

English

Snowkey

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Distributors:

Plate Ice Machine



FUJIAN SNOWMAN CO., LTD





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Plate Ice Machine Application Fields

- Aquatic product processing, cooling, preserving and transportation
- Edible ice making factory
- Port ice making factory
- Chemical projects and dye cooling and temperature reduction
- Medical treatment and medicine
- Cooling, temp reduction preservation.
- Cold storage central air conditioner
- Cold water temperature reduction system.



- ① Edible ice in package
- ② Aquatic product preservation
- ③ Cold storage central air conditioner
- ④ Chemicals and dye factory

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Plate Ice Features

- SNOWKEY plate ice ranges from 5mm to 30mm (wherein, 15mm to 30mm is specially designed) in thickness and 20mm to 50mm in width and has no fixed shape. Its thickness and width maybe freely adjusted according to use.
- SNOWKEY plate ice boasts even cooling effect, good ventilation, and even constant refrigeration temp. So it is suitable for cooling aquatic products.
- As transparent crystal, SNOWKEY plate ice doesn't



melt easily, it can be stored for longer time. Ordinary ice is opaque since it contains air bubbles and impurities and is small in density, soft in texture and likely to melt. However, SNOWKEY plate ice is pure in color and luster, hard, transparent, dry and powerless. Due to small surface area, it achieves better cold storage effect and spends 30% more time in melting.

- SNOWKEY plate ice fully conforms to certification requirements of HACCP and FDA. It can be applied to such fields as ice cold storage air conditioners, edible ice, aquatic foods, chemical industry, etc.

Plate Ice Machine



- Economical, minimum initial investment, small energy loss;
- Strong ability to store cold, super reliability, high efficiency, and supplying stable and reliable lowtemperature heat exchange fluid;
- All automatic control, a few operators needed, low breakdown rate.



- mproving environmental protection, reducing energy loss and lessening discharge of greenhouse gas.
- Quality after-sales service and strong technical safeguard.

Peeling in high speed and without heat

It's unnecessary to introduce hot gas from outside since the hot freon gas produced by plate ice machine itself is fed into evaporator. Then within less than 90 seconds plate ice that has already taken shaped falls down and breaks because of pull of gravity.



Modular design

The machine body adopts steel welding and galvanized structure, which boasts anti-corrosion,high stability, and can ensure good running in various hard conditions. The machine service life is prolonged,and maintenance cost is accordingly reduced.



Full automatic control

- We are using electric control system of Simens,Schneider etc.,which are famous in the world.So that the service life of our equitment is longer.
- Full automatic control improves refrigeration performance of compressor to the best condition, and the COP value improved. Energy-saving and high efficiency is realized.
- The machine can be easily operated in a direct-viewing way. Such signals as simple screen configuration and detailed parameter adjustment of the whole machine can be displayed during the maintenance time.
- Full electric system compiles with general international standard.



water circulation system

Special water circulation system

The raw water flows evenly on the surface of evaporator, and gathers into water tank through special water trough at the bottom of evaporator. Then water is pumped to water distributor in top of the evaporator and returns to surface of the evaporator to freeze. The special water circulation system makes surface of plate ice produced very smooth.

Plate Ice Machine Specifications

Model	PIM10AF	PIM20AF	PIM30AF	PIM50AF	PIM80AF	PIM100WF	PIM150WF	PIM200WF	PIM250WF	PIM300WF
Tons/24hrs	1	2	3	5	8	10	15	20	25	30
Thickness (mm)	10~12	10~12	10~12	10~12	10~12	10~12	10~12	10~12	10~12	10~12
Machine Structure	complete machine	complete machine	complete machine	complete machine	plate ice unit	air condenser	complete machine	evaporator	compressor	evaporator
Length (mm)	1590	1680	2150	2850	3000	2200	3420	2400	1950	3260
Width (mm)	1070	1682	2000	2200	2200	707	2200	2200	1850	2200
Height (mm)	1775	2000	2240	2240	2450	1742	2450	2480	1485	2500
Cooling Water Inlet (DN)	\	\	\	\	\	65	80	100	100	100
Raw Water Inlet (DN)	15	15	25	25	25	25	40	40	50	50
Water Drain(DN)	25	25	25	25	50	50	40	40	50	50
Power Supply Cable Port (mm)	40	40	40	40	40	40	40	40	50	50
Net Weight (kg)	650	1000	1400	2000	3000	450	3300	2500	2000	3500
Compressor Power (kW)	4.5	11.25	15	26.25	45	45	67.6	90	105	120
Ice Making Pump Power (kW)	0.25	0.55	0.55	0.75	0.75	1.1	2.2	2.2	2.2	4.4
Crusher Power (kW)	0.37	0.37	0.55	0.75	0.75	1.5	1.5	1.5	1.5	3
Evaporator Qty (unit)	2	4	3	5	8	10	15	20	24	30
Charged Refrigerant (kg)	10	20	30	50	110	110	140	190	210	230

● P means plate ice machine.The number after B is the tonnage for the machine x 10.A/W means condensing type (A for air-cooled,W for water-cooled). F means the refrigerant is freon.
● Nonstandard models can be designed as requested by the client.



