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English

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Modular Concrete Cooling System

FUJIAN SNOWMAN CO., LTD

Application Fields

- Nuclear power plant construction
- Bridge and tunnel construction
- Hydropower plant construction
- Large scale building construction
- City light railway construction
- Other concrete construction

The construction of the palm island

Hydropower plant dam construction project

Large scale building construction project

City light railway construction project

Complete Concrete Cooling System

• Fujian snowman co. ltd, Founded in 2000, growing up step by step, and become a globalization enterprise specialize in produce ice machines, cooling equipments and cold storages, especially in ice machine and concrete cooling system field, the market share in this field, SNOWKEY is the top 1 in China, and in leading position around the world.

• We have more than 1500 units concrete cooling systems working around the world, our projects build in every corner of the world, such as: burj khalifa tower—the world toppest building in Dubai, south to north railway construction project in KSA, city light railway in Makkah KSA, Doha port, Sanmen nuclear power plant in Zhejiang province China, nuclear power plant in Qinshan China, nuclear power plant in Haiyang China, hydropower plant in Guandi China, hydropower plant in Brazil etc.

• On the process of concrete condensation and rigidification, hydrated cement produced large amount of hydration heat, when heat accumulated, the temperature increase inside the concrete will become rapider, the concrete structure is thick and large, which has low thermal conductivity and makes the heat hart to emit, therefore, the temperature difference between inside and outside the concrete is excessive and tensile stress comes up, when the tensile stress excesses the current concrete ultimate tensile strength, the concrete surface will crack.

• In order to prevent cracking, maximum temperature inside the concrete should be controlled strictly, one of the methods to controlling temperature is reduce the concrete pouring tempera—ture. therefore, the concrete—out temperature should be limited, in hot season, the concrete—out temperature. in natural condi—tions is needed, Namely, precooling the aggregate and mixing the concrete with cold water and flake ice to reduce the concrete—out temperature, this is the most effective measure for reducing concrete pouring temperature.

• Except controlled the pouring concrete temperature, embeded cold water pipes inside concrete, and filling cold water inside is another method to reduce the temperature inside large scale concrete project.

Complete Concrete Cooling System General Components:

- Aggregate cooling system (air or water cooling system)
- Chiller water or post chiller water system（CW≤5℃）
- Ice cooling water system （ICW≤1℃）
- Flake ice plant（15Tons/24hrs~106Tons/24hrs）
- Delivery and weighing system（TSL. ID.LWT.QWT…）
- Water tank and steel frame

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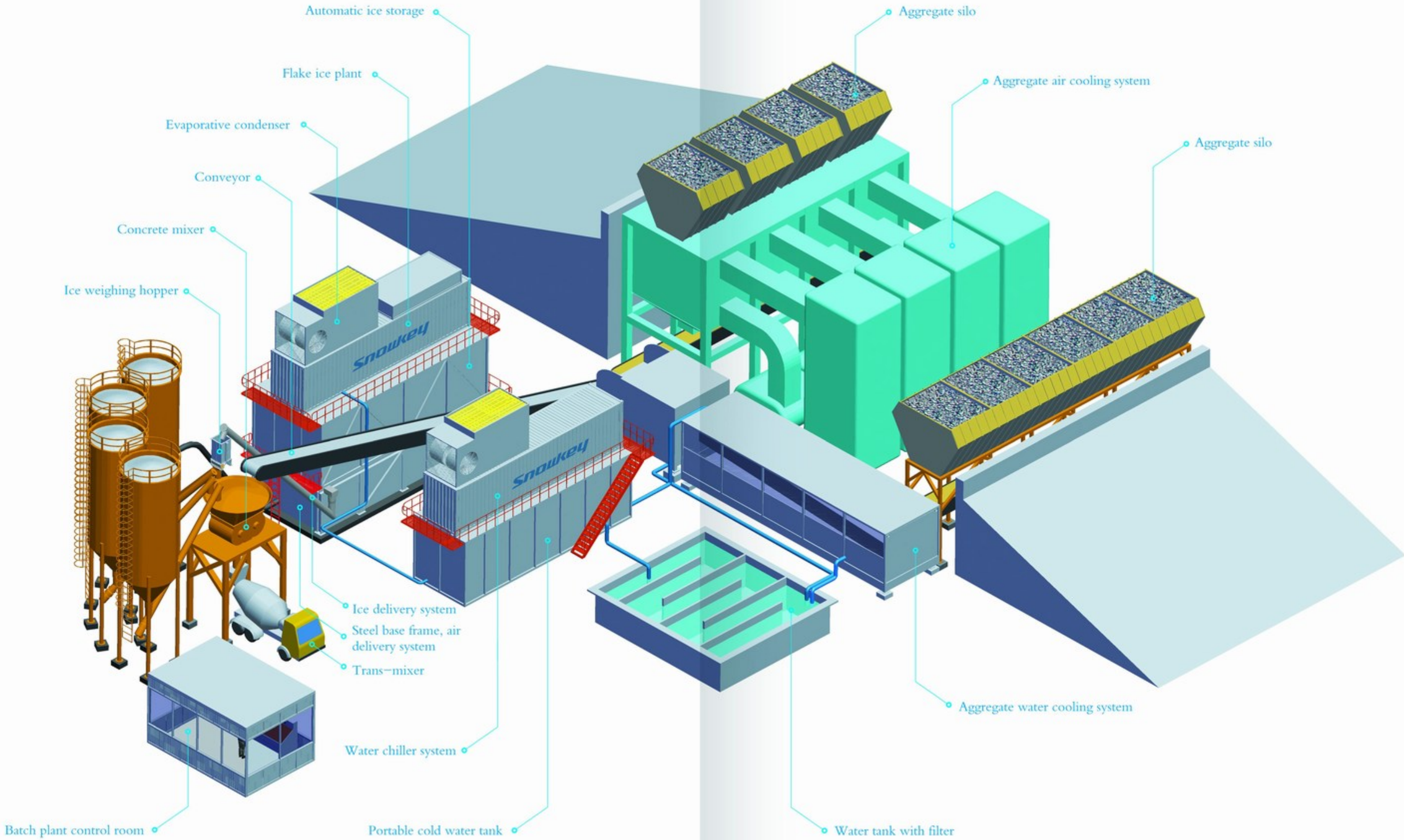
Modular Concrete Cooling System Engineering Drawing



