Variable Refrigerant Volume

Air-Cooled DX Multizone System

- 460V Three phase power supply
- Advanced zoning capabilities
- Can operate up to 41 indoor fan coil units
- Excellent part load performance
- Autocharging function
- Refrigerant charge check function
- Continuous heating during defrost operation
- Longest pipe lengths in product class
VRV III - one step further into the revolution

Daikin’s new VRV III system is the 7th generation of the original Daikin VRV® launched in 1982. Completely re-engineered to realize opportunities for VRV in taller / larger buildings, it utilizes the latest advances in refrigeration and air-conditioning technology. The totally new Daikin Inverter compressor system delivers improved efficiency and performance, while ensuring satisfaction of demands throughout connected zones across the complete operation cycle. With a choice of 460V/3P/60Hz or 208-230V/3P/60Hz (available June 2008), the Heat Pump or Heat Recovery configurations power up to 20-Ton capacity from a single piping network. The system also allows up to 41 indoor fan coil units, a 200% connection index, and integrated controls, with BMS options and piping limitations never before seen with a DX system. The new Daikin VRV III pushes the limits to deliver advanced solutions and even more flexibility for your engineered and design-build projects.

<table>
<thead>
<tr>
<th>Specification</th>
<th>VRV</th>
<th>VRV III</th>
<th>Improvement</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Largest single module</td>
<td>8-Ton</td>
<td>16-Ton</td>
<td>50%</td>
<td>Space saving, improved competitiveness</td>
</tr>
<tr>
<td>Largest single system</td>
<td>16-Ton</td>
<td>20-Ton</td>
<td>25%</td>
<td>Minimizing total number of systems</td>
</tr>
<tr>
<td>Power supply</td>
<td>208-230V</td>
<td>208-230V &amp; 460V</td>
<td>Choice</td>
<td>Match the requirements of the building</td>
</tr>
<tr>
<td>Electrical safety</td>
<td>50/60Hz, 10A</td>
<td>20A</td>
<td>50%</td>
<td>Reduction of electrical installation requirements</td>
</tr>
<tr>
<td>Combination ratio</td>
<td>Up to 100%</td>
<td>Up to 200%</td>
<td>50%</td>
<td>Greater application flexibility</td>
</tr>
<tr>
<td>Maximum number of indoor units</td>
<td>Up to 24</td>
<td>Up to 41</td>
<td>160%</td>
<td>Greater application flexibility</td>
</tr>
<tr>
<td>Refrigerant charge (8-Ton heat pump)</td>
<td>25.1 lbs</td>
<td>19.8 lbs</td>
<td>21%</td>
<td>Reduction of environmental impact</td>
</tr>
<tr>
<td>Actual pipe length</td>
<td>492 ft</td>
<td>540 ft</td>
<td>10%</td>
<td>Greater application flexibility</td>
</tr>
<tr>
<td>Total pipe length</td>
<td>100 ft</td>
<td>3280 ft</td>
<td>328%</td>
<td>Greater application flexibility</td>
</tr>
<tr>
<td>From the first REF to furthest indoor unit</td>
<td>180 ft</td>
<td>295 ft</td>
<td>65%</td>
<td>Greater application flexibility</td>
</tr>
<tr>
<td>Height separation</td>
<td>164 ft</td>
<td>295 ft</td>
<td>80%</td>
<td>Coverage of taller, larger building</td>
</tr>
<tr>
<td>Outdoor unit fan (ESP)</td>
<td>0.24</td>
<td>0.32</td>
<td>33%</td>
<td>Easier integration for plant room solutions, less chance of discharge air short circuiting</td>
</tr>
<tr>
<td>Unit footprint (8-Ton heat pump)</td>
<td>10.22sq ft</td>
<td>7.66sq ft</td>
<td>25%</td>
<td>Space savings for easier location of condensing units</td>
</tr>
<tr>
<td>Unit footprint (16-Ton heat recovery)</td>
<td>20.45sq ft</td>
<td>15.32sq ft</td>
<td>25%</td>
<td>Space savings for easier location of condensing units</td>
</tr>
<tr>
<td>Weight (8-Ton heat pump)</td>
<td>666 lbs</td>
<td>582 lbs</td>
<td>13%</td>
<td>Easy transportation, reduced shipping costs</td>
</tr>
</tbody>
</table>

