

Case study: Air Treatment  
Crawford Equipment & Engineering Co.  
Orlando, Florida

- BENEFITS**
- Eliminate boiler capital cost
  - Smaller carbon footprint
  - Lower plant operating cost

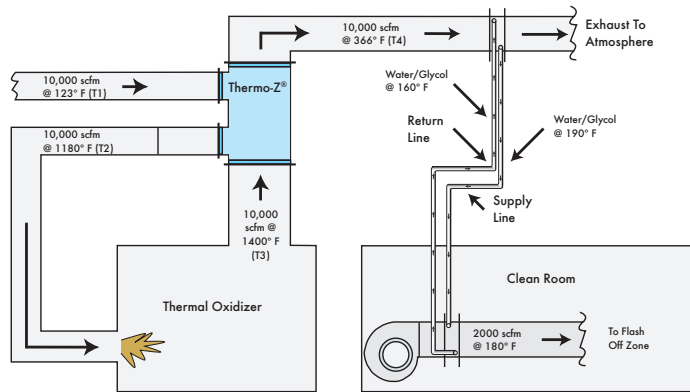
Thermo-Z® heat exchanger installation at an automotive parts manufacturer plant

# Capturing Waste Heat with Ultra-High Efficiency Heat Exchanger

Crawford Equipment & Engineering Company of Orlando, Florida offers a complete line of services related to industrial process heating equipment, including design, fabrication, and sales. With such diverse capabilities, they regularly find uses for Munters air-to-air heat exchangers. The company recently installed a unique two-stage energy recovery system for a well-known automotive parts manufacturer that fabricates headlight lenses.

One of the processes in the plant involves applying a chrome coating to the lenses. A thermal oxidizer incinerates isopropyl alcohol and the butyl acetate fumes that result. A Munters Thermo-Z® heat exchanger recovers heat from the incinerator's exhaust at 1400°F, which preheats inlet effluent air from 123°F to 1180°F. In doing this, the heat exchanger operates at an almost-unheard-of efficiency of 83%.

In the second stage, also supplied by Munters, a water coil in the exhaust stream uses 366°F air coming out of the first stage heat exchanger to heat a water-glycol mix from 160°F to 190°F. The water then flows to a cleanroom in the plant, where a forced air fan blows ambient air across a second coil, heating the air from 70°F to 180°F. This hot air goes to a flash-off zone, where it cures a sprayed-on clear coat and solvent applied to the lenses. Using waste heat from the thermal oxidizer to heat water in this fashion eliminates the need for a boiler, saving the customer an expensive capital cost.



Stage 1

Stage 2