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Complete Water Chiller System

• Snowkey water chiller system is containerized, which is convenient for transport and erection, and suitable for working in atrocious working conditions. Several models, as per different working conditions: ice water system(T≤1℃), cold water system(T≤5℃), or post chiller (temperature difference is 5～12℃). The water used in concrete cooling can be cooled from 46℃ to 1℃.Snowman adopts evaporative condenser and 4-stage water cooling system.

Cold Water System Features and Advantages

• Special refrigeration system and electric system design, ensure the stable running in atrocious working conditions.

• Using the original semi screw compressor or piston compressor which is global famous brand, which boasts the advantages of high efficiency, stability, easy operation and long lifetime.

• Evaporative condenser adopted integral stainless steel water tank, double fan, ensure the stable running, reliable performance and the best heat exchange efficiency.

• 1st and 2nd shell & tube evaporator adopted high efficiency heat exchange copper pipe, high heat exchange rate, ensure high performance and can be work under different water grade, easy to clean and maintenance.

• Outsourcing world top brand refrigeration and electric spare parts, ensure the equipment quality, and easy to do the maintenance.

• PLC equipped on Snowkey system, together with man-machine operating interface on the control panel, the water temperature controlled by compressor energy adjust valve adjust the suction gas pressure, ensure the machine running in high efficiency and low energy consumption.

Ice Water System Cooling Procedure

1st cooling stage:

The raw water temperature reduce from 45℃~47℃ to 35℃~37℃ by evaporative condenser, this function especially obvious in Middle East countries, it's improves the efficiency of water chiller system.

2nd cooling stage:

Water temperature reduce from 36℃ to 12℃ inside the heat exchanger through the refrigeration of the 1st compressor unit, the heat exchanger we are using is high efficiency stainless steel plate heat exchanger or shell & tube heat exchanger.

3rd cooling stage:

In this stage, the water temperature reduce from 12℃ to 4℃ inside the heat exchanger, the heat exchanger we are using is high efficiency stainless steel plate heat exchanger or shell & tube heat exchanger.

4th cooling stage:

In this stage, the water temperature reduce from 4℃ to 1℃ and below. Inside the specially made immersion type or falling film type heat exchanger. Inside the water tank, there are stainless steel plate heat exchanger or water and air distribution system to ensure constant water out temperature.

Complete Water Chiller Main Components

- Evaporative condenser
- Chiller evaporator
- Compressor
- Plate heat exchanger
- Air cooler
- Control panel

Evaporative Condenser

• Snowkey SLC evaporative condenser single unit heat exhaust from 150kW to 1240kW.

• Heat exchange coins modular design and manufacture, so that the refrigeration system can be control separately.

• Adjustable double end fan volume

Chiller Evaporator

• Chiller evaporator can meet the requirement for large water flow and low outlet water temperature, outlet water temperature can be less than 1℃, without ice on the evaporator surface.

Compressor

• We adopted Refcomp and other global famous brand compressor with high refrigeration capacity and low energy consumption, slight vibration and low noise.

Shell and Tube Type Heat Exchanger

• Fujian Snowman Co.,Ltd is qualified to design and manufacture I and II type vessels, which meets systematic requirement.

Air Cooler

• Under the working condition of evaporative temperature on −45℃～20℃, single unit air cooler heat exchange capacity: 5kW to 1200kW.

• Components materials: stainless steel pipe, stainless steel plate, aluminum alloy, G.I. steel pipe, G.I steel plate.

