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"Bingshan" Build the comfortable and clean environment for humankind



制冰成套设备



FRIGOESPACIOS®

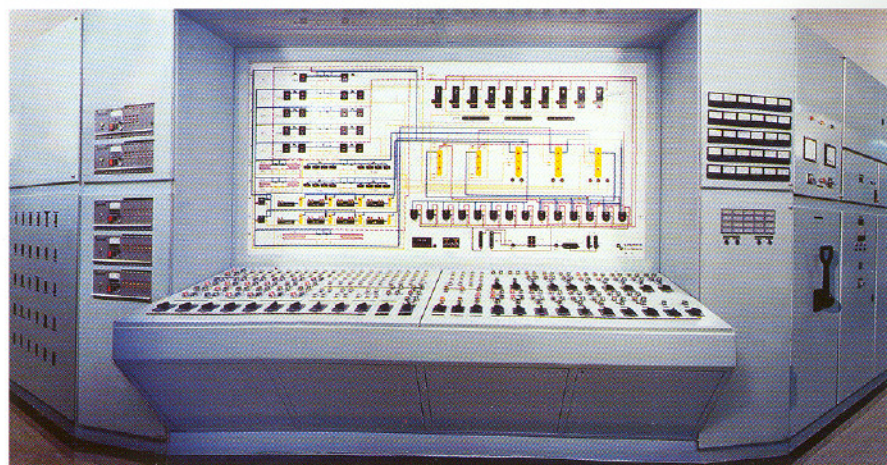
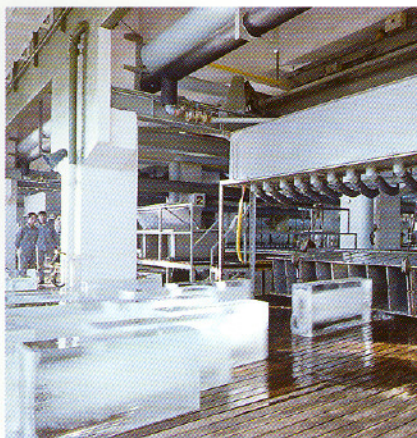
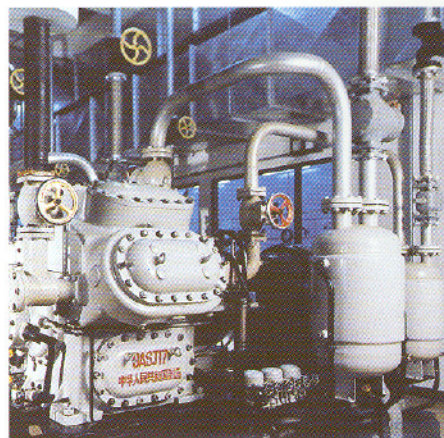
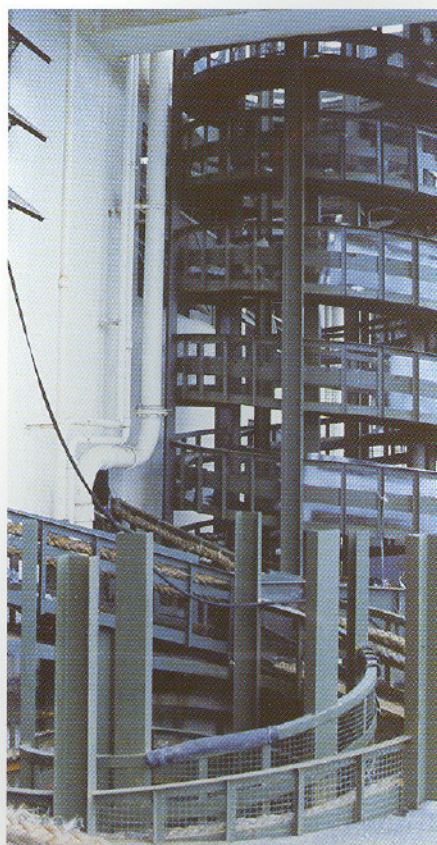
ICE MAKING PLANT



大连冷冻机股份有限公司  
DALIAN REFRIGERATION CO.,LTD.

制冰成套

## ICE MAKING PLANT





## ■概述

### General outline

我公司经营成套制冰设备，冰块有25kg、50kg、135kg三种规格，按冰质有透明冰和白冰两种，制冰能力有日产3、5、10、15、20、30、70、140、210、280吨10种系列配套设备。

我公司为您提供的制冰成套设备包括：氨压缩机、配套辅机制冰间设备、起吊设备。不包括冰池盖板、设备绝缘、系统管路、贮冰库设备、吊车轨道、透明冰系统。如用户需要，请在订货时提出，商量解决。

本样本编录了成套制冰设备表、工艺流程图、制冰间设备面置图及制冰池、融冰槽、倒冰器、冰桶加水器图，为您提供设计所必须的各种数据及图样，可供设计院及用户进行方案设计，设备选型、土建以及工程设计之用。本样本中的建筑结构仅为示意，设计单位及用户可根据设计规范，强度计算确定具体一的土建结构，但必须保证本样本中所要求的尺寸。

我公司除经营标准型制冰成套设备外还可根据用户需要提供非标准型冰厂设计、工艺系统设计、贮冰库设计，如您需要安装高度、技术指导，我公司乐于为您服务。

Our works manages the ice making plants with 10 kinds of capacity to be selected, 3/5/10/15/20/30/70/140/210/280 tons/day. the plants are available in production for ice of two forms, i.e. transparent ice and white ice, which can be divided into three specifications, 25kg, 50kg, and 135kg. the complete plants for ice making to be supplied by our works including ammonia refrigerating compressor, accessories and components to be matched to the range of plants, equipments to be mounted in ice making shop, and lifting equipments, but except covering floors over ice making tanks, insulating materials for plants. Note other requirements when ordering.

This sample copy is printed with tables and drawings as follows:

Table of complete equipments for ice making plant, ice making flow scheme, and drawings of making tank, thawing tank, ice-tip, water filler for ice can. Various technical data and drawings to be designed are marked, which make it convenient to carry on designing works. This copy is useful for concerning departments to make process design, selection of equipments, civil engineering design. The civil constructions showed in the brochure is for reference only. Designing departments and users can determine the constructions according to the design specifications and strength calculation. But it should be noted that the constructions designed by concerning departments should be ensured to accord with the dimensional requirements showed in the brochure.

Not only are the standard complete plants for ice making supplied with a wide ranges, but the non-standard plants, refrigeration systems, and ice storages to meet the users' needs of, designed by our works. If it is necessary for us to provide service of mounting and

## ●制冰成套设备主要技术参数表

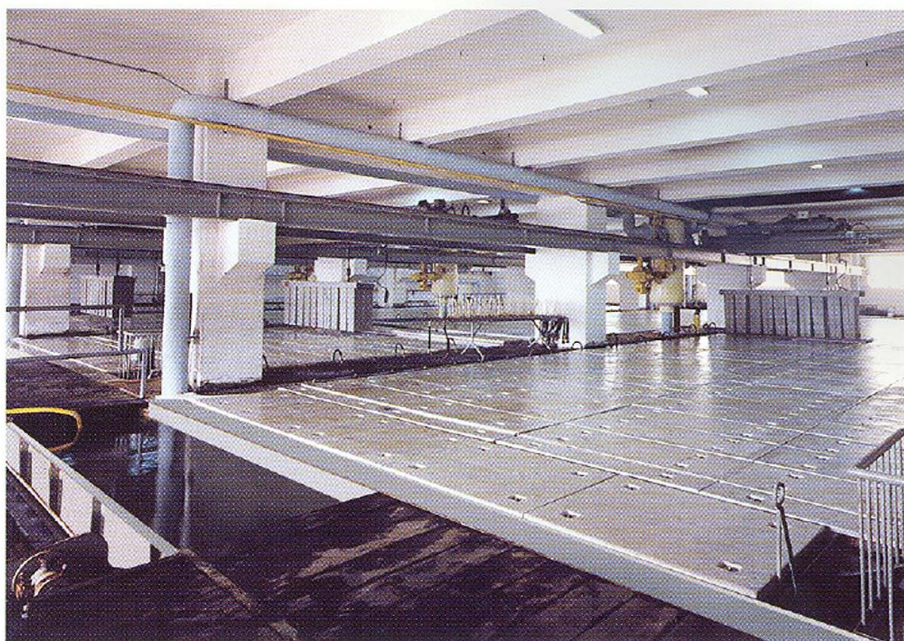
Stable of main technical data for ice making complete ice making plant

