



Guangzhou Icesource CO., Ltd.

Industrial Flake Ice Machine

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



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FLAKE ICE

Thin, dry and loose white ice, irregular shape, large contact area, rapid cooling, transportation convenient

FLAKE ICE APPLICATION



Aquatic Cooling



Concrete cooling



Chemical cooling

HISTORY BACKGROUND OF FLAKE ICE MACHINE

1977

Traditional Industrial Flake ice machine

In 1977 the United States North Star refrigeration developed. Relatively early birth of a traditional industrial ice machine, initially small production, mainly for fisheries, seafood preservation and food processing, after the application in the pharmaceutical industry, logistics and distribution industry, the concrete industry.

2004

Guangzhou Icesource CO., LTD

In 2004, CBFI set up Vista refrigeration research room, began the concept of energy saving and environmental protection refrigeration.

2017

Small Edible Flake Ice Machine

CBFI lasted two years of research and development Small Edible flake ice machine , from a specific industrial use to a wide range of edible sites, for small and medium-sized investment in supermarkets, restaurants, cold drinks, home, convenience stores Is very ideal for small edible ice machines.

2018

Global Fisheries Development

Through cooperation with Africa, Southeast Asia and other regions, even areas 12,000 kilometers away from the North Pole can have extraordinary aquatic preservation solutions to promote local fishery development

2022

International Leading Position

CBFI concrete mixing cooling system and intelligent chemical cooling system have reached the international leading level and have provided one-stop automated ice storage solutions for many countries and regions around the world.

Future

In The Future

CBFI will continue to focus on R&D and innovation, and strive to provide customers with better products and services, actively respond to customer needs, and promote the continuous progress and development of the industry.



- 1 The flake ice machine(1-60 tons daily capacity) The flake ice has a large contact surface and can be rapidly cooled and thoroughly mixed without sharp points to damage the product to be cooled
- 2 The flake ice machine is a leader in fast and large-scale refrigeration projects, and is widely used in supermarket food preservation, fishery protection, food processing, concrete cooling
- 3 Our ice cutter and the flake ice machine itself can continue to work. The capacity of a single unit ranges from 0.3 to 60 tons per day to meet different needs

Flake ice machine design structure diagram

Industrial Flake Ice Machine

Advantage:

- Spiral skateboard design, no damage to the ice blade.
- Continuous butt welding, to ensure that the evaporator is not easy to deformation.
Reduce the mechanical resistance of the ice machine when it is running.
- Smooth flow, low resistance, improve the cooling effect, reduce energy consumption.
- Ice thickness uniformity, covering a large area, dry and non-stick.



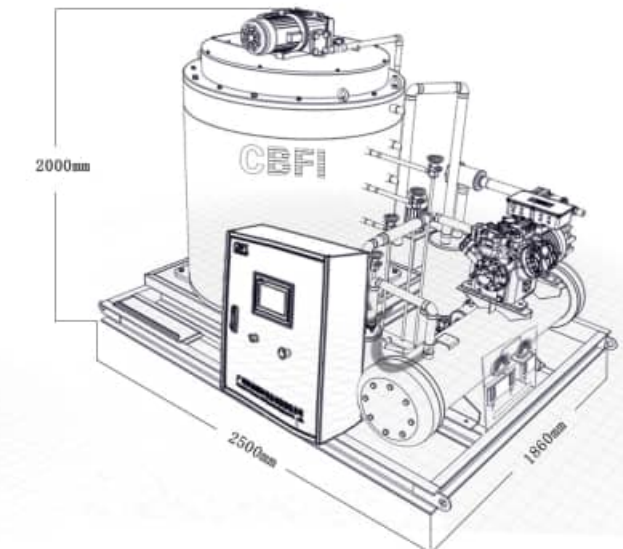
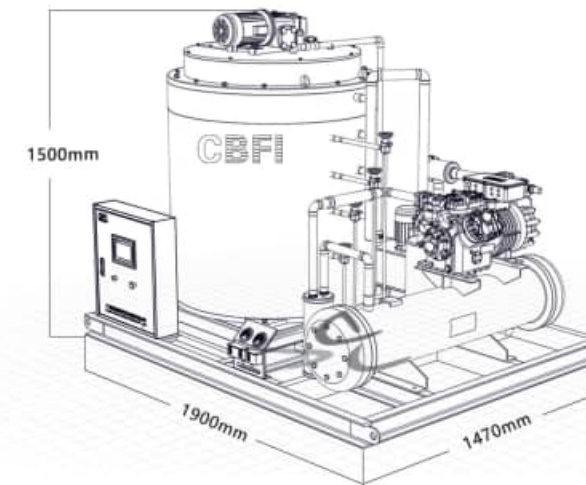
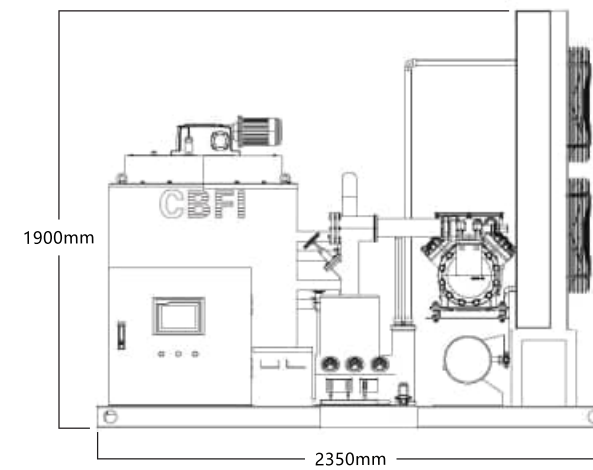
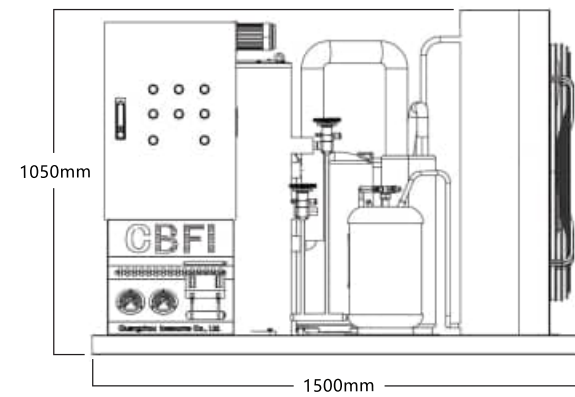
3D Flake ice machine ice making diagram

