# RAM Grinding Cools Off

At RAM Grinding, precision is measured in ten-thousandths of an inch. Whether it's a less expensive part or a $100,000 part, the precision tolerance is often not more than .0002". With those tight margins, the company needed a consistent air temperature to prevent metal expansion and errors.

Located just outside Denver, CO, the company grinds metal for a broad range of clients in aerospace, automotive, mining, and other industries. To deliver quality parts, the business depends on consistent process control. A mistake during production can turn an expensive part into scrap. A smooth process hinges on employee precision and consistency. It also requires a stable work temperature.

"Facility temperature is really critical. A ten-degree rise in temperature can expand a metal part by .0001", says Donovan Horton, co-owner of RAM Grinding. "We try to keep the temperature as constant as possible." When the company purchased a 7,800-square-foot facility that lacked a cooling system, the owners had the opportunity to evaluate all of their options. They needed a cost-effective solution that provided employee comfort, health, and productivity. They also needed cool, dry air conducive to their products and processes.

The owners knew they didn't want evaporative cooling at the new facility. At their previous location, evaporative-cooled air added moisture to an already humid environment and failed to cool adequately. Add to those conditions a misting from machinery, and humidity could reach 90 percent.

Traditional air conditioning offered temperature consistency, but at a high price: over $30,000 to install the system and over $5,000 per year in electrical bills. In addition, traditional AC would recirculate stale indoor air and not contribute to improved air quality for optimal employee health and productivity.

The company found the advanced technology of Coolerado's air conditioner to be the ideal solution. It installed three R600 units, which provide 100 percent fresh,

cooled make-up air. Initially, RAM Grinding planned to duct cool air to each work station. However, the new units provided so much cooling capacity that the additional ducting proved unnecessary, further reducing capital expenses.

Now the building maintains temperatures between 68 and 78 degrees F and humidity levels around 20 to 25 percent. Those levels keep the facility pleasant and prevent metals from expanding.

RAM Grinding runs the units six months out of the year, around the clock. The units demand peak power of 3,000 watts, compared to 30,000 watts with a 20-ton, 13-SEER traditional air conditioner. In addition to saving money on installation, the ongoing energy savings reduce the company's overhead by $5,000 annually.

"Employees are more comfortable with Coolerado, so they can stay productive, giving us more control over the finished product," says Horton.

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