EXAIR®

MANUFACTURING INTELLIGENT COMPRESSED AIR® PRODUCTS SINCE 1983



COAT



COOL



CONSERVE



CLEAN



CONVEY

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- EXAIR's **Air Nozzle Blowoff Guide** to see the details on our enormous selection of sizes, materials and performance options



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EXAIR Optimization

Minimize compressed air use and detect wasteful leaks

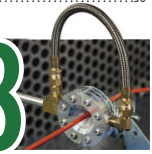
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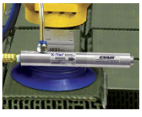


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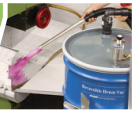


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Intelligent Compressed Air® products are identified throughout this catalog that can help your plant save tens of thousands of dollars over the course of a single year. *The Best Practices for Compressed Air Systems* manual published by the Compressed Air Challenge® recommends products like the Super Air Knife™, Super Air Amplifier™, and the family of Super Air Nozzles™ for energy conservation. Many of the products shown offer unique ways to solve common industrial problems using compressed air. Compressed Air Challenge is a registered trademark of Compressed Air Challenge, Inc.

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EXAIR has partnered with Energy Star, a voluntary program of the U.S. Department of Energy and the Environmental Protection Agency. Energy Star offers energy efficient solutions to help save money while protecting the environment for future generations. EXAIR has implemented improved energy management practices and technologies throughout our facility, including energy efficient lighting, HVAC systems, and electronic thermostats. EXAIR's participation in this program underscores our commitment to conserving energy.

EXAIR products are subject to ongoing development. Specifications are subject to change without notice.
Some products in this catalog are covered by U.S. Patent #5402938, #8153001, #8268179, #D903,817 and #9156045, and others may be U.S. Patent Pending.
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Cabinet Cooler® Systems

Stop electronic control downtime due to heat, dirt, and moisture!

Cabinet Coolers maintain NEMA 4, 4X, and 12 integrity.

All Cabinet Coolers are c UL us LISTED and CE compliant!



A Model 4830 NEMA 4 Cabinet Cooler cools a panel with 20°F (-7°C) air while keeping the inside dry.

What is an EXAIR Cabinet Cooler System?

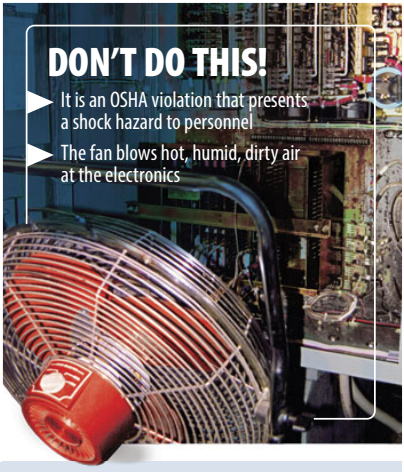


A low cost, reliable way to cool and purge electronic control panels. EXAIR Cabinet Coolers incorporate a vortex tube to produce cold air from compressed air - **with no moving parts.** The compact Cabinet Cooler can be installed in minutes through a standard electrical knockout. NEMA 12, 4, and 4X (IP54 and IP66) Cabinet Coolers that match the NEMA rating of the enclosure are available in many cooling capacities for large and small control panels.

Why EXAIR Cabinet Cooler Systems?

The vortex tubes incorporated in the EXAIR Cabinet Coolers are constructed of **stainless steel.** The wear, corrosion and oxidation resistance of stainless steel assures long life and maintenance free operation. **All Cabinet Coolers are UL Listed and CE compliant.**

Built to Last 5 yr. WARRANTY
See page 4 for complete details.



Applications

- Programmable controllers
- Line control cabinets
- Motor control centers
- Relay panels
- NC/CNC systems
- Modular control centers
- CCTV cameras
- Computer cabinets
- Laser housings
- Electronic scales
- Food service equipment

Advantages

- Low cost
- Compact
- Cooling capacities to 5,600 Btu/hr. (1,411 Kcal/hr.)
- Quiet
- Install in minutes
- Maintain NEMA 12, 4 and 4X integrity (IP54 and IP66)
- Stabilize enclosure temperature and humidity
- No CFC's
- No moving parts-maintenance free
- Mount in standard electrical knockout
- Stop nuisance tripping
- Stop heat damage
- Eliminate fans and filters
- Eliminate lost production
- Stop circuit drift
- Stop dirt contamination
- Provide washdown protection

Special Cabinet Coolers

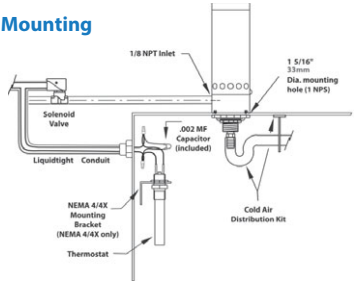
- High temp. models for ambients up to 200°F (93°C) available
- Type 316 stainless steel available
- Purge models for non-hazardous locations available

How The Cabinet Cooler Works



Compressed air enters the vortex tube powered Cabinet Cooler and is converted into two streams, one hot and one cold. (For more information on vortex tube operation, see page 188.) Hot air from the vortex tube is muffled and exhausted through the **vortex tube exhaust.** The cold air is discharged into the control cabinet through the cold air distribution kit. The displaced hot air in the cabinet rises and exhausts to atmosphere through the **cabinet air exhaust** at a slight positive pressure. Thus, the control cabinet is both cooled and purged with cool, clean air. **Outside air is never allowed to enter the control panel.**

Mounting



The Cabinet Cooler mounts to the enclosure through a drilled hole or electrical knockout. The NEMA 12 (IP54) Cabinet Coolers may be mounted on the top or side of the panel. NEMA 4 and 4X (IP66) Cabinet Coolers must be mounted on the top of the panel or on the side of the panel using one of our Side Mount Kits (See page 211).

Selecting The Right Model – Know Your System Options

Each different NEMA rated Cabinet Cooler system is available with a thermostat control or as a continuous operation system. Each of these systems will include a water-dirt filter separator to prevent water condensate and dirt from entering your enclosure and cold air distribution kit used to direct the air for circulation or on to hot spots. EXAIR also manufactures Cabinet Cooler systems for difficult environments. We have provided additional information on our Cabinet Cooler systems suitable for high temperature environments, Non-Hazardous purge environments and Type 316SS material coolers for highly corrosive environments.

