

# Replacement technology for installers



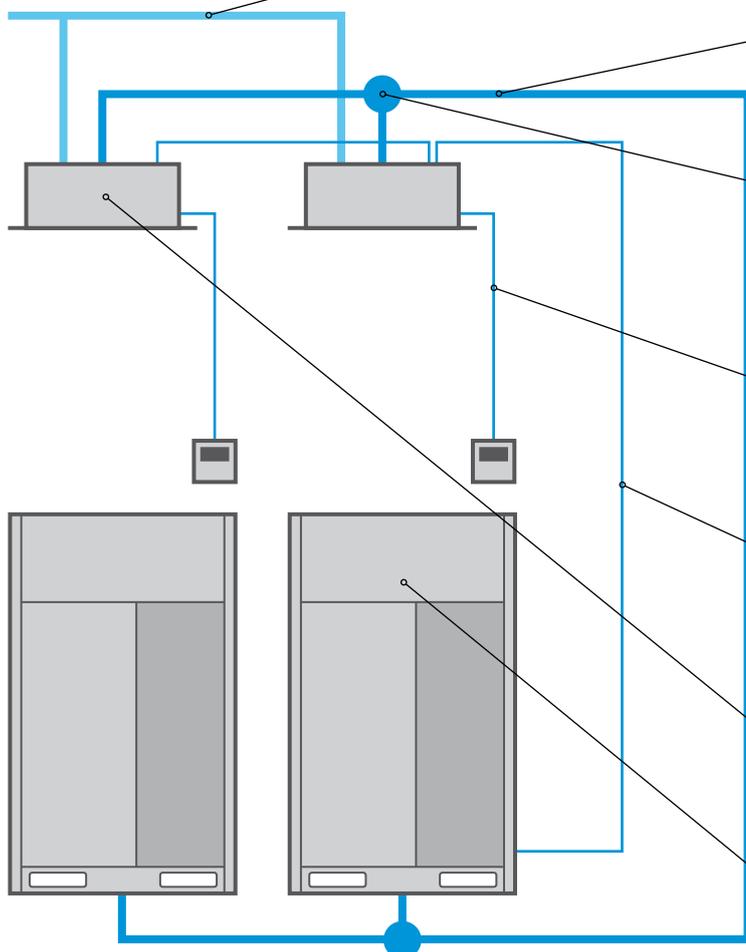
The quick and quality way of upgrading R-22 and R-407C systems

# The phase-out period for R-22 is over. Act now!

## R-22 ban in Europe

Service and maintenance with R-22 will be prohibited after January 1<sup>st</sup>, 2015, meaning repairs will be impossible to R-22 systems. Avoid unexpected downtime for your customers and replace these systems now!

### The Daikin low-cost upgrade solution



#### ✓ Reuse drain pipes

Durable PVC pipes can be easily reused. Only flow tests are required.

#### ✓ Reuse refrigerant pipes

Pipes used for R-22 will also work with VRV-Q, thanks to lower operating pressures of the system.

#### ✓ Reuse refrigerant branch pipes

There are no restrictions when upgrading from a Daikin VRV system. Other VRF systems require branch pipes to withstand pressure up to 3.3 MPa.

#### ✓ Reuse remote control wiring

Reuse wiring when upgrading from a Daikin VRV system. In other cases, this will depend on the cable type.

#### ✓ Reuse indoor-outdoor wiring

Restrictions: see remote control wiring.

#### Only replace:

#### ! Indoor units and BS boxes

Contact your local dealer to check compatibility in case you need to keep the indoor units.

#### ! Outdoor units

# Success stories

## with VRV-Q

### Palace of Westminster, United Kingdom

#### Why VRV-Q?

"VRV-Q offers a replacement option with the unique ability to reduce operating pressures of R-410A down to R-22 levels, keeping the R-410A performance."

