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《Industrial Chiller Maintenance Checklist PDF》

The chiller is an important industrial refrigeration equipment that needs to cope with various industries and environments.

A chiller that can operate for a long time cannot be separated from maintenance.

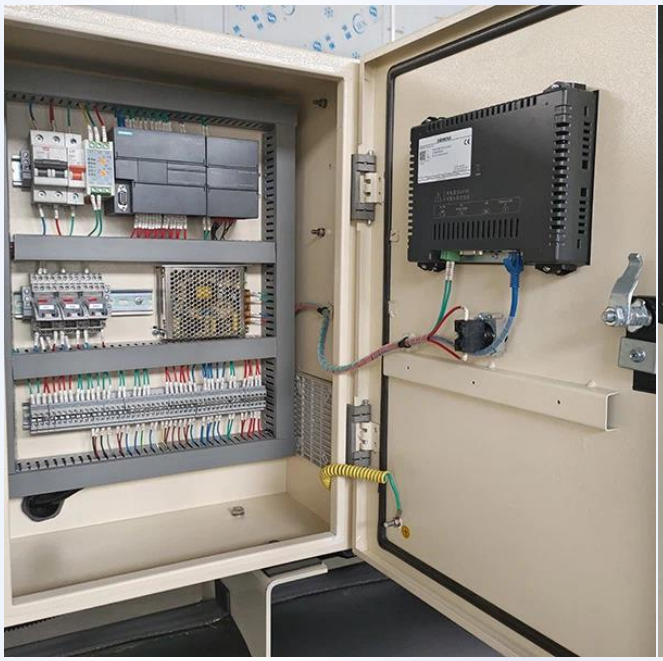
The correct of the chiller maintenance procedure have a longer service life.

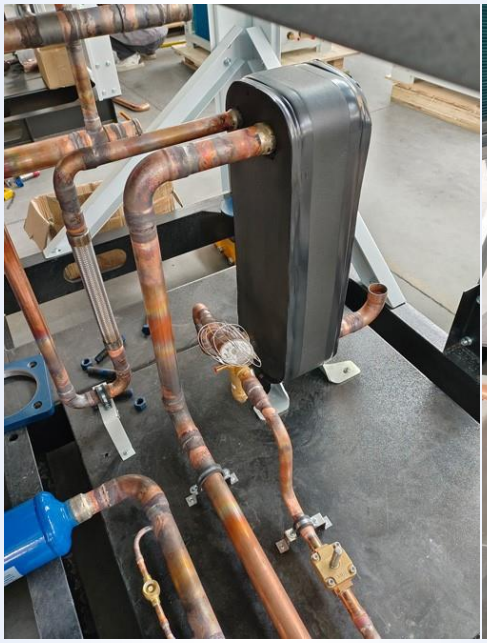
（1）What Are The Chiller Parts?

Chiller equipment is a complex system that includes many important components, The following are some common important components of chillers.

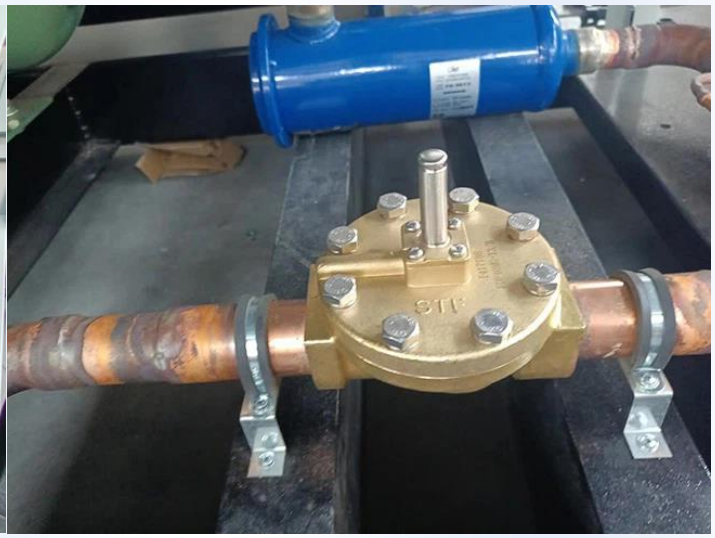
- Compressor
- Condenser
- Evaporator
- Cooling tower
- Expansion valve
- Regulating valve
- Control system
- Water pump
- Water tank
- Fan

Note: These are the common main components of chillers. Different chiller types and personalized customizations may have more equipment components.