Cabinet Cooler Systems with ETC provide temperature control.



NEMA Rating

The first step to solving your overheating problem is to identify the NEMA integrity your enclosure will require. At right is an explanation to help you determine which NEMA integrity Cabinet Cooler system we should ship to you.

Environmental Considerations

NEMA 12 (IP54) Cabinet Coolers (dust-tight, oil-tight) are ideal for general industrial environments where no liquids or corrosives are present.

NEMA 4 (IP66) Cabinet Coolers (dust-tight, oil-tight, splash resistant, indoor/outdoor service) incorporate a low pressure relief valve for both the vortex tube and cabinet air exhaust. This valve closes and seals when the cooler is not operating **to maintain the integrity of a NEMA 4 enclosure.**

NEMA 4X (IP66) Cabinet Coolers offer the same protection as NEMA 4 but are **constructed of stainless steel for food service and corrosive environments.**

Thermostat Control

The thermostat control systems are the most efficient way to operate a Cabinet Cooler. They save air by activating the cooler only when internal temperatures approach critical levels. Thermostat controlled cooler systems are the best option when experiencing fluctuating heat loads caused by environment or seasonal changes. The standard thermostat control systems include an adjustable thermostat factory set at 95°F (35°C).

Systems with thermostat control include a Cabinet Cooler, thermostat, solenoid valve, cold air distribution kit and filter.



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Selecting The Right Model – Know Your System Options (continued)

ETC Electronic Temperature Control

EXAIR's digital ETC (Electronic Temperature Control) provides precise temperature control for your electrical enclosure. It can accurately maintain a constant temperature that is slightly under the maximum rating of the electronics, permitting just enough cooling for the electronics without going so cold as to waste compressed air. The LED readout of the ETC displays the internal temperature of the electrical enclosure (°F or °C) that is constantly being monitored by a quick response thermocouple. The control activates the solenoid valve (included) when the temperature setting is exceeded. The polycarbonate plastic enclosure of the ETC is suitable for NEMA 12, 4 and 4X environments. (Cabinet Cooler not included.)

Model	Voltage	Sample Rate	Max Temp	Solenoid Valve	Setting Temp	Supply Current	Sensor
9238	120VAC, 50-60 Hz	1/sec.	158°F (70°C)	¼ NPT	Push Button	250 mA max	Type J Thermocouple
9258	120VAC, 50/60 Hz	1/sec.	158°F (70°C)	½ NPT	Push Button	325 mA max	Type J Thermocouple
9239	240VAC, 50/60 Hz	1/sec.	158°F (70°C)	¼ NPT	Push Button	165 mA max	Type J Thermocouple
9259	240VAC, 50/60 Hz	1/sec.	158°F (70°C)	½ NPT	Push Button	215 mA max	Type J Thermocouple

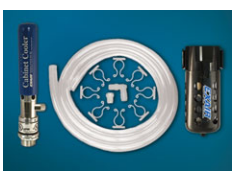
ETC controls are available within Cabinet Cooler Systems (see pages 195-197) or separate for retrofitting on existing coolers. All ETC enclosures are NEMA 4X (IP66), UL508 and UL94-5V. ETCs are RoHS and CE compliant.



ETC (Electronic Temperature Control) units are available in four different models. See above for details.

Continuous Operation

Also available in any of our NEMA ratings, continuous Cabinet Cooler systems are recommended when constant cooling and constant positive purge are desirable.



Systems for continuous operation include a Cabinet Cooler, cold air distribution kit and filter.

Special Cabinet Coolers

EXAIR manufactures special NEMA 12 (IP54), 4 (IP66) and 4X (IP66) Cabinet Coolers suited to specific environmental requirements:

High Temperature Cabinet Coolers *(shown top right)* for ambient temperatures of 125° to 200°F (52° to 93°C) are available. Internal components can withstand high temperatures (like those near furnaces, ovens, etc.).

Non-Hazardous Purge Cabinet Cooler Systems *(shown middle right)* are ideal for dirty areas where contaminants might normally pass through small holes or conduits. Under normal conditions, the NHP Cabinet Cooler Systems provide a slight positive pressure in the enclosure by passing 1 SCFM (28 SLPM) of air through the cooler, when the solenoid valve is in the closed position. When the thermostat detects high temperature, it energizes the solenoid valve to pass full line pressure and volume of compressed air to the Cabinet Cooler, giving it full cooling capability.

Type 316 Stainless Steel NEMA 4X Cabinet Coolers *(shown bottom right)* are suitable for food service, pharmaceutical, harsh and corrosive environments, and other applications where 316SS is preferred. Capacities from 275 to 5,600 Btu/hr. (69 to 1,411 Kcal/hr.) are available.

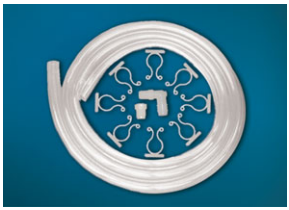
EXAIR High Temperature Cabinet Coolers, Non-Hazardous Purge Cabinet Coolers and Type 316 Cabinet Coolers are **now available from stock.**



Filtration: EXAIR Cabinet Cooler Systems include a 5 micron automatic drain water and dirt filter. This filter **is critical** for protection of electronics from water in the compressed air line. If oil is present in the compressed air, a coalescing (oil removal) filter, such as EXAIR Model 9005 is recommended. (See page 215)

Inlet Air Temperature: Cabinet Cooler Systems provide a 50°F (28°C) temperature drop from supply air temperature when the inlet pressure is 80 PSIG (5.5 BAR). Elevated inlet temperature will produce a corresponding rise in cold air temperature and reduction in cooling capacity. Low air pressures will also reduce the cooling capacity.

Humidity: For a continuous operating Cabinet Cooler System, relative humidity inside the enclosure stabilizes at 45%. No moisture condenses inside the enclosure. (The enclosure must be sealed to prevent condensation.)



Cold Air Distribution Kit:
The kit includes a length of flexible vinyl tubing used to direct the cold air for circulation, or to hot spots. Tubing connectors and adhesive backed clips to hold the tubing in place are provided.



Solenoid Valve and Thermostat:
Cabinet Cooler Systems with thermostat control include a solenoid valve and thermostat that limit the flow of compressed air to only cool when needed. The solenoid valve is rated 120V, 60Hz or 110V, 50Hz. It is UL Listed, CSA Certified.
See page 219 for more options.

