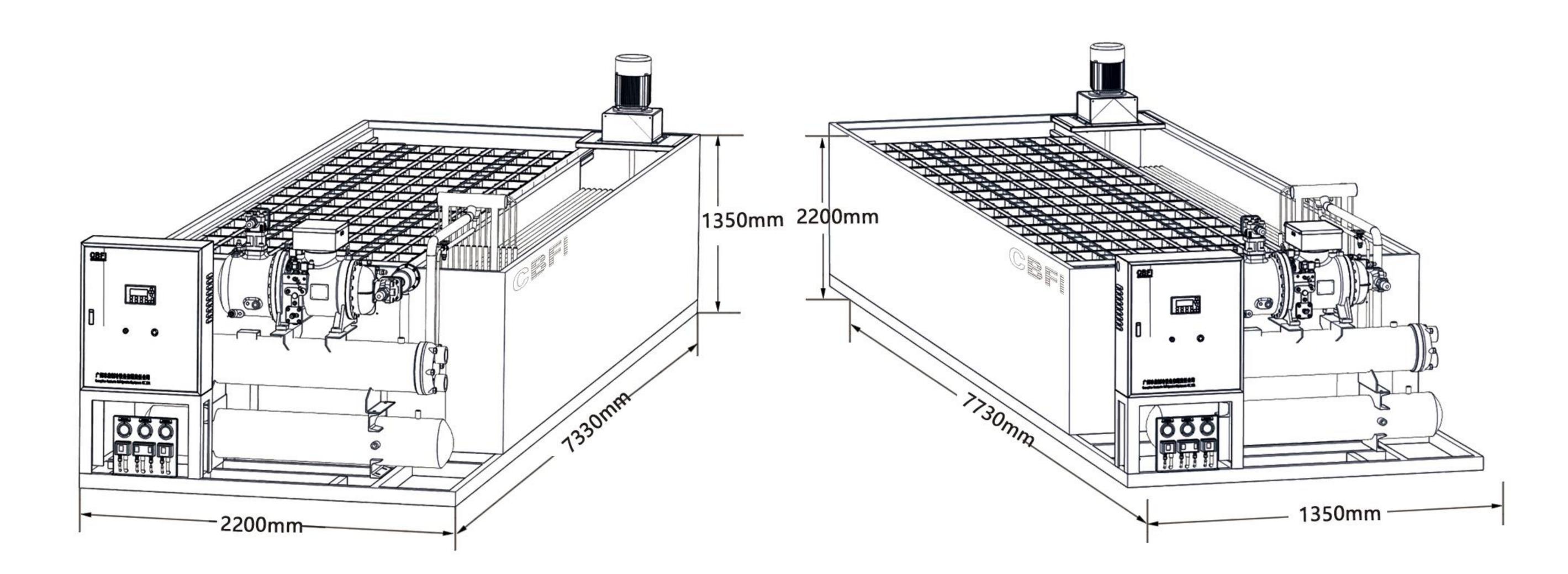
Ice machine capacit: 3Ton/24h
Rated power of compressor: 9KW
Rated power of agitator: 2.2KW
Rated power of cooling pump: 1.5KW
Rated power of cooling fan: 0.56KW
Ice machine size: 4900x1720x1200
Weight: 1300KG

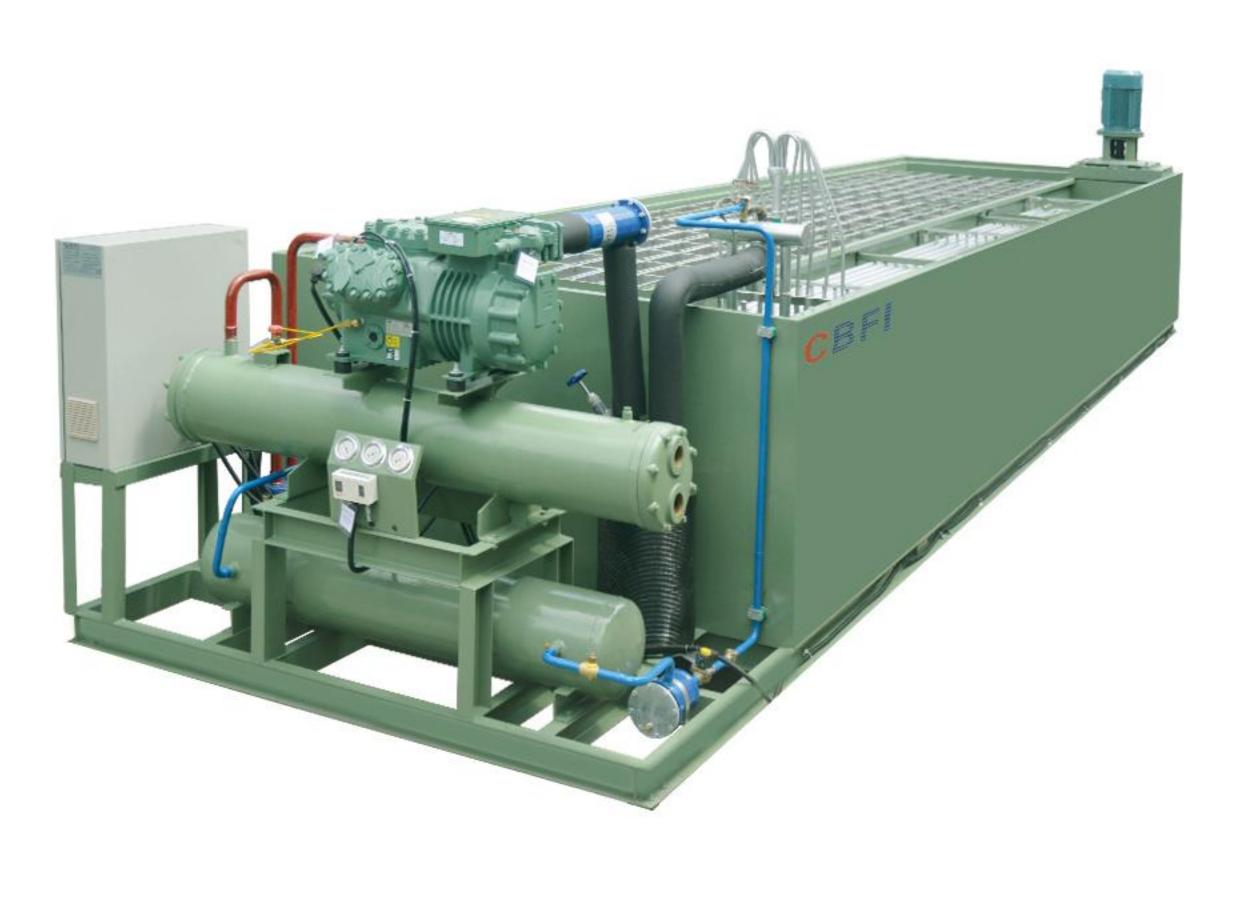
### BBI5 5 tons Block Ice Machin

Ice machine capacit: 5Ton/24h
Rated power of compressor: 15KW
Rated power of agitator: 3KW
Rated power of cooling pump: 2.2KW
Rated power of cooling fan: 0.75KW
Ice machine size: 5800x2100x1350
Weight: 1700KG

# Integrated block ice machine

Small type block ice machine capacity can be 1 ton, 2 ton, 3 ton, 5 ton, 6 ton, 8 ton and 10 ton. Special design can be customized.







### BBI8 8 tons Block Ice Machin

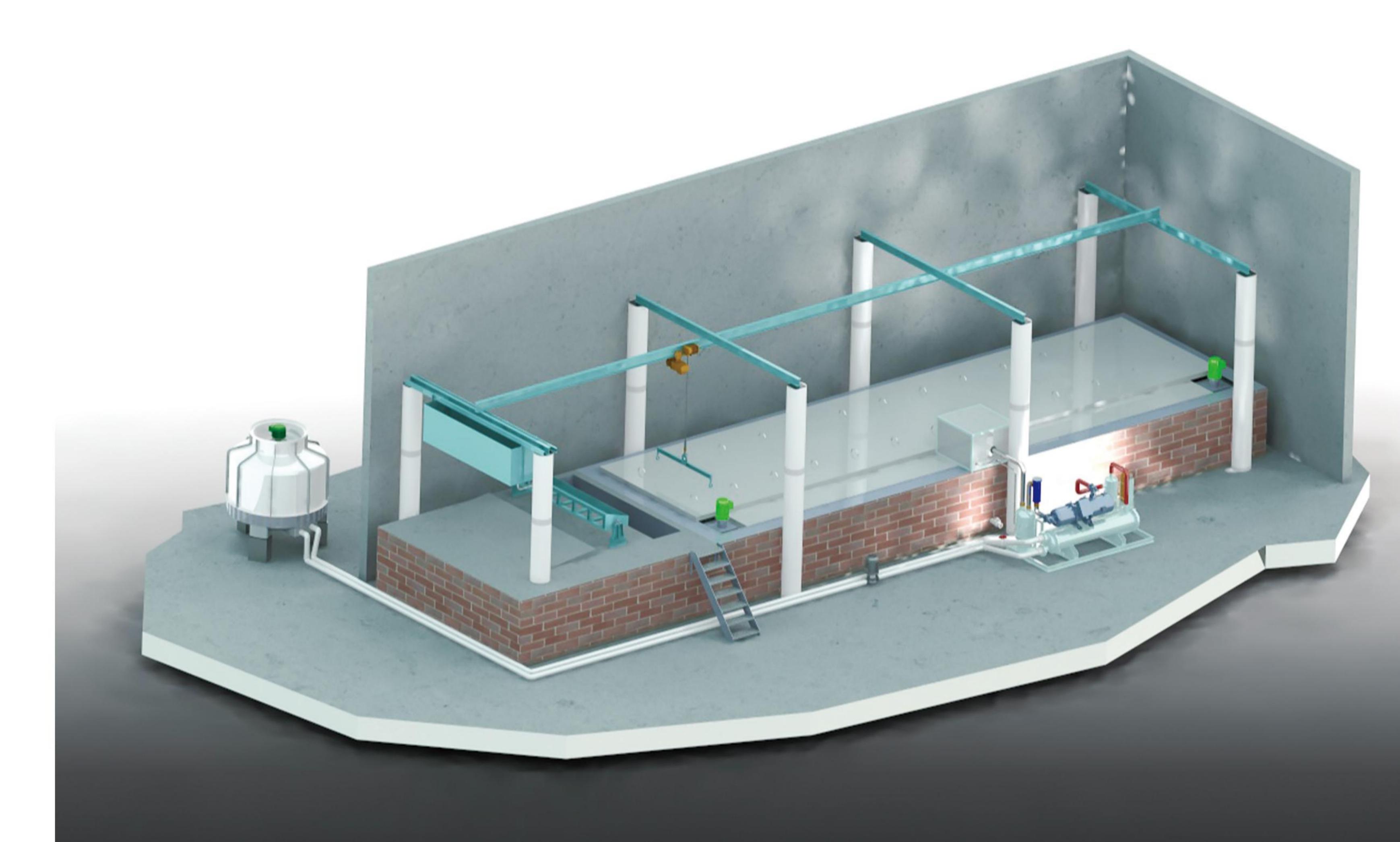
Ice machine capacit: 8Ton/24h
Rated power of compressor: 22.5KW
Rated power of agitator: 4KW
Rated power of cooling pump: 4KW
Rated power of cooling fan: 1.5KW
Ice machine size: 7330x2200x1350
Weight: 2300KG