**Mick Langford (All Seasons Climate Control, Daikin D1 dealer)**

- › More than 35% energy savings
- › Over 6 tonnes less CO<sub>2</sub> per year
- › Year of installation: 2012
- › Installed units: 3 VRV-Q outdoor units, 13 indoor units
- › Replacement of competitor system



### Torre Serenissima office tower, Italy

#### Why VRV-Q?

"The complete replacement of the 17-years-old R-22 system resulted in only a half-day of missed work for employees. The improved control of the air flow by the user significantly enhanced comfort, while reducing energy consumption by 25%."

**Maurizio Casarola (Property Manager)**

- › 25% energy savings
- › Year of installation: 2013
- › Installed units: 39 VRV-Q outdoor units, 250 indoor units, 35 VAM 500, 4 intelligent Touch Controllers
- › Full installation done during weekends



### Hotel Le Pignonnet, France

#### Why VRV-Q?

Refurbishment of the existing VRV system of a luxury 5 star hotel to anticipate R-22 phase out, while preserving interior decoration.

- › Year of installation: 2011
- › Installed units: 8 VRV-Q outdoor units, 36 indoor units



# These benefits will convince your customer

## Always operational

### Avoid loss of business

Replacing now prevents unplanned, lengthy downtime of air conditioning systems. It also avoids loss of business for shops, complaints from guests in hotels, lower working efficiency and loss of tenants in offices.

### Quick and easy installation

No interruption of daily business while replacing the system thanks to phased-in, fast installation.

## A future-proof, high-quality solution

Customers can cost effectively replace systems from other manufacturers with highly-efficient and flexible Daikin VRV technology, featuring higher quality, enhanced comfort and superior indoor units.



- > 360° air discharge
- > Optional presence sensor and floor sensor
- > Optional auto cleaning filter

## Smaller footprint, more performance

Thanks to a smaller footprint, Daikin outdoor units save space. Also, more indoor units can be connected to the new outdoor unit compared to the old system, allowing to increase capacity.

## A cost saving decision

### Less investment

System upgrades cost less, because only the outdoor and indoor units need to be replaced. This is also the easiest and fastest way to comply with EPDB regulations for buildings.

### Environment protection

Improved efficiency saves energy and lowers CO<sub>2</sub> emissions.

### Lower long-term costs

EU Directives prohibit system repairs with R-22 after January 1<sup>st</sup>, 2015. Delaying the required R-22 replacement until an unplanned system breakdown is a losing game. Replacement day will come. Installing a technically advanced system lowers energy consumption and maintenance costs from day one.

## Up to 48% less consumption

EER / COP	8HP	10HP
RXYQQ-T (R-410A)	4.30 / 4.54	3.84 / 4.45
RSXYP-L7 (R-407C)	3.10 / 3.14	3.10 / 3.10
RSXY-KA7 (R-22)	2.37 / 2.95	2.37 / 3.00



# VRV-Q benefits to increase your profit

## Optimise your business

### Less installation time

Tackle more projects in less time thanks to faster installation. VRV-Q is more profitable than replacing the full system with new piping.

### Lower installation costs

Reducing installation costs enables you to offer customers the most cost-effective solution and improve your competitive edge.

### Replace non-Daikin systems

VRV-Q is a trouble-free replacement solution for Daikin systems and for VRF systems made by other manufacturers, enabling you to enlarge your customer base.

### Easy as one-two-three

A simple solution: Daikin VRV-Q enables you to handle more projects for more customers in less time and offer them the best price! Everybody gains.

## Compare installation steps

### Conventional solution

- 1 Recover refrigerant
- 2 Remove units
- 3 Remove refrigerant pipes
- 4 Install new piping and wiring
- 5 Install new units
- 6 Leak test
- 7 Vacuum drying
- 8 Refrigerant charging
- 9 Collect contamination
- 10 Test operation

### VRV-Q

- 1 Recover refrigerant
  - 2 Remove units
- Re-use existing piping and wiring
- 3 Install new units
  - 4 Leak test
  - 5 Vacuum drying
- 6 Automatic refrigerant charging, cleaning and testing



Up to 45% shorter installation time

## Automatic refrigerant charge

The unique automatic refrigerant charge eliminates the need to calculate refrigerant volume and ensures that the system will operate perfectly. Not knowing the exact piping lengths because of changes or mistakes in case you didn't do the original installation or replacing a competitor installation no longer poses a problem.

