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IMVF-II

IMVF-II-SL-202202

CIAC

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Carrier Enterprise

# IMVF-II

Inverter Multi Variable Flow

Intelligent Flexibility

# CONTENTS

## 50/60Hz R410a

# PRODUCT LINE-UP

**(Condensing units)**

| Series | HP / Ph/V/Hz | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IMVF Heat Pump | 3/208-230/60 |  | |  | | |  | |  | | | |  | |  | |  | | |  | | |

| Series | HP / Ph/V/Hz | 3 | 5 | 7 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|---|
| IMVF Mini | 1/208-230/60 | |  | | | | |

| Series | HP / Ph/V/Hz | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 | 72 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IMVF-II | 3/208-230/60 |  | | |  | | |  | | |  | | | |  | | | | | | |  | |  | |  | | | |  | | | | | | | |

| Series | HP / Ph/V/Hz | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IMVF W | 3/208-230/60 | |  | | | |  | | | | | |  | | | | | | | | | |

# PRODUCT LINE-UP

| Series | | kW<br>KBTU/h | 1.5<br>5.1 | 2.2<br>7 | 2.8<br>9 | 3.6<br>12 | 4.5<br>16 | 5.6<br>18 | 7.1<br>24 | 8<br>28 | 9<br>30 | 11.2<br>38 | 14<br>48 | 16<br>54.6 | 22.6<br>72 | 28<br>96 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4-way cassette compact |  | CK43BV***-CYJ1H | | | ● | ● | ● | | | | | | | | | |
| 4-way cassette |  | CK43CV***-4YJ1H | | | | | | ● | ● | ● | ● | ● | ● | | | |
| Round-way cassette |  | CK43BV***-6YJ1H | | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | | |
| 2-way cassette |  | CK43BV***-2YJ1H | | ● | ● | ● | ● | ● | | | | | | | | |
| 1-way cassette |  | CK43BV***-1YJ1H | ● | ● | ● | ● | | | | | | | | | | |
| Ceiling / Floor |  | CF43CV***-MYJ1H | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | |
| Slim duct(0/30Pa) |  | CC43BV***LLYJ1H | | ● | ● | ● | ● | ● | ● | | | | | | | |
| Medium ESP duct(50/100pa) |  | CC43CV***MHYJ1H<br>CC43DV***MHYJ1H | | | | | | ● | ● | ● | ● | ● | ● | | | |
| Medium ESP duct(50/96Pa) |  | CC43CV***MHYJ1H | | | | | | | | | ● | ● | ● | | | |
| High ESP duct(100/196Pa) |  | CC43CV***HHYJ1H | | | | | | ● | ● | ● | ● | ● | ● | | ● | ● |
| Console |  | CJ43CV***-MYJ1H | | ● | ● | ● | | ● (5.0) | | | | | | | | |
| Hi wall |  | CH43CV***-DYJ1H<br>CH43DV***-DYJ1H | | ● | ● | ● | ● | ● | ● | | | | | | | |
| ERV (Energy Reclaim Ventalation) |  | 150m³/h 800m³/h<br>260m³/h 1000m³/h | | | | | | | | | | | | | | |
| AHU connection kit |  | 28kW | | | | |  56kW | | | | | | | | | |



IMVF
Inverter Multi Variable Flow

# Heat Pump

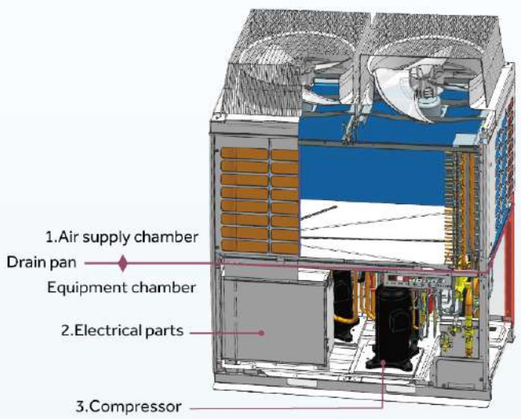
# IMVF

## Air Supply Chamber and Equipment Chamber Separation Design

1. Prevent electrical parts and the main functional components by the rain Erosion, prolong the service life of components;

2. Compressor running noise was closed in the equipment room, reduce the running noise about 3 dB(A);

3. Air supply chamber complete isolation: During commissioning and maintenance, the units can be used normally.



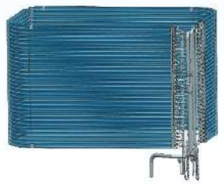

## Special Heat Exchanger Design

### 4 way air return heat exchanger design

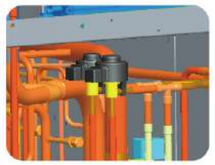
Reduce the heat exchanger height (650mm), and the upper and lower wind speed uniform and high efficiency.

### Two stages heat exchanger design

Two stages heat exchanger can separate control and adjust heat exchanger size, effectively cope with small load operation, to ensure the reliable operation range.



The two stage heat exchanger are respectively controlled by a electronic expansion valve control, which can adjust the condenser volume.





## Special Heat Exchanger Design

### ■ Aviation noise reduction patent fan design

•Streamline vortex fan, sharp fan blade edge, and a certain degree of curvature, reduce the vibration, and pressure loss.

### ■ DC fan motor

•DC inverter technology •High efficiency •Low noise


## Electric Control Box Heat Dissipation Design

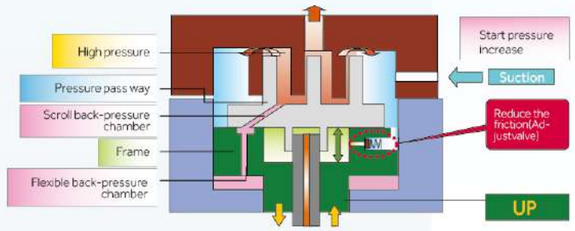
Streamline vortex fan forced heat dissipation fan inside the electric control box, to ensure the stable internal temperature and stable system operationn, sharp fan blade edge, and a certain degree of curvature, reduce the vibration, and pressure loss.

# ENERGY EFFICIENT

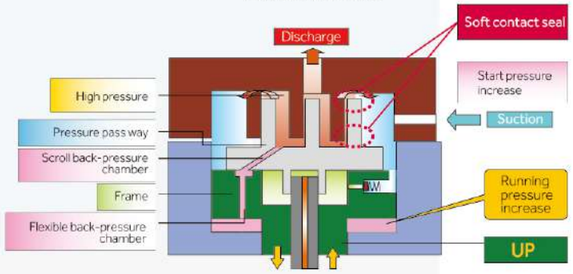
## High Efficiency DC Inverter Scroll Compressor

•DC inverter scroll compressor imported from mitsubishi electric.

•Equipped with a "Frame Compliance Mechanism" that allows movement in the axial direction of the frame supporting the cradle scroll. This greatly reduces both leakage and friction loss, ensuring very high efficiency throughout the whole speed range.




Friction loss reduce

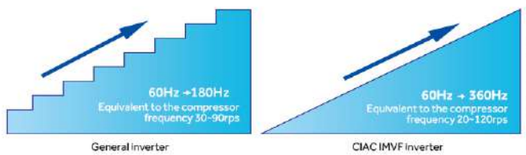



Leakage loss reduce

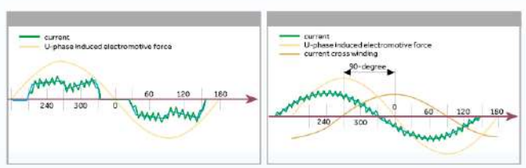
# ENERGY EFFICIENT

## Stepless DC Inverter Control Technology

High precision control, variable frequency drive from 0 to 360Hz.




180° vector DC inverter drive technology: Sine wave current drive, efficiency improve 17% comparing to conventional rectangle wave.

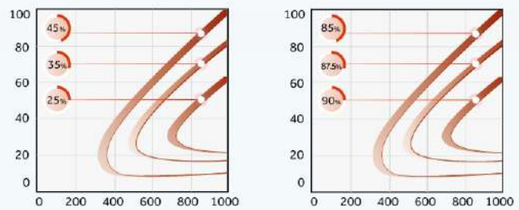


## Energy Management Technology

There is energy saving dip switch (SW8-3) in the indoor unit which can be lock the temperature at 26°C in summer and 20°C in winter, to avoid the energy waste and realize the centralized management.
The temperature lock function also can be realized through the new wired controller YR-E16.

## 64 Stage Speed Adjustment DC Fan Motor

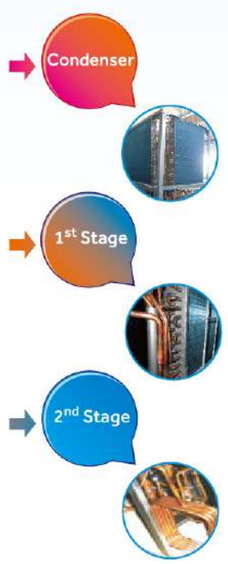
Efficiency increase 45% comparing with AC motor and power input largely decrease.
64 stage speed adjustment plus DC inverter drive, stabilizing compressor discharge pressure and suction pressure to ensure high system reliability.


AC motor efficiency DC motor efficiency

## Two Stage Deep Sub Cooling Technology

1st stage sub cooling added a sub cooling coil to condenser.
2nd stage sub cooling added a stand alone sub cooler.
After further cooling, sub-cooling degree can be up to 30°C, with the heat exchanging capacity per unit mass of xrefrigerant improved by 46% and flow resistance reduced by 55%, and running efficiency improved by 9%.





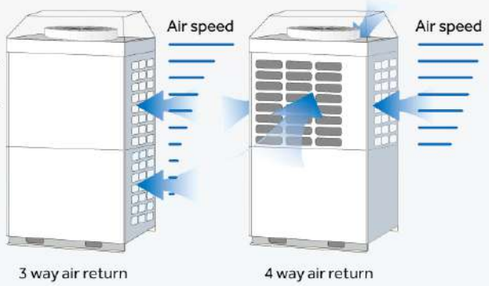

## High Efficiency Heat Exchanging Technology

Outdoor high efficiency four way air return heat exchanger design.

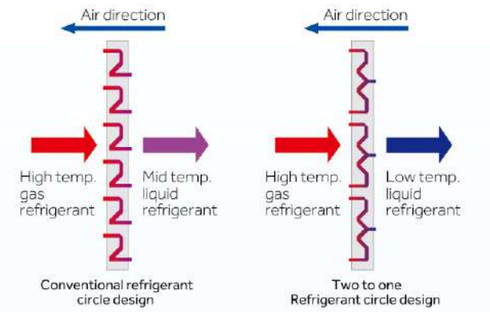
The compressor and condenser are placed in separated chamber.

High efficiency heat exchanger design.

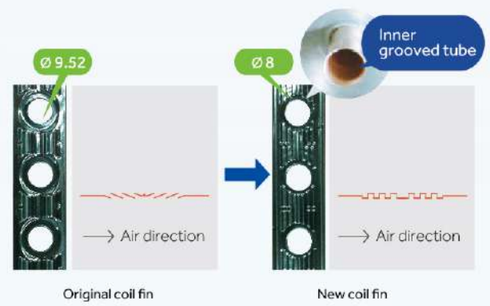
Efficient ø8 inner grooved tube and 0.11 hydrophilic aluminum coil fin, corrosion and oxidation resistance treatment.




### Two to one refrigerant circle design



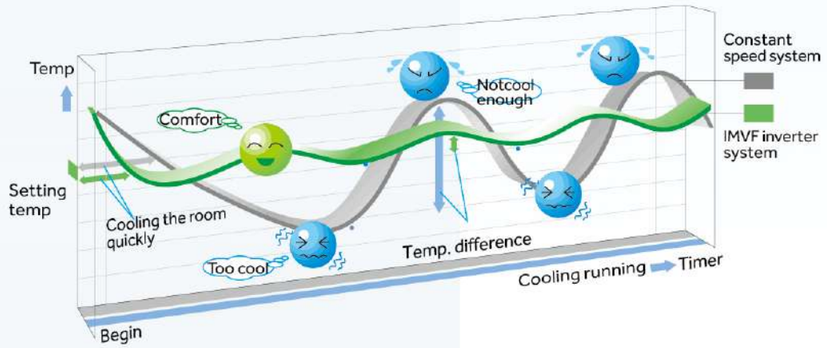

### Coil fin and tube




# COMFORT

## Precise Control

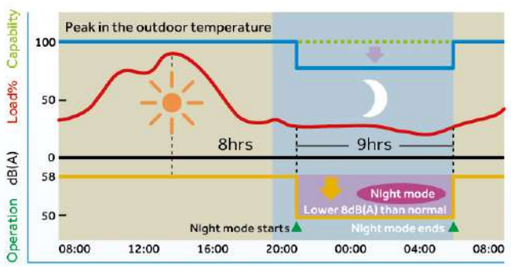
Adopt the inverter control, the temperature could be control precisely within the range of ±0.5°C.




# COMFORT

## Low Noise and Night Silent Running

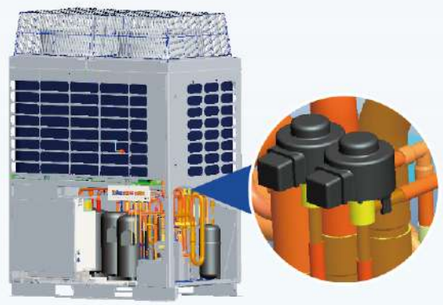
Machinery chamber is separated from air supply chamber; Built-in high efficient muffler in the machinery chamber greatly reduce the compressor noise.
The night silent running function can be set on the outdoor PCB. The noise can be reduced by 8 dB(A) at most.





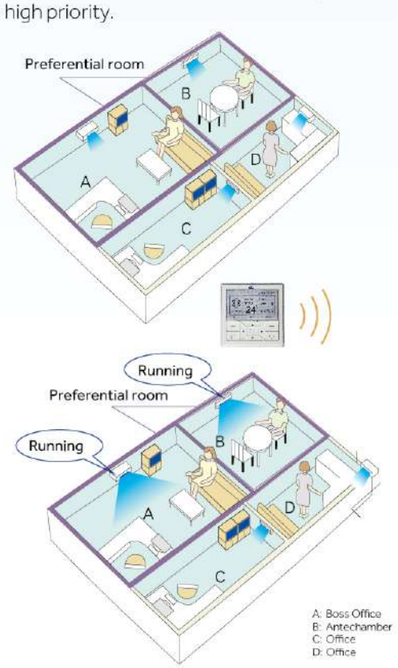
## Double EEV Control

Make sure the refrigerant flow equally, to provide more comfort temperature.



## Priority Setting

With the human design, you can set different preferential steps of some indoor units according to the room functions, so that it will ensure that the most important room gains high priority.






# CONVENIENT INSTALLATION

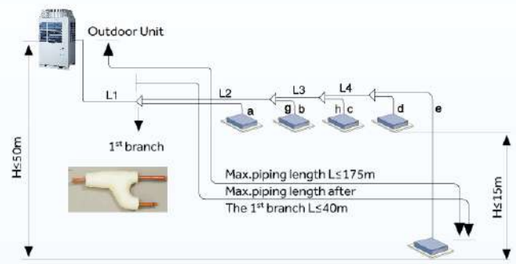
## Long Pipe Length, High Height Drop

Total 300m refrigerant piping length.

Max.175m refrigerant piping length.

Max.50m height drop between indoor and outdoor units.

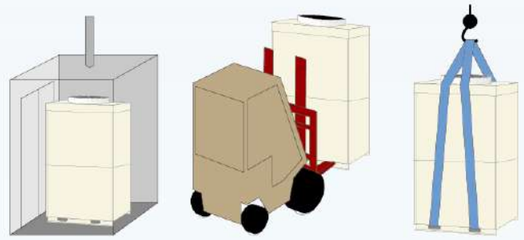
Max.15m height drop between indoor units.




## Easy Transportation

Outdoor footprint only occupy 0.74m²(8/10HP) and 1.04m² (12/14/16HP) .

Can lift with elevators and save lots of transport cost and time.

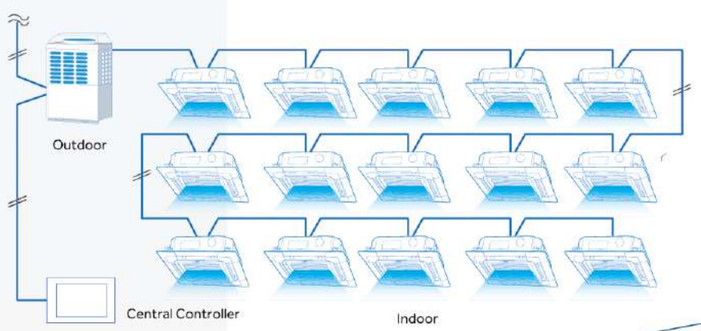


## Outdoor High External Static Pressure

Up to 50Pa and can be installed at different floors .


## Connection Wire

Two core nonpolar communication line way, no joint wrong hidden trouble.
Centralized controller bus and indoor/outdoor bus shareable, wiring and access is very simple Indoor address automatically set.



# HIGH RELIABILITY

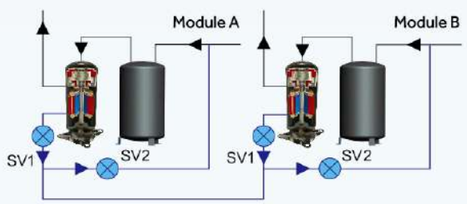
## The First 2-stages Oil Separation and Cross Oil Return Technology in The Industry

1st stage oil separation: built-in oil separating unit, greatly reduced the oil from the compressor discharge.
2nd stage oil separation: external oil separator to separate the small amount oil from discharge.



## High Pressure Difference Oil Equalization

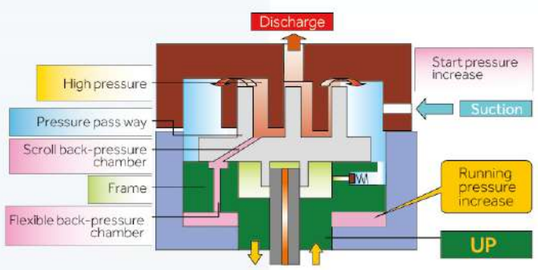
Using the pressure difference between suction and discharge, to realize fast oil balance between module.




| Flow | a ► b | | b ► a | |
|---|---|---|---|---|
| ON | SV1a | SV2b | SV1b | SV2a |
| OFF | SV1b | SV2a | SV1a | SV2b |

## Compressor Anti-liquid Shock Technology

Compressor adopt flexible frame mechanism, when any liquid enter into compressor, cradle scroll detaching fixed scroll, discharging liquid refrigerant out of scroll set, to avoid scroll damage.






## Duty Cycle Operation to Extend the System Lifetime (Combination Model)

The outdoor units priority operating changes every 24 hours.Outdoor units start in turn and operation time can be balanced.Inverter compressor lifetime can be extend maximum 3 times.


First unit priority | Second unit priority | Third unit priority

Cycle unit priority

## Backup Operation

If one outdoor unit get into malfunction, the other units continue to operate without affecting the whole system.