### BBI10 10 tons Block Ice Machin

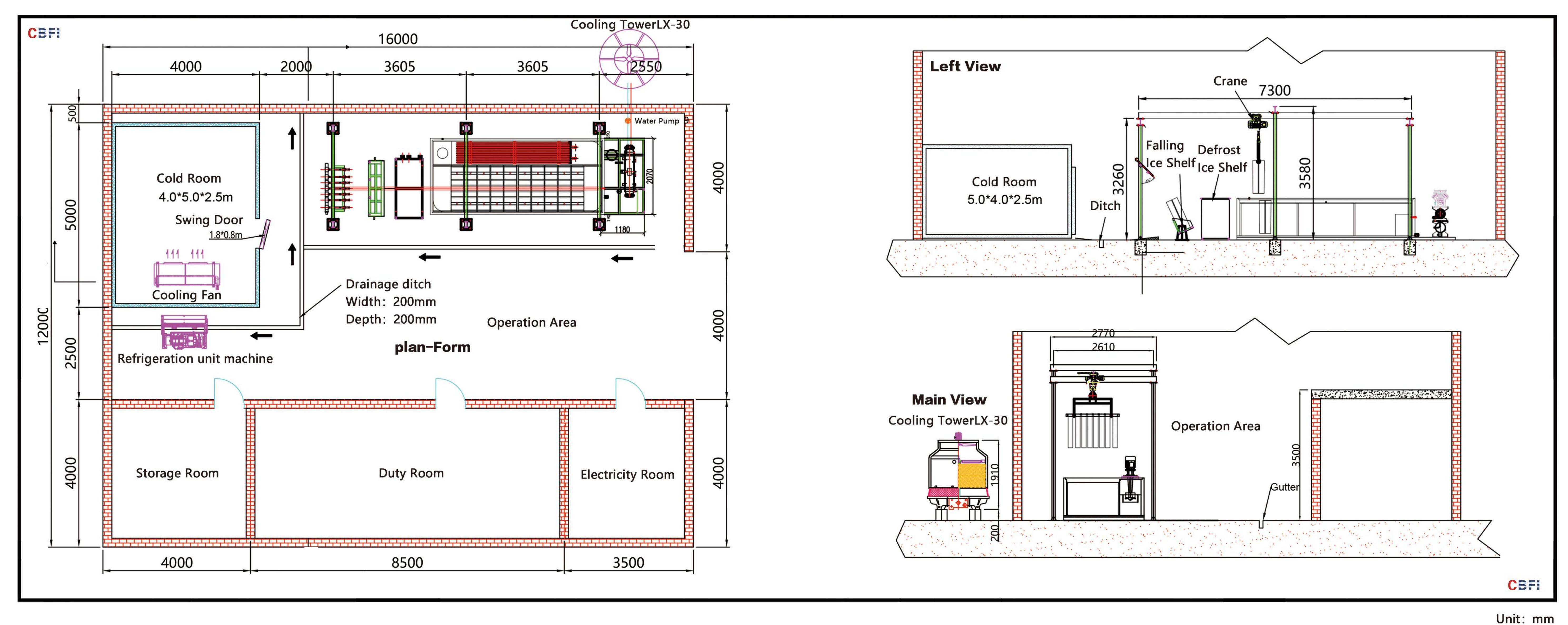
Ice machine capacit: 10Ton/24h
Rated power of compressor: 37.5KW
Rated power of agitator: 4KW
Rated power of cooling pump: 4KW
Rated power of cooling fan: 1.5KW
Ice machine size: 8860x2200x1700
Weight: 2700KG

# The refrigeration principle of block ice machine

The refrigeration process of brine water making ice: brine water ice system is an indirect cooling system, the refrigerant getting through the evaporator in the ice making tank absorbs heat through evaporation (from brine water), the brine water exchange heat with ice making water in the bucket, the water gradually freeze into ice and realize the ice making performance. In order to speed up the ice freezing, the agitator is used to circulate the brine water in even. Density of brine water is between 21% to 23%. And in order to decline the corrosion, the Sodium hydroxide and potassium dichromate is used to to achieve this effect.



# 5 tons industrial block ice machine factory design in sudan



With the development of society, the market demand for large ice is growing. Industrial ice is widely used in hospitals, schools, laboratories, research institutes and other occasions and supermarket food preservation, fishing refrigeration, medical applications, chemicals, food processing, slaughtering and freezing, amusement park color ice and other industries. For the extensive market of industrial ice, combing with many years experience in industrial ice equipment and market research feedback, Guangzhou Icesource company provide a complete ice plant design solutions to the customer on requests of different weight and shape of ice to achieve from design, construction to delivery integration, reducing the customer's investment.

### Offic. Illini

### The block ice machine factory design solutions for sudan.

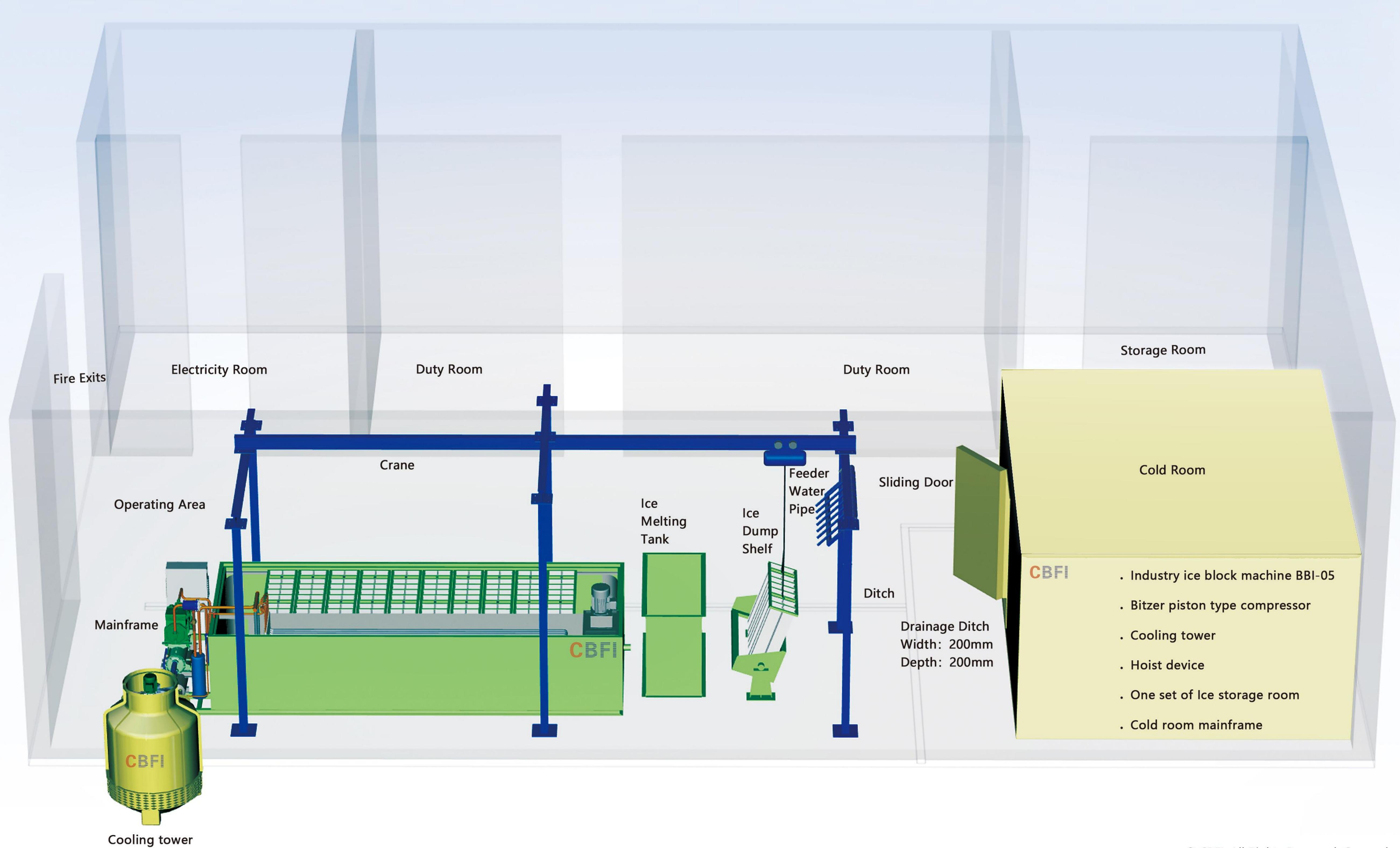
A company in Sudan is a local industrial ice production and supplier. To meet the growing market demand, they began looking for refrigeration equipment manufacturers. Guangzhou Icesource company provide a full set of solutions to the Sudanese company to build a new industrial ice plant.