| 基本参数<br>General data |                                           | 单位<br>Unit     | 制冰能力 t/24h ice making capacity |    |     |     |     |     |     |     |      |      |
|----------------------|-------------------------------------------|----------------|--------------------------------|----|-----|-----|-----|-----|-----|-----|------|------|
|                      |                                           |                | 3                              | 5  | 10  | 15  | 20  | 30  | 70  | 140 | 210  | 280  |
| 冰块重量                 | Weight of ice block                       | kg             | 25                             |    | 50  |     |     |     | 135 |     |      |      |
| 结冰时间                 | Icing time                                | h              | 12                             |    | 24  |     |     |     | 42  |     |      |      |
| 制冰间面积                | Area of ice making shop                   | m <sup>2</sup> | 44                             | 52 | 112 | 133 | 154 | 196 | 360 | 720 | 1080 | 1440 |
| 总供电容量                | Total power                               | kw             | 23                             | 38 | 48  | 59  | 90  | 108 | 241 | 482 | 740  | 964  |
| 冰凝器耗水量               | Water consumption of condenser            | t/h            | 7                              | 14 | 26  | 80  | 105 | 160 | 260 | 520 | 780  | 1040 |
| 制冰用原料水量              | Water amount for ice making               | t/24h          | 3                              | 5  | 10  | 15  | 20  | 30  | 70  | 140 | 210  | 280  |
| 制冰用水温度               | Water centigrade for ice making           | ℃              | ≤ 25                           |    |     |     |     |     |     |     |      |      |
| 冷凝器冷却水进水温度           | Centigrade of cooling water for condenser | ℃              | ≤ 32                           |    |     |     |     |     |     |     |      |      |
| 制冰池盐水温度              | Brine centigrade of ice making pool       | ℃              | -10                            |    |     |     |     |     |     |     |      |      |
| 冰块空心度                | Hollowness of ice block                   |                | ≤ 8%                           |    |     |     |     |     |     |     |      |      |



制冰间设备

Equipment for ice making shop

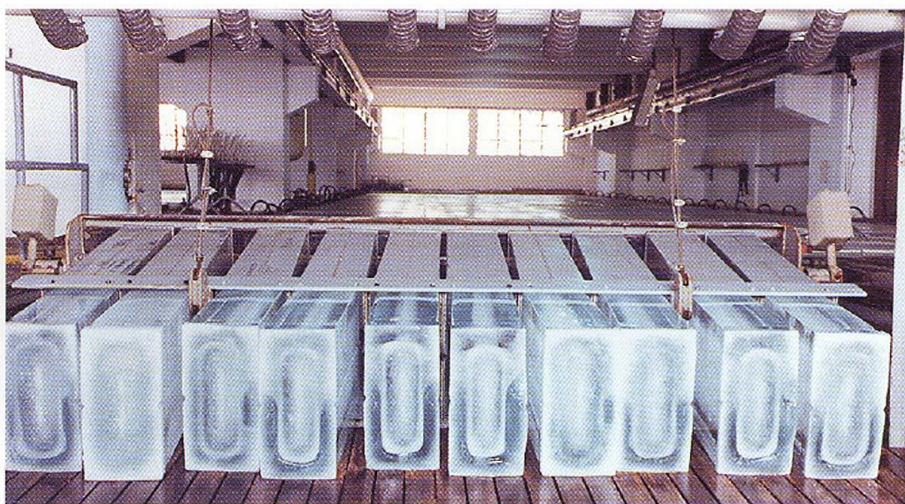


■ 制冰间设备

Equipment for ice making shop



制冰间Ice making shop

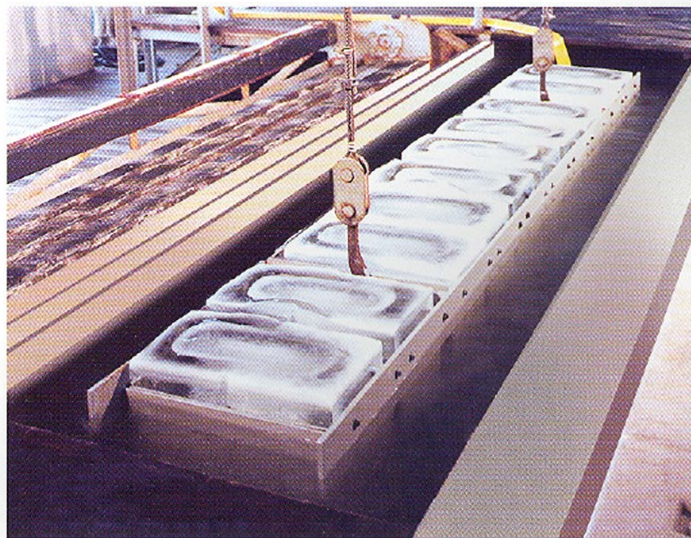
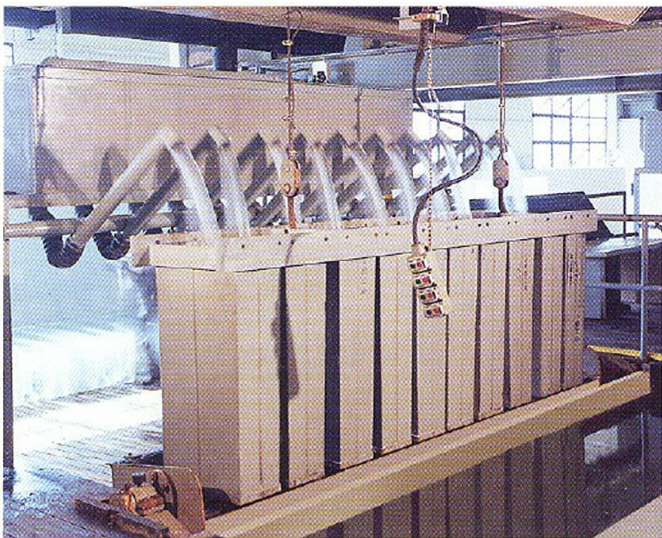


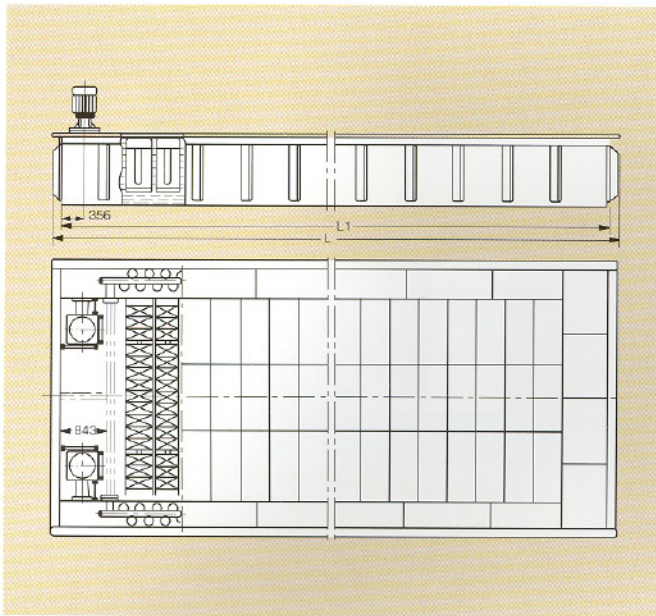
冰桶加水Water filling for ice cans

倒冰Ice tipping

融冰

Ice thawing





### ●制冰池

由钢板焊接而成的长方形水槽，在槽的两端装有蒸发排管，槽内壁用角钢焊成架子，用来搁置带有冰桶的冰桶架。槽内盛有一定浓度的盐水，槽四周及底部需用隔热层及防潮层包住，以防止热量侵入。槽口上盖以木盖(由用户自行解决)。制冰池供应半成品。

### ●Ice making tank

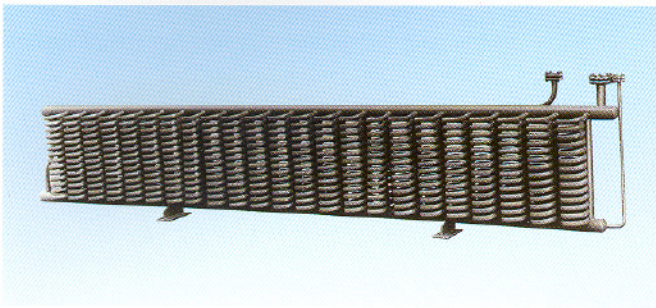
The ice making tank is a rectangular water tank, welded of steel plates. Evaporator coils are mounted as both ends. The inner walls of the tank are welded by pieces of angle steel as frame for placing the frame carrying the ice cans. The tank is filled with brine of certain concentration. The tank should be wrapped by insulator and moisture barrier around its four sides and under its bottom, to prevent heat from entering the tank. If is covered by a wooden cover ( made by the users. ) Ice making tank will be supplied in semi-finished product.

### ●蒸发排管

由上下两总管和两排螺旋管焊接而成。装于制冰池内。氨液经节流阀送入蒸发排管，以吸收盐水热，于是液氨蒸发，并使盐水温度降低。

### ●Evaporator coils

The evaporator coils are welded of two main pipes and two rows of spiral pipes and are set within the ice making tank. Liquid ammonia enters the evaporator coils through the throttle valve and absorbs heat from brine, thus resulting in vaporizing liquid ammonia and temperature falling of brine.



