

## QUATERNITY™ BY DAIKIN PROVIDES ABSOLUTE COMFORT FOR CANADIAN HOMEOWNERS

**The Challenge:**  
Canadian homeowners need a high efficiency replacement for outdated and expensive to operate heating and cooling systems.

**Daikin's Solution:**  
Daikin's new super-high-efficiency Quaternity™ heat pump system cools, heats, can dehumidify to a relative humidity setting as well as effectively filters and cleans the air.

**Application:**

Residential

**Location:**

Western Canada

Canadian Aerothermal Heating and Air Conditioning, western Canada's largest installer of aerothermal heating and cooling systems is convinced the extensive technological innovations behind Daikin's new Quaternity™ heat pump system put it into "a league of its own," explained company representative, Kathy McKenzie. "Its ability to efficiently perform even in low ambient heating conditions, as well as its air

purifying and dehumidifying functions make it the ideal choice for many of our customers," added McKenzie.

McKenzie recognized a winning product when she saw it. "The introduction of the Quaternity enabled us to offer an all-in-one product that lets people have complete control over heating, cooling, dehumidification and air cleaning. Now when customers approach us for recommendations for a replacement system for their



*Jean Russell's home nestled in the Okanagan Valley in British Columbia, Canada, is now conditioned year round with Daikin's Quaternity™ heat pump system, which has the added functions of air purification and humidity control. The outdoor unit of the system is shown here.*

old electric baseboard heating equipment, we have a new super high efficiency heat pump option for them to consider,” she said.

Chris Bellshaw, product manager for Daikin AC, explained inverter-driven heat pump systems differ dramatically from older systems using antiquated technology. “The old heat pump systems out there could not perform in low ambient heating conditions. The Quaternity, on the other hand, has a Heating Seasonal Performance Factor (HSPF)

of up to 11, one of the highest measures of heat pump’s efficiency in the market. Likewise, the Seasonal Energy Efficiency Ratio (SEER) rating levels on the product range from 21 to 22, compared to a rating of 13 to 15 for standard air conditioning systems,” Bellshaw said. He added government rebates and grants for energy efficient

upgrades in both the U.S. and Canada are stimulating sales of the equipment.

In 2009, Jean Russell, an Osoyoos, BC, resident, replaced her baseboard heaters, pellet stove, and noisy wall air conditioners with a Quaternity system. With an open living arrangement in her small, 1,000-square foot home, the new system has given her a summer of quiet cool and a winter of cozy warmth. “I’m very satisfied with the system,” she said. “I would describe the cooling as soothing and I especially like the quiet operation of the system, which is quite a change from the noisy air conditioners I had previously.”

**"Its ability to efficiently perform even in low ambient heating conditions, as well as its air purifying and dehumidifying functions make it the ideal choice for many of our customers"**

*Kathy McKenzie,  
Canadian Aerothermal*



*Kathy McKenzie of Canadian Aerothermal checks out the Quaternity™ system installed at a customer's residence, which replaced baseboard heaters and a wood stove with the all-in-one system.*

## **AIR PURIFICATION BONUS**

According to Kathy McKenzie, the air purification feature is the part of the Quaternity system is seen as a huge benefit to her customer base. “Air quality is a big concern for many people. When I’m consulting with prospective clients, many of whom are seniors, I ask if they have allergies or other respiratory issues. Once I tell them how Quaternity not only filters the irritants like dust, pollen,


allergens, cooking and pet odors, but actually breaks down the pollutants in the 'Flash Streamer' air cleaner, they want to learn more," she said. The multi-stage process delivers 1,000 times faster purification versus normal "plasma" type of systems. "I've asked some customers if they've noticed a difference since the Quaternity was installed. Among the positive responses I've gotten, was one customer who noticed they were using their steroid inhaler less often at night," McKenzie noted.

Another local resident, Stan Morgan said the air purification system was a real "bonus" for he and his wife. The couple had baseboard heaters, a wood stove, and no air conditioning before moving over to the Quaternity system, installed in their living room. Canadian Aerothermal designed a comfort system for the Morgans comprising of the Quaternity indoor and outdoor units, plus a Daikin duct-free 18,000 Btu/h multi-split system with one outdoor unit serving two indoor wall-mounted units. "I really like that the air purifier and the dehumidification function are combined in the system. Those


## What are customers saying about ...




Quaternity units are AHRI 210/240 performance certified and have earned the ENERGY STAR label

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Jean Russell, Osoyoos, British Columbia

 "I really like that the air purifier and the dehumidification function are combined in the system. Those features, plus the ability to zone the system, have finally given us warmth and cooling throughout our home, without the need to carry in wood for the wood-burning stove on a regular basis. And with the hot summer we had, the air conditioning is a real plus."