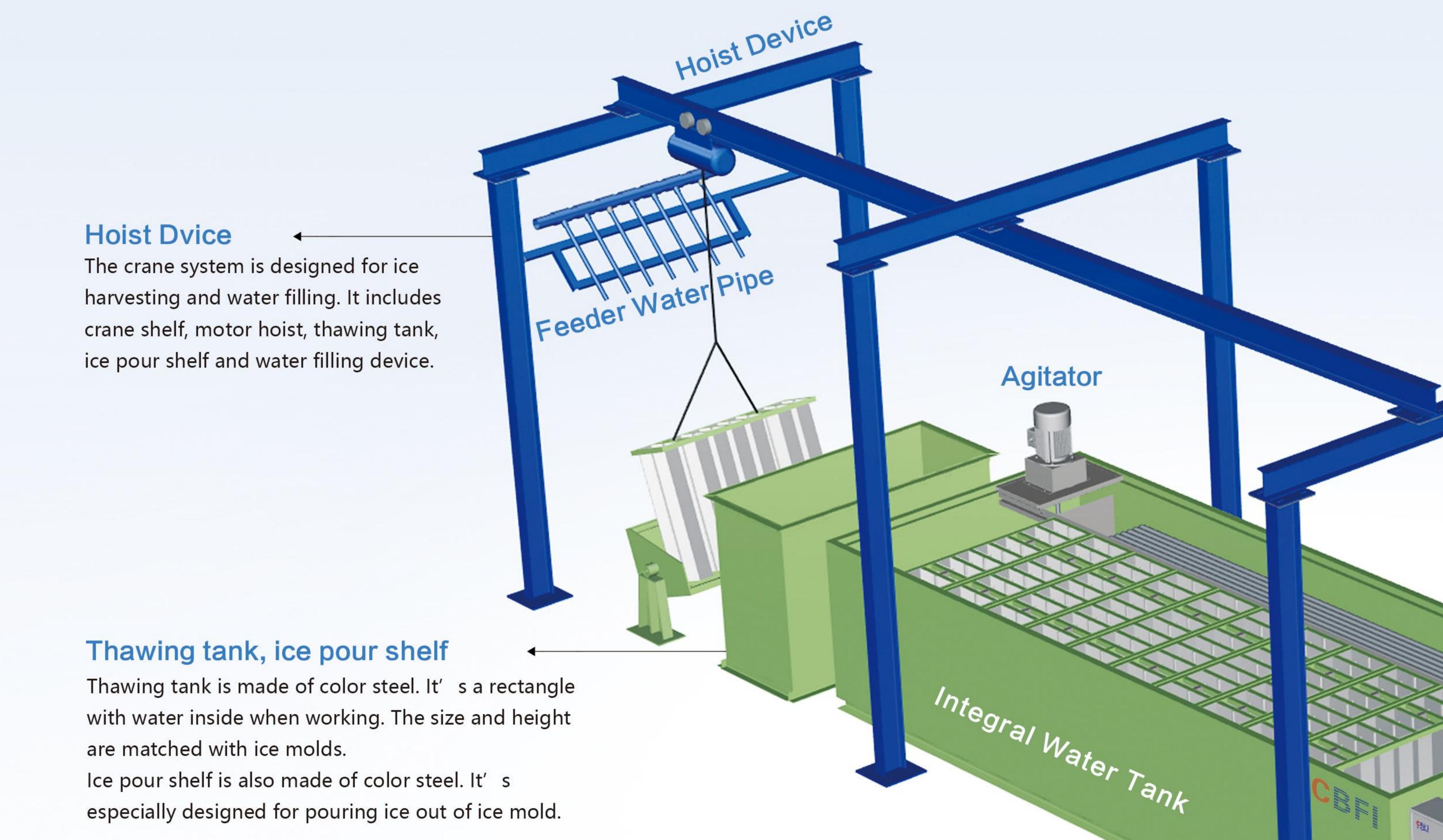
Standard facilities: 5 tons block ice machine, traveling crane, ice hook for taking ice, defrost ice tank, falling ice shelf; one set of ice storage; other support facilities, need to be equipped with duty room, storage room, electricity room. In order to improve production efficiency, block ice machine adopt cooling tower.

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# 5 tons industrial ice block machine simulated diagram.





### Brine water system

Brine water indirect ice block machine uses brine water as the agent of heat exchange, by cooling down brine water to absorb heat from water inside the ice molds, then water in molds freeze into ice. Brine water type machine is stable and easy to operate, it's very convenient to store and transport ice. Brine water system is the most widely used design to produce non-edible ice, its advantages are not only occupies a small area to install refrigeration system but also gains a larger heat exchange area.

### Agitator

Agitator can make the brine water heat exchange more efficient inside the ice tank. It's installed at the corner of ice tank. Agitator makes the brine water mix faster. It's more efficient and stable than water pump. Do not worry about the high cost of maintenance caused by damage to the water pump.



### Integral water tank

Water tank surface has anti-corrosion process, using three layers' paint. Paint is imported from US marine anti-corrosion paint, effectively enhance the anti-corrosion performance. Paint can stand low temperature. So water tank print can stay for long term. CBFI water tank life time is 35% longer than other factory's.

CBFI



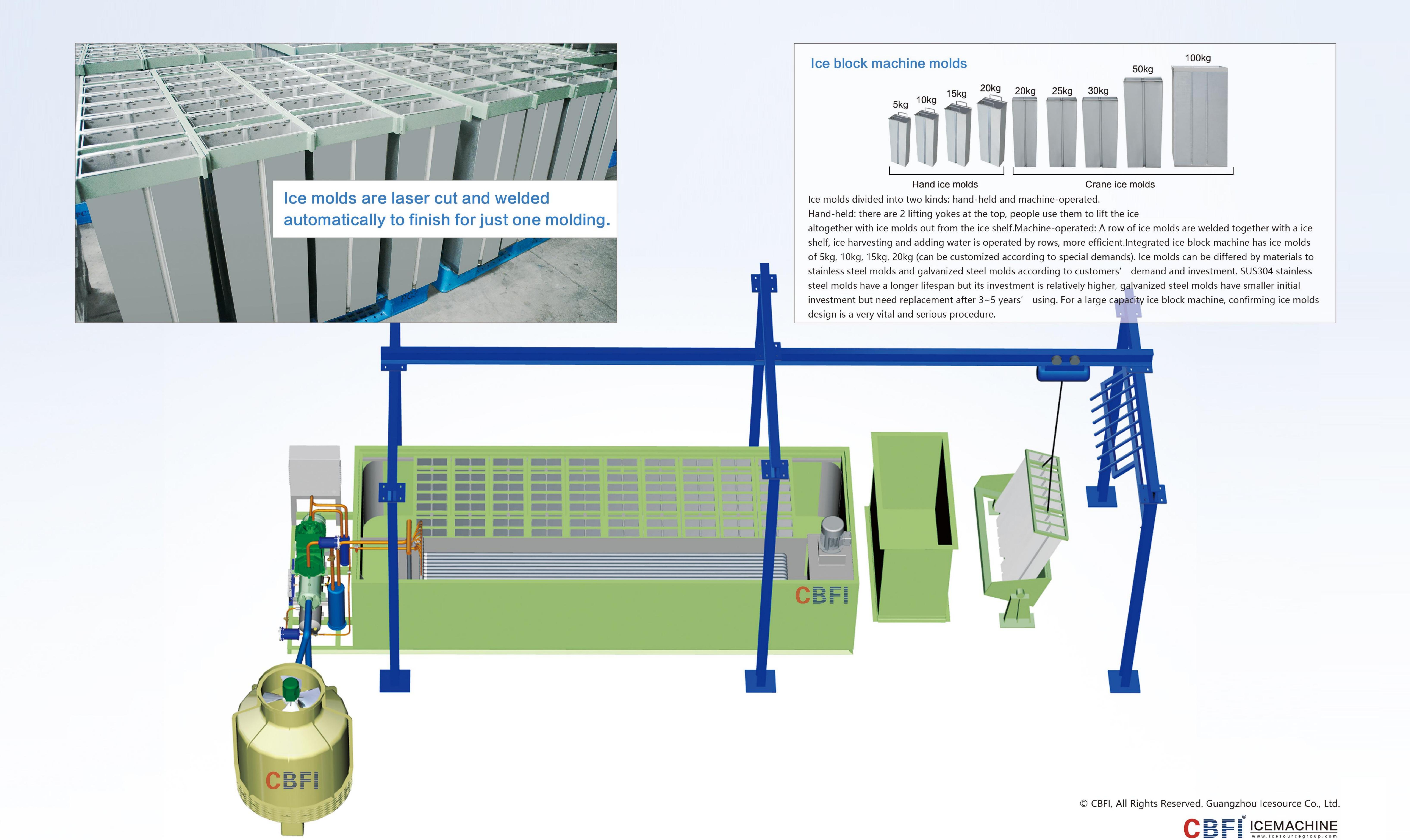


### Large capacity refrigerant reservoir

Our second generation of product line adopts large capacity refrigerant reservoir with intelligent controlling system we improved during the last 10 years, we can make sure that our ice machine won't have liquid strike inside the compressor while it's working under a large temperature difference situation, that makes our ice machine the best product to protect compressor which is the most vital component comparing like products.

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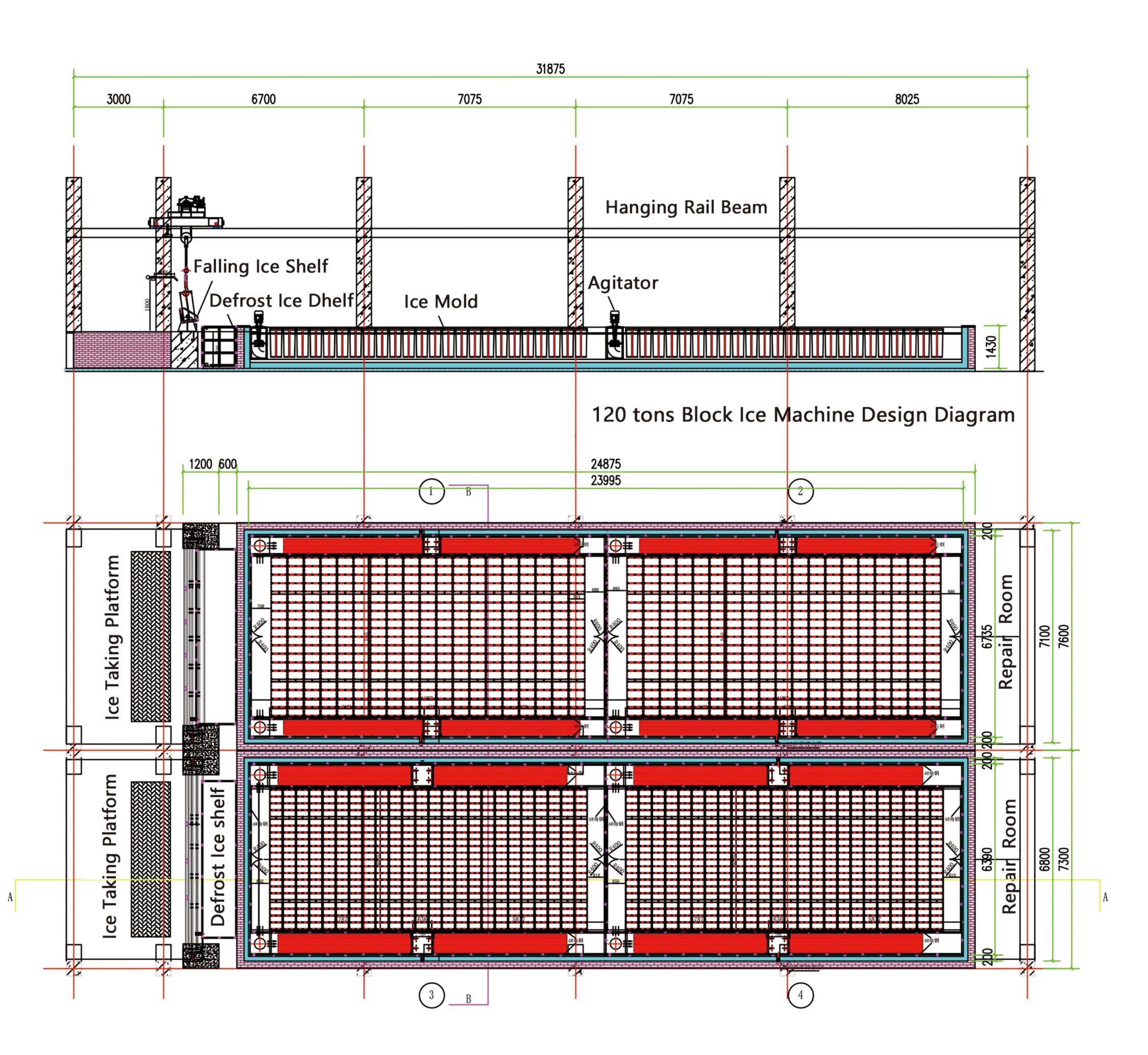