### ●立式搅拌机

装置在制冰池两端，搅拌机内盐水，使盐水以较高的流速通过蒸发排管及冰桶间隙，以提高传热效率。

### ●Vertical agitator

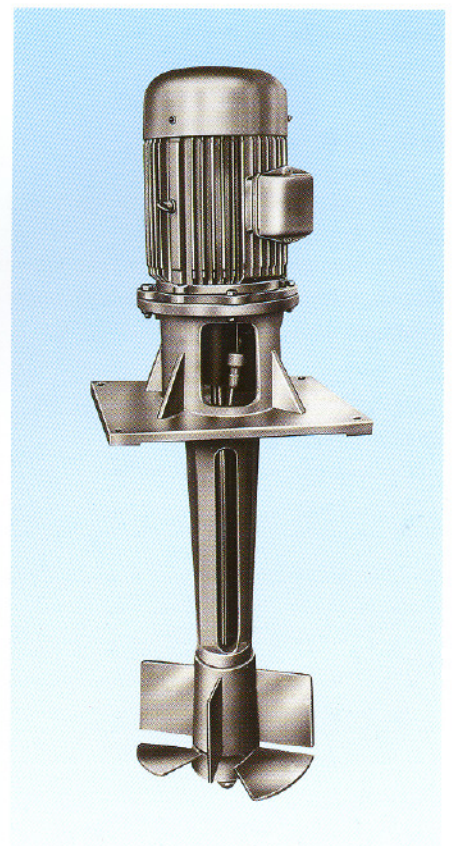
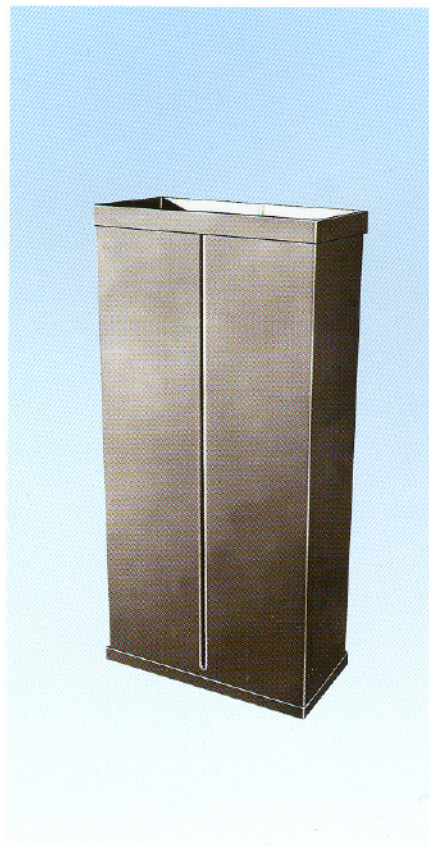
It is mounted on both sides within the ice making brine in the tank to make brine flow rapidly through the space between evaporator coils and ice cans, so as to increase efficiency of heat transfer.

### ●冰桶

用镀锌钢板铆焊而成，稍具锥形，便于倾冰，在冰桶上口用扁钢铆接，以增加冰桶口的强度。

### ●Ice cans

the ice cans are made of galvanized steel plate, and is somewhat tapered in order to facilitate the discharge of ice blocks. Top openings of the ice cans are riveted with flat steel in order to get reinforced.

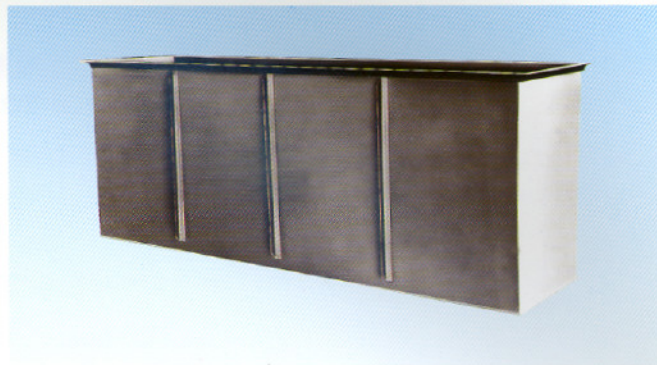


### ●融冰槽

#### Thawing tank

这一开口盛水容器，其中盛 $35^{\circ}\text{C} \sim 40^{\circ}\text{C}$ 水，用以融化冰块与冰桶贴合表面，使冰块脱离冰桶，以便出冰。

The tank is an open-type water container filled with water at the temperature of  $35^{\circ}\text{C} \sim 40^{\circ}\text{C}$ . it is used for melting surfaces of the ice blocks in contact with ice cans, in order to facilitate the discharge of ice blocks from the ice cans.



### ●倒冰器

#### Ice-tip

一支L型架子，两端支承在支座上，用于翻倒水桶，使冰块滑出冰桶。

The ice-tip is a frame of L-type supported by its both ends on a bracket, it is used to slant the ice cans for discharging ice blocks.

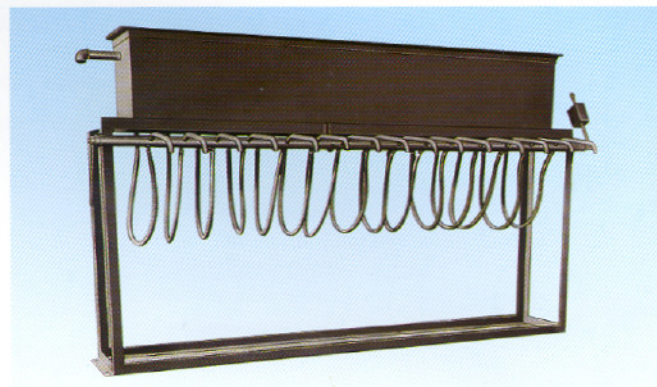


### ●冰桶加水器

#### Water filler for ice cans

由与冰桶数相应的旋转水嘴及定量水箱所组成，能确保向冰桶中同时加入符合要求数量的水。

The water filler consists of rotary cocks and quantitative water tanks of the same number corresponding with that of the ice cans to ensure filling the ice cans simultaneously with required amount of water.

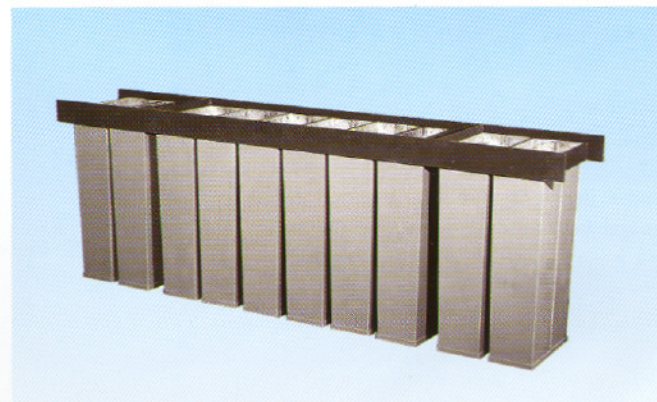


### ●冰桶架

#### Ice can frame

搁置在制冰池上的支架框，上放一排冰桶，由双钩桥式起重机的提起和放入制冰池。

The ice can frame holding a row of ice cans is put on the ice making tank, it can be lifted up and put into the tank by a double-hook bridge crane.



### ●吹风系统

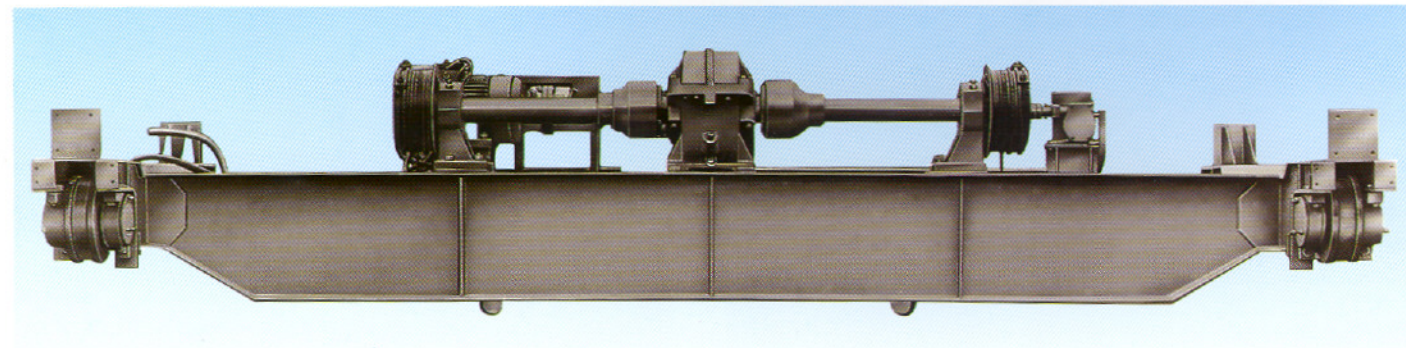
#### Blowing system

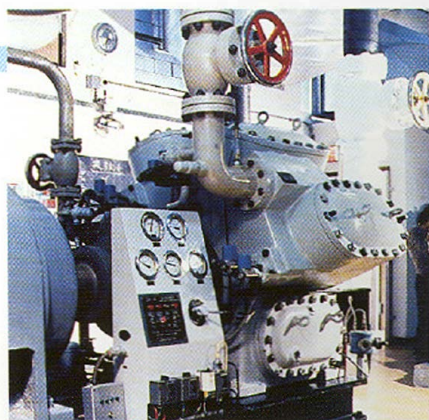
包括旋涡通风机和空气罐等。如不需冻制透明冰，应在订货时予以说明。

This system includes rotor type blower, air cylinder, etc. Please inform us before placing order if it is to make transparent ice.

