

CASE STUDY



Eemax, Inc.

Carmel Middle School, Carmel, Indiana

An engineering firm was contracted by Carmel Middle School for addressing, updating, and replacing outdated and worn out plumbing for the entire school. The focus of the project was to reduce energy consumption and lower operating cost. The school was looking to provide reliable hot water to all lavatories, including: boys and girls bathrooms, boys and girls locker rooms, the teachers lounge, and various other point-of-use applications.

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CUSTOMER PROFILE

Carmel Middle School is located in Carmel, Indiana, just north of Indianapolis in Hamilton County. It is one of the fastest growing cities in Indiana with award-winning schools, thriving businesses and family-oriented neighborhoods. The city is committed to preserving its vitality through controlled expansion and prudent planning. Carmel Middle School has a total enrollment of 1 259, 6th, 7th and 8th grade students. It was recognized as a “Blue Ribbon School” in 2006-07 and holds a “Four Star” school rating. The Blue Ribbon Schools Program honors public and private elementary, middle, and high schools that are either academically superior or that demonstrate dramatic gains in student achievement to high levels. Carmel Middle School was originally built in 1964 and a gone through two major renovations the last being completed in 2008.

SITUATION

Fanning/Howey Associates, an engineering firm, was contracted by Carmel Middle School for addressing, updating, and replacing outdated and worn out plumbing for the entire school. The focus of the project was to reduce energy consumption and lower operating cost. The school was looking to provide reliable hot water to all lavatories, including: boys and girls bathrooms, boys and girls locker rooms, the teachers lounge, and various other point-of-use applications.

Fanning/Howey’s lead specifying engineer, Mike Joiner, pointed out the problem. He felt that the school needed tempered hot water at the hand washing fixtures without long hot water delivery times. The old system required internal mixing valves set to a prescribed temperature under continuous flow. Typically the ratio in mixing valves was 2/5 cold and 4/5 hot. A problem arose when the water on the hot side lost temperature under no flow conditions and was made worse by the .5 gpm flow restrictors put in place to conserve water. Thus, it became necessary to use re-circulated hot water which wasted addition energy.

SOLUTION

According to Mr. Joiner, the solution to this problem was to install Eemax Electric Tankless Water Heaters. The Eemax systems eliminate the need for long delivery times for hot water since the units are compact and designed for point-of-use application. The tankless systems also feature an on-board microprocessor designed to target outlet temperature within one degree of the set point (not to exceed 110 degrees) thus eliminating the need for a mixing valve. The tankless water heaters have additional advantages which include reduced energy and natural resource consumption because the units only consume energy when there is a call for hot water.

BENEFITS

- Hot water arrives instantly with point-of-use installation.
- No wasted water down the drain.
- No stand-by heat loss since there's no large storage tank to keep heated 24/7.
- Up to 90% space saving compared to large tank water heaters.
- Continuous hot water flow, students & teachers never run out of hot water.
- Big savings on utility bills -- no heating of water on weekends, holidays, or summer recess.
- Saving energy means you are reducing your carbon footprint which is good for our planet.



Modular Hand Washing Station used with on-board Eemax Electric Tankless Water Heater with thermostat to deliver safe, consistent outlet temperature.

CONCLUSION

According to the U.S. Department of Energy, school districts around the country are finding that smart energy choices can help them save money and provide healthier, more effective learning environments. By incorporating energy improvement into their construction or renovation plans, schools can go green and significantly reduce energy consumption and cost. These savings can be redirected to educational needs such as additional teachers, instructional materials, or the latest technology.

Established in 1988, Oxford, Connecticut-based, Eemax, Inc., has quickly emerged as the market leader in electric tankless heaters for use in commercial, industrial, and residential applications. Eemax products activate instantly and deliver an endless supply of hot water at a preset temperature to any point of use with 99% energy efficiency. Eemax products are made in the USA, are lead-free and ruggedly constructed to last for decades. The company produces green products that save water, conserve energy, and reduce costs. Visit www.eemax.com for details.

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