12HP-16HP


If one on/off compressor fault

18HP-48HP


If one outdoor fault in cooling mode

# IMVF Heat Pump

## 460V/3Ph/60Hz

8 /10 HP

12/14/16 HP

DC motor | High performance compressor | 180° sine wave DC inverter | Super quiet | Quiet operation | 3 minutes protection | Lowambient cooling (-5°C) | Lowambient heating (-15°C) | Blue fin

Basic model units: 8 HP, 10 HP, 12 HP, 14 HP, 16 HP

Free combination up to 48 HP

| Model | | | | CA43BV224-V6J1H | CA43BV280-V6J1H | CA43BV335-V6J1H | CA43BV400-V6J1H | CA43BV450-V6J1H | CA43BV504-V6J1H | CA43BV560-V6J1H | CA43BV615-V6J1H | CA43BV680-V6J1H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Combination model | | | | / | / | / | / | / | CA43BV224-V6J1H | CA43BV280-V6J1H | CA43BV280-V6J1H | CA43BV280-V6J1H |
| | | | | / | / | / | / | / | CA43BV280-V6J1H | CA43BV280-V6J1H | CA43BV335-V6J1H | CA43BV400-V6J1H |
| | | | | / | / | / | / | / | / | / | / | / |
| Capacity | Capacity range | | HP | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
| | Cooling | | kW | 22.4 | 31.5 | 33.5 | 40 | 45 | 56.5 | 56.0 | 61.5 | 68.0 |
| | Heating | | kW | 25 | 3/460/60 | 37.5 | 45 | 50 | 3/460/60 | 63.0 | 69.0 | 76.5 |
| Electrical parameters | Power supply | | Ph/V/Hz | 3/460/60 | 7.36 | 3/460/60 | 3/460/60 | 3/460/60 | 12.63 | 3/460/60 | 3/460/60 | 3/460/60 |
| | Cooling | Rated power input | kW | 5.27 | 15.00 | 10.00 | 11.40 | 13.40 | 28.00 | 14.72 | 17.36 | 18.76 |
| | | Max power input | kW | 13.00 | 9.72 | 17.00 | 19.00 | 20.50 | 16.69 | 30.00 | 32.00 | 34.00 |
| | | Rated current | A | 6.96 | 19.82 | 13.21 | 15.06 | 17.70 | 37.00 | 19.45 | 22.94 | 24.79 |
| | | Max current | A | 17.18 | 7.97 | 22.46 | 25.10 | 27.08 | 13.86 | 39.64 | 42.28 | 44.92 |
| | Heating | Rated power input | kW | 5.89 | 12.40 | 10.00 | 11.60 | 13.50 | 22.67 | 15.94 | 17.97 | 19.57 |
| | | Max power input | kW | 10.27 | 10.53 | 15.10 | 17.10 | 18.30 | 18.31 | 24.80 | 27.50 | 29.50 |
| | | Rated current | A | 7.78 | 16.38 | 13.21 | 15.33 | 17.84 | 29.95 | 21.06 | 23.74 | 25.86 |
| | | Max current | A | 13.57 | 3.80 | 19.95 | 22.59 | 24.18 | 3.99 | 32.77 | 36.33 | 38.98 |
| | EER | | | 4.25 | 3.95 | 3.35 | 3.51 | 3.36 | 4.08 | 3.80 | 3.54 | 3.62 |
| | COP | | | 4.24 | 11000 | 3.75 | 3.88 | 3.70 | 22000 | 3.95 | 3.84 | 3.91 |
| Performance | Air flow (H) | | $m^3/h$ | 11000 | 57 | 14100 | 14100 | 14100 | 60 | 22000 | 25100 | 25100 |
| | Sound pressure level (H) | | dB(A) | 57 | 73 | 60 | 60 | 60 | 77 | 60 | 61 | 61 |
| | Sound power level (H) | | dB(A) | 73 | | 76 | 76 | 76 | | 77 | 78 | 78 |
| Installation | External dimensions (W/D/H) | | mm | 990/750/1808 | 990/750/1808 | 1390/750/1808 | 1390/750/1808 | 1390/750/1808 | (990*1808*750)*2 | (990/750/1808)*2 | 990/750/1808 +1390/750/1808 | 990/750/1808 +1390/750/1808 |
| | Shipping dimensions (W/D/H) | | mm | 1090/860/1990 | 1090/860/1990 | 1490/860/1990 | 1490/860/1990 | 1490/860/1990 | (1090*1990*860)*2 | (1090/860/1990)*2 | 1090/860/1990 +1490/860/1990 | 1090/860/1990 +1490/860/1990 |
| | Net/Shipping weight | | kg | 240/255 | 240/255 | 368/386 | 368/386 | 368/386 | 240/255+240/255 | (240/255)*2 | 240/255+368/386 | 240/255+368/386 |
| | Compressor type | | | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL |
| | Compressor brand | | | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC |
| | Compressor quantity | | | 1 INV | 1 INV | 1 INV +1 FIX | 1 INV +1 FIX | 1 INV +1 FIX | 1 INV+1 INV | 1 INV*2 | 1 INV +(1 INV +1 FIX) | 1 INV +(1 INV +1 FIX) |
| | Refrigerant type | | | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A |
| | Refrigerant charge | | kg | 10 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 20 |
| | Refrigerant liquid pipe | | mm | 9.52 | 9.52 | 12.7 | 12.7 | 12.7 | 15.88 | 15.88 | 15.88 | 15.88 |
| | Refrigerant gas pipe | | mm | 22.22 | 22.22 | 25.4 | 25.4 | 28.58 | 28.58 | 28.58 | 28.58 | 28.58 |
| | Oil equalization pipe | | mm | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 |
| | Total pipe lenth | | m | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | Max pipe length(Equivalent/Actual) | | m | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 |
| | Max drop between I.U.&O.U. | | m | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 |
| | External static pressure | | Pa | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Connection ratio | Connectable indoor unit ratio | | % | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 |
| | Maximum number of indoor units | | | 13 | 16 | 19 | 23 | 26 | 26 | 26 | 26 | 26 |
| Working temp. | Cooling | | °C | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 |
| | Heating | | °C | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 |

| Model | | | | CA43BV730-V6J1H | CA43BV800-V6J1H | CA43BV850-V6J1H | CA43BV900-V6J1H | CA43BV960-V6J1H | CA43BV1010-V6J1H | CA43BV1080-V6J1H | CA43BV1130-V6J1H | CA43BV1180-V6J1H | CA43BV1235-V6J1H | CA43BV1300-V6J1H | CA43BV1350-V6J1H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Combination model | | | | CA43BV280-V6J1H | CA43BV400-V6J1H | CA43BV400-V6J1H | CA43BV450-V6J1H | CA43BV280-V6J1H | CA43BV280-V6J1H | CA43BV280-V6J1H | CA43BV280-V6J1H | CA43BV280-V6J1H | CA43BV280-V6J1H | CA43BV400-V6J1H | CA43BV450-V6J1H |
| | | | | CA43BV450-V6J1H | CA43BV400-V6J1H | CA43BV450-V6J1H | CA43BV450-V6J1H | CA43BV280-V6J1H | CA43BV280-V6J1H | CA43BV400-V6J1H | CA43BV400-V6J1H | CA43BV450-V6J1H | CA43BV450-V6J1H | CA43BV450-V6J1H | CA43BV450-V6J1H |
| | | | | / | / | / | / | CA43BV400-V6J1H | CA43BV450-V6J1H | CA43BV400-V6J1H | CA43BV450-V6J1H | CA43BV450-V6J1H | CA43BV450-V6J1H | CA43BV450-V6J1H | CA43BV450-V6J1H |
| Capacity | Capacity range | | HP | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 |
| | Cooling | | kW | 73.0 | 80.0 | 85 | 90 | 96 | 101 | 108.0 | 113 | 118.0 | 123.5 | 145.0 | 135.0 |
| | Heating | | kW | 81.5 | 90.0 | 95 | 100 | 108 | 113 | 121.5 | 127 | 131.5 | 137.5 | 3/460/60 | 150.0 |
| Electrical parameters | Power supply | | Ph/V/Hz | 3/460/60 | 3/460/60 | 3/460/60 | 3/460/60 | 3/460/60 | 3/460/60 | 3/460/60 | 3/460/60 | 3/460/60 | 3/460/60 | 38.20 | 3/460/60 |
| | Cooling | Rated power input | kW | 20.76 | 22.80 | 24.80 | 26.80 | 26.12 | 28.12 | 30.16 | 32.16 | 34.16 | 36.80 | 60.00 | 40.20 |
| | | Max power input | kW | 35.50 | 38.00 | 39.50 | 41.00 | 49.00 | 50.50 | 53.00 | 54.50 | 56.00 | 58.00 | 50.47 | 61.50 |
| | | Rated current | A | 27.43 | 30.12 | 32.77 | 35.41 | 34.51 | 37.15 | 39.85 | 42.49 | 45.13 | 48.62 | 79.26 | 53.11 |
| | | Max current | A | 46.90 | 50.20 | 52.18 | 54.16 | 64.74 | 66.72 | 70.02 | 72.00 | 73.98 | 76.62 | 38.60 | 81.24 |
| | Heating | Rated power input | kW | 21.47 | 23.20 | 25.10 | 27.00 | 27.54 | 29.44 | 31.17 | 33.07 | 34.97 | 37.00 | 53.70 | 40.50 |
| | | Max power input | kW | 30.70 | 34.20 | 35.40 | 36.60 | 41.90 | 43.10 | 46.60 | 47.80 | 49.00 | 51.70 | 51.00 | 54.90 |
| | | Rated current | A | 28.37 | 30.65 | 33.16 | 35.67 | 36.39 | 38.90 | 41.18 | 43.69 | 46.20 | 48.88 | 70.95 | 53.51 |
| | | Max current | A | 40.56 | 45.19 | 46.77 | 48.36 | 55.36 | 56.94 | 61.57 | 63.15 | 64.74 | 68.31 | 3.40 | 72.53 |
| | EER | | | 3.52 | 3.51 | 3.43 | 3.36 | 3.68 | 3.59 | 3.58 | 3.51 | 3.45 | 3.36 | 3.76 | 3.36 |
| | COP | | | 3.80 | 3.88 | 3.78 | 3.70 | 3.92 | 3.84 | 3.90 | 3.83 | 3.76 | 3.72 | 42300 | 3.70 |
| Performance | Air flow (H) | | $m^3/h$ | 25100 | 28200.0 | 28200 | 28200 | 36100 | 36100 | 39200.0 | 39200 | 39200 | 42300 | 64 | 42300 |
| | Sound pressure level (H) | | dB(A) | 61 | 62 | 62 | 62 | 63 | 63 | 63 | 63 | 63 | 64 | 82 | 64 |
| | Sound power level (H) | | dB(A) | 78 | 79 | 79 | 79 | 81 | 81 | 81 | 81 | 81 | 82 | | 82 |
| Installation | External dimensions (W/D/H) | | mm | 990/750/1808 +1390/750/1808 | 1390/750/1808 +1390/750/1808 | 1390/750/1808 +1390/750/1808 | (1390/750/1808)*2 | 990/750/1808*2 +1390/750/1808 | (990/750/1808)*2 +(1390/750/1808) | (990/750/1808) +(1390/750/1808) +(1390/750/1808) | (990/750/1808) +(1390/750/1808) +(1390/750/1808) | (990/750/1808) +(1390/750/1808)*2 | (1390/750/1808) +(1390/750/1808)*2 | (1390/750/1808) +(1390/750/1808)*2 | (1390/750/1808)*3 |
| | Shipping dimensions (W/D/H) | | mm | 1090/860/1990 +1490/860/1990 | 1490/860/1990 +1490/860/1990 | 1490/860/1990 +1490/860/1990 | (1490/860/1990)*2 | 1090/860/1990*2 +1490/860/1990 | (1090/860/1990)*2 +(1490/860/1990) | (1090/860/1990) +(1490/860/1990) +(1490/860/1990) | (1090/860/1990) +(1490/860/1990) +(1490/860/1990) | (1090/860/1990) +(1490/860/1990)*2 | (1490/860/1990) +(1490/860/1990)*2 | (1490/860/1990) +(1490/860/1990)*2 | (1490/860/1990)*3 |
| | Net/Shipping weight | | kg | 240/255+368/386 | 368/386+368/386 | 368/386+368/386 | (368/386)*2 | 240/255*2+368/386 | 240/255*2+368/386 | 240/255+368/386+368/386 | 240/255+368/386+368/386 | 240/255+368/386*2 | 368/386+368/386*2 | 368/386+368/386*2 | (368/386)*3 |
| | Compressor type | | | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL |
| | Compressor brand | | | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC |
| | Compressor quantity | | | 1 INV +(1 INV +1 FIX) | (1 INV +1 FIX) +(1 INV +1 FIX) | (1 INV +1 FIX) +(1 INV +1 FIX) | (1 INV +1 FIX)*2 | 1 INV*2 +(1 INV +1 FIX) | 1 INV*2 +(1 INV +1 FIX) | 1 INV +(1 INV +1 FIX) +(1 INV +1 FIX) | 1 INV +(1 INV +1 FIX) +(1 INV +1 FIX) | 1 INV +(1 INV +1 FIX)*2 | (1 INV +1 FIX) +(1 INV +1 FIX)*2 | (1 INV +1 FIX) +(1 INV +1 FIX)*2 | (1 INV +1 FIX)*3 |
| | Refrigerant type | | | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A |
| | Refrigerant charge | | kg | 20 | 20 | 20 | 20 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | Refrigerant liquid pipe | | mm | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 |
| | Refrigerant gas pipe | | mm | 31.8 | 31.8 | 31.8 | 31.8 | 31.8 | 38.1 | 38.1 | 38.1 | 38.1 | 38.1 | 38.1 | 38.1 |
| | Oil equalization pipe | | mm | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 |
| | Total pipe lenth | | m | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | Max pipe length(Equivalent/Actual) | | m | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 |
| | Max drop between I.U.&O.U. | | m | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 |
| | External static pressure | | Pa | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Connection ratio | Connectable indoor unit ratio | | % | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130% | 50-130 | 50-130 | 50-130 | 50-130 |
| | Maximum number of indoor units | | | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Working temp. | Cooling | | °C | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 | -5~43 |
| | Heating | | °C | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 | -15~21 |

* Max drop between I.U.& O.U.: 50/40 Meters (outdoor unit is higher/lower than indoor units).
* All the specifications are tested under nominal condition (in cooling, Indoor temp is 27°C DB/19°C WB, Outdoor temp 35°C DB/24°C WB; in heating, Indoor temp is 20°C DB, Outdoor temp is 7°C DB/6°C WB).

**019** IMVF Mini (Side Discharge) 3/5/7 HP

IMVF
Inverter Multi Variable Flow

# Mini

# IMVF Mini (Side Discharge) 3/5/7 HP

# FEATURES&BENEFITS

## New update

•We upgraded the whole series and launched new capacity of 3, 5 and 7 HP modules. The overall rounded corner design refreshes you visually;
•The stop-valve of new module is build-in, Easier installation;
•Equipped with super large diameter 550mm fan, in sawtooth shape type design, heat transfer of units more powerful;
•The heat transfer area of the condensed is increased by 15%, and the heat transfer effect is increased by 10% (5/7HP): The original heat exchanger was 1197*970mm. The current heat exchanger area is 1302*1005mm;
•Standard self-cleaning technology, in addition to the new module upgrade 56°C high temperature cleaning technology;The heat exchanger of IDU can realize high temperature of 56°, effectively remove mold, and make the air supply more healthy.

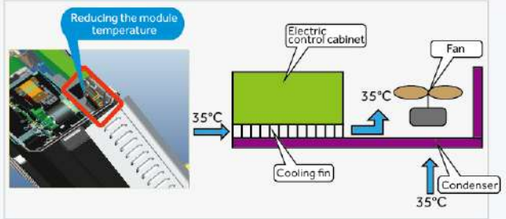
## Full DC inverter twin rotary compressor

Compressor 15~140 RPM wide operating range, can effective against low load output. The compressor adopts keel motor technology, the energy efficiency is increased by 10%.



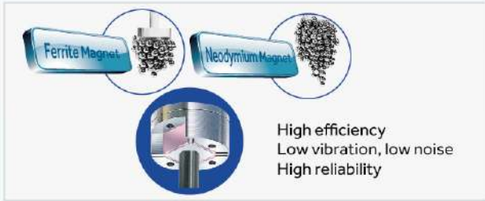
## Air inlet grill design on right side panel

The unit adopts louver at right side panel for better heat dissipation to guarantee high frequency operation at high temperature. The air inlet grill design, reduces the module temperature and avoids air dust into air conditioner.



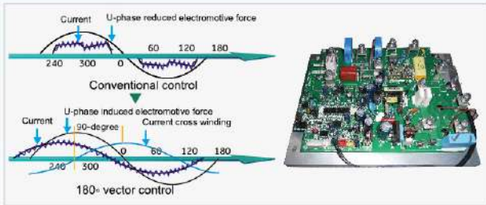

## DC inverter technology

DC fan motor speed can be adjusted from 0~960r/min, it can improve the unit efficiency, at the same time, the unit can realize low ambient cooling operation.




## 180° vector control technology

Haier using power resistance to detect the rotor position of compressor, results in the consistency of the compressor working current and current sine waves, improve power efficiency about 17%.

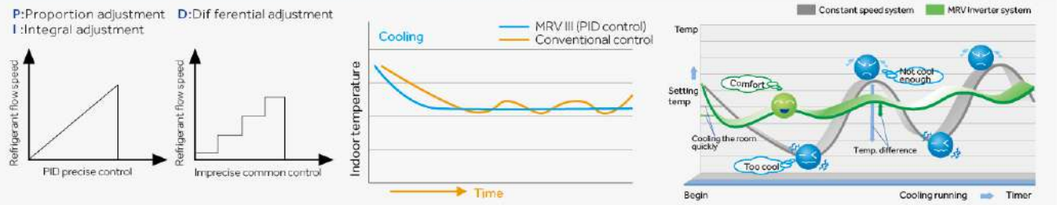



## Operation range

Relying on the compressor upgraded by MRV SI and optimized pipeline upgrade, the operating temperature range of the new model is expanded, including -5°C~50°C for cooling and -20°C~27°C for heating.


## Precise control

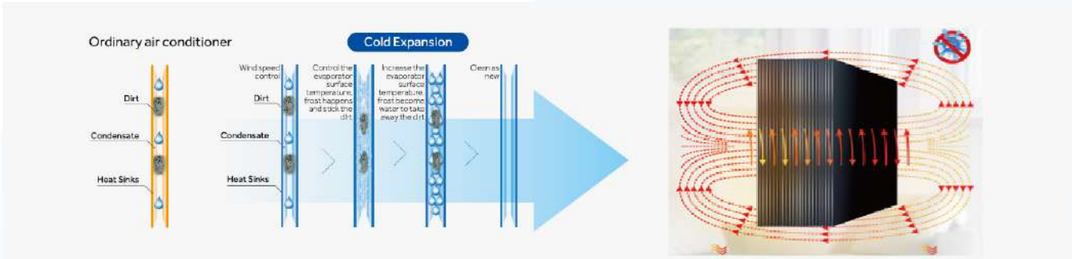
PID control adjusts the output of compressor and the open degree of EEV, balances the indoor refrigerant flow, realizes the linear output, creates a comfortable environment. The temperature could be controlled precisely.



# FEATURES & BENEFITS

## Self-cleaning technology

•Cooling expansion technology—— Easily remove dirt from heat exchanger
•Condensate water technology ——Increase condensate water by 30%
•Sapphire coating ——The hydrophilic ability is increased by 50%, and the flow speed is increased by 20%
•Antibacterial technology——Silver ion antibacterial coating, effectively prevent the growth of bacteria
•56°C high temperature technology——The temperature of IDU heat exchanger is improved by using the condensing heat of high pressure refrigerant. The temperature is up to 56°C, effectively prevent mold breeding. (5/7HP)




## Side discharge MRV SI outdoor units

Dual Frequency 50/60Hz / DC Inverter TWIN Rotary Compressor / BLDC Fan ( BrushLess DC motor )

1. Control the compressor running frequency by temp. Sensor, more precise and prompt than conventional control system.
1. Protections: Pressure, temp, compressor, fan motor, refrigerant, oil quantity etc. Realize perfect performance.
1. Malfunction self-diagnose.
2. DC fan motor (AU48/60).
3. DC inverter compressor, high efficiency.
4. Single set valve, easy to installation and save installation time.