### ●双钩桥式起重机

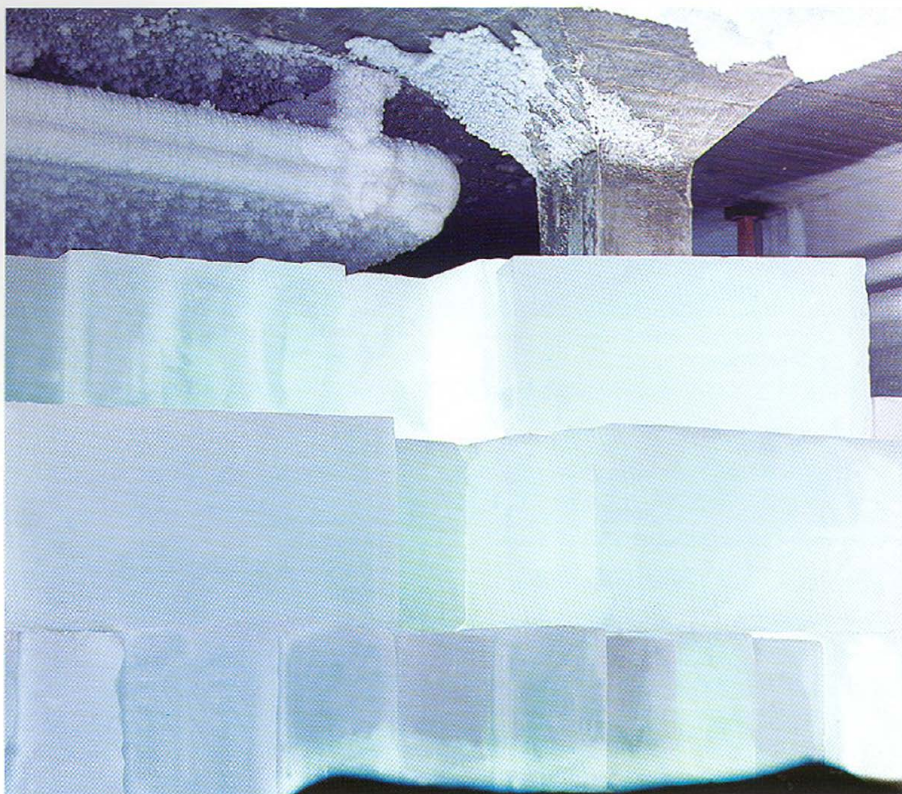
#### Double-hook bridge crane



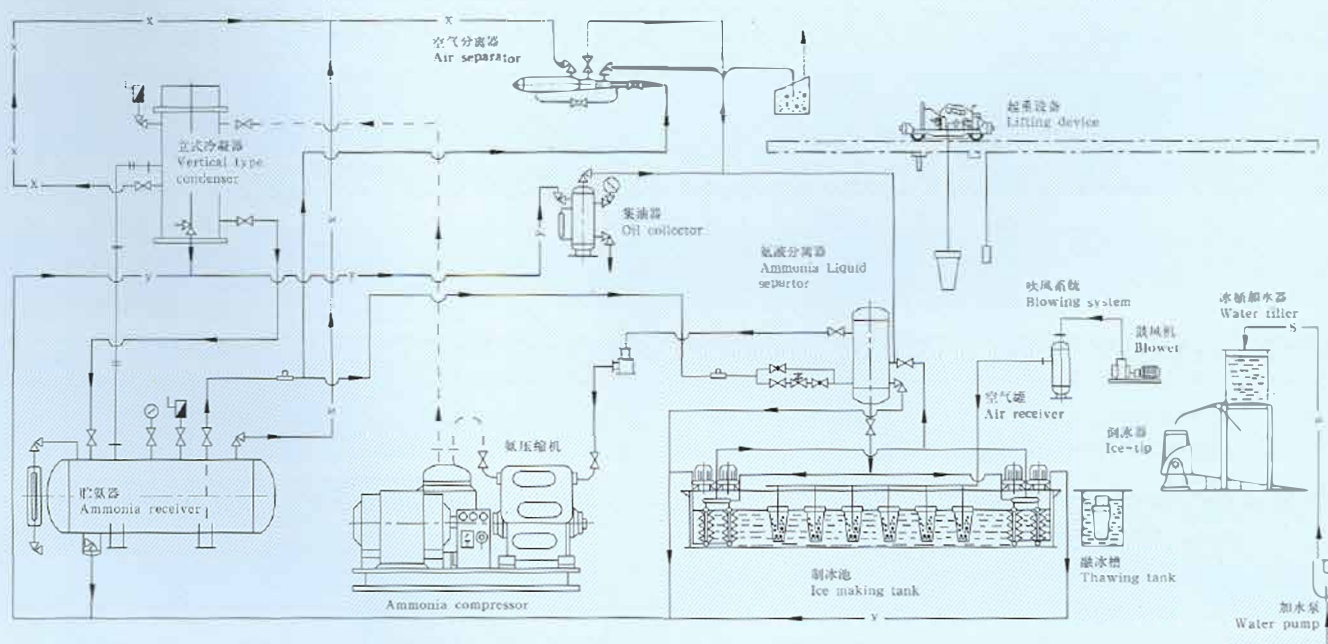


## 制冷工艺流程示意图

### Equipment for ice making shop



#### ● 制冷工艺流程示意图 Ice make flow scheme



### 3.5t/24h 制冰成套设备表

Table of complete equipment for ice making plants with capacity 3.5t/24h

| 设备名称<br>Name                   | 外形尺寸(mm)<br>Overall dimension | 单 重<br>(kg)<br>Weight | 3t/24h                |       | 5t/24h              |       |
|--------------------------------|-------------------------------|-----------------------|-----------------------|-------|---------------------|-------|
|                                |                               |                       | 型号Model               | 数量No. | 型号Model             | 数量No. |
| 氨压缩机组 Ammonia compressor unit  | 1900 × 1100 × 1450            | 1170                  | 2AZ10-1               | 1     | 2AZ10-1             | 2     |
| 氨液分离器 Ammonia liquid separator | ø325 × 1405                   | 120                   | AF-50                 | 1     |                     |       |
|                                | ø325 × 1405                   | 125                   |                       |       | AF-65               | 1     |
| 氨液过滤器 Ammonia liquid filter    |                               |                       | YG-25                 | 1     | YG-25               | 1     |
| 液位控制器 Liquid level cordroller  |                               |                       | UQK-40                | 2     | UQK-40              | 2     |
| 节流阀 Throttle valve             |                               |                       | DN-25                 | 1     | DN-25               | 1     |
| 电磁阀 Solenoid valve             |                               |                       | ZCL-25YB              | 1     | ZCL-25YB            | 1     |
| 集油器 Oil collector              | ø159 × 625                    | 28                    | JY-150                | 1     | JY-150              | 1     |
| 空气分离器 Air separator            | ø108 × 635                    | 55                    | KF-32B                | 1     | KF-32B              | 1     |
| 制冰池 Ice making tank            | 4644 × 2092 × 1206            | 3450                  | ZB3/25                | 1     |                     |       |
|                                | 6480 × 2092 × 1206            | 4670                  |                       |       | ZB5/25              | 1     |
| 融冰槽 Thawing tank               | 1800 × 600 × 1400             | 293                   | ZB5/25                | 1     | ZB5/25              | 1     |
| 倒冰器 Ice-tip                    | 1644 × 700 × 490              | 140                   | ZB5/25                | 1     | ZB5/25              | 1     |
| 冰桶加水器 Water filler for ice can | 1726 × 612 × 1900             | 220                   | ZB5/25                | 1     | ZB5/25              | 1     |
| 吊冰器 Ice crane                  |                               | 10                    | ZB5/25                | 1     | ZB5/25              | 1     |
| 加水泵 Fill water pump            | 300 × 240 × 480               | 38                    | ZHL50-125A/1.1KW      | 1     | ZHL50-125A/1.1KW    | 1     |
| 电动葫芦 Electric lifter           | 620 × 900 × 550               | 120                   | CD-0.5/1.2KW          | 1     | CD-0.5/1.2KW        | 1     |
| 透明冰系统 Transparent ice system   |                               |                       |                       |       |                     |       |
| 空气罐 Air receiver               | ø500 × 1750                   | 173                   | KG-0.3                | 1     | KG-0.3              | 1     |
| 旋涡式通风机 Scroll blower           | 460 × 450 × 470               | 50                    | FM44-2.0/0.18-1.1/3KW | 1     | FM46-2/0.18-1.1/3KW | 1     |
| 吹风系统 Blowing system            |                               |                       | ZB3/25                | 1     | ZB5/25              | 1     |