The thermostat is factory set at 95°F (35°C). It will normally hold ±2°F (1°C) inside the cabinet. It is rated 24VAC-240VAC, 50/60Hz, 24VDC and is UL Recognized, CSA Certified.

Heat Can Stop Your Machines

When hot weather causes the electronics inside a control cabinet to fail, there is a panic to get the machinery up and running again. There are several cooling options out there and it's important to know the facts.



A. Heat Exchangers and Heat Pipes

These have serious limitations. On hot summer days when the temperatures of the room and inside of 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**



B. Refrigerant Panel Air Conditioners

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

- **It takes almost a day to install**
- **Vibration from machinery causes refrigerant leaks and component failures**

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. The compressed air filtration that is provided 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**

Sizing Guide - Let us do the work

On the following page, EXAIR provides a simple guide to fill in and send to us so we may do the heat load calculations for you and specify a Cabinet Cooler system. You may e-mail the information to techelp@exair.com, call 1-800-903-9247, online chat with us at exair.com/sizing, or fax the information to 1-866-329-3924.

How To Calculate Heat Load for Your Enclosure

If you would like to determine the correct model for your enclosure without our assistance, it is first necessary to determine the total heat load to which the control panel is subjected. This total heat load is the combination of two factors – heat dissipated within the enclosure and heat transfer from outside the enclosure.

To Calculate Btu/hr.:

1. First, determine the approximate Watts of heat generated within the enclosure. Watts x 3.41 = Btu/hr.
2. Then, calculate outside heat transfer as follows:
   a. Determine the area in square feet exposed to the air, ignoring the top of the cabinet.
   b. Determine the temperature differential between maximum surrounding temperature and desired internal temperature. Then, using the Temperature Conversion Table *(below)*, determine the Btu/hr./ft.^{2} for that differential. Multiplying the cabinet surface area times Btu/hr./ft.^{2} provides external heat transfer in Btu/hr.
3. Add internal and external heat loads for total heat load.

Temperature Conversion Table

Temperature Differential °F	Btu/hr./ft.^{2}
5	1.5
10	3.3
15	5.1
20	7.1
25	9.1
30	11.3
35	13.8
40	16.2

Example:

Internal heat dissipation: 471 Watts or 1,606 Btu/hr.
Cabinet area: 40 ft.^{2}
Maximum outside temperature: 110°F
Desired internal temperature: 95°F

The conversion table (*above*) shows that a 15°F temperature differential inputs 5.1 Btu/hr./ft.^{2}

40 ft.^{2} x 5.1 Btu/hr./ft.^{2} = 204 Btu/hr. external heat load.

Therefore, 204 Btu/hr. external heat load plus 1,606 Btu/hr. internal heat load = 1,810 Btu/hr. total heat load or Btu/hr. refrigeration required to maintain desired temperature.

In this example, the correct choice is a 2,000 Btu/hr. Cabinet Cooler System. Choose a Cabinet Cooler model by determining the NEMA rating of the enclosure (type of environment), and with or without thermostat control.

To Calculate Kcal/hr.:

1. First, determine the approximate Watts of heat generated within the enclosure. Watts x .86 = Kcal/hr.
2. Then, calculate outside heat transfer as follows:
   a. Determine the area in square meters exposed to the air, ignoring the top of the cabinet.
   b. Determine the temperature differential between maximum surrounding temperature and desired internal temperature. Then, using the Metric Temperature Conversion Table *(below)*, determine the Kcal/hr./m^2 for that differential. Multiplying the cabinet surface area times Kcal/hr./m^2 provides external heat transfer in Kcal/hr.
3. Add internal and external heat loads for total heat load.

Temperature Conversion Table (METRIC)

Temperature Differential °C	Kcal/hr./m^2
3	4.5
6	9.7
9	15.1
12	21.0
15	27.0
18	34.0
21	41.0

Example:

Internal heat dissipation: 471 Watts or 405 Kcal/hr.
Cabinet area: 3.7m^2
Maximum outside temperature: 44°C
Desired internal temperature: 35°C

The conversion table (*above*) shows that a 9°C temperature differential inputs 15.1 Kcal/hr./m^2.

3.7m^2 x 15.1 Kcal/hr./m^2 = 56 Kcal/hr. external heat load.

Therefore, 56 Kcal/hr. external heat load plus 405 Kcal/hr. internal heat load = 461 Kcal/hr. total heat load or Kcal/hr. refrigeration required to maintain desired temperature.

In this example, the correct choice is a 504 Kcal/hr. Cabinet Cooler System. Choose a Cabinet Cooler model by determining the NEMA rating of the enclosure (type of environment), and with or without thermostat control.

After picking which NEMA integrity you need, choosing your options and calculating your heat load -go to page 208-210 to specify a model number.

See page 212 for HazLoc Cabinet Coolers.

OR Contact EXAIR and we'll walk you right through it.

EXAIR® Cabinet Cooler® System Sizing Guide

Deliver your Data – Receive a Quote

Use this form to gather the information necessary to specify a Cabinet Cooler System and choose a delivery method below.

submit online
exair.com/sizing

Call us at
1-800-903-9247

TO QUICK MOBILE VERSION
https://exair.co/qr-ccszg

Online chat with us at
www.exair.com

FAX
it to
1-866-329-3924

We'll respond with our recommended solution within 24 hours.

Send Us The Facts!

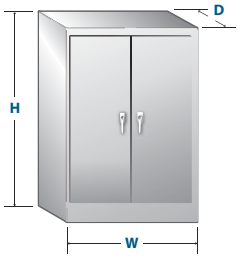
Cabinet Cooler Sizing Guide

To: Application Engineering Department, EXAIR® Corporation

From:
Name_____
Company_____
FAX number_____
Phone number_____ **Ext.#**_____
E-mail_____

In a hurry? For help NOW, call our Application Engineering Department at 1-800-903-9247
You can fill this form out online at: www.exair.com/sizing.htm

I have completed the information below. I want to know which EXAIR Cabinet Cooler® System is the best choice for my control panel.



