Библиотека СОК

CW-5000/5200 Series Industrial Chiller maintenance manual

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Ⅰ、Chiller Alarm (red light on)--have water circulation

Turn off the chiller power, use the water pipe of about 1 meters length to connect the outlet with the inlet short (pictured), turn on the chiller, and continue to observe the condition of the chiller.

Observation effect I: water cycle normal, stop alarm (green light on)

Cause analysis

The external water pipeline connecting the chiller is blocked (such as pipe blockage, bending, etc.)

Suggestion: Clean the external piping, replace the pipeline that has already had the bend or the serious blockage

Observation Effect II: Water cycle Normal, continue to alarm (red light on)

Cause analysis

1、 **Flow switch problem**

2、 **Relay problems**

Detection method

1）**Turn off the chiller power, open the chiller sheet metal, find out the flow switch position (the outlet)**

Baffle Flow Switch

2）**Cut off the bezel flow switch two red power wire, and short connection, boot to observe whether continue to alarm**

2.1）**If the alarm stop（green light on），can determine the flow switch failure**

Recommendation: Replace the baffle flow switch

2.2）**If the chiller continues to alarm (red light on), please reconnect the flow switch power wire, and do the step 4) detection**

Hall Flow Switch

3）Cut off the hall flow switch four wires, connect the red line with the red line, the black line is connected with the yellow line, boot to see if the alarm continues.

3.1）**If the alarm stop（green light on），can determine the flow switch failure**

Recommendation: Replace the hall flow switch

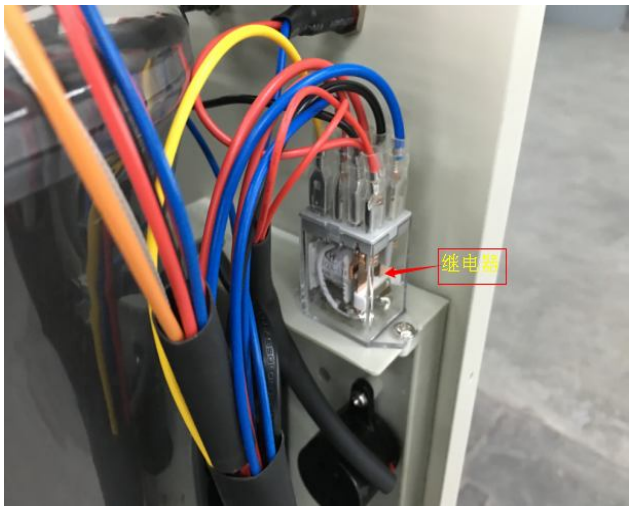
3.2）**If the chiller continues to alarm (red light on), please reconnect the flow switch power wire, and do the step 4) detection**

4）**Measuring the relay coil Input voltage by measurement tool**

Remarks: Baffle Flow switch model relay coil AC220V; Hall flow switch model relay coil DC24V

4.1） **If the relay (such as picture) coil does not enter the normal operating voltage, can be judged flow switch connection relay circuit breaker**

Suggestion: Check whether the relay line is loose or broken



Observation Effect III: Water intermittent, continue to alarm (red light on)

Cause analysis

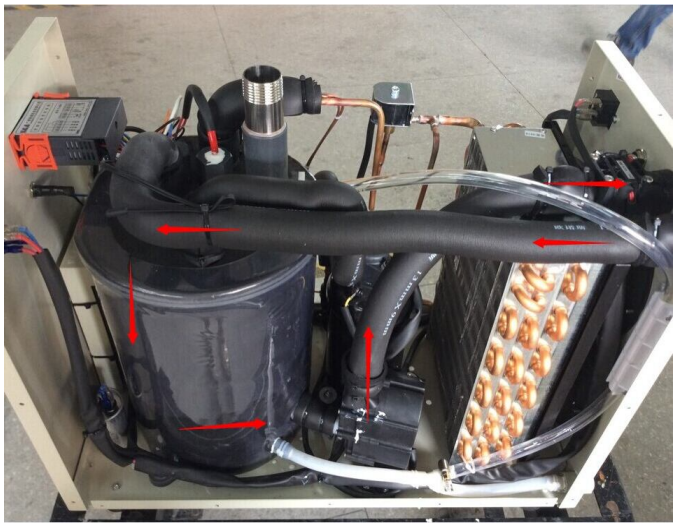
1、**Pipe blockage**

2、**Switching power supply problem**

3、**DC Pump problem**

Detection method

1）**Open the chiller sheet metal, observe the water internal piping status**



Recommendation: Clean the internal piping, replace the pipe that has been bent or badly blocked.

2）**Use the measuring tool to detect the switching power supply (picture) Output voltage: CW-5000 Series switching power supply operating voltage is DC24V.**

2.1）If the switching power supply output is lower than DC18V, the low voltage is affecting the pump lift and flow, can determine the switching power supply or pump failure.

