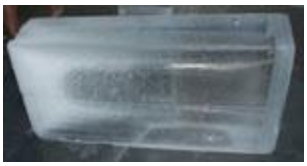
Block Ice Machine

Linsky can offer 3 types of block ice machine for different applications: direct refrigeration aluminum alloy type, indirect refrigeration brine type and containerized mobile type.



Block Ice large cube shape, weight of 1~200kg, solid ice; Block ice is the largest ice in all the ice products. It is not easy to thaw due to its small contact area. And it can be crushed into different shapes of ice according to different requirements. Linsky offers transparent, semi-transparent or milky white three ice appearances available.

Features

- Transparent ice features: crystal, solid and not easy to melt;
- Semi-transparent ice features: misty white appearance as a few amount of gas mixed in ice making process, ice is solid and not easy to melt;
- Milky white ice features: milky white as lot of gas mixed in fast ice making process, low temperature, not easy to melt but suitable for crushing.

Block Ice Applications fishing industry, fresh keeping or human consumption after crushing; transparent one used for ice sculpture, ice show etc.; it also can be used in the area of chemical industry, food processing cooling.

Brief Introduction

Block Ice Colors & Sizes

From block ice appearance, Linsky block ice machine could produce transparent, semi-transparent and milky white block ice; In the aspect of weight and dimension, Linsky standard block ice weight and dimension are listed below for your reference:

Ice Weight	Dimension
5kg/pc	L100×W100×H580mm
10kg/pc	L200×W100×H580mm
15kg/pc	L240×W125×H580mm
20kg/pc	L250×W125×H780mm
25kg/pc	L290×W125×H780mm
30kg/pc	L350×W125×H780mm
50kg/pc	L450×W160×H780mm
50kg/pc	L330×W220×H780mm
100 kg/pc	L520×W220×H980mm
* Linsky can customize your block ice machine, telling us your desired weight and size of produced ice, color of ice and ice making time!	

Block Ice Making Period

Ice making time has direct relation to its evaporating temperature of refrigerant and ice thickness. The lower evaporating temperature, the faster ice forms and the whiter the block ice looks like.

With many years' of ice machine manufacturing experience, Linsky has rich experimental records and data in block ice making period. The standard ice making period is shown as follows:

Thickness（width）	Transparent ice	Semi-transparent ice	Milky ice
100mm	14 hrs/batch	06 hrs/batch	05 hrs/batch
120mm	20 hrs/batch	08 hrs/batch	07 hrs/batch
160mm	32 hrs/batch	12 hrs/batch	11 hrs/batch
220mm	50 hrs/batch	24 hrs/batch	22 hrs/batch

Remark: the default Linsky block ice is milky white by direct technology, standard working condition: ambient temperature 35℃, inlet water temperature 25℃.

Aluminum Direct Type Block Ice Machine

- Linsky direct system block ice machine uses aluminum alloy plate evaporator instead of traditional cooling media“brine”to make ice. Ice and refrigerant conduct heat transfer directly through aluminum alloy plate. In this way, machine can harvest ice within shorter time and effectively increase ice making efficiency and meanwhile, more energy is saving;
- All parts of Linsky direct system block ice machine which contact with water are made of SUS304 or aluminum alloy material. The produced ice is clean and hygiene, complying with HACCP certification requirement. Ice could be eaten directly.

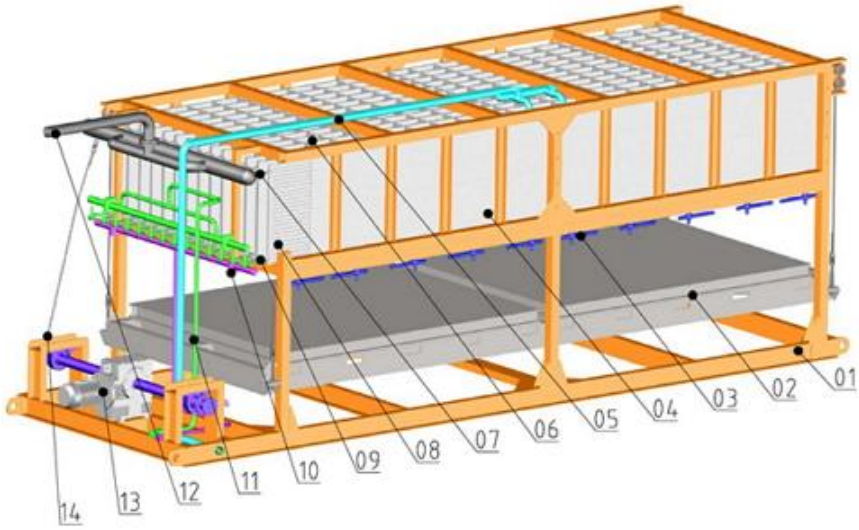
Aluminum Direct Type Block Ice Machine Features

