

HVAC GUIDE FOR HEALTHCARE & HOSPITALS

A well-equipped and functional HVAC system is vital for the performance of your hospital or other healthcare facility. Not only is the equipment responsible for keeping the building comfortable all year round, but it must also promote excellent indoor air quality for the health and safety of your patients. Few other settings have such life-or-death consequences related to their heating and cooling systems.



Types of Healthcare & Hospital HVAC Systems

Central Air Handling Units

AHUs used in healthcare facilities have higher construction and quality assurance requirements than those used in other commercial settings. For example, units must have a hygienic finish to hinder the proliferation of microorganisms and facilitate good indoor air quality. AHUs may deliver variable or constant air volume and may or may not incorporate heat recovery components.

Packaged Terminal Air Conditioning Systems

PTACs are commonly installed in window walls, having vents and heat sinks both inside and outside. They are mostly used to heat and cool individual rooms in hospitals and similar settings. Examples of PTACs include terminal reheater units, fan coil units, chilled beam units, radiant panels, and water source heat pumps.

Dedicated Outdoor Air Systems

A DOAS has a dedicated system for delivering outdoor air ventilation for latent and sensible air conditioning loads, alongside a parallel system that handles heat loads generated by indoor processes. Parallel systems may be radiant or air-based with separate or combined ductwork configurations.

Maintaining the HVAC System in Your Hospital or Healthcare Setting

In buildings designed to treat illnesses, a properly functioning HVAC system is about more than just preventing discomfort or maximizing revenue—it's about saving lives. Proper maintenance, especially of the filtration and ventilation components, facilitates healing and recovery by reducing the transmission of airborne bacteria, viruses, mold, and other contaminants around the facility. Routine inspections are also necessary to help ensure your hospital's HVAC system operates as it should without interruption. The cleaning, tightening, and tuning up that occur during an inspection help the equipment run more reliably for reduced operating costs, all while putting off the need to replace your system. The resulting savings allow you to invest money back into your hospital or healthcare facility.

Overcoming HVAC Problems in Hospitals & Healthcare Facilities

Problem: Temperature Variances

Solution: Optimal indoor temperatures are imperative to avoid compromising patient health. If you notice temperature variances, check the thermostat settings and replace the air filter. Contact a commercial heating and cooling specialist if these simple troubleshooting tips don't work.

Problem: Poor Indoor Air Quality

Solution: Lack of ventilation could result in stagnant indoor air and increase the spread of airborne pathogens. Ensure that your heat recovery ventilation system is operating correctly. If it's been a while since you replaced the air filter, do so to improve the removal of contaminants from the air.

Problem: Increased Occurrence of Emergency Breakdowns

Solution: A hospital without air conditioning in the summer or heating in the winter can't safely accommodate patients. A neglected HVAC system is more likely to break down, so the first solution is to keep up with preventative maintenance. It's also wise to install a backup generator that can keep your heating and cooling system—not to mention life-sustaining medical equipment—up and running during a power outage.

Problem: High Energy Costs

Solution: While not life-threatening, high energy bills increase your hospital's operating expenses. Solutions include fixing air leaks, sealing and insulating the ductwork, and installing more energy-efficient equipment the next time a replacement is in order.

Lifetime Cost Analysis of Hospital & Healthcare HVAC Systems

The most cost-effective HVAC equipment for your hospital or healthcare facility isn't necessarily the one that costs the least upfront—it's the one with the lowest lifetime cost. The considerations that factor into this analysis include:

- First cost
- Annual energy costs
- Yearly maintenance requirements
- Anticipated equipment life span
- Equipment replacement/retrofit costs

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