3 tons -10 tons flake ice machine is generally used as shown in the installation method, the ice machine installed in the upper part of the cold storage, the use of channel support, but this storage has a drawback, because the ice will be stacked into Cone, storage of low utilization of storage, so a large system will use rake ice system.



Flake ice machine

Industrial flake ice machine 1 ton, 3 tons, 5 tons, 10 tons,
15 tons, 20 tons, 25 tons, 30 tons, 50 tonslf.....
the customer has special requirements can benon-standard custom.



BF1000 1 ton Flake Ice Machine(Air Cooling)

Ice making capacity : 1Ton/24h
Refrigeration capacity: 8.85KW
Ice machine size: 1500x1100x1050 (mm)
Weight: 210KG

BF5000 5ton Flake Ice Machine(Air Cooling)

Ice making capacity : 5Ton/24h
Refrigeration capacity: 31.8KW
Ice machine size: 2350x1500x1900 (mm)
Weight: 1060KG

BF5000 5 ton Flake Ice Machine

Ice making capacity : 5 Ton/24h
Refrigeration capacity: 35.1KW
Ice machine size: 1900x1500x1470 (mm)
Weight: 1100KG

BF10000 10 ton Flake Ice Machine

Ice making capacity : 10 Ton/24h
Refrigeration capacity: 76.1KW
Ice machine size: 2500x2000x1860 (mm)
Weight: 1500KG

Flake ice machine

BF15000 15 ton Flake Ice Machine

Ice making capacity : 15 Ton/24h
Refrigeration capacity : 110.9KW
Ice machine size: 3150x2200x2140 (mm)
Weight: 3200KG



BF20000 20 ton Flake Ice Machine

Ice making capacity : 20 Ton/24h
Refrigeration capacity : 151KW
Ice machine size: 4000x2200x2210 (mm)
Weight: 4200KG



