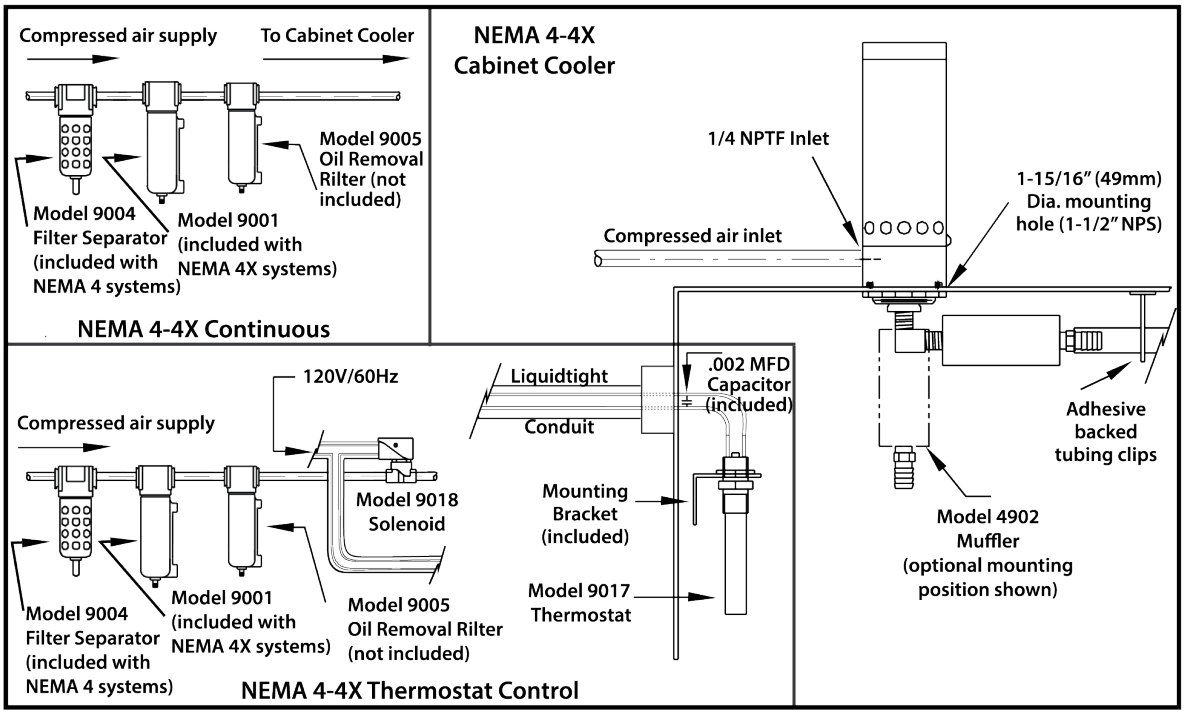
EXAIR® CE c UL us LISTED EXAIR TECHELP 1-800-903-9247

NEMA 4-4X CABINET COOLER® INSTALLATION & MAINTENANCE

Models: 4610 through 4640, 4710 through 4740, 4810 through 4840
4610SS through 4640SS, 4710SS through 4740SS, 4810SS through 4840SS



COMPRESSED AIR LINE SIZES

Compressed air lines should be sized to hold pressure drops to a minimum. When installing supply lines, use 1/4" pipe for runs up to 10' (3m). Use 3/8" pipe for runs up to 50' (15.2m), and 1/2" pipe for runs over 50' (15.2m). If Cabinet Cooler is being used in a dual Cabinet Cooler application, please see Installation and Maintenance Sheet LIT 4015 for additional instructions. If using compressed air hose, consider 3/8" I.D. hose to be the same as 1/4" pipe and 1/2" I.D. hose to be the same as 3/8" pipe. Do not use restrictive fittings such as quick connects. They can "starve" the NEMA 4-4X Cabinet Cooler by causing excessive line pressure drop.

COMPRESSED AIR SUPPLY

With proper filtration and separation of dirt, moisture and oil from the compressed air supply, the NEMA 4-4X Cabinet Cooler will run for years with no maintenance required. Filtering for contaminants and separation of moisture is required for all NEMA 4-4X Cabinet Coolers.

All NEMA 4 Cabinet Cooler Systems include a Model 9004 Automatic Drain Filter Separator (NEMA 4X Cabinet Cooler Systems include Model 9001) which provide 5 micron filtration. The automatic drain is float actuated to eliminate the possibility of passing water into the enclosure, even during continuous operation. **(Impulse-type automatic drains must not be used. They may allow water to pass through the filter during continuous operation.)**

To prevent problems associated with oil, use an oil removal filter (Model 9005 Oil Removal Filter not included). The oil removal filter should be used downstream from the automatic drain filter separator. Filters should be used close to each NEMA 4-4X Cabinet Cooler, within 10 to 15' (3 to 4.6m) is best.