## 10.15.20.30t/24h制冰成套设备表

Table of complete equipment for ice making plants with capacity 10/15/20/30t/24h

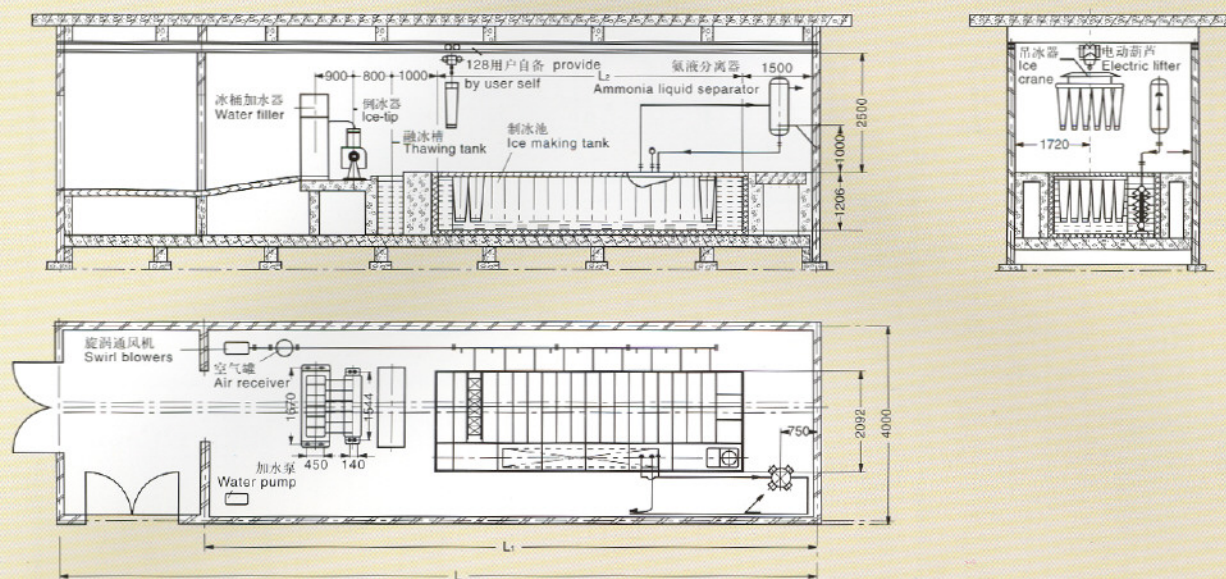
| 设备名称<br>Name                   | 外形尺寸(mm)<br>Overall dimension | 单 重<br>(kg) | 10t/24h                     |       | 15t/24h                     |        | 20t/24h                     |        | 30t/24h                     |       |
|--------------------------------|-------------------------------|-------------|-----------------------------|-------|-----------------------------|--------|-----------------------------|--------|-----------------------------|-------|
|                                |                               |             | 型号Model                     | 数量No. | 型号 Model                    | 数量 No. | 型号 Model                    | 数量 No. | 型号Model                     | 数量No. |
| 氨压缩机组 Ammonia compressor unit  | 2055 × 1070 × 1350            | 1500        | YF6AW10                     | 1     |                             |        | YF6AW10                     | 1      |                             |       |
|                                | 2500 × 1070 × 1350            | 1800        |                             |       | AB8AW10                     | 1      |                             |        | ZB8AS10                     | 2     |
| 冷凝器 Condenser                  | ø600 × 4520                   | 1780        | DWN-32                      | 1     |                             |        |                             |        |                             |       |
|                                | ø700 × 4520                   | 2515        |                             |       | DWN-50                      | 1      |                             |        |                             |       |
|                                | ø700 × 5520                   | 3020        |                             |       |                             |        | DWN-65                      | 1      |                             |       |
|                                | ø900 × 4670                   | 4015        |                             |       |                             |        |                             |        | DWN-90                      | 1     |
| 贮氨器 Ammonia receiver           | ø600 × 2200                   | 300         | ZA-0.5                      | 1     |                             |        |                             |        |                             |       |
|                                | ø600 × 3800                   | 440         |                             |       | ZA-1.0                      | 1      |                             |        |                             |       |
|                                | ø1000 × 3730                  | 685         |                             |       |                             |        | ZA-1.5                      | 1      | ZA-1.5                      | 1     |
| 氨液分离器 Ammonia liquid separator | ø400 × 1615                   | 170         | AF-80                       | 1     |                             |        |                             |        |                             |       |
|                                | ø500 × 1805                   | 240         |                             |       | AF-100                      | 1      |                             |        |                             |       |
|                                | ø600 × 2105                   | 350         |                             |       |                             |        | AF-125                      | 1      |                             |       |
|                                | ø700 × 2455                   | 470         |                             |       |                             |        |                             |        | AF-150                      | 1     |
| 氨液过滤器 Ammonia liquid filter    |                               |             | YG-25                       | 1     | YG-25                       | 1      | YG-32                       | 1      | YG-32                       | 1     |
| 液位控制器 Liquid level condroller  |                               |             | UQK-40                      | 2     | UQK-40                      | 2      | UQK-40                      | 2      | UQK-40                      | 2     |
| 电磁阀 Solenoid Valve             |                               |             | ZCL-25YB                    | 1     | ZCL-25YB                    | 1      |                             |        |                             |       |
|                                |                               |             |                             |       |                             |        | ZCL-32YB                    | 1      | ZCL-32YB                    | 1     |
| 节流阀 Throttle vaive             |                               |             | DN-25                       | 1     | DN-25                       | 1      | DN-32                       | 1      | DN-32                       | 1     |
| 集油器 Oil collector              | ø219 × 849                    | 47          | JY-200                      | 1     | JY-200                      | 1      |                             |        |                             |       |
|                                | ø325 × 1136                   | 90          |                             |       |                             |        | JY-300                      | 1      | JY-300                      | 1     |
| 空气分离器 Air separator            | ø108 × 1593                   | 55          | KF-32B                      | 1     | KF-32B                      | 1      | KF-32B                      | 1      | KF-32B                      | 1     |
| 制冰池 Ice making tank            | 8366 × 5074 × 1206            | 13250       | ZB10/50                     |       |                             | 1      |                             | 1      |                             | 1     |
|                                | 1126 × 5074 × 1206            | 19407       |                             |       | ZB15/50                     |        |                             |        |                             |       |
|                                | 14346 × 5074 × 1206           | 23443       |                             |       |                             |        | ZB20/50                     | 1      |                             |       |
|                                | 20326 × 5074 × 1206           | 35740       |                             | 1     |                             |        |                             |        | ZB30/50                     | 1     |
| 融冰槽 Thawing tank               | 4500 × 1100 × 1250            | 910         | ZB30/50                     | 1     | ZB30/50                     | 1      | ZB30/50                     | 1      | ZB30/50                     | 1     |
| 倒冰器 Ice-tip                    | 4500 × 870 × 1000             | 800         | ZB30/50                     | 1     | ZB30/50                     | 1      | ZB30/50                     | 1      | ZB30/50                     | 1     |
| 冰桶加水器 Water filler for ice can | 4050 × 600 × 2000             | 720         | ZB30/50                     | 1     | ZB30/50                     | 1      | ZB30/50                     | 1      | ZB30/50                     | 1     |
| 吊冰器 Ice crane                  | 1814 × 670                    | 60          | ZB30/50                     | 1     | ZB30/50                     | 1      | ZB30/50                     | 1      | ZB30/50                     | 1     |
| 加水泵 water pump                 | 300 × 200 × 480               | 38          | ZHL50-<br>125A/1.1KW        | 1     | ZHL50-<br>125A/1.1KW        | 1      | ZHL50-<br>125A/1.1KW        | 1      | ZHL50-<br>125A/1.1KW        | 1     |
| 电动葫芦 Electric lifter           | 820 × 960 × 830               | 230         | CD-2/3.4KWKG-0.3            | 1     | CD-2/3.4KW                  | 1      | CD-2/3.4KW                  | 1      | CD-2/3.4KW                  |       |
| 透明冰系统 Transparent ice system   |                               |             |                             |       |                             |        |                             |        |                             |       |
| 空气罐 Air receiver               | ø500 × 1800                   | 173         | KG-0.3                      | 1     | KG-0.3                      | 1      | KG-0.3                      | 1      | KG-0.3                      | 1     |
| 旋涡通风机 Swirl blowers            | 460 × 476 × 495               | 52          | FM48-3.5/0.18-<br>1.1/5.5KW | 1     | FM48-3.5/0.18-<br>1.1/5.5KW | 1      | FM48-3.5/0.18-<br>1.1/5.5KW | 1      | FM48-3.5/0.18-<br>1.1/5.5KW | 1     |
| 吹风系统 Blowing systems           |                               |             | ZB10/50                     | 1     | ZB15/50                     | 1      | ZB20/50                     | 1      | ZB30/50                     | 1     |