Flake ice machine refrigeration principle

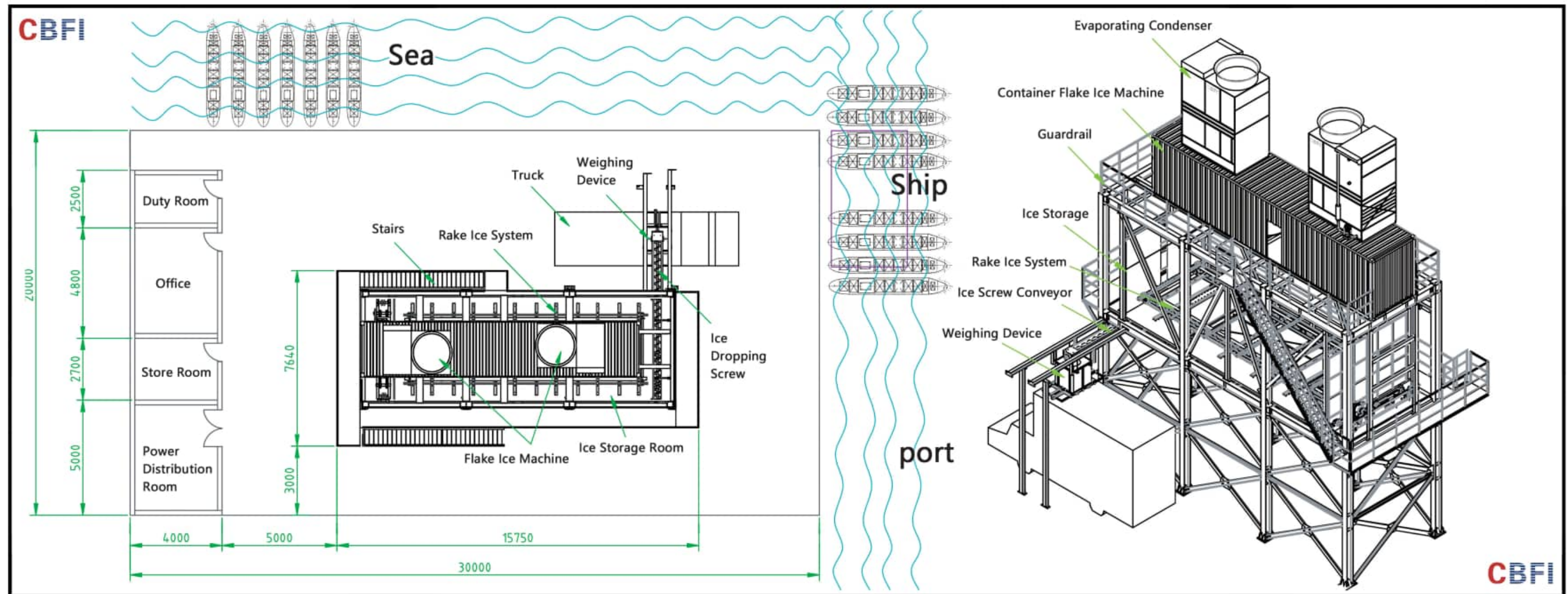
Ice water from the ice machine evaporator inlet into the water tray, through the water pipe, the water evenly sprinkled on the inner wall of the evaporator, the formation of water film, skate, spindle, sprinkler, water tray in the reducer drive The water film and the evaporator flow in the refrigerant heat exchange, the temperature quickly reduced in the evaporator wall to form a layer of thin ice, squeezed in the ice knife, broken into pieces of ice, from the water Mouth into the ice library. Part of the ice is not formed through the water tray from the return water back to the cold water tank, through the cold water pump into the next cycle.

BF30000 30 ton Flake Ice Machine

Ice making capacity : 30 Ton/24h
Refrigeration capacity : 230KW
Ice machine size: 4600x2250x2340 (mm)
Weight: 6000KG



Morocco rake ice system



Unit: mm

Morocco rake ice system ice plant solution

A company in Morocco is the local industrial ice production and supply giant. To meet the growing market demand, began looking for refrigeration equipment manufacturers. Guangzhou Icesource Co.,LTD build a new industrial ice plant to provide a full set of solutions for the Moroccan company. Standard equipment: container flake ice machine; rake ice system; ice screw; weighing device; cold storage 1 set; Other supporting facilities, it needs to be equipped with duty room, storage room, power distribution room. To improve production efficiency, the flake ice machine adopts evaporating condenser.

With the development of society, the demand for ice on the market is growing. Industrial ice is widely used in supermarket food preservation, fishery fishing, hospitals, schools, laboratories, research sites, medical applications, chemical and food processing industries, a wide range of applications. For the extensive market of industrial ice, Guangzhou Icesource Co., Ltd. combined with years of experience in industrial ice making equipment and research feedback on the market, according to the different needs of customers to provide a complete ice plant design solution, from Design, construction to delivery integration, reduce customer investment.