**VRV III Features & Benefits**

- **Voltage Platform & Operation Choice**
  - 460V 3-phase 6, 8, 10-Ton, single cabinet / 12, 14, 16, 18 and 20-Ton manifolded cabinet condensing units available for commercial applications.
  - 208-230V 3-phase 6, 8, 10, and 12-Ton single cabinet & 14, 16, 18 and 20-Ton manifolded cabinet condensing units available for commercial and light commercial applications (available June 2008).
- **Advanced Zoning**
  - Individual zones can be provided for up to 64 zones on a single VRV III system.
- **Independent Control**
  - Each fan coil unit uses a dedicated electronic expansion valve for superior room temperature control, meaning individual control in all necessary zones.
- **Absolute Reliability**
  - The latest G-Type Daikin designed & manufactured inverter scroll compressor delivers excellent performance and reliability.
- **VFD Inverter Capacity Control**
  - The largest compressor capacity is modulated automatically to maintain a constant suction pressure, while varying the refrigerant volume to the deliver precisely the needs of the cooling or heating loads.
  - Indoor fan coil units use P.I.D. control to control superheat and maintain the temperature in the occupied space as close as ±1°F of the setpoint temperature.
- **Optimized R-410A Design**
  - This 7th generation VRV system has been completely overhauled and redesigned for use with R-410A & the very latest refrigeration, fan, motor and compressor technology.
- **Flexible Design**
  - The longest refrigerant lines in the industry - up to 540ft (620ft equivalent) linear piping between condensing unit and furthest located fan coil unit.
  - The longest refrigerant lines in the industry - up to 3280ft total “one-way” piping in the complete piping network.
  - The largest vertical (height) separation in the industry - up to 295ft between the condensing unit and the fan coil units is permitted.
  - Connection diversity can be applied up to 100% of the indoor fan coil unit capacity to outdoor condensing unit nominal capacity.
  - Modular condensing units can be installed, phase by phase or floor by floor all around the building perimeter offering a decentralized alternative to traditional centralized plant equipment.
  - Plant room installation condensing units supported with fan / fan motor ESP up to 0.32” WG as standard allowing connection of discharge ductwork and preventing discharge air short circuiting.
  - Continuous operation at 0˚F DB (~ 64°F WB) ~ 64°F DB (~ 110°F WB) (60°F WB) in heating mode and 23°F DB ~ 110°F DB in cooling mode.
- **Indoor Units**
  - A full array of ducted and duct-free style fan coil units, including the FXOQ vertical air handler & NEW FXZQ 2x2 multi flow ceiling cassette are available to meet the demands of any application.
  - Capacity range covers 0.6 (7.5MBH) to 4 (48MBH) single cabinet /12, 14, 16, 18 and 20-Ton manifolded cabinet condensing units available for commercial applications.
- **Simple Wiring**
  - Daisy chain control wiring, 2 wire, multi stranded, non-shielded and non polarized for simple error free installations.
- **Energy Efficiency**
  - Excellent part load system performance delivering maximum comfort for minimal power consumption on the complete application temperature range.
  - Equivalent or better performance than levels associated with high efficiency air cooled & water cooled chiller systems.
- **Outside Air**
  - Outside air capability with ducted fan coils and duct-free cassette units.
- **Space Saving**
  - With a condensing unit module footprint as small as 3’ 5/8” x 2’ 6/18” (7.66sq ft) location and installation of VRV III is simple to realize.
- **Advanced Diagnostics**
  - The advanced, self-diagnostic, auto-check function will detect a malfunction and immediately display the type and location so it can be resolved quickly and effectively.
- **Advanced Controls**
  - Zone LCD remote controller for up to 16 zones which provides a host of operational functions, including 7-day programmability.
  - Connects to the full suite of advanced Daikin control solutions including i-Touch Controller and I-Manager.
  - Can be integrated to open protocol building management systems via the Daikin BACnet and LonWorks Gateways.
- **Low Sound Levels**
  - Indoor and outdoor units offer quiet operation. FXOQ indoor unit has a sound pressure level as low as 25dBA.
### A wide variety of ducted and duct-free indoor fan coil units