# 70.140.210.280th/24h 制冰成套设备表

Table of complete equipment for ice making plants with capacity 70/140/210/280t/24h

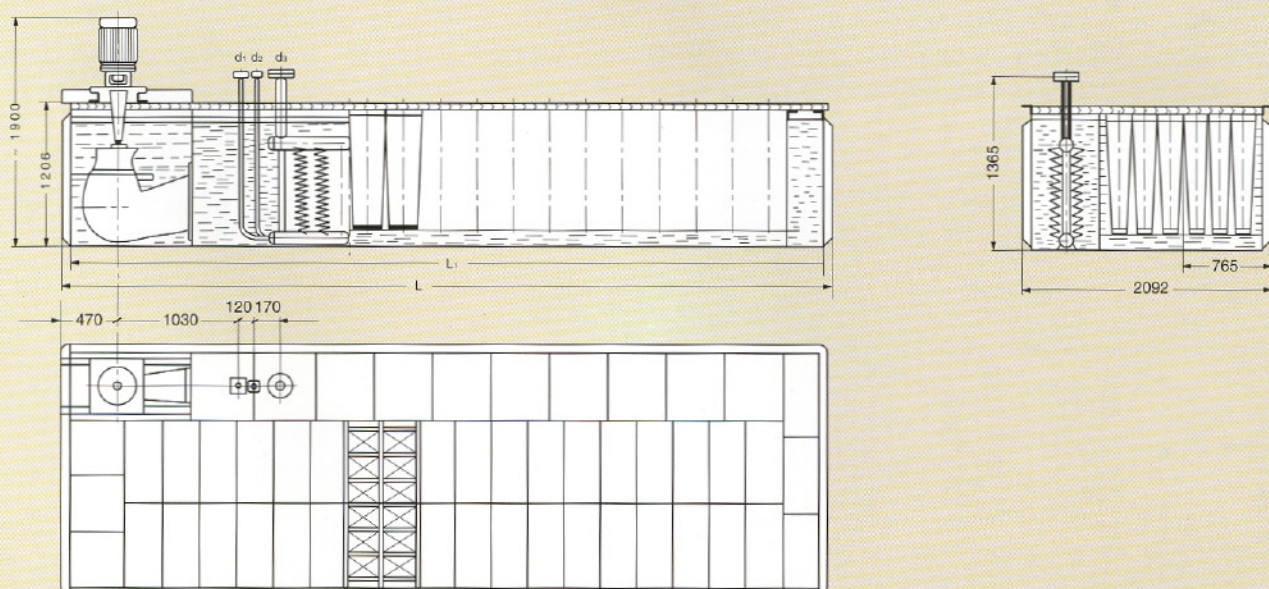
| 设备名称<br>Name                     | 外形尺寸(mm)<br>Overall dimension | 单 重<br>(kg)<br>Weight | 70t/24h                     |           | 140t/24h                    |           | 210t/24h                    |           | 280t/24h                    |           |
|----------------------------------|-------------------------------|-----------------------|-----------------------------|-----------|-----------------------------|-----------|-----------------------------|-----------|-----------------------------|-----------|
|                                  |                               |                       | 型号Model                     | 数量<br>No. | 型号Model                     | 数量<br>No. | 型号Model                     | 数量<br>No. | 型号Model                     | 数量<br>No. |
| 氨压缩机组 Ammoniacompressor unit     | 3200 × 1760 × 1950            | 6500                  | ZB8AS17                     | 1         | ZB8AS17                     | 2         | ZB8AS17                     | 3         | ZB8AS17                     | 4         |
| 冷凝器 Condenser                    | ø1200 × 5710                  | 7985                  | DWN-180                     | 1         | DWN-180                     | 2         |                             |           |                             |           |
|                                  | ø1400 × 5720                  | 10905                 |                             |           |                             |           | DWN-250                     | 2         |                             |           |
|                                  | ø1600 × 6125                  | 15280                 |                             |           |                             |           |                             |           | DWN-360                     | 2         |
| 贮氨器 Ammonia receiver             | ø800 × 4730                   | 850                   | ZA-2.0                      | 1         | ZA-2.0                      | 2         |                             |           |                             |           |
|                                  | ø900 × 5290                   | 1170                  |                             |           |                             |           | ZA-3.0                      | 2         |                             |           |
|                                  | ø900 × 5960                   | 1250                  |                             |           |                             |           |                             |           | ZA-3.5                      | 2         |
| 氨液分离器 Ammonialiquid separator    | ø1000 × 2695                  | 730                   | AF-200                      | 1         | AF-200                      | 2         | AF-200                      | 3         | AF-200                      | 4         |
| 集油器 Oil collector                | ø325 × 1136                   | 90                    | JY-300                      | 1         | JY-300                      | 1         |                             |           |                             |           |
|                                  | ø500 × 1505                   | 202                   |                             |           |                             |           | JY-500                      | 1         | JY-500                      | 1         |
| 空气分离器 Air separator              | ø108 × 1593                   | 55                    | KF-32B                      | 1         | KF-32B                      | 1         |                             |           |                             |           |
|                                  | ø219 × 2910                   | 220                   |                             |           |                             |           | KF-50B                      | 1         | KF-50B                      | 1         |
| 氨液过滤器 Ammonia liquid filter      |                               |                       | YG-40                       | 1         | YG-40                       | 2         | YG-40                       | 3         | YG-40                       | 4         |
| 节流阀 Throttle valve               |                               |                       | DN-40                       | 1         | DN-40                       | 2         | DN-40                       |           | DN-40                       |           |
| 液位控制器 Liquidlevel controller     |                               |                       | UQK-40                      | 2         | UQK-40                      | 4         | UQK-40                      | 6         | UQK-40                      | 8         |
| 电磁阀 valve                        |                               |                       | ZCL-40YB                    | 1         | ZCL-40YB                    | 2         | ZCL-40YB                    | 3         | ZCL-40YB                    | 4         |
| 制冰池 Ice making tank              | 32132 × 7274 × 1406           | 78445                 | ZB70/135                    | 1         | ZB70/135                    | 2         | ZB70/135                    | 3         | ZB70/135                    | 4         |
| 融冰槽 Thawing tank                 | 4110 × 1100 × 1505            | 830                   | ZB70/135                    | 1         | ZB70/135                    | 2         | ZB70/135                    | 3         | ZB70/135                    | 4         |
| 倒冰器 Ice-tip                      | 4210 × 930 × 645              | 710                   | ZB70/135                    | 1         | ZB70/135                    | 2         | ZB70/135                    | 3         | ZB70/135                    | 4         |
| 冰桶加水器 Waterfiller for ice can    | 400 × 680 × 2670              | 870                   | ZB70/135                    | 1         | ZB70/135                    | 2         | ZB70/135                    | 3         | ZB70/135                    | 4         |
| 加水泵 Water filler                 | 300 × 200 × 480               | 38                    | ZHL50-125A/1.1KW            | 1         | ZHL50-125A/1.1KW            | 2         | ZHL50-125A/1.1KW            |           | ZHL50-125A/1.1KW            |           |
| 双钩桥式起重机 Double-hook bridge crane |                               |                       | L=7.5mQ=3tN= 4kw            | 1         | L=7.5mQ=3tN= 4kw            | 2         | L=7.5mQ=3tN= 4kw            | 3         | L=7.5mQ=3tN= 4kw            | 4         |
| 透明冰系统 Transparant ice system     |                               |                       |                             |           |                             |           |                             |           |                             |           |
| 空气罐 Air receiver                 | ø600 × 1800                   | 246                   | KG-0.5                      | 1         | KG-0.5                      | 2         | KG-0.5                      | 3         | KG-0.5                      | 4         |
| 漩涡通风机 Swirl blowers              | 670 × 510 × 610               | 59                    | FM46-6.0/0.18-<br>1.1/7.5KW | 1         | FM46-6.0/0.18-<br>1.1/7.5KW | 2         | FM46-6.0/0.18-<br>1.1/7.5KW | 3         | FM46-6.0/0.18-<br>1.1/7.5KW | 4         |
| 吹风系统 Blowing system              |                               |                       | ZB70/135                    | 1         | ZB70/135                    | 2         | ZB70/135                    | 3         | ZB70/135                    | 4         |

### ● 3.5/24h制冰间设备布置图 Equipment arrangement plan for ice making shop



| 型号Model | Lmm   | L <sub>1</sub> mm | L <sub>2</sub> mm |
|---------|-------|-------------------|-------------------|
| ZB3/25  | 14000 | 11000             | 4644              |
| ZB5/25  | 16000 | 13000             | 6480              |