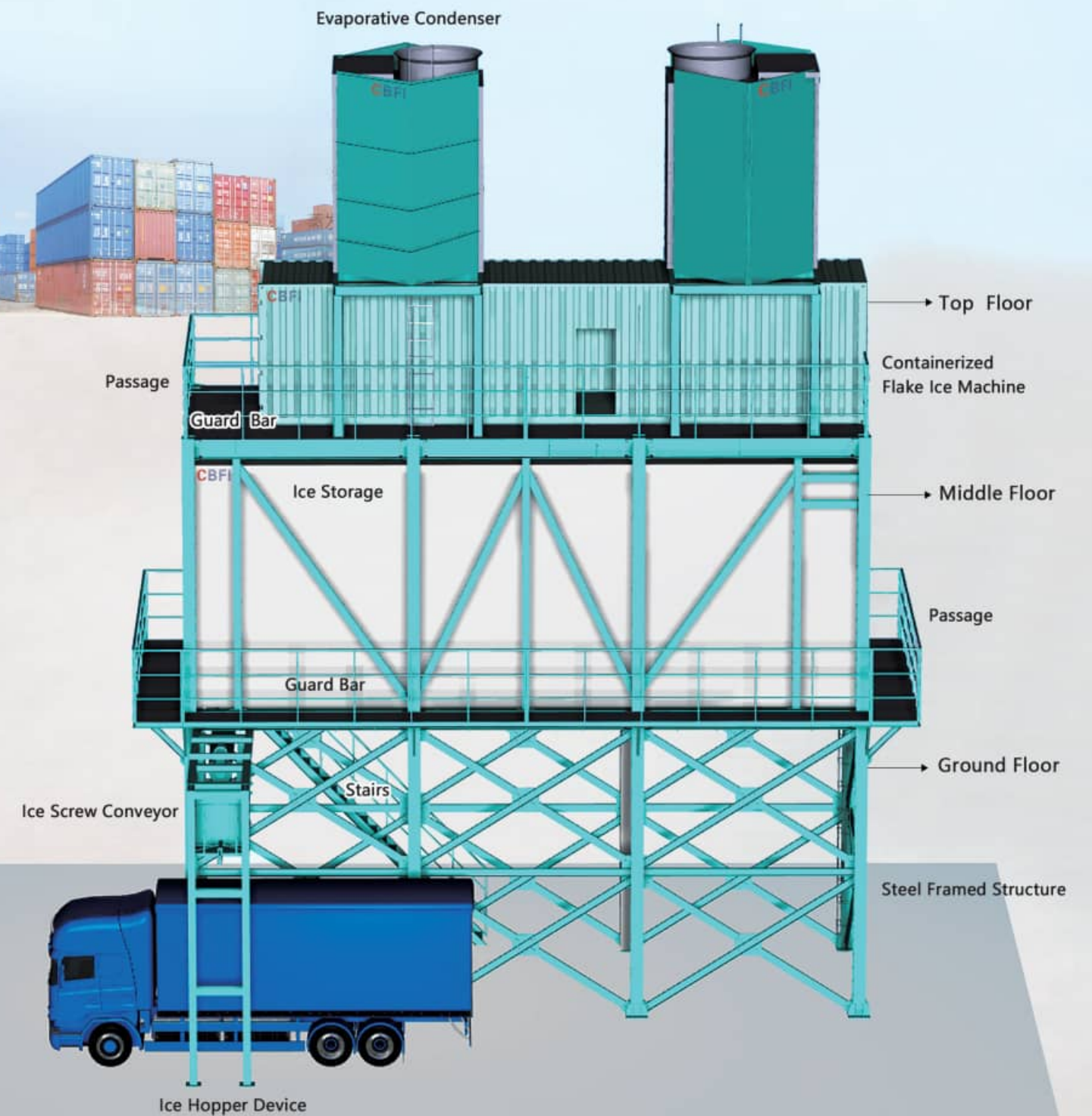
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Port



Can be applied in bulk mass pouring of large water and electricity dam, unclear power, high speed railway and high-rise building foundation with temperature control concrete. There are lots of concrete pre-cooling project using CBFi Flake Ice System, Ice Raking System and Ice Transporting System in domestic and abroad. Adopts overlap structure to save space:

- Top floor--25 ton container ice making system;
- Middle floor--50 ton automatic ice raking storage system.
- . 25 ton Containerized Flake Ice Machine
- . 50ton Ice Raking Storage System
- . Ice Transporting System
- . Weighting Equipment
- . Ice Storage 1 set
- . Evaporative Condenser × 2



Sea

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CBFi ICEMACHINE
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50 tons Flake Ice Machine
Evaporator



Refrigeration Unit

All parts of refrigeration unit are originally imported that assure machine working efficient without failure.

