Air Flow: 540~1360 m³/h

Hydronic Cassette Fan Coil Units

42GWC

Air Flow: 540~1360 m³/h
Carrier China

Carrier Corporation is a subsidiary of the United Technologies Corp. (UTC), which ranks the 150th in Fortune Top 500 in 2011 and has its operations in aerospace and building systems industries all over the world. From the time the founder Dr. Carrier invented the first system of modern air conditioning in 1902, Carrier has been the world leader in the air conditioning industry with its products and system solutions supplied to numerous famous buildings, and up to now, the network of distribution cover more than 170 countries all over the world. In 2011, Carrier ranked top in the HVAC industry field with its sales revenue of US $12 billion.

In China, there are 6 Carrier factories which have more than 2500 employees. As the world-class factory, Carrier has a number of technically advanced production lines, manufacturing commercial and residential chillers, compressors and air-side products. A wide range of products are able to meet diversified requirements of different customers. The global R&D center located in Shanghai has the capability of developing several major projects in the same time, with many advanced technical patents awarded to support Carrier stay most competitive in terms of technology advantage in the HVAC industry.

Air Flow
540~1360 m³/h
Features

- It is a compact unit only 298mm in height. The four suspension brackets of the unit adopt the T shape opening, it can be installed up and fixed easily.
- Four-way air distribution gives individual comfort while for localized control each diffuser may be adjusted or even shut down completely.
- The unique design of centrifugal fan ensures the quiet running of the unit. This thoroughly eliminates the bothering throttle noise inside the room.
- High-performance condensate drain pump encased in a special sound-insulating material removes condensate quietly and fast.
- Return air enters the cassette unit through a large grille, cleaned by an easily removable, washable filter, and then keep the room air fresh through constant circulation.
- The Special design of the diffuser ensures rapid blending of the supply and room air.
- Conditioned air is directed along the ceiling then evenly distributed throughout the room.
- A Large LCD screen thermostat is optioned.

Motor and Fan

- Optimized designed centrifugal fan design for 42GWC.
- High efficiency.
- Quite running with anti-vibration pads of motor.

Coil

- Optimized designed 7 mm coil.
- "L" coil design
- Lanced fin design

Air return grille and filter

- The filter inside the air return grille can be easily removed and washed. And keeps the room air fresh through constant circulation.
- The front panel and frill of the unit are designed with stylish appearance makes it suitable to match various room decorations.

Condensate drain pump

- High performance condensate drain pump inbuilt the unit, and enwrapped with special designed insulation material.
- Drain out the condensate water quietly.
- Keeps running when the unit standby.
- To avoid the leakage of the condensate water, it’s recommended to install the two-way valve or three-way valve in the water system.

Brushless DC motor (option)

- By providing nearly constant temperature and humidity, lower noticeable operation sound, and energy saving up to 50%, Carrier brushless DC motor fan coil allows us to balance intelligent performance with environmental and economic benefits, increase both owner and occupant satisfaction.

Optional room controller

- TMS810
- Three-way Electric control valve

- TMS710/720
- Two-way Electric control valve

Thermostat
**Features and applications of brushless DC motor FCU**

- Compared to traditional fan coils, brushless DC motor fan coils are featured by energy-saving, supreme comfort, intelligent control and reliability with up-to-date brushless DC stageless motor and advanced control technology. Carrier brushless DC fan coil is ideal choice for buildings seeking for both green and comfort.

**Significant energy saving**

- The BLDC fan coil offers an average energy saving of 50% or more, compared to conventional AC fan coil units. In automatic mode, energy consumption can be reduced even further as the unit’s advanced intelligent control technology gradually adjusts the motor speed for optimal energy saving. This adds up to a significant reduction in the total HVAC system running cost.

**Supreme comfort**

- Conventional AC fan coil units regulate room temperature by water flow control and fan speed, which is set at high, medium, or low. Considerable fluctuation in actual room temperature is inevitable and poor humidity control is a common problem. Through its AC/DC converter, the BLDC fan coil linearly regulates motor speed using pulse-width modulation. Airflow and water flow are regulated according to room load change or a customized temperature/humidity control scheme. In contrast to the traditional fan coil unit, the BLDC fan coil delivers precise temperature and humidity control in accordance with actual demand and is able to stabilize the room temperature to within ± 0.5°C in automatic mode.

