



Seattle, Washington

## ALJOYA MERCER ISLAND

### CHALLENGE

Multifamily retirement community with diverse loads needing quiet, energy-efficient comfort

### SOLUTION

CITY MULTI® VRF zoning system with heat recovery

### RESULT

Considerable energy savings due to zoning, heat recovery and variable-capacity operation with quiet, unobtrusive equipment and smart integrated controls



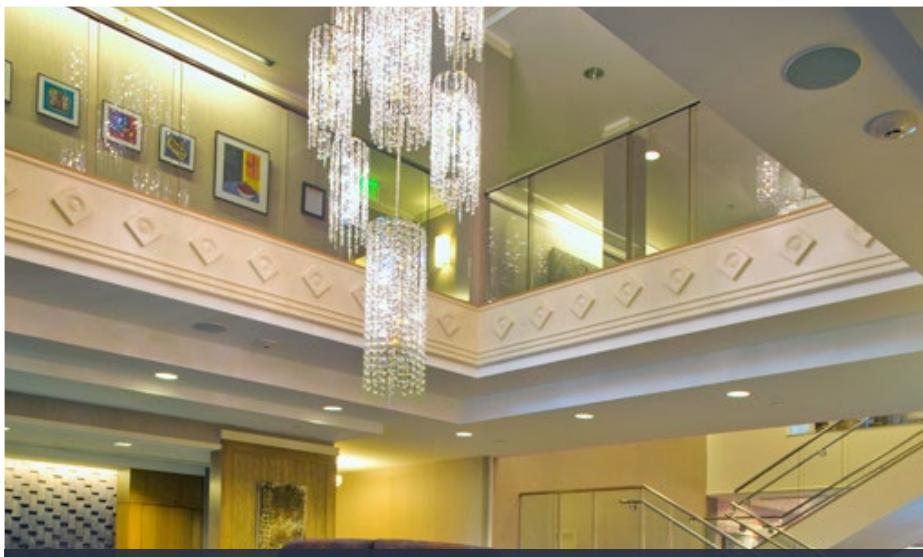
Aljoya Mercer Island (Aljoya) is the Senior Housing Merit Award winner of the 2010 Gold Nugget Awards co-sponsored by Builder magazine and PCBC. A premier senior living community for those aged 62 and older, Aljoya is located next to shops, restaurants and the Sculpture Park in the Town Center of Mercer Island, Wash. The five-story mid-rise has 114 residences of one-, two- and three-bedroom suites ranging from 1,000 to 2,000 square feet. A continuing care retirement community, Aljoya has flexible licensing that allows health and nursing services to be brought to the residents in their own apartments.

Aljoya is one of eight senior communities owned and operated by Era Living, LLC., a private Seattle-based company founded in 1987 by Eli and Rebecca Almo. A respected and recognized leader in senior living throughout the Puget Sound region, Era Living is dedicated to providing innovative housing, engaging programs and a variety of service choices for seniors.

### VRF SMART TECHNOLOGY SELECTED: A GREAT FIT FOR MULTI-FAMILY BUILDERS

Joseph Wagner is the facility services director for all eight Era Living communities. According to Wagner, only 13 percent of Seattle homes have air conditioning, but when planning for the construction of Aljoya Mercer Island—where suites range from \$400,000 to more than \$1 million—Era Living decided it was important to include high-performance air-conditioning systems in its latest community of luxury retirement residences. For this price point, Era Living wished to find an HVAC system whose outdoor condensers were out of sight, and whose indoor fan coils were unobtrusive and quiet, with intelligent, individual unit controls.

After studying the field of available HVAC systems, the Era Living design team concluded that the Variable Refrigerant Flow (VRF) technology from Mitsubishi Electric would be the most energy-efficient and



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cost-effective system for Aljoya's needs. Wagner liked the Mitsubishi Electric VRF system's unique ability to transfer heat within a building controlled by variable capacity heat pumps. He knew this would lead to considerable savings in energy costs.

The Era Living design team learned that the VRF technology was first introduced in Japan in the 1950s as split systems with single indoor and outdoor units suitable for residential and light commercial buildings. Very popular in Asia and Europe, the VRF technology came to the U.S. market a decade ago. Aided by experienced teams from Thermal Supply, Fife, Wash., and Interface Engineering, Inc., Seattle, the Era Living design team welcomed the fact that the VRF technology uses smart integrated controls, minimal refrigerant piping and heat recovery that delivers energy-efficiency, flexible operation, ease of installation and zone control. They were also pleased that the small footprint, ultra-quiet outdoor units could be installed in out-of-the-way corners of Aljoya's garages.