## Civil construction block ice machine

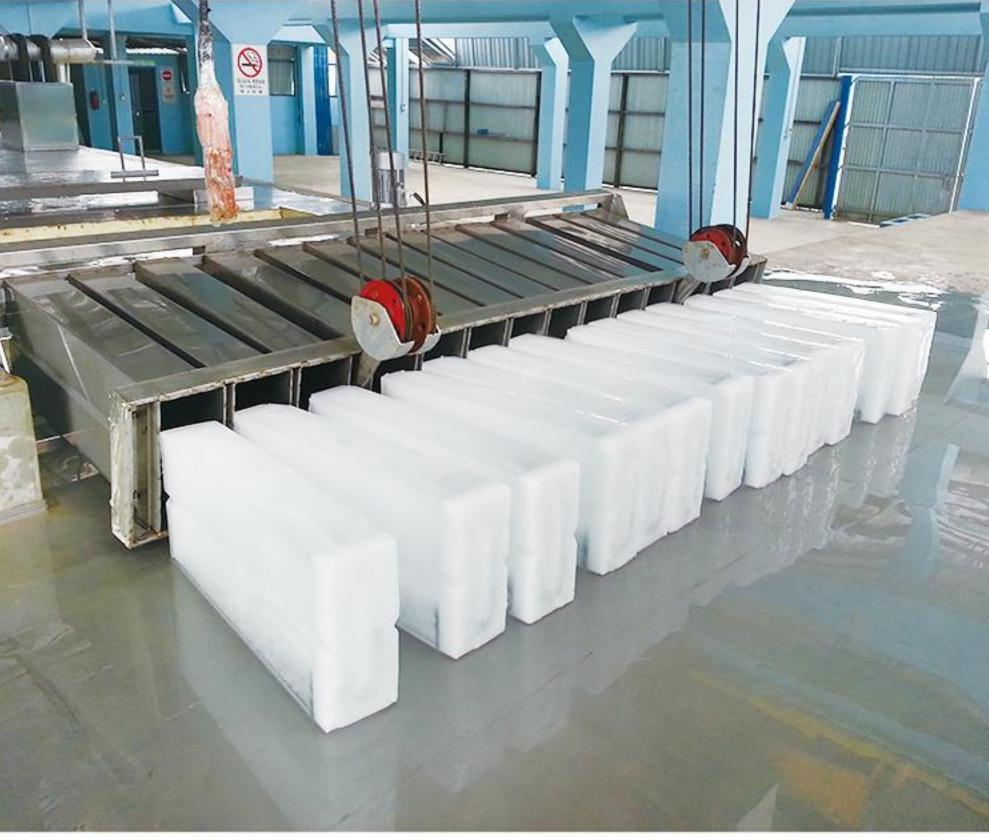
Big block ice machine above 20 tons adopt civil construction design. Civil construction block ice machine:

Bigger than 20 tons block ice per 24hrs to 100 tons per 24hrs (bigger than 100 tons per day) is usually defined as large block ice machine. It's necessary to construct in customer factory, The refrigeration unit, ice mold is completed in the factory brine water tank production, installation, commissioning will be done in customer factory.

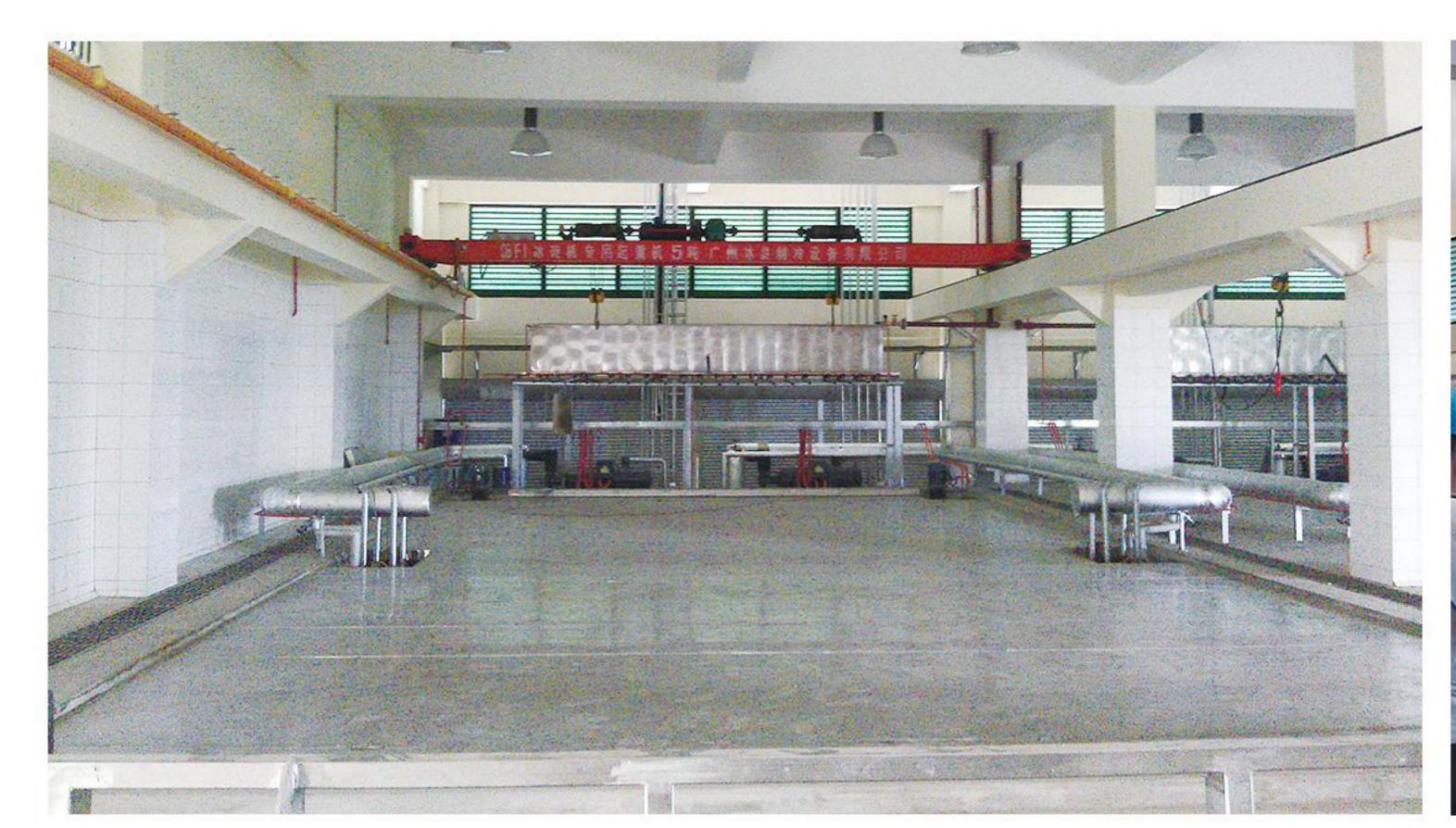


# Large civil construction block ice machinex



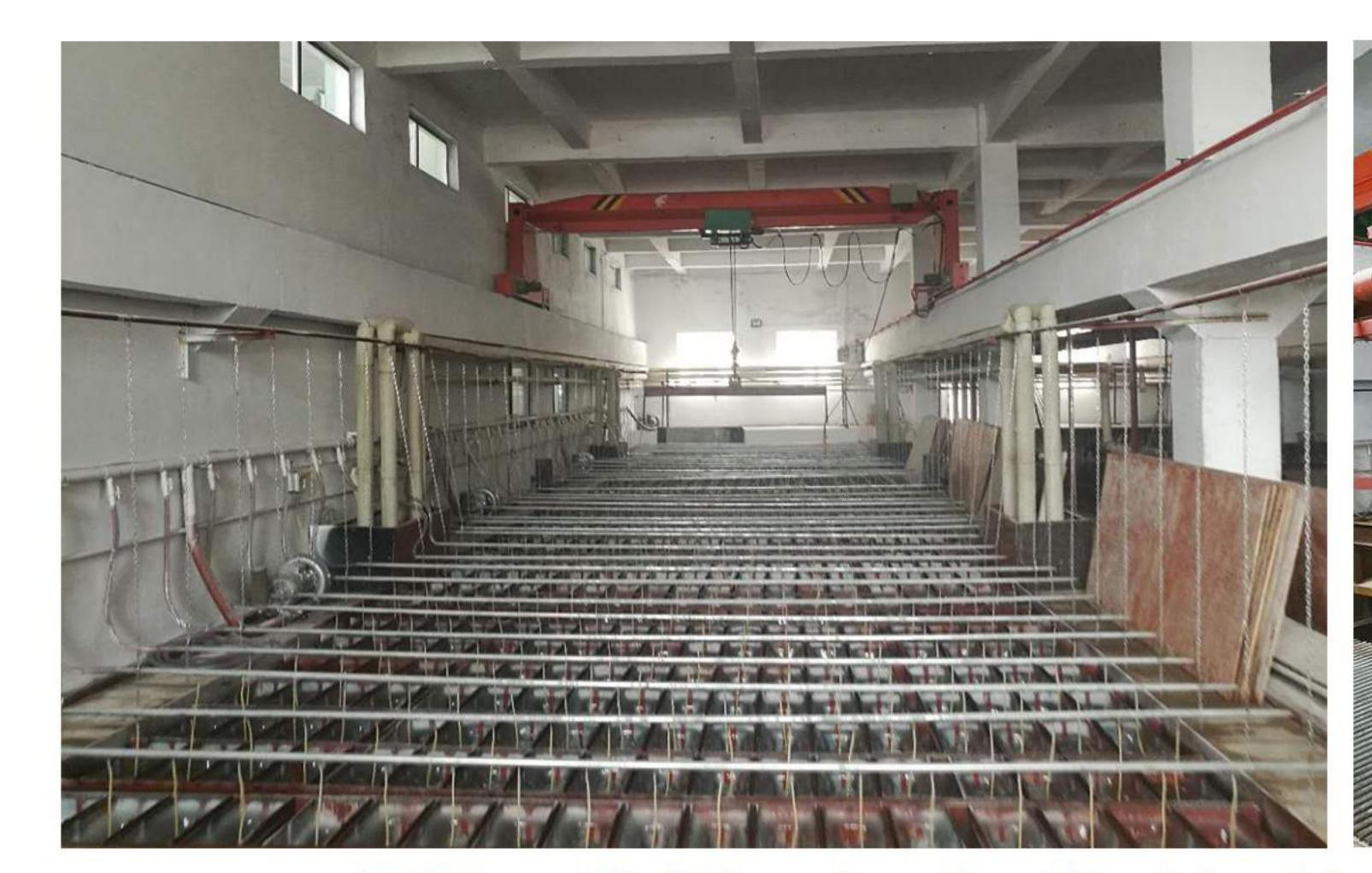


60 tons Civil Construction Block Ice Machine





100 tons Civil Construction Block Ice Machine





120 tons Civil Construction Block Ice Machine (Transparent ice)

