Brine Block Ice Machine Installation Manual

Brine Block Ice Machine Specification	
Cooling method:	Water cooling
Voltage:	380v 3p 50hz/220v 3p 60hz/etc.
Compressor:	Germany Bitzer/Italy Refcomp/Copeland
Block ice weight:	5kg~100kg

Warning

Danger!!!	**Any illegal operation may cause: equipment damage, personal injury or even death!**
Attention!!!	**Any improper operation may cause: equipment failure, personal injury and property loss!**

Danger!!!

- **When the machine is powered on, any part of the human body is prohibited from touching the live parts of the machine. If the live parts are not clear, any metal parts of the machine are prohibited.**
- **When the machine is working, any part of the human body is prohibited from approaching the rotating or moving parts of the machine.**
- **When the machine is running or stopped, it is prohibited to touch the red pipe or the pipe with high voltage. Be careful of burns.**
- **If the machine is left idle or not working for a long time, please disconnect the main power supply to avoid the risk of electric shock.**
- **Before starting the machine, please confirm that the rotation direction of each motor is correct. Any motor reversal is prohibited.**
- **It is prohibited to install or connect other electrical equipment in the machine's electrical control box.**
- **If the machine stops suddenly, it is prohibited to start it again without finding the correct reason for the stop.**
- **Please arrange professionals to operate the ice crane and do daily maintenance of the crane.**
- **In freezing weather or freezing season, if the ice machine is not used, please drain all the water inside the ice machine unit pipe, condenser, and shell and tube evaporator, otherwise there will be a risk of freezing and cracking.**

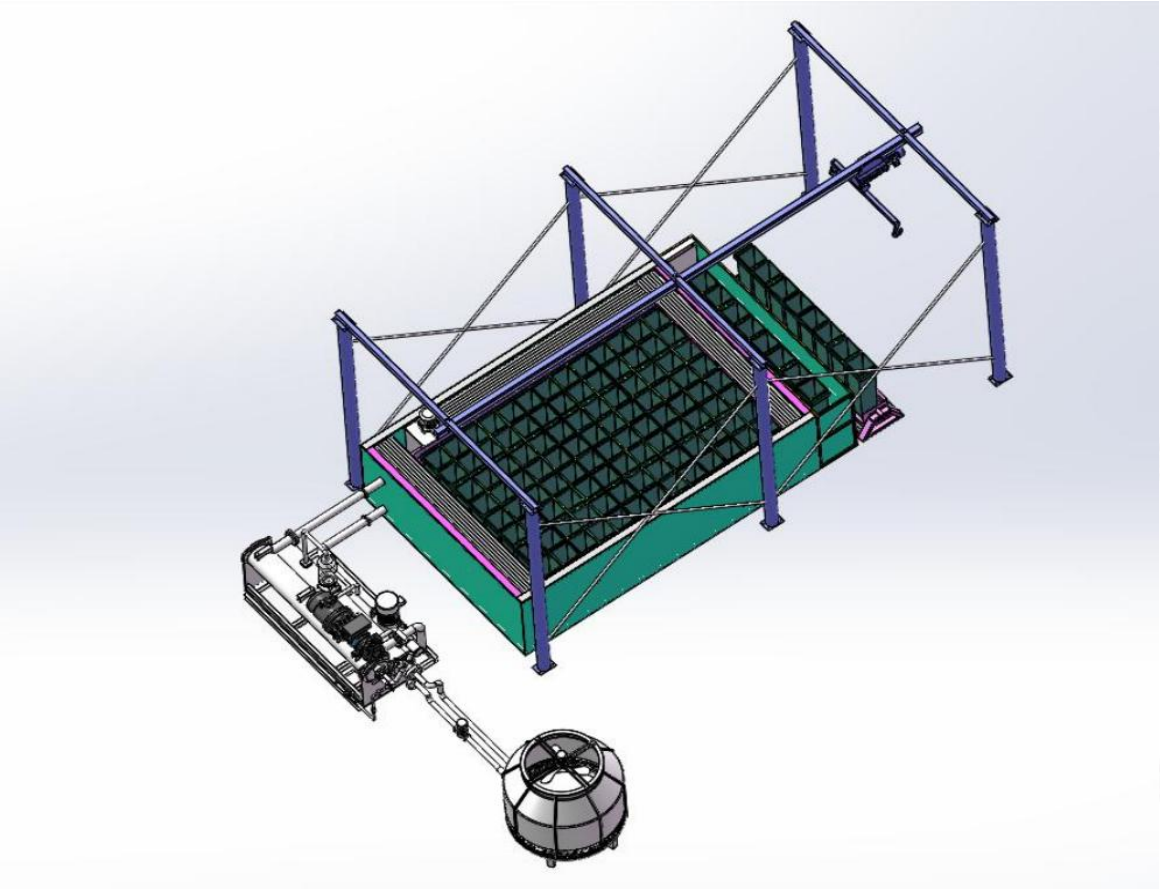
Attention!!!

