



ENERGY-INTELLIGENT™ HEATING AND COOLING SYSTEMS



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10 YEARS  
OF **VRV**  
IN

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**NORTH  
AMERICA**

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**LARGEST**  
MANUFACTURER  
OF HVAC PRODUCTS &  
REFRIGERANTS IN THE WORLD

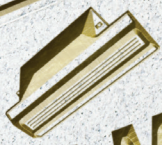


**#1** RANKING IN  
GLOBAL AIR  
CONDITIONING SALES



PRODUCES PRODUCTS IN OVER  
**70 COUNTRIES**  
SALES IN OVER 140

**THE FIRST**  
VRV SYSTEM  
WAS INVENTED BY  
**DAIKIN IN 1982**





# The Daikin VRV Revolution is Everywhere in North America!



*Daikin is celebrating the 10-year anniversary of VRV in North America. Daikin VRV has been installed in over 10,000 buildings representing more than 100 million square feet of floor space!*

## What does Daikin do?

Daikin doesn't make phones, TV's, cars, microwaves or refrigerators. Daikin is primarily engaged in developing indoor comfort products, systems and refrigeration products for residential, commercial and industrial applications. Its consistent success is derived, in part, from a focus on innovative, energy-efficient and premium quality indoor climate and comfort management solutions.

## Daikin is a Global Leader

Becoming a global leader in any industry takes more than just time. For over 90 years Daikin has shown that it takes industry-leading product innovation and a commitment to excellence in order to climb to the top. This commitment led Daikin to develop the first Variable Refrigerant Volume (VRV) system in 1982 and to become a pioneer in many markets.



## What is a Daikin VRV Pro Contractor?

A Daikin VRV Pro Contractor receives focused training and support to establish himself as the expert when designing and installing Daikin's VRV system.



## Daikin is Committed to the North America market

- Daikin acquired Goodman Manufacturing in 2012 for \$3.7B – Goodman Manufacturing is one of the leading unitary equipment manufacturers with an extensive HVAC distribution network in North America
- Daikin's new \$417 million campus near Houston, TX will become one of the most technologically advanced HVAC manufacturing facilities in the country with all corporate functions, product development, engineering, production, service and support centralized in a single location
- Extensive local inventory commitments and local manufacturing for improved productivity and delivery lead times compared to other import only manufacturers
- Numerous technology leading solutions in the North American market with VRV's product portfolio
- Development of a manufacturer's representatives and distributors network dedicated to VRV business development and support regionally

## Local Support Systems

- Daikin City – A centralized support system providing access to all the necessary tools for the successful development of our local manufacturers representatives and distributors
- Daikin VRV Pro – A network of contractors specializing in the installation of VRV Products with access to training tools and dedicated support
- Daikin University – An industry leading resource for extensive online, classroom and hands-on training



## A Growing History of Excellence and Innovation with VRV in North America

CUMULATIVE DAIKIN VRV INSTALL BASE (x 1,000)