1. Height (H)_____ 2. Width (W)_____ 3. Depth (D)_____
4. *External air temperature now?_____ °F or °C
5. *Internal air temperature now?_____ °F or °C
6. Maximum external air temperature possible?_____ °F or °C
7. Maximum internal air temperature desired?_____ °F or °C
8. My cabinet rating is: ☐ NEMA 12 ☐ NEMA 4 ☐ NEMA 4X
   ☐ Other (explain) _____
   _____
9. My cabinet is in an area with a hazardous classification: ☐ NO: ☐ YES
10. My cabinet is (check all that apply): ☐ Vented - outside air circulates through the enclosure
    ☐ Not Vented - outside air does not circulate through the enclosure
    ☐ Wall mounted
    ☐ Fan(s)/Vent(s) - Indicate diameter or SCFM _____
    Number of fans/vents _____
11. Available voltage for thermostat control: ☐ 24 VDC ☐ 110 VAC ☐ 240 VAC

*Using a "Temperature Gun" or infrared thermometer will result in measuring surface temperatures. Air temperatures are needed for the cabinet cooling calculations. Please use a standard thermometer or thermocouple to measure the air temperature.

TECHELP DIRECT 1-800-903-9247

For Technical Assistance, Call An EXAIR Application Engineer 1-800-903-9247
Toll Free FAX (866) 329-3924 • E-mail: techelp@exair.com • www.exair.com

Cabinet Coolers Keep Working at Full Capacity After Seven Years of Near Constant Operation



The Problem: A manufacturer of automotive radiators had a problem relating to an overheated motor drive which caused one of their two production lines to come to a stop. They used a refrigerant based air conditioner set on the panel, but the air conditioner began leaking water into the inside of the panel. The water got into the motor drive, shorted it out and caused the production line to go down. Not only was production down for 1 month, but the motor drive cost them $20,000 to replace by the time they purchased, had it shipped and got it installed.

The Solution: The manufacturer was unsure of what they were going to use for an air conditioning unit because the motor drives had to stay cool. They purchased EXAIR's **Model 4330 NEMA 12 2,000 Btu/hr. (504 Kcal/hr.) Cabinet Cooler System** with thermostat control for the panel. The Cabinet Cooler System worked perfectly at solving the cooling problem.

Seven years later, this manufacturer contacted EXAIR for another application. They mentioned the old EXAIR Cabinet Cooler system still on the motor drive panel, cranking out cold air. No maintenance had been performed on the Cabinet Cooler System in that time (as none was necessary) even though the environment was quite dirty. It was still working perfectly!



Comment: When we talk to customers about the EXAIR Cabinet Cooler Systems, one of their initial concerns is how long they last. With a source of clean/dry compressed air, the life span of a Cabinet Cooler can easily be in the range of 20 years or more, since there are no moving parts to wear out. In that time frame, you could have to purchase four refrigerant based units, pay to have them changed out and pay for them to be maintained 2 - 4 times per year, changing filters, replacing compressors, and re-charging refrigerant. Not only does the Cabinet Cooler last a long time, but when it is operating, it produces a positive pressure inside the panel which keeps dust and debris from getting inside your cabinet over time.

Cooling in a Hostile Environment



The Problem: A traditional refrigerant based air conditioner was installed on wastewater clarifier controls but could not withstand the harsh chemical environment of the wastewater industry. Controls on a wastewater clarifier process were mounted outdoors and experienced weather related overheating problems in the hotter months of the year. Not only did higher temperatures compromise the performance of the traditional refrigerant based air conditioner, the corrosive environment from the many different wastewater chemicals, acids and bases prematurely wore the critical moving parts of the air conditioner.

The Solution: A **Model 4850SS-316 Cabinet Cooler System** provided 3,400 Btu/hr. (857 Kcal/hr.) of cooling for the clarifier controls and kept them running efficiently. The Cabinet Cooler is resistant to seasonal temperature fluctuations because it operates from a source of compressed air and not ambient air. The 316SS construction also provided high corrosion resistance to the chemical environment. Since EXAIR Cabinet Coolers have no moving parts, another maintenance concern was eliminated.

Comment: The inherent reliability of the vortex tube operated Cabinet Cooler System is another important advantage in this application. Because they have no moving parts, **EXAIR Cabinet Coolers are virtually impervious to hostile environments**. Wastewater treatment, chemical processing, paper manufacturing, steel mills and power generation are just a few of the facilities benefitting from this simple, yet effective technology.

NEMA 12 (IP54) Cabinet Cooler Systems

	120V Thermostat Control Model #	ETC 120V Thermostat Control Model #	ETC 240V Thermostat Control Model #	High Temp Thermostat Control Model #	Non-Hazardous Purge Thermostat Control Model #	Capacity* Btu/ Hr	Capacity* Kcal/ hr	Sound level dBA
NEMA 12 (IP54) (Dust, Oil Resistant)	4304	4304-ETC120	4304-ETC240	N/A	NHP4304	275	69	59**
	4308	4308-ETC120	4308-ETC240	N/A	NHP4308	550	139	67**
	4315	4315-ETC120	4315-ETC240	HT4315	NHP4315	1,000	252	73**
	4325	4325-ETC120	4325-ETC240	HT4325	NHP4325	1,700	428	74**
	4330	4330-ETC120	4330-ETC240	HT4330	NHP4330	2,000	504	74**
	4340	4340-ETC120	4340-ETC240	HT4340	NHP4340	2,800	706	78**
	4350	4350-ETC120	4350-ETC240	HT4350	NHP4350	3,400	857	75**
	4360	4360-ETC120	4360-ETC240	HT4360	NHP4360	4,000	1,007	77**
	4370	4370-ETC120	4370-ETC240	HT4370	NHP4370	4,800	1,209	77**
	4380	4380-ETC120	4380-ETC240	HT4380	NHP4380	5,600	1,411	79**

	Cabinet Cooler Only Model #	Continuous Operation Model #	High Temp Continuous Operation Model #	Capacity* Btu/Hr	Capacity* Kcal/hr	Sound level dBA
NEMA 12 (IP54) (Dust, Oil Resistant)	4004	4204	N/A	275	69	59**
	4008	4208	N/A	550	139	67**
	4015	4215	HT4215	1,000	252	73**
	4025	4225	HT4225	1,700	428	74**
	4030	4230	HT4230	2,000	504	74**
	4040	4240	HT4240	2,800	706	78**
	N/A	4250	HT4250	3,400	857	75**
	N/A	4260	HT4260	4,000	1,007	77**
	N/A	4270	HT4270	4,800	1,209	77**
	N/A	4280	HT4280	5,600	1,411	79**

*Cooling capacity at 100 PSIG (6.9 BAR) supply pressure. **With optional cold muffler installed.

