

# Tube Ice Machine Installation Manual

## (Water cooling)



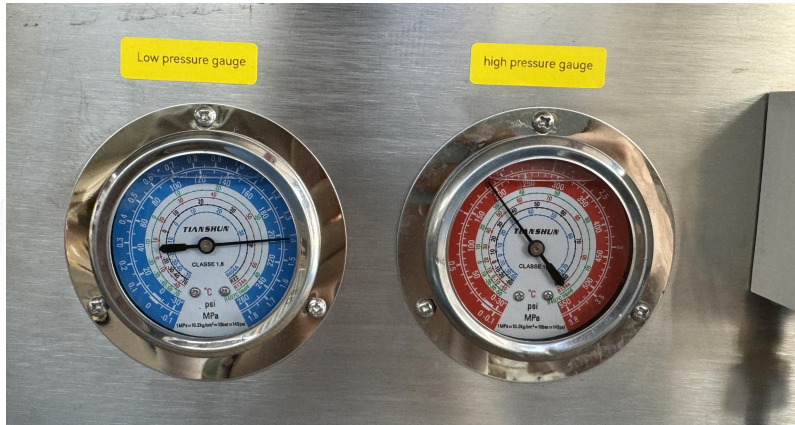
### Tube Ice Machine Specification

<b>Cooling method:</b>	<b>Water cooling</b>
<b>Voltage:</b>	<b>380v 3p 50hz/220v 3p 60hz/etc.</b>
<b>Compressor:</b>	<b>Germany Bitzer/Italy Refcomp/Hanbell</b>
<b>Tube ice diameter:</b>	<b>21/28/34mm</b>

## Installation

1. After receiving the goods, check whether the unit has any damage, such as pipe deformation or breakage.

If so, repair it; check the pressure gauge on the unit and see if there is pressure (except for the unit that is evacuating the refrigerant) as shown below:

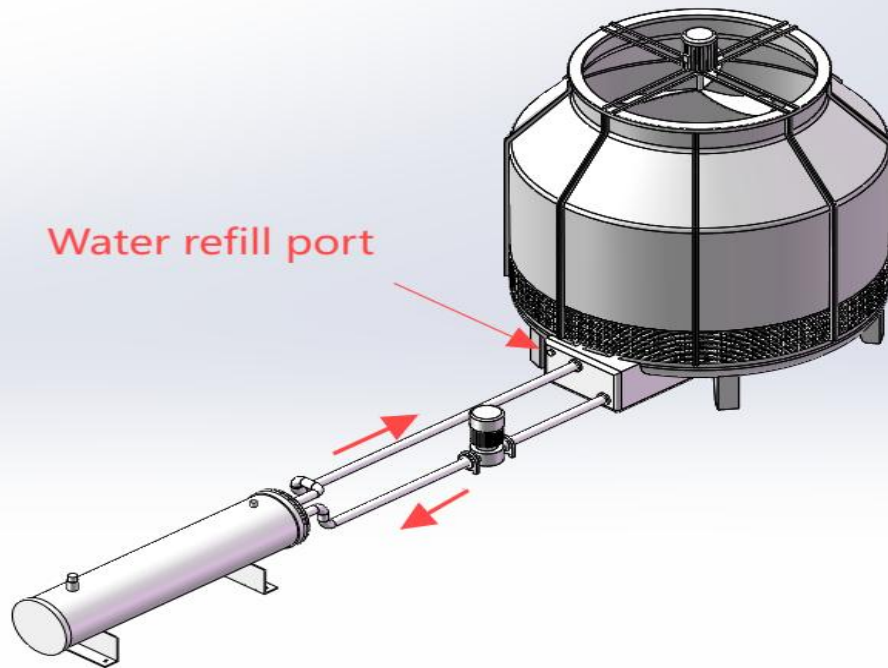


2. Place the equipment horizontally and leave enough space around it for daily maintenance. For equipment with a daily output of more than 5 tons, the evaporator and the unit are disassembled during delivery because of their high height. They need to be assembled on site and the corresponding pipes need to be connected. Then, the connected pipes should be evacuated and the vacuum pressure should be -1 bar.