**Super-quiet operation**

- The 42GWC series fan coil unit was developed for quiet operation. Engineered with advanced low-noise fan technology, it is manufactured with state-of-art craftsmanship, adopting a large fan wheel structure and NSK bearings. Carbon brush noise, unavoidable in conventional AC fan coil units, is eliminated in the BLDC fan coil. Most of the time, the unit is operating at medium or low speeds, where quiet operation is all the better.

**Flexible and convenient**

- With factory default settings for both the fan coil, the 42GWC BLDC fan coil unit is ready to operate by simply wiring the fan coil and thermostat.

**Safe and reliable**

- The 42GWC fans coil comes with a power factor correction (PFC) module for surge protection and improved efficiency. The high voltage power module ensures safe and stable operation under a wide range of power environment. Overload and over-current protection prevents motor burnout.

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**Technical Data**

- **Nominal Air Flow m³/h**
  - Model: 003, 004, 005, 006, 008
  - (H): 540, 680, 850, 1020, 1360
  - (M): 430, 540, 680, 810, 1080
  - (L): 350, 440, 550, 680, 890

- **Maximum water-side pressure:** 1400kPa
- **Minimum entering water temperature:** 4°C
- **Maximum temperature:** Nominal single-phase voltage 5°C
- **Heating Capacity W:** 4900, 5800, 9000, 10300, 13500
- **Power Input - AC motor W:** 35, 48, 50, 60, 102
- **Noise Level dB(A):** 32, 35, 31, 33, 40
- **Water Flow l/min:** 9.5, 11, 17, 19.5, 25
- **Condensate drain pipe mm:** 16, 16, 16, 16, 16
- **Unit Body Dimension mm:** 720*720, 720*720, 960*960, 960*960, 960*960
- **Panel Dimension mm:** 575*575*298, 575*575*298, 825*825*298, 825*825*298, 825*825*298
- **Panel Weight Kg:** 2.5, 2.5, 5.0, 5.0, 5.0
- **Unit Body Weight Kg:** 16.5, 16.5, 16.5, 16.5, 16.5

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**Operating Limits**

- **Water Circuit**
  - Maximum water-side pressure: 1400kPa
  - Maximum entering water temperature: 4°C
  - Nominal single-phase voltage: 220V, 50Hz
  - Minimum entering water temperature: 4°C

- **Water Circuit**
  - Maximum entering water temperature: 80°C

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**Features and applications of brushless DC motor FCU**

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Physical Dimensions

Wiring Diagram (AC Motor)

Electrical Data

<table>
<thead>
<tr>
<th>Models</th>
<th>AC Motor (220V-1Ph-50Hz)</th>
<th>AC Motor (230V-1Ph-60Hz)</th>
<th>DC Motor</th>
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<tbody>
<tr>
<td>42GWC003</td>
<td>35</td>
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<tr>
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<tr>
<td>42GWC008</td>
<td>102</td>
<td>0.48</td>
<td>132</td>
</tr>
</tbody>
</table>
Wiring Diagram (DC Motor)

ATTENTION
ANY WARRANTY IS DECLINED IN CASE OF FIELD CHANGES OF FACTORY WIRING AND SETTINGS

Valve Connection
Select diagram according to the water valve type

2-wire valve
3-wire valve

ON
OFF
COM
ON
COM

Blue
Black
Grey
Orange
Red
White
Yellow
Yellow-Green

LEGEND:

Blue
Black
Grey
Orange
Red
White
Yellow
Yellow-Green

User option
Factory Wiring
Field Wiring
Terminal Block
Indoor Fan Motor
Room-air sensor
Carrier Room Controller
Driver board
Drain pump
Water valve
Flow switch

For option
IDF
RA
CRC
PCB
PSWV
FC