Plate Ice Evaporator

Plate ice evaporator mainly fall into two kinds, namely, aluminium alloy and stainless steel Evaporator. Plate ice evaporator adopts direct expansion systems and R22, R507A, R404A or ammonia (R717) as cooling medium.

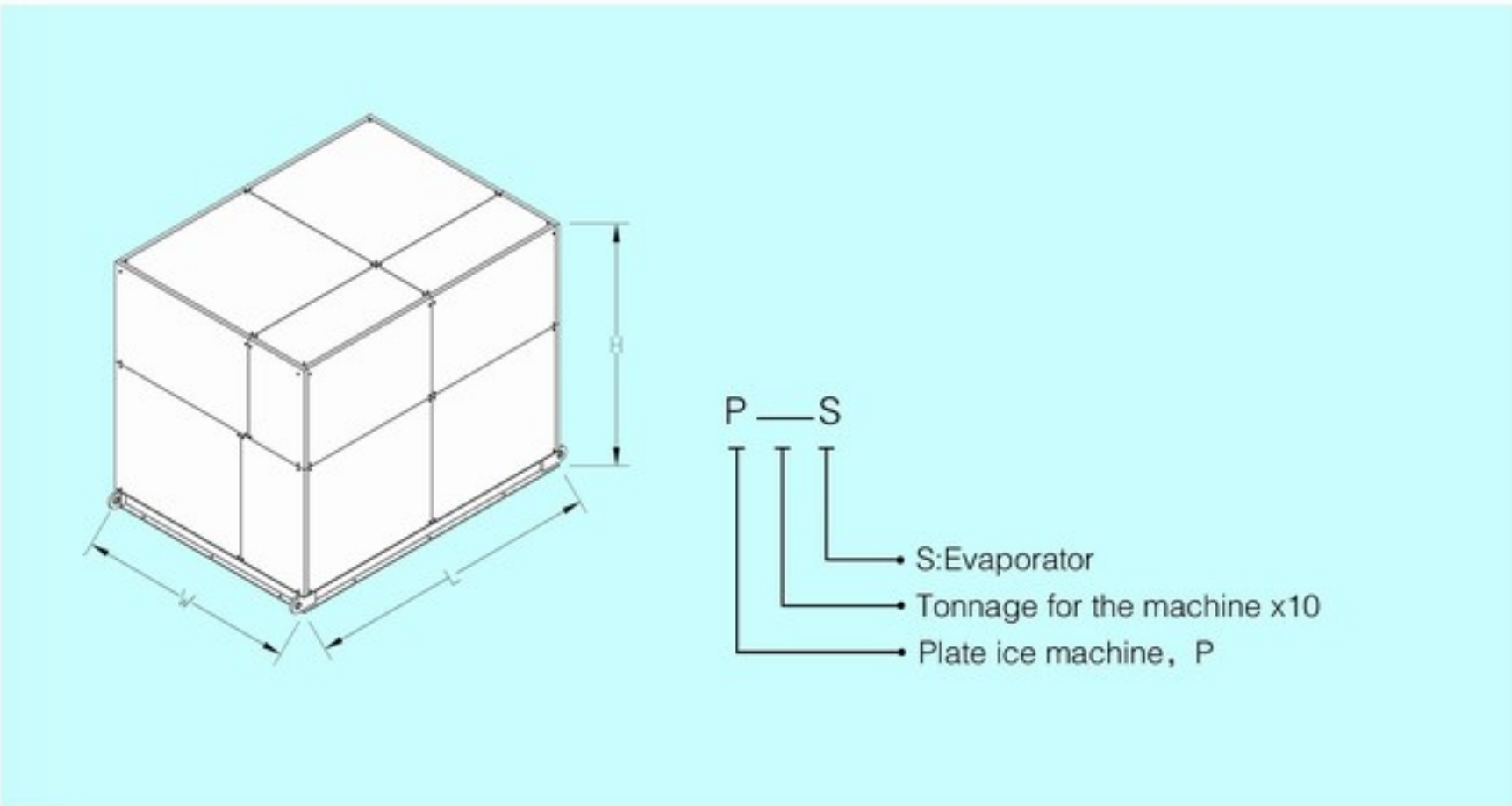
Evaporator manufactured with special technology

The 880mm x1450mm large evaporator is manufactured of pure stainless steel with world's most sophisticated laserwelding technology. It boasts such advantages as sanitation, cleanness and no harm, etc. It fully conforms to certification of Haccp and FDA and can be applied to edible ice. Capacity 500kg to 600 tons of ice per day.