（2）Chiller Maintenance Checklist

● Check Compressor Oil Level

Check the compressor lubricating oil regularly. If the oil level is below 1/3 of the oil sight glass during operation, it indicates that the lubricating oil in the compressor is lacking and should be replenished. The oil specification is 3GS and must not be mixed with other specifications of oil. The compressor should be inspected regularly and a comprehensive inspection should be carried out after 2 to 3 years of use.

● Check Compressor Cooling Fan

Regularly check the compressor cooling fan to ensure that the fan blades are intact and not deformed or damaged. Clean the dust and dirt from the fan surface to ensure good cooling effect.

● Check Pressure And Temperature

The chiller needs to regularly check the pressure and temperature parameters, including the suction pressure of the compressor, the cooling water inlet and outlet temperature, the pressure of the condenser and evaporator, etc. This will help determine whether the system can operate normally and detect any abnormalities in time. .

● Check Water Flow And Water Quality

The water flow and water quality of the chiller are key factors to ensure the cooling effect and system operation. Therefore, the water quality needs to be checked regularly to ensure that the water quality meets the requirements and to avoid problems such as scale, corrosion or microbial growth.

● Check Cooling Tower Spray Heads And Nozzles

Sprinkler heads and nozzles are the parts that spray water in the cooling tower. Check them regularly to see if they are working properly to ensure that the nozzles are not clogged or damaged and that the nozzles can spray water normally and evenly.

● Check Cooling Tower Packing

The fill inside the cooling tower is a key part of heat dissipation. Clean the fill regularly to remove dirt and sediment. You can use appropriate cleaning agents. It is recommended to consult the professional manufacturer for advice. During the cleaning process, ensure that the power is turned off and disconnected.

● Check Electrical System

The electrical system of the chiller is one of the things that ensures the safety of the equipment. It is necessary to focus on checking whether the wire connections are firm and whether the electrical equipment is operating normally. Check the electrical control panel, relays, fuses, circuit breakers and other components to ensure that they are not damaged or faulty.

● Check Refrigerant Levels And Leaks

Checking coolant levels and leaks is key to keeping your chiller operating properly. Check that coolant levels are within the recommended range and look at the system for any signs of leaks. Focus on checking coolant pipes, valves, and connection points to ensure they are functioning properly. Integrity and tightness.

● Check Equipment Vibration And Noise

If the chiller has vibration and noise problems, it indicates that there is a mechanical problem or imbalance in the equipment. Check the chiller regularly for abnormal vibration or noise, focusing

on the vibration isolator, fan, compressor and other parts that require rotational movement. , make sure they are not loose, worn or unbalanced.

always monitor whether the operating sound of the compressor and axial flow fan is normal. If there are abnormal knocks and noises, they should stop and check in time.

● Check Cooling System

Regular cleaning of the cooling system is key to maintaining chiller performance. This includes cleaning the surfaces of the condenser and evaporator to ensure that they do not have accumulated dust, dirt, or other obstructions. It is important to inspect the condenser radiator and fan to ensure that they are free of dust, dirt, or other obstructions. It is dust-free and provides adequate cooling.

● Check Lubrication System

The chiller has some moving parts, such as water pumps, fans and compressors. These parts need to be lubricated to ensure normal operation and reduce wear. The lubrication system needs to be checked regularly and appropriate lubricants should be added according to the instructions to ensure that the correct lubricant is used. Lubricant type and amount are key to maintaining chiller performance.