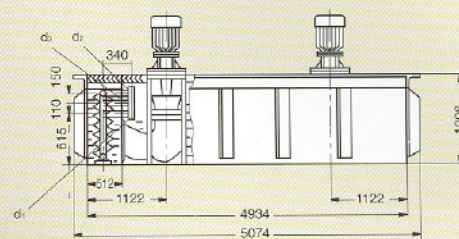
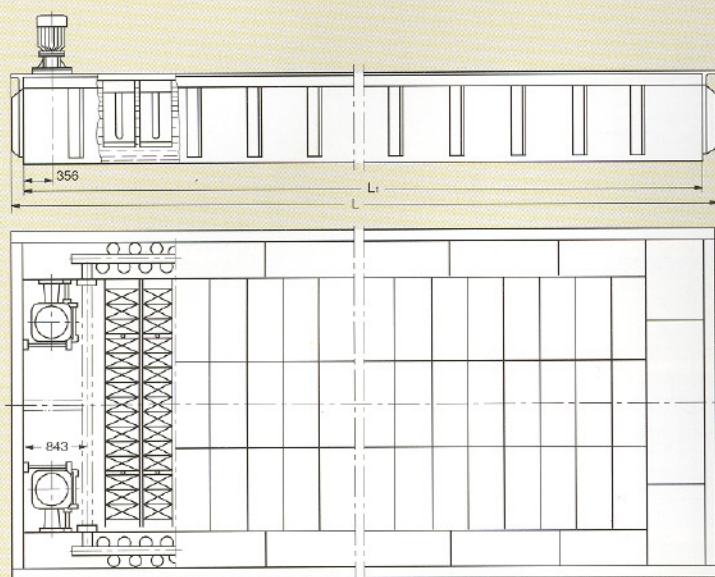
### ● 3.5t/24h制冰池 Ice making tank



| 型号Model | Lmm  | Lmm  | d <sub>1</sub> mm | d <sub>2</sub> mm | d <sub>3</sub> mm | 重量Weight kg |
|---------|------|------|-------------------|-------------------|-------------------|-------------|
| ZB3/25  | 4644 | 4504 | 32                | 80                | 25                | 3450        |
| ZB5/25  | 6480 | 6340 | 32                | 80                | 25                | 4670        |

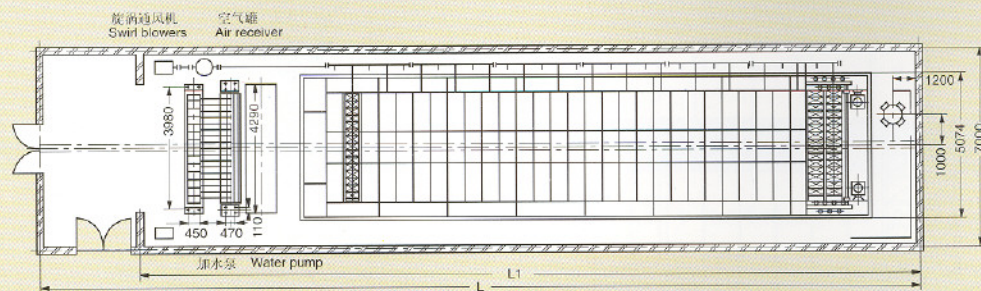
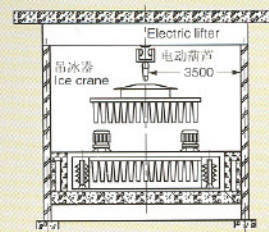
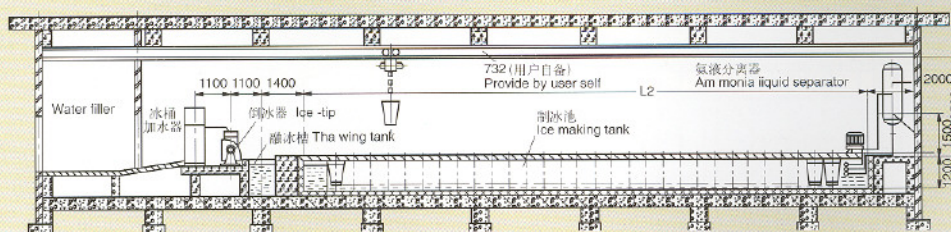
注: d<sub>1</sub>—进液管      d<sub>2</sub>—回气管      d<sub>3</sub>—放油管  
Liquid inlet pipe      Gas returning pipe      Oil drain pipe

● 10.15.20.30t/24h制冰池Ice making tank



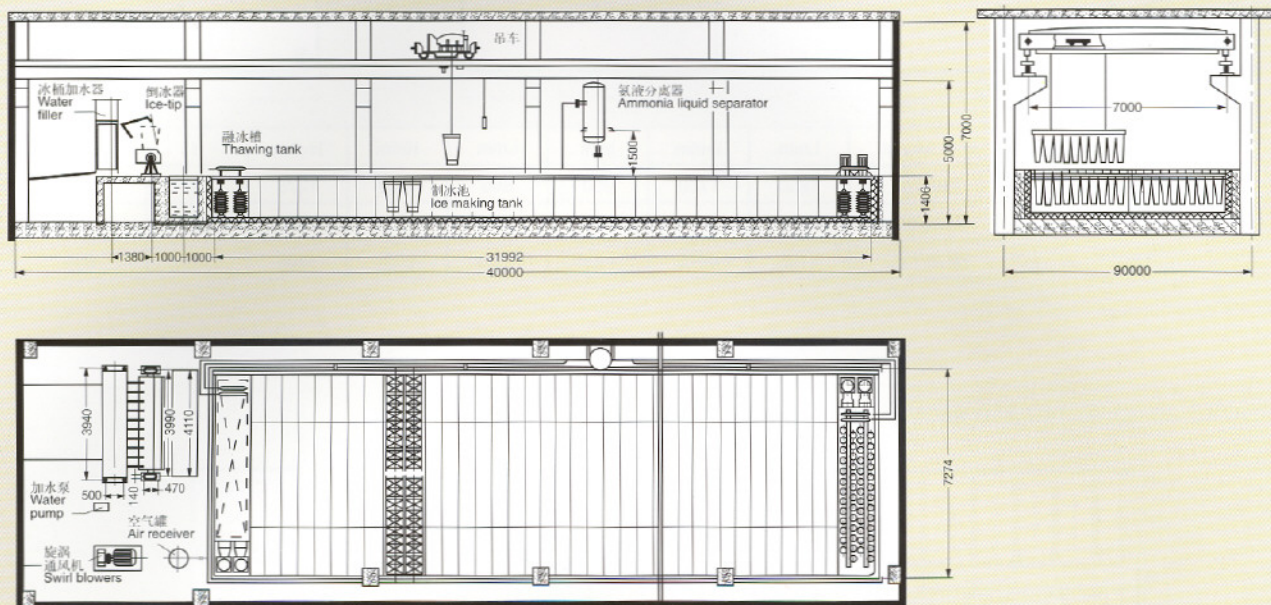
| 型号Model | Lmm   | L <sub>1</sub> mm | d <sub>1</sub> mm | d <sub>2</sub> mm | d <sub>3</sub> mm | 重量Weight kg | 型号Model | Lmm   | L <sub>1</sub> mm | d <sub>1</sub> mm | d <sub>2</sub> mm | d <sub>3</sub> mm | 重量Weight kg |
|---------|-------|-------------------|-------------------|-------------------|-------------------|-------------|---------|-------|-------------------|-------------------|-------------------|-------------------|-------------|
| ZB10/50 | 8366  | 8226              | 32                | 80                | 25                | 13250       | ZB20/50 | 14346 | 14206             | 32                | 80                | 25                | 23443       |
| ZB15/50 | 11126 | 10986             | 32                | 80                | 25                | 19407       | ZB30/50 | 20326 | 20186             | 32                | 80                | 25                | 35740       |