• Special integral corrugation type fins, fins gap: 6~24mm, the fins design by advance mould and produce by OAK USA, test by 2.4Mpa air pressure, made by special steel pipes, pressure can reach 6.5Mpa, of which ensure the best quality.

Control Panel

• Snowkey adopts world top brand electric parts, such as Siemens and Schneider to prolong the machine use time, reduce the maintenance cost.

• Automatically and precision control, adjust the compressor working in best performance, increase COP capacity.

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ICW Containerized Ice Water System

Design conditions

- Max temperature: 60℃
- Wet-buld temperature: 30℃
- Water inlet temperature: 45℃
- Water outlet temperature: ≤1℃
- Power supply: 3P/380V/50Hz
- Refrigeration: R22\R404A\R507A

Standard configuration of ICW

1. Outside is standard white 20/40 feet new container, inside is equipped with air conditioner, illumination and aluminum alloy floor;
2. Refrigeration compressor unit is semi-hermetic screw or piston compressor;
3. Evaporative condenser with double speed fan;
4. The 1st and 2nd stage is highly effective stainless steel plate heat exchanger or shell and tube evaporator;
5. The 3rd stage is aluminum copper coil and tube heat exchanger with air pump.
6. Necessary refrigeration system control and protect components, refrigeration pipe line connection;
7. Valves of water line with flow indication and low water flow alarm indication.
8. Electrical control box and elements, with man-machine operation panel to display water temp.
9. Raw water tank and cold water tank level display are optional.
10. Equipped industry using container cooling system

ICW Containerized Ice Water System Specifications

Model	ICW60	ICW120	ICW180	ICW240	ICW300	ICW360
Daily Capacity (Tons/day)	60	120	180	240	300	360
Cold Water Flow Volume (m^3/hr)	2.5	5	7.5	10	12.5	15
Necessary Refrigeration Capacity (kW)	129.8	259.6	389.4	519.2	649	778.8
Water Precooling (kW)	26.25	52.5	78.75	105	131.25	157.5
Installed Refrigeration Capacity (kW)	155	274.7	442	621.3	705.85	779.5
Coefficient of Surplus	1.195	1.058	1.135	1.197	1.088	1.001
Total Power Consumption (kW)	38.6	64.7	103	140.5	154.4	173.4
COP (kW/kW)	4.02	4.25	4.29	4.42	4.57	4.5
Container Specification	20'	20'	40' HQ	40' HQ	40' HQ	40' HQ
Suggested Water Tank Volume (m^3)	20	40	60	80	104	120

CW Containerized Cold Water System

Design conditions

- Max temperature: 60℃
- Wet-buld temperature: 30℃
- Water inlet temperature: 45℃
- Water outlet temperature: ≤5℃
- Power supply: 3P/380V/50Hz
- Refrigeration: R22\R404A\R507A

Standard configuration of CW

1. Outside is standard white 20/40 feet new container, inside is equipped with air conditioner, illumination and aluminum alloy floor;
2. Refrigeration compressor unit is semi-hermetic screw or piston compressor;
3. Evaporative condenser with double speed fan;
4. The 1st and 2nd stage is highly effective stainless steel plate heat exchanger or shell and tube evaporator;
5. Necessary refrigeration system control and protect components, refrigeration pipe line connection;
6. Valves of water line with flow indication and low water flow alarm indication.
7. Electrical control box and elements, with man-machine operation panel to display water temp.
8. Raw water tank and cold water tank level display are optional.
9. Equipped industry using container cooling system

CW Containerized Cold Water System Specifications

Model	CW180	CW240	CW300	CW360
Daily Capacity (Tons/day)	180	240	300	360
Cold Water Flow Volume (m^3/hr)	7.5	10	12.5	15
Necessary Refrigeration Capacity (kW)	350	466.67	583.33	700
Water Precooling (kW)	78.75	105	131.25	157.5
Installed Refrigeration Capacity (kW)	401.85	549.1	625.05	728.4
Coefficient of Surplus	1.148	1.177	1.072	1.041
Total Power Consumption (kW)	87.63	117.25	126.15	146
COP (kW/kW)	4.586	4.683	4.955	4.989
Container Specification	40' HQ	40' HQ	40' HQ	40' HQ
Suggested Water Tank Volume (m^3)	60	80	104	120

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Complete Flake Ice System

Flake Ice Feature

- Directly formed at low temperature, ice flakes as cold as blew−8℃
- Once formed, ice flakes are dry, clean, beautiful in shape, sanitary and convenient and not likely to lump.
- Relatively big contact area and good mobility can ensure full contact with refrigerated objects to realize good preservation effect.
- Without any acute edges and corners.
- Flake ice is small volume and light, easy for use.

Flake Ice Evaporator

Special design

During design and development, the internal structure is paid with special attention so as to improve the heat conduction efficiency of inner wall of evaporator and keep loop unblocked with special technology

High efficiency

The internally−scraping mode has been adopted, under this mode, ice blades scrape ice on inner wall while evap−orator doesn't move, it reduces loss of energy as much as possible, guarantees the supply of cooling agent as well as lowers probability of cooling agent leakage.

