LoadMatch® System

Real world hydronic system technology for Green Building design.

proximity hotel

NEW CONSTRUCTION, GREENSBORO, NC

systems made **easy**

the proximity hotel

LoadMatch® System will deliver superior indoor comfort.

Project Snapshot: A new privately owned "loft style" hotel in Greensboro, North Carolina has been designed and built with energy efficiency and guest comfort in mind. Significantly, the project has achieved LEED Platinum certification and includes a $2.5 million Trane-Taco variable flow HVAC system that will earn up to 15 points under the USGBC LEED certification process. Taco's LoadMatch® single pipe system is a key design element in delivering energy efficiency and superior indoor comfort.

Close by the Greensboro airport, the Proximity Hotel is located adjacent to an existing landmark in contemporary Greensboro - the O'Henry Hotel, named after the famous short story writer and Greensboro native. The new Proximity Hotel is an eight-story hotel with just under 150 rooms, to include ten luxury suites.

Proximity Hotel Project:

Architect:
Center Point, Raleigh, NC

General Contractor:
Weaver Cooke, Greensboro, NC

Design-Build Mechanical Contractor:
Superior Mechanical, Randleman, NC

The Client:

The Proximity Hotel, like the O'Henry, is owned by the same private developer – Quaintance Weaver Restaurants & Hotels. Principal Dennis Quaintance, who also operates the Lucky 32 restaurant chain in the Carolinas, wanted to build a "green" hotel with a hydronic cooling and heating system but needed the system to meet the budgeted cost. He wanted the hotel to be LEED certified to demonstrate his commitment to the environment.

The Taco LoadMatch® Solution:

Taco guarantees superior comfort with its LoadMatch system. According to Taco, hydronic-based chilled water systems provide more even indoor temperatures, better IAQ and superior comfort over DX systems, and are far easier to install and maintain, especially using a single pipe system like LoadMatch®. They also provide better dehumidification, an important need in humid climates like North Carolina.

Selection of the LoadMatch® system as the delivery mechanism for heat in winter and air conditioning in summer was a carefully vetted process, and was introduced to the pre-selected design-build firm for the job – Superior Mechanical, Inc. of Randleman, NC – by Taco and its sales representative firm for the area, Heat Transfer Sales of the Carolinas.

Superior Mechanical's owner, Joe Millikan, had not worked with the LoadMatch® system prior to this project. He was also new to the LEED process. Joe had been challenged by Quaintance to install a system for the Proximity Hotel that would be energy efficient and that would provide great comfort. "He wanted an innovative design… but of course we had to be budget conscious," recalls Millikan, who has partnered with Quaintance-Weaver Restaurants and Hotels on other projects, to include the O'Henry Hotel back in 1998. "So it was a design challenge to save energy and provide the comfort that had to be there – and not break the bank doing it."

Working with a system design provided by Bryan Payne of Taco using the company's HSS (Hydronic Systems Solution) software, Superior Mechanical recommended Taco's single pipe LoadMatch® system for the project to serve both owner mandates – a "green," energy efficient system that would assist LEED credits and one that would also meet the budget by up-front savings in installation costs, especially in piping and valves.

Mechanical design and installation of the HVAC system was overseen by Superior Mechanical. Installation of the LoadMatch® system was accomplished using approximately 350 LoadMatch® circulators and Twin Tees through the hotel's interior installed with Trane-supplied fan coil units sized to run with warmer water temperatures. For each guest room in the hotel there are two LoadMatch® circulators per fan coil unit in the ceiling, affording each guest total control over their room temperature using Trane-supplied thermostats. There are approximately 25 zones per floor in the hotel.

LoadMatch's single pipe construction also meant less pipe showing along the hallways, as the hotel's loft design comes with exposed ceilings. "The LoadMatch® system is both simpler and a lot more accessible," says Millikan. "The pumps are located outside the fan coil units so if we ever have to take care of a leak, it's all right there – a lot easier to get to."

The small LoadMatch® circulators will also save on pump horsepower. "Pump horsepower went to practically half," says Millikan. "We've saved a lot of energy because our head pressure dropped significantly – from 90 to 45 feet of head pressure."

