

INSTALLATION INSTRUCTIONS

Battery: The battery is the key to making your compressor system work correctly. Batteries age with time and even quicker if mistreated. We always recommend running the motor of your vehicle when using a higher amperage compressor so the alternator will help keep up with the amperage demand and also supply the compressor with a higher voltage than the battery can normally supply. But, if your battery has been killed in the past, has sulfation, defective plates, etc it will not be able to support the amperage draw of the compressor. In the world of 12 volt batteries, anything below 10.5 volts is dead—doing this repeatedly damages a battery regardless if it is a starting battery or deep cycle battery. Even with the alternator running, a defective battery may act like a resistor and stop the flow of amps and voltage to the compressors motor. This lack of amperage or voltage will damage your compressor motor. A new and fresh battery is always recommended when using high amperage accessories. For high amperage compressor motors, we always recommend grounding the compressor back to the negative terminal of the battery. The grounding of the compressor is just as important as the 12 volt positive when creating a reliable, strong circuit. Grounding at the negative terminal of the battery insures the best ground possible and limits electrical interference. If your vehicle has an auxiliary battery system (or house batteries on an RV or trailer), the compressor should only be connected to the starting battery of your vehicle. The starting battery gets priority charging and insures quality amps and voltage to the compressors. Do not connect the compressor to the auxiliary battery of the vehicle, doing so will void your warranty.

Circuit Breaker: The circuit breaker protects your system from shorts, etc. It should be mounted as close to the battery as feasible. The cable between your battery and the circuit breaker is unprotected—keep it as short as possible. You must run a circuit breaker or fuse anytime you take power from the battery. The size and type of circuit protection depends on the amperage draw, length and gauge of cable. Please see size requirements on the next page.

Continuous Duty Relay: The relay acts as a giant on/off switch that controls the high amperage to the compressor. The relay is controlled by the toggle switch and for systems that include an air tank, a pressure switch is on the same circuit (see wiring diagram). Only continuous duty relays of the correct amperage capability can be used, not doing so will void your compressors warranty. The relay uses less than 5 amps to energize and can be powered using 14-16 gauge wire for the switching post in most applications. Every compressor installation must utilize a continuous duty relay, failure to do so will void your warranty.

Pressure Switch: The pressure switch is used for air tank installations. The pressure switch measures the air pressure in the tank and controls the relay which then cycles the compressor on and off based on the preset pressure switch settings. The pressure switch is usually installed in the air tank, but can be installed anywhere in the system as long as it is after the one way check valve. Pressure switches are available in different settings, for example 90 psi on, 125 psi off. When using an air tank in your system, you must use a pressure switch or you will void your warranty.

Toggle Switch: The on/off toggle switch (or equivalent rocker switch, etc) gives you the control to turn the compressor on or off at your discretion. You must use an on/off switch regardless if your system has an air tank or no air tank. When not using the compressor, leave your toggle switch in the off position. The on/off toggle switch controls the function of the relay and if using an air tank, the pressure switch. Failure to use an on/off switch will void your compressor warranty.

Fuse: Whenever you use electrical power or run a new power cable or wire, you must use a fuse or circuit breaker to protect from shorts. The fuse holder can be one of your choice, we recommend using a fuse holder that is common with the type of fuses used on your vehicle. This will give you redundancy and you will be able to keep the same style fuse throughout the vehicle. The power line going to the relay can use a fuse in the range of 5 to 10 amps.

12 Volt Ignition On: To energize the relay, we recommend you use a hot ignition on source as your 12 volt power. This circuit will only be energized when the key is in the ignition and turned to the on position. Doing so insures that the compressor cannot be turned on accidentally without at least the key in the ignition and in the on position. This is very important!! If you use a constant hot 12 volt source (like your battery) the compressor can turn itself on if you leave the toggle switch in the on position and your air tank system develops a leak. The pressure switch would sense the leak and the compressor would cycle on and off to fill the tank, eventually killing the battery and damaging the compressor motor. This is not covered under warranty.

Check Valve: For systems that incorporate an air tank, you must use our high temperature check valve, part #002-097 and install the check valve directly into the cylinder head air outlet port. The check valve does two things, it keeps the air from back bleeding into the compressor over time and also acts as an unloader valve between fill cycles. It is imperative that you install the check valve directly into the output port of the compressors cylinder headō ..do not install it in the air tank!! Failure to follow these instructions will void your warranty.

Flow Through Air Chuck: For systems that are not incorporating an air tank, you must use a flow through air chuck (part number 002-098) to allow the system to self-vent to the atmosphere when the compressor is running and not connected to a tire, etc. The flow through air chuck allows air to vent out the end of its opening and the compressor can be run in this manner for as long as you want. Using a traditional closed air chuck will not allow air to escape from the air chuck and can cause damage to both the hose and the compressor and is not covered under warranty.

Heat Dissipation Hose: When running a compressor for long cycles or at high pressures, high temperatures are generated at the head. The hot air will melt plastic, vinyl, rubber, nylon or polyurethane hose if attached directly to the compressors output port. The heat dissipation hose is 30+long and absorbs and dissipates the heat before it reaches your air hose of choice. The standard heat dissipation hose is Part Number 002-954 Customs lengths and fittings are available, please call for more information.

Main Power Cable Gauge Requirements, both positive and negative:

ExtremeAire High Output 12 volt	6 gauge
ExtremeAire High Output 24 volt	8 gauge
ExtremeAire Magnum 12 volt	4 gauge
ExtremeAire Magnum 24 volt	6 gauge
ExtremeAire Velocity 12 volt	6 gauge
ExtremeAire Velocity 24 volt	8 gauge
ExtremeAire Industrial 12 volt	6 gauge
ExtremeAire Industrial 24 volt	8 gauge

Please note that the gauge of the cable may need to be increased if runs of more than 15 feet are needed. Please call for more information.

Circuit Breaker Requirement:

ExtremeAire High Output 12 volt	50 Amp	Part Number 002-050
ExtremeAire High Output 24 volt	30 Amp	Part Number 002-035
ExtremeAire Magnum 12 volt	80 Amp	Part Number 002-080
ExtremeAire Magnum 24 volt	50 Amp	Part Number 002-050
ExtremeAire Velocity 12 volt	50 Amp	Part Number 002-050
ExtremeAire Velocity 24 volt	30 Amp	Part Number 002-035
ExtremeAire Industrial 12 volt	40 Amp	Part Number 002-040
ExtremeAire Industrial 24 volt	20 Amp	Part Number 002-025

Continuous Duty Relay Requirement:

The entire ExtremeAire Compressor line listed above can use our 100 Amp Continuous Duty Relay. There are two part numbers, one for 12 volt Compressors and one for 24 volt compressors.

12 Volt Compressor Relay	100 Amp	Part Number 002-103
24 Volt Compressor Relay	100 Amp	Part Number 002-240

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