

# RenewAire Case Study: Bokoo Bikes



## *Passion for Pedaling*

Most people associate Minnesota with interminable winters with bitter cold and daily snowfalls. When they see photos of fleece- and down-covered Minnesotans frolicking in the snow, they must marvel at the human's ability to adapt. But despite—or maybe because of—the long harsh winters, Minneapolis, MN is one of the biking industry's prime US markets. In the few short months of life without snow, ice and layered clothing, Minneapolitans take to pedaling with a passion.

When Ed Vigil decided to start a bike business in suburban Minneapolis, he knew that many of his customers would be experienced bikers with plenty of other stores to choose from. So he set out to create a bike store unlike anything in the country. The building's design was the first step toward his goal.

Vigil designed the Bokoo Bikes store to be fun and friendly, and to suggest the experience of being outdoors on a bike. He ordered large, tall windows that would bring in natural light and open to let in fresh air. And for those gray-sky days, he gave customers a blue-sky ceiling with billowy white clouds to look at. He also put a RenewAire energy recovery ventilation (ERV) system on his "must-have" list.

## *Tackling the Tough Terrain*

Several of the issues that Vigil faced in the design stage related to ventilation. A store that houses hundreds of bikes and a busy service department has a distinct odor. Fresh air is what Ed Vigil wanted for his customers as well as for his employees. "It shouldn't smell like anything in here," he said. "So ventilation was a big concern." Also, he didn't want the natural look of the interior marred by the large air ducts an air handling system typically needs.

The potential cost of heating and cooling the store was no small matter either. The signature look of Bokoo Bike's 9-foot arched windows would be impressive. So would the projected \$1,000 monthly heating bills that could result from that much exterior glass in a Minnesota winter.

## *Getting the Right Fit*

Jim Saufferer, the local factory representative for RenewAire, was one of the experts who helped Vigil find the right solutions. The two had met earlier when Vigil was building a house, and they had toured several homes and businesses to check out options for heating and ventilation. Vigil was so

impressed with the performance of the RenewAire ERV, he didn't think about using anything else at Bokoo Bikes.

First of all, RenewAire provides the perfect remedy for the chemical odor problem. Smelly indoor air is exhausted and replaced – year round – with fresh outdoor air. Incoming and outgoing air streams are completely separated as they pass through the ventilator's exchange core. (In fact, RenewAire is the *only* ARI Certified ERV with 0% exhaust air transfer at normal, balanced operating conditions). At Bokoo Bikes, this means that unpleasant odors don't flow back into the store.

At the same time, RenewAire ERV helps Vigil lower his store's energy costs. The highly engineered synthetic resin plates in RenewAire's exchange core allow heat and moisture to transfer from one air stream to another, which reduces both heating *and* cooling costs. In winter, heat is recaptured from the exhaust air stream to warm up the frigid incoming air. In summer, which can be as oppressive in Minneapolis as it is in Philadelphia, humidity from incoming air is transferred to the outgoing air stream. This can reduce the cooling systems' work by as much as fifty percent.

### *Pro Assembly*

Saufferer helped Vigil refine the specifications for the system and select its components. Ultimately, radiant floor heating and high-velocity air conditioning were identified as the means of assuring high energy efficiency, but with quiet operation and unobtrusive ductwork. However, the combination of these technologies could pose a serious challenge to providing an ample rate of ventilation. Clearly, the highly adaptable RenewAire ERV was the best choice for completing this innovative system. The work was finished on schedule and the system is providing even better results than Vigil expected.

- RenewAire has no rotating wheel or dampers. So the outdoor ambiance of Bokoo Bikes isn't disturbed by unnatural noises.
- Ed Vigil also wanted a low maintenance system, and he got it with RenewAire's static plate core. Scheduled maintenance is quick, easy and safe. This is another cost saving that helps Bokoo Bikes honor its "best deal guarantee" to customers.
- The total separation of air streams in the core makes RenewAire ERV ideal for other controlled exhaust applications such as rest rooms and an on-site kitchenette.
- **Vigil recovered his investment in the RenewAire equipment within the first four years of business.**

"I knew that the RenewAire ERV with the radiant heat was going to cost more up front than a conventional system," Ed Vigil explained. "But when you're putting up a building that's going to last 50 years, you're foolish to think short-term." Sounding like an official spokesperson, Vigil goes on to say, "People ask me 'Are you happy with it?' I say YES. 'Did it cost more money?' YES. 'Was it worth it?' YES!"