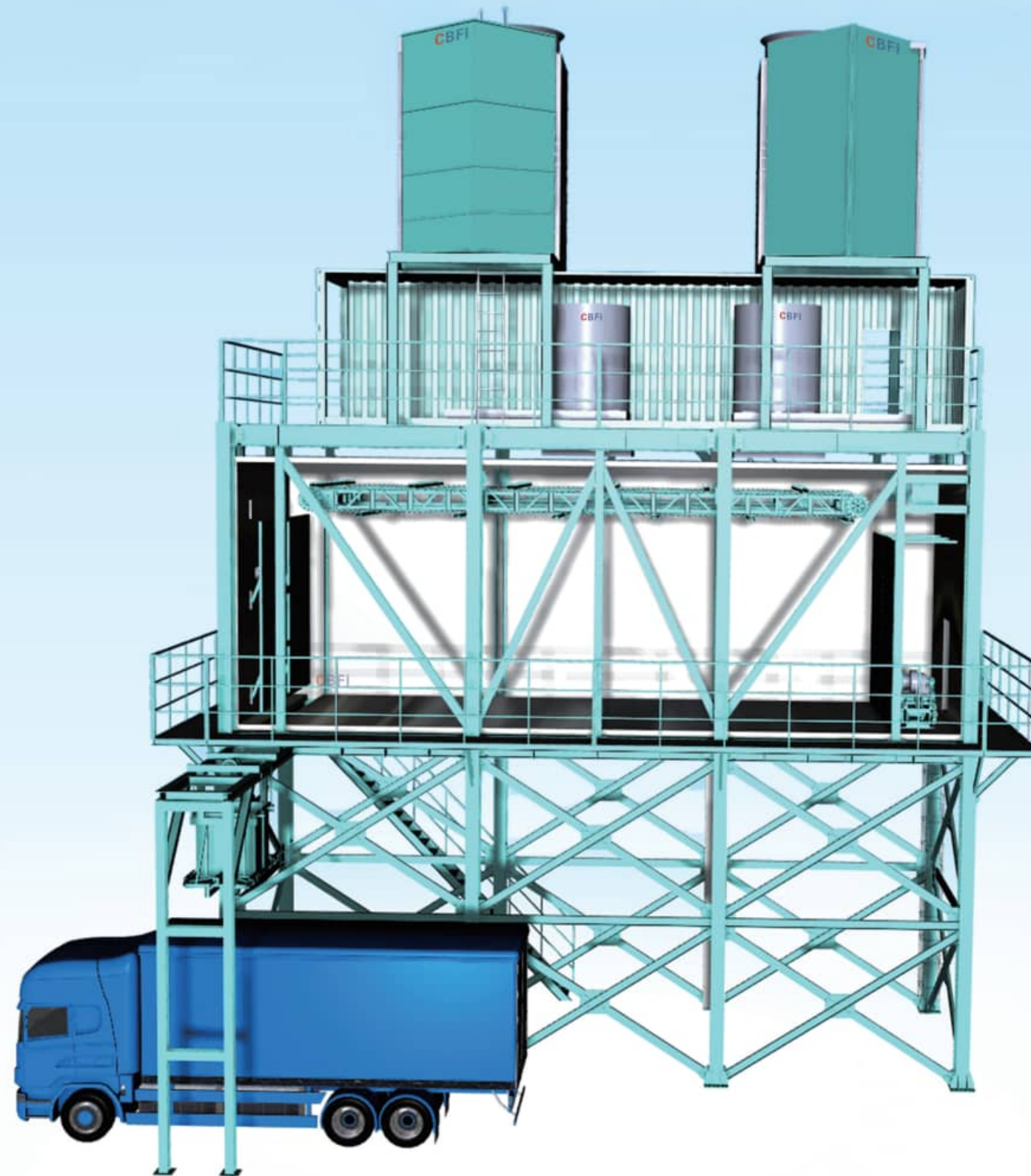
Inside Scraping Making Ice

Automatic Flake Ice Machine adopts new standing inside screwing ice cutting evaporator. This design can reduce abrasion with high quality in sealing. During ice making period, water would be sprinkled on the internal side of evaporator and quickly frozen into ice, then ice would be cut down by screw scrape cutter. Taking full advantage of the surface of evaporator, this design increases the efficiency of Flake Ice Machine.



Anneal relieves of internal stress (showing red color) to prevent from warping

Large welding cause internal stress inside the bucket which easily deform without relieving. The reason why the evaporator deform in many other factories is that they do not have the process of anneal, in order to save process cost and transportation cost on outsource processing work. CBFI is experienced in anneal to make sure the good quality.



Polishing After Electroplating

Polishing after electroplating makes the surface more smooth to ensure better ice dropping and higher ice output. At the same time, it would prolong the span life of ice cutter.



Circularity Detection (Accuracy 0.01mm)

Before and after each process, a micrometer is needed to examine whether it's oval or a perfect circle, the accuracy of diameter is 0.01mm.



