

# MEADOW GLEN ELEMENTARY SCHOOL, LEXINGTON SOUTH CAROLINA

## KEY PARAMETERS

- Type of Facility – New Construction
- Function – K-5 Education
- Area – 124,829 sq. ft.
- Cost \$13.6 million
- Project Completed – August, 2011
- LEED Silver

**Challenge:** Sustainable design. Engineers and owners at this cutting-edge school wanted to keep energy costs and maintenance costs down while providing the best possible indoor air quality. “We’re building an innovative learning environment from the ground up,” according to principal Cheryl Fralick. The school serves 560 students and 81 employees.

**Solution:** Dynamic V8 Air Cleaning Systems (MERV 13-15+) were installed in a mixing module upstream of Trane Climate Changer™ air handlers serving the school. The air cleaners clean both outside ventilation air and recirculated indoor air. The mixing module provides ample access room for the air cleaners, for routine



maintenance and future replacement media change-outs.

**Results:** Five months after the school opened, Trane systems engineer John Toney visited the school. “The first thing we noticed upon entering the building was that there were no carpet/mastic/paint smells, normally associated with new construction,” according to Toney. “The engineer on the project remarked that the owner had commented to him that this is one of the lowest energy consumption schools in the district.” The engineer attributed a large portion of the

energy reduction to the extremely low static pressure and reduced horsepower achieved with Dynamic V8 air cleaning systems. The Dynamic V8 offers significantly lower static pressure resistance compared to 85% efficient passive filters which would have otherwise been necessary to meet the MERV 13 IEQ requirement for LEED.



The engineer also commented that the school district operations manager is very happy with the outcome of this project. It is anticipated that the filter media will not require changing on these units August of 2016, five years after start-up.

## TEAM

- Owner – Lexington School District One
- Architects – Jumper Carter Sease Architects, P.A.
- Engineers – Mechanical Design, Inc.
- Owner Contact – John Stehmeyer, Director of Building Maintenance and Facilities

## MECHANICAL SYSTEMS

- HVAC – Trane

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