### VRV INDUSTRY MILESTONES

DOE issues waiver recognizing unique characteristics of VRF systems

ASHRAE includes VRF systems in ASHRAE 90.1 - 2012

**AHRI**  
AHRI passes Standard 135  
First appropriate testing VRF and r

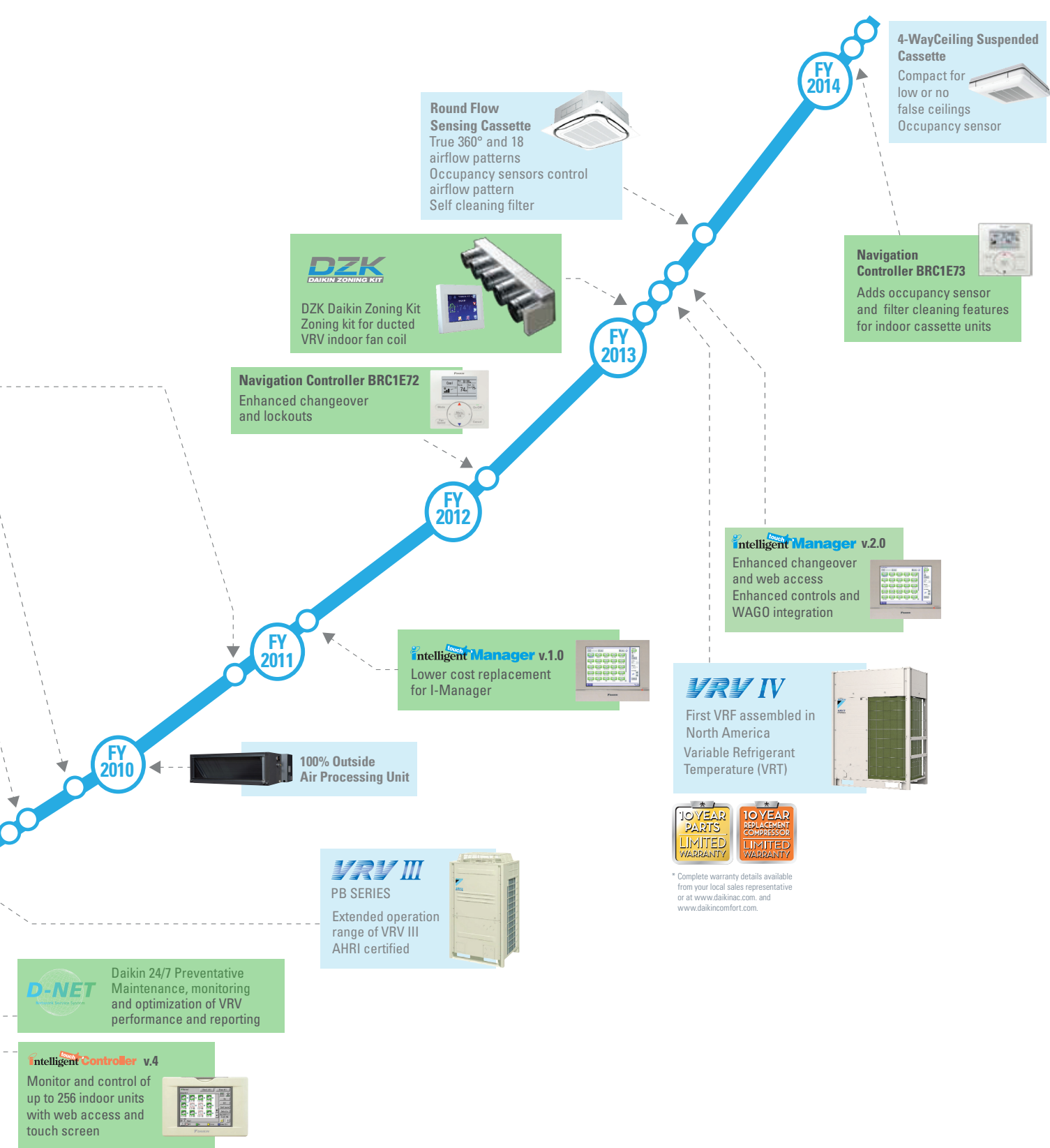
### COMPANY MILESTONES

Local support operations launched with DaikinAC (Americas), Inc.

Daikin industries acquire OYL group including








FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Standard 1230 standard for rating systems	AHRI passes VRF systems certification program, providing third party validation of VRF equipment performance	DOE incorporates AHRI standard 1230, ASHRAE 90.1  ASHRAE adds VRF chapter to ASHRAE systems handbook		

