

Case in Point



East Coast Contractor Modernizes HVAC System for Modern Group Ltd.

When Modern Group Ltd, a privately owned distributor of material handling, construction and maintenance products in the Mid-Atlantic region, decided to improve energy efficiency at their world headquarters in Bristol, PA, facilities manager Joe Dutco approached area plumbing and heating expert K.E. Seifert, Inc. for a solution.

Having grown frustrated with high operating costs, lost revenues and maintenance problems, Dutco tasked Bob Pietrangelo and his staff at K.E. Seifert with updating the HVAC system for Modern Group's 65,000 square-foot facility, which houses both offices and warehouse space.

Upon inspection, Pietrangelo and his team learned that the building was heated by a 40-year old, 1.8 million Btu/hr boiler that had been previously converted from oil to gas. Always running, the boiler featured a 1,000-foot, three-inch constant loop of heated water. Heat was provided by a combination of hydro coils and unregulated baseboard and electric heaters. This aging system resulted in a lack of individual zone control, failing equipment and incredibly inefficient heating and cooling.

PROJECT:

MODERN GROUP LTD.

LOCATION:

BRISTOL, PA

LOCHINVAR PRODUCTS INSTALLED:

2 - KNIGHT BOILERS
(KBN399)

DESIGNER/CONTRACTOR:

K.E. Seifert^{INC.}

K.E. SEIFERT, INC.
155 N. GREEN ST.
LANGHORNE, PA
WWW.KESEIFERT.COM



MORE>

Though the original assignment given to K.E. Seifert simply involved replacing the equipment for energy efficiency based on engineer-generated specifications, Pietrangelo and the team changed the entire scope of the job after examining the existing design and listening to the client's wish list of comfort requirements.

They redesigned the entire HVAC system, properly calculating load requirements, providing individual area controls and installing Lochinvar® KNIGHT® Heating Boilers for energy-efficient heating.



*Bob Pietrangelo, Designer
K.E. Seifert, Inc., Langhorne, Pennsylvania*

From Retrofit To Redesign

To ensure energy efficiency and customer satisfaction, the K.E. Seifert team completely redesigned the system by eliminating almost all of the existing piping and splitting it into zones with individual area controls for better control and efficiency. To conserve additional energy, unoccupied settings were also utilized.

Where there was once a single baseboard zone for 11 offices and three other areas of the building, they installed a new baseboard circuit with 14 separate zones, each with individual controls to allow for consistent, stable temperatures throughout the

building. The first and second floor air handler circuits were split up, the bathroom areas were grouped together under a separate control circuit and the lobby/atrium area was separated into its own circuit.

They eliminated the continuous perimeter three-inch supply and return and brought each zone back to a central area in the boiler room. All new piping was installed above drop ceilings.

Properly Sizing for a Perfect Solution

After discarding all of the provided design and load criteria, the K.E. Seifert team performed a proper load calculation and discovered that the true load requirement was actually 400,000 Btu/hr, or 30 percent, less than what they were initially told. This revelation, coupled with Pietrangelo's experience with the Lochinvar KNIGHT Heating Boiler and knowledge of its advanced features, prompted the team to recommend two KNIGHT 399,000 Btu/hr boiler models rather than the originally specified 600,000 Btu/hr boilers recommended by a different manufacturer.

"We recommended the KNIGHT Boiler for this job, as well as many other residential and commercial projects, because it is a superior product that offers



the ultimate in energy efficiency," stated Pietrangelo. "Not only is the KNIGHT incredibly easy to operate, but Lochinvar provides incomparable technical support and training, and the SMART SYSTEM™ control makes troubleshooting a breeze."



BEFORE

sells, services and installs commercial backup generators, they are now utilizing the remainder of this area as usable showroom for their generator controls and equipment.



AFTER

Through the redesign of the HVAC system, K.E. Seifert was able to convert the boiler room at the Modern Group headquarters from a dirty, dungeon-like room to a clean, organized space that showcases the quality of the equipment and installation. Since Modern Group also

In terms of energy cost savings, the KNIGHT has reduced the heating bill by more than half. In November 2007, Modern Group used 87.9 ccf to heat its facility, while only 32.6 ccf were used in November 2008. Since the degree days were the same for both periods, 44 degrees, Joseph Dutko, Director Safety & Facilities for Modern Group, states, "It certainly looks like we have made the right decisions with the plumbing and heating equipment."



MODERN GROUP'S NEW USABLE SHOWROOM SPACE

The result is an energy savings of 63 percent!



Case in Point

KNIGHT Boiler is Heating Hero

With up to 98 percent efficiency, the Energy Star-qualified KNIGHT Heating Boiler can literally cut heating costs in half. The fully modulating 5:1 turndown burner allows KNIGHT to generate the precise amount of heat to provide a consistent temperature and keep fuel use to an absolute minimum.

Engineered with Lochinvar's exclusive SMART SYSTEM control, the KNIGHT offers unequalled control and monitoring functions that are easy to understand and use. The two-line, 16-character LCD display uses words instead of potentially confusing codes to communicate with the technician. In addition, the SMART SYSTEM includes a built-in cascading sequencer for the installation of up to eight boilers.

With seven floor-standing models and five wall-mount units, Lochinvar offers the industry's broadest selection of fully modulating, condensing heating boilers. The sealed-combustion direct-vent design of the KNIGHT offers unmatched flexibility for placement within a building, permitting air intake and exhaust runs up to 100 equivalent feet using PVC or CPVC pipe.

About K.E. Seifert, Inc.

Located in Langhorne, Pa, K.E. Seifert, Inc. has been proudly serving southeastern Pennsylvania and New Jersey for more than 25 years.

Originally started as a drain cleaning business, the company now offers residential and commercial plumbing, heating, air conditioning and site development services.



RESULTS AT A GLANCE...

INVESTMENT:

\$153,000 EQUIPMENT & LABOR

FUEL SAVINGS:

63% ANNUAL SAVINGS

PAYBACK:

UNDER 10 YEARS

BENEFITS:

IMPROVED OPERATION, STABILITY

INCREASED EFFICIENCY,
COST SAVINGS

SMALL FOOTPRINT

DESIGNER/CONTRACTOR:

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ABOUT LOCHINVAR

Lochinvar Corporation is a leading manufacturer of high-efficiency water heaters, boilers, pool heaters and storage tanks. Based in Lebanon, TN, with facilities in Detroit, Orlando, Tampa, Pompano Beach and Dallas. Lochinvar stocks all products in all locations.