- Adopts latest technology, no need of brine tank;
- Aerospace aluminum alloy 6063-T5, high heat transfer coefficient, high strength and robust evaporator by enhanced welding technology;
- Direct heat exchange between the water and refrigerant in aluminum evaporator brings higher ice making efficiency, thus ice forms 1.5 times faster than ordinary ice machine which uses brine water;
- Easy-to-operate screw rod lifting mechanism gets feedback from the distance sensor which can realize more precise and safe control;
- Passive reservoir control method applied to specify precise liquid supply, which increases ice making efficiency and system reliability;
- Automatic water adding function by back type liquid level control technology;
- Silicone foam seal avoids evaporator dripping problem;
- Unique refrigeration system, using hot gas defrost technology makes easier and automatic ice harvest;
- Integrated modular design facilitates installation and maintenance on the spot;
- Food grade manufacturing process, totally complies with food standard;
- Warranty period

Complete Package	12~15 months
Compressor	3 years
Evaporator	3 years

Condenser	3 years
Cooling Tower	15 months

How Does Aluminum Direct Type Block Ice Machine Work?



01: Steel frame
02: Ice filling plate with lifting mechanism
03. Lock handle
04. Aluminum evaporator
05. Water feeding pipe
06. Ice grid
07. Refrigerant outlet
08. Refrigerant runner
09. Refrigerant inlet
10. Liquid discharge tube
11. Liquid supply tube
12. Gas return tube
13. Speed reducer for lifting mechanism
14. Wire rope

* The diagram of aluminum direct system block ice machine working principle

As shown, Ice filling plate (02) will be elevated by wire rope (14) which is driven by speed reducer (13). Lift up the filling plate to be fastened in the lock handle (03) and get the whole aluminum alloy plate evaporator (04) sealed. Add water into the ice grid (06) automatically through water feeding pipes (05). At the bottom of all ice grid there is a 5mm space ensures water can flow through each ice can. When water reaches to the standard level, it will stop to continue to add water automatically.

Refrigeration system starts to run after water adding process. Refrigerant flows into the refrigerant runner (08) of aluminum evaporator (04) from refrigerant inlet (09) and exchanges heat with water in ice grid to lower the water temperature.

In a certain time, all the water in ice can will turn into block ice. At this time, refrigeration system switches to ice defrost mode. Hot gas enters into gas return tube (12) and becomes fluid in refrigerant runner (08), then back through liquid discharge tube (10) to the dry evaporator.

Hot gas defrosts ice surface and separates them from ice grid. At this time, refrigeration system stops to work. Speed reducer for lifting mechanism (13) drives wire rope to lower ice lifting plate to the bottom place of steel frame (01). The ice on filling plate can be manually moved away or the whole plate be taken away by forklift for swift and labor-free ice shift.

The Specification of Linsky Aluminum Direct Type Block Ice Machine

Model	Capacity	Refrigerant	Operating Power	Install Power	Operating weight	Dimension
LIB-10D	1ton/day	R22/R404A	4.2kw	5.4kw	950kg	L2455XW935XH2018mm
LIB-20D	2ton/day	R22/R404A	7.2kw	9kw	1460kg	L4549XW1104XH1881mm

LIB-30D	3ton/day	R22/R404A	11.8kw	13.8kw	2280kg	L4300XW2100XH2050mm
LIB-50D	5ton/day	R22/R404A	18.9kw	24.2kw	Unit:960kg	L2500XW1400XH1450mm
					Evaporator:2260kg	L2910XW1855XH1900mm
					Cooling Tower:460kg	Ø1380XH2170mm
LIB-100D	10ton/day	R22/R404A	34.8kw	46.4kw	Unit:1680kg	L1800XW1600XH1800mm
					Evaporator:3750kg	L5566XW1355XH2300mm
					Cooling Tower:670kg	Ø2000XH2410mm
LIB-150D	15ton/day	R22/R404A	57.8kw	73kw	Unit:2580kg	L2270XW2170XH2200mm
					Evaporator:4680kg	L6520XW2170XH2420mm
					Cooling Tower:1120kg	Ø2175XH2565mm
LIB-200D	20ton/day	R22/R404A	72kw	96kw	Unit:2880kg	L3080XW2140XH2460mm
					Evaporator:6540kg	L8385XW2145XH2480mm
					Cooling Tower:1300kg	Ø2650XH2645mm
LIB-250D	25ton/day	R22/R404A	88.3kw	120kw	Unit:3750kg	L3080XW2140XH2460mm
					Evaporator:7560kg	L10195XW2160XH2741mm
					Cooling Tower:1630kg	Ø3050XH2780mm
LIB-300D	30ton/day	R22/R404A	118kw	145kw	Unit:4135kg	L3780XW2140XH2460mm
					Evaporator:9840kg	L11890XW2160XH2741mm
					Cooling Tower:2730kg	Ø3300XH2785mm
Standard condition: dry bulb temperature is 35℃ and inlet water temperature is 25℃.						