Snowkey Plate Ice Evaporator Specifications

Model	P10S	P20S	P30S	P50S	P80S	P100S	P150S	P200S	P250S	P300S
Tons/24hrs	1	2	3	5	8	10	15	20	25	30
Thickness (mm)	10~12									
Length (mm)	1590	1680	700	1000	1500	1740	2400	3260	3500	4720
Width (mm)	1070	1682	2000	2200	2200	2200	2200	2200	2200	2200
Height (mm)	1775	2000	2200	2410	2410	2410	2480	2500	2500	2500
Liquid Supply Pipe (DN)	10	10	15	15	20	20	25	32	40	40
Gas-return Pipe (DN)	25	32	40	50	65	65	80	90	125	125
Raw Water Inlet (DN)	15	15	25	25	25	25	40	40	50	50
Water Drain (DN)	25	25	25	25	50	50	40	40	50	50
Power Supply Cable Port (mm)	40	40	40	40	40	40	40	40	50	50
Net Weight (kg)	500	700	1000	1300	2000	2200	2500	3500	4500	6000
Necessary Refrigeration Capacity (Kw)	6.5	13	19.5	32.5	52	65	97.5	130	162.5	195
Ice Making Pump Power (kW)	0.25	0.55	0.55	0.75	0.75	1.1	2.2	2.2	2.2	4.4
Crusher Power (kW)	0.37	0.37	0.55	0.75	0.75	1.5	1.5	1.5	1.5	3
Evaporator Qty (unit)	2	4	3	5	8	10	15	20	24	30



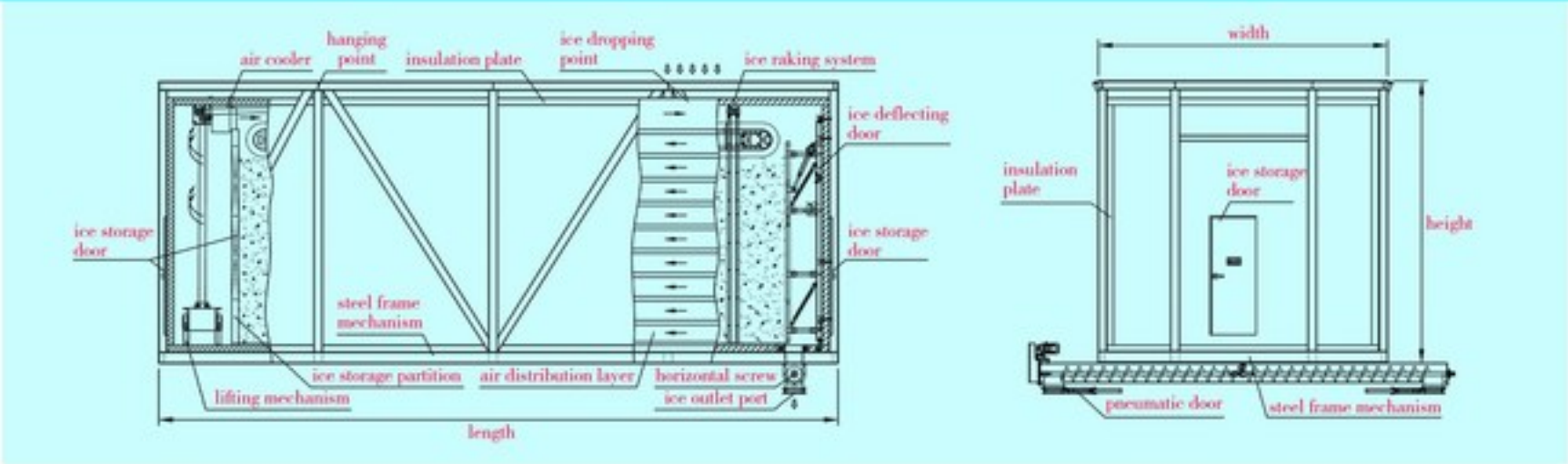
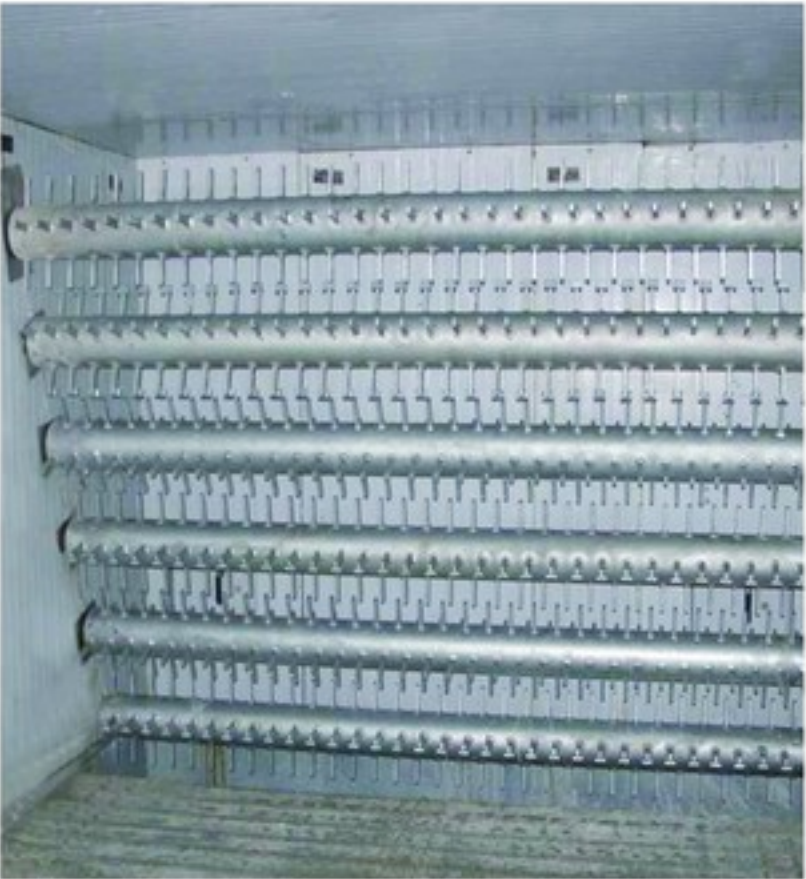
① Rake Method Automatic Ice Storage Bin

