BayVoltex
BV Thermal Systems
Division of BUDZAR INDUSTRIES, INC.

Chiller Tune-Up and Maintenance

WWW.BVThermal.com
209-522-3701

38241 Willoughby Parkway •Willoughby, OH 44094

Recirculating Chillers are the answer when precise temperature control is required. A recirculating chiller from BV Thermal Systems will deliver high performance, accurate temperature control, quiet operation all in an easy to use package. However, in order for the chiller to perform at the optimum level, routine maintenace is required. Much of the required maintenace is simple and easy to perform. By following these basic recommendations you will helping to prevent long periods of downtime.

AIR-COOLED CHILLER WEEKLY CHECKS

Look for Leaks!

Is the floor wet? Is there process fluid dripping? If so, you have a leak. Now, you need to find the leak. Before you begin locating the leak make sure you turn off the chiller and disconnect the power. Once those steps are complete now you can check the fittings, hoses, connections for any signs of leakage. The chiller should not be put back in to operation until the leak is resolved.

Fluid Level

Is there a significant drop in the process fluid level? If so, you need to confirm that the system does not have a leak. This would lead to the leak problem you were unable to locate. If necessary, add process fluid as needed.

Condenser Coil Fins

Dust and other debris can cause issues to the condenser coil fins and inhibit maximum chiller performance which is why checking them weekly is so critical. If your system does not have an air filter, it is even more important to check. Check the condenser by removing the surrounding sheet metal panel. Then with a fin comb (or vacuum or even a soft paint brush) remove any dust or debris you find. Be careful not to bend any of the fins and keep in mind they may be sharp.

Air Flow

In order for the chiller to operate efficiently, it requires air flow and proper ventilation for optimum effectiveness. Keep the surrounding area clear so air is able to flow effortlessly.

Noise

If you hear an abnormal sound coming from your chiller, you may have a problem. So, if you hear a noise that is totally out of the ordinary it is best to investigate immediately. Any noise or sound that is out of the ordinary may be a sign of a problem with a pump, fan or compressor. It's best to take care of the issue as soon as possible to alleviate downtime.

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AIR-COOLED CHILLER MONTHLY CHECKS OR QUARTERLY CHECKS

If the chiller is running 24/7 then you will need to perform these checks monthly, if not, then once a quarter should be sufficient.

No Air Filter

If there isn't an air filter, use a vacuum to clean the condenser coil. Compressed air may be used as well to blow out the dust from the condenser coil.

Inside the Chiller

Dust and other debris find a way to enter the inside of the chiller. For the best results vacuum the inside of the chiller to remove these particles.

Water Filter

If the chiller is equipped with a water filter, it should be changed either monthly (if the chiller runs 24/7) or quarterly. The frequency is totally dependent upon usage.

Particle Strainer

The particle strainer should be cleaned and needs only to be changed if it is either worn or damaged.

Low Level Switch (if applicable)

This protects the pump in case there is an accidental loss of fluid. Verify the switch is operating correctly, lower the level in the tank until the pump shuts off, the low level alarm should sound and the pump shuts off.

AIR-COOLED CHILLER ANNUAL CHECKS

To keep the chiller operating at optimum efficiency, the following procedures should be followed yearly.

Process Fluid

The process fluid should be replaced at least yearly if not more often depending upon the amount of dust and debris you find.

Particle Strainer

The particle strainer, just as with the process fluid should be cleaned at least yearly if not more often depending upon how often the chiller is running and the amount of particulate in the strainer. Don't forget to disconnect the electrical power before cleaning the particle strainer.

Clean the System

The system should be cleaned thoroughly to ensure accurate temperature control.

1 - Drain the process fluid
2 - Replace the process fluid with clean, process fluid for flushing
3 -Let the chiller run for approximately 10 minutes
4 - Drain the flush
5 - Replace all of the filters
6 - Refill the chiller with process fluid and allow it to run at least 5 minutes to purge any remaining air
7 - Top off the process fluid level

Refrigerant

Contact a local licensed HVAC contractor to check the refrigeration level and add refrigerant if needed. For a more in-depth review of your equipment, please contact an experieced service technician.

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WATER-COOLED CHILLER MONTHLY CHECKS

Exchanger

Keep the cooling water clean! If the evaporator and condenser become dirty and/or clogged your chiller performance will be affected. Your Water-Cooled Chiller efficiently transfers heat only when the exchanger is clean. To receive the best possible performance with the lowest energy costs from your Water-Cooled Chiller, make sure your cooling water is as cleans as possible.

WATER-COOLED CHILLER ANNUAL CHECKS

Oil & Refrigerants

A check of the oil and refrigerant in your water-cooled chiller should be done annualy. A chemical analysis should be done to detect any contamination issues. Contaminates such as acids, metals, moisture, etc. will have negative effects on the efficiency of your chiller. Contact a lab that specializes in HVAC equipment to run the test or contact a professional HVAC maintenance company to perform the inspection.

CHILLERS AVAILABLE FROM BV THERMAL SYSTEMS

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