

AAF MEGAcel® I Filters Save Energy - Lower Costs at Engine Manufacturing Plant

CASE STUDY – MANUFACTURING

Customer Profile

- Global manufacturer of large diesel engines and parts
- Employs approximately 40,000 people worldwide
- 2009 Revenue = \$10.8 billion

Current Filtration Situation

The customer has been supplied standard capacity Airguard® HEPA filters by an indirect partner for several years. The indirect partner approached the customer with an energy savings solution using AAF MEGAcel® I filters. The customer welcomed a joint call from the indirect partner and AAF sales representative to explain the energy savings benefits of using MEGAcel I filters, as well as show the potential cost savings through AAF's exclusive Life Cycle Valuation (LCV) program.

Technical Situation

All of the air handling units (AHUs) at the customer's plant are equipped with variable frequency drives (VFD). To receive the required airflow, most units run at 100% of the supply VFD. Competitive HEPA filters currently being used have very high initial resistance values. Based on AHU.R.09 system readings, the supply kW was 44.8. This equates to \$23,547 per year in energy cost, based on \$0.06 kW/h. Additionally, because of the higher resistance, the HEPA filters were physically bulging under the stress of the airflow.

The AAF Solution

AAF and the indirect partner recommended replacing the current Airguard HEPA filter with the MEGAcel I filter. MEGAcel I filters incorporate AAF's unique ePTFE Technology media, combining ultra-high efficiency with extremely low pressure drop. Lower initial resistance significantly reduces energy consumption resulting in substantial energy savings and cost benefits. The customer agreed to install the MEGAcel I filter in AHU.R.09 on a trial basis.

Energy Saving Benefits

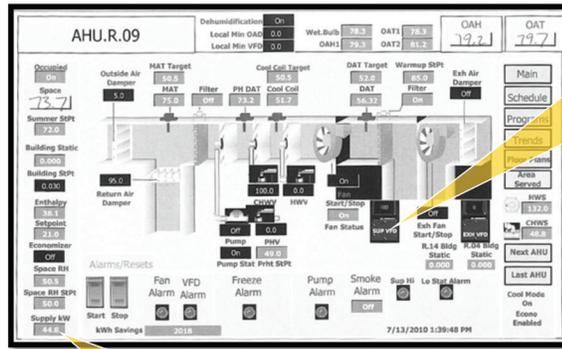
The advantages of switching to AAF's MEGAcel I filters was astounding. The energy being used to supply AHU.R.09 reduced to 22.6 kW. This was a 50% decrease in energy consumption. In addition, AHU.R.09's variable frequency drive reduced from 100% to 74%, meaning the same air volume was going through the unit while the motor was running at a lesser rate—consuming less energy. The 50% decrease in energy consumption should reduce energy costs to \$11,879 per year. This equates to a savings of \$11,668 per year!



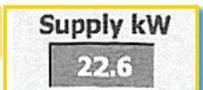
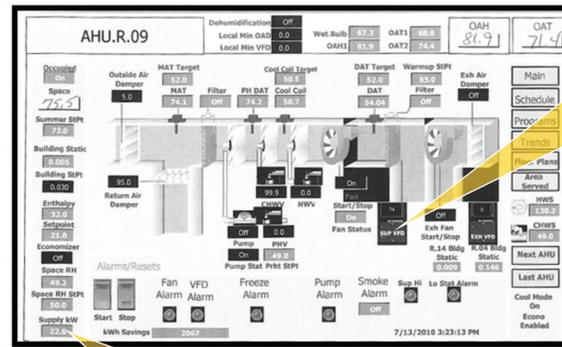
AAF MEGAcel® I Filters Save Energy - Lower Costs at Engine Manufacturing Plant

The MEGAcel I was the clear choice for the customer. The initial savings expected using our exclusive LCV program were substantial at \$11,668 per year for one AHU. As a result, the customer immediately installed MEGAcel I filters in two AHUs. As the remaining 14 units come up for scheduled maintenance, the competitor filters will be replaced with the MEGAcel I filter

Performance Readout from Customer's System using Competitive HEPA filter



Performance Readout from Customer's System using MEGAcel I filter



AAF has a policy of continuous product research and improvement and reserves the right to change design and specifications without notice.

ISO Certified Firm ©2015 AAF International
AFP-6-100A 09/15