- The ice storage bin is specially designed with double-layer insulated layer. There is an air circulation layer around ice. Even when ice storage bin is full of ice, there is a cooling device equipped to keep the ice storage temperature at -5℃~8℃,which keep the ice dry and soft.
- SNOWKEY automatic ice storage bin adopts heavy industrial components, which are all seriously selected,to ensure continuous run.
- Patented chain wheel design,and special material and technology to ensure continuous running,under strong working conditions.
- Ice raker has compact structure adopt high strength material.
- The hoister can adjust the height of the ice raker automatically to ensure the ice raker is always above the ice surface.
- Bottom adopts silica gel to keep from dripping during running.
- The control panel adopts PLC and touch screen,including short circuit protect,variable-speed drive for the ice raker elevation,humanized operation interface and alarm system.
- All electronic devices inside have more than IP55 protect class,to ensure long term continuous running in low temp.



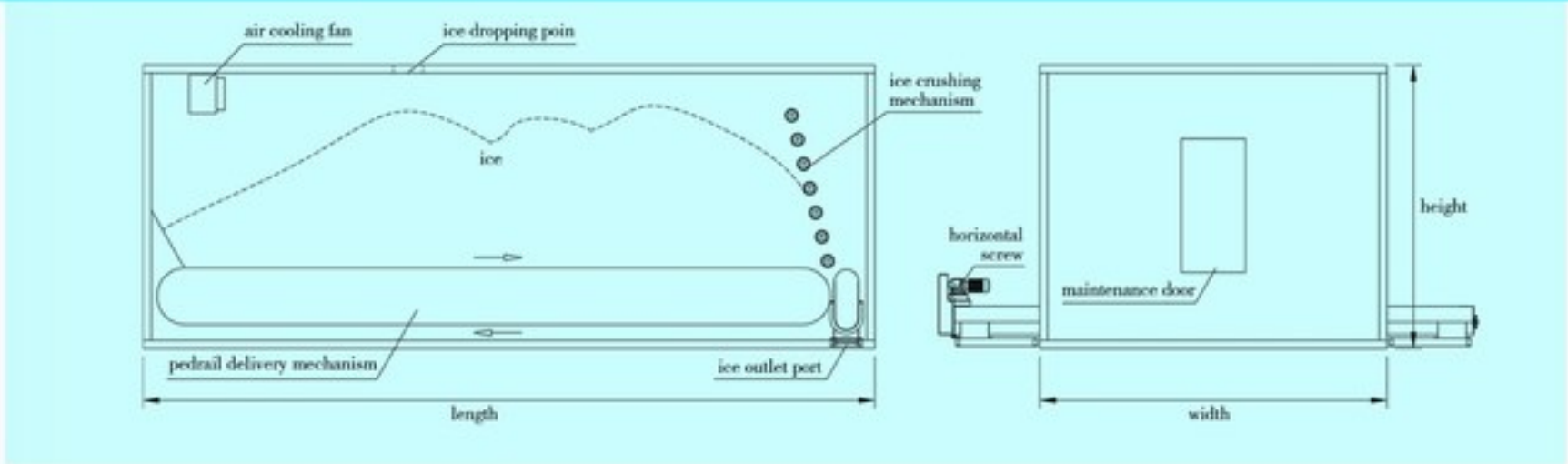
② Pedrail-type Automatic Ice Storage Bin

- Pedrail-type ice storage bin designed in accord with rules of "first in and first out", that means priority of ice made out will be sent into ice storage in advance, the ice sent into ice storage at first will be sent out from the ice storage firstly during the peroid of usage, in case the ice freezing at bottom of the storage after the storage is working for long time.
- Inside the ice storage, the floor is pedrail-type conveying belt, moving ice continuously to the ice crushing system. Less contact with motion mechanism meets sanitary ice requirement.
- Adopts specially designed thermal insulation layer,equipped with independent cooling system,to keep temp in 1 ~ 4 ℃. Long-term storage of tube ice, plate ice, can keep the temp in - 7 ~ 15℃.
- It adopts heavy industrial components,which are all seriously selected, to ensure continuous runand low maintenance cost.
- The bottom adopts silica gel sealing,can keep long time running.
- The control system is equipped with PLC and touch screen. Reliable electric parts and safety design.
- The designed capacity of pedrail-type ice storage bin is 40~100ton.



