



Each building at the Spring Creek Gardens apartment complex has two boiler rooms. As part of the renovation of the development, the owner replaced the old atmospheric systems with new boilers from Laars.



◀ Spring Creek Gardens, Brooklyn, NY, was built in 1986. The low-rise apartment complex of affordable rental units was renovated top-to-bottom. The original heating equipment was replaced with high-efficiency boilers for heating and domestic hot water.

# Boilers Bloom At Garden Apartments

High-efficiency boilers provide heating and domestic hot water at a renovated rental community in Brooklyn, NY.

Spring Creek Gardens, built in 1986 on seven acres near Kennedy Airport, is home to 600 low- to moderate-income families in the East New York neighborhood of Brooklyn, NY. The low-rise apartment complex of efficiency, one-, two-, three-, and four-bedroom units was financed with New York City 421A Program low-income housing tax credits. In December 2008, the Domain Cos., New York, and Arker Cos., Floral Park, NY, completed a top-to-bottom renovation, which included replacing the original heating equipment.

“We specialize in all aspects of HVAC through plan and spec work, with emphasis on building automation,” said Ike Beyer, president and co-owner of Integrated HVAC Systems & Services, Brooklyn.

The Gardens retrofit was completed for approximately \$2.5 million. Each of the three buildings has two boiler rooms. Integrated replaced



the old atmospheric systems (which were 55% to 60% efficient) with 18 new boilers ranging in size from 1.2 million to 2.4 million BTUs. The common and living areas are heated by high-temperature, cast-iron baseboard radiators.


The Rheos+ units from Laars Heating Systems, Rochester, NH, are controlled by a building-automation system (BAS) through a 0- to 10-V DC signal that is fed to each boiler. The BAS fires the boilers as needed for heating and domestic hot water. The systems are responsive to indoor/outdoor temperature reset for heating. They maintain constant water discharge temperature when needed for domestic hot water production.

“We stage and modulate operation of all boilers with automated logic,” Beyer said. “We also monitor and control system operations remotely. Laars has configured the boilers to integrate seamlessly with the building system management. We wrote the programs for this job not only to sequence all system operations, but also to send alarms to the customer, and to us, if there would be a need,” he added. The company is tracking fuel use data.

The heating loop has its own secondary distribution pumps. Variable-frequency drives were installed to modulate demand-based pump output. To dispose of potentially harmful acidic condensate from the condensing boilers, each boiler is fitted with a neutralizer kit. The condensate is run through a marble-chip bath that neutralizes it from an acidic range of 5.2 to 5.6 pH and then disposes of it down a typical sanitary drain.

The boilers have dedicated integral recirculating pumps with side-stream circulation. The pumps take water out of the heating loop, warm it up, and return it to the primary loop. The boilers can maintain discharge temperatures at an energy-efficient level and this controls emission levels. “The more efficiently we operate, the less gas we burn and the fewer oxides we emit,” Beyer said.

Temperature sensors feeding an energy-management system provide precise digital temperature control throughout the buildings. Domestic water in all of the buildings is sourced through large, indirect water heaters that provide near-instantaneous heat by circulating domestic water through large coils (instead of tapping stored water heated through sealed, coil-circulated source water).

Tishman Construction, New York, was the original contractor. The architect was The Liebman Melting Partnership (now part of Perkin Eastman, New York). 

**For more information about Rheos+ boilers from Laars, circle 11 or visit [www.cbpmagazine.com](http://www.cbpmagazine.com)**

## Boilers Installed Easily, Operate Efficiently

The Spring Creek Gardens apartment complex, Brooklyn, NY, has six boiler rooms in three buildings. The old boilers were demolished and replaced with equipment from Laars Heating Systems, Rochester, NH. Among the features of the Rheos+ boilers are:

- modulation of firing rate from 25% to full fire to match required heat loads and maximize efficiency
- self-adjusting combustion systems for handling ambient conditions
- built-in mixing system for low-temperature return water protection while maintaining proper flow rates through the heat exchangers
- visible front control panel for easy diagnostics and access to internal electronics
- flexible vent and piping options for ease of installation and maintenance.

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