3. Connect the cooling tower (the cooling tower should be placed outdoors), cooling water pump and pipes between the units according to the following diagram;



冷却塔  
Cooling tower



水泵  
Water pump



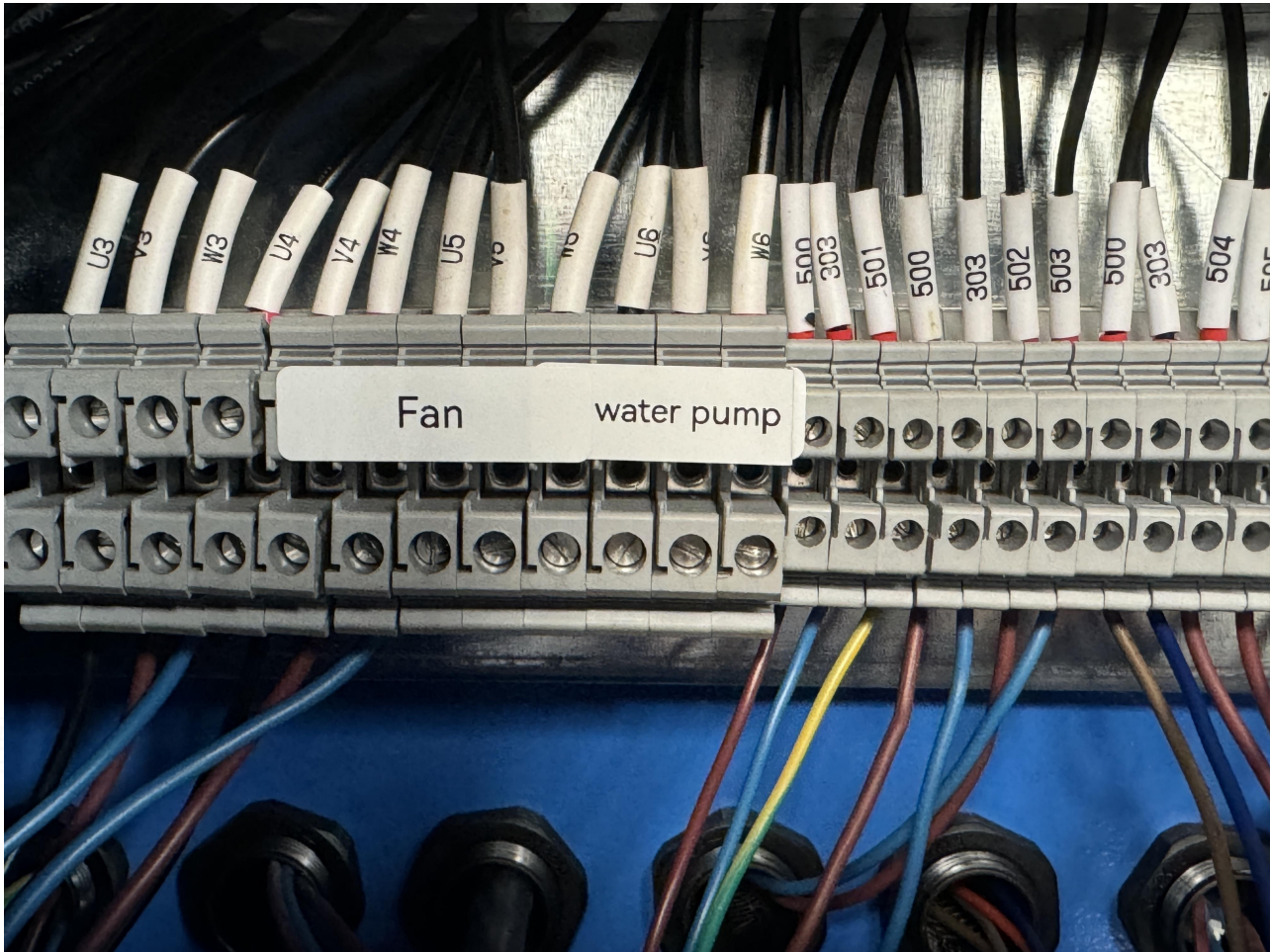
接口 1  
Connection port 1

接口 2  
Connection port 2

进水口 1  
Water Inlet 1

进水口 2  
Water Inlet 2