NEMA 4-4X Cabinet Coolers are designed to use normal shop air supplies of 80 to 100 PSIG (5.5 to 6.9 BAR). Thermostat control can minimize compressed air usage and should be used whenever possible.

EXAIR Cabinet Coolers are UL Listed to U.S. and Canadian safety standards.

 ©2026 EXAIR LLC 3/1/26

USING THE NEMA 4-4X CABINET COOLER

For Use On A Flat Surface Of A NEMA Type 4/4X Enclosure.

The NEMA 4-4X Cabinet Cooler mounts to the enclosure thru a 1-15/16" (49mm) 1-1/2" NPS diameter hole. A nut is supplied to lock it in place. The cooler should be mounted on the top only (vertically). Side mounting is possible with use of a Model 4907 90° Side Mount Kit. The NEMA 4-4X Cabinet Cooler will provide a 54°F temperature drop from supply air temperature at 100 PSIG (6.9 BAR). An elevated inlet temperature will produce a corresponding rise in cold air temperature and reduction in cooling capacity.

COLD AIR DISTRIBUTION KIT

The Model 4904 Cold Air Distribution Kit includes 8' (2.4m) of flexible (1/2" I.D.) vinyl tubing, (8) adhesive backed clips to hold the tubing in place, (1) elbow and (1) end plug. The tubing is used to direct the cold air for circulation or to hot spots, as needed. Holes may be drilled or cut ("V" shaped) in the tubing. If the end is plugged, use at least (6) 1/8" (3.2mm) diameter holes in tube to eliminate excessive back pressure on the NEMA 4-4X Cabinet Cooler.

HUMIDITY

The NEMA 4-4X Cabinet Cooler incorporates 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 the NEMA 4-4X enclosure. During continuous operation, relative humidity inside the enclosure stabilizes at 45%. No moisture condenses inside the enclosure.

THERMOSTAT

Some NEMA 4-4X Cabinet Cooler Systems are supplied with thermostat control. The Model 9017 Thermostat should be located inside the enclosure using the mounting bracket (included). The thermostat is not position sensitive and should be mounted in a hot area inside the enclosure.

The electrical requirement is 120V/60Hz, 110V/50Hz, 240V/60Hz, 220/50Hz or 24VDC, and should be connected to the hot line supplying the solenoid valve. It is normally open, actuated closed, when the temperature rises. The thermostat is preset at 95°F (35°C). It will normally hold that setting within + or - 2°F (1°C) inside the cabinet.

To change the temperature setting:

Use a cup, thermometer and meter to check continuity. Using the cup, mix hot and cold water until the thermometer shows the desired temperature for the enclosure. Insert the plain end (not the threaded end) of the thermostat into the water and check continuity across the leads. Adjust screw until switching occurs (slight turn of the adjusting screw). The thermostat will be set to actuate at the temperature of the water.

If the temperature at the mounting location of the thermostat changes very slowly, the solenoid valve may chatter. This can be corrected by changing the thermostat location or by adding the Model 4519 .002 Microfarad Capacitor across the leads (included).

SOLENOID VALVE

Systems with thermostat control include the Model 9018 or 9024 NEMA 4-4X Solenoid Valve. Mount the solenoid valve on the compressed air line between the filter and the NEMA 4-4X Cabinet Cooler. The solenoid valve requires 120V/60Hz, 110V/50Hz, 240V/60Hz, 220V/50Hz or 24VDC supply. A green ground wire has been provided for grounding. All wiring should be installed in liquid-tight conduit. The valve is normally closed, actuated open. In most cases, it is controlled by the thermostat.

TROUBLESHOOTING & MAINTENANCE

If The NEMA 4-4X Cabinet Cooler Is Not Producing Cold Air, check the pressure by installing a gauge at the compressed air inlet of the cooler. Large pressure drops are possible due to undersized lines, restrictive fittings and clogged filter elements.

For replacement or repair filter and regulator parts, contact EXAIR at 1-800-903-9247 or techelp@exair.com. Call (513) 671-3322 for outside the US and Canada.

NOISE MUFFLING

All NEMA 4-4X Cabinet Cooler Systems are equipped with sound muffling. The Model 4902 Cold Muffler (included) can be easily installed on the cold air discharge (see diagram). With this muffler installed, the noise level is less than 75 dBA.

If you have any questions or problems, please contact an EXAIR Application Engineer at:

Toll Free: 1-800-903-9247 (US & Canada)
Toll Free Fax: 866-329-3924 (US & Canada)
E-mail: techelp@exair.com

Telephone: 513 671-3322 outside of US & Canada
Fax: 513 671-3363 outside of US & Canada
Website: www.exair.com

For more information about this product, visit "Frequently Asked Questions" FAQ at EXAIR.com

 ©2026 EXAIR LLC 3/1/26