- **Only personnel who have been specially trained and experienced in the maintenance and use of refrigeration equipment can operate the system.**
- **Before starting the ice machine, the power supply must be connected 8 hours in advance, the main power switch and all electrical switches including emergency stop must be turned on, the crankcase heater of the compressor must be operated, and the temperature in the crankcase must be 5°C higher than the ambient temperature. Starting the ice machine when the crankcase temperature is too low will cause serious damage to the compressor.**
- **The ice machine can only be used under standard atmospheric pressure. Any high pressure or negative pressure environment will cause damage to the ice machine's piping system.**
- **Wrong or non-standard electrical wiring can cause short circuits, circuit breaks, electric shocks, electric injuries and other accidents. Therefore, it is strictly forbidden to repair the equipment without an "Electrician's Certificate" or non-refrigeration equipment maintenance personnel.**
- **The operator on duty should continuously observe the operation of the equipment according to the indicator light and solve the problems found in time.**
- **Read the instructions carefully and understand all the terms in it to correctly install, connect, operate, use and maintain the machine. Compliance with the standards in this document is important for achieving the rated operating effect of the machine and protecting the safety of the operator.**
- **Read the instructions carefully, strictly abide by the standards, and have the appropriate operator perform maintenance.**
- **The technical standard data contained in this manual may change due to technological development without prior notice.**
- **Please give this manual to the person who will eventually use the machine.**

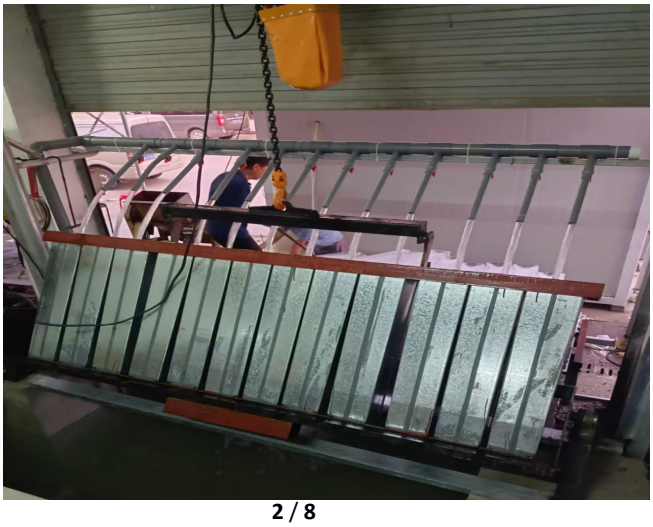
Installation

1. After receiving the equipment, check whether the unit pipeline is damaged or leaking due to long-distance transportation, judging from the appearance and the pressure gauge on the equipment;

2. Connect the chilled water pipeline between the unit shell and tube and the brine pool and the pipeline between the unit condenser and the cooling tower according to the figure below;



3.Refer to the figure below to make the water supply pipe;