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# 120 tons industrial block ice machine ice factory design in Philippines

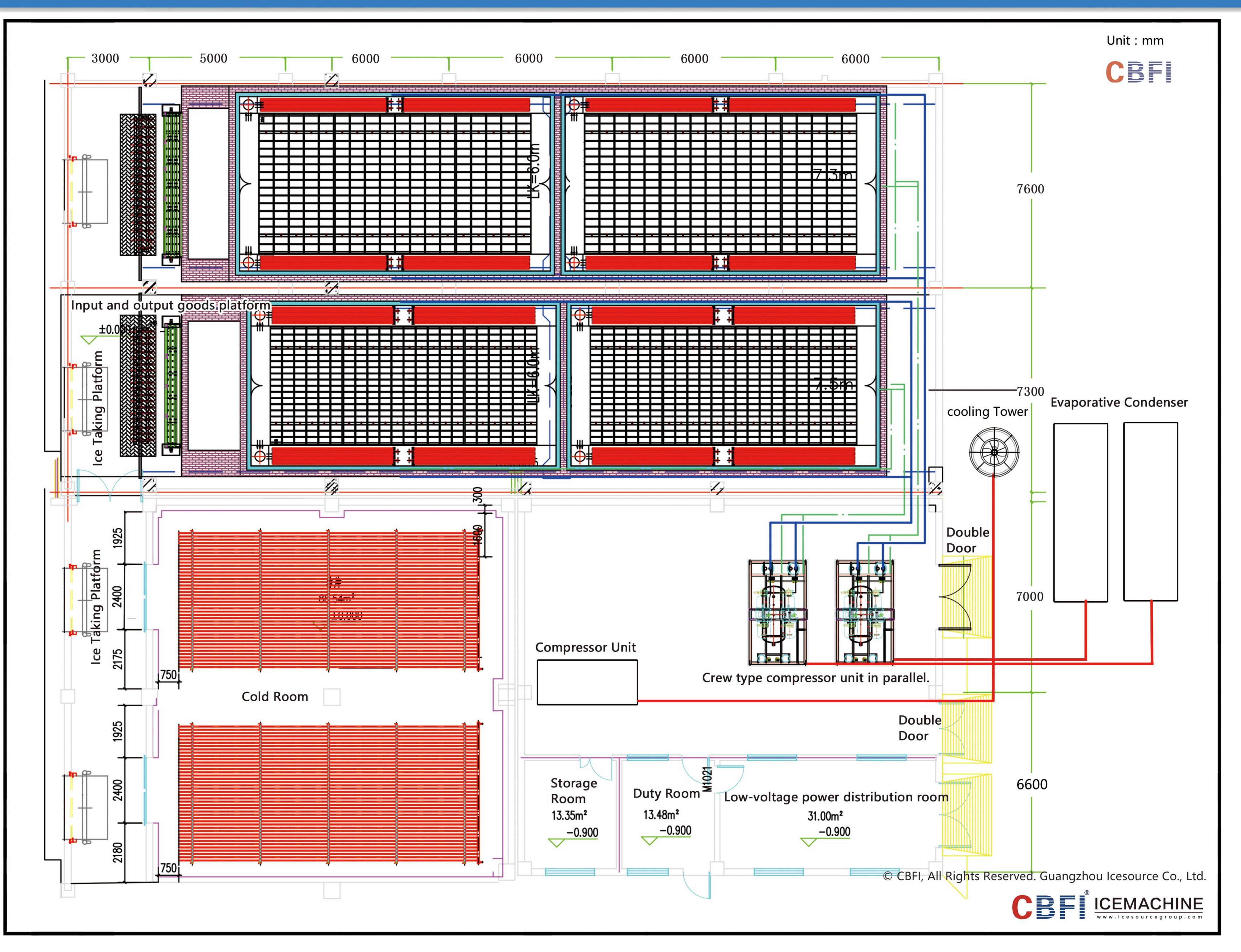
# The Solutions of Civil Construction Block Ice Machine Ice Factory in Philippines

A company in Philippines is the local industrial ice production and supply giant. To meet the growing market demand, began looking for refrigeration equipment manufacturers. Guangzhou Icesource company provide a full set of solutions for the Philippines company to build a new industrial ice plant.

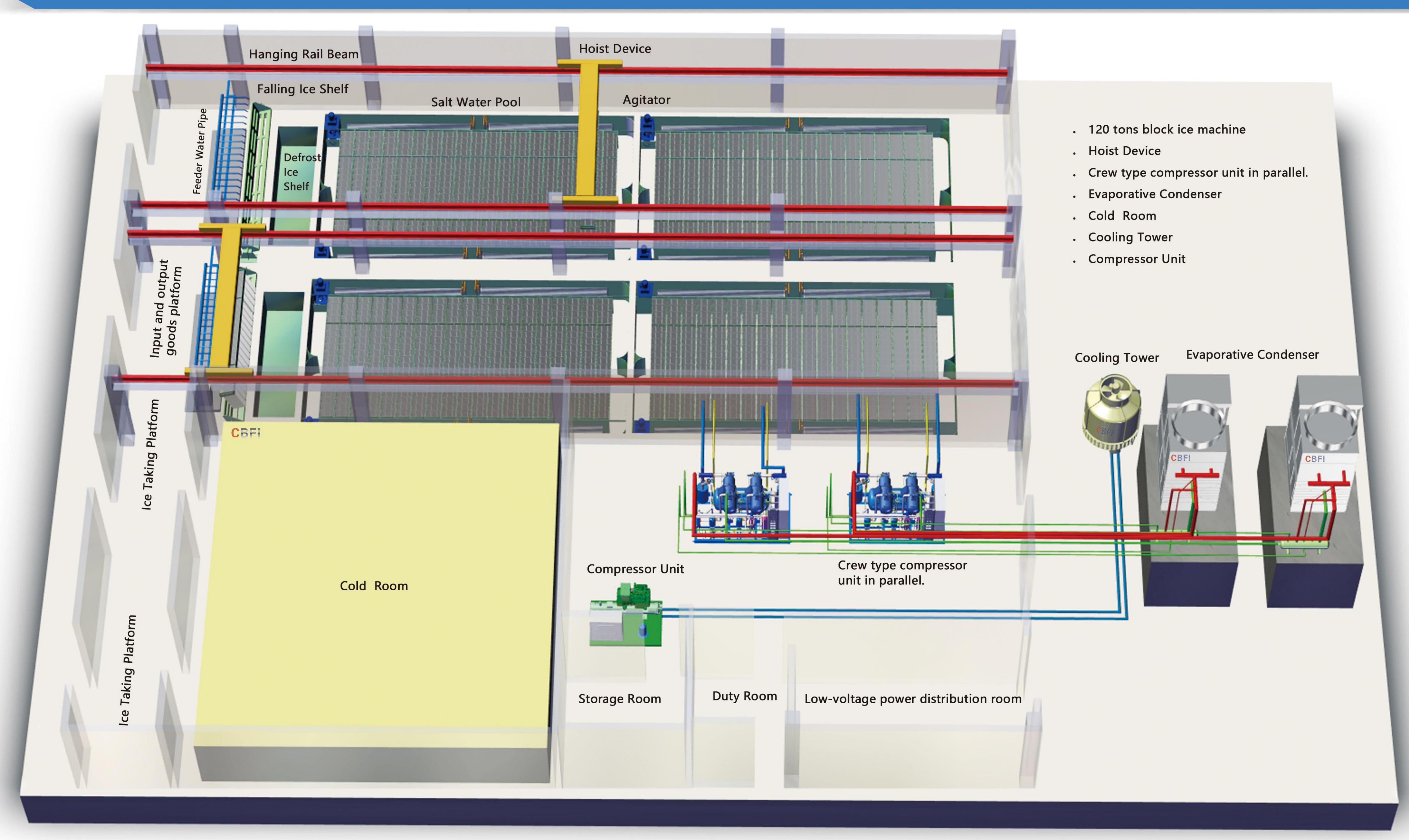
Standard facilities:

120 tons civil construction block ice machine,
traveling crane, ice hook for taking ice,
defrost ice shelf, falling ice shelf;
two set of ice storage;
other support facilities,
ice taking platform,
storage room,
duty room,
low pressure electricity room.
In order to improve production efficiency, block ice

machine adopt screw type compressor unit in parallel.



# 120 tons industrial ice block machine simulated diagram.



### Coil pipe evaporator

CBFI's patented coil pipe evaporator adopts special seamless steel tubes whose thickness is 3mm. Each tube will be detected with X-rays to make sure there is no flaw, inside tubes we adopts abrasive blasting treatment to remove rust. The evaporator we produces are clean, sustainable and effective, each tube can work 20 years after acid pickling and anti-corrosion treatment. Our coil pipe evaporator almost need no special preservation during the lifespan, the frequency of regular oil changing and filter element replacing is 2/5 of the traditional systems.

### **Evaporative Condenser**

Features: Compact structure, small occupying area, water saving, energy saving, modular design, long lifespan, independent operation unit, stable and reliable.

- 1. Good energy saving effect
- 2. Good water saving effect
- 3. Integrated design with lower investment
- 4. Long lifespan



CBFI adopts our unique patented multi-dimensional turbulence heat exchange technologies (Patent No. 20161077242.1) on the heat exchange passage of our ice machines. The flowing speed of brine water is up to 0.5m/s, relative flow is up to 450m³/h (ordinary products are only 200m³/h), heat exchange efficiency is improved 35%, energy consumption reduced to 75kWh per ton of ice. Comparing to traditional design, we can save you more than 30kWh to produce 1 ton of ice.