4. Connect the power lines of the cooling tower fan and water pump to the corresponding terminals in the electrical box, as shown in the figure below;



5. Connect the cooling tower water supply pipe, connect the ice making water, connect the power cord and ensure the phase sequence is correct;

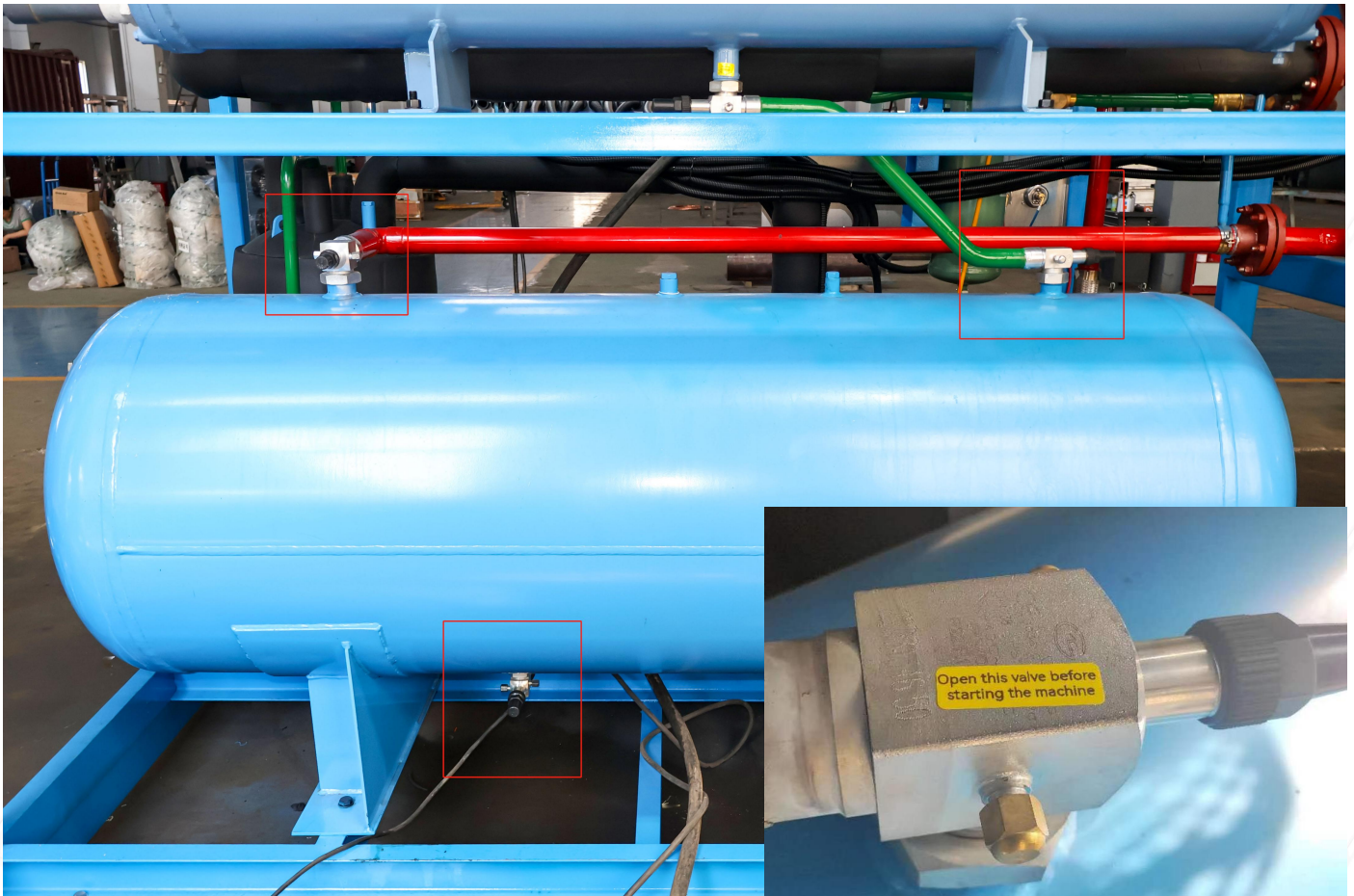
6. Test whether the running directions of the fan and water pump are all correct in manual mode;

