

The Unico System Serves Up Comfort For Historic 240 Year-Old “Van Syckel’s Tavern”



THE BACKGROUND: The Legend Behind The Farmhouse

Back in 1763 in Hunterdon County, New Jersey, David Reynolds decided to build a farmhouse that would soon have the town talking. The 2,500-square-foot structure was quite grand for its time, but most of the talk turned toward the homeowner himself. Reynolds was convicted of counterfeiting and was hanged. The large and infamous farmhouse set unoccupied for years. Around the 1800's, Aaron Van Syckel acquired the legendary home and turned it into a tavern. A popular area attraction in its time, the tavern operated successfully for more than sixty years. Then the grand farmhouse-turned-tavern stood vacant once again. This time, it was for a span of more than 130 years.



THE JOB SITE: Descendant Turns Family Heirloom Into Treasure

Toward the end of the 20th century, Doug Martin, a descendant of Aaron Van Syckel, decided to make the Van Syckel Tavern his home. Unoccupied, vandalized and extremely neglected for years, the 240 year-old farmhouse was in literal ruins. Martin wanted to restore the building and maintain as much of the original structure as possible. He was fascinated by the character of the home and knew the structure had the potential for charm.

However, Martin made one major exception to restoring the family heirloom: he wanted all of the comforts and amenities of a new home, including a highly-technical and advanced HVAC system.

THE DEALER:

Young Is Passionate About Radiant Floor Heating

By his own admission, Jeffrey Young of Climatec Advanced Heating Technologies is passionate about radiant floor heating. Serving eastern Pennsylvania and western New Jersey since 1992, Young takes great pride in providing high levels of service and state-of-the-art heating technologies, using only hydronic (hot water) heating with an emphasis on radiant floor. Young joined the team of specialists called into convert the historic Van Syckel Tavern into a modern day residence. Although he has used various installation techniques in the past to allow for retro-fitting in an assortment of unlikely structures, even Young admitted that he had some serious reservations about the Van Syckel Tavern project.

THE CHALLENGES:

No Basement, No Attic, No HVAC?

"A conventional system would not have worked. The Unico System was the only system for this job."

*Jeffrey Young,
Climatec Advanced*

The lower floor of the two-story structure had no basement and Martin did not want to tear down the original one-inch thick plaster ceiling. Due to the building's close proximity to Spruce Run Lake, the water table runs high during the wet seasons and posed special challenges. Additionally, the second floor had no attic and, again, the original one-inch plaster ceiling was to be maintained. The use of conventional registers was impractical as well as being in direct opposition to Martin's desire to maintain the aesthetics and character of the historic building. But that didn't mean that a technologically advanced, energy-efficient and comfortable solution was out of the question.

THE SOLUTION:

The Unico System Offers Total Flexibility And Comfort

Young installed two systems, one for each floor of the farmhouse. Two Unico High Velocity Air Handlers were installed along with two American Standard Allegiance Condensing Units. For the lower floor, the air system was designed by using schedule 40 PVC installed 18" below grade, along with the radiant floor manifold piping,



With no attic, space was limited so the Unico System's flexibility was key to the project.

"The Unico System's subtle air outlets helped us to maintain the look of an older home."

*Jeffrey Young,
Climatec Advanced*



Using PVC, the lines for the Unico AC were constructed and buried 18" below grade.

plumbing and electric. Four inches of radiant concrete slab was poured, and radiant floor tubing and extruded aluminum heat transfer plates were installed on top of the slab. The refinished original wide-planks were then re-installed to finish off the flooring and the Unico System's five-inch round air outlets were placed unobtrusively in the flooring to preserve the aesthetics.

The second floor system handles both cooling and heating needs via the installation of a Unico hydronic coil system. To cut the holes for the Unico system's five-inch round air outlets, Young used a carbide tipped 3 1/2" hole saw, running it backward to cut through the one-inch plaster.

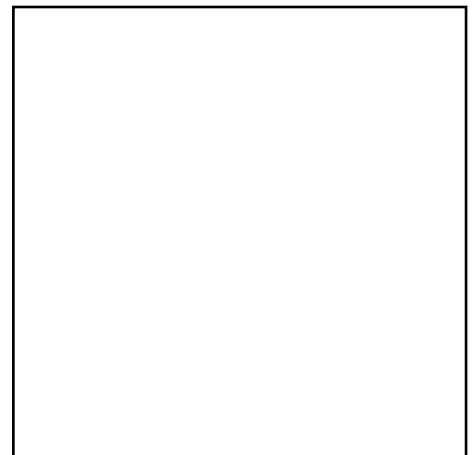
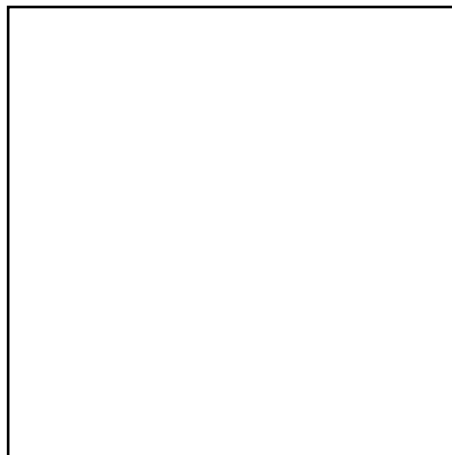
Young credits the unique design and flexibility of the Unico System for enabling him to achieve the desired results in the overhaul of this project.

THE LAYOUT:

Flexibility In Trunkline Layouts

First Floor Layout

Second Floor Layout



Because of the Unico System's unique design, installers enjoy flexibility with trunkline layouts.

THE RESULTS:

"The owner and I are pleased with the way this project turned out. It's been my favorite project to date."

*Jeffrey Young,
Climatec Advanced*

The "Coolest Job" Ever

In all Young's years of installing retro-fit and new HVAC systems, he calls the Van Syckle Tavern project "the coolest" job he has ever been involved with. The transformation of the farmhouse into Mr. Martin's residence was amazing. As for the homeowner, he's quite happy with the family farmhouse-turned-tavern-turned-luxury-home. A collector of antiques from the 1700's and 1800's, Martin now lives very comfortably in one of his favorite collectibles.

Cooling Equipment Used:

- Air Handlers: (2) Unico High Velocity
- Condensing Units: (2) American Standard Allegiance 12

Heating Equipment Used:

- Boiler: Viessmann Atola RN 140 power-vented natural gas fired
- Control System: Viessmann Trimatik Comfortrol with Divicon mixing station
- Domestic Hot Water: Viessmann HoriCell 53 Stainless steel indirect
- Additional: Unico Hot Water Coil, Grundfos circulating pumps, Watts valving



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