● 10.15.20.30t/24h制冰间设备布置图Equipment arrangement plan for ice making shop

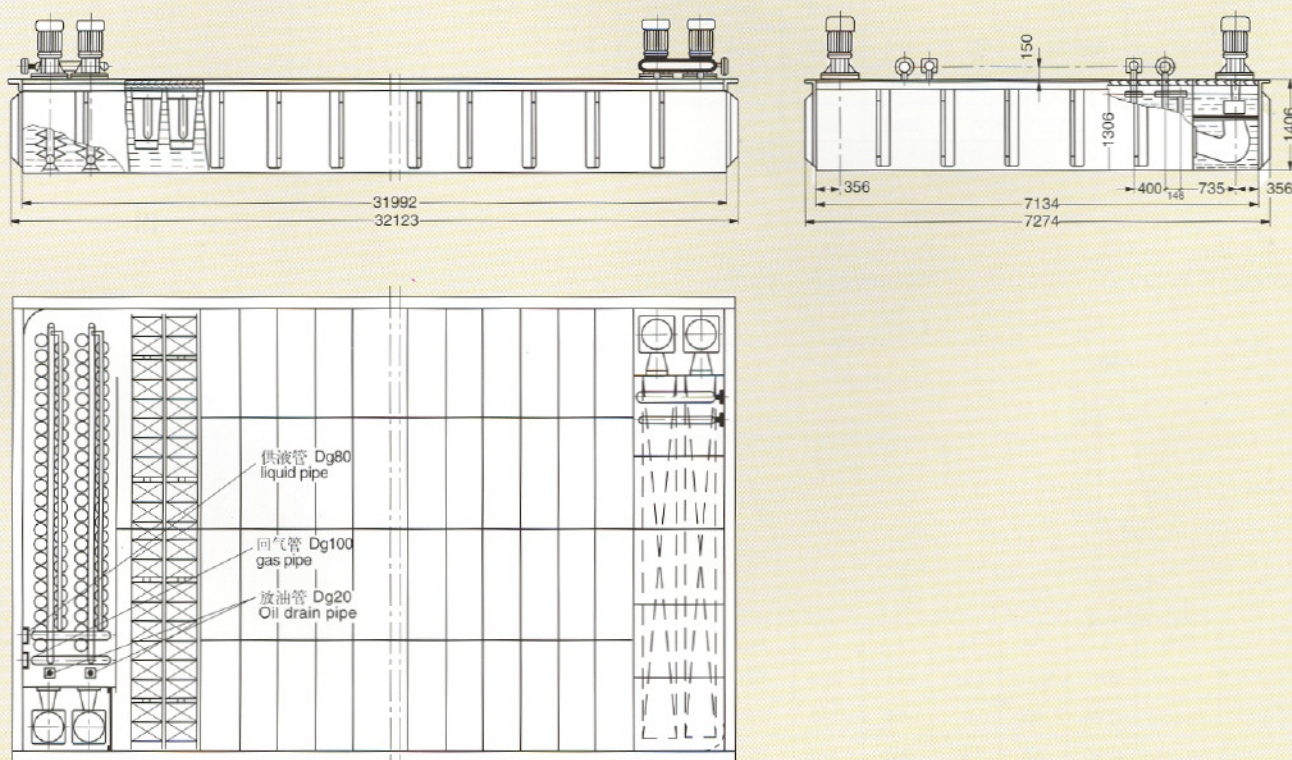


| 型号Model | Lmm   | L <sub>1</sub> mm | L <sub>2</sub> mm | 型号Model | Lmm   | L <sub>1</sub> mm | L <sub>2</sub> mm |
|---------|-------|-------------------|-------------------|---------|-------|-------------------|-------------------|
| ZB10/50 | 20000 | 16000             | 8366              | ZB20/50 | 26000 | 22000             | 14346             |
| ZB15/50 | 23000 | 19000             | 11126             | ZB30/50 | 32000 | 28000             | 20326             |

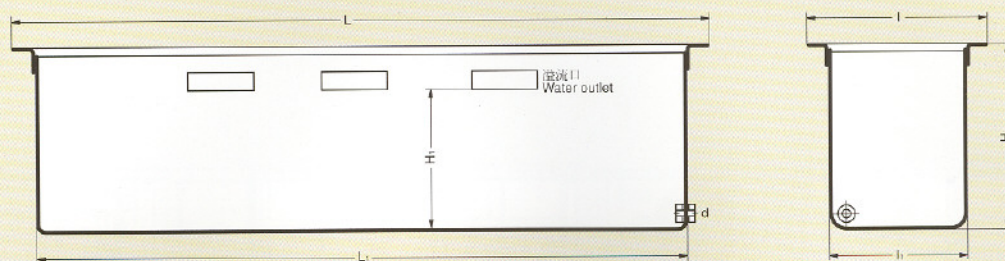
● 70/24h制冰间设备布置图 Equipment arrangement plan for ice making shop



● 70/24h制冰池 Ice making tank

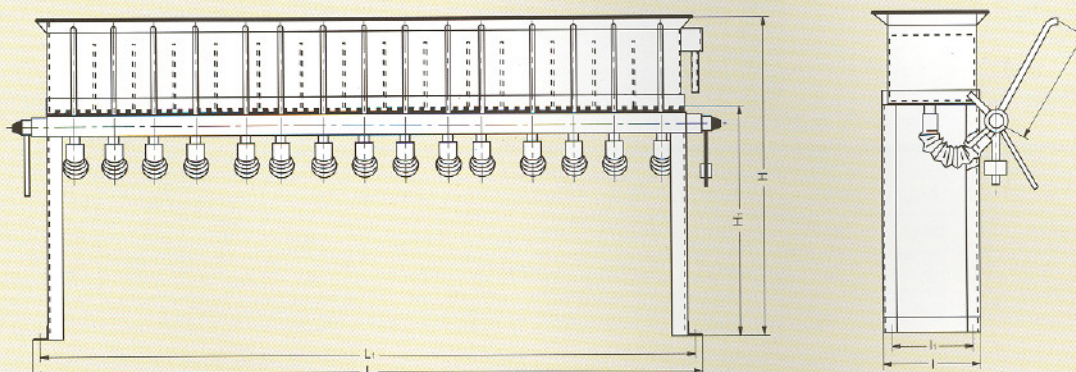


●3.5.10.15.20.30.70.140.210.280t/24h融冰槽 Thawing tank



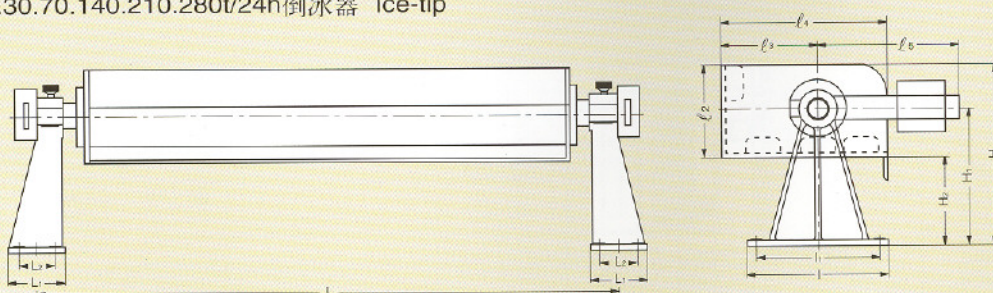
| 型号 Model | Lmm  | L <sub>1</sub> mm | lmm  | l <sub>1</sub> mm | Hmm  | H <sub>1</sub> mm | d    | 重量 Weight |
|----------|------|-------------------|------|-------------------|------|-------------------|------|-----------|
| ZB5/25   | 1800 | 1700              | 600  | 500               | 1400 | 1275              | ZG2" | 293       |
| ZB30/50  | 4500 | 4400              | 1100 | 1000              | 1250 | 1070              | ZG3" | 910       |
| ZB70/135 | 4100 | 4010              | 1100 | 1000              | 1505 | 1405              | ZG3" | 830       |

●3.5.10.15.20.30.70.140.210.280t/24h冰桶加水器 Water filler for ice can



| 产品型号<br>Model | L    | L <sub>1</sub> | l   | l <sub>1</sub> | H    | H <sub>1</sub> | 地脚螺栓Anchor bolt |      |   | 管数Nu.<br>Of pipes | a   | 重量<br>Weight |
|---------------|------|----------------|-----|----------------|------|----------------|-----------------|------|---|-------------------|-----|--------------|
|               |      |                |     |                |      |                | d:mm            | l:mm | n |                   |     |              |
| ZB5/25        | 1726 | 1670           | 612 | 450            | 1900 | 1575           | M16             | 300  | 4 | 6                 | 475 | 220          |
| ZB30/50       | 4050 | 3980           | 600 | 450            | 1935 | 1425           | M20             | 300  | 4 | 15                | 650 | 720          |
| ZB70/135      | 4000 | 3940           | 680 | 500            | 2670 | 1905           | M20             | 300  | 4 | 10                | 950 | 870          |

●3.5.10.15.20.30.70.140.210.280t/24h倒冰器 Ice-tip



| 型号<br>Model | L    | L <sub>1</sub> | L <sub>2</sub> | l   | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> | l <sub>5</sub> | H    | H <sub>1</sub> | H <sub>2</sub> | 地脚螺栓Anchor bolt |      |   | 重量kg<br>Weight |
|-------------|------|----------------|----------------|-----|----------------|----------------|----------------|----------------|----------------|------|----------------|----------------|-----------------|------|---|----------------|
|             |      |                |                |     |                |                |                |                |                |      |                |                | d:mm            | l:mm | n |                |
| ZB5/25      | 1544 | 100            | 0              | 255 | 140            | 250            | 250            | 400            | 450            | 490  | 390            | 240            | M16             | 300  | 4 | 140            |
| ZB30/50     | 4290 | 220            | 140            | 550 | 470            | 700            | 320            | 700            | 550            | 1000 | 650            | 300            | M20             | 400  | 8 | 800            |
| ZB70/135    | 3990 | 220            | 140            | 550 | 470            | 300            | 380            | 650            | 550            | 645  | 525            | 345            | M20             | 400  | 8 | 710            |

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