Rake Method Automatic Ice Storage Bin Specifications

Model	Ice Storage Bin Capacity (Tons)	Type	Length (mm)	Width (mm)	Height (mm)	Net Weight (Tons)
AIS8	7	Containerized	6058	2438	2896	7.5
AIS18	15	Containerized	12192	2438	2591	12.3
AIS23	18	Containerized	12192	2438	2896	13.6
AIS35	35	Combined type	12192	3530	3715	20.4
AIS40	40	Combined type	12192	4130	3715	22.4
AIS50	50	Combined type	12192	4130	4195	23.3
AIS50S	50	Combined type	12192	5191	3565	25.3
AIS60	60	Combined type	12192	5191	3965	26.1
AIS65	65	Combined type	12192	5191	4195	26.6
AIS80	80	Combined type	12192	5191	4865	28.3
AIS70	70	Combined type	15000	5191	4195	38.1
AIS100	100	Combined type	15000	5191	4965	41.5
AIS120	120	Combined type	15100	5291	6005	53.5
AIS150	150	Combined type	15100	5291	6965	56.7

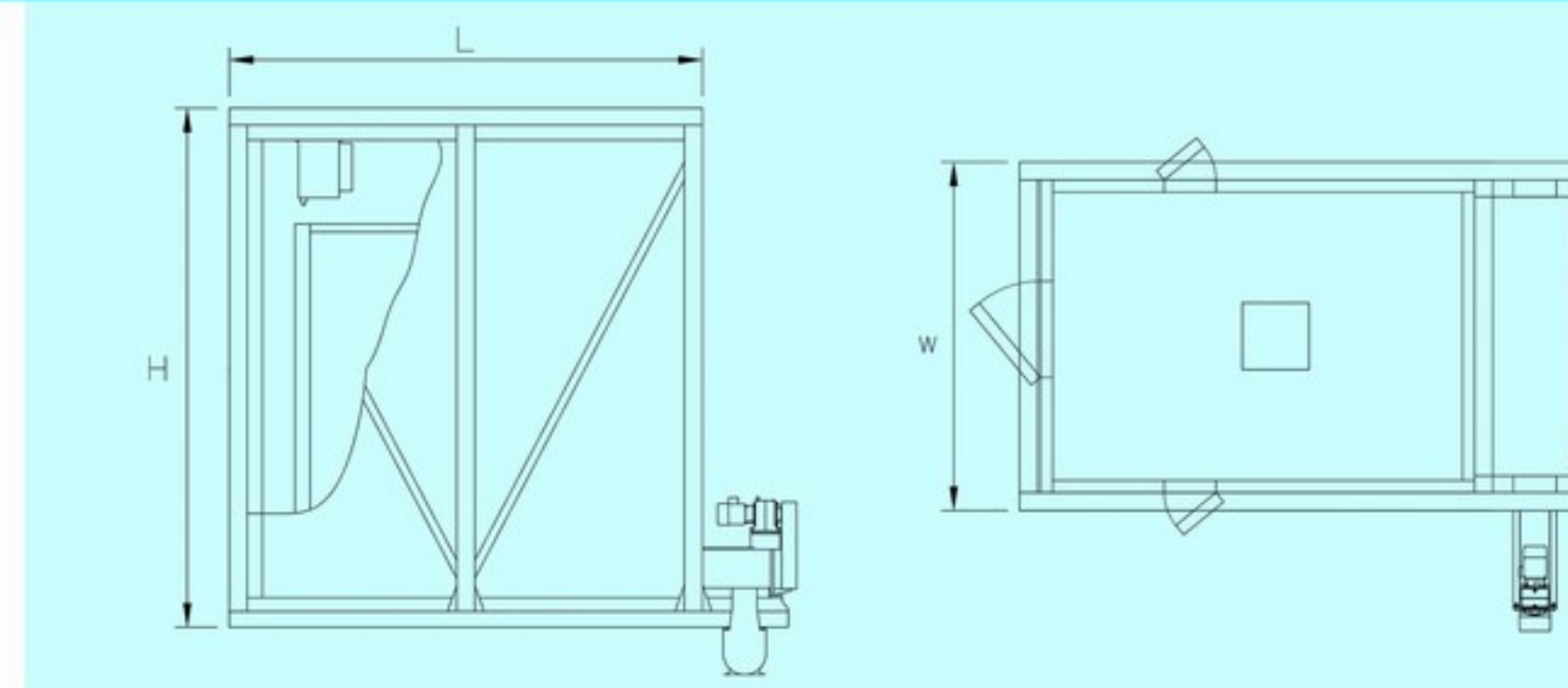


Technical Parameter of Pedrail-type Automatic Ice Storage Bin

Model	Ice storage capacity (Tons)	Type	Length (mm)	Width (mm)	Height (mm)	Net weight (Tons)
BIS40	40	Combined type	12470	4700	4540	19
BIS50	50	Combined type	12470	4700	5090	21
BIS60	60	Combined type	12470	4700	5640	24
BIS80	80	Combined type	12470	4700	6740	26
BIS100	100	Combined type	12470	4700	7840	39

③ Screw Automatic Ice Storage Bin

- Designed specially for small capacity ice storage bin, high reliability.
- Unique screw ice crushing system to ensure not liable to ice block.
- Uniform ice storage, dynamic display for application and actual surplus amount of ice.
- Inside ice storage bin, material is all made of stainless steel to keep it from mechanical wear and contamination. Service life is long.
- Modular structure with factory prefabrication, can install and debug easily on site.
- Low fault rate and simple maintenance.
- Suitable for food, aquaculture and medical fields.