Note: Click the model number for details.

Brine Type Block Ice Machine

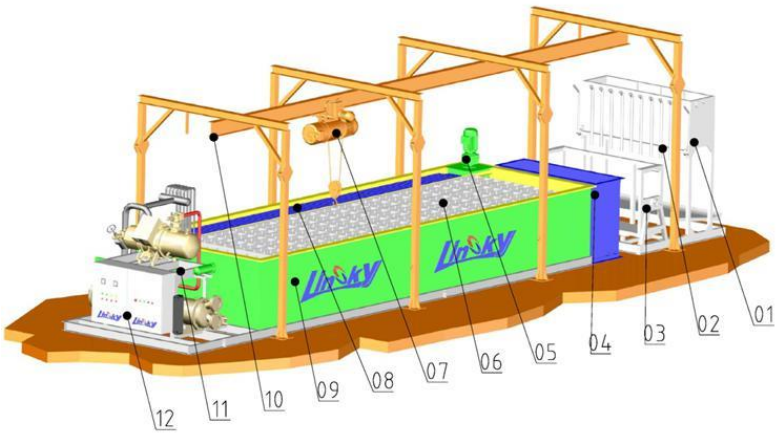
Large dimension but small contact area means block ice does not melt easily. For tropical countries and areas, block ice still has overwhelming advantages over other forms of ice. The ease of ice storage, handling and transport all could be realized in this form of large blocks. That's the very ideal ice for the relatively long time storage and long distance distribution. Linsky brine type block ice machines are stable and energy efficient, simple to use and cost-effective to maintain.

Brine Type Block Ice Machine Features

- Large evaporation area coil evaporator increases heat transfer efficiency, ensures long service time and corrosion resistance;
- Well insulated brine tank with high resistant epoxide coating;
- Heavy-duty overhead crane with 2 speeds for moving, lifting and tipping the ice cans;
- Ice thawing tank utilizes the exhaust heat from compressor, more energy saving;
- Modular design simplified equipment transportation and on-site installation process;
- Rivet and reinforced ice cans construction to extend its service life;
- Unique propeller blade processing technology to improve the efficiency of the agitator, increase the flow of salt water, accelerate ice making speed;
- Options of stainless steel ice cans and galvanized steel ice cans;
- Touch screen, reserve function, 3G network remote fault alarm, 4G network remote video monitoring are available on request;
- Warranty period

Complete Package	12~15 months
Compressor	3 years
Evaporator	3 years
Condenser	3 years
Cooling Tower	15 months

How does a brine type block ice machine work?



01. Water feeder
02. Water feeding gadget
03. Can dump
04. Thaw tank
05. Agitator
06. Ice can
07. Crane
08. Coil evaporator
09. Brine tank
10. Guiding rail
11. Compressor unit
12. Electric control box

* The diagram of brine system block ice machine working principle

As shown, when compressor unit (11) starts to run, refrigerant enters into coil evaporator (08) and begins evaporating. Brine water in brine tank (09) is circulated by agitator (05), then flow through coil evaporator (08). After water temperature decreases, it contacts with the outer surface of ice cans (06) and absorbs the heat of water in ice cans. Thus, all the water in the ice cans will be freeze until freezing point. The water after exchanged heat will be delivered by agitator to coil evaporator to be cooled down again, which forms a brine water circulation. In certain time, all the water in the ice cans will turn into block ice.

The crane (07) will move on guiding rail (10) and hoist a row of ice cans (06) down into the ice thaw tank (04). Normal temperature water in thaw tank will melt the outside surface of ice can, so the ice surface thaws and gets separate from ice cans.

The compressor unit (11) can control brine tank temperature by electric control box (12). When the temperature increases, the compressor unit starts to work; when it reaches to the set temperature, the compressor unit stops to work.