Coil pipe solved the problem of damaging coil pipe by evaporator freezing. Cause by the lower salt concentration.

Coil Pipe Evaporator

**Evaporative Condensing** 

### 180° Hydraulic Bending to Shape in One Molding -

Coil pipes evaporator use 180°hydraulic elbow molding method, reduced the welding point. Also reduce the possibility of evaporator leakage. Coil pipes thickness is larger than copper pipes.

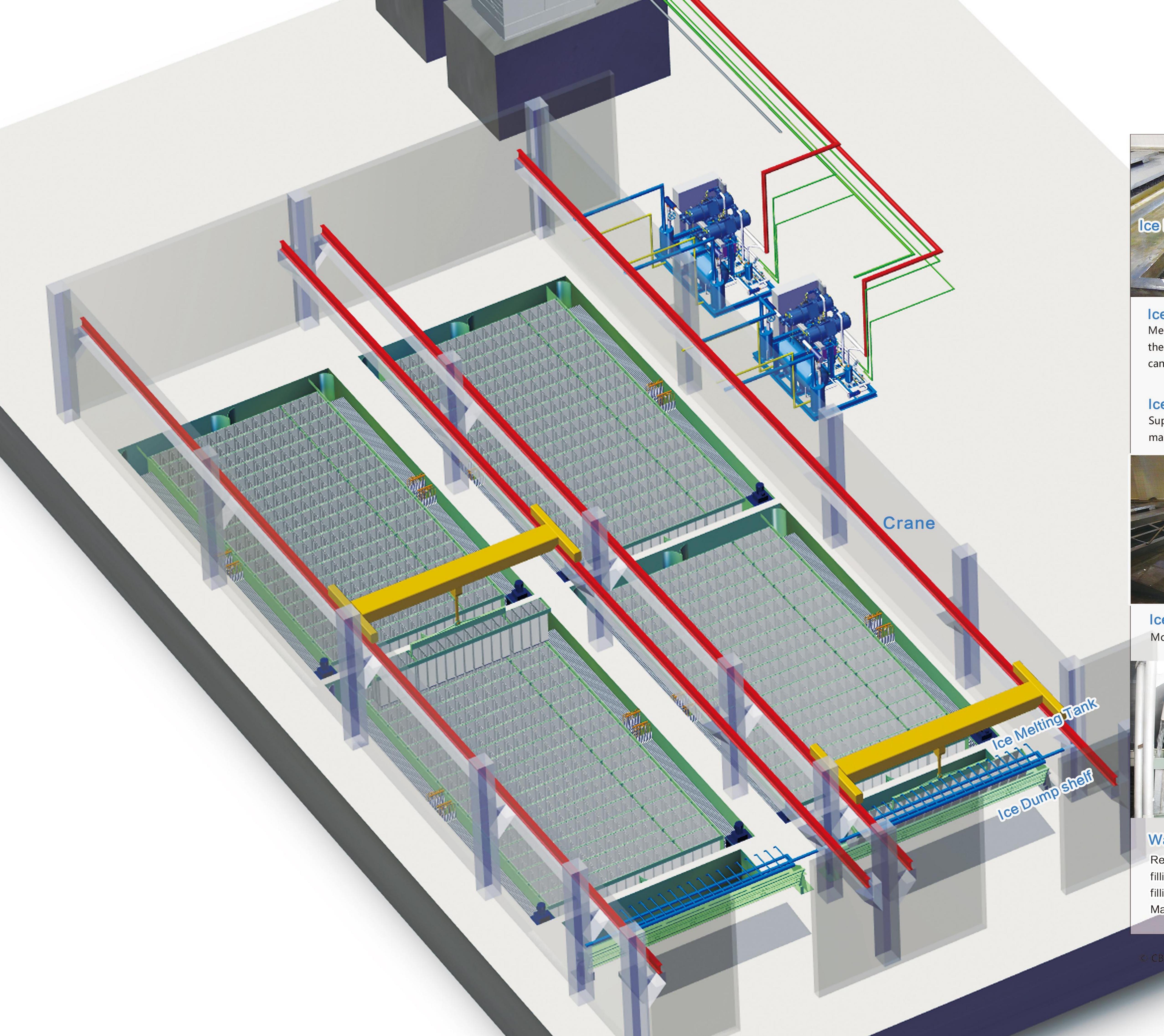
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Refrigerant Distributor

Distribute the refrigerant

evenly into the pipes.





### Ice Melting Tank

Melting ice tank put normal water for melting the ice which stick with the ice mold, then ice can come out smoothly from the ice molds.

### Ice Dump Shelf

Supporting a row of ice, make the ice come out by tilting.



### Ice Taking Platform

Moving block ice easily to cold room or truck.

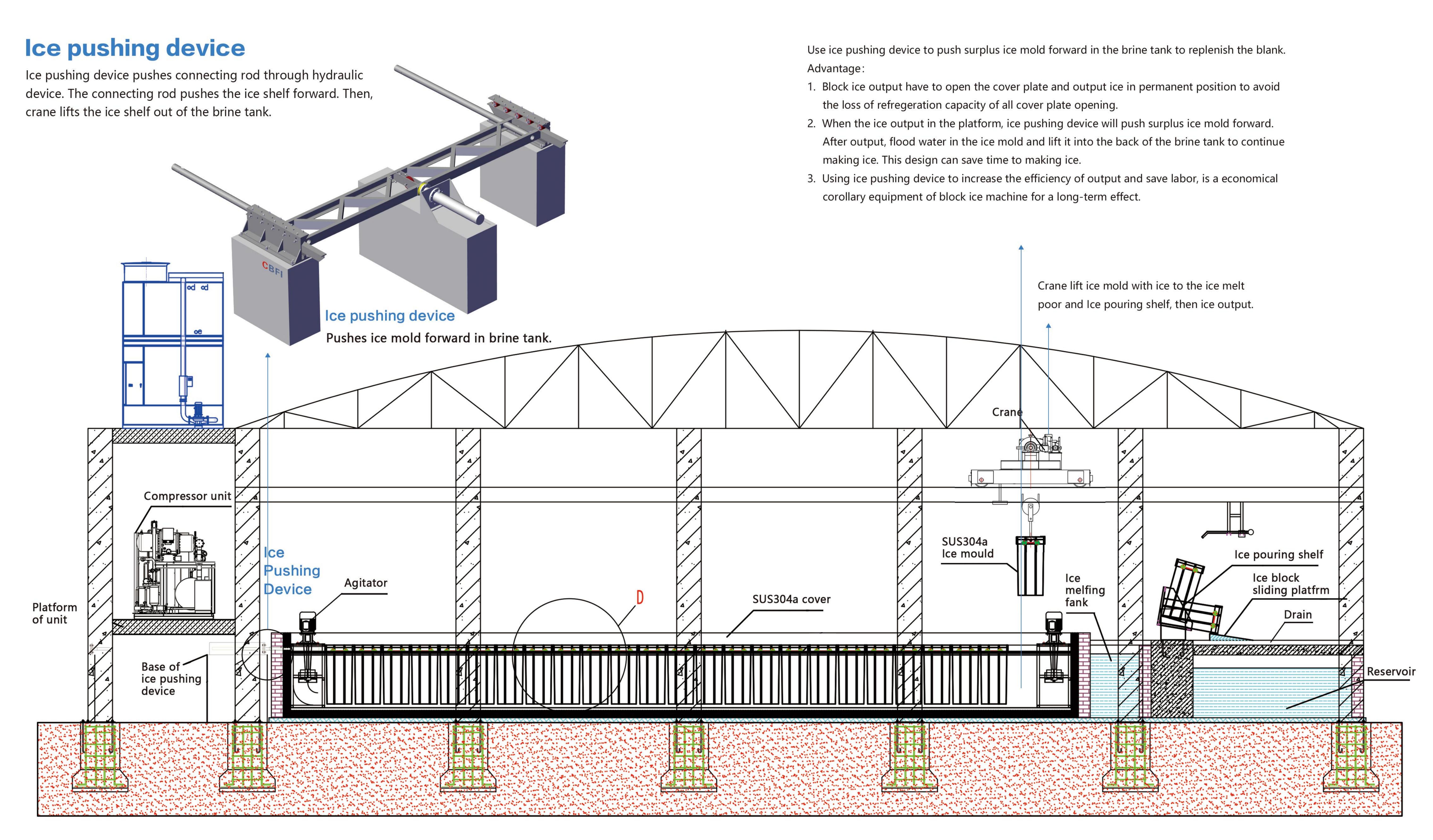


### Water Feeding Equipment

Reduce the high cost and low efficiency for filling water by manpower, shorter the time for filling water, and improve the working efficiency. Making ice faster and save manpower.

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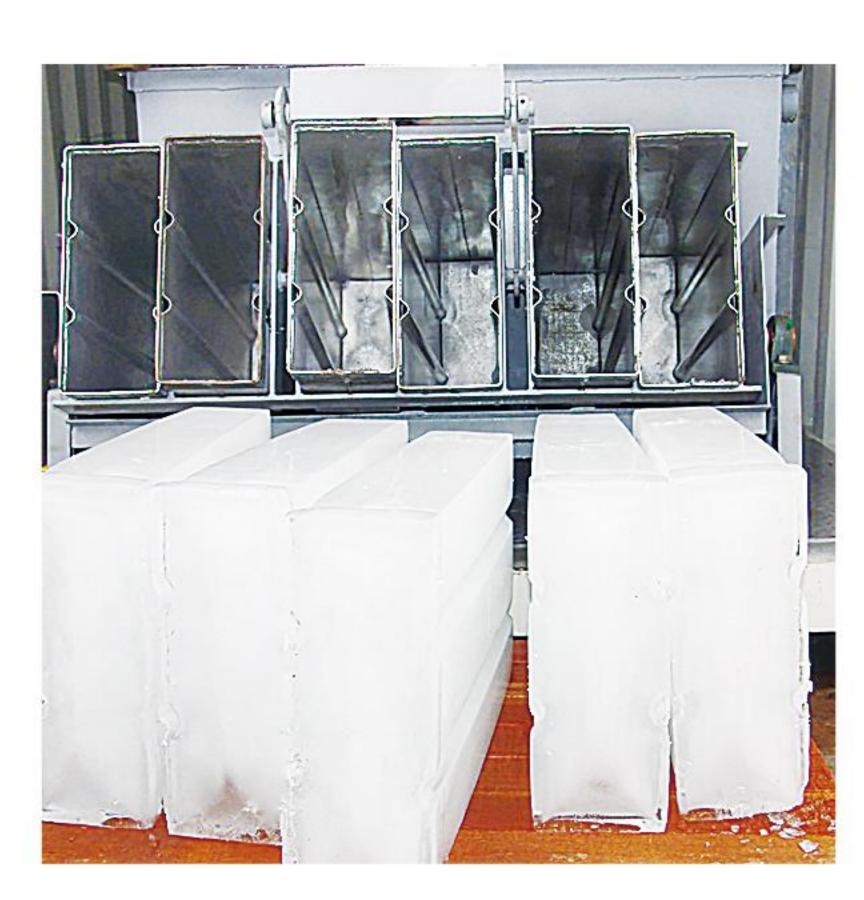


## Block Ice

The contact surface of block ice is small, not easy to melt.