NEMA 12 (IP54) Cabinet Cooler systems are dust and oil tight. They are ideal for general industrial environments where no liquids or corrosives are present.

Thermostat control systems (Models 4304-4380) are the most efficient cabinet cooler system because it will turn itself on and off as needed to cool your enclosure. Includes cooler, solenoid valve, thermostat, filter separator and cold air distribution kit. Models are available in 120VAC, 240VAC and 24VDC.

Continuous operation systems (Models 4204-4280) include the cooler, a filter separator and cold air distribution kit.

ETC Thermostat control systems provide on the fly temperature adjustment and displays internal temperature in real time.

High Temperature Cabinet Cooler systems should be used when ambient temperatures reach 125°F to 200°F (52°C to 93°C).

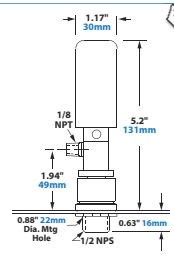
Non-Hazardous Purge (NHP) models provide a continuous positive purge within the enclosure to prevent contaminants from entering. They are suited for extremely dirty and dusty environments.

Dual Cabinet Cooler systems (Models (##50-##80) provide for additional cooling.

Dimensions

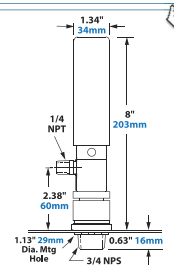
Model #'s NEMA 12 (IP54)
4004
4008
4204
4208
4304
4308

DOWNLOAD drawings at EXAIR.com



Model #'s NEMA 12 (IP54)
4015
4025
4030
4040
4215
4225
4230
4240
4315
4325
4330
4340

DOWNLOAD drawings at EXAIR.com



NEMA 4 (IP66) Cabinet Cooler Systems

	120V Thermostat Control Model#	ETC 120V Thermostat Control Model#	ETC 240V Thermostat Control Model#	High Temp Thermostat Control Model#	Non-Hazardous Purge Thermostat Control Model#	Capacity* Btu/Hr	Capacity* Kcal/hr	Sound level dBA
NEMA 4 (IP66) (Splash Resistant)	4804	4804-ETC120	4804-ETC240	N/A	NHP4804	275	69	59**
	4808	4808-ETC120	4808-ETC240	N/A	NHP4808	550	139	67**
	4815	4815-ETC120	4815-ETC240	HT4815	NHP4815	1,000	252	73
	4825	4825-ETC120	4825-ETC240	HT4825	NHP4825	1,700	428	80
	4830	4830-ETC120	4830-ETC240	HT4830	NHP4830	2,000	504	80
	4840	4840-ETC120	4840-ETC240	HT4840	NHP4840	2,800	706	82
	4850	4850-ETC120	4850-ETC240	HT4850	NHP4850	3,400	857	84
	4860	4860-ETC120	4860-ETC240	HT4860	NHP4860	4,000	1,007	84
	4870	4870-ETC120	4870-ETC240	HT4870	NHP4870	4,800	1,209	84
	4880	4880-ETC120	4880-ETC240	HT4880	NHP4880	5,600	1,411	85

	Cabinet Cooler Only Model#	Continuous Operation Model#	High Temp Continuous Operation Model#	Capacity* Btu/Hr	Capacity* Kcal/hr	Sound level dBA
NEMA 4 (IP66) (Splash Resistant)	4604	4704	N/A	275	69	59**
	4608	4708	N/A	550	139	67**
	4615	4715	HT4715	1,000	252	73
	4625	4725	HT4725	1,700	428	80
	4630	4730	HT4730	2,000	504	80
	4640	4740	HT4740	2,800	706	82
	N/A	4750	HT4750	3,400	857	84
	N/A	4760	HT4760	4,000	1,007	84
	N/A	4770	HT4770	4,800	1,209	84
	N/A	4780	HT4780	5,600	1,411	85

*Cooling capacity at 100 PSIG (6.9 BAR) supply pressure. **With optional cold muffler installed.

NEMA 4 (IP66) Cabinet Cooler systems are dust and oil tight, splash resistant and indoor/outdoor capable. By incorporating a low pressure valve for all air exhaust, the valve closes and seals when not operating to **maintain NEMA 4 enclosure integrity**.

Thermostat control systems (Models 4804-4880) are the most efficient system because it will turn itself on and off as needed to cool your enclosure. Includes cooler, solenoid valve and thermostat, filter separator and cold air distribution kit. Models are available in 120VAC, 240VAC and 24VDC.

Continuous operation systems (Models 4704-4780) include the cooler, a filter separator and cold air distribution kit.

ETC Thermostat control systems provide on the fly temperature adjustment and displays internal temperature in real time.

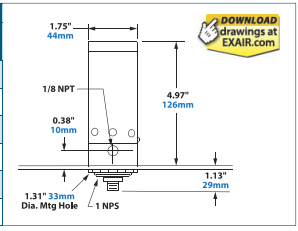
High Temperature Cabinet Cooler systems should be used when ambient temperatures reach 125°F to 200°F (52°C to 93°C).

Non-Hazardous Purge (NHP) models provide a continuous positive purge within the enclosure to prevent contaminants from entering. They are suited for extremely dirty and dusty environments.

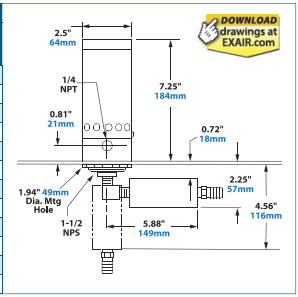
Dual Cabinet Cooler systems (Models (##50-##80) provide for additional cooling.