#### INDOOR UNITS - FXSQ Concealed Ceiling Unit

**Model**
- FXSQ09MVJU
- FXSQ12MVJU
- FXSQ18MVJU
- FXSQ24MVJU
- FXSQ30MVJU

**Cooling Capacity**
- 12,000 Btu/h

**Heating Capacity**
- 12,000 Btu/h

**Sound Pressure Level H/L**
- 41.9 dB(A) / 44.0 dB(A)

**Airflow H/L**
- 280/226 cfm

**Weight**
- 69 lbs

**Dimensions (H x W x D)**
- 21 1/4 x 33 7/8 x 33 7/8 in.

#### INDOOR UNITS - FAMQ Concealed Ceiling Unit (medium static)

**Model**
- FXMQ30MVJU
- FXMQ48MVJU

**Cooling Capacity**
- 30,000 Btu/h

**Heating Capacity**
- 30,000 Btu/h

**Sound Pressure Level H/L**
- 950/740 dB(A) / 80 dB(A)

**Weight**
- 99 lbs

**Dimensions (H x W x D)**
- 24 3/8 x 41 3/8 x 9 in.

#### INDOOR UNITS - FXDQ Slim Ducted Concealed Ceiling Unit

**Model**
- FXDQ09MVJU
- FXDQ12MVJU
- FXDQ18MVJU
- FXDQ24MVJU

**Cooling Capacity**
- 12,000 Btu/h

**Heating Capacity**
- 12,000 Btu/h

**Sound Pressure Level H/L**
- 40/35 dB(A) / 36/32 dB(A)

**Weight**
- 66 lbs

**Dimensions (H x W x D)**
- 23 5/8 x 55 7/8 x 8 3/4 in.

#### INDOOR UNITS - FXOQ Vertical Air Handling Unit (FXOQ42MVJU model also available)

**Model**
- FXOQ12MVJU
- FXOQ18MVJU
- FXOQ24MVJU
- FXOQ30MVJU
- FXOQ42MVJU

**Cooling Capacity**
- 41.9 dB(A) / 40,000 Btu/h

**Heating Capacity**
- 41.9 kBtu/h

**Sound Pressure Level H/L**
- 990/740 dB(A) / 66 (11)

**Weight**
- 20,000 lbs

**Dimensions (H x W x D)**
- 34 3/8 x 43 3/4 x 27 1/8 in.

#### INDOOR UNITS - FXDQ 4 Way Ceiling Mounted Cassette Unit (3 X 3)

**Model**
- FXDQ09MVJU
- FXDQ12MVJU
- FXDQ18MVJU
- FXDQ24MVJU

**Cooling Capacity**
- 12,000 Btu/h

**Heating Capacity**
- 12,000 Btu/h

**Sound Pressure Level H/L**
- 33/29 dB(A) / 41.9 dB(A)

**Weight**
- 41.9 lbs

**Dimensions (H x W x D)**
- 11 3/8 x 33 1/8 x 33 1/8 in.

#### INDOOR UNITS - FXHQ Ceiling Suspended Cassette Unit

**Model**
- FXH12MVJU
- FXH18MVJU
- FXH24MVJU

**Cooling Capacity**
- 12,000 Btu/h

**Heating Capacity**
- 12,000 Btu/h

**Sound Pressure Level H/L**
- 99/73 dB(A) / 34/31 dB(A)

**Weight**
- 73 lbs

**Dimensions (H x W x D)**
- 23 5/8 x 27 9/16 x 27 9/16 in.

#### INDOOR UNITS - FXLQ Floor Console Unit

**Model**
- FXLQ12MVJU
- FXLQ18MVJU
- FXLQ24MVJU
- FXLQ30MVJU

**Cooling Capacity**
- 12,000 Btu/h

**Heating Capacity**
- 13,500 Btu/h

**Sound Pressure Level H/L**
- 80 dB(A) / 490/370 dB(A)

**Weight**
- 99 lbs

**Dimensions (H x W x D)**
- 12,000 lbs

#### INDOOR UNITS - FXZQ 4 Way Ceiling Mounted Cassette Unit (2'x2') *Available in April 2008*

**Model**
- FXZQ09M7VJU
- FXZQ09M7VJU
- FXZQ12MVJU
- FXZQ12MVJU
- FXZQ18MVJU
- FXZQ18MVJU
- FXZQ24MVJU
- FXZQ24MVJU
- FXZQ30MVJU
- FXZQ30MVJU

