



## 250,000 CFM Mist and Dust Collection Solution for Construction Equipment Manufacturer

### CHALLENGE

A high-production manufacturing facility that makes engines for heavy-duty construction equipment was expanding operations and needed to control mist, fumes, and dust generated from various machining, grinding, and polishing centers on the plant floor. Coolant, oil, and PM generated from these processes are harmful to workers without proper control. The plant also required new exhaust ductwork for each station.

### SOLUTION

Monroe Environmental® offered a complete solution which included new mist and dust collectors, design and fabrication of the entire ductwork system, and turnkey installation of many components.

For the mist collection, Monroe evaluated the coolant properties and determined that a multi-stage system consisting of coalescing screens, ASHRAE fiberglass bag filters, and DOP Hepa-type final filters would provide high-efficiency collection and allow the treated air to be recycled back into the plant – significantly reducing climate control costs.

For the dry particulate collection, Monroe selected a Cartridge Dust Collector with vertical cartridge filters to adequately remove the metal fines. The vertical cartridge orientation allows for maximum filter cleaning during each pulse, with fines collected in an integral pyramid hopper.

### RESULT

In total, 15 new individual collectors were provided by Monroe, complete with controls, ID fans, and 1,000+ feet of ductwork. The combined airflow of the systems was approximately 250,000 ACFM, and the systems have been running successfully since 2003.

Monroe inspected the units after 15 years of operation and the original steel screen filters were still in use – kudos to the plant for regular maintenance/cleaning – and they had only needed to replace the final HEPA filters one time in 15 years! It was nice to see a plant really care about maintaining its pollution control equipment, and of course, Monroe is proud that our systems can be reliable assets for our customers over the long term.