Carrier AquaFlow™
Variable Water Volume (VWV) System

THE BEST OF BOTH WORLDS

AQUAFlow™

VWV system

R410A | Inverter
Carrier AquaFlow™
Variable Water Volume (VWV) System
THE BEST OF BOTH WORLDS
Carrier’s innovative AquaFlow™ VWV System combines the benefits of conventional hydronic and VRF systems, providing superior indoor comfort and energy efficiency.

The AquaFlow™ VWV System includes modular outdoor air-cooled chiller and heat pump unit with self adaptive technology to control the variable refrigerant evaporating temperature*, low-noise fan-coil unit, heat recovery fresh air handling unit, inverter hydronic kit, networked indoor thermostat, and intelligent system manager.

Single system capacity: 25kW - 320kW

*Self adaptive variable water temperature / Self adaptive variable refrigerant evaporating temperature
### Carrier AquaFlow™ VWV System

- **Expanding the benefits of conventional hydronic systems**
  - Flexible Design
    - Max. indoor unit (IDU) / outdoor unit connectivity: 200%
    - Max. pipe length: 400m
    - Max. IDU / IDU height difference: 100m
  - Indoor Comfort
    - Temp control +/- 0.5°C, humidity detect +/- 5%
    - Non-stop heating in winter defrosting (multiple outdoor unit system)
    - No-risk of indoor refrigerant leakage
  - Easy Installation and Maintenance
    - Lift transport, pipe connection only
    - System centralized control
    - Energy metering and BA connection
  - Cost Savings
    - 45% higher system IPLV vs. conventional hydronic system
    - 50% higher system IPLV vs. VRF
    - Self adaptive variable water temperature / Self adaptive variable refrigerant evaporating temperature
    - Energy efficiency: grade 1 (China GB)
    - No cooling/heating capacity loss in long pipes
    - Outdoor unit optimized 10-20%**
    - Self adaptive variable water flow
    - 100% fresh air effect, 25% fresh air operation cost

- **Applications**
  - Villas
  - Shopping malls
  - Office buildings
  - Hotels

### Conventional hydronic system

- Case by case design on job basis
- Lift transport, pipe connection only
- System centralized control
- Extra hardware & software needed

### Conventional VRF

- Case by case design on job basis
- Lift transport and refrigerant pipe connect only
- System centralized control
- Extra hardware & software needed

### Comparisons

- **Expanding the benefits of conventional VRF**
- Max. indoor unit / outdoor unit connectivity: 130%
- Max. pipe length: 150m
- Max. IDU / IDU height difference: 50m
- IPLV is 40% lower than the VWV system
- Variable refrigerant flow
  - Energy efficiency: grade 1 (China GB)
  - Cooling capacity loss: 10% – 15% in long pipes

- **Indoor Comfort**
  - No humidity control function
  - No heating during winter defrosting
  - No risk of indoor refrigerant leakage

- **Easy Installation and Maintenance**
  - Lift transport and refrigerant pipe connect only
  - System centralized control
  - Extra hardware & software needed

- **Cost Savings**
  - IPLV is 10% lower than the VWV system
  - Variable refrigerant flow
    - Energy efficiency: grade 1 (China GB)
  - Cooling capacity loss: 10% – 15% in long pipes
  - Not applicable

- **Applications**
  - Villas
  - Shopping malls
  - Office buildings
  - Hotels

* Outdoor unit and hydronic module sited above the IDU
** Within the recommended pipe length range
Module outdoor unit
(Self-adaptive variable refrigerant evaporating temperature*)

4 models
(25kW, 30kW, 35kW, 40kW)

Single system capacity
25kW – 320kW

VFD hydronic kit
6 models

Compact ducted fan coil unit
13 models (1.9kW – 9.8kW)

Quiet ducted fan coil unit
13 models (1.9kW – 9.8kW)

4-way cassette fan coil unit
5 models (3.2kW – 8.7kW)

Hi-wall fan coil unit
4 models (1.98kW – 5.1kW)

Indoor thermostat
Networked thermostat with LCD display and touch keys

Heat recovery fresh air handling unit
9 models (1000CMH – 8000CMH)

*Self-adaptive variable water temperature / Self-adaptive variable refrigerant evaporating temperature
Turn to the Experts

Since Willis Carrier invented the first air-conditioning system in 1902, Carrier has been a technology pioneer and the preferred choice of customers around the globe, providing highly efficient chillers as well as central and airside air-conditioning units for household and commercial applications. As a unit of United Technologies Corp., Carrier is the world’s leading provider of heating, ventilation and air-conditioning (HVAC) and refrigeration equipment.

Preferred choice across the world

The Whitehouse, Washington
Imperial Palace, Tokyo
The Kremlin, Moscow
The Great Hall of the People, Beijing

We make the world a better place to live. We create comfortable, efficient, healthy, safe and secure environments, and ensure the global food supply is transported and preserved for safe consumption.

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