EXAIR®-MAIL
Since 1983
Celebrating 35 Years of Manufacturing Intelligent Compressed Air Products for Industry
TECHELP 1-800-903-9247 DIRECT
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Automation Demands Cooling

As U.S. manufacturing continues to provide a catalyst to our economy, automation within our manufacturing facilities continues to expand. The electronic components necessary to automate our machines and processes also require a cool, clean environment to operate. The surroundings we typically set these components in, however, subject them to high ambient temperatures, dirty ambient air, high humidity or wet and corrosive environments. It is obvious that electronics in these environments are vulnerable to over-heating and failure. Companies expect that these electronic components will function no matter the surroundings and have little patience - or down time available - to handle the costs associated with repairs and lost production. Proper protection and cooling of these electronic components is paramount for maintaining a smooth operation.

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Components themselves are also part of the problem because they release heat into the control cabinet as they operate, which creates an internal heat load. External heat load is the second part of a heat problem. Many of these controls are placed in compressor rooms, near furnaces and ovens, outside in the sun, in hot non-air-conditioned factories and other unfriendly locations which demand cooling.

Vortex Tube Cabinet Cooling

Vortex tube based Cabinet Cooler® Systems provide a low cost, reliable way to cool and purge electronic cabinets. These coolers provide cold air from a source of compressed air and have no moving parts, which makes them extremely reliable and low maintenance. These coolers can provide Btu/Hr capacities up to 5600 BTU's per hour.

Providing relief for your cabinets with EXAIR Cabinet Coolers has significant advantages to combat today's heat producing electronics and harsh conditions. Cabinet Cooler systems are CE compliant and UL listed to maintain the existing NEMA integrity of your current enclosure. **NEMA 12** coolers are intended for indoor use primarily to provide a degree of protection against dust, falling dirt, and dripping non-corrosive liquids. **NEMA 4** coolers are intended for indoor or outdoor use primarily to protect against windblown dust and rain, splashing water, and hose directed water. **NEMA 4X** enclosures offer the same protections as NEMA 4 with an added protection against corrosion by using corrosion resistant stainless steel materials. Maintaining these NEMA ratings requires little more than installation through the cabinet's existing knockout.

Another unquestionable attribute of our Cabinet Coolers is reliability. With no moving parts to break down, the lifetime of these products can be 20+ years. Operators and personnel who have installed this type of cooler can rely on consistent, low-maintenance cooling and stay focused on the priorities of their jobs. A source of clean air is required and most manufacturers integrate the necessary compressed air filter into a cooler system. Filters prevent any dirt or condensate from the compressed air source from entering the cabinet. Cabinet Cooler systems also provide a slight positive pressure within an enclosure which aids in keeping dust, dirt and debris outside. A built in air exhaust designed into the coolers construction prevents any additional need for a vent. Vortex tube technology is not the same as heat exchanger technology and will not be affected by fluctuating ambient temperatures.

Vortex tube cabinet coolers are also very reliable with the temperatures they produce. A cooler system using a bi-metal contact thermostat has a typical tolerance of +/- 2°F. These thermostatically controlled systems are the most efficient way to operate Cabinet Coolers. The thermostat will turn the cooler on and off only as needed to maintain a specific internal temperature. The internal temperature can be adjusted to decrease the amount of time a cooler will be running while still producing a comfortable temperature for your electric components. When customers have seasonal heat problems, this cooling solution is noted for turning itself off in the cool winter months and turning on at the first sign of summer, preventing those emergency heat related problems.

Many facilities require something to cool down the electronics within control cabinets. Vortex tube Cabinet Cooler systems are the choice for users who require a fast solution, ease of installation, tight temperature tolerances, durability and reliability at a low cost.

Application Spotlight:

Durable and efficient Safety Air Guns

Application Goal:

To find a more durable, more efficient Safety Air Gun for general clean-up use in a bakery.

The Problem:

Existing air guns were failing frequently. Specifically, the trigger handle pins and extension pipes would break.

The Solution:

Although the primary concern was to get durable equipment that would hold up under their use, they were also curious as to the efficiency and performance differences between their existing air guns and EXAIR Safety Air Guns. To this end, they sent in a unit for Efficiency Lab testing. Results were as follows:

Efficiency Lab testing performed at 80psig supply pressure	Compressed Air Consumption (SCFM)	Sound Level (dBA)	Force* (Ozs)
Customer's Air Gun	63.5	89.9	51.2
EXAIR Model 1310	14	74.0	40.32

*both models tested 12" from target.

Summary:

Customer purchased several Model 1310 Heavy Duty Safety Air Guns with extensions. In this case a significantly lower flow was enough to produce the desired result and this customer is saving 49.5 SCFM per air gun. The trigger handle pins and extension pipes are much stronger and far less prone to breakage. They were also pleased that the extension pipe has standard NPT threads that will allow easy nozzle replacement if necessary. Despite the higher quality/strength in design, and the improvements in noise levels and air consumption, the EXAIR units were still 35% less expensive to purchase and 78% less costly to operate.

Something NEW is Coming to EXAIR!

Take a closer look at EXAIR and you will see that we've added something new for you. Take a look at www.exair.com, search among the products. If you find one of the hidden Easter Eggs, you could win yourself some prizes by filling out the registration form. Happy hunting!

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Since 1983

EXAIR unconditionally guarantees its cataloged products for 30 days.

If you are not satisfied for any reason within that time, you may return the product for full credit with no restocking charge.

New Application Checklist

EXAIR products solve a variety of problems. Please call our Application Engineers at 1 (800) 903-9247 or e-mail them at techelp@exair.com for assistance with yours.

- A major automotive supplier purchased a **Model 110042 42" (1067mm) Super Air Knife** to blow coolant from ring gears after machining. This eliminated additional time needed to clean gears.
- This customer has a newly appointed Safety Director who needed to replace several open ended blowoffs with an OSHA compliant, more efficient nozzle. The Model 1909 Blowoff Kit was purchased so they could test the different nozzles in various applications and determine the best suitable product. The **Model 1909 Blowoff Kit** includes six different air nozzles and two air jets.
- Another EXAIR customer manufactures plastic components for the auto industry. Their high speed drilling operation caused a shaving build up that required the machine to be shut down for clean up. Using the **Model 6081 1" (25mm) Line Vac**, they were able to vacuum the shavings as they were being generated and transfer them to a waste container. This eliminated the need for shut down to clean up and they were able to run the machine overnight unmanned.

For a limited time, EXAIR is offering a free AC Sensor when you purchase one of our Cabinet Cooler® Systems. Cabinet Coolers are the low cost, reliable way to cool and purge electronic control panels. 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.

Order a Cabinet Cooler System by July 31, 2018, and you will receive a free Model 7929 AC Sensor!

To learn more go to:
https://exair.co/05_ccpromo_ad

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