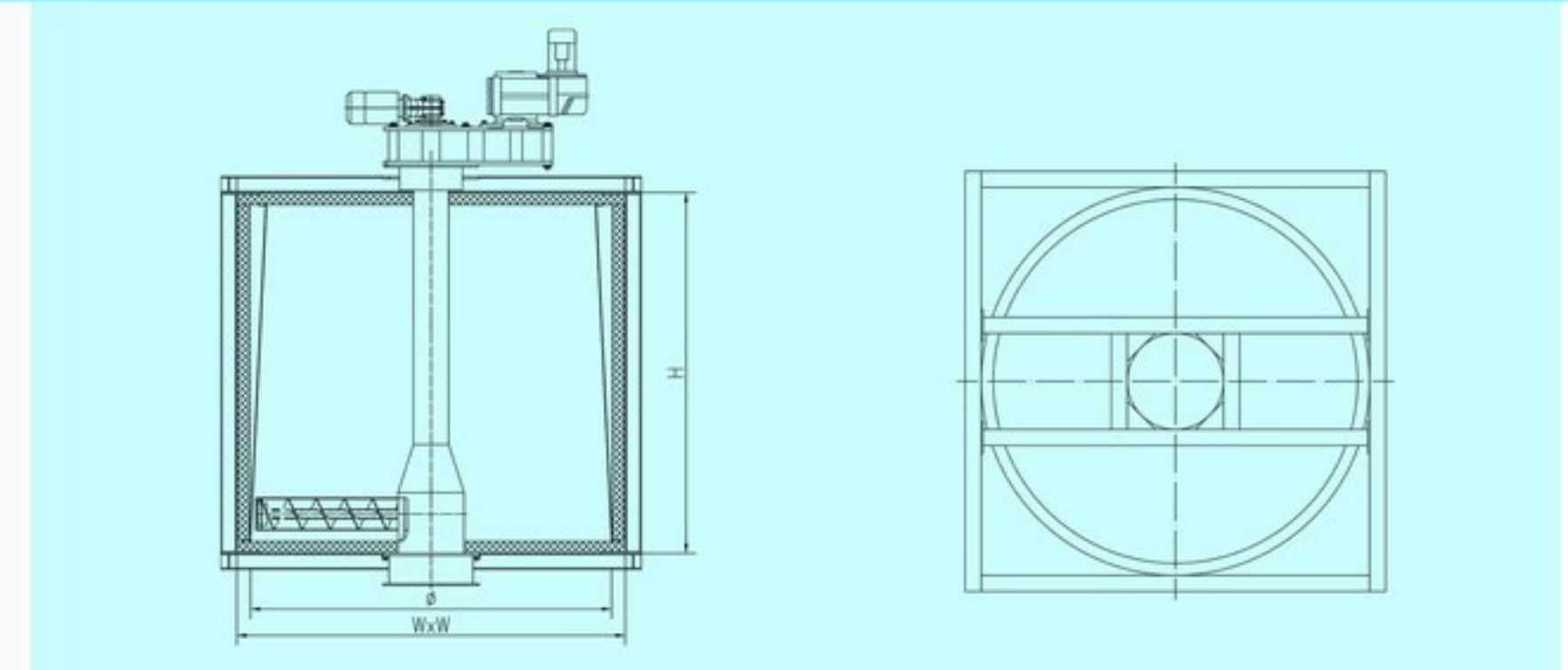
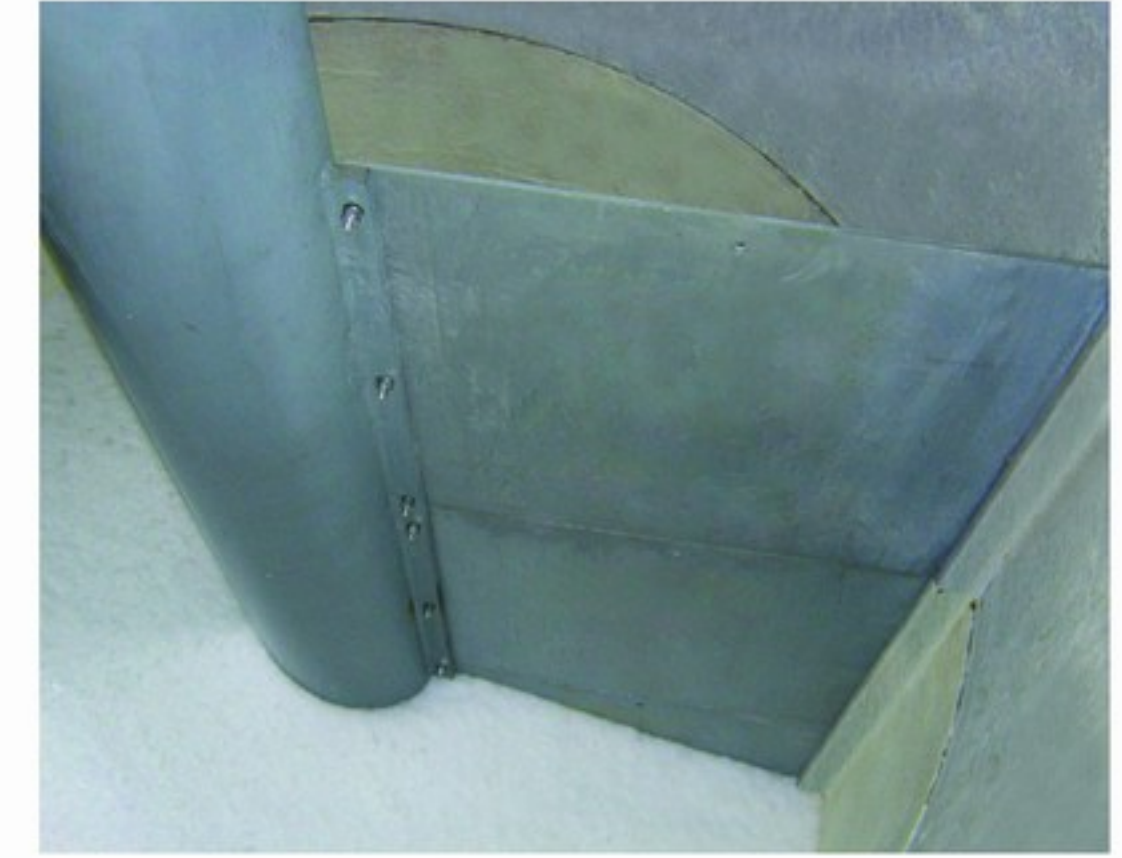