Ice cutter

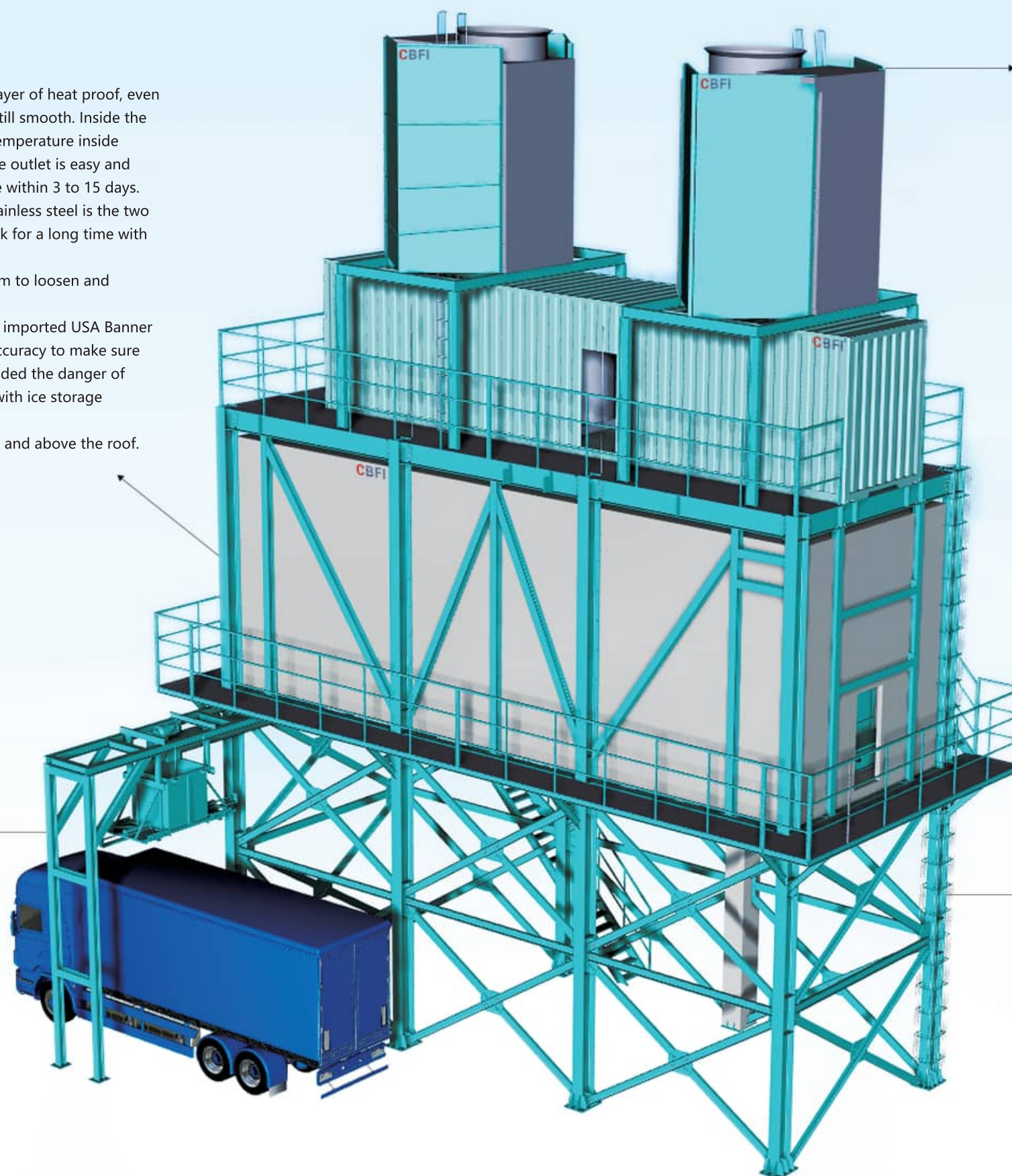
SUS304 Stainless steel screw-type ice cutter, low resistance, less wear or tear, low noise, evenly ice making.

Ice Storage

- Ice storage is particularly designed double layer of heat proof, even the ice storage is full, cold air circulation is still smooth. Inside the ice storage there is air coolers to keep the temperature inside around -8 °C, ice will be dry and fragile so ice outlet is easy and smooth. Ice storage are suitable for store ice within 3 to 15 days.
- Inside the ice storage, galvanized steel or stainless steel is the two option for you to choose, they both can work for a long time with no corrosion or rust.
- Inside the ice storage, there is ice rake system to loosen and pull the ice to the outlet.
- Ice rake sensor is installed inside, we adopts imported USA Banner ultrasonic sensor with high sensitivity and accuracy to make sure ice rake is accurately positioned. So we avoided the danger of sensor error may lead to ice rake to collide with ice storage surfaces inside or being embedded by ice.
- Steel frame is installed inside the ice storage and above the roof.

Weighing System

Continuous weighing devices:
Continuous measuring,
Accurate measurement,
Reliable, quick,
Weighing from 200kg to multiple tons.



Condenser of the large ice rake outlet system: Evaporative condenser

Feature : Compact structure, small occupation area, water saving, energy saving, modular design, low investment, long service life, independent operation, stable and reliable.

Energy Saving:

По сравнению с конденсатором воздушного охлаждения, испарительный конденсатор имеет более низкую температуру конденсации, в то время как потребление энергии на единицу охлаждающей способности увеличивается на 3 ~ 3,5%, а температура конденсации повышается на 1 °C. Таким образом, испарительный конденсатор может значительно снизить общее потребление энергии и сэкономить энергию.

Water Saving:

Evaporative condenser makes full use of water' s latent heat of vaporization to save water. Low resistance high efficiency water collector is adopted to avoid water spray loss. Evaporation loss and pollution discharge during the water circulation is 3~5%.

Integrated design with low investment

- Open air design, concise outlook ;
- Fine with hot/ freezing/ rainy/ windy situations. ;
- Unattended and safe operation.

Long service life

Adopts high-quality galvanized steel, stable using and long service life.