**Daikin Purchases Goodman®**  
 \$3.7b investment  
 Air Conditioning & Heating
















Local assembly of VRV IV condensing units  


**New Business Campus, Houston, TX Announced**  
 \$417m investment  
 4 million sq. ft.  


# TOTAL PROJECTS 2004-2014

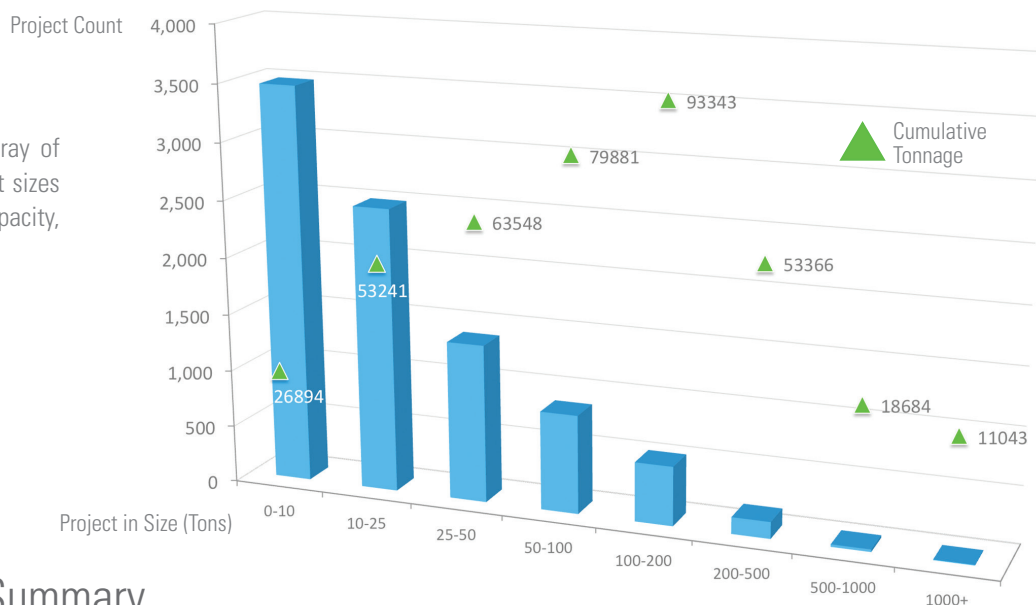
- A total of 10,000 projects completed
- More than 100 million sq. feet
- 60,000+ condensing units installed
- Exceeding 400,000 tons of VRV units

Daikin's VRV products and controls are designed to provide a flexible, scalable, total solution to any application.

VERTICAL MARKETS															
	PUBLIC BUILDINGS	AIRPORT	PUBLIC TRANSPORT	HOTELS	CHURCH	ASSISTED LIVING	RETAIL/STORES	BANK	RESTAURANT	SCHOOLS	MULTI-FAMILY HOUSING	OFFICES	HEALTHCARE	DORMS	DATA CENTERS
VRV															

▲ = Application to data center or equipment rooms is very common but adhering to some basic design and selection principles are important for optimum performance. Daikin VRV is designed and optimized as a comfort cooling and heating solution.

In addition to providing comfort to a wide array of applications, VRV has been utilized into project sizes from 3 Tons to 1,000+ tons due to its scalable capacity, and modular approach.



## Key Vertical Applications Summary

### SCHOOLS



- More than 2,000 schools
- Total of 12,000 VRV systems installed
- In excess of 26 million sq. feet
- More than 100,000 tons of VRV units

### COMMERCIAL



- More than 1,500 commercial spaces
- Total of 6,200 VRV systems installed
- In excess of 13.5 million sq. feet
- Exceeding 45,000 tons of VRV units

### RESIDENTIAL



- More than 1,600 residential buildings (including single family, condominiums and apartments)
- Total of 6,700 VRV systems installed
- In excess of 12 million sq. feet
- Exceeding 45,000 tons of VRV units

### GOVERNMENT



- More than 1,000 buildings
- Total of 3,300 VRV systems installed
- In excess of 8 million sq. feet
- Exceeding 26,000 tons of VRV units

### HOTELS



- More than 350 hotels
- Total of 2,300 VRV systems installed
- In excess of 5.3 million sq. feet
- Exceeding 18,000 tons of VRV units