Special material

A special alloy is adopted for evaporator, its heat conduction is superior and meet pressure vessel specification.

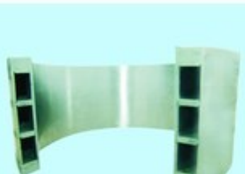
Special processing technology

Researched and developed a set of technology of welding, surface treatment and stress elimination.

Water return system

The water flowing down the inner wall of evaporator flows into the water through the water pan at the bottom of evaporator and then into the water tank, the large−area design and structure of water reception pan ensure that no water leaks from the bottom of ice flaker and avoid lumped ice flakes.

water spray pan



evaporator inner wall

water return system

Flake Ice Machine Unit

High efficiency and energy saving

- We have optimize the design of ice flake units to ensure the SNOWKEY internally−scraping ice flake units can function constantly without wasting energy.
- Adopted a special kind of alloy and patent processing technology to ensure efficient heat conductivity. Compared with other brands, Snowkey can produce more ice when the same compressor is used.
- After long term test running and developed, snowkey have capability to manufacture high performance flake ice machine which can produce high quality ice and our machine keep running 26000hrs constant operation without or disturbances and breakdown, so far, snowkey products using for various fields around the world.

Great adaptability and stable quality

• Snowkey products can ensure good running and normal ice output at the environmental temperature of 5℃~40℃, and its specially−designed type can guarantee normal running even in the most unfavorable conditions （−30℃~60℃）.

• Snowkey ice machine can be equipped in container, and within container equipped air cooler to keep stable constant temp, avoid affects from outside, especially every parts are strictly inspection and test before assemble, offer our customers stable, reliable and durable ice machine is our goal.

Simple maintenance and convenient moving

• All of our machine are designed on basis of modules, so its spot maintenance is simple, once some of parts needs replacing, it is easy to remove the old parts and install the new ones. moreover while designing our machines, we always take into full account how to convenience future transfer to other site.

Outstanding electric control system

- Snowkey ice machine adopted world top brand electric parts, such as Siemens, Schneider, prolong the use life−time, reduced the maintenance cost.
- Full automatic control, improves refrigeration performance of compressor to the best condition, and 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 details parameter adjustment of the whole machine can be displayed.
- Especially designed control system can meet various of electric standards of the world.

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Complete Flake Ice System Main Components

- Evaporative condenser
- Flake ice evaporator
- Compressor
- Compressor condensing unit
- Air cooler
- Control panel

Evaporative Condenser

• Snowkey SLC evaporative condenser single unit heat exhaust from 150kW to 1240kW.
• Heat exchange coins modular design and manufacture, so that the refrigeration system can be control separately.
• Adjustable double end fan volume.

Flake Ice Evaporator

• Evaporator adopted internally-scraping ice making mode to ensure cool agent supply.
• Evaporator made by special alloy material with high heat conduct efficiency.

Compressor

• We adopted Refcomp and other global famous brand compressor with high refrigeration capacity and low energy consumption, slight vibration and low noise.

Compressor Condensing Unit

• High efficiency: several sets in parallel connection can provide several stage energy adjusting. Equipped with efficient oil separator to improve the heat exchanger efficiency greatly. Allow multi-suction-line control.
• Compact structure: compressor, liquid receiver and accumulator, etc are all modular made.

Air Cooler

• Under the working condition of evaporative temperature on -45℃~20℃, single unit air cooler heat exchange capacity: 5kW to 1200kW.
• Components materials: stainless steel pipe, stainless steel plate, aluminum alloy, G.I. steel pipe, G.I steel plate.
• Special integral corrugation type fins, fins gap: 6~24mm, the fins design by advance mould and produce by OAK USA, test by 2.4Mpa air pressure, made by special steel pipes, pressure can reach 6.5Mpa, of which ensure the best quality.

Control Panel

• Snowkey adopts world top brand electric parts, such as Siemens and Schneider to prolong the machine use time, reduce the maintenance cost.
• Automatically and precision control, adjust the compressor working in best performance, increase COP capacity.
• Especially designed control system can meet various of electric standards of the world.

Containerized Flake Ice Plant System

Design conditions

- Max temperature: 60℃
- Wet-buld temperature: 29℃
- Water inlet temperature: 20℃
- Ice outlet temperature:-8℃
- Power supply: 380V
- Phrase:3P
- Frequency:50Hz
- Equipment running time: 24hrs
- Refrigeration gas: R22\R404A\R717

Standard Configuration of FIP

1. Outside is standard white 20/40 feet new container, inside is decorated with air conditioner, illumination and aluminum alloy floor;
2. Refrigeration compressor unit is semi-hermetic screw or piston compressor;
3. Evaporative condenser with double speed fan;
4. Flake ice evaporator with water tank and water pump.
5. Necessary oil cooling system and oil return system
6. Necessary refrigeration system control and protect components and refrigeration pipe line connection;
7. The interface with the ice storage for operation and alarm signal connection.
8. Electrical control components and electric box with full automatic control
9. factory test

