



# Case in Point

## *A Study in Efficiency*

### *Belmont University Achieves Smarter Fuel Savings with CREST Condensing Boiler*

***Belmont University continues to demonstrate its commitment to increasing environmental sustainability on campus. Since launching the "Belmont Goes Green" program in March 2007, the Nashville university has implemented numerous eco-friendly initiatives, including recycling programs, bottled water bans, composting efforts, reduced electricity usage and many more. In addition, the university is also employing green building products and techniques for new construction and energy retrofit projects.***

One example of Belmont University's commitment to sustainability is the recent efficiency upgrade to the boiler system at the Lila D. Bunch Library. The Belmont facility management team, led by director of facilities Fred Thompson, was interested in installing a new, more efficient boiler to replace the existing 50 horsepower model.

Thompson reached out to Precision Mechanical & Controls, LLC. (PMC), based in Smyrna, TN, to discuss the project and determine the appropriate boiler model for the

library's needs. Upon learning about Lochinvar's introduction of the CREST® Condensing Boiler from Victor Rush of PMC, Thompson and his team agreed with the recommendation to install the new CREST Boiler, which offers thermal efficiencies as high as 99 percent.

Not only was the Belmont team impressed with the efficiency, innovative fire tube technology and superior feature set offered with the fully modulating CREST Boiler, they also had experience with Lochinvar equipment, having previously installed several high-efficiency boilers and water heaters from the local manufacturer in other buildings on campus.

#### **A Textbook Installation**

In September 2010, Rush and the PMC team installed a 3 million Btu/hr CREST Boiler in the library. They chose to install the unit in a full-flow piping arrangement as the condensing CREST is capable of tolerating water of varying temperatures and flow rates.

The installation was designed to take advantage of CREST's outdoor



#### **PROJECT:**

EFFICIENCY UPGRADE  
LILA D. BUNCH LIBRARY  
AT BELMONT UNIVERSITY



**LOCATION:** NASHVILLE, TN

#### **LOCHINVAR PRODUCTS INSTALLED:**

1 – CREST COMMERCIAL BOILER  
(FBN3000)

#### **INSTALLER:**

Victor Rush & Team,  
Precision Mechanical  
& Controls, LLC





reset functionality, one of the many features offered with its exclusive SMART TOUCH™ operating control. Since outdoor reset adjusts the heating system water temperature based on the outdoor air temperature, it allows for decreased fuel consumption and increased consistent comfort.

In addition to outdoor reset, the advanced SMART TOUCH control is loaded with superior features and benefits that provide ease of installation, operation and data retrieval. From its built-in cascading sequencer to the on-board MODBUS protocol, the sophisticated SMART TOUCH technology is easily controlled and monitored via the eight-inch, multi-color touchscreen display.

The Crest's venting flexibility made all the difference for this retro-fit. Since the existing boiler was not removed, an additional vent termination was needed. After examining all the options, it was determined that a horizontal sidewall termination would best fit the venting requirements. The final venting distance equaled



The Crest's 'best-in-class' modulation has helped cut fuel costs as the boiler has been operating at less than 25% modulation since installation.

approximately 75 feet -- well within the 100 equivalent feet maximum allowed.

### Making the Grade to Green

Since the installation of the CREST Condensing Boiler at the Lila D. Bunch Library, the Belmont facilities team has seen an average monthly fuel savings of 24.5 percent.

*“We’ve seen a tremendous increase in efficiency with the CREST Boiler,”* stated Thompson. *“As we continue to take steps towards improving the environmental sustainability of Belmont’s campus, we look forward to working with Lochinvar on future installations.”*

*“The installation went very smoothly, and we’re really impressed with the performance of CREST,”* said Rush. *“The SMART TOUCH operating control has been easy to use for the PMC technicians as well as Belmont’s maintenance personnel, and everyone comments on how much they like the look of the boiler.”*



For more information, visit [www.Lochinvar.com](http://www.Lochinvar.com).

### 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, Dallas and Phoenix, Lochinvar stocks all products in all locations.

