DAIKIN

CASE STUDY

MODERN COMFORT ENHANCES UTILITY AND EFFICIENCY OF HISTORIC COLLEGE BUILDING

Overview:

Founded in 1950 as New York State's first county-sponsored community college, SUNY Orange has been a cornerstone of education, culture, and innovation in Orange County. With campuses in Middletown and Newburgh, the college has served more than 420,000 students through its credit and non-credit programs. Its academic offerings include associate degrees, one-year certificates, and transfer pathways to four-year institutions. The centerpiece of its Middletown campus is Morrison Hall, a historic 40-room mansion donated by Christine Morrison, highlighting exquisite architecture and craftsmanship.

When this venerable institution identified the need to modernize its HVAC systems, it turned to Daikin Applied to help design and install an efficient, state-of-the-art solution. The project faced additional challenges, including a tight completion timetable and the need for controls on asbestos-containing materials (ACMs) within the historic building. Daikin also provided comprehensive project management, ensuring the upgrade aligned with the College's legacy of excellence and its mission to serve future generations.

LOCATION:

SUNY Orange Morrison Hall
Middletown, NY, USA

AREA SERVED:

18,000 square-feet

CHALLENGE:

Replace the HVAC system in a historical building on a tight schedule while coordinating multiple trades and ACM abatement

SOLUTION:

Daikin SmartSource® water source heat pumps and a Vision® air handling unit

Daikin OMNIA contract helps SUNY Orange save time, reduce administrative burden and achieve project goals efficiently and cost-effectively

HISTORIC LEGACY
MODERN COMFORT

Solution:

To modernize and improve the efficiency of SUNY Orange's HVAC infrastructure, the project focused on a full-system replacement and control integration within Morrison Hall. The existing system consisted of older Daikin water source heat pump (WSHP), a basement fresh air unit and a single gas-fired boiler. While functional, the aging equipment lacked the energy efficiency and control precision necessary for today's standards, especially in a campus setting with varied occupancy and load demands.

The solution began with a complete replacement of the existing WSHP units. The new WSHP solution consisted of a mix of 49 SmartSource® console and vertical WSHP units. The high-efficiency Daikin Applied SmartSource console WSHPs ranged from 1 to 2 tons, while the vertical WSHPs ranged from 1 to 3 tons. The units offer up to 35% greater efficiency than ASHRAE 90.1 standards.

The compact, quiet operation and flexible installation options allowed the system to blend into the existing architectural layout without major structural modifications. Importantly, the units provide both heating and cooling, enabling consistent comfort year-round while minimizing operational complexity.

In addition to replacing the WSHPs, the team removed the outdated gas boiler and replaced it with two high-efficiency condensing boilers. This move enhanced system redundancy, increased heating performance and delivered significant improvements in energy consumption, particularly during colder months. A new PreciseLine® air handler provides the required fresh air delivery and its design-friendly configuration helped system designers navigate the nuances of the historical replacement project.

Daikin Applied also integrated its advanced controls platform into the system. These controls enable zone-level management and demand-based operation of each WSHP unit, ensuring the system responds only when needed. This feature not only enhances occupant comfort but also improves the building's overall energy profile, providing deeper insights for facilities management.

To maximize value and streamline procurement, SUNY Orange leveraged the OMNIA Partners Public Sector cooperative purchasing contract with Daikin. As the largest cooperative purchasing organization dedicated to public sector procurement, OMNIA Partners provides pre-negotiated contracts with industry-leading suppliers — saving time, reducing administrative burden and ensuring competitive pricing. This strategic approach allowed the College to achieve its modernization goals efficiently and cost-effectively.

Outcome:

The HVAC modernization of Morrison Hall resulted in a significantly more efficient and responsive mechanical system, supporting year-round comfort and long-term operational savings. The integration of Daikin's advanced control system has dramatically improved system performance by precisely regulating water flow to each WSHP, enhancing both efficiency and occupant comfort.

What makes this project especially notable is the combination of technical complexity and historical significance. Morrison Hall is not only the architectural centerpiece of SUNY Orange's Middletown campus, it's also a structure with deep historical roots. Working within this legacy building required careful coordination with other trades addressing structural repairs and asbestos-containing material (ACM) abatement. The college also imposed a tight project timeline that was met through a team-wide effort led by Daikin Applied.

By leveraging a long-standing 15-year relationship with SUNY Orange and utilizing the OMNIA Partners cooperative purchasing contract, Daikin streamlined the design, procurement, and installation process.

OMNIA PARTNERS

Daikin products and services are available on a competitively solicited and publicly awarded cooperative contract, available nationwide through OMNIA Partners. Visit www.omniapartners.com/publicsector for full contract documentation.