Containerized Flake Ice Plant System Specifications

Model	FIP15	FIP20	FIP25	FIP30	FIP35	FIP40	FIP45	FIP43	FIP53	FIP63	FIP73	FIP83	FIP93	FIP103	FIP86	FIP106
Daily Capacity (Tons/day)	15	20	25	30	35	40	45	43	53	63	73	83	93	103	86	106
Water Supply Volume (m^3/hr)	0.631	0.842	1.052	1.263	1.473	1.683	1.894	1.810	2.230	2.651	3.072	3.493	3.914	4.335	3.619	4.461
Necessary Refrigeration Capacity (kW)	74	98.6	123.3	148	172.6	197.3	222	212.1	261.4	310.8	360.1	409.4	458.8	508.1	424.2	522.8
Installed Refrigeration Capacity (kW)	122	150.8	169.8	208.6	227.2	254.7	285.6	278.3	316.3	393.9	431.1	486.1	547.9	678.5	556.6	632.6
Installed Power (kW)	78.54	100.84	118.89	130.14	155.04	185.39	200.39	187.54	216.74	241.24	289.04	347.54	380.54	440.54	375.08	433.48
Running Power (kW)	69.14	88.88	100.15	119.15	129.67	145.85	161.55	163.24	183.2	222.8	242.24	272.84	306.64	414.44	326.49	366.41
COP (kW/kW)	1.765	1.697	1.695	1.751	1.752	1.746	1.768	1.705	1.726	1.768	1.780	1.782	1.787	1.637	1.705	1.726
Water Consume (L/hr)	294	366	413	504	547	616	690	677	770	953	1039	1177	1324	1702	1354	1540
Container Specification	20'	40' HQ	40' HQ	40' HQ	40' HQ	40' HQ	40' HQ	40' HQ	40' HQ	40' HQ	40' HQ	40' HQ	40' HQ	40' HQ	40' HQ *2	40' HQ *2

Automatic Ice Storage Bin

• The auto ice storage is used for storing ice from ice maker. When large amount of ice is demanded in a short time, the ice storage can deliver ice automatically. During operation, produced ice will be leveled inside ice storage. When ice stored reaches the upper limit, ice maker will be stopped automatically, and ice maker will restarted when the ice level is lower.

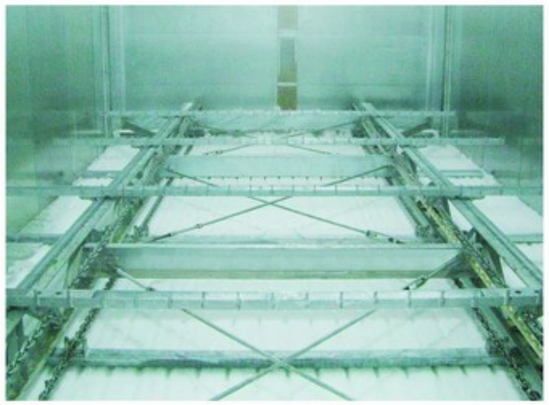
• There are containerized and combined type for Snowkey automatic ice storage bin, with capacity from 7tons to 150tons. The containerized one installed inside a 40ft container and combination type ice storage is easy to transport by truck, railway and ship. They are especially applicable at remote area or where ice making equipment will be moved from one site to another jobsite.

Automatic Ice Storage Bin Features

• The ice storage bin is specially designed with double-layer insulated layer. There is an air circulation layer around the 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 ice storage bin adopts heavy industrial components, which are all seriously selected, to ensure continuous run, long lifespan and low maintenance cost.

• Patented chain and wheel design, and special material and manufacture technology to ensure continuous fault-free running, under strong working conditions.



• The ice raker of auto ice storage bin, which has compact structure and stable continuous run, adopt high strength special material.

• The hoister can adjust height of ice raker automatically to ensure ice raker is always above the ice surface.

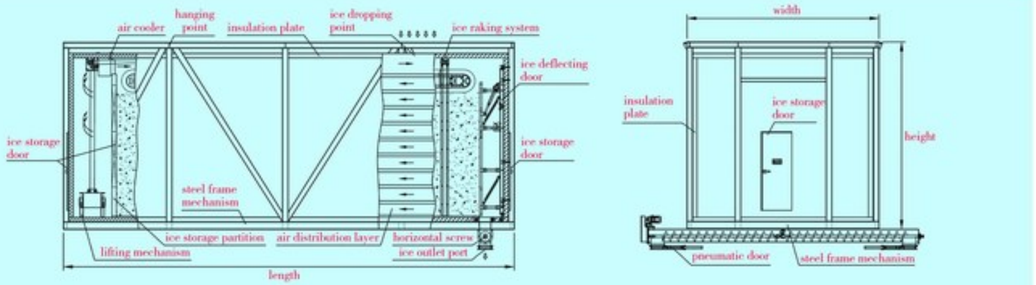
• The ice storage bin door, which is equipped with a carrier, can be open and close automatically, through the ice bin door, you can observe the ice level inside.