● Check Control System

The control system of the chiller needs to be calibrated regularly to ensure accurate temperature and pressure control. Check the sensors and instruments of the control system to ensure their accuracy and reliability. Calibrating the control system can be achieved by adjusting parameters or recalibrating sensors. operators should always monitor whether the indicated values of various instruments are within the normal range.

● Expansion Valve

The expansion valve and other auxiliary accessories such as filter dryers should work normally. The filter is in the high-pressure section before the expansion valve. There should be no obvious temperature difference between the inlet and outlet pipes, and there should be no condensation or frost.

● Check Water Pump

The water pump is responsible for pumping cooling water from the cooling tower or water tank into the cooling circuit of the chiller. It provides the required water flow power to ensure that the cooling water circulates effectively and transfers heat.

● System Cleaning

Regular cleaning and flushing of your chiller system is an important step in maintaining its performance and efficiency. This includes cleaning the cooler, condenser, and piping to remove dirt, sediment, and biological growth. Flushing the system can be done with chemical cleaners or water to ensure that the system For cleaning and smooth flow, please consult the chiller manufacturer for specific usage methods for professional solutions.

● Heat Exchanger

Frequently check whether there is dust or dirt on the surface of the wind-side fin heat exchanger. The surface should be cleaned regularly according to the actual dust conditions in the environment. You can use a neutral detergent warm water solution and a soft-bristled brush to scrub to prevent damage during cleaning. fins.

（3）Chiller Parts Replacement

Some parts of the chiller may need to be replaced from time to time according to usage conditions to ensure that the equipment can operate normally and provide cooling effect. The following are some common parts that need to be replaced.

● Compressor

The compressor is the core component of the chiller and is responsible for compressing the refrigerant. Due to the harsh working environment and high-load operation, the compressor may wear or malfunction. Check and maintain the compressor regularly, and replace it as necessary to ensure its normal performance. run.

● Condenser And Evaporator

The condenser and evaporator are heat exchangers in the chiller and are used to transfer heat. Due to long-term use and environmental factors, these parts may be damaged by corrosion, blockage or leakage. Clean and maintain the condenser and evaporator regularly, and Replace as needed to ensure optimal performance for cooling and energy efficiency.

● Cooling Fan

The cooling fan is used to dissipate heat and keep the temperature of the chiller stable. Due to long-term operation and dust accumulation, the fan may cause noise, slow down and other faults. Clean and check the fan regularly, and replace the fan as needed to ensure good heat dissipation. Effect.

● Electronic Component

The electronic components in the chiller include components such as controllers, sensors, and switches. They are important components for monitoring equipment and control systems. Due to

long-term use and environmental factors, these electronic components may be damaged or aged, and the electronic components need to be checked regularly. components and replace as necessary to ensure system stability and normal operation.

● Heater

Some industrial chillers have a heating function to adjust the temperature of the cooling water. The heater may need to be cleaned regularly to prevent fouling or failure and ensure it is working properly. Depending on the specific use, the heating element or controller of the heater may need to be cleaned. Make a replacement.

● Filter

The filter is used to remove impurities and contaminants from the cooling water and protect the internal components of the chiller from damage. The frequency of filter replacement may vary depending on the quality of the cooling water and the use environment.

● Control Panels And Switches

The control panel and switches of the chiller are used to operate and control the system. Due to frequent use and operation, the control panel and switches may be worn, damaged or malfunctioned. Damaged parts need to be replaced according to specific usage conditions to ensure the operability of the system. sex and safety.

Proper chiller maintenance requires the development of a long-term plan. What items need to be checked every week, every month, and every year must be listed in detail in the plan; in addition, please note that during the maintenance process Safety procedures and operating rules must be followed, provided the safety of maintenance personnel is ensured.

（4）More Chiller Equipment

	
Glycol Chiller	Portable Chiller
	
Flooded Chiller	Water Cooled Screw Chiller
	
Air Cooled Screw Chiller	Air Cooled Scroll Chiller

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