Suggestion: Change the switching power supply first to determine whether the pump is faulty too.

2.2）**If the switching power supply has the output DC24V, may determine the water pump failure.**

Suggestion: disassemble the DC pump casing to observe whether the rotor is plugged or worn, if unable to recover, need to replace DC pump

Ⅱ、Chiller Alarm (red light on)--not water circulation

Cause analysis

1、**Low water level**

2、**Switching power supply problem**

3、**DC Pump problem**

Detection method

1）**Observe whether water tank is lower than pump inlet**

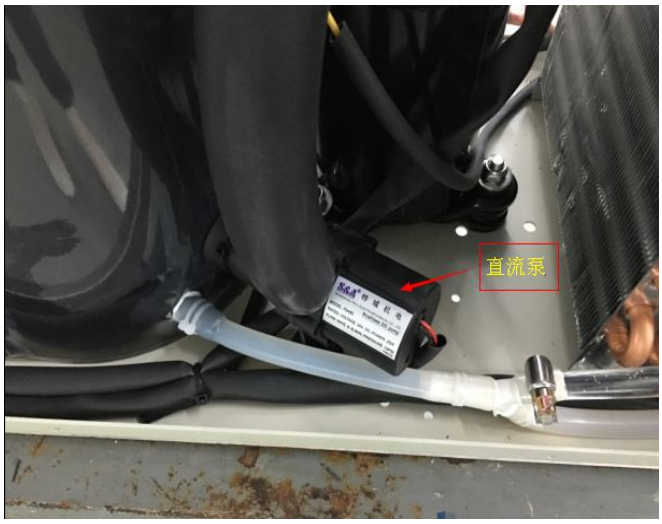
Recommendation: Add Pure water

2）**Use the measuring tool to detect the switching power supply (picture) Output voltage: CW-5000 Series switching power supply operating voltage is DC24V.**

2.1）If the switching power supply output is lower than DC18V, the low voltage is affecting the pump lift and flow, can determine the switching power supply or pump failure.

Suggestion: Change the switching power supply first to determine whether the pump is faulty too.

2.2）**If the switching power supply has the output DC24V, may determine the water pump failure.**



Suggestion: disassemble the DC pump casing to observe whether the rotor is plugged or worn, if unable to recover, need to replace DC pump

Ⅲ、CW-5000 Series Temperature Controller T-503 alarm Temperature control alarm accompanied by code display

Remarks: In alarming state, the alarm sound could be suspended by pressing any button, but the alarm display remains until the alarm condition is eliminated.

3.1、**Alarm code E1: ultrahigh room temperature**

Press ▼ button will show the room temperature,6 seconds later to display the restore defaults.

Cause analysis

1、**More than 40 ℃ ambient temperature or machine placement is not ventilated**

Suggestion: The chiller is placed in the ventilated position, there must be at least 30cm from obstructions to the air inlet（The dust gauze）, and should leave at least 50cm between obstruction and the air outlet（The fan）.

2、**The serious blockage of dust gauze**

Suggestion: It is Essential to unpick and wash the dust gauze.

3、**Serious dust deposition of aluminum fin inside the chiller**

Periodically blow away the dust of the condenser

3.2、

Alarm code E2: ultrahigh water temperature

Cause analysis

1、**External reasons**

1.1）

More than 40 ℃ ambient temperature or machine placement is not ventilated

1.2）

The serious blockage of dust gauze

1.3）

Serious dust deposition of aluminum fin inside the chiller

1.4）

The heat is higher than the refrigerating capacity

1.5）

The chiller working voltage is lower than required (depending on the model: please refer to the manual technical parameters)

2、**Fan problem**

3、**Temperature controller problem**

4、**Compressor capacitor problem**

5、**Compressor Protector problem**

6、**Leakage Refrigerant**

7、**Refrigerant solenoid valve problem**

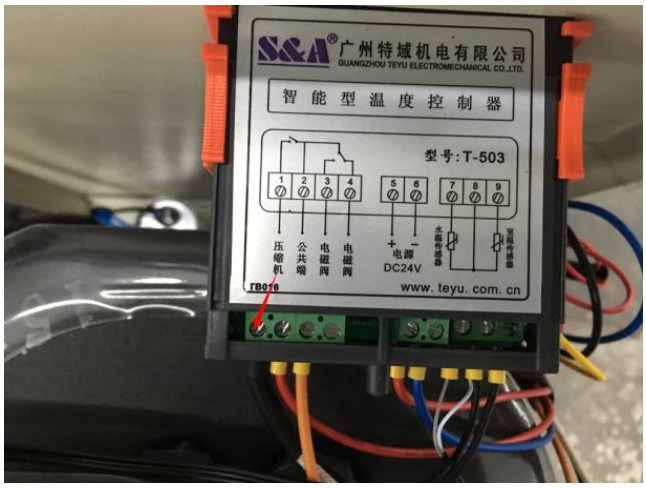
8、**Compressor problem**

Detection method

1）Use the measuring tool to detect the fan input voltage is normal (depending on the model: please refer to the manual technical parameters): if there is voltage input, can determine the fan failure, if there is no voltage input, can determine the line contact bad or fan circuit.

