

Conducting Chiller Maintenance

Chillers are an essential part of any building's HVAC system, but without proper maintenance, the costs of repairs or a replacement could add up quickly.

These large and expensive pieces of equipment can have a decades-long lifespan, if properly maintained. But without proper maintenance, chillers can become problematic and break down, leading to hot, uncomfortable environments for building occupants, and large repair or replacement bills for owners.

Instead of reacting to problems with your chiller and HVAC system, a customized preventive maintenance solution can help your bottom line by taking your facilities' needs into consideration.



Proper chiller maintenance should include:

1. **Test electrical** — The terminals within the main leads, starter, and control panels should be tightened. To prevent insulation faults, electrical motor windings for insulation resistance to ground and winding-to-winding should be tested. The shaft seal of open drive motors should be checked for possible refrigerant leaks, and motor cooling air vents should be cleaned to ensure maximum cooling effect.
2. **Pressurize and leak check machine** — This is done by heating the evaporator water bundle with a supplementary heater and pump. It brings the low side to a higher pressure than during operation and allows for thorough leak testing.
3. **Test and calibrate controls** — All operation-related controls should be tested (flow switches, freeze and temp sensors, transducers, etc.). Settings should be recorded and verified that they are accurate.
4. **Sample oil (if applicable) and change unit filters** — This practice allows the chiller to begin the next season with fresh filters on both its refrigeration and oil circuit, ensuring proper operation.
5. **Perform purge system maintenance (low pressure machines only)** — This procedure removes non-condensable gases that can be introduced to the chiller on the low-pressure side. Non-condensables can lower the efficiency of the chiller.
6. **Clean and inspect the condenser tube** — This service requires technicians to open, mechanically brush and flush, and then reinstall the removed water-side items of the chiller's condenser. An inspection of the tubes' condition will help determine how often future cleaning will need to be done, and whether the system needs improved water treatment in the chilled-water circuit.

Let us help you address your building's needs and work with you to provide customized solutions.

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