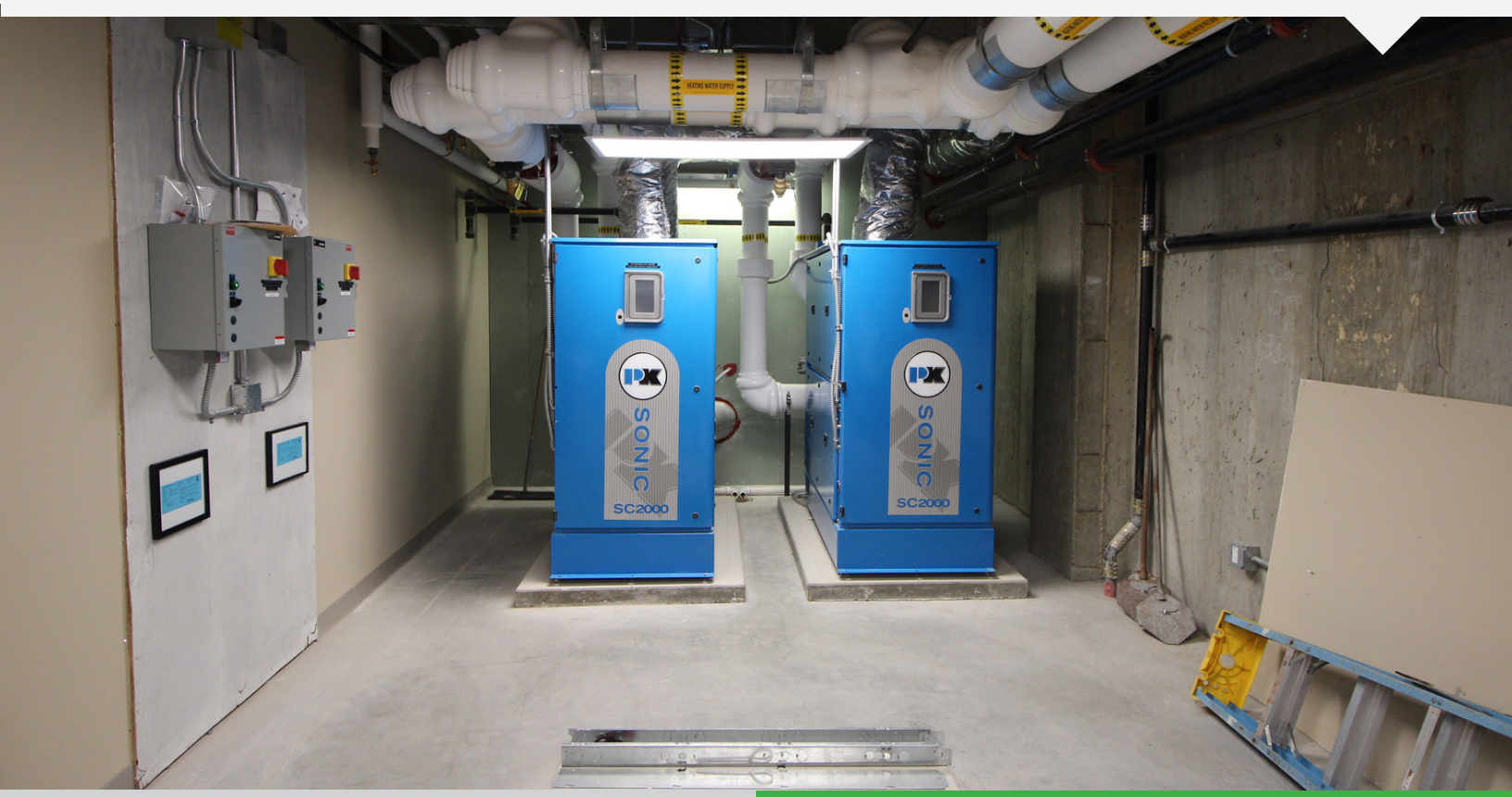
PATTERSON-KELLEY

Case Study: Healthcare

PLAINFIELD BACKUS HEALTH CENTER



Introduction

The **Backus Health Center** is a new specialty care medical facility in Plainfield, Connecticut. The facility includes exam rooms, operating rooms, chemotherapy treatment areas, cytotoxic chemotherapy prep area and a pharmacy. **Controlled Air, Inc.** was hired by **O,R & L Construction** to work on the design build HVAC project with Backus Hospital. Controlled Air worked hand-in-hand with the design team during the development process.

Challenges

During the design phase of the project it became evident that the hospital required precise temperature and humidity controls because of the critical nature of the facility. The main goal was to install a heating system that seamlessly blended with the building automation system to achieve precise water loop temperature control between seasons and during building dehumidification modes.

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Plainfield Backus Health Center

Patterson-Kelley Solution

Controlled Air, Inc. selected two Patterson-Kelley **SONIC® SC-2000** high efficiency condensing gas-fired boilers for the new project.

The P-K boilers were selected for their variable firing rate characteristics along with the proven reliability and efficiency required. The P-K boilers' NURO® touch screen controls, including cascading functions, sync with the building automation system to provide precise water loop temperature control.

The boilers are piped to the reheats in the roof top units. During dehumidification mode, the roof top units do not have enough hot gas refrigerant reheat to control space temperature and the boiler's reheat coils accurate control makes up the difference to result in a tight space temperature control. Additionally, the pharmacy area has a high air exchange, as required by ISO standards, so the hot water coils are usually the direct temperature control for reheat. The variable air volumes integrated with the boiler and reheat coils allow for multiple set points within the same building and better overall control within multiple zones.

Controlled Air, Inc. installed the **Patterson-Kelley** boilers to integrate with an outdoor air reset. The Outdoor Air Reset allows the water temperature entering the boilers to vary based on the air temperature measured outside, obtaining higher efficiency. The cooler the water returning to the boilers, the higher efficiency the boilers can achieve. Overshooting the temperature required for a room can create energy waste and become costly. P-K boilers allow the building to obtain overall better system efficiency without compromising comfort and space temperature humidity requirements.

*For more information, please visit **pattersonkelley.com**.*

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