7. As some machines have the refrigerant released before leaving the factory, the unit needs to be pressurized with nitrogen to ensure that there is no leakage. Then the nitrogen is released and a vacuum pump is used to create a vacuum. After the vacuum is created,



refrigerant is added (please consult the after-sales service department for details).

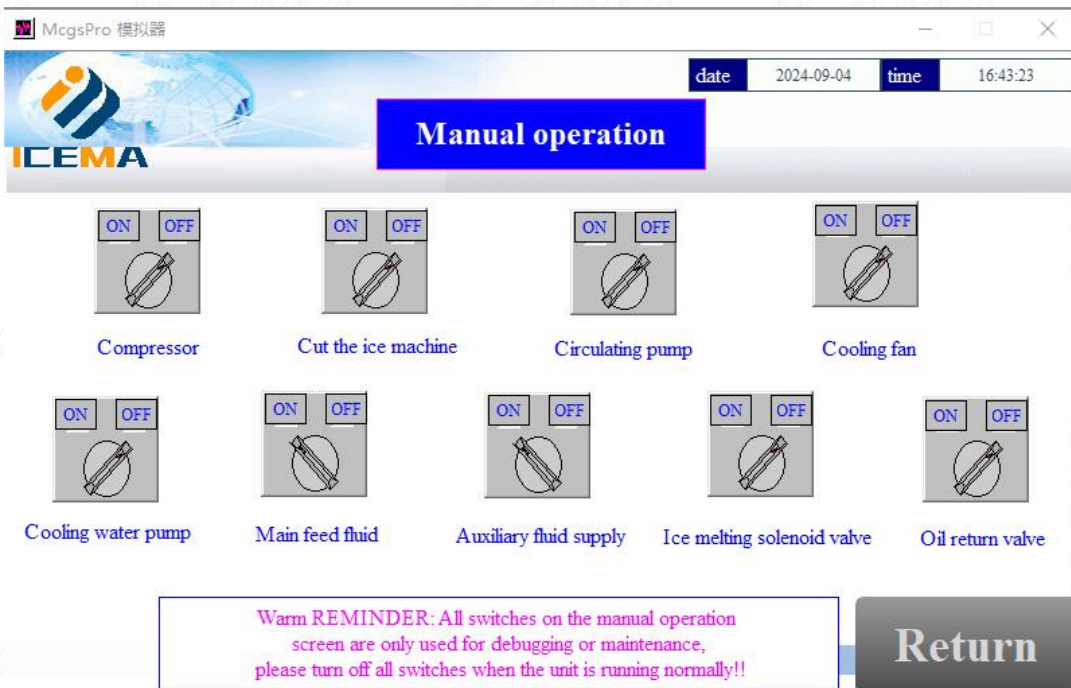
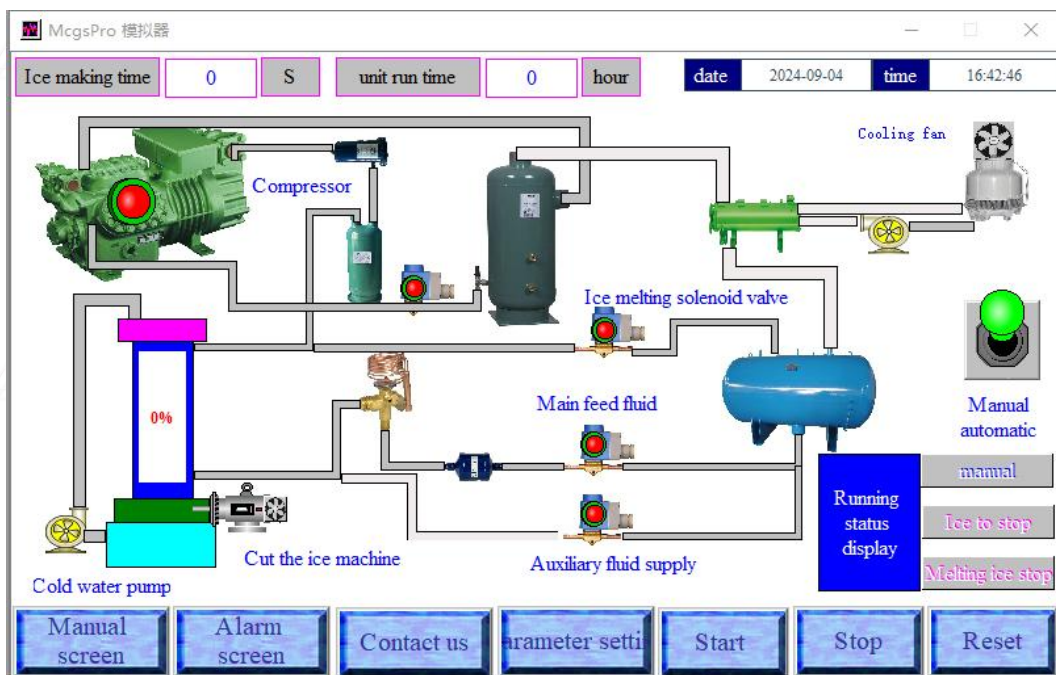
8. Before starting the unit that has not been drained of refrigerant at the time of delivery, the valve with the sign "Open this valve before starting" on the receiver needs to be opened, as shown in the figure below;