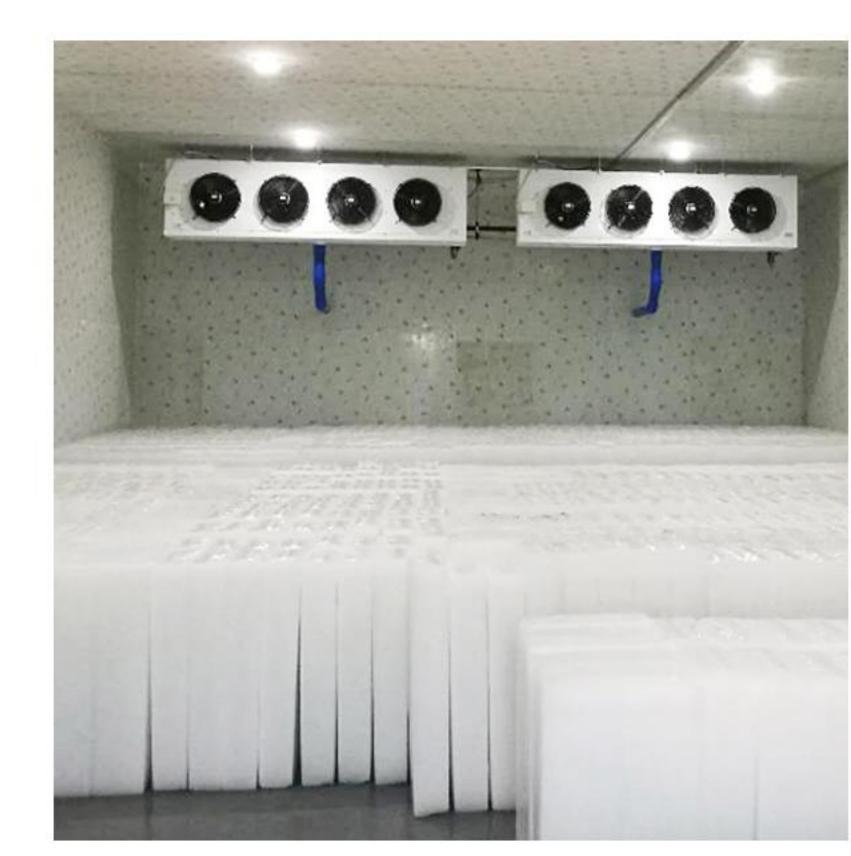
The contact surface of crushed block ice is large, good for cooling goods, keeping fresh.



















## Application

Block ice has big surface, big cold storage, melting slowly, cost low. The size of block ice can be customized by different size of ice molds. Also can be crushed based on different requirement, crushed ice can be used for all industrial fields.





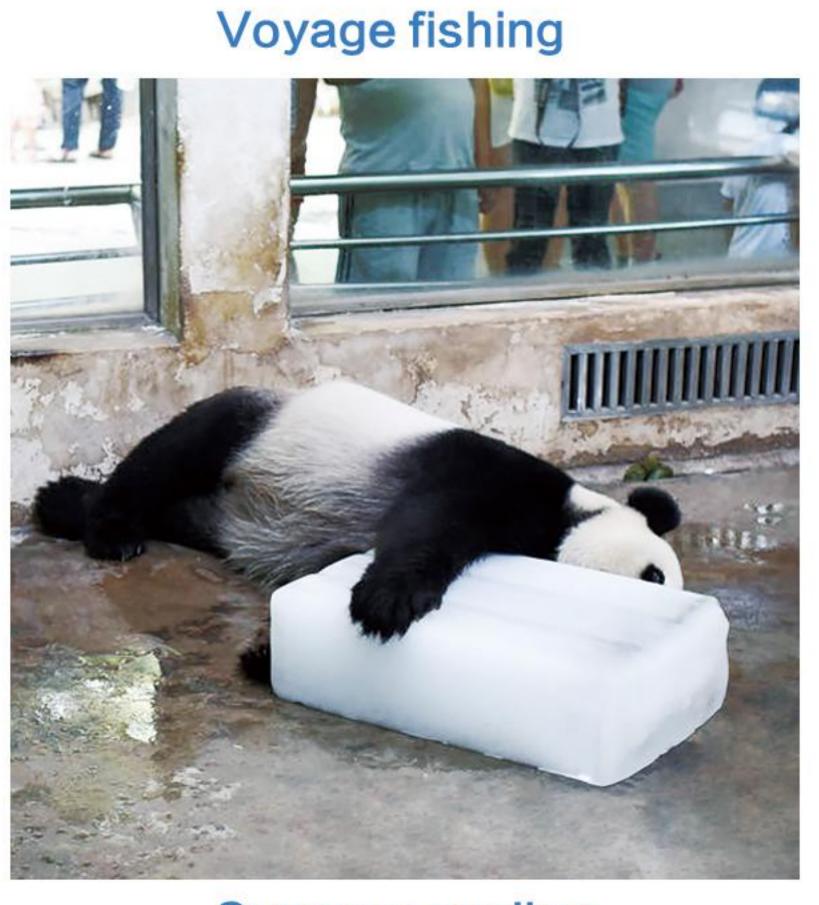
















Summer cooling

long distance transportation

Keeping fresh for meat



### Persistence of improvement of product performance

Improve the products, enhance the stability and enlarge the production.

### Persistence of development of new products

Independent research and development, innovation-oriented, to meet the changing needs of customers.



## Only for one promise

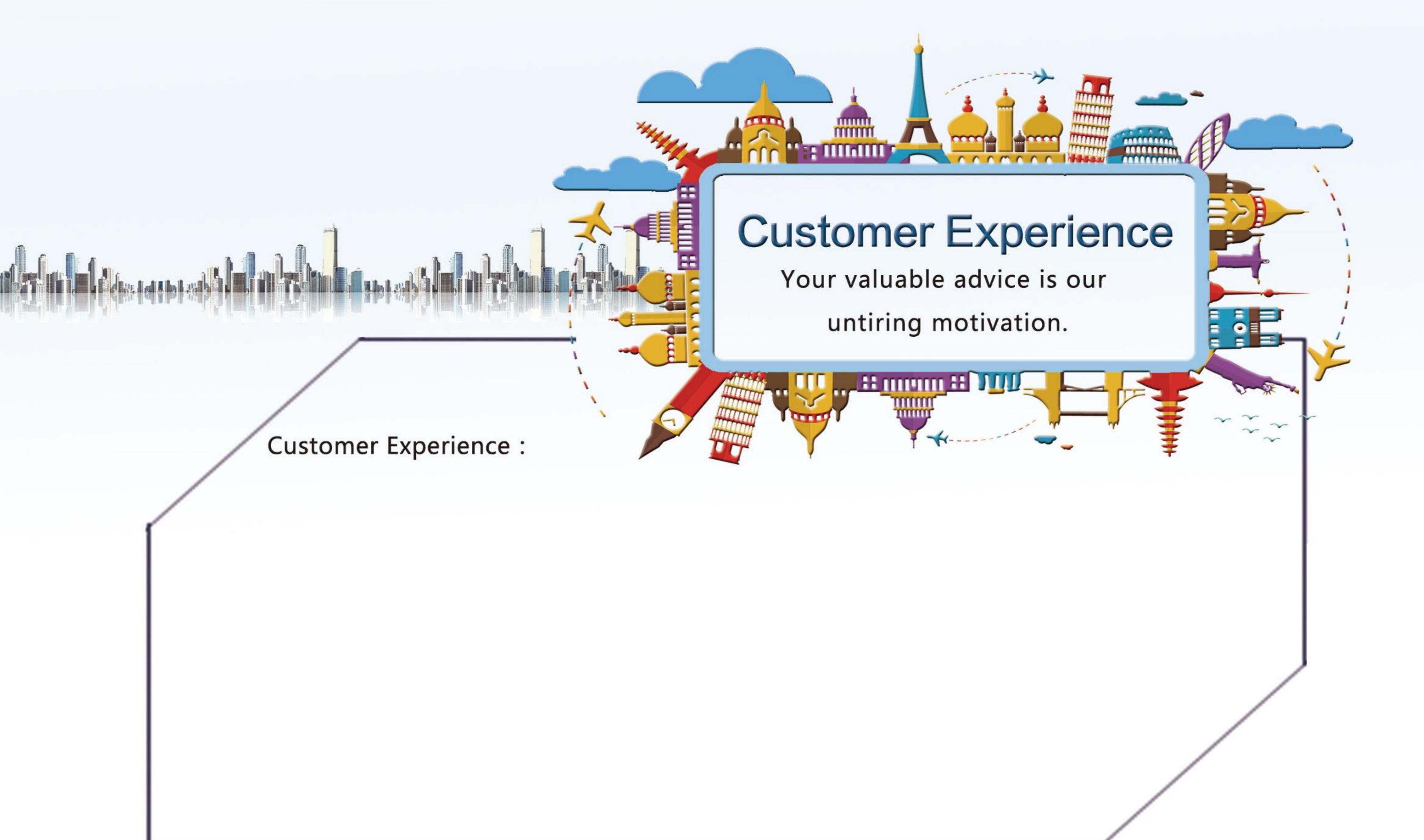
# CBFI

Customers Benefit

From Icesource

### Persistence of assurance of products quality

High quality accessories, professional production equipment, standardized production process.



### Dear customer:

Welcome to Guangzhou Icesource Refrigeration Equipment Co., Ltd.!

With the social development and the continuous improvement of production level, the ice industry covers more and more area, the requirement for the quality of ice is getting higher and higher, the demand for "high performance, low failure rate, health" ice machine becomes more urgent, ICESOURCE is consistent with providing the best quality service to customers.