4. Connect the power cords of the cooling tower water pump, fan and brine pool mixer to the designated terminals of the electrical box, connect the main power cord of the unit and ensure the correct power phase sequence, and debug the running direction of the cooling water pump, cooling fan and mixer in manual mode.;

5. Add a calcium chloride solution with a concentration of not less than 25% to the salt water pool. The calcium chloride solution should be such that the ice mold does not float up when filled with water;

6. Use a water adding device to add an appropriate amount of water to the ice mold, leaving at least 15 cm of free space at the top of the mold;

Operation method and precautions

1. When the touch screen is powered on for the first time or after power failure, press the language switch button to switch to English, and then press the enter key to enter the operation screen.

2. Set the parameters in the parameter setting interface. They are factory set and can be changed according to actual conditions;

3. Press the start button on the touch screen operation monitoring screen to start the machine. After starting, the unit starts to make ice and stops automatically when the ice making time is up; or press the stop button to stop the machine;

4. Deicing: Use a crane to lift a group of ice molds to the ice melting pool. The water in the ice melting pool should be higher than the ice molds. Wait until all the ice floats to the

surface, move the crane to the ice pouring rack and pour out all the ice cubes, then add water to the mold, put it into the salt water pool, and then deice the next group;

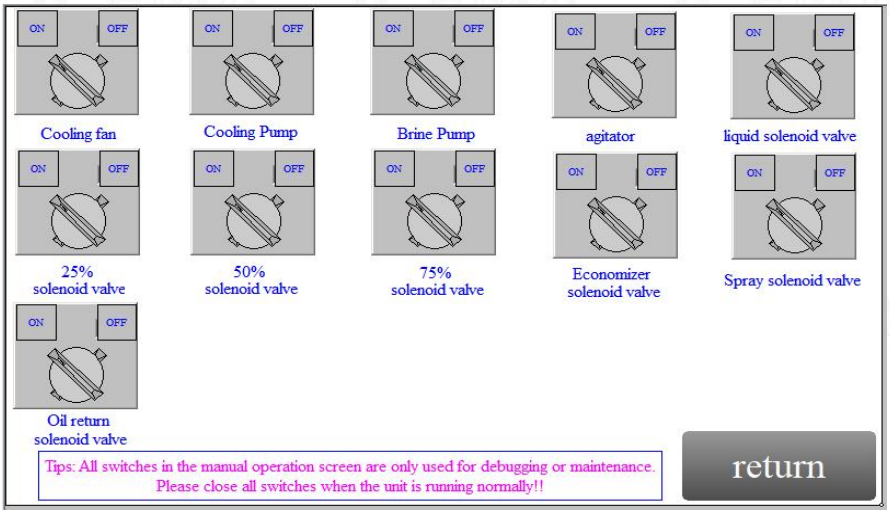
5. If a fault occurs, check the cause of the fault first, then press the reset button after eliminating the corresponding fault, and then press the start button to start the device.

Functional description of each part of the control cabinet

(the screen of each device is slightly different)