2）**When the thermostat is in the refrigeration state**

2.1）Using measuring tools to measure the output terminals of the compressor after the temperature control of the normal operating voltage output: if there is no voltage output, can determine the temperature controller failure, if the voltage output, can be used for next detection;



2.2）Using measuring tools to measure the temperature of the back of the solenoid valve output terminals：There is no normal operating voltage output: If the voltage output, can determine the temperature controller failure; If no voltage output, please do next detection

3）**In the refrigeration state, the compressor cannot start**

3.1）The use of measuring tools to detect the compressor electric start-up capacity (such as the figure) is below the normal value of 10%, such as less than 10%, can be judged the compressor capacitance capacity is lower than the normal capacity of the capacitor;

3.2）Use the measurement tool to detect the compressor input voltage is normal (depending on the model: please refer to the manual technical parameters), such as the voltage below the compressor start-up voltage, the compressor does not run;

3.3）Use the measuring tool to detect whether the compressor overload protector output terminal has voltage, such as output voltage output, can determine the compressor overload protector work protection or damage break

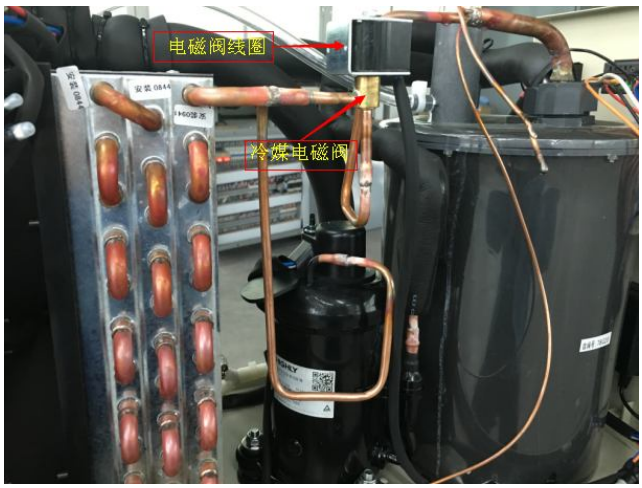
3.4）Using the measuring tool (ammeter) to measure the compressor input line (white), such as the current is more than 3 times the rated current or above, can determine the internal rotor of the compressor does not rotate;

4）**In the refrigeration state, the compressor can run**

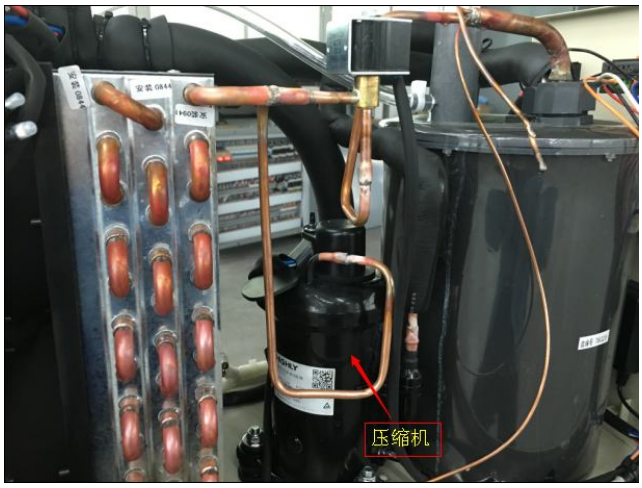
4.1）Observe the refrigeration piping (pictured) there is no oil or frosting, such as oil or frost phenomenon, can be j udged refrigerant leakage (such as inside the condenser or evaporator internal pipeline leakage refrigerant need to return to the plant maintenance)

4.2）The use of measuring tools to detect the compressor electric start-up capacity (such as the figure) is below the normal value of 10%, such as less than 10%, can be judged the compressor capacitance capacity is lower than the normal capacity of the capacitor;

5）**Solenoid valve has been guided**



6）**Compressor Rotor not working**



(The above two points need to return to the factory for further testing)

3.3．**Alarm code E3: ultralow room temperature**

Cause analysis

1、**Low ambient temperature (such as autumn and winter season) when the first boot appears E3 alarm is the normal status, can add a moderate amount of warm water to restore the temperature**

