



Exterior of A-Frame chalet. New bedrooms are on the right side of the home (two stories).

Lakeside Weekend Chalet Stays Cool in Summer and Cozy in Winter

An hour west of St. Louis, MO is a 7,500-acre luxury lake and golf community, offering busy professionals from the city a perfect setting for a relaxing get-away home in a natural setting.

Designed in the late 1970s, many of these lake homes were built in an A-Frame chalet style, providing a distinct Alps-like look to this lake community. Most of these homes aren't large, rather they offer open floor plans with sleeping lofts.

Background

Scott and Jannet knew the prior owner of this chalet, and had visited it many times over the past decade. They loved the wooded setting and the home's dock on a 50-acre lake, so when the home became available for sale, they quickly acquired it. Yet while the prior owner rarely had overnight guests, the new owners had dreams of making the home a central weekend gathering place with their grown children and their families.



Preconstruction of the new bedrooms (note the ugly vent and return air grill at the stairs).



Post construction with new bedrooms (left side of photo). Ducts are barely noticeable, even with the very open construction style.

A year into their ownership, the new owners drew up plans to add two bedrooms, and to update the home's HVAC system. The HVAC in the home was original from 1977, and it failed to meet comfort needs, particularly in the humid St. Louis summertime. Further, there were only three vents for the entire 1000 square foot chalet, so air distribution was severely lacking.

Strategy/Process

Scott was familiar with Unico, and asked their factory design services to plan a system to work in the original home, plus an additional 400 square feet of new bedroom space. An obvious concern was the open design of the home, eliminating the ability to add ductwork without building soffits, which the owners wanted to avoid. Unico's flex ducts were ideal, allowing the small

ducts to be enclosed in walls during the new bedroom construction, while also snaking through a couple existing walls.

After selecting a Unico Preferred Contractor on the Unico website, the owners met the HVAC contractor at the home to fine-tune their plan. While the owners originally envisioned replacing the inside air handler unit in the closet where it had previously been located, the technician offered a better solution: utilize hidden attic space over the new addition for the HVAC equipment. This allowed the contractor to install sixteen outlets throughout the chalet, all without building soffits. An added benefit was to create a new closet from the old HVAC space, which the homeowners repurposed for storage.

“By working with a Unico Preferred Contractor, we also received a 15-year warranty on the equipment, which really demonstrates the faith Unico has in their products,” Scott mentioned.

Results

A three-ton i-Series inverter was specified for its quiet and efficient operation, and was positioned outside the new master bedroom. This outside unit is so quiet that the owners can talk next to the running unit, and it is barely perceptible inside the chalet. The air handler and duct heater were hung from the rafters above the top floor bedroom ceiling, and its operation is also barely noticeable due to the vibration isolation pads, and the integral sound absorbing materials inside the air handler.

The owners and their grown children now enjoy time together in the updated chalet. As Scott mentioned, “Unico and the installing contractor really listened to our needs, designing a system that allowed us to keep the open feel of the home, while providing the heating and cooling needed for a busy A-Frame with lots of people coming and going.”

Benefits

- Discreet supply outlets – no new soffits needed
- Dramatically improved air distribution
- Removal of 30% more humidity versus traditional cooling – a benefit for St. Louis summers
- Even distribution of heating and cooling – even in a tall A-Frame
- Quiet, energy-efficient operation
- Flexible design services provided by Unico factory personnel
- Knowledgeable HVAC installers – Unico Preferred Contractors
- Peace-of-mind 15-year equipment warranty

Contractor

Dawson-Dodd Heating/Cooling, St. Louis, MO



Unico i-Series (3-ton unit), installed near the master bedroom.



Four flex ducts being built into a closet wall (leading from the attic to the main floor).

Main trunk line with flex ducts above the ceiling of the top floor.



Air handling unit, installed above the ceiling of the top floor bedroom.

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Unico, Inc. manufacturing plant and sub-assembly plant

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