### OFFICE



- More than 1,600 offices
- Total of 4,900 VRV systems installed
- In excess of 11 million sq. feet
- 36,000 tons of VRV units



# VRV is a modular, energy-intelligent™ and reliable solution in a flexible package



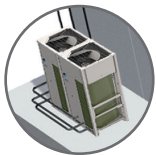
Daikin VRV is a modular, commercially applied air-conditioning and heating system that distributes refrigerant from the outdoor unit to multiple indoor units, providing efficiency, comfortable individual user control and reliability in one flexible package.

## Air cooled or water cooled?

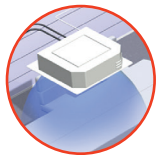
### Air cooled

- Fast and easy to install — no need for additional components
- Low maintenance costs
- Can be installed both outdoors and indoors
- Up to 38 tons capacity for one system

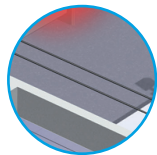
#### Components:



OUTDOOR UNIT



INDOOR UNIT



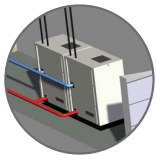
REFRIGERANT  
PIPING



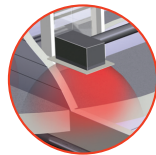
### Water cooled

- Suitable for multi-story and large buildings because of the almost unlimited possibilities of water piping
- Not affected by outdoor temperature/climate conditions

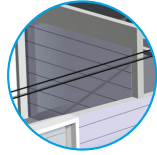
#### Components:



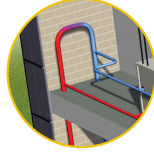
CONDENSING UNIT



INDOOR UNIT



REFRIGERANT PIPING



(GEOTHERMAL)  
WATER LOOP

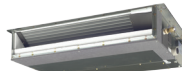


As many as 64 separate indoor units can be connected to a refrigerant circuit with a single outdoor unit of up to 38 tons capacity. The Daikin VRV indoor unit range is one of the widest on the market, offering no less than 11 stylish and elegant indoor unit types in 57 different models — all designed to maximize comfort, minimize operating sound and simplify installation and servicing.

### Ducted Concealed Units Options



FXMQ-PBVJU  
DC-Ducted Concealed Ceiling  
(Medium Static)



FXDQ-MVJU  
Slim Duct Built-In  
Concealed Ceiling Unit



FXTQ-PAVJU  
Vertical Air Handling Unit  
(Horizontal RHS is Possible)



FXMQ-MVJU  
Concealed Ceiling Unit  
(Medium Static)



FXNQ-MVJU9  
Concealed  
Floor-Standing Unit

### Ductless Units Options



FXFQ-TVJU  
Round Flow Sensing Cassette,  
Ceiling Mounted



FXUQ-PVJU  
4-Way Blow  
Ceiling-Suspended Cassette



FXZQ-MVJU9  
2' X 2' 4-Way  
Ceiling-Mounted Cassette



FXHQ-MVJU  
Ceiling-Suspended Unit



FXAQ-PVJU  
Wall-Mounted Unit



FXLQ-MVJU9  
Floor-Standing Unit

### Daikin: The Industry leader

**DAIKIN** Daikin Industries, Ltd. (DIL) is a global Fortune 1000 company which celebrated its 90th anniversary in May 2014. The company is recognized as the largest HVAC (Heating, Ventilating, Air Conditioning) manufacturer in the world. DIL is primarily engaged in developing indoor comfort products, systems and refrigeration products for residential, commercial and industrial applications. Its consistent success is derived, in part, from a focus on innovative, energy-efficient and premium quality indoor climate and comfort management solutions.

Before purchasing this appliance, read important information about its estimated annual energy consumption, yearly operating cost, or energy efficiency rating that is available from your retailer.

**Contact your local Daikin  
manufacturers representative or  
distributor for more information.**