# IMVF Mini

- CM43CV080-HYJ1H
- CM43CV140-HYJ1H
- CM43CV180-HYJ1H

3 HP

5 /7 HP


DC motor | High performance compressor | 180° sine wave DC inverter | Super quiet | Quiet operation | 3 minutes protection | Lowambient cooling (-5°C) | Lowambient heating (-15°C) | Blue fin

| Model | | | CM43CV080-HYJ1H | CM43CV140-HYJ1H | CM43CV180-HYJ1H |
|---|---|---|---|---|---|
| Capacity | Capacity range | HP | 3 | 5 | 7 |
| | Cooling | kBtu/h | 27.3 | 51.2 | 61.4 |
| | | kW | 8 | 14 | 18 |
| | Heating | kBtu/h | 32.4 | 58 | 68.2 |
| | | kW | 9.5 | 16 | 20 |
| Electrical parameters | Power supply | PhV/Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| | Power input (Cooling) | kW | 2.2 | 3.7 | 4.75 |
| | Power input (Heating) | kW | 2.2 | 3.73 | 4.56 |
| | EER/COP | | 3.64/4.32 | 3.78/4.29 | 3.79/4.39 |
| Performance | Air flow (H) | $m^3/h$ | 4500 | 7200 | 7200 |
| | Sound pressure level (H) | dB(A) | 50 | 52 | 54 |
| | Sound power level (H) | dB(A) | 61 | 63 | 65 |
| Installation | External dimensions(W/D/H) | mm | 920×372×760 | 950×370×1350 | 950×370×1350 |
| | Shipping dimensions(W/D/H) | mm | 1036×478×820 | 1023/483/1492 | 1023/483/1492 |
| | Net/Shipping weight | kg | 61/67 | 108/123 | 108/123 |
| | Compressor type | | Rotary | Rotary | Rotary |
| | Compressor brand | | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC |
| | Compressor quantity | | 1 | 1 | 1 |
| | Refrigerant type | | R410A | R410A | R410A |
| | Refrigerant charge | kg | 2.1 | 4 | 4 |
| | Refrigerant liquid pipe | mm | 9.52 | 9.52 | 9.52 |
| | Refrigerant gas pipe | mm | 15.88 | 19.05 | 19.05 |
| | Total pipe lenth | m | 120 | 150 | 150 |
| | Max. pipe length(Equivalent/Actual) | m | 70 | 70 | 70 |
| | Max drop between I.U.&O.U | m | 30/20 | 30/20 | 30/20 |
| | | | 10 | 10 | 10 |
| Connection ratio | Connectable indoor unit ratio | % | 50~130% | 50~130% | 50~130% |
| | Maximum number of indoor units | | 4 | 8 | 9 |
| Working temp. | Cooling | °C | -5~50 | -5~50 | -5~50 |
| | Heating | °C | -20~27 | -20~27 | -20~27 |

* All the specifications are tested under nominal condition(In cooling, Indoor temp is 27°C DB/19°C WB; Outdoor temp 35°C DB/24°C WB; In heating, Indoor temp is 20°C DB, Outdoor temp is 7°C DB/6°C WB)



IMVF-II
Inverter Multi Variable Flow

# Heat Pump

# IMVF-II Heat Pump

# FEATURES&BENEFITS

## IMVF milestones & IMVF-II line up

Largest capacity single module


Single module line-up

Capacity
8,10,12,14,16HP

Capacity
18,20,22,24HP



## IMVF milestones & IMVF-II line up

Combination line-up

8~72HP

- Max 3 modules combination 72HP, every 2HP one model.
- Footprint of 72HP only 2.92m², 50% size reduced

| 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 | 72 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |

# FEATURES&BENEFITS

## Full DC Inverter High Efficiency

1. Full DC Inverter technology
2. Key parts to support full DC inverter technology
3. High efficiency

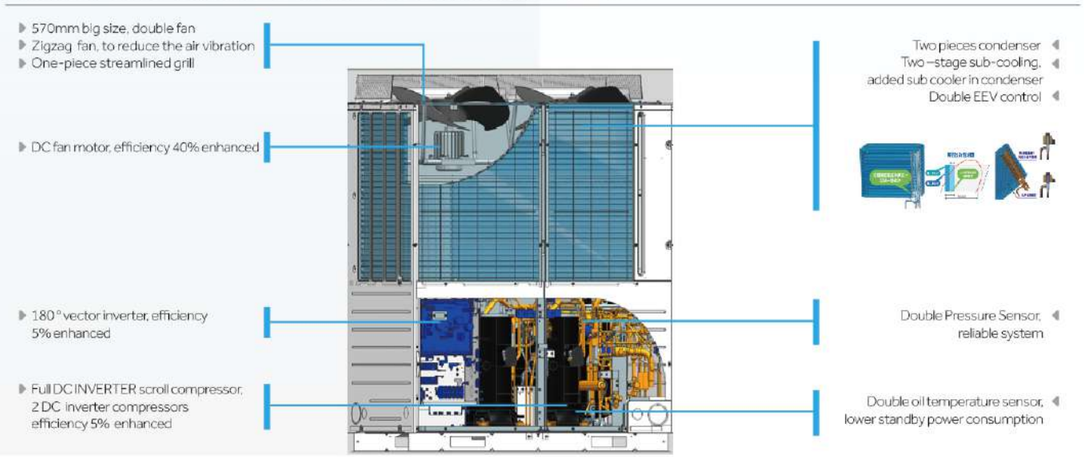
### Full DC inverter technology


**IMVF**
- One Compressor
- DC INVERTER x 1

**IMVF**
- Two Compressor
- One DC INVERTER compressor + One Fixed Speed comp ressor

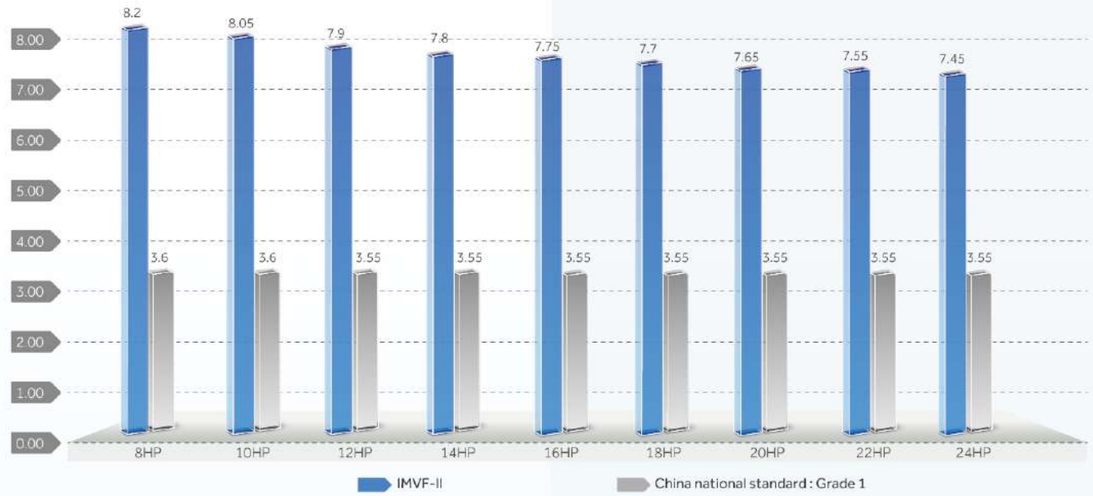
**IMVF-II (16-24HP)**
- Two Compressor
- Full DC Inverter x 2

### Full new outlook, full DC inverter technology key parts

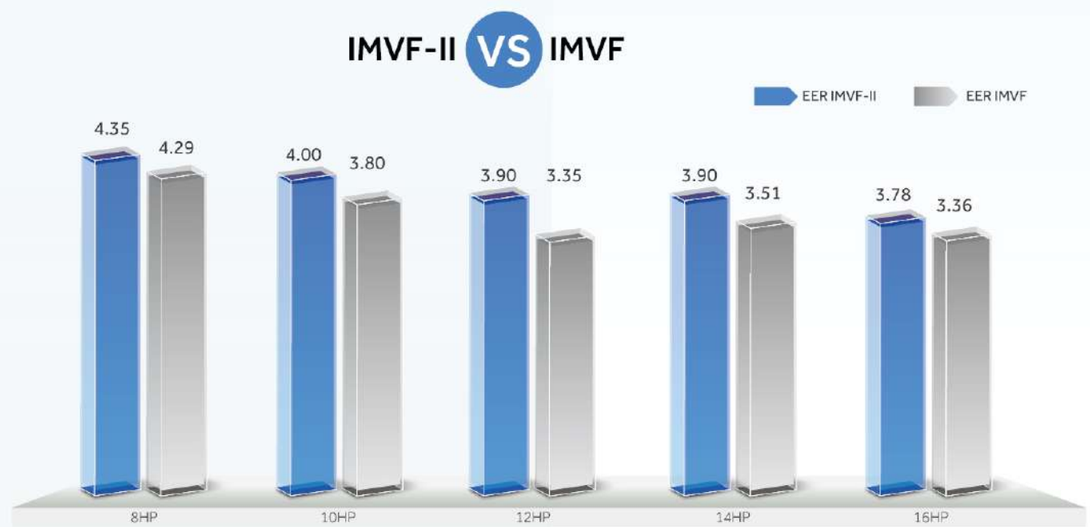





### IPLV(c) up to 8.2, average IPLV(c) up to 7.7, low running cost




### Higher energy efficiency than IMVF



# FEATURES&BENEFITS

## Easy Installation

1. Largest capacity single module, smallest footprint
2. Long pipe length, high height drop
3. High outdoor ESP

Largest capacity single module in the industry: 24HP ,
Smallest footprint in the industry : 0.97m2


All the outdoor with same bottom size

Footprint 41% reduced. Smallest in the industry


Footprint of 72HP only 2.92m², 30% size reduced

82Pa ESP, Long air duct connecting available


Up to 82 Pa outdoor ESP

Longer air duct connecting available

Long pipe length, high height drop


Max. total pipe length **1000m**

Max. Single pipe length **165m** (equivalent pipe **190m**)

Max.Height drop between ID and OD **Max.110m/90m**[*1] Standard 50m/40m

Max height drop between ID **Max 30m**[*2] ( Standard 18m)

*1 *2 Need contact your local distributor/dealer for individual design.

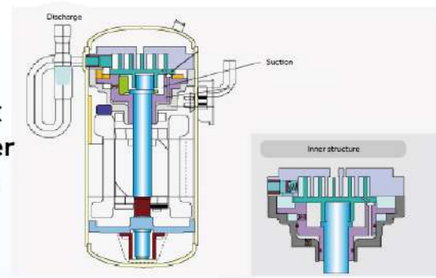
# FEATURES&BENEFITS

## Comfort

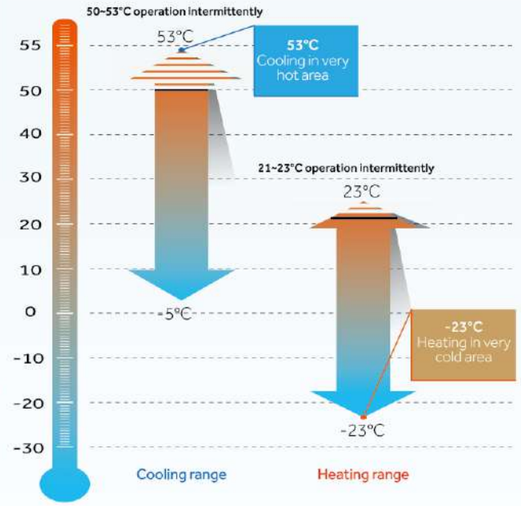
1. Wide operation range
2. Low noise, night silent running
3. Optimal temperature control

### Wide operation range, -23°C heating, 53°C cooling

**Full DC Inverter Comp.**

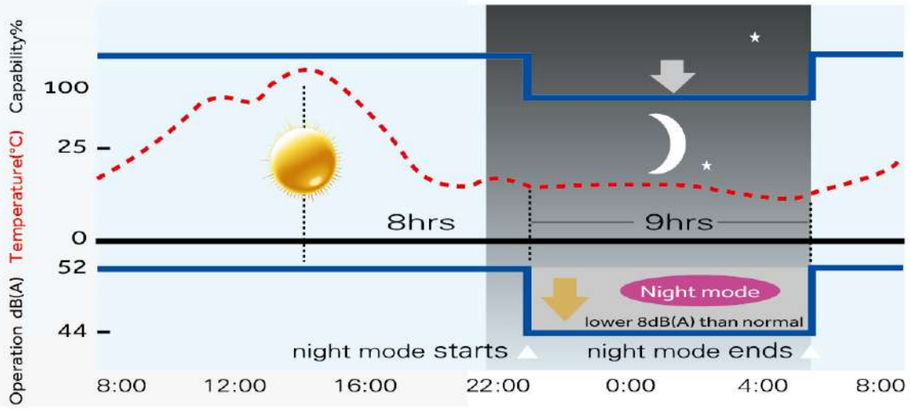



**Precise control Tech.**




### Low noise and night silent running

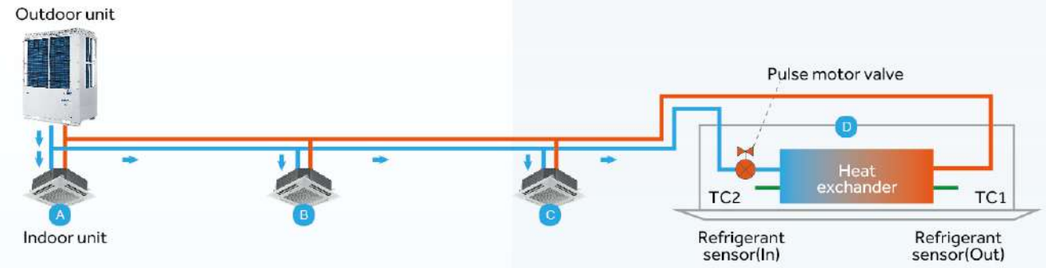
- 8dB/A noise will be reduced if night silent mode starts.

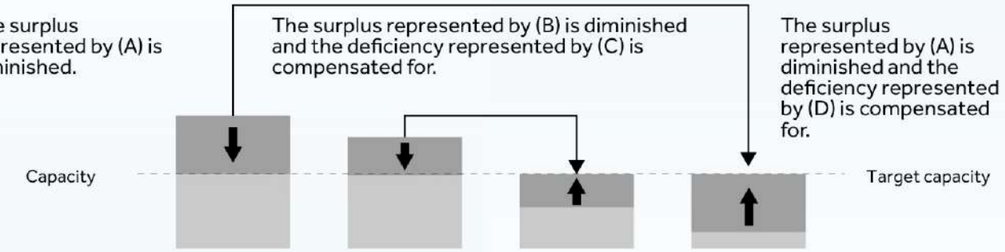





### Optimal Temperature Control

- When a multiple number of indoor units are connected, an insufficient or excess amount of refrigerant may be supplied to indoor units depending on the difference in length of the piping connection from outdoor units
- Optimal refrigerant control uses the indoor coil temperature to detect the air conditioning status of each indoor unit and control the capacity(refrigerant amounts) very precisely



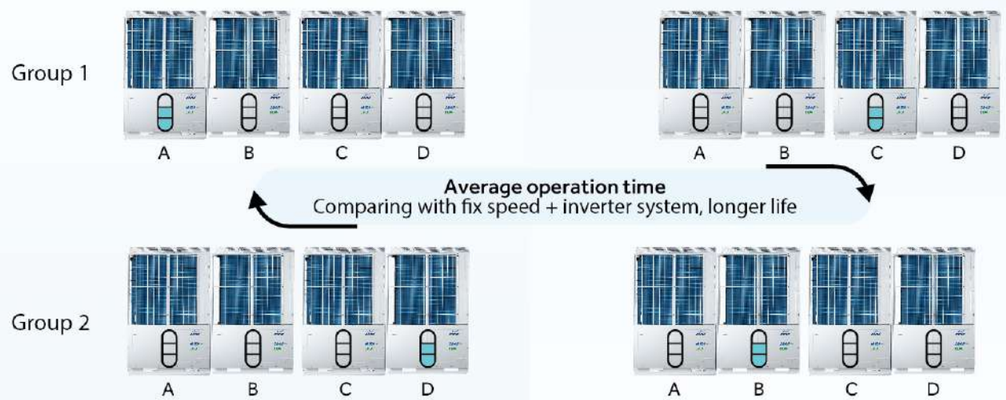

# FEATURES&BENEFITS

## High Reliability

1. Recycling operation
2. 2 stage oil return
3. Oil temperature sensor
4. Double Pressure sensor
5. Thunder Protection

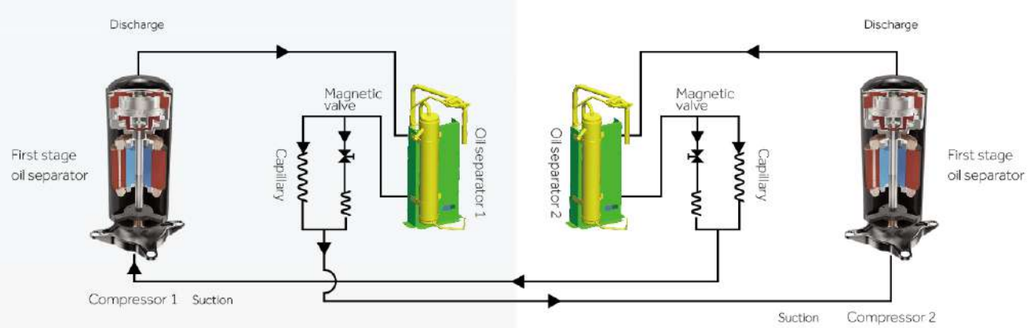
### Recycling operation

Recycling operation, longer life of compressor




### Oil Return

If the compressor operate at low frequency,oil return is only through the capillary. If the compressor operate at high frequency,oil return is through the capillary and magnetic valve.





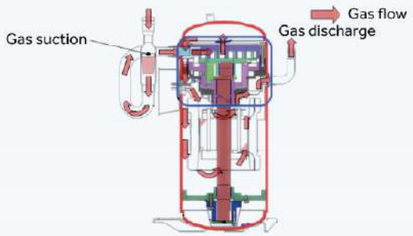

### Compressor double protection

**Base on the basic gas discharge sensor, IMVF-II add the oil temperature sensor at the bottom of compressor.**

With the oil temperature sensor

- •Control the on/off of heater of compressor, preventing from the liquid shock of compressor
- •Judge if the liquid refrigerant enter into the compressor
- •Compressor oil sub heating protection.

•High pressure sensor for every compressor so for the module with 2 compressors ,there are 2 high pressure sensors and 1 low pressure sensors, total 3 sensors



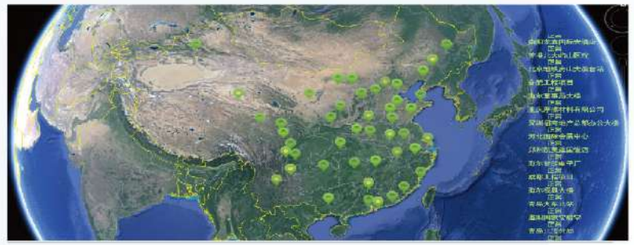

### Thunder protection

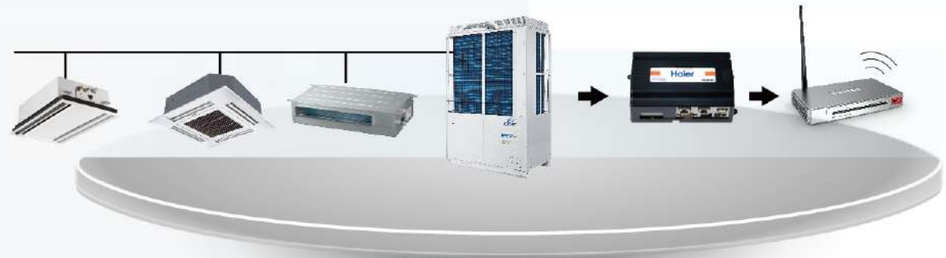
There are electricity discharge wire in the terminal block, to lead the abnormal voltage into the earth, then to prevent the thunder affect.