Stan Morgan, Summerfield, British Columbia

 "... when you live in a relatively air-tight environment, humidity can be a real issue. That is one of the reasons why we chose to install the Quaternity in our own home,"

Kerry Sellers, Vernon, British Columbia





*The Quaternity™ air purification system, which deliver 1,000 times faster purification versus normal "plasma" type of systems and actually breaks down pollutants in its 'Flash Streamer' cleaner, was cited as a real bonus when the decision was made to purchase the new system.*

features, plus the ability to zone the system, have finally given us warmth and cooling throughout our home, without the need to carry in wood for the wood-burning stove on a regular basis. And with the hot summer we had, the air conditioning is a real plus," Morgan noted.

The dehumidification function in each Quaternity system lets the homeowners set their preferred relative humidity setting. It is the first heat pump system in the world capable of controlling humidity levels to a pre-determined setting. The system reduces indoor humidity without affecting the room temperature by mixing dry cool air with warm air to produce comfortable dry air. This feature

prevents overcooling and is appreciated by individuals sensitive to cold, such as those with rheumatoid arthritis.

Daikin AC's product manager Bellshaw pointed out one of the biggest advantages of this feature is that the user can choose higher setpoint temperatures, for example 76°F (24°C) but with a 50% humidity setpoint, realizing significant energy savings, yet still providing a very comfortable environment.

Kerry Sellers, owner of KMS Home Energy Upgrades in nearby Vernon, BC says the Quaternity system's ability to dehumidify, even in semi-arid region of Okanagan Valley, was very important to him. "Everyone thinks humidity always comes

from the outside of a home," he explained. "That's backwards thinking. People who live in newer, tighter, more energy-efficient houses like we do, generate a lot of humidity from activities like showers, clothes washing, and cooking. When you live in a relatively air-tight environment, humidity can be a real issue. That is one of the reasons why we chose to install the Quaternity in our own home," added Sellers.

And there is one feature of the Quaternity system all the homeowners love. It's the precision temperature control the system gives them with each wall-mounted unit. "The ability to zone our home is probably one of the biggest reasons why we put the Daikin system in, because we love having separate zones," Sellers said.

Stan Morgan concurred. "We have heating or cooling at the temperature we prefer at just the push of the button on our remote control, which is a feature we love." Jean Russell might say it best. "You set the system at the temperature you want and the comfort comes right along with it."

## Location

Private Residences  
Western Canada

## Additional Information

### Contact Information

#### Manufacturer

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### Daikin Equipment

Capacity	Model	Description	SEER 22	HSPF 11
9,000	FTXG09HVJU	Indoor Fan Coil Unit	22	11
	RXG09HVJU	Outdoor Unit		
12,000	FTXG12HVJU	Indoor Fan Coil Unit	22	10.55
	RXG12HVJU	Outdoor Unit		
15,000	FTXG15HVJU	Indoor Fan Coil Unit	21	10
	RXG15HVJU	Outdoor Unit		

\*The three individual product installations outlined in this case study all include the Quaternity™ by Daikin, which is either solely installed or part of a larger installation. For additional details, please contact Daikin AC Marketing.

*All Quaternity Models qualify for the tax credits available from The American Recovery and Reinvestment Act of 2009.*

*The tax credit of up to \$1500 applies to the installed costs of qualified equipment, including labor.*

*Visit the Air-Conditioning, Heating, and Refrigeration Institute (AHR) at [AHRINET.org](http://AHRINET.org) and click on the 2009 Energy Efficient Tax Credits.*

## About Daikin AC

Daikin AC offers North America intelligent heating and cooling solutions with superior energy performance and sophisticated design. These advanced systems fall under the Daikin Altherma, Quaternity™, VRV®, VRV-S and SkyAir product names. The company located in Carrollton, Texas, is owned by the Japanese-based Daikin Industries, Ltd. For more information, call 866-4DAIKIN or visit [www.daikinac.com](http://www.daikinac.com).