• The bottom adopts silica gel material to keep it from dripping during long term running. It will prolong the service life of the equipment.

• The control panel adopts PLC and touch screen, including short circuit protect, variable-speed drive for ice raker elevation, humanized operation and alarm system.

• All electronic devices inside the ice storage bin have more than IP55 protect class, to ensure long term continuous running in low temperature conditions. Extremely low failure rate, simple operation and maintenance for long time using.

Automatic Ice Storage Bin Drawing



Automatic Ice Storage Bin Main Components

1. The ice storage is made by reinforced base plate, sidewall plate, end wall plate, there is insulated layer (polyurethane foam), 100mm in thickness inside the plate.

2. The wallboard contacting ice inside storage is galvanized sheet, while stainless steel sheet is option. Between bin plate and galvanized sheet, there is cold air passage.

3. At the two ends of ice storage bin, there is stainless steel insulated bin door for entering and maintaining the ice storage bin.

4. The ice raking device is hot galvanized. the material of the ice raker and the annular chain is hard alloy.

5. The elevating device is hot galvanized with modular structure, it is automatically operated and should be kept above the ice surface, the ice raking frame can be adjusted according to the height of ice level detected.

6. Regarding the bin door, there are dynamic and pneumatic type carriers for your option. Below the bin door, there is a horizontal screw with two separate ice outlets (the outlet gate is can be open automatically or manually by pneumatic device), which can deliver ice at the same time or separately.

7. The air cooling fan inside the ice storage bin will keep the temperature of the ice storage bin at −5℃~−8℃, which will keep the flake ice dry.

8. A complete set of switch and control system with connection port for connecting with the control system of the batching plan and remote control.

9. Inside the ice storage bin, there is balance detector for ice raking device, ice full detector for horizontal screw and ice storage and related protect device

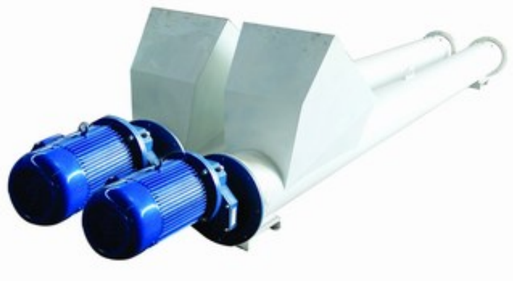
10. There is a monitor system equipped inside ice storage bin, camera installed above the ice bin door and screw delivery for monitoring the run status.

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

Screw Ice Weighing System

- The basic structure is channel or round housing with screw blade and reducer. Screw delivery system is more economical for short distance to maximum 2 destinations. The longer in distance, the more wasting to ice deliver.
- Usual installation obliquity is 30° and sometime can reach to 45° ~90° .
- There are feeding funnel and detection device at the ice inlet, which will avoid ice flake jam effectively during delivery. There are galvanized and stainless steel material for your option, with insulation layer outside.

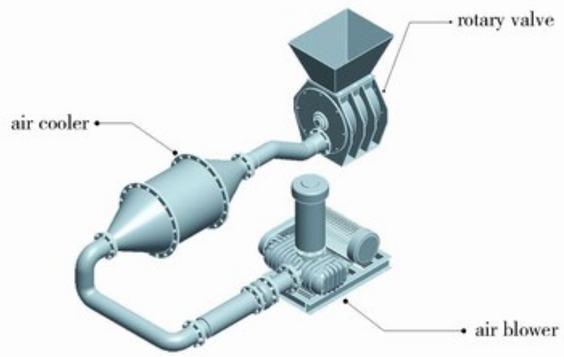


Screw Ice Weighing System Specification

Model	Delivery Capacity (Tons/hr)	Screw Diameter (mm)	Speed (r/min)	Length (mm)	Power (kW)
TSL12	12	323	72	6	5.5
			72	8	5.5
			72	10	7.5
			72	12	7.5
TSL14	14	323	85	6	5.5
			85	8	5.5
			85	10	7.5
			85	12	7.5
TSL16	16	323	91	6	5.5
			91	8	5.5
			91	10	7.5
			91	12	7.5
TSL20	20	323	116	6	5.5
			116	8	5.5
			116	10	7.5
			116	12	7.5
TSL25	25	323	145	6	5.5
			145	8	5.5
			145	10	7.5
			145	12	7.5

Pneumatic Delivery Device

- Pneumatic delivery system can be adopted when limited by the service occasion or the ice destination is too far away, moreover, it can deliver ice to several ice destinations.
- The pneumatic ice delivery system consists of high capacity low pressure air blower air cooling system, rotary valve, pipeline and control system, etc, the longest horizontal delivery distance can reach to 200 meters, or vertical delivery distance can surpass 25 meters.
- There are manual and automatic shunt valve for your option, so as to delivery to several ice destination. And separator can be adopted for the ice to be delivered directly to the mixing machine.