## Cloud Service Platform

1. Cloud Service

### Cloud Service






- •7*24 on-line service
- •Intelligent service: failure remind, maintenance mind information
- •Energy saving: real-time data saving, provide energy saving solution according to data analysis
- •Under development

# IMVF-II

## 220V/3Ph/50-60Hz

DC motor | High performance compressor | 180° sine wave DC inverter | Super quiet | Quiet operation | 3 minutes protection | Blue fin

8/10/12/14HP

16/18/20/22/24HP

- Single Module: 8/10/12/14HP,16/18/20/22/24HP
- Combination Module: 22-72HP, 2-3 modules
- Full DC INVERTER technology
- Max.1000m total pipe length, Max.110m height drop
- Compatible with all the IMVF indoor units.

| Model | | | | CA43CV224-V5J1H | CA43CV280-V5J1H | CA43CV335-V5J1H | CA43CV400-V5J1H | CA43CV450-V5J1H | CA43CV500-V5J1H | CA43CV560-V5J1H | CA43CV615-V5J1H | CA43CV680-V5J1H | CA43CV730-V5J1H | CA43CV800-V5J1H | CA43CV850-V5J1H | CA43CV900-V5J1H | CA43CV960-V5J1H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Combination model | | | | / | / | / | / | / | / | / | / | / | CA43CV335-V5J1H | CA43CV335-V5J1H | CA43CV400-V5J1H | CA43CV400-V5J1H | CA43CV400-V5J1H |
| | | | | / | / | / | / | / | / | / | / | / | CA43CV400-V5J1H | CA43CV450-V5J1H | CA43CV450-V5J1H | CA43CV500-V5J1H | CA43CV560-V5J1H |
| | | | | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| Capacity | Capacity range | | HP | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 12+14 | 12+16 | 14+16 | 14+18 | 14+20 |
| | Cooling | | kW | 25.20 | 28.00 | 33.50 | 40.00 | 45.00 | 50.40 | 56.00 | 61.50 | 68.00 | 73.50 | 78.50 | 85.00 | 90.40 | 96.00 |
| | Heating | | kW | 27.30 | 31.50 | 37.50 | 45.00 | 50.00 | 56.50 | 63.00 | 69.00 | 73.00 | 82.50 | 87.50 | 95.00 | 101.50 | 108.00 |
| | Power supply | | Ph/V/Hz | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 |
| Electrical parameters | Cooling | Rated power input | kW | 5.31 | 6.09 | 7.61 | 9.20 | 10.84 | 12.60 | 14.36 | 17.57 | 19.71 | 16.81 | 18.45 | 20.04 | 21.80 | 23.56 |
| | | Max power input | kW | 12.64 | 13.99 | 16.28 | 23.18 | 23.18 | 23.90 | 28.36 | 27.42 | 32.93 | 39.46 | 39.46 | 46.36 | 47.08 | 51.54 |
| | | Rated current | A | 16.07 | 18.44 | 23.06 | 27.85 | 32.84 | 38.16 | 43.49 | 53.02 | 59.47 | 50.91 | 55.90 | 60.69 | 66.01 | 71.34 |
| | | Max current | A | 36.99 | 40.16 | 40.81 | 56.54 | 57.03 | 65.53 | 69.56 | 73.72 | 87.62 | 97.35 | 97.84 | 113.57 | 122.07 | 126.10 |
| | Heating | Rated power input | kW | 5.25 | 6.36 | 7.98 | 9.78 | 11.11 | 13.14 | 15.18 | 16.18 | 18.13 | 17.76 | 19.09 | 20.89 | 22.92 | 24.96 |
| | | Max power input | kW | 9.48 | 12.60 | 15.31 | 17.87 | 17.77 | 20.94 | 22.23 | 23.43 | 27.17 | 33.18 | 33.08 | 35.64 | 38.81 | 40.10 |
| | | Rated current | A | 15.90 | 19.27 | 24.17 | 29.63 | 33.65 | 39.80 | 45.98 | 48.83 | 54.71 | 53.80 | 57.82 | 63.28 | 69.43 | 75.61 |
| | | Max current | A | 27.05 | 36.49 | 38.44 | 50.22 | 50.68 | 61.06 | 61.93 | 68.30 | 79.09 | 88.66 | 89.12 | 100.90 | 111.28 | 112.15 |
| | EER | | | 4.75 | 4.60 | 4.40 | 4.35 | 4.15 | 4.00 | 3.90 | 3.50 | 3.45 | 4.37 | 4.25 | 4.24 | 4.15 | 4.07 |
| | COP | | | 5.20 | 4.95 | 4.70 | 4.60 | 4.50 | 4.30 | 4.15 | 3.80 | 3.75 | 4.65 | 4.58 | 4.55 | 4.43 | 4.33 |
| Performance | Air flow (H) | | $m^3/h$ | C: 15000/H: 13200 | C: 15000/H: 13200 | C: 15000/H: 13200 | C: 15600/H: 14400 | C: 15600/H: 14400 | C: 16200/H: 15000 | C: 16200/H: 15000 | C: 16200/H: 15000 | C: 16200/H: 15000 | C: 30600/H: 27600 | C: 30600/H: 27600 | C: 31200/H: 28800 | C: 31800/H: 29400 | C: 31800/H: 29400 |
| | Sound pressure level (H) | | dB(A) | 57.00 | 57.00 | 59.00 | 61.00 | 61.00 | 62.00 | 62.00 | 62 | 63 | 63.50 | 63.50 | 64.00 | 64.50 | 64.50 |
| | Sound power level (H) | | dB(A) | 73.00 | 73.00 | 75.21 | 77.21 | 77.21 | 78.64 | 78.64 | 79 | 80 | 81.14 | 81.14 | 81.64 | 82.14 | 82.14 |
| Installation | External dimensions (W/D/H) | | mm | 1350×720×1690 | 1350×720×1690 | 1350×720×1690 | 1350×720×1690 | 1350×720×1690 | 1350×720×2048 | 1350×720×2048 | 1350×720×2048 | 1350×720×2048 | 1350×720×1690 +1350×720×1690 | 1350×720×1690 +1350×720×1690 | 1350×720×1690 +1350×720×1690 | 1350×720×1690 +1350×720×2048 | 1350×720×1690 +1350×720×2048 |
| | Shipping dimensions (W/D/H) | | mm | 1450×826×1885 | 1450×826×1885 | 1450×826×1885 | 1450×826×1885 | 1450×826×1885 | 1450×826×2225 | 1450×826×2225 | 1450×826×2225 | 1450×826×2225 | 1450×826×1885 +1450×826×1885 | 1450×826×1885 +1450×826×1885 | 1450×826×1885 +1450×826×1885 | 1450×826×1885 +1450×826×2225 | 1450×826×1885 +1450×826×2225 |
| | Net/Shipping weight | | kg | 276/301 | 276/301 | 276/301 | 321/346 | 321/346 | 335/360 | 335/360 | 359/384 | 359/384 | 276/301+321/346 | 276/301+321/346 | (321/346)*2 | 321/346+335/360 | 321/346+335/360 |
| | Compressor type | | | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL |
| | Compressor brand | | | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC |
| | Compressor quantity | | | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 |
| | Refrigerant type | | | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A |
| | Refrigerant charge | | kg | 9.70 | 9.70 | 9.70 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 19.70 | 19.70 | 20.00 | 20.00 | 20.00 |
| | Refrigerant liquid pipe | | mm | 9.52 | 9.52 | 12.70 | 12.70 | 12.70 | 15.88 | 15.88 | 15.88 | 15.88 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 |
| | Refrigerant gas pipe | | mm | 19.05 | 22.22 | 25.40 | 25.40 | 28.58 | 28.58 | 28.58 | 28.58 | 28.58 | 31.80 | 31.80 | 31.80 | 31.80 | 31.80 |
| | Oil equalization pipe | | mm | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 |
| | Max.total pipe length | | m | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 |
| | Max. pipe length (Equivalent/Actual) | | m | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 |
| | Max drop between I.U.&O.U ( O.U down/up) *1 | | m | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 |
| | Standard drop between I.U. &O.U ( O.U up/down) *2 | | m | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 |
| | Max drop between I.U. *3 | | m | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | Standard drop between I.U *4 | | m | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| | External static pressure | | Pa | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| Connection ratio | Connectable indoor unit ratio | | % | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 |
| | Maximum number of indoor units | | | 14 | 16 | 20 | 24 | 27 | 30 | 33 | 36 | 40 | 43 | 46 | 50 | 53 | 57 |
| Working temp. | Cooling | | ℃ | (-5℃-50℃) | | | | | | (-5℃-50℃) | | | | | | | |
| | Heating | | ℃ | (-23℃-21℃) | | | | | | (-23℃-21℃) | | | | | | | |

**Max drop between I.U.&O.U *1** If the height difference between the outdoor and the indoor units is from 50 to 110m, you MUST contact your local distributor/dealer for individual design and production.
**Standard drop between I.U.&O.U *2** Standard design and production in the factory.
**Max drop between I.U. *3** If the height difference between the indoor units is from 18 to 30m, you MUST contact your local distributor/dealer for individual design and production.

**Standard drop between I.U. *4** Standard design and production in the factory.

* All the specifications are tested under nominal condition(in cooling T1, indoor temp. is 27℃ DB/19℃ WB;Outdoor temp 35℃ DB/24WB;in cooling T3, indoor temp. is 27℃ DB/19℃ WB;Outdoor temp 46℃ DB/24WB;in heating, indoor temp.is 20℃ DB,in heating, outdoor temp.is 7℃ DB/6℃ WB)

# IMVF-II

## 220V/3Ph/50-60Hz

DC motor | High performance compressor | 180° sine wave DC inverter | Super quiet | Quiet operation | 3 minutes protection | Blue fin

72HP

- Single Module: 8/10/12/14HP,16/18/20/22/24HP
- Combination Module: 22-72HP, 2-3 modules
- Full DC INVERTER technology
- Max.1000m total pipe length, Max.110m height drop
- Compatible with all the IMVF indoor units.

| Model | | | | CA43CV1010-V5J1H | CA43CV1080-V5J1H | CA43CV1130-V5J1H | CA43CV1180-V5J1H | CA43CV1240-V5J1H | CA43CV1300-V5J1H | CA43CV1360-V5J1H | CA43CV1400-V5J1H | CA43CV1460-V5J1H | CA43CV1520-V5J1H | CA43CV1575-V5J1H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Combination model | | | | CA43CV450-V5J1H | CA43CV500-V5J1H | CA43CV560-V5J1H | CA43CV560-V5J1H | CA43CV560-V5J1H | CA43CV615-V5J1H | CA43CV680-V5J1H | CA43CV450-V5J1H | CA43CV450-V5J1H | CA43CV450-V5J1H | CA43CV500-V5J1H |
| | | | | CA43CV560-V5J1H | CA43CV560-V5J1H | CA43CV560-V5J1H | CA43CV615-V5J1H | CA43CV680-V5J1H | CA43CV680-V5J1H | CA43CV680-V5J1H | CA43CV450-V5J1H | CA43CV450-V5J1H | CA43CV500-V5J1H | CA43CV500-V5J1H |
| | | | | / | / | / | / | / | / | / | CA43CV500-V5J1H | CA43CV560-V5J1H | CA43CV560-V5J1H | CA43CV560-V5J1H |
| Capacity | Capacity range | | HP | 16+20 | 18+20 | 20+20 | 20+22 | 20+24 | 22+24 | 24+24 | 16+16+18 | 16+16+20 | 16+18+20 | 18+18+20 |
| | Cooling | | kW | 101.00 | 106.40 | 112.00 | 117.50 | 124.00 | 129.50 | 136.00 | 140.40 | 146.00 | 151.40 | 156.80 |
| | Heating | | kW | 113.00 | 119.50 | 126.00 | 132.00 | 136.00 | 142.00 | 146.00 | 156.50 | 163.00 | 169.50 | 176.00 |
| Electrical parameters | Power supply | | Ph/V/Hz | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 |
| | Cooling | Rated power input | kW | 25.20 | 26.96 | 28.72 | 31.93 | 34.07 | 37.28 | 39.42 | 34.28 | 36.04 | 37.80 | 39.56 |
| | | Max power input | kW | 51.54 | 52.26 | 56.72 | 55.78 | 61.29 | 60.35 | 65.85 | 70.26 | 74.72 | 75.44 | 76.16 |
| | | Rated current | A | 76.33 | 81.65 | 86.98 | 96.51 | 102.96 | 112.49 | 118.94 | 103.84 | 109.17 | 114.49 | 119.81 |
| | | Max current | A | 126.59 | 135.09 | 139.12 | 143.28 | 157.18 | 161.34 | 175.24 | 179.59 | 183.62 | 192.12 | 200.62 |
| | Heating | Rated power input | kW | 26.29 | 28.32 | 30.36 | 31.36 | 33.31 | 34.32 | 36.27 | 35.36 | 37.40 | 39.43 | 41.46 |
| | | Max power input | kW | 40.00 | 43.17 | 44.46 | 45.66 | 49.40 | 50.60 | 54.34 | 56.48 | 57.77 | 60.94 | 64.11 |
| | | Rated current | A | 79.63 | 85.78 | 91.96 | 94.81 | 100.69 | 103.54 | 109.42 | 107.10 | 113.28 | 119.43 | 125.58 |
| | | Max current | A | 112.61 | 122.99 | 123.86 | 130.23 | 141.02 | 147.39 | 158.18 | 162.42 | 163.29 | 173.67 | 184.05 |
| | EER | | | 4.01 | 3.95 | 3.90 | 3.68 | 3.64 | 3.47 | 3.45 | 4.10 | 4.05 | 4.01 | 3.96 |
| | COP | | | 4.30 | 4.22 | 4.15 | 4.21 | 4.08 | 4.14 | 4.03 | 4.43 | 4.36 | 4.30 | 4.25 |
| Performance | Air flow (H) | | $m^3/h$ | C: 31800/H: 29400 | C: 32400/H: 30000 | C: 32400/H: 30000 | C: 32400/H: 30000 | C: 32400/H: 30000 | C: 32400/H: 30000 | C: 32400/H: 30000 | C: 47400/H: 43800 | C: 47400/H: 43800 | C: 48000/H: 44400 | C: 48600/H: 45000 |
| | Sound pressure level (H) | | dB(A) | 64.50 | 65.00 | 65.00 | 65.00 | 66.00 | 66.00 | 66.00 | 66.50 | 66.50 | 66.50 | 67.00 |
| | Sound power level (H) | | dB(A) | 82.14 | 82.64 | 82.64 | 82.00 | 83.00 | 83.00 | 83.00 | 84.68 | 84.68 | 84.68 | 85.18 |
| Installation | External dimensions (W/D/H) | | mm | 1350×720×1690 +1350×720×2048 | 1350×720×2048 +1350×720×2048 | (1350×720×2048)*2 | 1350×720×2048 +1350×720×2048 | 1350×720×2048 +1350×720×2048 | 1350×720×2048 +1350×720×2048 | 1350×720×2048)*2 | (1350×720×1690)*2 +1350×720×2048 | (1350×720×1690)*2 +1350×720×2048 | 1350×720×1690 +1350×720×2048 +1350×720×2048 | 1350×720×2048 +(1350×720×2048)*2 |
| | Shipping dimensions (W/D/H) | | mm | 1450×826×1885 +1450×826×2225 | 1450×826×2225 +1450×826×2225 | (1450×826×2225)*2 | 1450×826×2225 +1450×826×2225 | 1450×826×2225 +1450×826×2225 | 1450×826×2225 +1450×826×2225 | (1450×826×2225)*2 | (1450×826×1885)*2 +1450×826×2225 | (1450×826×1885)*2 +1450×826×2225 | 1450×826×1885 +1450×826×2225 +1450×826×2225 | 1450×826×2225 +(1450×826×2225)*2 |
| | Net/Shipping weight | | kg | 321/346+335/360 | (335/360)*2 | (335/360)*2 | 335/360+359/384 | 335/360+359/384 | (359/384)*2 | (359/384)*2 | (321/346)*2+335/360 | (321/346)*2+335/360 | 321/346+(335/360)*2 | (335/360)*3 |
| | Compressor type | | | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL |
| | Compressor brand | | | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC |
| | Compressor quantity | | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 |
| | Refrigerant type | | | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A |
| | Refrigerant charge | | kg | 20.00 | 20.00 | 20.00 | 20.00 | 20.00 | 20.00 | 20.00 | 30.00 | 30.00 | 30.00 | 30.00 |
| | Refrigerant liquid pipe | | mm | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 |
| | Refrigerant gas pipe | | mm | 38.10 | 38.10 | 38.10 | 38.10 | 38.10 | 38.10 | 38.10 | 38.10 | 38.10 | 38.10 | 41.30 |
| | Oil equalization pipe | | mm | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 |
| | Max.total pipe length | | m | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 |
| | Max. pipe length (Equivalent/Actual) | | m | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 |
| | Max.drop between I.U.&O.U ( O.U down/up) *1 | | m | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 |
| | Standard drop between I.U. &O.U ( O.U up/down) *2 | | m | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 30 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 |
| | Max drop between I.U *3 | | m | 30 | 30 | 30 | 30 | 18 | 30 | 30 | 30 | 30 | 30 | 30 |
| | Standard drop between I.U *4 | | m | 18 | 18 | 18 | 18 | 82 | 18 | 18 | 18 | 18 | 18 | 18 |
| | External static pressure | | Pa | 82 | 82 | 82 | 82 | 50-130 | 82 | 82 | 82 | 82 | 82 | 82 |
| Connection ratio | Connectable indoor unit ratio | | % | 50-130 | 50-130 | 50-130 | 50-130 | 64 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 |
| | Maximum number of indoor units | | | 60 | 64 | 64 | 64 | | 64 | 64 | 64 | 64 | 64 | 64 |
| Working temp. | Cooling | | ℃ | (-5℃-50℃) | | | | | | | (-5℃-50℃) | | | |
| | Heating | | ℃ | (-23℃-21℃) | | | | | | | (-23℃-21℃) | | | |

**Max drop between I.U.&O.U *1** If the height difference between the outdoor and the indoor units is from 50 to 110m, you MUST contact your local distributor/dealer for individual design and production.
**Standard drop between I.U.&O.U *2** Standard design and production in the factory.
**Max drop between I.U. *3** If the height difference between the indoor units is from 18 to 30m, you MUST contact your local distributor/dealer for individual design and production.