9. When starting the unit for the first time or the unit is powered off for a long time, the unit must be powered on for 8 hours before it can be started again (turn on all air switches in the electrical box including the emergency stop switch on the electrical box door). The temperature of the compressor crankcase must be higher than the ambient temperature, otherwise the compressor is easily damaged;

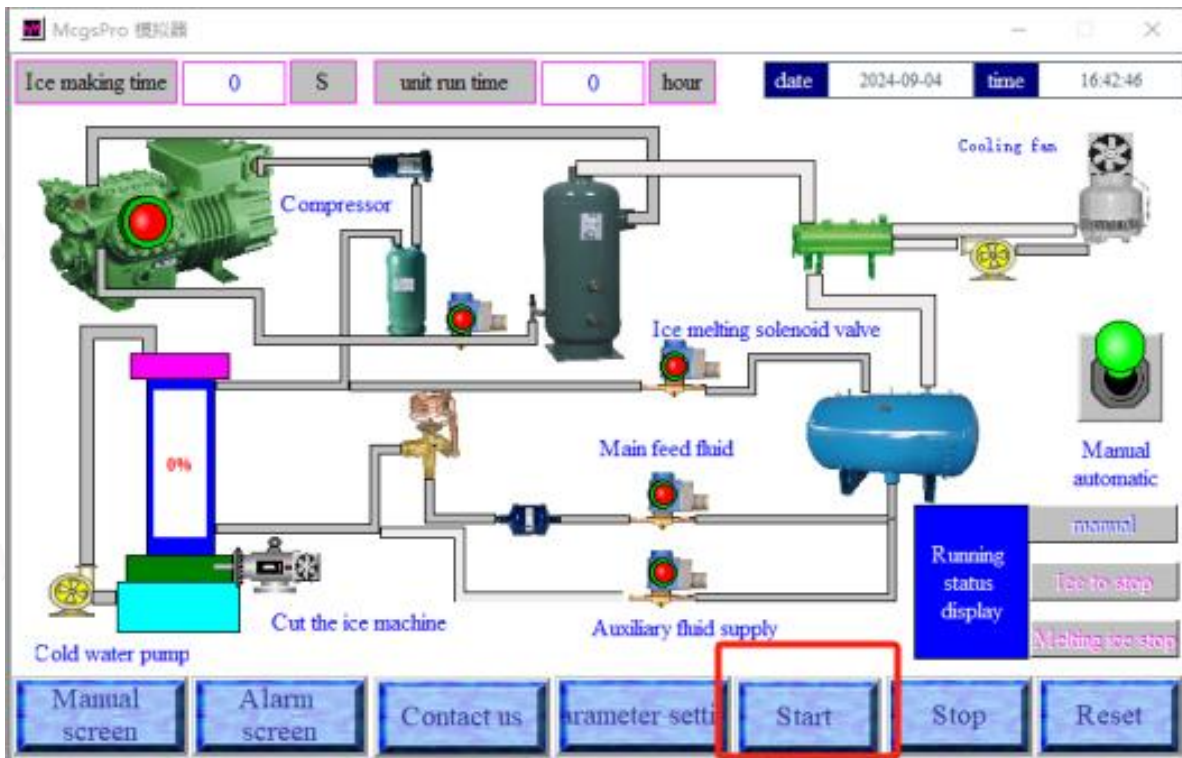
## Start

1. Press the reset button on the touch screen once before starting each time;
2. Since all refrigerants are recovered to the liquid storage tank before delivery, set the touch screen to manual mode before starting the machine for the first time, then open the liquid supply solenoid valve and the auxiliary liquid supply solenoid valve for 10 minutes on the manual screen, then close the two valves, and then return to automatic mode, as shown below;