Specification of Linsky Brine Type Block Ice Machine

Model	Capacity	Refrigerant	Operating Power	Install Power	Operating weight	Dimension
LIB-10B	1ton/day	R22/R404A	4.2kw	5kw	1560kg	L4020×W1437×H2871mm
LIB-20B	2ton/day	R22/R404A	9.2kw	12kw	2015kg	L4698×W1437×H2871mm
LIB-30B	3ton/day	R22/R404A	13.5kw	16kw	2788kg	L5419×W1437×H2871mm
LIB-50B	5ton/day	R22/R404A	20.15kw	24kw	Ice Machine: 3750kg	L8756XW2242XH2900mm
					Cooling Tower: 460kg	Ø1380xH2170mm

LIB-100B	10ton/day	R22/R404A	37.6kw	48kw	Ice Machine: 6340kg	L12374×W2242×H2900mm
					Cooling Tower: 670kg	Ø2000xH2410mm
LIB-150B	15ton/day	R22/R404A	57.85kw	72kw	Unit: 2080kg	L2000XW1410XH1640mm
					Brine Tank: 5500kg	L10824XW2242XH1070mm
					Cooling Tower: 1120kg	Ø2175xH2565mm
LIB-200B	20ton/day	R22/R404A	86.5kw	100kw	Unit: 2400kg	L2500XW1950XH1660mm
					#1 Brine Tank: 4300kg	L7716XW2242XH1070mm
					#2 Brine Tank: 4300kg	L7716XW2242XH1070mm
					Cooling Tower: 1300kg	Ø2650xH2645mm
LIB-250B	25ton/day	R22/R404A	96.84kw	118kw	Unit: 3200kg	L2700XW2200XH2191mm
					#1 Brine Tank: 5000kg	L9270XW2242XH1070mm
					#2 Brine Tank: 5000kg	L9270XW2242XH1070mm
					Cooling Tower: 1630kg	Ø3050xH2780mm
LIB-300B	30ton/day	R22/R404A	118kw	150kw	Unit: 3500kg	L2700XW2200XH2191mm
					#1 Brine Tank: 5500kg	L10824XW2242XH1070mm
					#2 Brine Tank: 5500kg	L10824XW2242XH1070mm
					Cooling Tower:2730kg	Ø3300xH2785mm

Standard condition: dry bulb temperature is 35℃ and inlet water temperature is 25℃.

Note: Click the model number for details.

Containerized Type Block Ice Machine

For easy transport and moving, Linsky supply containerized type block ice machine. All parts are made of 3D simulation assembly and perfectly loaded in ISO shipping container. It easily realizes the function of selling ice by mobile ice plant because it is very convenient for the client to install and move the plant. Linsky containerized block ice dimension and weight varies to change, so we only provides part of commonly used standard models.

Containerized Type Block Ice Machine

Model	Capacity	Refrigerant	Operating Power	Install Power	Operating weight	Dimension
LIB-30BC	3ton/day	R22/R404A	13.5	16	3900	L6058XW2438XH2591
LIB-50BC	5ton/day	R22/R404A	20.15	24	5600	L6058XW2438XH2591
LIB-100BC	10ton/day	R22/R404A	37.6	48	8680	L12192XW2438XH2896
LIB-30DC	3ton/day	R22/R404A	11.8	13.8	4480	L6058XW2438XH2591
LIB-50DC	5ton/day	R22/R404A	18.9	24.2	5210	L6058XW2438XH2591
LIB-100DC	10ton/day	R22/R404A	34.8	46.4	7520	L12192XW2438XH2896
LIB-150DC	15ton/day	R22/R404A	57.8	73	8600	L12192XW2438XH2896
LIB-200DC	20ton/day	R22/R404A	72	96	9660	L12192XW2438XH2896
Standard condition: dry bulb temperature is 35℃ and inlet water temperature is 25℃.						

Note: Click the model number for details.

Brief Introduction

Linsky containerized system block machine could use water, air or evaporative cooling method. As the advanced ice defrosting technology mastered, though the ice harvesting temperature is unconstrained specific to different cooling ways, the maximum ice defrosting time will not take more than 20 minutes.

Linsky usually adopts brand new 20 feet or 40 feet high container, the applicable ice production range is listed below:

Ice Weight	Aluminum Direct Brand New 20'GP	Aluminum Direct Brand New 40'HQ	Brine Brand New 20'GP	Brine Brand New 40'HQ
5kg	8T/Day	N/A	8T/Day	N/A
10kg	10T/Day	N/A	8T/Day	N/A
15kg	6T/Day	20T/Day	4.6T/Day	15T/Day

20kg	6T/Day	20T/Day	4.6T/Day	15T/Day
25kg	6T/Day	20T/Day	4T/Day	15T/Day
30kg	6T/Day	20T/Day	4T/Day	12T/Day
50kg	4T/Day	12T/Day	3T/Day	10T/Day

*The chart of containerized block ice machine capacity range