**Standard drop between I.U. *4** Standard design and production in the factory.

* All the specifications are tested under nominal condition(in cooling T1, indoor temp. is 27℃ DB/19℃ WB;Outdoor temp 35℃ DB/24WB;in cooling T3, indoor temp. is 27℃ DB/19℃ WB;Outdoor temp 46℃ DB/24WB;in heating, indoor temp.is 20℃ DB,in heating, outdoor temp.is 7℃ DB/6℃WB)

# IMVF-II

## 220V/3Ph/50-60Hz

72HP

DC motor | High performance compressor | 180° sine wave DC inverter | Super quiet | Quiet operation | 3 minutes protection | Blue fin

- Single Module: 8/10/12/14HP,16/18/20/22/24HP
- Combination Module: 22-72HP, 2-3 modules
- Full DC INVERTER technology
- Max.1000m total pipe length, Max.110m height drop
- Compatible with all the IMVF indoor units.

| Model | | | | CA43CV1640-V5J1H | CA43CV1690-V5J1H | CA43CV1740-V5J1H | | CA43CV1800-V5J1H | CA43CV1855-V5J1H | CA43CV1920-V5J1H | CA43CV1975-V5J1H | CA43CV2040-V5J1H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Combination model | | | | CA43CV500-V5J1H | CA43CV560-V5J1H | CA43CV560-V5J1H | | CA43CV560-V5J1H | CA43CV560-V5J1H | CA43CV560-V5J1H | CA43CV615-V5J1H | CA43CV680-V5J1H |
| | | | | CA43CV560-V5J1H | CA43CV560-V5J1H | CA43CV560-V5J1H | | CA43CV560-V5J1H | CA43CV615-V5J1H | CA43CV680-V5J1H | CA43CV680-V5J1H | CA43CV680-V5J1H |
| | | | | CA43CV560-V5J1H | CA43CV560-V5J1H | CA43CV615-V5J1H | | CA43CV680-V5J1H | CA43CV680-V5J1H | CA43CV680-V5J1H | CA43CV680-V5J1H | CA43CV680-V5J1H |
| Capacity | Capacity range | | HP | 18+20+20 | 20+20+20 | 20+20+22 | | 20+20+24 | 20+22+24 | 20+24+24 | 22+24+24 | 24+24+24 |
| | Cooling | | kW | 162.40 | 168.00 | 173.50 | | 180.00 | 185.50 | 192.00 | 197.50 | 204.00 |
| | Heating | | kW | 182.50 | 189.00 | 195.00 | | 199.00 | 205.00 | 209.00 | 215.00 | 219.00 |
| Electrical parameters | Power supply | | Ph/V/Hz | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 | 3/208-230V/60 |
| | Cooling | Rated power input | kW | 41.32 | 43.08 | 46.29 | | 48.43 | 51.64 | 53.78 | 56.99 | 59.13 |
| | | Max power input | kW | 80.62 | 85.08 | 84.14 | | 89.65 | 88.71 | 94.21 | 93.28 | 98.78 |
| | | Rated current | A | 125.14 | 130.47 | 140.00 | | 146.45 | 155.98 | 162.43 | 171.95 | 178.41 |
| | | Max current | A | 204.65 | 208.68 | 212.84 | | 226.74 | 230.90 | 244.80 | 248.96 | 262.85 |
| | Heating | Rated power input | kW | 43.50 | 45.54 | 46.54 | | 48.49 | 49.50 | 51.45 | 52.45 | 54.40 |
| | | Max power input | kW | 65.40 | 66.69 | 67.89 | | 71.63 | 72.83 | 76.57 | 77.77 | 81.51 |
| | | Rated current | A | 131.76 | 137.94 | 140.79 | | 146.67 | 149.52 | 155.40 | 158.25 | 164.13 |
| | | Max current | A | 184.92 | 185.79 | 192.16 | | 202.95 | 209.32 | 220.11 | 226.48 | 237.27 |
| | EER | | | 3.93 | 3.90 | 3.75 | | 3.72 | 3.59 | 3.57 | 3.47 | 3.45 |
| | COP | | | 4.20 | 4.15 | 4.19 | | 4.10 | 4.14 | 4.06 | 4.10 | 4.03 |
| Performance | Air flow (H) | | $m^3/h$ | C: 48600/H: 45000 | C: 48600/H: 45000 | C: 48600/H: 45000 | | C: 48600/H: 45000 | C: 48600/H: 45000 | C: 48600/H: 45000 | C: 48600/H: 45000 | C: 48600/H: 45000 |
| | Sound pressure level (H) | | dB(A) | 67.00 | 67.00 | 67.00 | | 67.00 | 67.00 | 67.00 | 67.00 | 68.00 |
| | Sound power level (H) | | dB(A) | 85.18 | 85.18 | 84.00 | | 84.00 | 84.00 | 84.00 | 84.00 | 85.00 |
| Installation | External dimensions (W/D/H) | | mm | 1350×720×2048 +(1350×720×2048)*2 | (1350×720×2048)*3 | (1350×720×2048)*2+1350×720×2048 | | (1350×720×2048)*2+1350×720×2048 | 1350×720×2048 +1350×720×2048 +1350×720×2048 | (1350×720×2048)*2+1350×720×2048 | (1350×720×2048)*2+1350×720×2048 | (1350×720×2048)*3 |
| | Shipping dimensions (W/D/H) | | mm | 1450×826×2225 +(1450×826×2225)*2 | (1450×826×2225)*3 | (1450×826×2225)*2+1450×826×2225 | | (1450×826×2225)*2+1450×826×2225 | 1450×826×2225 +1450×826×2225 +1450×826×2225 | (1450×826×2225)*2+1450×826×2225 | (1450×826×2225)*2+1450×826×2225 | (1450×826×2225)*3 |
| | Net/Shipping weight | | kg | (335/360)*3 | (335/360)*3 | (335/360)*2+359/384 | | (335/360)*2+359/384 | 335/360+(359/384)*2 | 335/360+(359/384)*2 | (359/384)*3 | (359/384)*3 |
| | Compressor type | | | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL |
| | Compressor brand | | | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC |
| | Compressor quantity | | | 6 | 6 | 6 | | 6 | 6 | 6 | 6 | 6 |
| | Refrigerant type | | | R410A | R410A | R410A | | R410A | R410A | R410A | R410A | R410A |
| | Refrigerant charge | | kg | 30.00 | 30.00 | 30.00 | | 30.00 | 30.00 | 30.00 | 30.00 | 30.00 |
| | Refrigerant liquid pipe | | mm | 19.05 | 19.05 | 19.05 | | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 |
| | Refrigerant gas pipe | | mm | 41.30 | 41.30 | 41.3 | | 41.3 | 41.3 | 41.3 | 41.3 | 41.3 |
| | Oil equalization pipe | | mm | 9.52 | 9.52 | 9.52 | | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 |
| | Max.total pipe length | | m | 1000.00 | 1000.00 | 1000.00 | | 1000.00 | 1000.00 | 1000.00 | 1000.00 | 1000.00 |
| | Max. pipe length (Equivalent/Actual) | | m | 190/165 | 190/165 | 190/165 | | 190/165 | 190/165 | 190/165 | 190/165 | 190/165 |
| | Max drop between I.U.&O.U ( O.U down/up) *1 | | m | 90 / 110 | 90 / 110 | 90 / 110 | | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 | 90 / 110 |
| | Standard drop between I.U. &O.U ( O.U up/down) *2 | | m | 50 / 40 | 50 / 40 | 50 / 40 | | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 | 50 / 40 |
| | Max drop between I.U *3 | | m | 30 | 30 | 30 | | 30 | 30 | 30 | 30 | 30 |
| | Standard drop between I.U *4 | | m | 18 | 18 | 18 | | 18 | 18 | 18 | 18 | 18 |
| Connection ratio | External static pressure | | Pa | 82 | 82 | 82 | | 82 | 82 | 82 | 82 | 82 |
| | Connectable indoor unit ratio | | % | 50~130 | 50~130 | 50~130 | | 50~130 | 50~130 | 50~130 | 50~130 | 50~130 |
| | Maximum number of indoor units | | | 64 | 64 | 64 | | 64 | 64 | 64 | 64 | 64 |
| Working temp. | Cooling | | ℃ | (-5℃-50℃) | | | | | | (-5℃-50℃) | | |
| | Heating | | ℃ | (-23℃-21℃) | | | | | | (-23℃-21℃) | | |

**Max drop between I.U.&O.U *1** If the height difference between the outdoor and the indoor units is from 50 to 110m, you MUST contact your local distributor/dealer for individual design and production.
**Standard drop between I.U.&O.U *2** Standard design and production in the factory.
**Max drop between I.U. *3** If the height difference between the indoor units is from 18 to 30m, you MUST contact your local distributor/dealer for individual design and production.

**Standard drop between I.U. *4** Standard design and production in the factory.
* All the specifications are tested under nominal condition(in cooling T1, indoor temp. is 27℃ DB/19℃ WB,Outdoor temp 35℃ DB/24WB;in cooling T3, indoor temp. is 27℃ DB/19℃ WB,Outdoor temp 46℃ DB/24WB;in heating, indoor temp.is 20℃ DB,in heating, outdoor temp.is 7℃ DB/6℃ WB)



IMVF
Inverter Multi Variable Flow

# Water Cooled VRF (IMVF W)

# FEATURES&BENEFITS

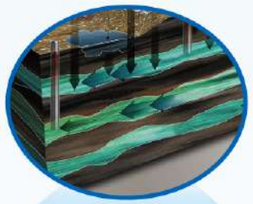
## Outdoor Structure (8/10/12hp Side Discharge)

More Bigger Outdoor Capacity, More Flexible Application

River water

Lake water

Sea water



Ground water

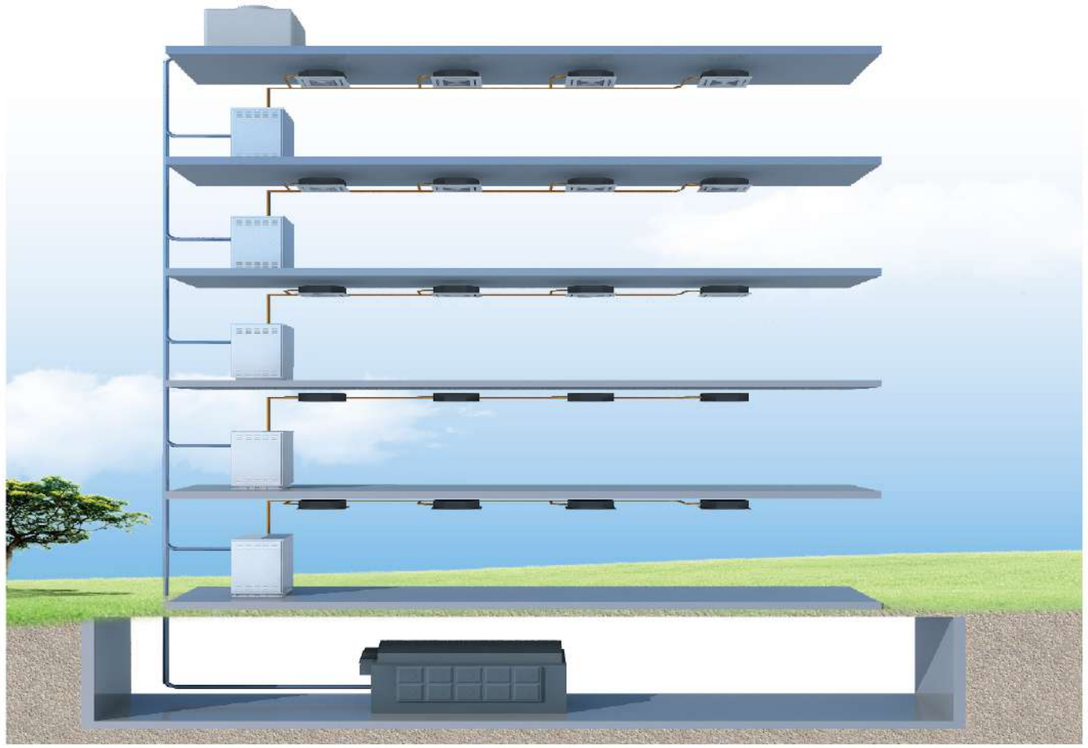
Soil

Solar energy

Waste water

Industry waste heat



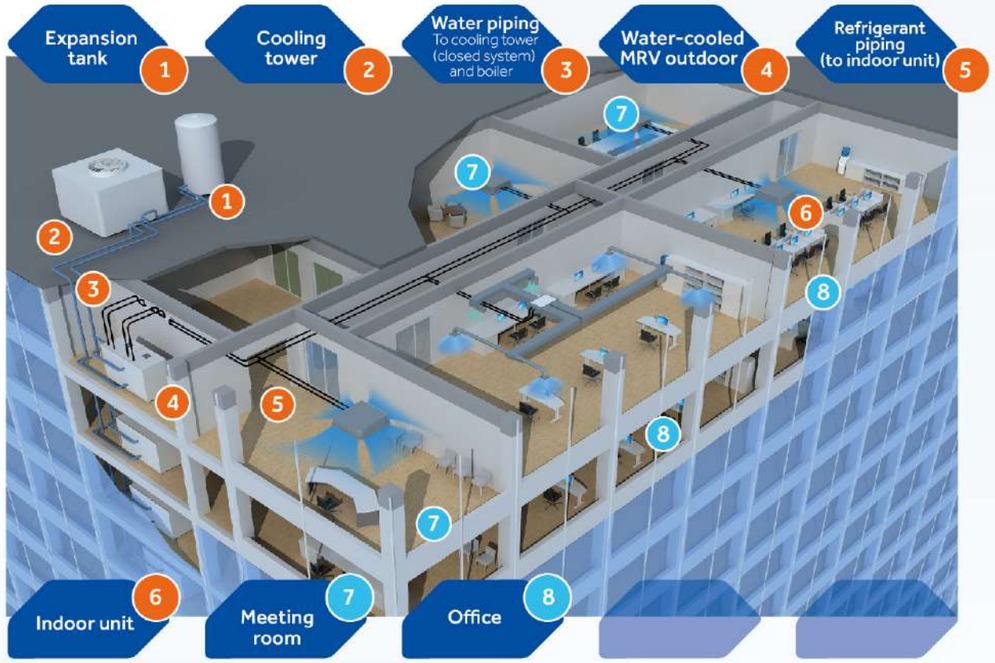


## What is IMVF W Series

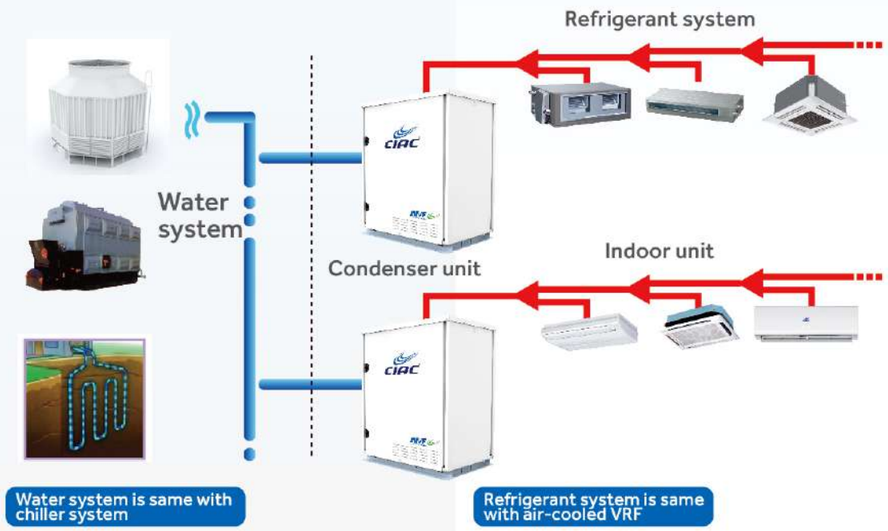
- IMVF W series system is a VRF air conditioning system that adopts water as a cooling or heating source
- IMVF W series can combine water system and refrigerant system together