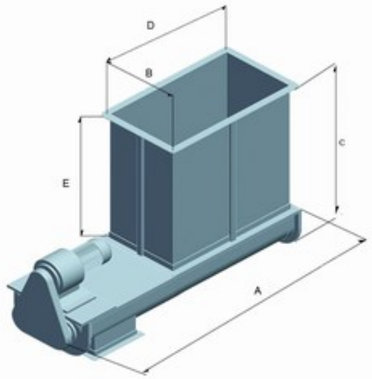


Pneumatic Delivery Device Specification

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

Screw Ice Weighing Device

- The screw ice weighing device, specially designed for weighing flake ice, can deliver ice effectively and reliably, it is used for delivering ice to the belt conveyor, adjustable ice out capacity type is optional.
- World famous weighing, control and signal conversion components, highly accurate sensor and imported micro-computer control to ensure stable performance and accurate computation.
- Low-pressure control components are world famous, modular structure makes it convenient to do the maintenance.



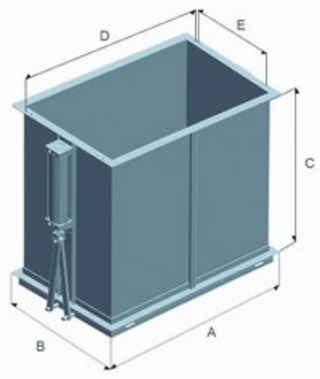
- There are separate weighing control and control system connected with bath plant for your option, it's simple for operate.

Screw Ice Weighing Device Specification

Model	Capacity (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Motor Power (kW)
LWT200	200	2230	540	1360	1000	1000	1.5
LWT250	250	2230	540	1460	1100	1100	1.5
LWT300	300	2230	540	1460	1000	1100	1.5
LWT350	350	2479	540	1460	1350	1100	1.5
LWT400	400	2479	540	1460	1350	1100	1.5
LWT450	450	2479	540	1700	1350	1350	1.5
LWT500	500	2479	540	1700	1350	1350	1.5
LWT800	800	3000	540	2000	1700	1650	1.5
LWT1500	1500	3500	850	2142	2000	1600	1.5

Pneumatic Ice Weighing Device

- It is compact rectangular structure with ice inlet on the top, gate on the bottom and insulated galvanized plate or stainless steel plate surrounding, it is sealed tightly and acts reliably.
- The ice out gate is driven by the cylinder, usually, it is used for deliver ice directly to the batching plant for take full advantage of the ice cooling capacity.
- World famous weighing, control and signal conversion components, highly accurate sensor and imported microcomputer control to ensure stable performance and computation.



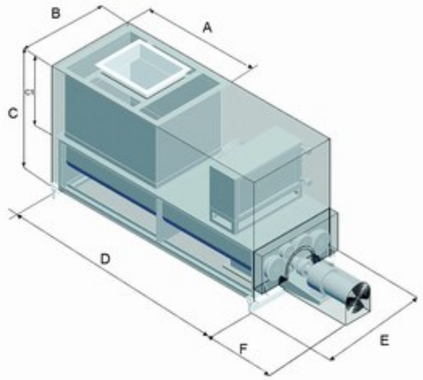
- There are separate weighing control and control system connected with bath plant for your option, it's simple for operate

Pneumatic Ice Weighing Device Specification

Model	Capacity (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
QWT200	200	804	724	1300	754	525
QWT250	250	804	804	1400	754	605
QWT300	300	804	804	1630	754	605
QWT350	350	854	804	1730	804	605
QWT400	400	904	804	1820	854	605
QWT450	450	1004	804	1800	954	605
QWT500	500	1004	804	1970	954	605
QWT600	600	1104	804	2100	1054	605
QWT800	800	1354	804	2180	1454	705
QWT1000	1000	1504	904	2180	1454	705

Flake Ice Buffer Bin

- The flake ice weighing system can be equipped with a transient insulated buffer bin, it is used for making the weighing device work stably, keeping low ice out temperature, realizing quick computation and improving the computation accuracy.
- There is a screw material feeder below buffer bin, variable frequency stepless speed variation is optional, inside the bin, there is high and low material level sensor, at low level, the lifting screw will be automatically controlled by supply material, while high level, material supply will be stopped.
- There is cooling fan equipped inside to keep temperature at −5℃, which will make the flake ice dry without ice lump for delivery easily.



