

Cabinet Coolers

What is an EXAIR Cabinet Cooler® System?

EXAIR Cabinet Coolers are a low cost, reliable way to cool and purge electronic control panels. They provide air conditioning for the electrical enclosures, eliminating electronic control downtime due to heat, dirt and moisture! These panel cooling systems for enclosures incorporate a vortex tube to produce cold air from compressed air - with no moving parts.

The compact Cabinet Cooler is an easy to use air conditioner that can be installed in minutes through a standard electrical knockout. NEMA 12, 4 and 4X Cabinet Coolers that match the NEMA rating of the enclosure are available in many cooling capacities for large and small control panels.

EXAIR's Dual High Temperature Cabinet Coolers were recently named *Plant Engineering* Product of the Year Finalists.



A Model 4830 NEMA 4 Cabinet Cooler cools a panel with 20°F air while keeping the inside dry.



EXAIR's ETC Electronic Temperature Control accurately maintains a constant temperature inside the enclosure.



[Watch the Cabinet Cooler Video.](#)

Why EXAIR Cabinet Coolers?

When the electronics inside a control cabinet overheat, the machine can shut down due to tripped overloads and breakers or heat damage to the circuit boards. Unreliable cooling methods such



Independent laboratory testing certifies that all EXAIR Cabinet Coolers meet the appropriate CE safety requirements.

Heat Can Stop Your Machines

It happens when you least expect it. High temperatures can cook the electronics that control your machines, resulting in erroneous readings, trip-outs or fried circuit boards. Cooling the electrical cabinet can eliminate these problems, but how will you do it?

Fans

Opening the panel door and aiming a fan at the circuit boards is a bad idea.

- It is an OSHA violation that presents a shock hazard to personnel
- The fan blows hot, humid, dirty air at the electronics
- The cooling effect is minimal
- It is likely to fail again since the environment is still hot



Heat Exchangers and Heat Pipes

These have serious limitations. On hot summer days when the temperatures of the room and inside the enclosure are about equal, there's not enough difference for effective heat exchange.

- They fail when dust and dirt clog the filter
- The cooling capacity is limited due to ambient conditions



as fans, heat exchangers, refrigerant air conditioners, and heat pipes are prone to failure as a result of mechanical wear, and clogged filters.

EXAIR Cabinet Coolers provide cold air for large and small control panels and are maintenance free. They have no moving parts to wear out. All Cabinet Coolers are UL and ULC Listed and have a five year "Built To Last" warranty.

Refrigerant Panel Air Conditioners

These coolers are prone to failure in dirty, industrial environments when dust and dirt clogs the filter.

- It takes almost a day to install
- Vibration from machinery causes refrigerant leaks and component failures
- Compressor life expectancy is typically 2.5 years of continuous operation
- It requires a floor drain for the condensation
- Thermostat control can decrease compressor life
- Average cost for replacing a bad compressor is \$750



“Plastic Box” Cooler

The “plastic box cooler” from a competitor uses an inaccurate mechanical thermostat that’s designed for liquids. This thermostat has a poor ability to react quickly to changes in air temperature. It costs up to 85% more to operate than EXAIR’s ETC Cabinet Cooler® System with the same SCFM rating and Btu/hr. output.

- Electronics can overheat before it turns on
- It runs far longer than necessary before shutting off
- It makes the enclosure temperature cooler than needed
- Increased cycle time wastes compressed air



EXAIR Cabinet Cooler® Systems

EXAIR has a complete line of Cabinet Cooler Systems to dependably cool and purge your electrical enclosures. They convert an ordinary supply of compressed air into clean, cold 20°F (-7°C) air. They mount in minutes through an ordinary electrical knockout and have no moving parts to wear out. Compressed air filtration is provided that keeps water, oil and other contaminants out of the enclosure.



- There is no room air filter to clog
- An accurate electrical thermostat control minimizes compressed air use
- All Cabinet Coolers are UL Listed to US and Canadian safety standards
- They are the only compressed air powered coolers that are CE compliant