# FEATURES&BENEFITS

## System Introduction



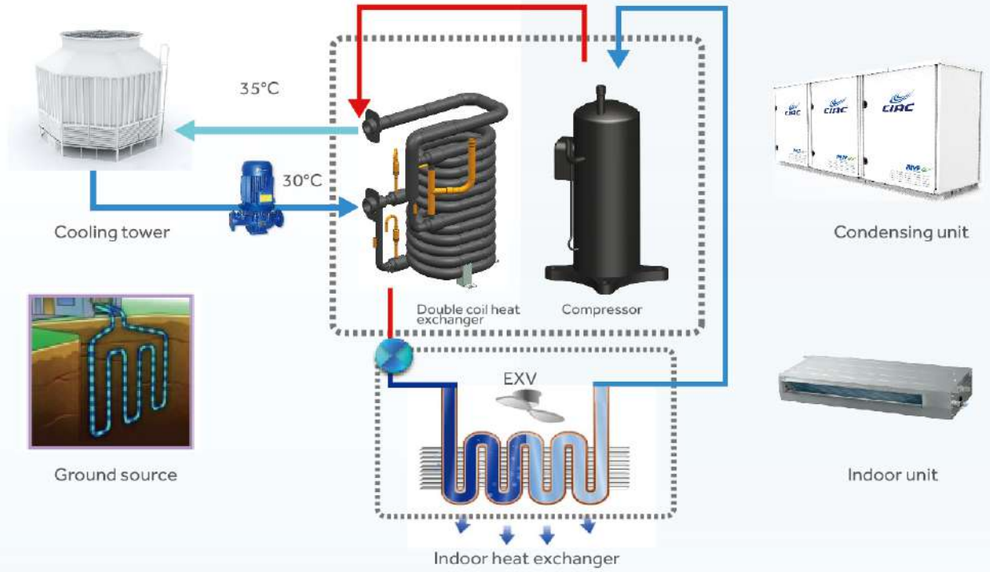

## Working Principle



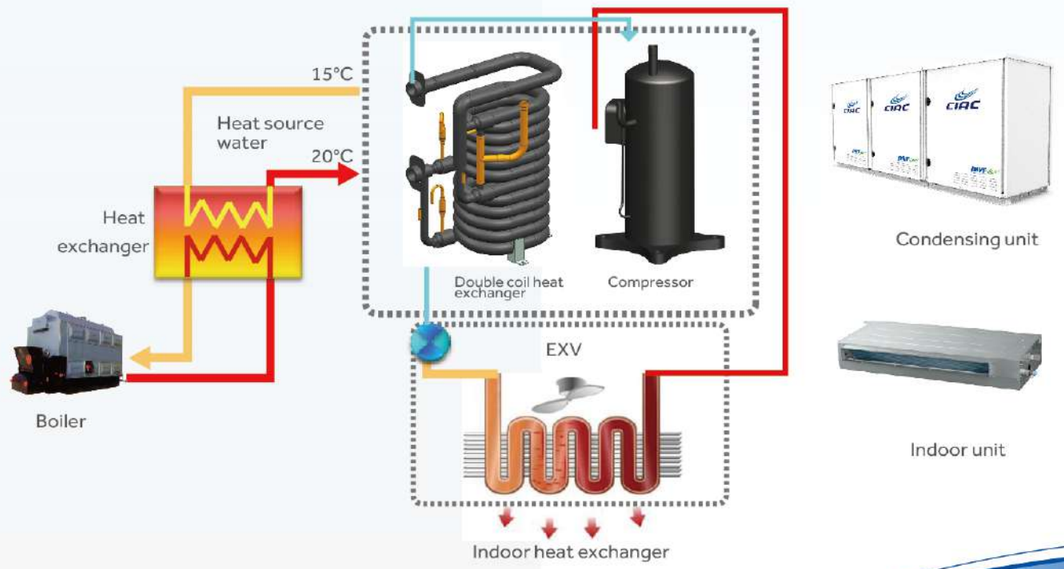



## Working Principle

Working principle in cooling mode



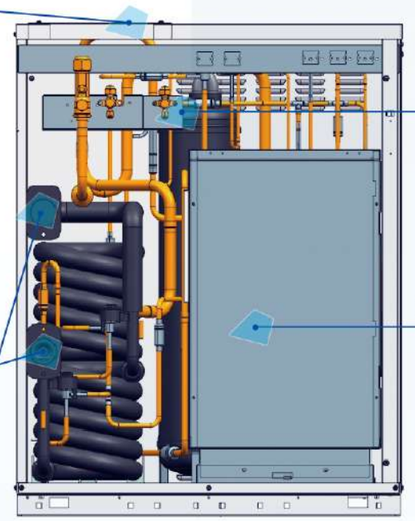

Working principle in heating mode



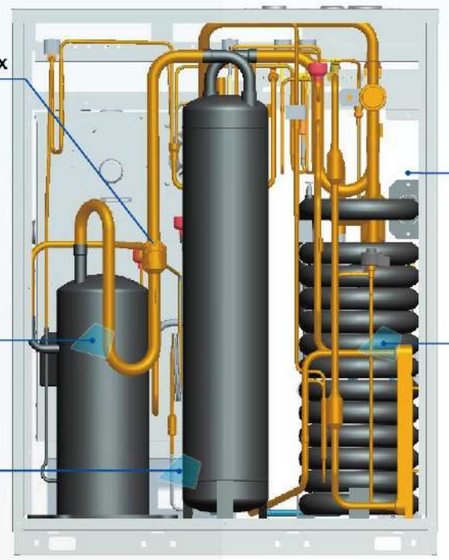
# FEATURES&BENEFITS

## Outdoor Structure

### Core Technologies and Parts (Front Side)




### Core Technologies and Parts(Back Side)






## IMVF W Application Typical high-rise buildings

### 3 Types Typical High-rise Buildings

•Compact inner structure and core parts

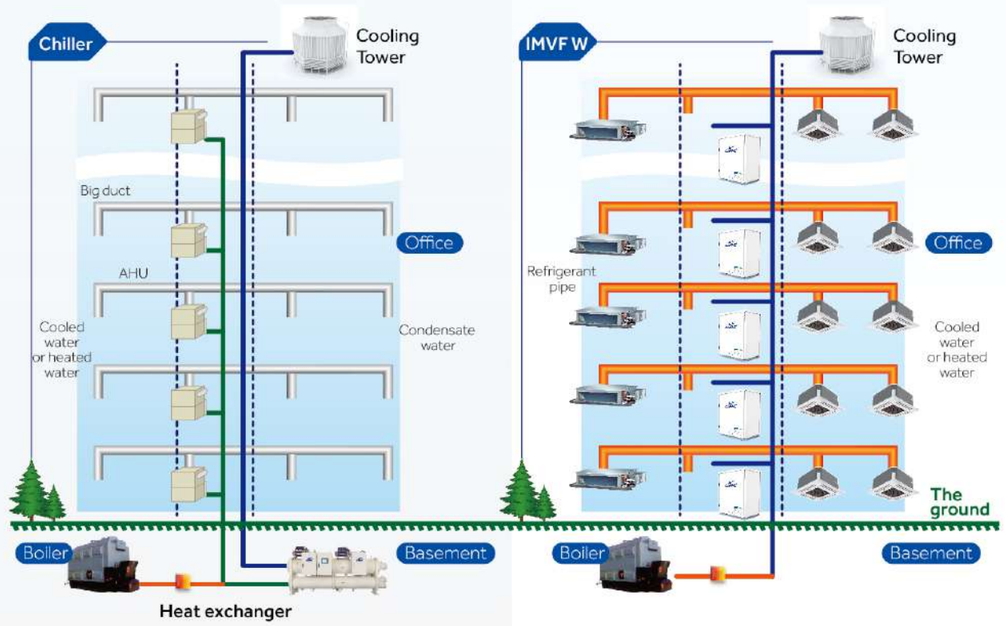

High rise building without podium


High rise building with podium


Single layer with a large area

### Type 1 High-rise Building

•Conventional chiller system, and new water-cooled IMVF solution

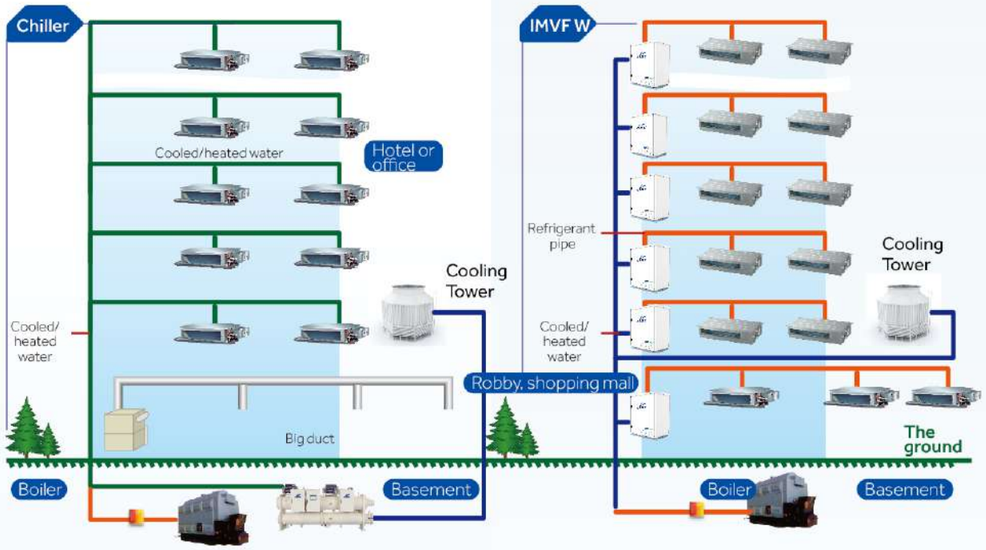


# FEATURES&BENEFITS

## IMVF W Application

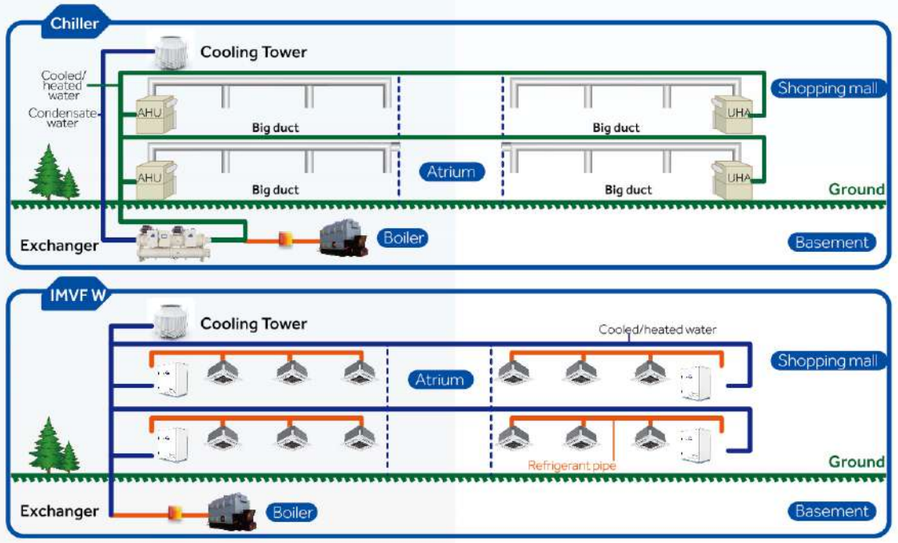
### Type 2 High-rise Building

•Conventional chiller system, and water-cooled IMVF solution




### Type 3 High-rise Building

•Conventional chiller system, and water-cooled IMVF solution






## IMVF W Application

### Buildings That Suitable

•New construction or retrofit building: MRV W provides an energy efficient solution anywhere that could use a water-cooled chiller or replacing water source heat pump design by enabling them to afford the water-cooled chiller benefits. It is especially true for high-rise buildings such as condos, offices, medical centers, schools

•High-rise building that didn't design with VRF system

•Glass curtain wall or special design building

•No enough space to put the outdoor unit even accept the VRF system

•Building which required to renewable energy sources

### Benefit

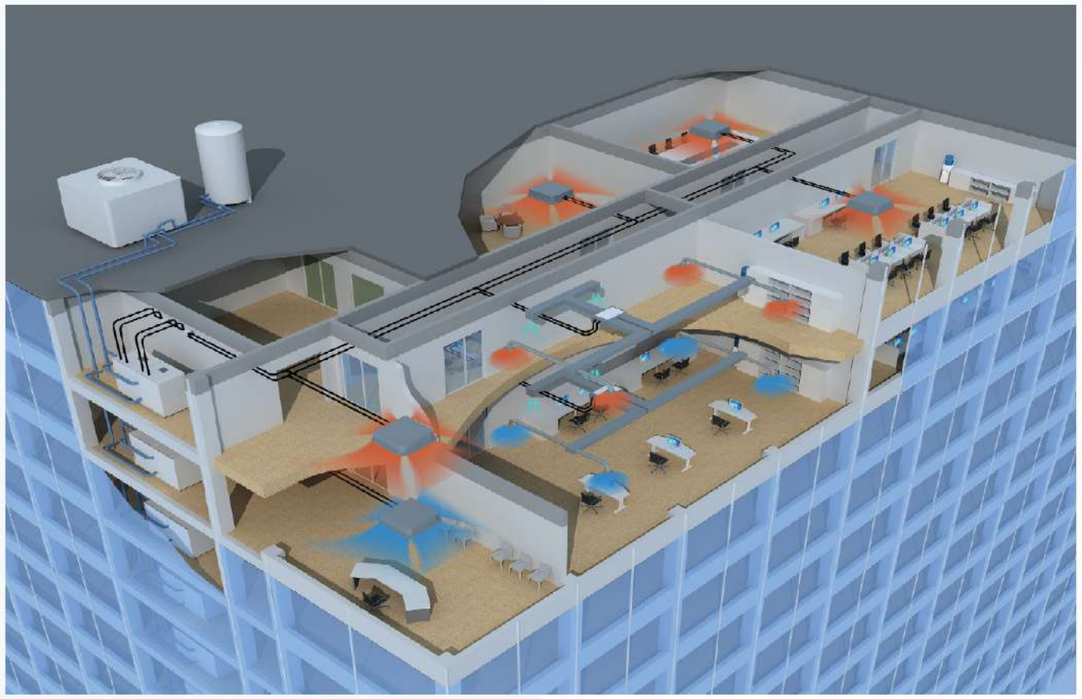
•Lower initial cost for the developer and builder

•Client or developer can add air conditioning to match load requirement

•No rebalancing of water systems if commissioning valves are installed on each floor

•Connect to the full suite of MRV control solution A/C management system

•Separate control to every indoor unit



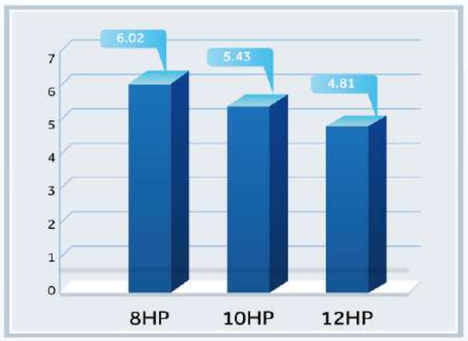
# FEATURES&BENEFITS

## Overview


## Energy saving

•COP can be up to 6.02, much more higher energy level than air system

•EER can be up to 4.98, more higher energy level than air system





## Energy Saving

### High efficiency dc inverter compressor

•High efficiency DC inverter compressor from mitsubishi electric

## Energy Saving

### High efficiency double coil heat exchanger

•Double coil heat-exchanger, more uniform heat transfer effect

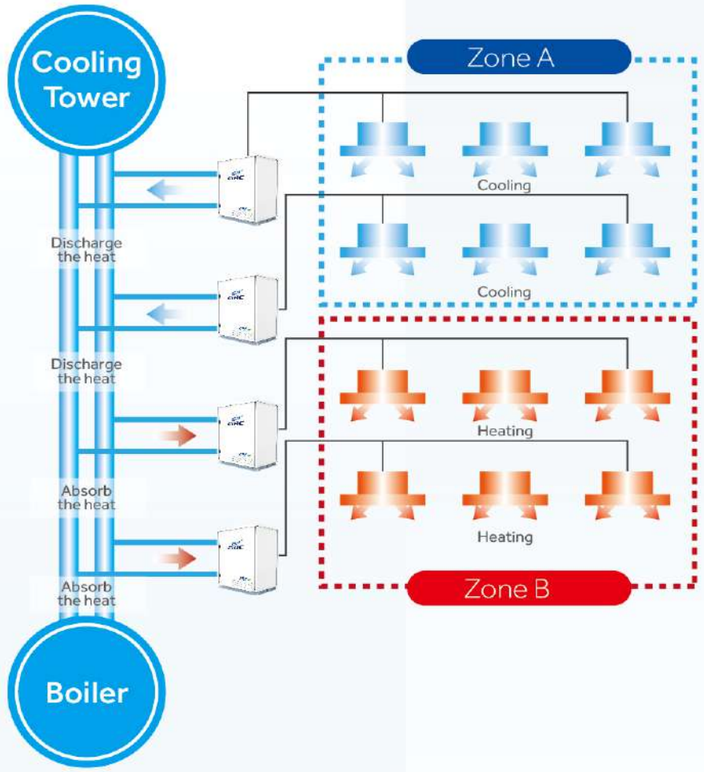



## Energy Saving

### Heat recovery between different refrigerant system

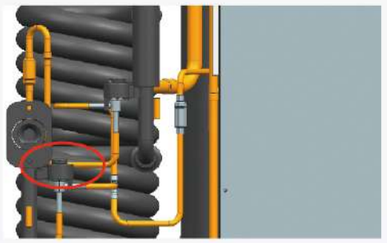
•Heat recovery is achieved within the water loop between different refrigerant system, more higher total COP

•Cooling and heating at the same time in different refrigerant system




## Double EEV Control

•The double EEV control the 2 stages heat exchanger separately, which can adjust the condenser volume

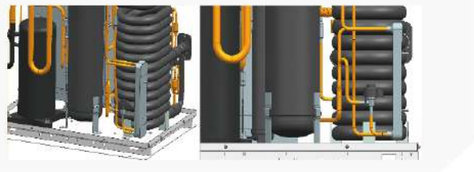


## Two Stage Deep Sub Cooling Technology

•1st stage sub cooling added a sub cooling coil to condenser

•2nd stage sub cooling added a stand alone sub cooler

•After further cooling, sub-cooling degree can be up to 30°C, with the heat exchanging capacity per unit mass of refrigerant improved by 46% and flow resistance reduced by 55%, and running efficiency improved by 9%



# FEATURES&BENEFITS

## Comfortable Environment

### Low Noise Level

•Comparing with air system, without fan in the outdoor and with full insulation design, the noise level can be reduced to only 50dB(A), much lower than the air system and conventional chiller


### No Influence From Ambient Temperature

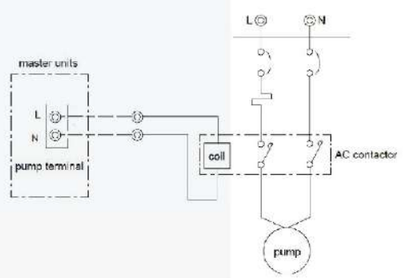
•Thanks to the stable water source, the capacity and efficiency will not reduce with extreme ambient conditions compare with air-cooled system

•Especially in heating mode, water cooling means no defrost operation is required, the resultant rapid start up time assures quick and comfortable heating, even in cold environment

## High Reliability

### Water Pump Controlled Together with the Outdoor

•The reserved water pump linkage control, realize the pump linkage control, reduce the energy consumption and eliminate hidden dangers

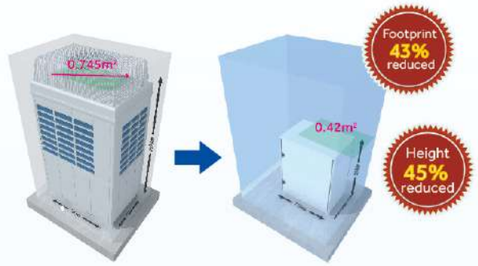





## High Convenience (Use/installation/service)

### Compact and Lightweight Design

•The industry's most compact and lightweight design, installed in the narrow space.
Comparing with the conventional top discharge air-cooled system, height 45% reduced, footprint 43% reduced



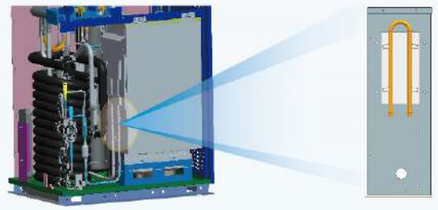

### Stacked Installation

•The condensers are smaller and can be staked, reducing the installation space and increasing the customers usable square footage

## High Reliability

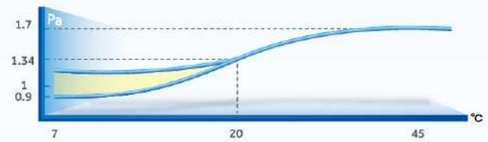
### Chilled Electric Control Module

•Using refrigerant to reduce the module temperature, to realize stable module temperature, more reliable operation
•Canceling heat dissipation fan of the module, reduce the power consumption and noise level

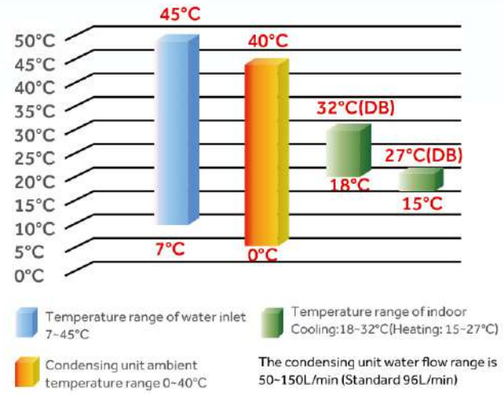


### Stable Pressure Setting

•Stable pressure setting design, to make the high pressure keep above the required pressure, ensure the compressor reliability and stable capacity output




### Wide Operation Range

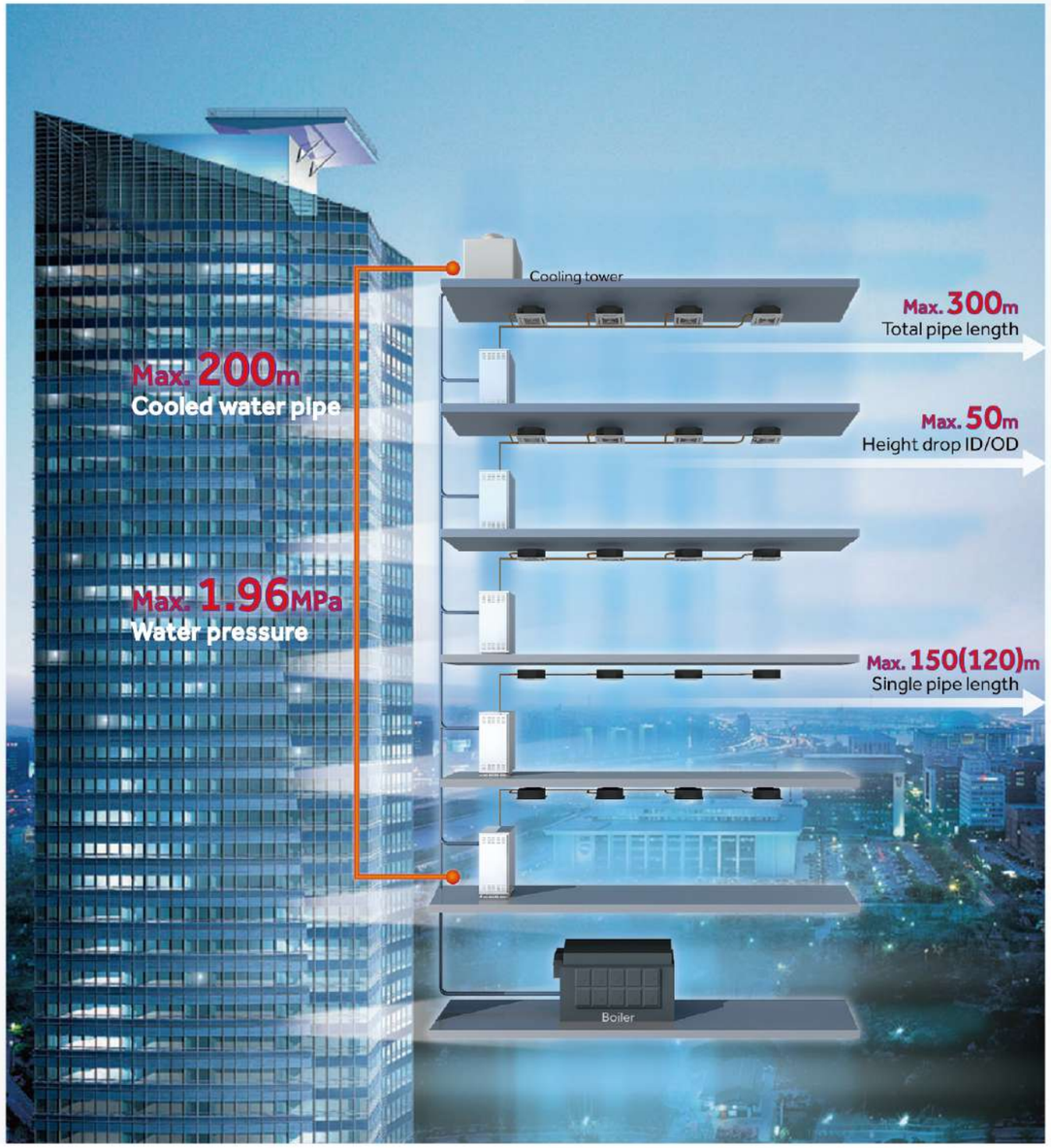


# FEATURES&BENEFITS

## Energy Efficiency

### Long Pipe Length and High Height Drop

The condensers are smaller and can be staked, reducing the installation space and increasing the customers usable square footage