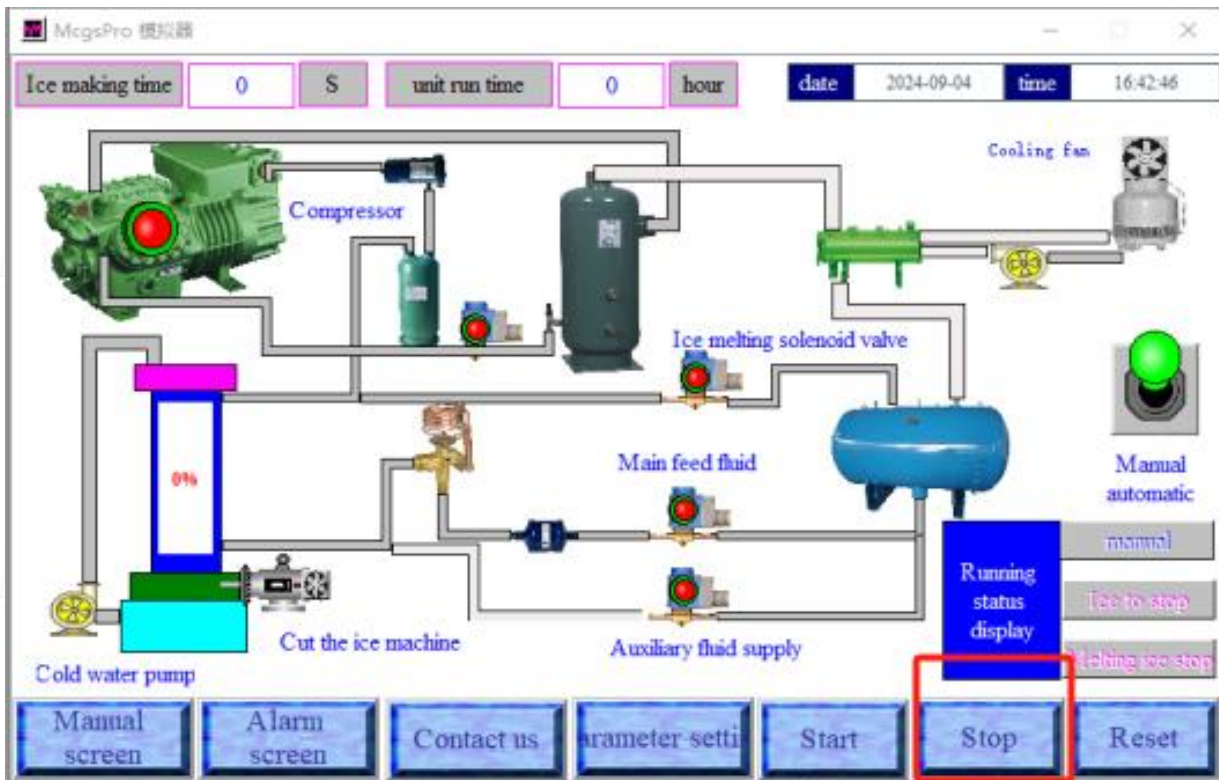




3. Press the start button on the touch screen to start working automatically; as shown below



4. After pressing the stop button, the ice making process will be delayed and stopped after the current ice making is finished, as shown in the figure below.

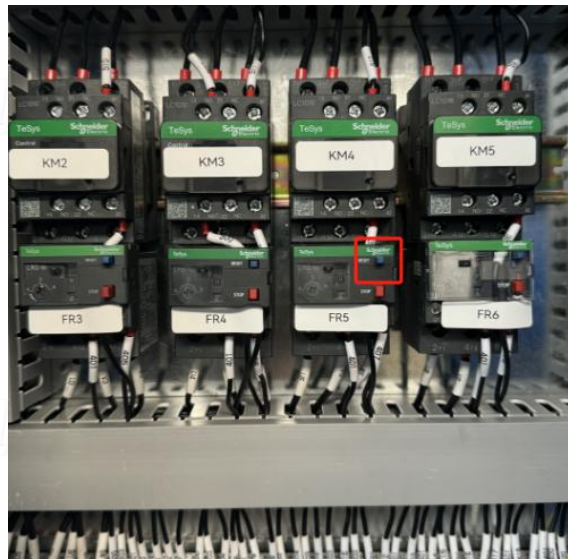


5. Every time a fault occurs, you need to check the fault code first, then press the reset button after the fault is eliminated before you can start the ice maker again.