## Automatic pipe cleaning

There is no need to clean inside piping as this is handled automatically by the VRV-Q unit. Finally the test operation is performed automatically to save time.



### One touch convenience:

- › Measure and charge refrigerant
- › Automatic pipe cleaning
- › Test operation

# Key guidelines

## for a quality replacement with VRV-Q

### Refrigerant branch pipes

Refrigerant branch pipes, including those from other manufacturers, Y-refnets, T-refnets and headers can be reused under the following conditions:

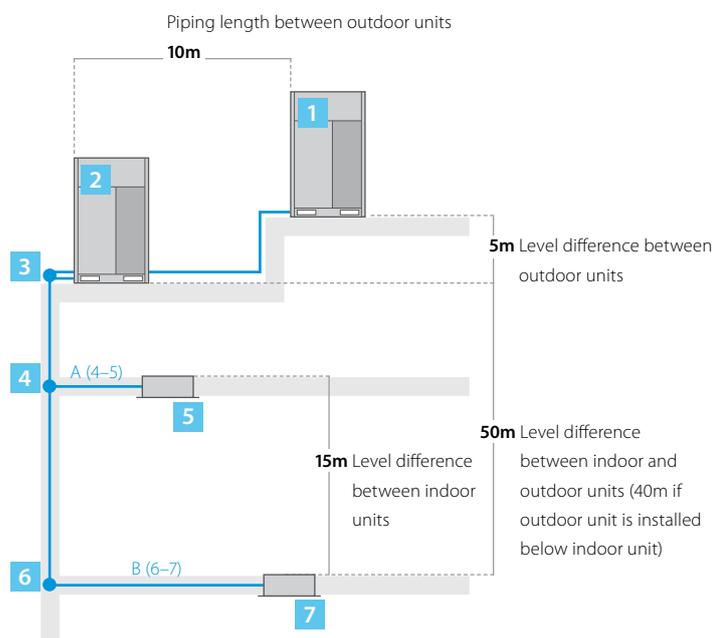
- ✓ Pipes are corrosion-free
- ✓ Pipes are insulated
- ✓ Pipes can withstand a pressure up to 3.3 MPa
- ✓ There are no special components that implement decompression (e.g. oil trap)
- ✓ Installed copper pipework is in suitable condition (piping thickness will generally meet specifications, since the unique Daikin VRV solution operates at lower pressure levels)

### Refrigerant oil

Refrigerant piping can be reused if one of the following oils was used: Barrel Freeze, Ethereal, Ester, Ferreol, HAB, MS, Suniso.

### Maximum piping lengths and level distances

VRV-Q can be installed for piping systems with a total length up to 300m. See the illustration below for further requirements.



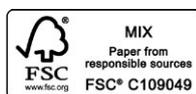
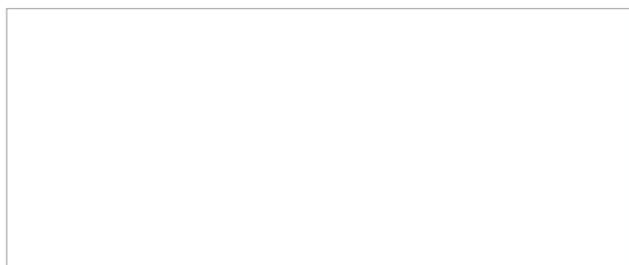
Total piping length: **300m**  
 Longest piping length (1-7) actual/equivalent: **120m / 150m**  
 Maximum difference between shortest (A) and longest (B) branch: **40m**



Download the detailed data book and replacement VRV comparator tool from our extranet to calculate operating costs.

If you have questions or require further information, please contact your local sales specialist for expert support.

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