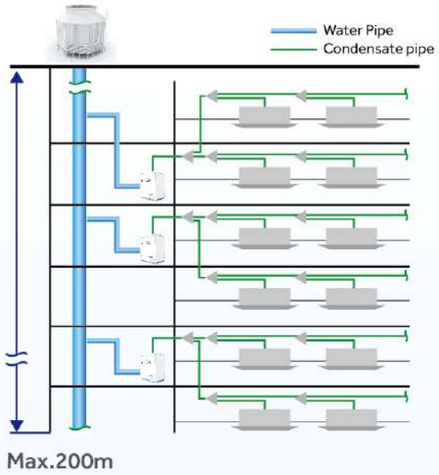





## Energy Efficiency

### Flexible Water Pipe Design

- Max water pressure can be up to 1.96MPa
- Condensate pipe length can be up to 200m




## Energy Efficiency

### Flexible Installation Location

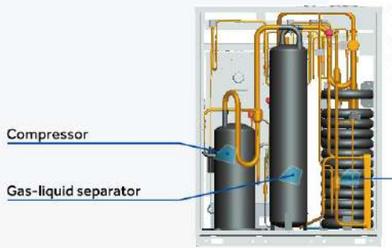

## High Convenience (Use/installation/service)

### Various Mode and Priority Selection

- The condensers are smaller and can be staked, reducing the installation space and increasing the customers usable square footage


### Easy Maintenance

Compact outdoor structure design




8/10/12HP


# IMVF Water Cooled Module

## 208-230V/3Ph/60Hz


DC motor | High performance compressor | 180° sine wave DC inverter | Super quiet | Quiet operation | 3 minutes protection | Lowambient cooling (-5°C) | Lowambient heating (-15°C) | Blue fin

| Model | | | CA43BV224-E5J1W | CA43BV280-E5J1W | CA43BV335-E5J1W | CA43BV448-E5J1W | CA43BV504-E5J1W | CA43BV560-E5J1W | CA43BV615-E5J1W | CA43BV670-E5J1W | CA43BV728-E5J1W | CA43BV784-E5J1W | CA43BV840-E5J1W | CA43BV895-E5J1W | CA43BV950-E5J1W | CA43BV1005-E5J1W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Combination model | | | / | / | / | CA43BV224-5J1W | CA43BV224-5J1W | CA43BV280-5J1W | CA43BV280-5J1W | CA43BV335-5J1W | CA43BV224-5J1W | CA43BV224-5J1W | CA43BV280-5J1W | CA43BV280-5J1W | CA43BV280-5J1W | CA43BV335-5J1W |
| | | | / | / | / | CA43BV224-5J1W | CA43BV280-5J1W | CA43BV280-5J1W | CA43BV335-5J1W | CA43BV335-5J1W | CA43BV224-5J1W | CA43BV280-5J1W | CA43BV280-5J1W | CA43BV280-5J1W | CA43BV335-5J1W | CA43BV335-5J1W |
| | | | / | / | / | / | / | / | / | / | CA43BV280-5J1W | CA43BV280-5J1W | CA43BV280-5J1W | CA43BV335-5J1W | CA43BV335-5J1W | CA43BV335-5J1W |
| Capacity | Capacity range | HP | 8 | 10 | 12 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 |
| | Cooling capacity | kW | 22.4 | 28 | 33.5 | 44.8 | 50.4 | 56 | 61.5 | 67.0 | 72.8 | 78.4 | 84.0 | 89.5 | 95.0 | 100.5 |
| | Heating capacity | kW | 25 | 31.5 | 37.5 | 50.0 | 56.5 | 63 | 69.0 | 75.0 | 81.5 | 88.0 | 94.5 | 100.5 | 106.5 | 112.5 |
| Electrical parameters | Power supply | Ph/V/Hz | 3/208-230/60 | 3/208-230/60 | 3/208-230/60 | 3/208-230/60 | 3/208-230/60 | 3/208-230/60 | 3/208-230/60 | 3/208-230/60 | 3/208-230/60 | 3/208-230/60 | 3/208-230/60 | 3/208-230/60 | 3/208-230/60 | 3/208-230/60 |
| | Cooling | Rated power input | 4.50 | 6.00 | 7.70 | 9.00 | 10.50 | 12.00 | 13.70 | 15.40 | 15.00 | 16.50 | 18.00 | 19.70 | 21.40 | 23.10 |
| | | Max. power input | 13.00 | 15.00 | 17.00 | 26.00 | 28.00 | 30.00 | 32.00 | 34.00 | 41.00 | 43.00 | 45.00 | 47.00 | 49.00 | 51.00 |
| | | Rated current | 12.43 | 16.58 | 21.27 | 24.86 | 29.01 | 33.15 | 37.85 | 42.54 | 41.44 | 45.58 | 49.73 | 54.42 | 59.12 | 63.81 |
| | | Max.current | 35.91 | 41.44 | 46.96 | 71.83 | 77.35 | 82.88 | 88.40 | 93.93 | 113.26 | 118.79 | 124.31 | 129.84 | 135.36 | 140.89 |
| | Heating | Rated power input | 4.15 | 5.80 | 7.80 | 8.30 | 9.95 | 11.60 | 13.60 | 15.60 | 14.10 | 15.75 | 17.40 | 19.40 | 21.40 | 23.40 |
| | | Max. power input | 13.00 | 15.00 | 17.00 | 26.00 | 28.00 | 30.00 | 32.00 | 34.00 | 41.00 | 43.00 | 45.00 | 47.00 | 49.00 | 51.00 |
| | | Rated current | 11.46 | 16.02 | 21.55 | 22.93 | 27.49 | 32.05 | 37.57 | 43.10 | 38.95 | 43.51 | 48.07 | 53.59 | 59.12 | 64.64 |
| | | Max.current | 35.91 | 41.44 | 46.96 | 71.83 | 77.35 | 82.88 | 88.40 | 93.93 | 113.26 | 118.79 | 124.31 | 129.84 | 135.36 | 140.89 |
| | EER/COP | | 4.98/6.02 | 4.67/5.43 | 4.35/4.81 | 4.98/6.02 | 4.8/5.68 | 4.67/5.43 | 4.49/5.07 | 4.35/4.81 | 4.85/5.78 | 4.75/5.59 | 4.67/5.43 | 4.54/5.18 | 4.44/4.98 | 4.35/4.81 |
| Performance | Water flow (H) | $m^3/h$ | 4.8 | 6 | 7.2 | 9.6 | 10.8 | 12 | 13.2 | 14.4 | 15.6 | 16.8 | 18.0 | 19.2 | 20.4 | 21.6 |
| | Sound pressure level (H) | dB(A) | 50 | 51 | 53 | 53 | 54 | 54 | 55 | 56 | 55 | 55 | 56 | 57 | 57 | 58 |
| | Sound power level (H) | dB(A) | 61 | 62 | 64 | 64 | 65 | 65 | 66 | 67 | 66 | 66 | 67 | 68 | 68 | 69 |
| Installation | External dimensions(W/D/H) | mm | 775/545/995 | 775/545/995 | 775/545/995 | (775/545/995)*2 | (775/545/995)*2 | (775/545/995)*2 | (775/545/995)*2 | (775/545/995)*2 | (775/545/995)*3 | (775/545/995)*3 | (775/545/995)*3 | (775/545/995)*3 | (775/545/995)*3 | (775/545/995)*3 |
| | Shipping dimensions(W/D/H) | mm | 875/655/1182 | 875/655/1182 | 875/655/1182 | (875/655/1182)*2 | (875/655/1182)*2 | (875/655/1182)*2 | (875/655/1182)*2 | (875/655/1182)*2 | (875/655/1182)*3 | (875/655/1182)*3 | (875/655/1182)*3 | (875/655/1182)*3 | (875/655/1182)*3 | (875/655/1182)*3 |
| | Net/Shipping weight | kg | 172/183 | 172/183 | 172/183 | 344/366 | 344/366 | 344/366 | 344/366 | 344/366 | 516/549 | 516/549 | 516/549 | 516/549 | 516/549 | 516/549 |
| | Compressor type | | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL | DC INV. SCROLL |
| | Compressor quantity | | 1 INV | 1 INV | 1 INV | 2 INV | 2 INV | 2 INV | 2 INV | 2 INV | 3 INV | 3 INV | 3 INV | 3 INV | 3 INV | 3 INV |
| | Refrigerant type | | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A |
| | Refrigerant charge | kg | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 |
| | Refrigerant liquid pipe | mm | 9.52 | 9.52 | 12.7 | 12.7 | 15.9 | 15.9 | 15.9 | 15.9 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 | 19.1 |
| | Refrigerant gas pipe | mm | 19.05 | 22.2 | 25.4 | 28.6 | 28.6 | 28.6 | 28.6 | 28.6 | 31.8 | 31.8 | 31.8 | 31.8 | 31.8 | 38.1 |
| | Oil equalization pipe | mm | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 |
| | Total pipe length | m | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| | Max. pipe length(Equivalent/Actual) | m | 150/120 | 150/120 | 150/120 | 150/120 | 150/120 | 150/120 | 150/120 | 150/120 | 150/120 | 150/120 | 150/120 | 150/120 | 150/120 | 150/120 |
| | Max drop between I.U.&O.U | m | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 | 50/40 |
| Heat Exchanger | Type | | Double coil | Double coil | Double coil | Double coil | Double coil | Double coil | Double coil | Double coil | Double coil | Double coil | Double coil | Double coil | Double coil | Double coil |
| | Material | | Copper&Steel | Copper&Steel | Copper&Steel | Copper&Steel | Copper&Steel | Copper&Steel | Copper&Steel | Copper&Steel | Copper&Steel | Copper&Steel | Copper&Steel | Copper&Steel | Copper&Steel | Copper&Steel |
| Water side | Inlet water connection pipe | mm | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 |
| | Outlet water connection pipe | mm | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 | DN32 |
| | pressure drop( inlet and outlet) | Kpa | 35 | 50 | 70 | 35+35 | 35+50 | 50+50 | 50+70 | 70+70 | 35+35+50 | 35+50+50 | 50+50+50 | 50+50+70 | 50+70+70 | 70+70+70 |
| | Connection type | | inner grooved | inner grooved | inner grooved | inner grooved | inner grooved | inner grooved | inner grooved | inner grooved | inner grooved | inner grooved | inner grooved | inner grooved | inner grooved | inner grooved |
| | Max. system water pressure | Mpa | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| | Inlet water temperature range (Cooling & Heating) | °C | 7-45 | 7-45 | 7-45 | 7-45 | 7-45 | 7-45 | 7-45 | 7-45 | 7-45 | 7-45 | 7-45 | 7-45 | 7-45 | 7-45 |
| Connection ratio | Connectable indoor unit ratio | % | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 |
| | Maximum number of indoor units | unt | 13 | 16 | 19 | 23 | 29 | 33 | 36 | 39 | 43 | 46 | 50 | 53 | 56 | 59 |

* 1. outdoor above 50m,outdoor below 40m.
* All the specifications are tested under nominal condition:In cooling, Indoor temp is 27°C DB/19°C WB, Outdoor temp 35°C DB/24°C WB. In heating, Indoor temp is 20°C DB, Outdoor temp is 7°C DB/6°C WB).
* The specification may change according to the further product developement.





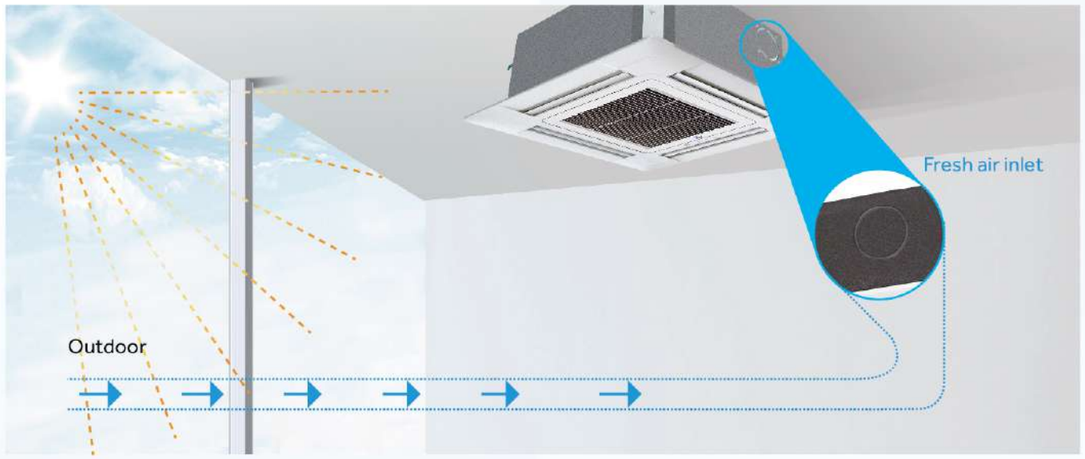


IMVF
Inverter Multi Variable Flow

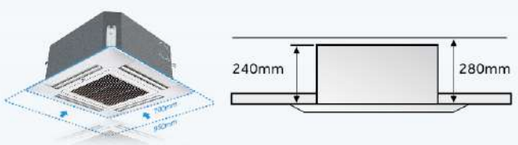
# Indoor Units

# 4-way cassette compact

**•Fresh Air Inlet Except For 5.6/7.1/8.0 kW**

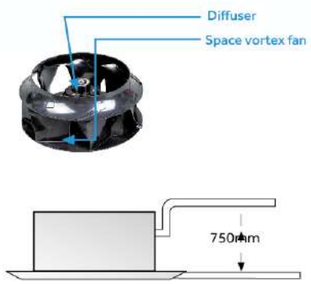



**•Compact Design, Only 240mm Height, (For 5.6/7.1/8.0kW)**
**700 X 700mm Panel (For 2.8/3.6/4.5kW)**




**•Built in High Head Drain Pump**

**•Quiet Operation, Diffuser and Space Vortex Fan Design, More Lower Noise**





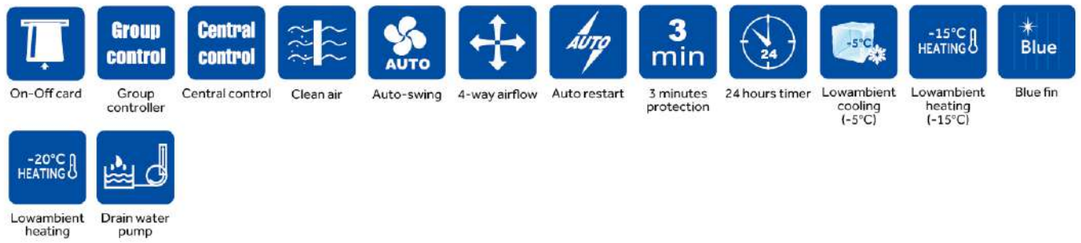

CK43BV028-CYJ1H
CK43BV036-CYJ1H
CK43BV045-CYJ1H


YR-E17A(S)


YR-E16B(O)


YR-HRS01(O)

## STANDARD FUNCTION




On-Off card | Group controller | Central control | Clean air | Auto-swing | 4-way airflow | Auto restart | 3 minutes protection | 24 hours timer | Lowambient cooling (-5°C) | Lowambient heating (-15°C) | Blue fin | Lowambient heating | Drain water pump

| Model/Indoor unit | | | CK43BV028-CYJ1H | CK43BV036-CYJ1H | CK43BV045-CYJ1H |
|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 9.5 | 12.3 | 15.3 |
| | | kW | 2.8 | 3.6 | 4.5 |
| | Heating | Btu/h | 10.9 | 13.6 | 17.1 |
| | | kW | 3.2 | 4 | 5 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/220-230/50/60 |
| Performance | Air flow (H) | m³/h | 700 | 700 | 700 |
| | Sound pressure level(H/M/L) | dB(A) | 32/30/29 | 32/30/29 | 33/30/29 |
| | Sound power level(H/M/L) | dB(A) | 46/44/43 | 46/44/43 | 47/44/43 |
| Installation | External dimensions(W/D/H) | mm | 570/570/260 | 570/570/260 | 570/570/260 |
| | Shipping dimensions(W/D/H) | mm | 718/680/380 | 718/680/380 | 718/680/380 |
| | Net/Shipping weight | kg | 17/21 | 19/23 | 19/23 |
| | Refrigerant liquid pipe | mm | 6.35 | 6.35 | 6.35 |
| | Refrigerant gas pipe | mm | 9.52 | 12.7 | 12.7 |
| Panel | Model name | | PB-700IB | PB-700IB | PB-700IB |
| | External dimensions(W/D/H) | mm | 700/700/60 | 700/700/60 | 700/700/60 |
| | Shipping dimensions(W/D/H) | mm | 740/740/115 | 740/740/115 | 740/740/115 |
| | Net/Shipping weight | kg | 2.8/4.5 | 2.8/4.5 | 2.8/4.5 |
| Controller | Wired(O-Optional/S-Standard) | / | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) |
| | | / | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) |
| | Infrared(O-Optional/S-Standard) | / | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) |

# 4-way cassette

CK43CV056-4YJ1H
CK43CV071-4YJ1H
CK43CV080-4YJ1H

YR-E17A(S)

YR-E16B(O)

YR-HRS01(O)