3.4 **Alarm code E4: room temperature sensor failure**

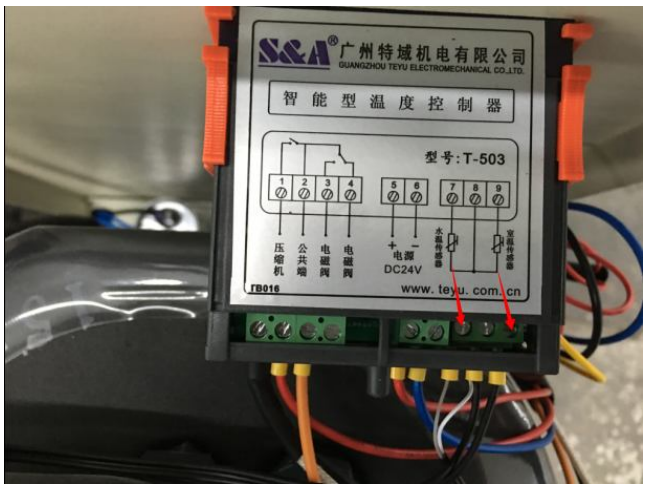
Cause analysis

1、**Wiring Loose**

2、**Sensor failure**

Detection method

1） **Find the terminal of the temperature sensor and the temperature transducer, exchange the two terminals.**



1.1）

If the alarm stop can judge the terminal contact bad, reconnect the relative terminal

1.2）**If there is a E4 alarm, can determine the temperature controller malfunction; If there is a E5 alarm, can determine the room temperature sensor failure**

1.3）**If E4, E5 at the same time alarm, recommended to replace room temperature sensor and temperature sensor and temperature controller**

3.5. **Alarm code E5: Water temperature sensor failure**

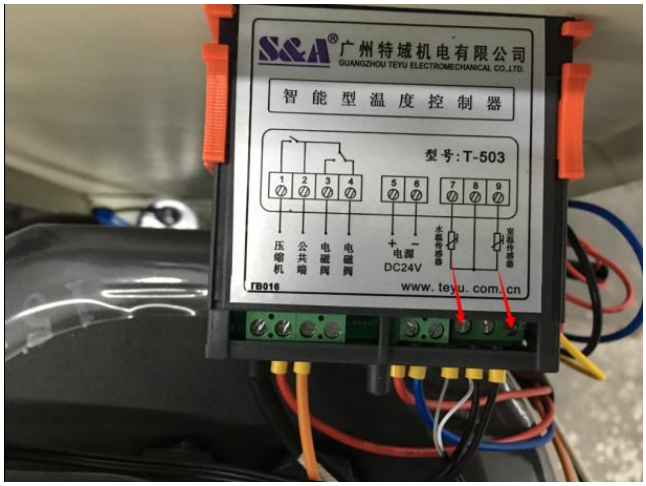
Cause analysis

1、**Wiring Loose**

2、 **Detection method**

3、 **Detection method**

1） **Find the terminal of the temperature sensor and the temperature transducer, exchange the two terminals.**



1.1）**If the alarm stop can judge the terminal contact bad, reconnect the relative terminal**

1.2）**If there is a E5 alarm, can determine the temperature controller malfunction, such as the emergence of E4 alarm, can determine the temperature sensor failure;**

1.3）**If E4, E5 at the same time alarm, recommended to replace room temperature sensor and temperature sensor and temperature controller**

Ⅳ、 No power on the chiller

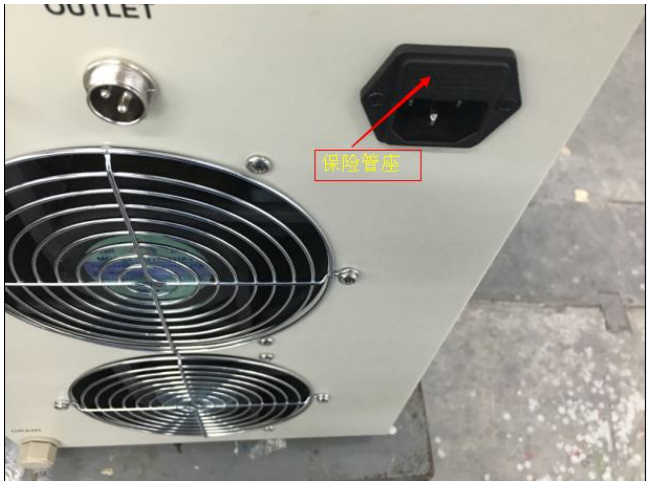
Cause analysis

1、Fuse Fusing

2、Power switch problem

Detection method

1） **Open the safety tube and check if the fuse is fused (picture). If fuse, replace the standby insurance pipe**



2）**Using universal meter and other measuring tools, detect the power switch on the two groups of**

lines have AC220V voltage (depending on the model), such as detection of the power switch only a group of lines have AC220V voltage, can be judged as power switch failure, need to replace the power switch