

## SEVENTH STREET ELEMENTARY SCHOOL NORTH LITTLE ROCK, AR

### KEY PARAMETERS

- Type of Facility – Existing (EB)
- Function – K-12 Education
- Area – 1-story, 44,500sf
- Project Completed – 2010

**Challenge:** Energy savings through reduced ventilation as part of a performance contracting project involving several schools in the North Little Rock, Arkansas School District.



**Solution:** Ninety-two Dynamic 1" and 2" panel polarized-media electronic air cleaners were installed in twenty conventional split systems (95% AFUE gas furnaces and 13 SEER condensing units) and three packaged gas/electric units. New metal plenums were also installed. Dynamic's AirQ™ design and analysis



program calculated an allowable ventilation rate of 5 CFM per person. This compares favorably to 12-14 cfm per person using *only* the ASHRAE Standard 62.1 Ventilation Rate Procedure. The AirQ program uses a prescriptive means of determining outside air requirements by concentrating on controlling the contaminants of

concern within a space using the ASHRAE Standard 62.1 IAQ and Ventilation Rate Procedures.

**Results:** Cleaner air (particles and VOCs) with reduced outside ventilation air which translated into energy savings.

The air was tested several months later to confirm air quality using an Aircuity Optima™ monitor to measure indoor particulate counts in several size ranges, CO, humidity and total VOCs. Indoor data was then compared to outdoor conditions where tests confirmed that indoor air was as clean or cleaner than it would have been, had outside air been brought in at 12 to 14 cfm/person. The indoor air samples scored 100 out of 100 on the Aircuity Air Cleanliness Index, where a score of 50 or greater means the building is performing at or above currently accepted guidelines or recommended levels.

### TEAM

- Owner – North Little Rock School District
- Engineering – Schneider Electric
- General Contractor – Schneider Electric
- Mechanical Contractor – Voegele Mechanical Contractors Inc.
- Local Facility Manager – Alan Crownover, Plant Services Supervisor

### MECHANICAL SYSTEMS

- HVAC – RUUD, J&B Supply Co.
- Building Controls – ASI (DDC)
- Energy Monitoring – Schneider Electric

[www.DynamicAQS.com](http://www.DynamicAQS.com)