**Cooling Capacity**
- 12,000 Btu/h

**Heating Capacity**
- 13,500 Btu/h

**Sound Pressure Level H/L**
- 36/32 dB(A) / 39/34 dB(A)

**Weight**
- 68 lbs

**Dimensions (H x W x D)**
- 23 5/8 x 27 9/16 x 27 9/16 in.

#### INDOOR UNITS - FXIQ Wall Mounted Unit

**Model**
- FXIQ09MVJU
- FXIQ12MVJU
- FXIQ18MVJU
- FXIQ24MVJU

**Cooling Capacity**
- 12,000 Btu/h

**Heating Capacity**
- 13,500 Btu/h

**Sound Pressure Level H/L**
- 40/33 dB(A) / 36/33 dB(A)

**Weight**
- 31 lbs

**Dimensions (H x W x D)**
- 31 in.

#### INDOOR UNITS - FXFQ Floor Console Unit

**Model**
- FXFQ09MVJU
- FXFQ12MVJU
- FXFQ18MVJU
- FXFQ24MVJU

**Cooling Capacity**
- 12,000 Btu/h

**Heating Capacity**
- 13,500 Btu/h

**Sound Pressure Level H/L**
- 20/15 dB(A) / 49/38 dB(A)

**Weight**
- 73 lbs

**Dimensions (H x W x D)**
- 24 3/8 x 8 x 8 5/8 in.

#### Branch Selector : BSVQ (for use with RXYQ...PETF...RXYQ...PTJU)

**Model**
- BSVQ16PVJU
- BSVQ16PVJU

**Supply**
- 1 phase 208 230V 60Hz

**Dimensions (H x W x D)**
- 3 1/16 x 15 5/16 x 12 7/8 in.

**Mass**
- 31 lbs

**Piping Connections**
- Indoor Unit
  - Liquid in.
  - Gas in.
- Outdoor Unit
  - Liquid in.
  - Gas in.

**Notes:**
1. at 5 ft below suction grill of unit
2. at 5 ft below the unit
3. at 3.3 ft below and from the unit
4. measured at 5 ft away, 5 ft high
### OUTDOOR UNITS - 460V Heat Pump

<table>
<thead>
<tr>
<th>Model</th>
<th>6 Ton</th>
<th>8 Ton</th>
<th>10 Ton</th>
<th>12 Ton</th>
<th>14 Ton</th>
<th>16 Ton</th>
<th>18 Ton</th>
<th>20 Ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>RXYQ72PYDN</td>
<td>RXYQ86PYDN</td>
<td>RXYQ120PYDN</td>
<td>RXYQ144PYDN</td>
<td>RXYQ168PYDN</td>
<td>RXYQ192PYDN</td>
<td>RXYQ216PYDN</td>
<td>RXYQ240PYDN</td>
</tr>
<tr>
<td>Combination</td>
<td>2x REMQ72PYDN</td>
<td>1x RXYQ72PYDN + 1x REMQ72PYDN</td>
<td>1x RXYQ72PYDN + 1x REMQ72PYDN</td>
<td>1x RXYQ72PYDN + 1x REMQ72PYDN</td>
<td>1x RXYQ72PYDN + 1x REMQ72PYDN</td>
<td>1x RXYQ72PYDN + 1x REMQ72PYDN</td>
<td>1x RXYQ72PYDN + 1x REMQ72PYDN</td>
<td>1x RXYQ72PYDN + 1x REMQ72PYDN</td>
</tr>
<tr>
<td>Cooling Capacity (kBtu/h)</td>
<td>72,000</td>
<td>96,000</td>
<td>120,000</td>
<td>144,000</td>
<td>168,000</td>
<td>192,000</td>
<td>216,000</td>
<td>240,000</td>
</tr>
<tr>
<td>Heating Capacity (kBtu/h)</td>
<td>65,000</td>
<td>83,000</td>
<td>100,000</td>
<td>118,000</td>
<td>135,000</td>
<td>152,000</td>
<td>170,000</td>
<td>188,000</td>
</tr>
<tr>
<td>Actual Pipe Length</td>
<td>ft.</td>
<td>295</td>
<td>295</td>
<td>295</td>
<td>295</td>
<td>295</td>
<td>295</td>
<td>295</td>
</tr>
<tr>
<td>Actual Pipe Length (Equivalent Length)</td>
<td>ft.</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Compressor Type</td>
<td>1x Daikin Scroll</td>
<td>2x Daikin Scroll</td>
<td>2x Daikin Scroll</td>
<td>2x Daikin Scroll</td>
<td>3x Daikin Scroll</td>
<td>3x Daikin Scroll</td>
<td>4x Daikin Scroll</td>
<td>4x Daikin Scroll</td>
</tr>
<tr>
<td>Compressor Capacity Control</td>
<td>1x Inverter</td>
<td>1 Inverter + 1 Fixed</td>
<td>1 Inverter + 1 Fixed</td>
<td>1 Inverter + 2 Fixed</td>
<td>1 Inverter + 2 Fixed</td>
<td>1 Inverter + 2 Fixed</td>
<td>1 Inverter + 2 Fixed</td>
<td>1 Inverter + 2 Fixed</td>
</tr>
<tr>
<td>Number of Indoor Units</td>
<td>20 - 100</td>
<td>10 - 100</td>
<td>10 - 100</td>
<td>10 - 100</td>
<td>10 - 100</td>
<td>10 - 100</td>
<td>10 - 100</td>
<td>10 - 100</td>
</tr>
<tr>
<td>Total Pipe Length</td>
<td>ft.</td>
<td>3280</td>
<td>3280</td>
<td>3280</td>
<td>3280</td>
<td>3280</td>
<td>3280</td>
<td>3280</td>
</tr>
</tbody>
</table>