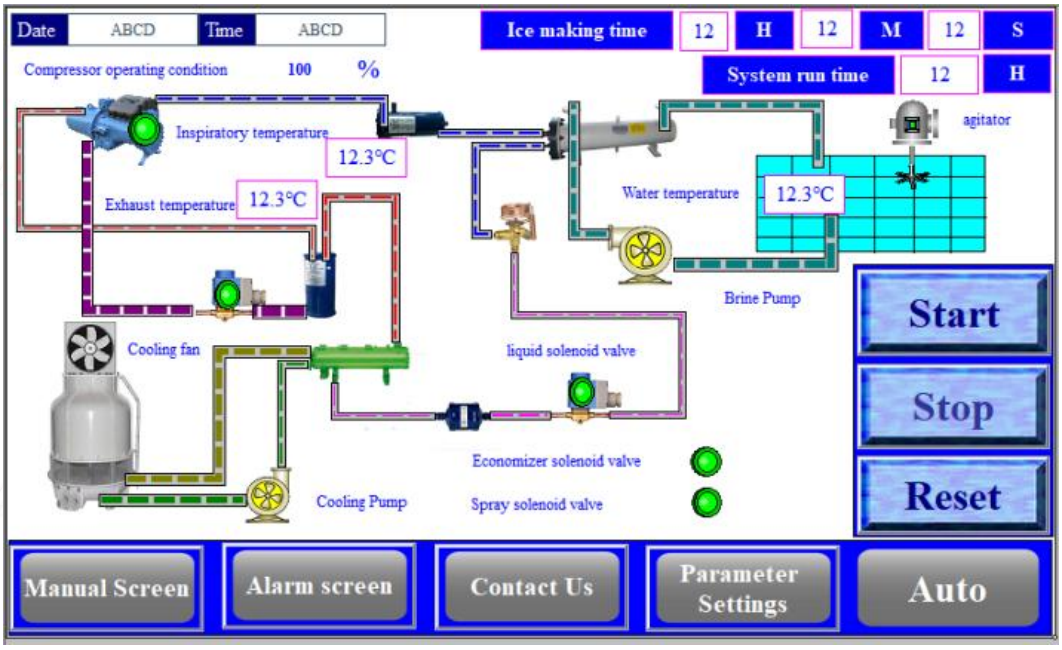
7.1Touch screen screen

Startup screen

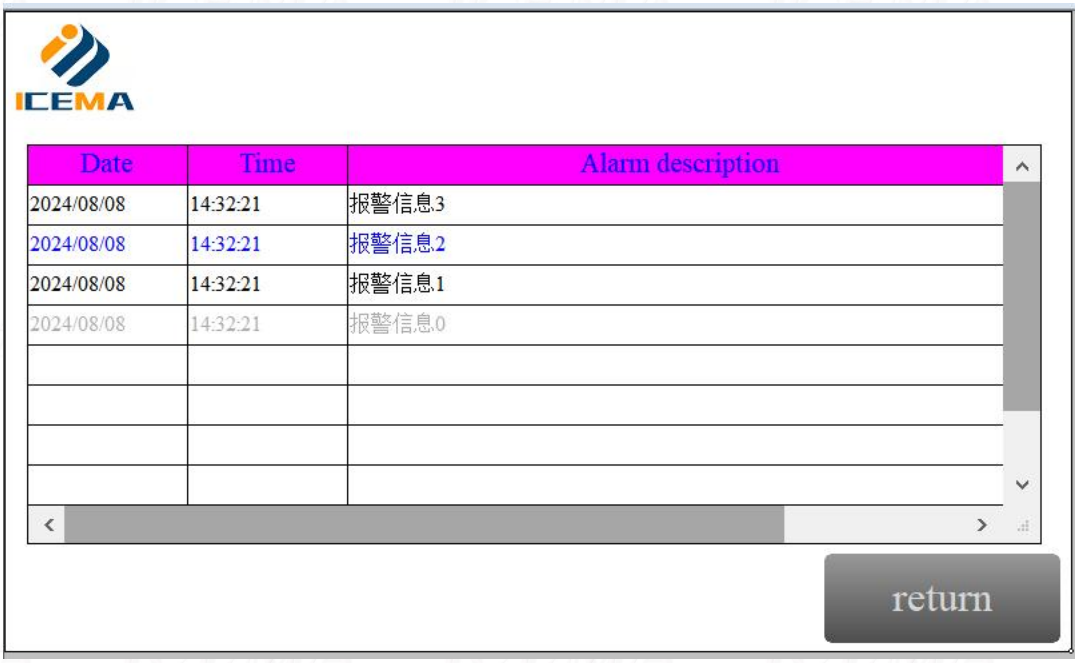


Manual screen

The manual screen can be used to start a motor or solenoid valve separately. It is used for installation and debugging. Please do not operate the control switches on this screen at will.