Dimensions

Model #'s NEMA 4 (IP66)
4604
4608
4704
4708
4804
4808



Model #'s NEMA 4 (IP66)
4615
4625
4630
4640
4715
4725
4730
4740
4815
4825
4830
4840



NEMA 4X (IP66) Cabinet Cooler Systems

	120V Thermostat Control Model#	ETC 120V Thermostat Control Model#	ETC 240V Thermostat Control Model#	High Temp Thermostat Control Model#	Non-Hazardous Purge Thermostat Control Model#	Capacity* Btu/Hr	Capacity* Kcal/hr	Sound level dBA
NEMA 4X (IP66) (Corrosion-Resistant)	4804SS	4804SS-ETC120	4804SS-ETC240	N/A	NHP4804SS	275	69	59**
	4808SS	4808SS-ETC120	4808SS-ETC240	N/A	NHP4808SS	550	139	67**
	4815SS	4815SS-ETC120	4815SS-ETC240	HT4815SS	NHP4815SS	1,000	252	73
	4825SS	4825SS-ETC120	4825SS-ETC240	HT4825SS	NHP4825SS	1,700	428	80
	4830SS	4830SS-ETC120	4830SS-ETC240	HT4830SS	NHP4830SS	2,000	504	80
	4840SS	4840SS-ETC120	4840SS-ETC240	HT4840SS	NHP4840SS	2,800	706	82
	4850SS	4850SS-ETC120	4850SS-ETC240	HT4850SS	NHP4850SS	3,400	857	84
	4860SS	4860SS-ETC120	4860SS-ETC240	HT4860SS	NHP4860SS	4,000	1,007	84
	4870SS	4870SS-ETC120	4870SS-ETC240	HT4870SS	NHP4870SS	4,800	1,209	84
	4880SS	4880SS-ETC120	4880SS-ETC240	HT4880SS	NHP4880SS	5,600	1,411	85

	Cabinet Cooler Only Model#	Continuous Operation Model#	High Temp Continuous Operation Model#	Capacity* Btu/Hr	Capacity* Kcal/hr	Sound level dBA
NEMA 4X (IP66) (Corrosion Resistant)	4604SS	4704SS	N/A	275	69	59**
	4608SS	4708SS	N/A	550	139	67**
	4615SS	4715SS	HT4715SS	1,000	252	73
	4625SS	4725SS	HT4725SS	1,700	428	80
	4630SS	4730SS	HT4730SS	2,000	504	80
	4640SS	4740SS	HT4740SS	2,800	706	82
	N/A	4750SS	HT4750SS	3,400	857	84
	N/A	4760SS	HT4760SS	4,000	1,007	84
	N/A	4770SS	HT4770SS	4,800	1,209	84
	N/A	4780SS	HT4780SS	5,600	1,411	85

*Cooling capacity at 100 PSIG (6.9 BAR) supply pressure. **With optional cold muffler installed.

NEMA 4X (IP66) Cabinet Cooler systems are made from 303 stainless steel, dust and oil tight, splash resistant, indoor/outdoor capable and corrosion resistant. By incorporating a low pressure valve for all air exhaust, the valve closes and seals when not operating **to maintain NEMA 4X enclosure integrity**.

Thermostat control systems (Models 4804SS-4880SS) are the most efficient system because it will turn itself on and off as needed to cool your enclosure. Includes cooler, solenoid valve and thermostat, filter separator and cold air distribution kit. Models are available in 120VAC, 240VAC and 24VDC.

Continuous operation systems (Models 4704SS-4780SS) include the cooler, a filter separator and cold air distribution kit.

ETC Thermostat control systems provide on the fly temperature adjustment and displays internal temperature in real time.

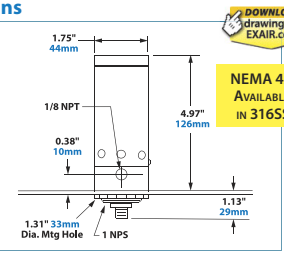
High Temperature Cabinet Cooler systems should be used when ambient temperatures reach 125°F to 200°F (52°C to 93°C).

Non-Hazardous Purge (NHP) models provide a continuous positive purge within the enclosure to prevent contaminants from entering. They are suited for extremely dirty and dusty environments.

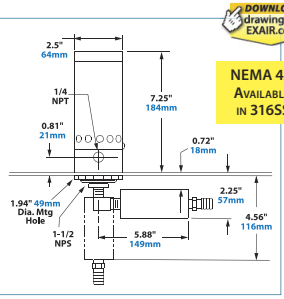
Dual Cabinet Cooler systems (Models (##50SS-##80SS) provide for additional cooling.

Dimensions

Model #'s NEMA 4X (IP66)
4604SS
4608SS
4704SS
4708SS
4804SS
4808SS



Model #'s NEMA 4X (IP66)
4615SS
4625SS
4630SS
4640SS
4715SS
4725SS
4730SS
4740SS
4815SS
4825SS
4830SS
4840SS



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blog.exair.com @EXAIR

Accessories and Components			
Model #	**Description**	**Model #**	**Description**
4902	Cold Muffler only	**9044**	Valve and Thermostat Kit, 240V, 50/60 Hz
4904	Cold Air Distribution Kit (For all Cabinet Coolers 650 Btu/hr. and higher)	**9016**	NEMA 4-4X Valve and Thermostat Kit, 120V, 50/60 Hz
4905	Cold Air Distribution Kit (For Cabinet Coolers up to 550 Btu/hr.)	**9045**	NEMA 4-4X Valve and Thermostat Kit, 240V, 50/60 Hz
9004	Automatic Drain Filter Separator, 1/4 NPT, 43 SCFM (1,359 SLPM)	**9017**	Thermostat Only, 24V-240V, 50/60Hz
9027	Oil Removal Filter (For Cabinet Coolers with 550 Btu/hr. output), 1/4 NPT, 7-24 SCFM (198-680 SLPM)	**9018**	NEMA 4-4X Solenoid Valve Only, 120V, 50/60 Hz, 1/4 NPT, 40 SCFM (1,133 SLPM)
9005	Oil Removal Filter (For all Cabinet Coolers except 550 Btu/hr. output), 3/8 NPT, 15-37 SCFM (425-1,048 SLPM)	**9024**	NEMA 4-4X Solenoid Valve Only, 240V, 50/60 Hz, 1/4 NPT, 40 SCFM (1,133 SLPM)
9006	Oil Removal Filter, 3/4 NPT, 50-150 SCFM (1,416-4,248 SLPM)	**9020**	Solenoid Valve Only, 120V, 50/60 Hz, 1/4 NPT, 40 SCFM (1,133 SLPM)
9008	Pressure Regulator with Gauge, 1/4 NPT, 50 SCFM (1,416 SLPM)	**9021**	Solenoid Valve Only, 200-240V, 50/60 Hz, 1/4 NPT, 40 SCFM (1,133 SLPM)
9238	ETC - Electronic Temperature Control, 120V, 50/60 Hz, 1/4 NPT	**9031**	NEMA 4-4X Solenoid Valve Only, 24VDC, 1/4 NPT, 40 SCFM (1,133 SLPM)
9239	ETC - Electronic Temperature Control, 240V, 50/60 Hz, 1/4 NPT	**9034**	NEMA 4-4X Solenoid Valve Only, 120V, 50/60 Hz, 1/2 NPT, 100 SCFM (2,832 SLPM)
9258	ETC - Electronic Temperature Control, 120V, 50/60 Hz, 1/2 NPT	**9058**	NEMA 4-4X Solenoid Valve Only, 24VDC, 1/2 NPT, 100 SCFM (2,832 SLPM)
9259	ETC - Electronic Temperature Control, 240V, 50/60 Hz, 1/2 NPT		
9015	Valve and Thermostat Kit, 120V, 50/60 Hz		

EXAIR's Side Mount Kits for NEMA 12, 4 and 4X Cabinet Coolers offer convenient mounting to the side of an electrical enclosure.