Note: 208-230V / 3-Phase VRV III will be available from June 2008. VRV 208-230V / 3-Phase is also available.

### OUTDOOR UNITS - 460V Heat Recovery

<table>
<thead>
<tr>
<th>Model</th>
<th>6 Ton</th>
<th>8 Ton</th>
<th>10 Ton</th>
<th>12 Ton</th>
<th>14 Ton</th>
<th>16 Ton</th>
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<th>20 Ton</th>
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<tbody>
<tr>
<td>Name</td>
<td>RXYQ72PYDN</td>
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<td>RXYQ144PYDN</td>
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<td>RXYQ216PYDN</td>
<td>RXYQ240PYDN</td>
</tr>
<tr>
<td>Combination</td>
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<td>1x RXYQ72PYDN + 1x REMQ72PYDN</td>
<td>1x RXYQ72PYDN + 1x REMQ72PYDN</td>
</tr>
<tr>
<td>Cooling Capacity (kBtu/h)</td>
<td>72,000</td>
<td>96,000</td>
<td>120,000</td>
<td>144,000</td>
<td>168,000</td>
<td>192,000</td>
<td>216,000</td>
<td>240,000</td>
</tr>
<tr>
<td>Heating Capacity (kBtu/h)</td>
<td>65,000</td>
<td>83,000</td>
<td>100,000</td>
<td>118,000</td>
<td>135,000</td>
<td>152,000</td>
<td>170,000</td>
<td>188,000</td>
</tr>
<tr>
<td>Actual Pipe Length</td>
<td>ft.</td>
<td>295</td>
<td>295</td>
<td>295</td>
<td>295</td>
<td>295</td>
<td>295</td>
<td>295</td>
</tr>
<tr>
<td>Actual Pipe Length (Equivalent Length)</td>
<td>ft.</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Compressor Type</td>
<td>1x Daikin Scroll</td>
<td>2x Daikin Scroll</td>
<td>2x Daikin Scroll</td>
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<td>4x Daikin Scroll</td>
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<tr>
<td>Compressor Capacity Control</td>
<td>1x Inverter</td>
<td>1 Inverter + 1 Fixed</td>
<td>1 Inverter + 1 Fixed</td>
<td>1 Inverter + 2 Fixed</td>
<td>1 Inverter + 2 Fixed</td>
<td>1 Inverter + 2 Fixed</td>
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</tr>
<tr>
<td>Number of Indoor Units</td>
<td>20 - 100</td>
<td>10 - 100</td>
<td>10 - 100</td>
<td>10 - 100</td>
<td>10 - 100</td>
<td>10 - 100</td>
<td>10 - 100</td>
<td>10 - 100</td>
</tr>
<tr>
<td>Total Pipe Length</td>
<td>ft.</td>
<td>3280</td>
<td>3280</td>
<td>3280</td>
<td>3280</td>
<td>3280</td>
<td>3280</td>
<td>3280</td>
</tr>
</tbody>
</table>

Note: 208-230V / 3-Phase VRV III will be available from June 2008. VRV 208-230V / 3-Phase is also available.

### Individual Zone Controllers

- **LowWorks® NETWORKS COMPATIBLE GATEWAY**
  - Interface for connection to LowWorks networks
  - Communication via LON® protocol (twisted pair wire)
  - 64 units connectable per DMS-IF
  - Unlimited site size
  - Quick, easy installation

### INTEGRATED CONTROL SYSTEM CONNECTING VRV SYSTEM WITH BMS SYSTEM

- Interface for BMS system
- Communication via BACnet® protocol (connection via ethernet)
- 256 units connectable per BACnet gateway with optional expander board
- Unlimited site size
- Quick, easy installation

Daikin’s products are subject to continuous improvements. Daikin reserves the right to modify product design, specifications and information in this brochure without notice and without incurring any obligations.

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