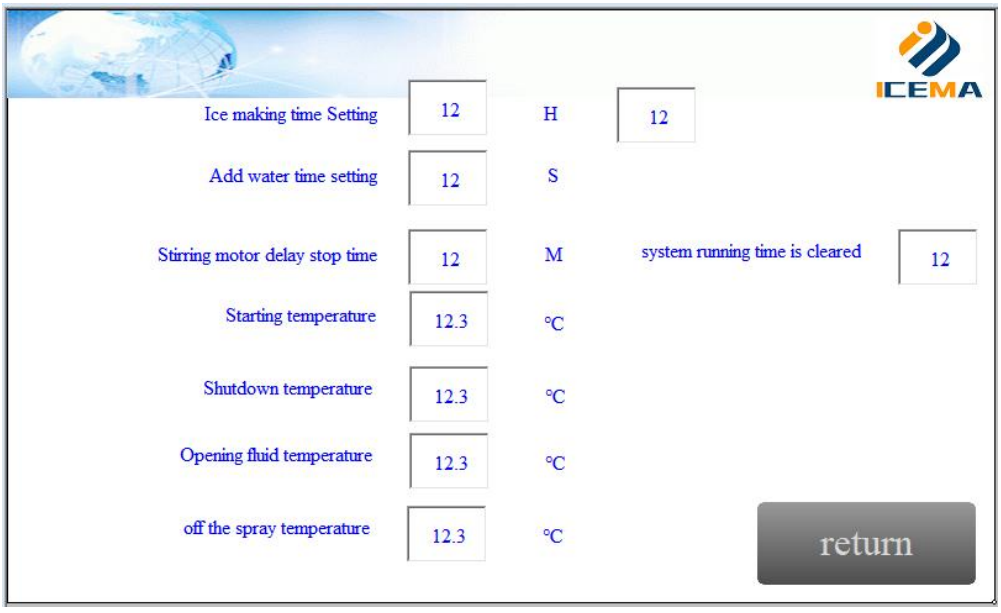


The main screen can monitor the operation of the unit, start and stop the unit, and set the temperature. The brine temperature is factory set to -16℃ and it is not recommended to exceed this value.



Alarm screen

The alarm screen can check current alarm items and historical alarm items.



Parameter setting screen

The parameter setting screen can set parameters such as ice making time and temperature.

Precautions for daily use

1. The concentration of calcium chloride in the salt water pool cannot be lower than 25%;

2. After a period of use, all wires of the new equipment should be tightened;

3. After a long power outage, the equipment should be used again 8 hours in advance to preheat the unit;

4. When the temperature is below 0 degrees, if the equipment is not in use, the water in the water-cooled condenser should be drained to avoid freezing and cracking to damage the equipment;

5. The cooling tower should be placed in a ventilated place to prevent debris from entering the cooling tower and clogging the suction pipe, and the dirt in the cooling tower should be cleaned regularly.

6. Perform necessary maintenance on the equipment regularly.

Fault	Display Status	Troubleshooting
Motor overload	The unit is in shutdown state and the system fault indicator light is always on.	1. Check whether the three-phase winding of the motor is balanced; 2. Check whether the transmission part is stuck, whether there is phase loss, undervoltage, and whether the connection between the low-voltage electrical appliances is loose.
High and low voltage fault		1. Check whether the unit pressure is too high or too low; 2.Check whether the electrical connection is disconnected and whether the high and low pressure switch contacts are intact. 3.Check whether the air-cooled or water-cooled condenser is normal. 4. Check whether the refrigerant is leaking.
Compressor lacks oil		Check whether the oil level at the compressor refrigerant oil observation port is low
Power supply phase sequence error		Check whether the system's three-phase power supply is missing or misaligned.
Compressor protection module failure		Check whether the power supply voltage is too low, causing the compressor current to increase, the compressor coil to overheat, or whether the exhaust temperature is too high due to insufficient refrigerant.
Water flow switch failure		Check whether the brine flow switch is rusted or stuck, and whether the brine flows normally.