Flake Ice Buffer Bin Specification

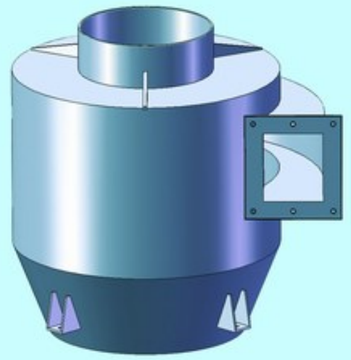
Model	Capacity (kg)	A (mm)	B (mm)	C (mm)	C1 (mm)	D (mm)	E (mm)	Motor Power (kW)
LHC50	500	1300	870	1136	550	2200	996	3.0
LHC80	800	1600	870	1386	800	2200	996	3.0
LHC100	1000	1600	870	1886	1300	2400	996	3.0
LHC120	1200	1800	870	1906	1320	2700	996	3.0
LHC150	1500	2100	870	2026	1440	3100	996	3.0
LHC200	2000	2500	1118	1860	1250	3600	1268	3.0
LHC300	3000	3000	1118	2230	1620	4100	1268	3.0
LHC400	4000	3600	1118	2490	1880	4700	1268	3.0

Shunt Valve

- The shunt valve includes a box, several straight line air distributor outlet and slide valve which move along the straight track.
- Slide valve drive by cylinder and reducer with chain, in order to deliver the ice to multi−destination, sensor were equipped at air distributor outlet, electric control system accurately control the slide valve connected with one of the air distributor line which demand ice, and change between these air distributor to achieve con−tinuous delivery ice to multi−terminal purpose.
- Shunt valve model range: 2−6 way shunt valve

Shunt Valve Specifications

Name	Two−way valve	Three−way valve	Four−way valve	Five−way valve	Six−way valve
Model	TGHF150−b	TGHF150−c	TGHF150−d	TGHF150−e	TGHF150−f

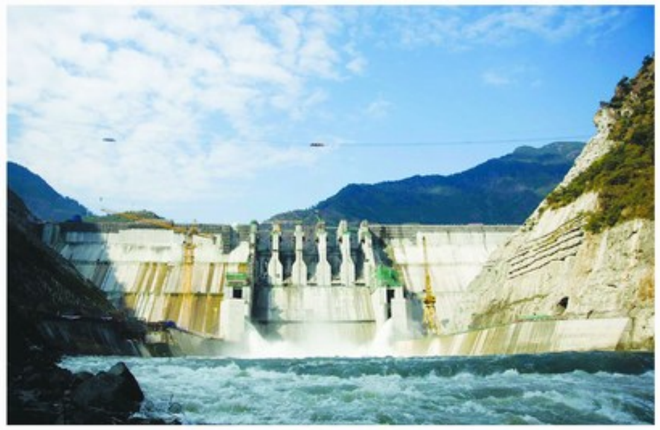


Cyclone Separator

- The cyclone separator is a end device, equipped at the end of pneumatic air delivery system for separate the ice among the air, especially use for some occasions with high pressure air and not easy to deliver the ice.
- When deliver the ice by air, the air and ice mix together Inside the pipe, because of the centrifugal the Ice separated to the pipe inner wall and fall down by gravity and the air go out from upper exhaust hole when the ice and air mixture passed by the cyclone separator.

Classic Project References

Jin anqiao hydropower engineering



Guandi hydropower engineering

Al Halifar tower building project, Dubai

Makkah railway project, KSA

Hongkong–Zhuhai–Macao bridge

Classic Project References

Sanmen nuclear power plant project

Qinshan nuclear power plant project

Fuqin nuclear power plant project

Yangjiang nuclear power plant project

Hydropower plant project, Brazil vista geral total

Classic Project References

FIP40+AIS75+ICW240,UAE

FIP100+AIS75+ICW312x2,UAE

FIP43+AIS50+ICW120,OMAN

FIP50+AIS60+ICW120,KSA

FIP43+AIS75+ICW120,Bahrain

FIP43+AIS75+ICW312,UAE

Classic Project References

FIP30+AIS23+ICW120,KSA

FIP43+AIS50+ICW120, UAE

Snowkey

After Sales Service

• Fujian Snowman Co. Ltd found a strong sales team, cooperate with overseas agents, snowkey sold its products around the world, and meanwhile where there is snowkey products, there is snowkey service.

• In China, snowkey already built up sales agent and after service team among several large and medium cities, We own agent in Beijing, Shanghai, Guangzhou, Qingdao, Dalian, Wuhan, Hangzhou, Zhengzhou, Chengdu, Fuzhou etc.

• Fujian Snowman Co. Ltd., sold its products to hundreds of countries, by found our own office and spare parts storage in the main market in Dubai and KSA, and owned more than 30 qualified distributors among Southeast Asia, Middle East, Europeans countries, North and South America and Australia.

After Sales Service Team

• Fujian Snowman Co. Ltd., own a experienced after sales service team for erection the machines, professional engineer master in refrigeration, mechanism and electric control linkage selected to be the project manager, they can analyzed, find out and solved the difficulties on the site, and completed the installation and commissioning tasks. Automatic control is very important to the process.

• Snowkey engineers will collect all the feedbacks by follow up with the users, then solve the problems and upgrade the machine, we write the PLC program by technology chart and write course control every logic linkages, the buyer can see, record and monitor the PLC data, all in all snowkey will sent outstanding engineers who are professional and full of site manage experience.