



POWRMATIC® THE STANDARD OF EXCELLENCE IN HEATING,
COOLING AND AIR EQUIPMENT



Powrmatic is a trusted leader in commercial and industrial heating, offering customized heating solutions for large spaces up to 250,000 square feet per unit, saving businesses energy and increasing productivity. Powrmatic commercial and industrial heating equipment is available in natural gas, propane, hot water, steam or electric, with or without chilled water or DX cooling.

GEORGIA DISTRIBUTION CENTER SAVES \$100,000

A leading apparel distribution center in GA has reduced their natural gas consumption during the heating season by eliminating their 100% outside air direct fired make-up air heating units and replacing them with Powrmatic's Thermal Economizer Air Turn Over Units (ATU's). In the first year of operation with the ATU's, in this 530,000 sq. ft. distribution center, they saved \$100,000.

This facility went from using 19,016 MCF of natural gas with the direct fired system to 8,645 MCF with the ATU's. The ATU's use 32,000 CFM of outside air, but the direct fired system used 61,000 CFM of outside air; both systems maintained a space temperature of temperature of 65°F.

While the building is occupied the ATU's provide the code required amount of outside air, and when the building is unoccupied, the thermostat setting is reduced, and the outside air damper is closed (achieving the lowest possible fuel cost while maintaining the highest level of air quality). The direct fired system is handicapped by the nature of the equipment and has to use expensive outside air 24/7.

Even with these massive differences in unit capacities and operational costs, their gas bills would have been higher if the direct fired system met the minimum outside air code while the building is occupied. Due to the units cycling on and off, they cannot meet the minimum ventilation code. This lapse in the clean air ventilation code prevented their already high gas bills from being even higher.

OVER PRESSURIZATION

Many facilities around the country are reporting roof leaks associated with over pressurizing their facilities with direct fired heating systems. In many of these instances the direct fired equipment are using two to four times the amount of outside air than the code requires.

Not only does this excessive amount of outside air cause roof damage, the building owner is also stuck with the high fuel cost due to excessive amounts of conditioned outside air. This costly problem of heating with direct fired heating equipment is just one of the many problems that plague those heating systems.

SOLVING CONDENSATION PROBLEMS

An auto parts distribution center in Indianapolis, Indiana had been experiencing condensation throughout their facility during the heating season. After much debate and some system testing it was determined that the direct fired heating system was the source of the problem.

The Powrmatic ATU heating system was installed and all of the condensation issues were eliminated. In the process of eliminating their condensation issues they also cut their natural gas consumption in half.

FIXING CORROSION ISSUES

A central Tennessee machine shop was experiencing oxidation on all their steel parts, creating a quality control nightmare. This, along with the cost of lost production hours and excessive waste of materials, frustrated the manufacturer. A suggestion was made to turn off their direct fired heating system to try and remedy the problem. In a short period of time the problem was eliminated, and the owner is now in the process of installing ATU's to prevent the corrosion issues from returning.

FALSE CLAIMS OF LOWER HEATING

Many manufacturers of direct fired equipment make false claims of "100% efficient heating systems", but since natural gas contains 8% water, the actual best burner efficiency provided is 92%. They also must use more BTU's and have higher discharge temperatures in order to meet the heat loss requirements. These are reasons why they exceed the minimum outside air requirements.

Add that to the fact that these systems must use a constant supply of cold outside air (in many cases, well below 0), all of this leads to extremely high gas bills. Even though the burner efficiency on the Powrmatic Thermal Economizer is 80%, this unit recirculates warm inside air (60 to 70 Degrees) and blends in the code required outside air while the building is occupied.

When the building is unoccupied the inside space temperature is setback and the outside air is closed. Considering all of the draw backs of the direct fired units there is no question that Powrmatic indirect heating systems use far less energy to heat than direct fired make up air equipment without the adverse consequences of the direct fired equipment.

THERMAL ECONOMIZER BENEFITS

- **Night Set Back Interlocked with Outside Air**
- **Continuous Air Flow for Even Temperatures and Low Fuel Cost**
- **All Product of Combustion Removed from the Space**
- **Elimination of Condensation Issues**
- **Outside Air Tempered with Recirculated Air**
- **Captures and Utilizes all Internal Heat Gains**