## Common faults and troubleshooting methods

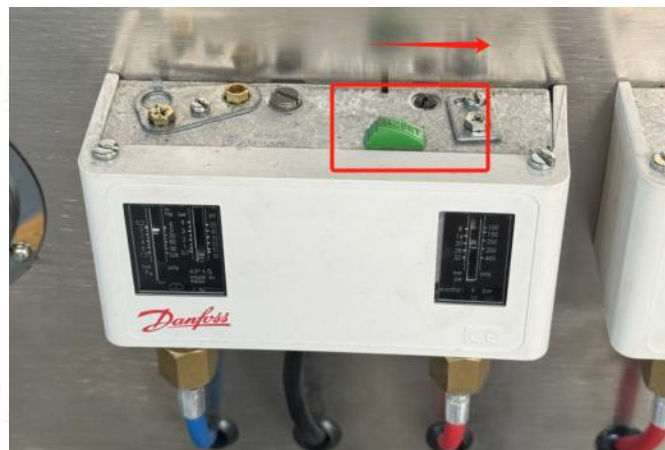
### 1. Motor overload

Check whether the power supply voltage is lower than the rated voltage, check whether the motor power line is loose, check whether the motor bearing is aging, reset the overload relay after troubleshooting, and press the blue button on the overload relay, as shown in the figure below:



### 2. The system pressure is too high

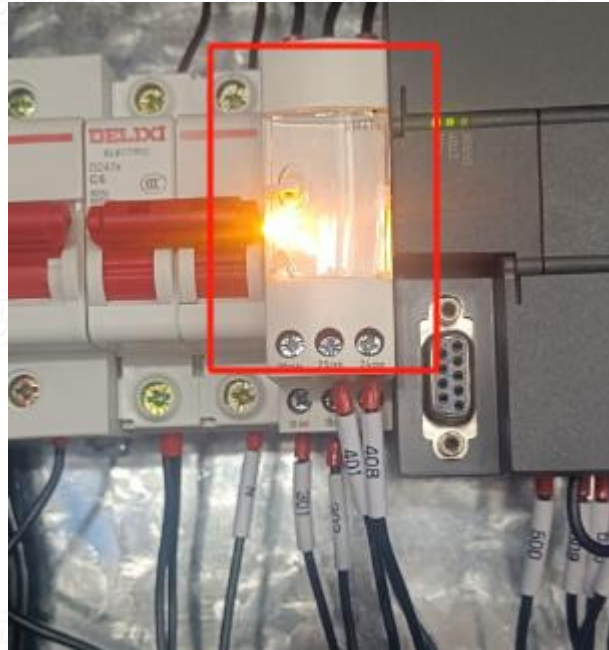
Check whether the water supply of the cooling tower is normal. If the cooling tower has been used for more than one year, check whether there is scale blocking the heat exchange tube in the condenser. If there is, it should be cleared. After troubleshooting, turn the reset button on the pressure controller to the right, as shown in the figure below:





### 3. Wrong power phase sequence or missing phase

Under normal circumstances, the phase sequence protector indicator light should light up to indicate the phase sequence is correct, otherwise the power phase sequence should be adjusted, as shown below:



### 4. Water tank lacks water

Check whether the water supply of the cold water tank is abnormal, whether the water level sensor in the water tank is damaged

### 5. Compressor lacks oil

Check whether the oil level of the compressor is normal, whether the refrigerant oil is taken away due to liquid return, if it still cannot start after resetting, a small amount of refrigerant oil needs to be added before it can be restarted

### 6. Compressor protection module failure

Check whether the temperature of the compressor coil is too high, whether there is a large amount of condensed water in the compressor junction box, if necessary, use a hot air blower to blow it dry, and then power off and reset before restarting

7. For other unspecified faults, please consult the after-sales service department.



## Daily maintenance

1. Ensure sufficient power. Do not start the machine at low voltage, otherwise it is easy to burn the motor and other accessories on the unit;
2. If the temperature is below 0 degrees and the unit is not in use, the water in the condenser and cooling pipe should be drained, otherwise there is a risk of freezing and cracking, which will damage the unit and make it unusable;
3. The refrigeration oil and filter element should be replaced after every 10,000 working hours of the unit. The drying filter element and the suction filter element should be replaced in advance after a period of use for a new machine, and then replaced according to the 10,000 hours;
4. The personnel who repair and maintain the machine should have professional electrical knowledge and experience in refrigeration equipment maintenance before they can carry out the repair;
5. The water-cooled condenser should be descaled regularly, and the cooling tower should be cleaned once a month;
6. Clean the cold water tank regularly;
7. After the new equipment has been used for a period of time, the locking screws of all wires in the electrical box should be tightened again;
8. If the motor makes an abnormal sound, check whether the rotor bearing is aging or damaged. If so, please replace it.