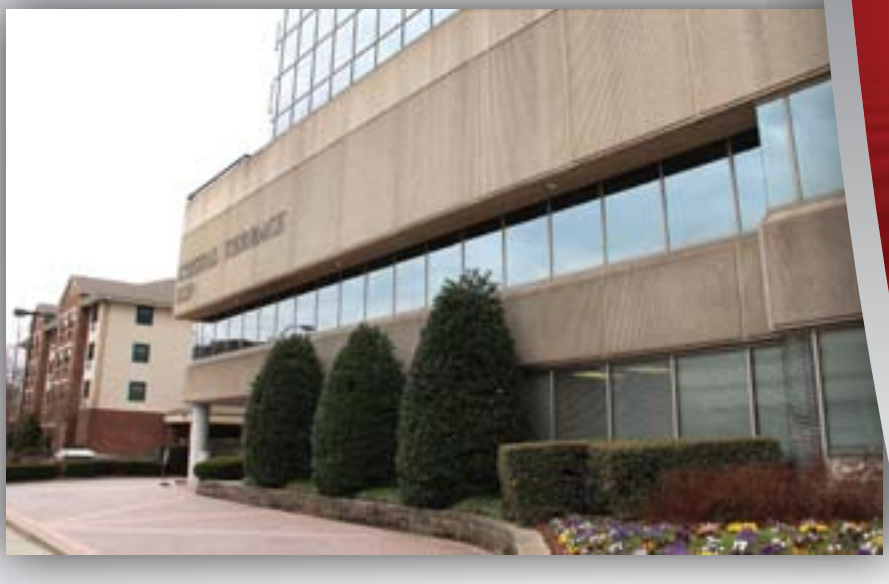

Case in Point

Vanderbilt University Continues to Enhance Environmental Efficiency

Lochinvar®
High Efficiency Water Heaters, Boilers and Pool Heaters

Vanderbilt University in Nashville, Tennessee, continues to demonstrate its commitment to sustainability as part of its SustainVU efforts, an ongoing program to improve the University's impact on the community and the environment. As part of these efforts, the Vanderbilt Plant Services team set out to replace the existing boiler system as part of an efficiency upgrade at its Crystal Terrace building on campus in October 2010.

Crystal Terrace is a nearly 110,000 square-foot multi-tenant building used by Vanderbilt University Medical Center. The facility houses multiple floors of offices as well as the Finance Department, Strategic

Planning Department, Women's Health Services and the Space and Facilities Planning Department, which manages the planning and implementation of all major facility modifications on both Vanderbilt's Medical Center campus and off-site locations.

The Vanderbilt Plant Services team met with Lochinvar to discuss options for replacing the 25-year-old existing steel tube atmospheric boiler. Lochinvar recommended a front-end loading system, utilizing a 2 million Btu/hr CREST Condensing Boiler with up to 99 percent thermal efficiency, and a 1.3 million Btu/hr Power-Fin Boiler offering up to 87 percent thermal efficiency. This front-end loading setup would allow for lower upfront costs than installing two 99 percent efficiency boilers, while also producing lower fuel bills than offered by mid-efficiency equipment.

The Vanderbilt team agreed with this recommendation and chose to replace the existing boiler with the high-efficiency CREST (FBN2000) and Power-Fin (PBN1302) models.

Working with the Nashville-based mechanical contractor, Lee Company, the Plant Services group first had to remove the existing steel

PROJECT:
EFFICIENCY UPGRADE
CRYSTAL TERRACE MULTI-TENANT BUILDING

LOCATION: NASHVILLE, TN

LOCHINVAR PRODUCTS INSTALLED:
1 – FBN2000 CREST CONDENSING BOILER
1 – PBN1300 POWER FIN BOILER

DESIGN ENGINEERING:
VANDERBILT UNIVERSITY
Lochinvar, LLC
Lee Company,
Nashville, TN

LEE COMPANY

YouTube

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Air louver fitted to fill the small access hole created to install the boilers.

Lochinvar LTV Valve protects the non-condensing Power-Fin from low retrurn water temperatures. This increases efficiency of the system while protecting the boiler

tube atmospheric boiler. Since the mechanical room is located on the top floor of the building and only occupies approximately a 10X14 square footprint, the team had to cut the boiler into pieces in order to remove it. Due to the location and size of the room, they used a crane to hoist the boilers onto the roof and cut a hole in the wall to allow the equipment to be put into place. Thanks to the compact design of Lochinvar boilers, a plant of 2.3 million Btu/hr boilers was able to be placed into the same footprint where a single smaller input boiler once resided.

Despite the complexity of getting the boilers into the mechanical room, the CREST Boiler's SMART TOUCH operating control simplified the rest of the installation. Utilizing CREST's built-in cascading sequencer, the two boilers are operating in a cascade sequence as a front-end loading system. The CREST carries the load approximately 80 percent of the time, and the Power-Fin is brought on during the coldest days to help meet the largest heating demands.

Since the installation, the Vanderbilt Plant Services team reports that the Crystal Terrace building has used

..."the CREST Boiler's SMART TOUCH operating control simplified the rest of the installation."

an average of 23% less fuel per month in comparison to the old system.

"Vanderbilt has made sustainability a top priority in recent years, and we continue to work towards enhancing environmental efficiency on campus," stated Mike Gable, P.E., CEM, Office of Space and Facilities Planning. "As part of these efforts, we have installed high-efficiency boilers and water heaters in several buildings, including Crystal Terrace. We could not be more pleased with the performance of this technology and the significant energy savings we have achieved as a result of this upgrade."

For more information, visit www.Lochinvar.com.

About Lochinvar

Lochinvar, LLC 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, Phoenix and Chicago, Lochinvar stocks all products in all locations.

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