### Customer Individual demands filling out forms

- 1. Which country will you use this equipment and what is the industrial 3 phase power supply over there.
- 2. Is this your first time doing the business or have been doing this business already.
- 3. Which kind of ice machine are you interested and how many tons per 24 hrs you need. Besides will you use this ice for your own business or sell to customers.
- 4. Do you only need ice machines or a complete ice factory solutions.
- 5. Is your factory ready for the machines or its a bare land and whats the length, width, height of it. (In meters or feet)
- 6. Whats the average temperature over there, whats the highest temperature in hot season and lowest temperature in cold season.
- 7. Will you use the government power or a generator, is the power from government stable or you also considering use the generator as backup.
- 8. Is the water from tap or from the underground, what about the water conditions, is it drinkable.
- 9. Installation of the machine is simple, do you know some people who knows about electricity, refrigerator or refrigeration over there in local.
- 10. If you have any other requests, please write it here.

Guangzhou ICESOURCE adhering to the philosophy that technological innovation is the untiring power of the development and expansion of the company, and always unswervingly take the road of independent research and development. The affirmation from customers makes us more confident and more firm on product innovation, to fight for a better and better quality.

## Block ice machine domestic customer case

CBFI Block Ice Machine has been exported to many countries and area. Its excellent quality get great reputation from customers at home and abroad!

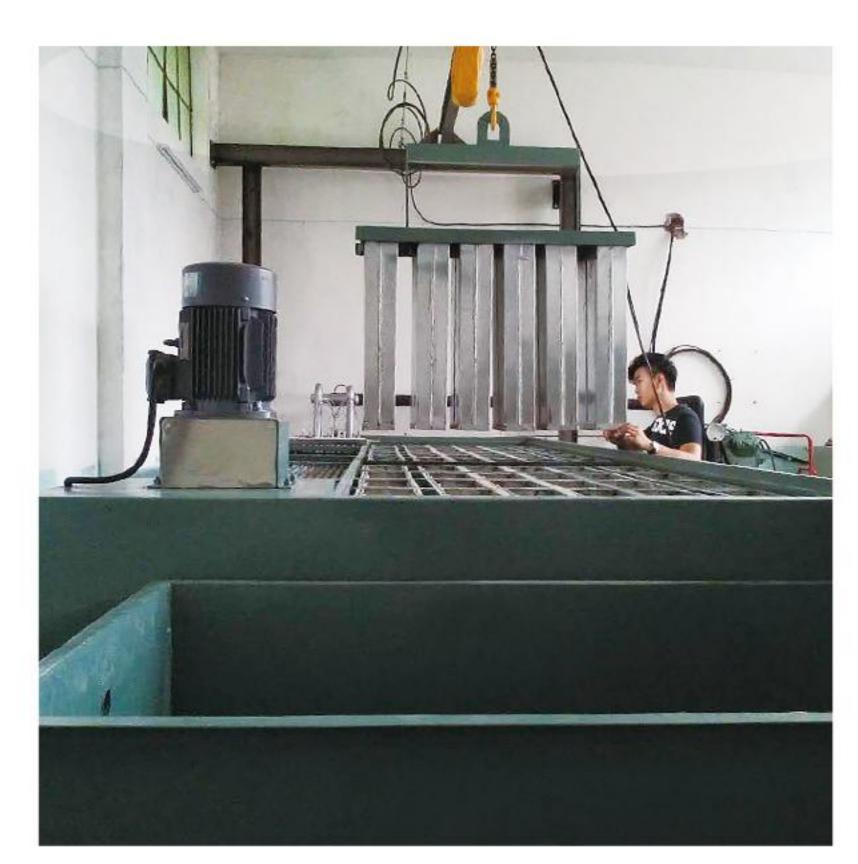




Hunan 12.5 tons Block Ice Machine



Guangzhou 80 tons Block Ice Machine



Hubei 5 tons Block Ice Machine



Guangxi 20 tons Block Ice Machine



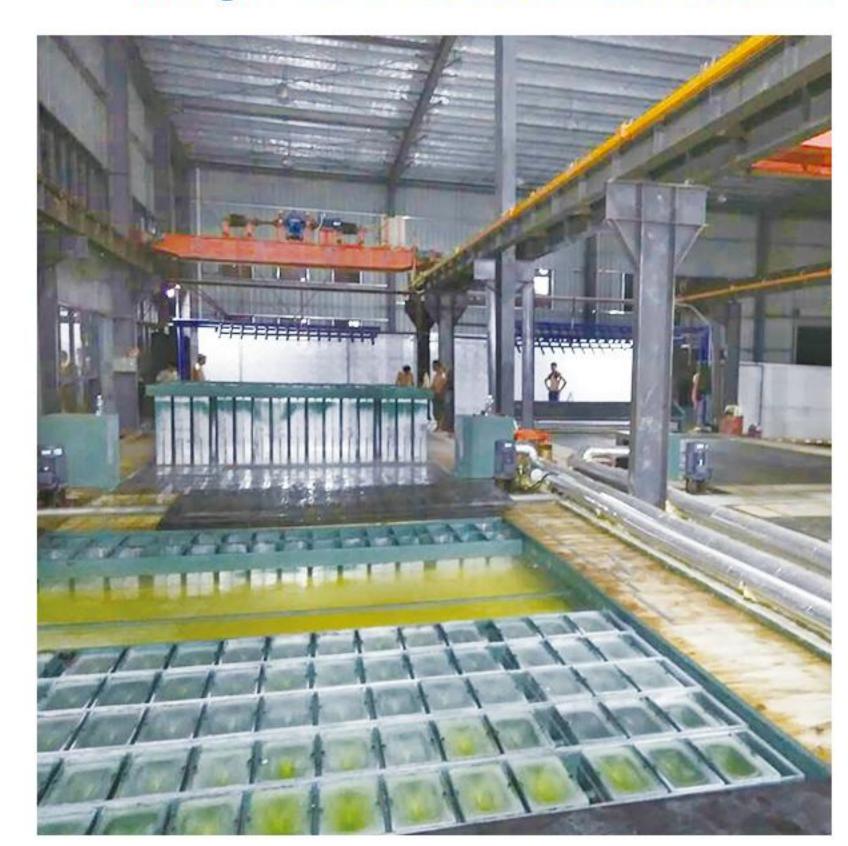
Sanya 80 tons Block Ice Machine



Nanchang 10 tons Block Ice Machine

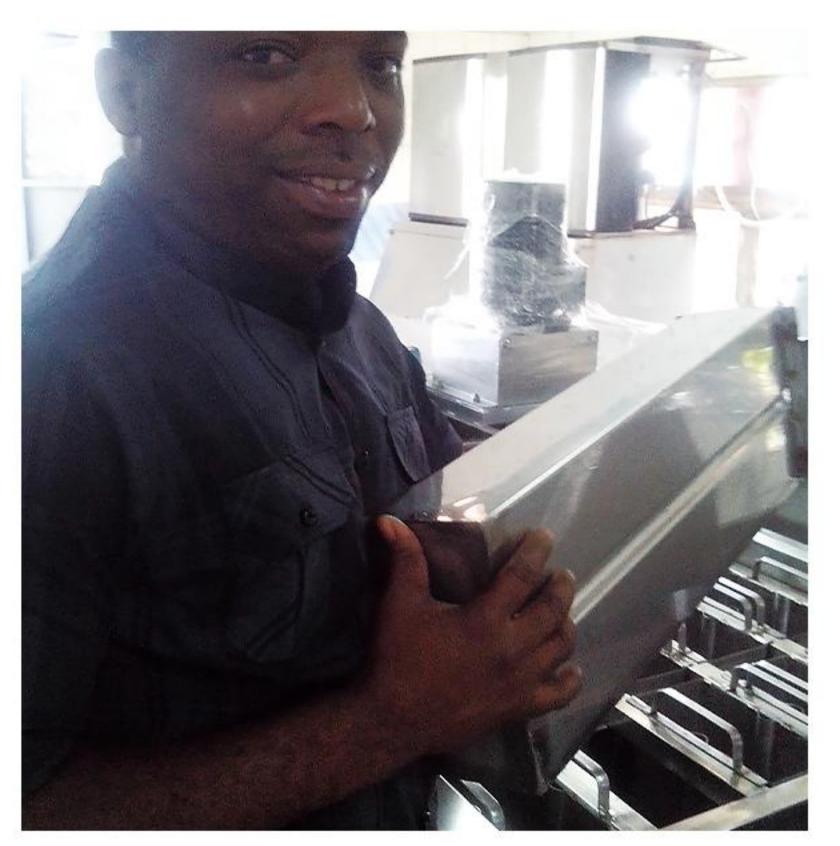


Jiangxi 20 tons Block Ice Machine

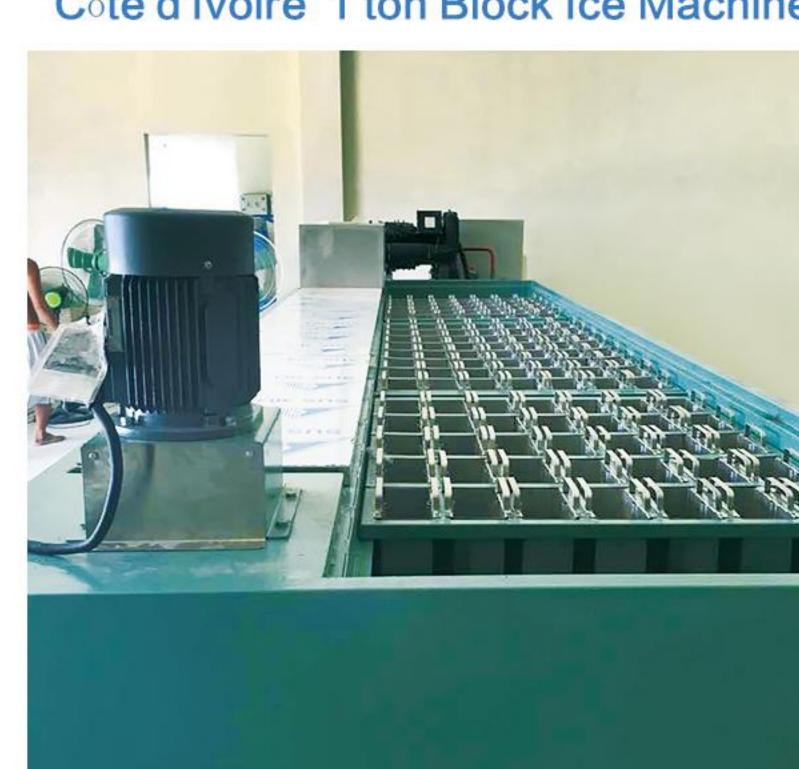


Fujian 95 tons Block Ice Machine

### Block ice machine international customer case



Côte d'Ivoire 1 ton Block Ice Machine



Philippines 5 tons Block Ice Machine



Chad 12 tons Block Ice Machine



Nigeria 1 ton Block Ice Machine



Congo 10 tons Block Ice Machine



Sudan 20 tons Block Ice Machine



Niger 5 tons Block Ice Machine



Zambia 10 tons Block Ice Machine



Malaysia 100 tons Block Ice Machine