Technical Parameter of Screw Automatic Ice Storage Bin

Model	Capacity (Tons)	Length (mm)	Width (mm)	Height (mm)
CIS2	2	3925	2085	2535
CIS3	3	3925	2085	3130
CIS5	5	3925	2085	4020
CIS10	10	3925	2895	4320

④ Orbital Automatic Ice Storage Bin

- The rotary style mechanical structure, ensure that there is no chance for ice jam.
- Cylindrical in shape, ensure the best insulation performance, and plate ice not easy to melt.
- No cooling system required and ice storing time can continuously last 5 days.
- Small footprint, ice storage rate can reach 95%, save space.
- Optimization design for ice outlet mechanism, with low fault rate and simple maintenance.
- Easy installation, can be put into use without special change for the ground.
- Suitable for food, aquaculture and medical fields.



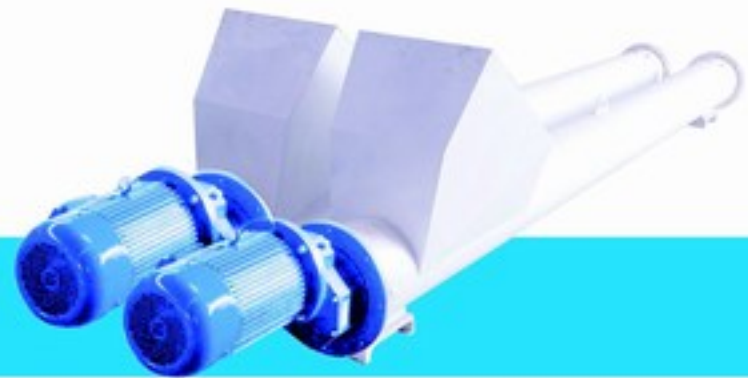
Technical Parameter of Orbital Automatic Ice Storage Bin

Model	Capacity (Tons)	Diameter (mm)	Height (mm)	W x W (mm)
DIS2	2	2247	1500	1900 X 1900
DIS3.5	3.5	2247	2100	2420 X 2420
DIS5	5	3100	1600	3100 X 3100
DIS10	10	3100	3000	3428 X 3428

Screw Delivery System

SNOWKEY screw ice delivery system boats advantages in short distance delivery of plate ice.

- Can supply hotgalvanized and stainless steel SUS304 open or tubetype screw machines.
- Screw ice delivery unit is the most effective way for vertical and horizontal delivery.
- Screw ice delivery unit can deliver the plate ice to two targets at the same time.
- A single screw delivery can be as long as 25m.



Technical Parameter of Screw Delivery System

Model	Delivery Capacity (Tons/hr)	Pipe Diameter (mm)	Obliquity (°)	A (mm)	B (mm)	Power (kW)
TSL10	10	250	0~+30	16259	15000	7.5
				13259	12000	5.5
				9259	8000	4
TSL15	15	323	0~+30	16259	15000	11
				13259	12000	7.5
				9259	8000	5.5
TSL20	20	323	0~+30	13259	12000	7.5
				9259	8000	5.5
TSL25	25	323	0~+30	13259	12000	7.5
				9259	8000	5.5

Power supply requirement: Full electric system complying with the general international standard.

Automatic Packing Machine

Snowkey automatic packing machine applies to the ice packing production line of flake ice, tube ice, plate ice and crushed ice.

- Accurate weighing, packing and sealing
- Packing speed up to 50 bags minute



Pneumatic Delivery System

- The system can ensure that the ice thus conveyed are dry.
- Comply with Haccp sanitation requirement.
- The transport distance can be freely adjusted and the maximum amount of delivery capacity is 30tons/hour
- The design is not liable to ice jam



Technical Parameter of Pneumatic Delivery System

Model	Delivery Capacity (Tons/hr)	Farthest Delivery Distance (m)	Maximum Vertical Height (m)	Pipe Diameter (mm)
ID6A	6	200	20	100
ID10A	10	200	20	100
ID12A	12	200	20	125
ID15A	15	180	20	150
ID18A	18	160	20	150
ID20A	20	160	20	150
ID25A	25	150	20	150
ID30A	30	150	20	185
ID45A	45	100	20	185

