

DATA CENTER HVAC GUIDE

Robust air conditioning systems are mandatory to keep data center equipment operational. Use this guide to keep your employees comfortable and help sensitive computer parts work properly.



Types of Data Center HVAC Systems

Computer Room Air Conditioners (CRACs)

- Monitor and maintain the temperature, circulation, and humidity in data centers
- May be air-cooled or water-cooled
- Chillers and cooling towers are required for water cooling

Comfort Air Conditioners

- Provide cooling in human-occupied areas of a data center
- Less precise than CRACs
- Only need to operate when people are in the building

Service Requirements for Data Center HVAC Systems

Preventative maintenance tunes up, cleans, and corrects issues with data center cooling systems.

Maintenance for chillers and cooling towers must be performed by a trained chilled water system technician. Air-cooled systems may be maintained by a licensed commercial HVAC technician.

Comfort heating and cooling equipment should be serviced once a year. CRACs may require more frequent maintenance than this.

Benefits of routine data center HVAC maintenance:

- Higher efficiency
- Lower operating costs
- Fewer breakdowns
- Lower repair costs
- Longer equipment lifespan
- Better indoor comfort

Common Data Center HVAC System Problems & Solutions

Problem: Faulty Thermostat

- Solutions:**
- Check the power.
 - Change the batteries.
 - Replace the thermostat if necessary. Install it in a central location out of direct sunlight.

Problem: Hot Air While in Cooling Mode

- Solutions:**
- Check the thermostat.
 - Change the air filter.
 - Call a technician to clean/maintain the system and recharge the refrigerant if needed.

Problem: Airflow Issues

- Solutions:**
- Make sure return and supply vents are not blocked.
 - Change the air filter.
 - Call a technician to check for ductwork leaks or other possible issues.

Problem: Lack of Maintenance

- Solution:**
- Sign up for a maintenance agreement from a commercial HVAC contractor to ensure you never forget to schedule services again.

Factors that Affect the Cost of New Data Center HVAC Systems

Commercial heating and cooling equipment lasts 10 to 20 years. Servicing your equipment regularly can help prolong its lifespan.

Factors that affect the cost of a new system:

- Building size
- Heating and cooling requirements
- Complexity of the installation
- Whether new ductwork is required
- Efficiency rating and overall quality of the new equipment

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