"With the LoadMatch® system", he says, "you're not wasting energy pushing water through two-way control valves. Plus, its upfront costs savings – we've eliminated about 35 percent of piping because we didn't have to run hot and cold loops – and projected energy savings make it an ideal system for this project."

You'll be more comfortable.

LoadMatch® provides better comfort than all air-systems, as well as conventional hydronic systems. LoadMatch® is a self balancing system and assures the required flow to all heating and cooling units at all times. Your heating and air conditioning system will deliver BTU's where they're needed, and when they're needed.

You'll save energy.

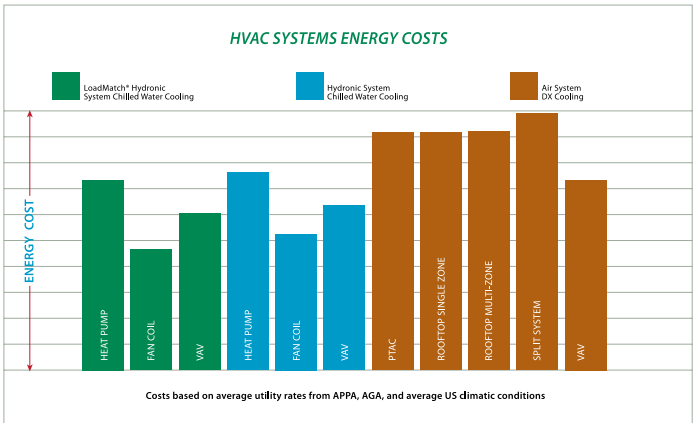
With less pipe and the elimination of control valves and most balancing valves, lower pump head and less power is required to move the water.

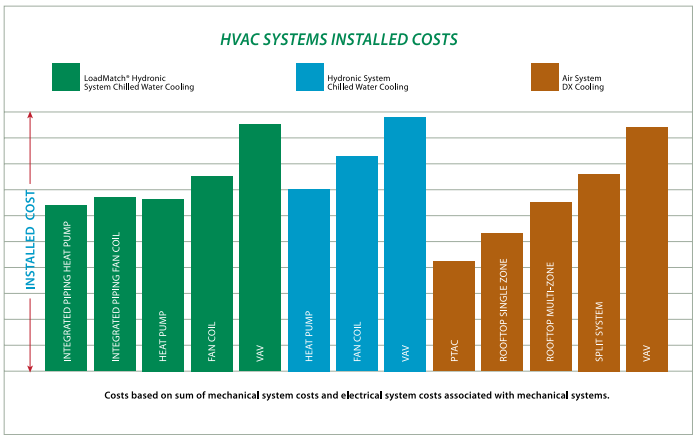
You'll save money.

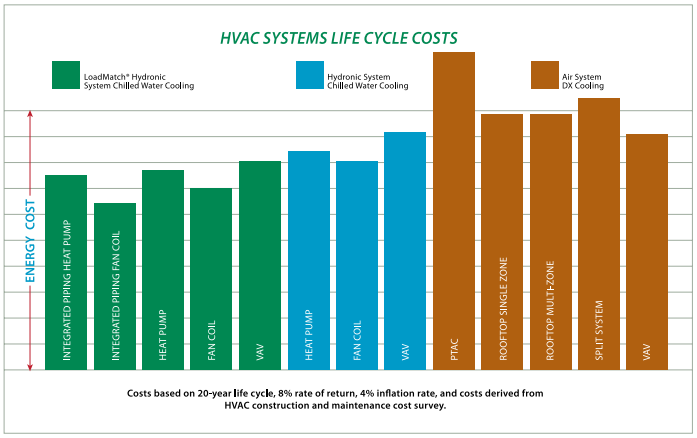
Fewer parts, about 40% less pipe and fittings, no control valves and almost no balancing valves reduce first costs. Lower pump head and operation of pumps to match the load reduce operating and maintenance costs. All this adds up to big savings on the system, typically up to 30% of life cycle costs.

Contact Us

Taco engineers are at the forefront of Green Building hydronics, designing components and systems to help you meet the challenges of environmentally sensitive – and budget conscious – design and build. Visit our web site at **taco-hvac.com** or e-mail **greenteam@taco-hvac** for more information or to talk to a Taco Green Building professional.







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