



Real world hydronic system technology for Green Building design.

# D'Youville College

NEW CONSTRUCTION, BUFFALO, NY





Taco LoadMatch® Real world hydronic system technology for Green Building design.

# D'Youville College

## **Taco's LoadMatch® System helps provide maximum indoor comfort for new College Pharmacy building.**

**Project Snapshot:** D'Youville College in Buffalo, NY, a 102-year old private school named in honor of Catholic Saint Marguerite D'Youville, has expanded its healthcare degree offerings to include pharmacy studies. Students majoring in Pharmacy arrived in September 2010 to take their classes in a brand new \$23 million, seven-story building which contains lecture halls and classrooms as well as offices for the Dean of the School of Pharmacy and the college's admissions department. Students and faculty enjoy fully controlled indoor comfort provided by an innovative HVAC system that combines Florida Heat Pumps with Taco's single pipe LoadMatch® system.



*Reception area of the D'Youville College of Pharmacy*



## LoadMatch® Solution

John W. Danforth, one of the largest mechanical contractor firms in the country, is also a design-build firm, so the company has considerable experience in designing HVAC systems on its own. Ed Cudney, Danforth's Design Build Manager, and his design team decided to combine LoadMatch® circulators



all the parameters, it saved us a lot of time. We were able to select our equipment in a faster manner."

Using HSS Praties was able to design a temperature drop of 10° - 8°Delta T for the 70° F heating loop, which directly influenced the capacity required by the heat pumps installed on all seven floors of the pharmacy school building. Heat pump capacity

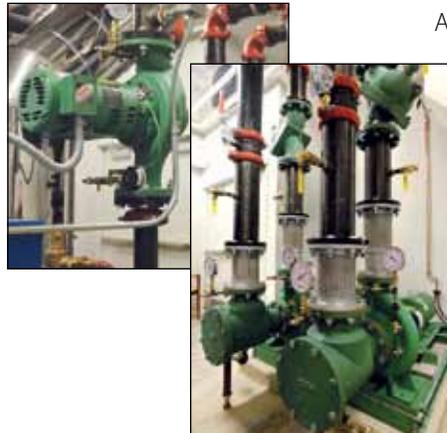
**"HSS really works well. The program was able to supply us with the information we wanted without having to manually calculate every piece and part and temperature drop."**

and Twin Tees with the heat pumps, as this provided cost savings based on the elimination of the secondary pipe typically associated with a conventional loop piping design.

Before being introduced to the Taco LoadMatch system and Taco's accompanying Hydronic Systems Solution (HSS) software, design-build engineers like Danforth's Bob Praties would have used AutoCAD. But with Taco's assistance he used the HSS software through 12 design revisions over a 30-day period. The time savings, he reports, were significant: "HSS really works well, says Bob. "The program was able to supply us back with the information we wanted without having to manually calculate every piece and part and temperature drop. Because the software automatically calculated

had to be matched to the length of the pipe runs. To accommodate the pressure drop, the pipe lengths required some tweaking.

The HVAC system, located in the building's basement, includes two Patterson Kelly natural gas condensing boilers (2 million BTUs each with 90% efficiency) along with Taco advanced hydronics products - FI pumps, Multi-Purpose Valves for



system balancing, a 4900 Series Air/Dirt Separator to keep the system clean from air and sediment buildup, and expansion tanks. The Danforth installation crew



was particularly impressed with the Taco 4900 Series separator and the fact that it didn't require any set-up due to the fact that it comes with a factory installed automatic vent on top.

There are 72 Florida Heat Pumps located throughout the ceilings of the building's floors, each containing one LoadMatch circulator. Each heat pump is also equipped with a reversing valve to alternately serve the heat and cold water loop. Danforth prefabricated the heat pumps and circulator piping at their Buffalo fabrication facility by mounting and wiring the circulators prior to delivery to the jobsite. Installation of the system was accomplished by a three-man Danforth crew working at the construction site from April to August 2010.

## 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](http://taco-hvac.com) or e-mail [greenteam@taco-hvac](mailto:greenteam@taco-hvac) for more information or to talk to a Taco Green Building professional.