Power supply requirement: Full electric system complying with the general international standard



- Packing process complies to Haccp sanitation requirement
- Ice can be packed in such sizes as 2kg, 5kg, 7.5kg and 10kg, etc
- Can pack ice continuously compose the automatic production line with ice machine and delivery system



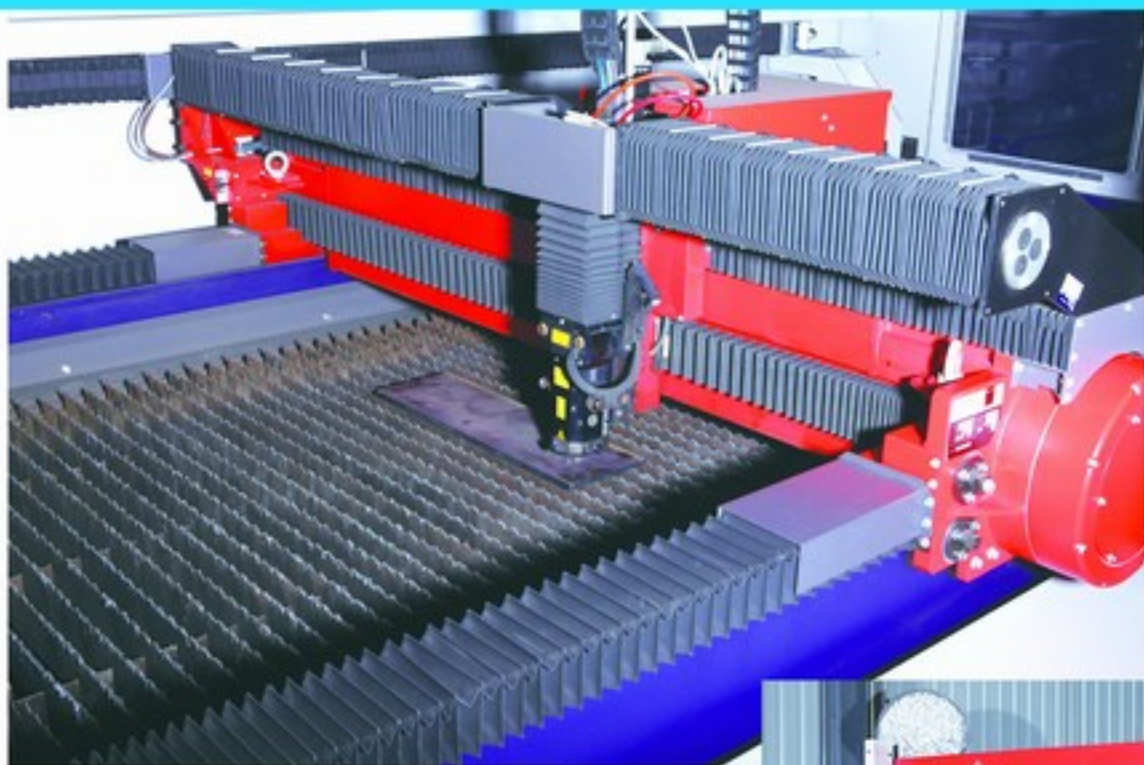
Plate Ice Evaporator General Production Flow



● Baiting



● Laster Welding



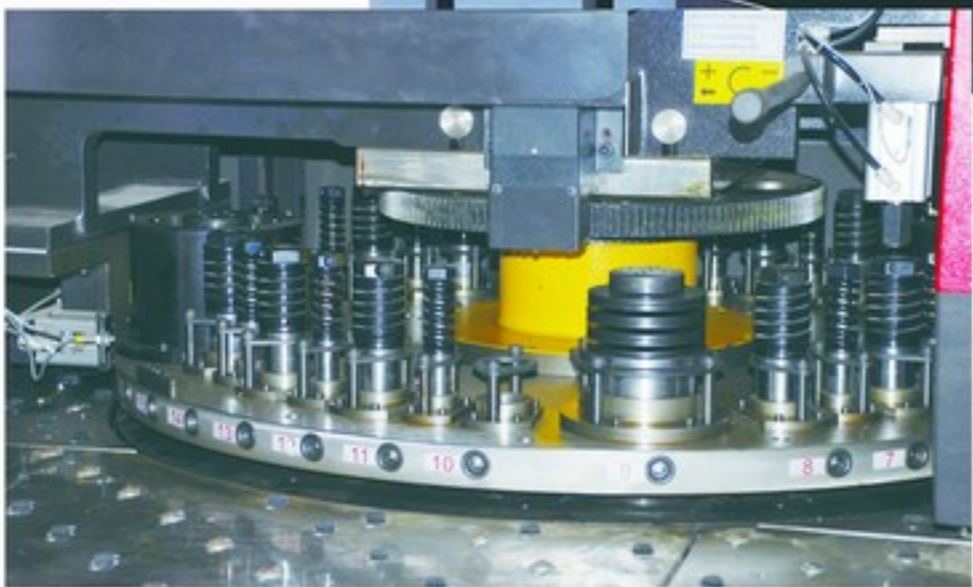
● Laser Cutting



● Laser Cuter



● Digital Control Capstan Head Punch



● Punching Holes