Steel structures' advantages (comparing other types):

Considered the weight of machine under working condition, we choose steel according to the total weight of whole project under working condition.

1. Removable, easy to transport and install;
2. Short installation time, saving manpower and material resources;
3. Good plasticity, can endure a sudden overload; good tenacity, the adaptability of dynamic load is strong

Picture of Real Products



Evaporative Condenser

Containerized
Flake Ice Machine

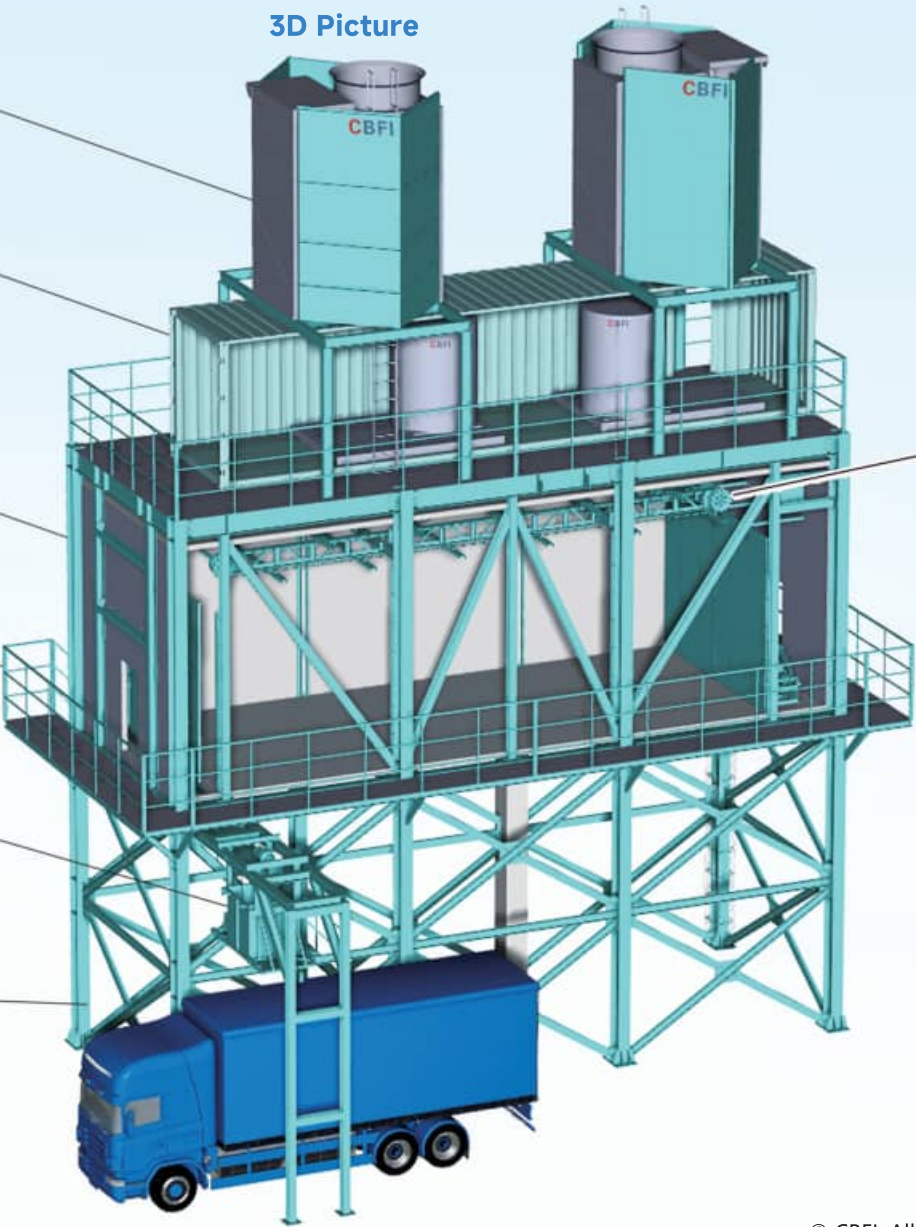
Ice Storage

Passage

Weighing Devices

Steel Frame Structure

3D Picture



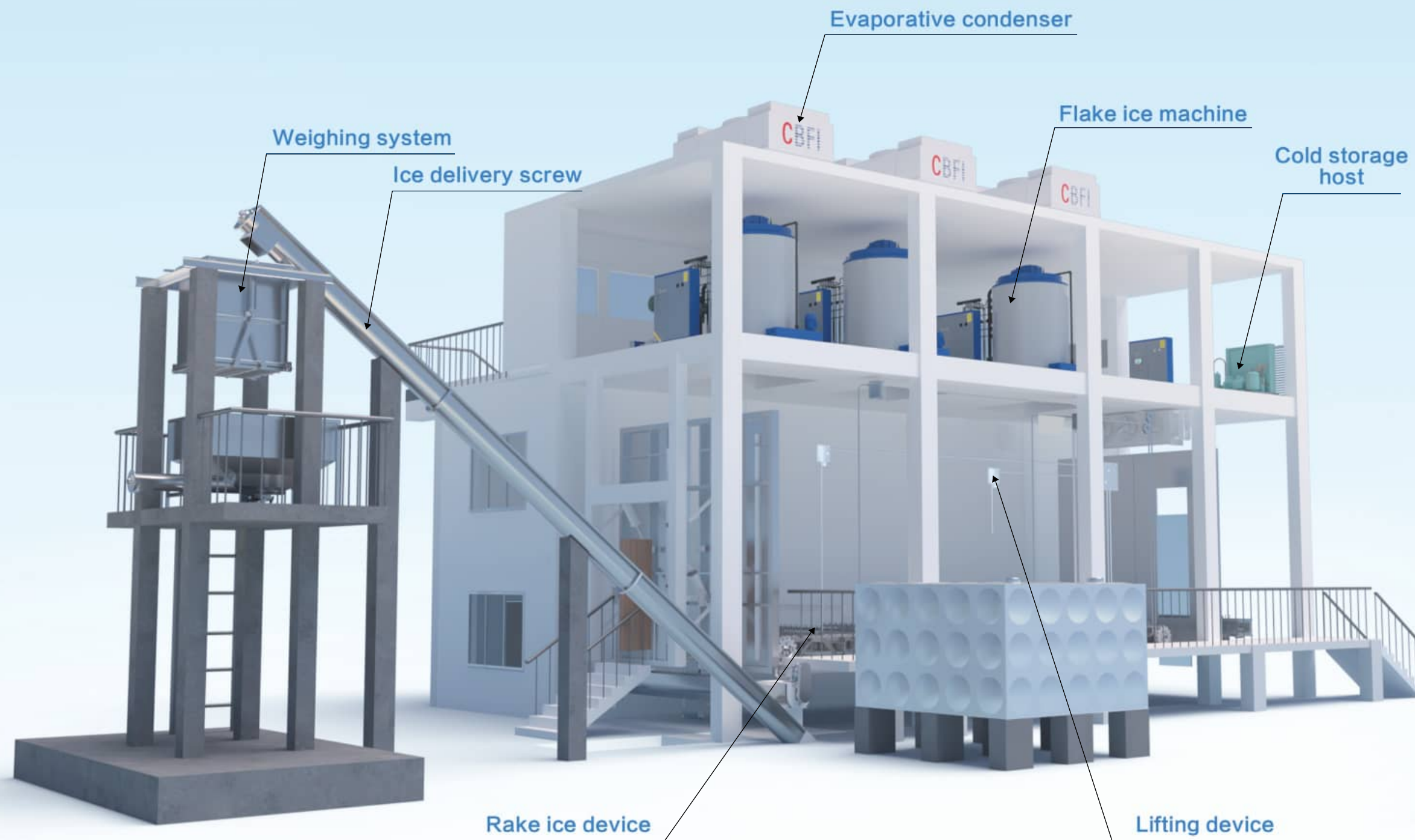
Adopts hot-dip galvanizing procedure to prevent corrosion:
Avoid the risk of ice rake corrosion under the environment which has much contact with ice for a long time.

Hot-dip galvanizing:
Immerse steel members into 600°C hot melted zinc liquid, the steel members' molecules merged with zinc molecules for anti-corrosion purpose (comparing to anti-corrosion paint on surface, hot-dip galvanizing infiltrated into steel members to provide a much better effect).

Ice rake structure:
To even the ice surface



Slider of Rake Structure
CBFI adopts tetrafluoroethylene polymer, known as the "king of plastic", to make rake slider.



Air delivery system

Air conveying system, also known as air conveying, uses the energy of air flow to transport granular materials along the direction of air flow in a closed pipeline. It is a specific application of fluidization technology.



Control System

Adopt PLC automatic intelligent control system, centralized control, convenient and fast, labor-saving



CHEMICAL COOLING

2 sets of 50 tons Flake Ice Rake Ice System (Civil Structure)



CONCRETE COOLING

50 tons Flake Ice Rake Ice System (Steel Structure)



Customer Cases



30 tons flake ice machine
(Ice and Snow World)



30 tons flake ice machine
(Reactor cooling)



10 tons flake ice machine
(Aquatic product preservation)



50 tons flake ice machine
(Fishing port preservation)



50 tons rake ice storage
(Concrete cooling)



50 tons rake ice storage
(Concrete cooling)



50 tons rake ice storage
(Concrete cooling)



50 tons rake ice storage
(Concrete cooling)



25 tons rake ice storage
(Chemical cooling)



120 tons rake ice storage
(Chemical cooling)



60 tons rake ice storage
(Concrete cooling)



80 tons rake ice storage
(Concrete cooling)