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1.800.345.8207

## **A Problem with your Air Compressor? It Could Be the Electrician.**

Over the many years General Air Products, Inc. has served the fire protection industry we have come across just about every electrical problem a sprinkler contractor can have with an air compressor. Most of these problems begin at installation with the electrician telling you, the contractor, that “the darn thing is busted” (or something much more colorful). Afterwards you call us and say “The electrician tells me you’ve sent us a bad compressor, what’s the deal?”

Well, here’s the deal – rarely, if ever, will a compressor have a factory defect that will cause an electrical problem. The many quality controls we have in place at General Air Products ensure this fact.

By advising your electrician to follow the simple steps below, common electrical problems associated with installing an air compressor can be avoided.

**The Problem:** “the motor is humming”, “the motor starts slow/drags”, “the motor is tripping the breaker”. One or a variation of these symptoms, account for over 85% of electrical problems with compressors. These problems are all indicative of either an improperly wired compressor or insufficient voltage provided to the motor.

**The Solution:** First, assume that the motor is not pre-wired for any specific voltage. Then, verify the voltage supplied to the motor and compare it to the voltages your motor is designed for.

Now, measure the voltage at the motor while the compressor is running. All industrial motors will draw 6-7 times the normal running current on start up. This high in-rush current creates a voltage drop in the supply leads if the wire isn’t sized properly. Next, check the distance from the motor to the main power source. The further away from the main power source, the greater the risk of a voltage drop. Voltage at the motor must be maintained during start-up and throughout its complete operating cycle. When voltage drops below the lower voltage limit (10% of the nameplate voltage,) the motor amp draw will skyrocket and the motor will not operate correctly. Always refer back to the manufacturer’s recommended wire size.

Currently at our web site, [www.generalairproducts.com](http://www.generalairproducts.com), you can find all of the information you need about our compressors - from cut sheets and recommended wire sizes, to wiring diagrams and available voltages. Also, you can refer to our new “Complete Wiring Guide for General Air Products’ Air Compressors”. Inside these guides are pictures of each motor that describe step-by-step how to properly wire each unit for all possible voltages. The system designer can minimize site problems by using the guide and web site resources to check compressor requirements prior to arrival on site.

## **Additional Tips:**

- Find out the highest voltage available at the installation area and order a compatible compressor.
- The longer the wiring run and the higher the horsepower of the compressor, the larger the wiring required to provide adequate power.
- We recommend considering three phase units when over fractional horsepower's (i.e.: 1hp and above). This minimizes power problems and lowers installation cost.
- We recommend that a magnetic line starter is installed with every compressor.

Wasted time, money and aggravation can be avoided. We maintain a toll free number for instant access to our technical staff (1-800-345-8207). Please allow us to assist you. Remember, almost any problem that occurs with an air compressor can be resolved over the phone!

Written by Ray Fremont Jr.



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