Bill Stanley was chosen to be Era Living's facility manager for Aljoya. "Residents were given the flexibility to change their floor plans during construction," Stanley said. The Mitsubishi Electric family of indoor

units worked perfectly for the changes in floor plans, allowing people to select a different size or style to best suit their particular living space. "With the outdoor unit already sized, the indoor air handlers could be easily upsized to accommodate a larger living space than originally intended," Stanley said.

### R2-SERIES: THE INDUSTRY'S FIRST TWO-PIPE HEAT RECOVERY SYSTEM

Stanley said the team recommended Mitsubishi Electric's R2-Series because there are varying types of loads within the building. R2-Series is the industry's first two-pipe heat recovery system that simultaneously cools and heats. Each system can support up to 50 indoor units through the use of an innovative component called a BC Controller.

Stanley said there were many opportunities for cooling in some areas and heating in others. Although the Northwest experiences a fairly mild climate, common areas and central zones often need cooling while perimeter and residential areas need heating. Because Aljoya's diverse clientele also demands various temperature requirements for their spaces, the R2-Series

system was the only choice to keep residents comfortable and the property owners' utility rates low.

### ALJOYA SUCCESS: A COST-COMPETITIVE SOLUTION FOR NORTHWEST MARKETS

Grant Middleton is an engineer who works for Applied Equipment Sales, Inc., Seattle. He was involved with the HVAC specification at Aljoya from the beginning. "Due in part to the success of the Aljoya installation, Mitsubishi Electric's VRF system has become a very effective cooling, heating and dehumidification solution for the Northwest market," Middleton said.

"If a condominium/residential multi-family builder has the desire to invest in cooling, the cost points are competitive with any other system type (WSHP, Chilled Water/Fan Coil, Split DX)," he added. "The energy-efficiency of this VRF system, saving customers 20 to 25 percent on their energy costs, typically makes the Mitsubishi Electric system the winning solution. The lightweight and extremely quiet equipment allows for the addition of HVAC without large structural upgrades or expensive noise mitigation."

### LEADS TO LARGER, MULTI-ZONE MIXED- USE BUILDINGS IN NORTHWEST

Shaun Vig is a senior project manager for distributor Thermal Supply. He played a significant role in supporting the design team at Interface Engineering. "By using Mitsubishi Electric's VRF systems, Aljoya was able to offer complete controls programming with its TG2000™ integrated system software for just a fraction of the cost of a complex building automated system," Vig said. "The TG2000 program provides important trending data for each individual fan coil and tenant. This allows Bill Stanley's maintenance staff the opportunity to review the past performance of the fan coils



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Vig said that Era Living has been very cooperative, allowing Thermal Supply's design teams, possible clients and engineers to walk

through the Aljoya installation to showcase the equipment, technology and installation by Emerald Aire, Inc., Auburn, Wash. "These site visits and positive feedback from Aljoya have started a ground swell of interest for Mitsubishi Electric's

VRF systems for larger, multi-zone, mixed-use buildings in the Northwest. We have been very fortunate to provide Mitsubishi Electric for multiple types of large-scale buildings due to our success at Aljoya," Vig concluded.

## BULLETPROOF

Both Wagner and Stanley are happy with the selection of the Mitsubishi Electric VRF system for the Aljoya Mercer Island retirement community. "These systems have been up and running for well over a year now, and they have been bulletproof," Stanley said.

## PROJECT TEAM

### The Team Owner:

Era Living, LLC., Senior Living Communities, Seattle, Washington, [www.eraliving.com](http://www.eraliving.com)

### Director of Facilities:

Joseph Wagner, Era Living, LLC.

### Director of Design:

Iden Zaima, Era Living, LLC.

### HVAC Engineer:

Interface Engineering, Inc., Seattle, Washington

### HVAC Contractor:

Emerald Aire, Inc., Auburn, Washington

### HVAC Representative:

Applied Equipment Sales, Inc., Seattle, Washington

### HVAC Distributor:

Thermal Supply, Fife, Washington

## EQUIPMENT

- ▶ **(13)** PURY R2-Series Outdoor Units
- ▶ **(1)** PUMY S-Series Outdoor Unit
- ▶ **(151)** PDFY Ceiling-concealed Indoor Units
- ▶ **(2)** PFFY Floor-mounted Indoor Units
- ▶ **(13)** CMB Branch Circuit (BC) Controllers
- ▶ **(2)** GB-50A Centralized Controllers