Side Mount Kits

EXAIR's Side Mount Kits make mounting on the side of an electrical enclosure possible when there is limited space on the top or side. (NEMA 4 and 4X Cabinet Cooler Systems must be mounted vertically.) The Side Mount Kits maintain the NEMA rating of large and small NEMA Type 12, 4 and 4X enclosures. They mount in a standard electrical knockout (1-1/2 NPS). Side Mount Kits for NEMA 12 Cabinet Cooler Systems have an aluminum construction. Those for NEMA 4 and 4X Cabinet Cooler Systems are Type 303 or Type 316 stainless steel.

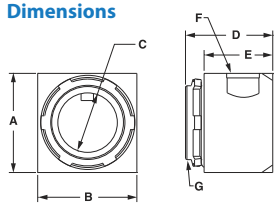
Accessories and Components	
Model #	**Description**
4909	Side Mount Kit for NEMA 12 Cabinet Coolers up to 550 Btu/hr. (139 Kcal/hr.)
4910	Side Mount Kit for NEMA 12 Cabinet Coolers, 650 Btu/hr. (165 Kcal/hr.) and higher
4906	Side Mount Kit for NEMA 4 and 4X Cabinet Coolers up to 550 Btu/hr. (139 Kcal/hr.)
4907	Side Mount Kit for NEMA 4 and 4X Cabinet Coolers, 650 Btu/hr. (165 Kcal/hr.) and higher
4906-316	Type 316 Stainless Steel Side Mount Kit for NEMA 4 and 4X Cabinet Coolers, up to 550 Btu/hr. (139 Kcal/hr.)
4907-316	Type 316 Stainless Steel Side Mount Kit for NEMA 4 and 4X Cabinet Coolers, 650 Btu/hr. (165 Kcal/hr.) and higher



See page 4 for complete details.

90 Degree Side Mount Kit Dimensions								
Model		**A**	**B**	**C**	**D**	**E**	**F**	**G**
4906	**in**	2.50	2.50	1.50	3.50	3.03	1 NPS	1-1/2 NPS
	mm	64	64	38	89	77		
4907	**in**	2.50	2.50	1.50	3.50	3.03	1-1/2 NPS	1-1/2 NPS
	mm	64	64	38	89	77		
4909	**in**	2.50	2.50	1.50	2.19	1.73	1/2 NPS	1-1/2 NPS
	mm	64	64	38	56	44		
4910	**in**	2.50	2.50	1.50	2.19	1.73	3/4 NPS	1-1/2 NPS
	mm	64	64	38	56	44		

Side Mount Kit Dimensions



Hazardous Location Cabinet Cooler® Systems

For use with classified enclosure purge and pressurization systems

- Class I Div 1, Groups A, B, C and D
- Class II Div 1, Groups E, F and G
- Class III

HazLoc Cabinet Coolers maintain NEMA 4/4X integrity and are CE compliant!



What is an EXAIR HazLoc Cabinet Cooler System?

These Cabinet Cooler Systems are engineered and approved for use upon purged electrical enclosures (not included) found within classified areas. The areas approved are Class I Div 1, Groups A, B, C and D – Class II Div 1 Groups E, F and G - and Class III. EXAIR's HazLoc Cabinet Cooler Systems have been tested by UL and meet the stringent UL requirements for these areas. Cabinet Cooler systems are a low cost and reliable way to cool purged electric control panels found within these environments. They utilize vortex tube technology to produce up to 5,600 Btu/Hr, with no moving parts, which additionally creates a low maintenance solution for cooling your HazLoc purged cabinets.

Advantages

- Rated for Div I Hazardous Locations
- UL Classified
- Available in 8 different cooling capacities
- No moving parts, low maintenance
- Thermostat control reduces operating cost
- Large range of cooling capacities up to 5,600 Btu/Hr
- 5 Year warranty
- Low cost

Why EXAIR HazLoc Cabinet Cooler Systems?

EXAIR's HazLoc Cabinet Cooler Systems have been set apart from the competition by achieving the UL classified designation for Div I environments. Thermostatically controlled systems are recommended for the highest efficiency and include UL listed solenoids, also for hazardous environments. EXAIR Cabinet Cooler systems will install on your purged enclosure in minutes, require little to no maintenance and operate under the toughest of industrial conditions. If you require low cost, ease of use and/or reliability – a HazLoc Cabinet Cooler system will meet your needs.

EXAIR Hazardous Location Cabinet Cooler Systems are available in 8 different cooling capacities from 1,000 Btu/Hr. to 5,600 Btu/Hr. This range of cooling allows for choosing the best fit for your cooling needs without placing additional demand upon your air compressor.

Cabinet Cooler Systems protect your electronics from heat, dirt and moisture and keep your processes running. They are the low-cost solution to messy, high maintenance coolant-based air conditioners with simple installation. With modern technology comes an increased number of small electronic components packed into smaller electronic cabinets. This creates a high internal heat load which increases the failures due to heat. Components will fail, sensors will misread, controls can drift and displays become inaccurate. EXAIR HazLoc Cabinet Coolers can solve these problems and prevent lost productivity, shutdown and the expense of new components.

Thermostat Control

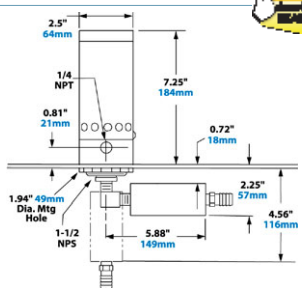
Each different HazLoc Cabinet Cooler System is available with a thermostat control or as a continuous operation system. Each of these systems will include a water-dirt filter separator to prevent water condensate and dirt from entering your enclosure and cold air distribution kit used to direct the air for circulation or on to hot spots. HazLoc Cabinet Cooler Systems are also available in Type 316SS for highly corrosive environments.

Safety

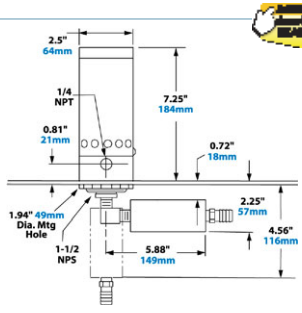
EXAIR's HazLoc Cabinet Cooler Systems are not purged and pressurized control systems and should not be relied upon nor used in place of a purged and pressurized controller. They are meant for use in conjunction with a purged and pressurized control system.

Any control systems and accessories not rated for the hazardous location need to be moved outside of the hazardous area or inside a properly purged and pressurized enclosure which is suitable for the hazardous area.

Model #'s NEMA 4
HZ4615
HZ4625
HZ4630
HZ4640
HZ4715
HZ4725
HZ4730
HZ4740
HZ4815
HZ4825
HZ4830
HZ4840



Model #'s NEMA 4X
HZ4615SS
HZ4625SS
HZ4630SS
HZ4640SS
HZ4715SS
HZ4725SS
HZ4730SS
HZ4740SS
HZ4815SS
HZ4825SS
HZ4830SS
HZ4840SS



NEMA 4 (IP66) Hazardous Location Cabinet Cooler Systems

Cabinet Cooler Only Model #	Continuous Operation Model #	120V Thermostat Control Model #	240V Thermostat Control Model #	24VDC Thermostat Control Model #	Capacity* Btu/Hr	Capacity* Kcal/hr	Sound level dBA
HZ4615	HZ4715	HZ4815	HZ4815-240	HZ4815-24VDC	1,000	252	73
HZ4625	HZ4725	HZ4825	HZ4825-240	HZ4825-24VDC	1,700	428	80
HZ4630	HZ4730	HZ4830	HZ4830-240	HZ4830-24VDC	2,000	504	80
HZ4640	HZ4740	HZ4840	HZ4840-240	HZ4840-24VDC	2,800	706	82
N/A	HZ4750	HZ4850	HZ4850-240	HZ4850-24VDC	3,400	857	84
N/A	HZ4760	HZ4860	HZ4860-240	HZ4860-24VDC	4,000	1,007	84
N/A	HZ4770	HZ4870	HZ4870-240	HZ4870-24VDC	4,800	1,209	84
N/A	HZ4780	HZ4880	HZ4880-240	HZ4880-24VDC	5,600	1,411	85

NEMA 4X (IP66) Hazardous Location Cabinet Cooler Systems

Cabinet Cooler Only Model #	Continuous Operation Model #	120V Thermostat Control Model #	240V Thermostat Control Model #	24VDC Thermostat Control Model #	Capacity* Btu/Hr	Capacity* Kcal/hr	Sound level dBA
HZ4615SS	HZ4715SS	HZ4815SS	HZ4815SS-240	HZ4815SS-24VDC	1,000	252	73
HZ4625SS	HZ4725SS	HZ4825SS	HZ4825SS-240	HZ4825SS-24VDC	1,700	428	80
HZ4630SS	HZ4730SS	HZ4830SS	HZ4830SS-240	HZ4830SS-24VDC	2,000	504	80
HZ4640SS	HZ4740SS	HZ4840SS	HZ4840SS-240	HZ4840SS-24VDC	2,800	706	82
N/A	HZ4750SS	HZ4850SS	HZ4850SS-240	HZ4850SS-24VDC	3,400	857	84
N/A	HZ4760SS	HZ4860SS	HZ4860SS-240	HZ4860SS-24VDC	4,000	1,007	84
N/A	HZ4770SS	HZ4870SS	HZ4870SS-240	HZ4870SS-24VDC	4,800	1,209	84
N/A	HZ4780SS	HZ4880SS	HZ4880SS-240	HZ4880SS-24VDC	5,600	1,411	85

*Cooling capacity at 100 PSIG (6.9 BAR) supply pressure.

Accessories and Components	
Model #	**Description**
902019	Hazloc Solenoid NEMA Type 7/9, 1/4 NPT, 120V/60HZ
902020	Hazloc Solenoid NEMA Type 7/9, 1/4 NPT, 240V/60HZ
902021	Hazloc Solenoid NEMA Type 7/9, 1/4 NPT, 24VDC
9017	Thermostat only 24V-240V, 50/60 Hz
9004	Automatic Drain Filter Separator, 1/4 NPT, 43 SCFM (1,359 SLPM)
9027	Oil Removal Filter for all HazLoc Systems, 7-24 SCFM (198-680 SLPM), 1/4 NPT
9005	Oil Removal Filter for all HazLoc Systems, 15-37 SCFM (425-1,048 SLPM), 3/8 NPT
9006	Oil Removal Filter for all HazLoc Systems, 50-150 SCFM (1,416-4,248 SLPM), 3/4 NPT

Cabinet Coolers End Costly Shutdowns

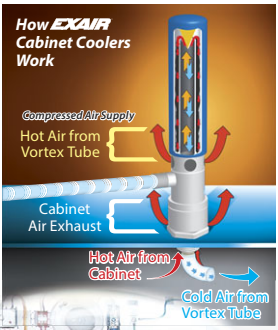
See our customer's success story. They were experiencing the very common circumstance of seasonal summertime control failures due to the elevated temperatures.

Soon the heat took its toll on the electrical enclosure of the laser cutting machine… The main circuit board failed and required repairs in Australia.

As the machine remained shut down, the urgency to keep their good reputation and meet delivery times made finding the proper cooling product their top priority

After comparing other options for cooling it became clear a Cabinet Cooler would provide the long-term solution they needed.

There were numerous features that made EXAIR's Cabinet Cooler the best choice for this customer. It was easy to install, compact…



It's hard to believe you can get so much cooling out of one of those little tubes.

The customer now considers a Cabinet Cooler to be a good insurance policy against summer-time heat conditions that had just cost them a significant amount of money.

EXAIR's White Paper will help you learn more about how you can stop costly shutdowns in your plant with the compact, low cost Cabinet Cooler.



Download Cabinet Coolers End Costly Shutdowns now at https://exair.co/ccecs04 or scan the qr code provided.