## STANDARD FUNCTION

On-Off card
Group controller
Central control
Clean air
Auto-swing
4-way airflow
Auto restart
3 minutes protection
24 hours timer
Lowambient cooling (-5°C)
Lowambient heating (-15°C)
Blue fin
Lowambient heating
Drain water pump

| Model/Indoor unit | | | CK43CV056-4YJ1H | CK43CV071-4YJ1H | CK43CV080-4YJ1H |
|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 19.1 | 24.2 | 27.3 |
| | | kW | 5.6 | 7.1 | 8 |
| | Heating | Btu/h | 21.5 | 27.3 | 30.7 |
| | | kW | 6.3 | 8 | 9 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| Performance | Air flow (H) | m³/h | 1000/810/620 | 1380/1190/1000 | 1380/1190/1000 |
| | Sound pressure level(H/M/L) | dB(A) | 33/30/29 | 35/34/31 | 37/35/31 |
| | Sound power level(H/M/L) | dB(A) | 47/44/43 | 49/48/45 | 51/49/45 |
| Installation | External dimensions(W/D/H) | mm | 840/840/180 | 840/840/204 | 840/840/204 |
| | Shipping dimensions(W/D/H) | mm | 983/983/268 | 983/983/290 | 983/983/290 |
| | Net/Shipping weight | kg | 25/28 | 25/28 | 25/28 |
| | Refrigerant liquid pipe | mm | 6.35 | 9.52 | 9.52 |
| | Refrigerant gas pipe | mm | 12.7 | 15.88 | 15.88 |
| Panel | Model name | | PB-950JB | PB-950JB | PB-950JB |
| | External dimensions(W/D/H) | mm | 950/950/60 | 950/950/60 | 950/950/60 |
| | Shipping dimensions(W/D/H) | mm | 992/992/115 | 992/992/115 | 992/992/115 |
| | Net/Shipping weight | kg | 6/7.5 | 6/7.5 | 6/7.5 |
| Controller | Wired (O-Optional/S-Standard) | / | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) |
| | | / | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) |
| | Infrared(O-Optional/S-Standard) | / | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) |



CK43CV090-4YJ1H
CK43CV112-4YJ1H
CK43CV140-4YJ1H

YR-E17A(S)

YR-E16B(O)

YR-HRS01(O)

## STANDARD FUNCTION

On-Off card
Group controller
Central control
Clean air
Auto-swing
4-way airflow
Auto restart
3 minutes protection
24 hours timer
Lowambient cooling (-5°C)
Lowambient heating (-15°C)
Blue fin
Lowambient heating
Drain water pump

| Model/Indoor unit | | | CK43CV090-4YJ1H | CK43CV112-4YJ1H | CK43CV140-4YJ1H |
|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 30.7 | 38.2 | 47.8 |
| | | kW | 9 | 11.2 | 14 |
| | Heating | Btu/h | 34.1 | 42.7 | 54.6 |
| | | kW | 10 | 12.5 | 16 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| Performance | Air flow (H) | m³/h | 2050/1860/1670 | 2050/1860/1670 | 2100/1910/1720 |
| | Sound pressure level(H/M/L) | dB(A) | 37/35/31 | 37/35/31 | 44/40/36 |
| | Sound power level(H/M/L) | dB(A) | 51/49/45 | 51/49/45 | 58/54/50 |
| Installation | External dimensions(W/D/H) | mm | 840/840/246 | 840/840/246 | 840/840/288 |
| | Shipping dimensions(W/D/H) | mm | 983/983/331 | 983/983/331 | 983/983/373 |
| | Net/Shipping weight | kg | 25/28 | 25/28 | 25/28 |
| | Refrigerant liquid pipe | mm | 9.52 | 9.52 | 9.52 |
| | Refrigerant gas pipe | mm | 15.88 | 15.88 | 15.88 |
| Panel | Model name | | PB-950JB | PB-950JB | PB-950JB |
| | External dimensions(W/D/H) | mm | 950/950/60 | 950/950/60 | 950/950/60 |
| | Shipping dimensions(W/D/H) | mm | 992/992/115 | 992/992/115 | 992/992/115 |
| | Net/Shipping weight | kg | 6/7.5 | 6/7.5 | 6/7.5 |
| Controller | Wired (O-Optional/S-Standard) | / | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) |
| | | / | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) |
| | Infrared(O-Optional/S-Standard) | / | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) |

# Round-way Cassette

- CK43BV022-6YJ1H
- CK43BV028-6YJ1H
- CK43BV036-6YJ1H
- CK43BV045-6YJ1H
- CK43BV056-6YJ1H

YR-E17A(S)

YR-E16B(O)

YR-HRS01(O)

- Unique round-way air outlet, no blind spot
- Innovative 4 independent air flow control
- 6 adjustable louver positions, 1296 air flow combinations

| Model/indoor unit | | | CK43BV022-6YJ1H | CK43BV028-6YJ1H | CK43BV036-6YJ1H | CK43BV045-6YJ1H | CK43BV056-6YJ1H |
|---|---|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 7.5 | 9.5 | 12.3 | 15.3 | 19.1 |
| | | kW | 2.2 | 2.8 | 3.6 | 4.5 | 5.6 |
| | Heating | kBtu/h | 8.5 | 10.9 | 13.6 | 17.1 | 21.5 |
| | | kW | 2.5 | 3.2 | 4 | 5 | 6.3 |
| Electrical parameters | Power supply | V-Ph-Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| Performance | Air flow (H/M/L) | m³/h | 1000/810/620 | 1000/810/620 | 1000/810/620 | 1000/810/620 | 1000/810/620 |
| | Sound pressure level (H/M/L) | dB(A) | 30/27/25 | 30/27/25 | 30/27/25 | 32/29/27 | 33/30/29 |
| Installation | Dimension (W/H/D) | mm | 840/840/183 | 840/840/183 | 840/840/183 | 840/840/183 | 840/840/183 |
| | Packing (W/H/D) | mm | 983/983/268 | 983/983/268 | 983/983/268 | 983/983/268 | 983/983/268 |
| | Net weight | kg | 25 | 25 | 25 | 25 | 25 |
| | Gross weight | kg | 28 | 28 | 28 | 28 | 28 |
| | Refrigerant Liquid pipe | mm | 6.35 | 6.35 | 6.35 | 6.35 | 6.35 |
| | Refrigerant Gas pipe | mm | 9.52 | 9.52 | 12.7 | 12.7 | 12.7 |
| Panel | Model name | | PB-950KB | PB-950KB | PB-950KB | PB-950KB | PB-950KB |
| | External Dimension(W/D/H) | mm | 950/950/50 | 950/950/50 | 950/950/50 | 950/950/50 | 950/950/50 |
| | Shipping Dimension(W/D/H) | mm | 1013/1025/123 | 1013/1025/123 | 1013/1025/123 | 1013/1025/123 | 1013/1025/123 |
| | Net weight | kg | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| | Gross weight | kg | 9 | 9 | 9 | 9 | 9 |
| Controller | Wired (O-Optional/S-Standard) | | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) |
| | | | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) |
| | Infrared(O-Optional/S-Standard) | | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) |



- CK43BV071-6YJ1H
- CK43BV090-6YJ1H
- CK43BV112-6YJ1H
- CK43BV126-6YJ1H
- CK43BV140-6YJ1H

YR-E17A(S)

YR-E16B(O)

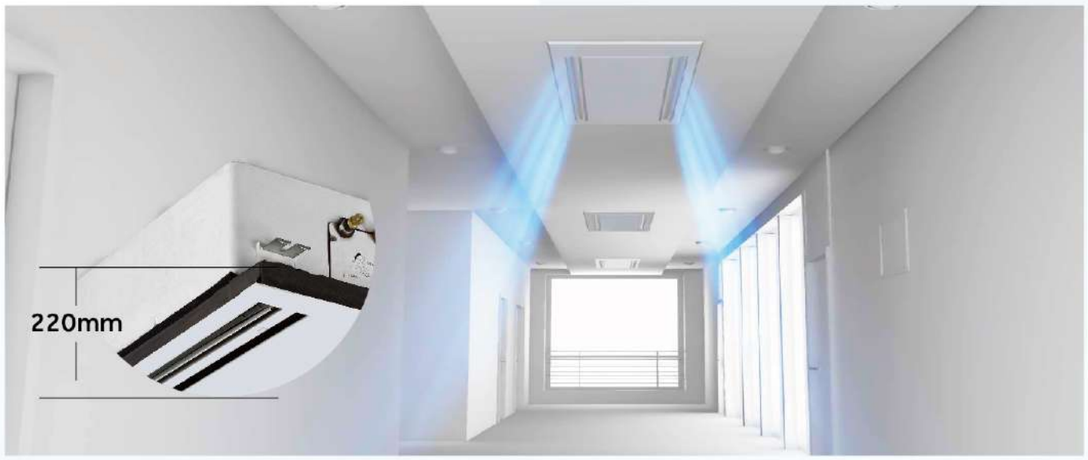
YR-HRS01(O)

- Unique round-way air outlet, no blind spot
- Innovative 4 independent air flow control
- 6 adjustable louver positions, 1296 air flow combinations

| Model/indoor unit | | | CK43BV071-6YJ1H | CK43BV090-6YJ1H | CK43BV112-6YJ1H | CK43BV126-6YJ1H | CK43BV140-6YJ1H |
|---|---|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 24.2 | 30.7 | 38.2 | 47.7 | 54.6 |
| | | kW | 7.1 | 9 | 11.2 | 14 | 16 |
| | Heating | kBtu/h | 27.3 | 34.1 | 42.6 | 54.6 | 61.2 |
| | | kW | 8 | 10 | 12.5 | 16 | 18 |
| Electrical parameters | Power supply | V-Ph-Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| Performance | Air flow (H/M/L) | m³/h | 1380/1190/1000 | 2050/1860/1670 | 2050/1860/1670 | 2100/1910/1720 | 2100/1910/1720 |
| | Sound pressure level (H/M/L) | dB(A) | 35/34/31 | 37/35/31 | 37/35/31 | 44/40/36 | 44/40/36 |
| Installation | Dimension (W/H/D) | mm | 840/840/204 | 840/840/246 | 840/840/246 | 840/840/288 | 840/840/288 |
| | Packing (W/H/D) | mm | 983/983/290 | 983/983/331 | 983/983/331 | 983/983/373 | 983/983/373 |
| | Net weight | kg | 27 | 31 | 31 | 33 | 33 |
| | Gross weight | kg | 30 | 36 | 36 | 38 | 38 |
| | Refrigerant Liquid pipe | mm | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 |
| | Refrigerant Gas pipe | mm | 15.88 | 15.88 | 15.88 | 15.88 | 15.88 |
| Panel | Model name | | PB-950KB | PB-950KB | PB-950KB | PB-950KB | PB-950KB |
| | External Dimension(W/D/H) | mm | 950/950/50 | 950/950/50 | 950/950/50 | 950/950/50 | 950/950/50 |
| | Shipping Dimension(W/D/H) | mm | 1013/1025/123 | 1013/1025/123 | 1013/1025/123 | 1013/1025/123 | 1013/1025/123 |
| | Net weight | kg | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| | Gross weight | kg | 9 | 9 | 9 | 9 | 9 |
| Controller | Wired (O-Optional/S-Standard) | | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) |
| | | | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) |
| | Infrared(O-Optional/S-Standard) | | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) |

# 2-way cassette

- **Compact Design: Only 220mm Height**




- **Built in High Head Drain Pump**


- **Ceiling Antifouling Design Unique Antifouling Design**
- **Two Way Air Flow**
- **Quiet Operation**
- **5 Models Ranging From 2.2kW to 5.6kW**

CK43BV022-2YJ1H CK43BV036-2YJ1H CK43BV056-2YJ1H
CK43BV028-2YJ1H CK43BV045-2YJ1H


YR-E17A(S)


YR-E16B(O)


YR-HRS01(O)

## STANDARD FUNCTION


On-Off card | Group controller | Central control | Clean air | Auto-swing | Drain water pump | Auto restart | 3 minutes protection | 24 hours timer | Lowambient cooling (-5°C) | Lowambient heating (-15°C) | Blue fin | Lowambient heating

| Model/Indoor unit | | | CK43BV022-2YJ1H | CK43BV028-2YJ1H | CK43BV036-2YJ1H | CK43BV045-2YJ1H | CK43BV056-2YJ1H |
|---|---|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 7.5 | 9.6 | 12.3 | 15.4 | 19.1 |
| | | kW | 2.2 | 2.8 | 3.6 | 4.5 | 5.6 |
| | Heating | Btu/h | 8.5 | 10.9 | 13.7 | 17.1 | 21.5 |
| | | kW | 2.5 | 3.2 | 4 | 5 | 6.3 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| Performance | Air flow (H) | m³/h | 840 | 840 | 840 | 840 | 840 |
| | Sound pressure level(H/M/L) | dB(A) | 42/37/33 | 42/37/33 | 42/37/33 | 44/39/34 | 44/39/34 |
| | Sound power level(H/M/L) | dB(A) | 55/50/46 | 55/50/46 | 55/50/46 | 57/52/47 | 57/52/47 |
| Installation | External dimensions(W/D/H) | mm | 817/620/220 | 817/620/220 | 817/620/220 | 817/620/220 | 817/620/220 |
| | Shipping dimensions(W/D/H) | mm | 1022/682/274 | 1022/682/274 | 1022/682/274 | 1022/682/247 | 1022/682/274 |
| | Net/Shipping weight | kg | 21/23 | 21/23 | 21/23 | 21/23 | 21/23 |
| | Refrigerant liquid pipe | mm | 6.35 | 6.35 | 6.35 | 6.35 | 6.35 |
| | Refrigerant gas pipe | mm | 9.52 | 9.52 | 12.7 | 12.7 | 12.7 |
| Panel | Model name | | P2B-1055IB | P2B-1055IB | P2B-1055IB | P2B-1055IB | P2B-1055IB |
| | External dimensions(W/D/H) | mm | 1055/680/68 | 1055/680/68 | 1055/680/68 | 1055/680/68 | 1055/680/68 |
| | Shipping dimensions(W/D/H) | mm | 1097/707/136 | 1097/707/136 | 1097/707/136 | 1097/707/136 | 1097/707/136 |
| | Net/Shipping weight | kg | 7/8 | 7/8 | 7/8 | 7/8 | 7/8 |
| Controller | Wired (O-Optional/S-Standard) | / | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) |
| | | / | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) |
| | Infrared(O-Optional/S-Standard) | / | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) |

# 1-way cassette

**•Ultra Thin Design 185mm**


**•Ultra low sound level 29 dB(A)**

**•Built-in high head drain pump**

**•4 Models Ranging From 1.5kW to 3.6kW**



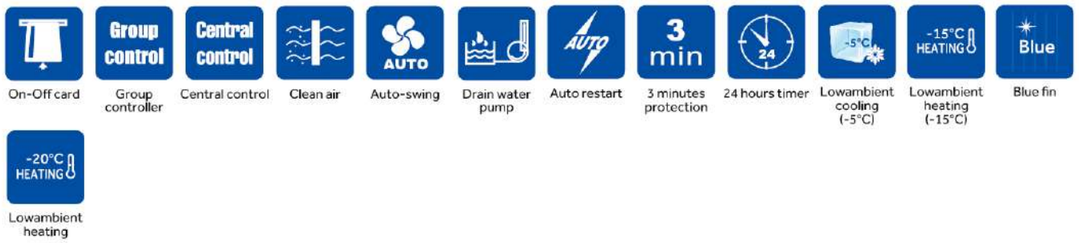
CK43BV016-1YJ1H CK43BV022-1YJ1H
CK43BV028-1YJ1H CK43BV036-1YJ1H

YR-E17A(S)

YR-E16B(O)

YR-HRS01(O)

## STANDARD FUNCTION

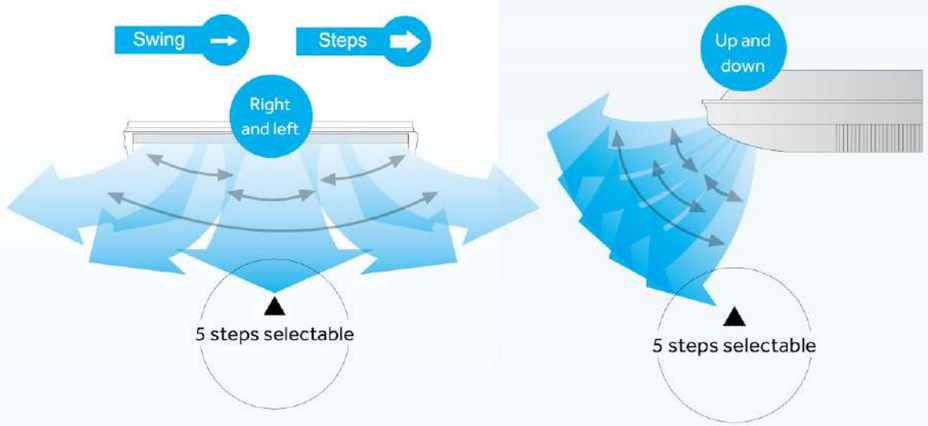



On-Off card | Group controller | Central control | Clean air | Auto-swing | Drain water pump | Auto restart | 3 minutes protection | 24 hours timer | Lowambient cooling (-5°C) | Lowambient heating (-15°C) | Blue fin | Lowambient heating

| Model/Indoor unit | | | CK43BV016-1YJ1H | CK43BV022-1YJ1H | CK43BV028-1YJ1H | CK43BV036-1YJ1H |
|---|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 5.1 | 7.5 | 9.6 | 12.3 |
| | | kW | 1.5 | 2.2 | 2.8 | 3.6 |
| | Heating | kBtu/h | 5.8 | 8.5 | 10.9 | 13.6 |
| | | kW | 1.7 | 2.5 | 3.2 | 4 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/220~240/50/60 | 1/220~240/50/60 | 1/220~240/50/60 | 1/220~240/50/60 |
| Performance | Air flow (H) | $m^3/h$ | 280/300/330 | 340/370/400 | 410/440470 | 480/510/540 |
| | Sound pressure level(H/M/L) | dB(A) | 36/30/23 | 37/30/24 | 37/31/24 | 38/32/25 |
| | Sound power level(H/M/L) | dB(A) | 54/48/41 | 55/48/42 | 55/49/42 | 56/50/43 |
| Installation | External dimensions(W/D/H) | mm | 875/505/185 | 875/505/185 | 875/505/185 | 875/505/185 |
| | Net/Shipping weight | kg | 23/27 | 23/27 | 23/27 | 23/27 |
| | Refrigerant liquid pipe | mm | 6.35 | 6.35 | 6.35 | 6.35 |
| | Refrigerant gas pipe | mm | 9.52 | 9.52 | 9.52 | 12.7 |
| Panel | External dimensions(W/D/H) | mm | 1050/550/125 | 1050/550/125 | 1050/550/125 | 1050/550/125 |
| | Net/Shipping weight | kg | 4/6 | 4/6 | 4/6 | 4/6 |
| Controller | | / | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16(O) |
| | Wired (O-Optional/S-Standard) | / | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) |
| | Infrared(O-Optional/S-Standard) | / | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) |

# Ceiling / Floor

- **Wide Range Angle Air Flow**

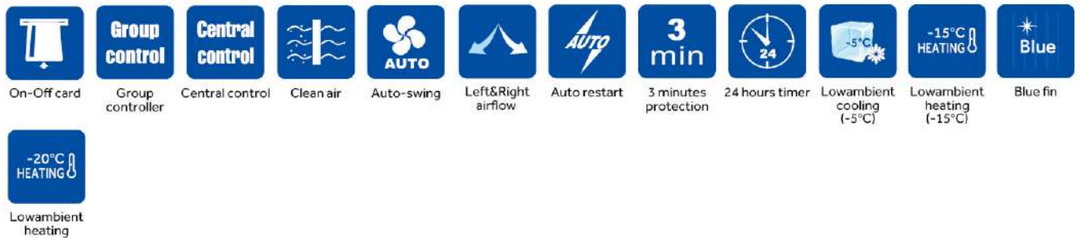



- **Compact Design, Ultra Thin Unit Body 199mm (Less than 24k BTU model)**
- **Quiet Operation**
- **Active Carbon and ESF Filter Optional**
- **9 Models Ranging From 2.8kW to 14kW**



CF43CV028-MYJ1H CF43CV036-MYJ1H CF43CV045-MYJ1H
CF43CV056-MYJ1H CF43CV071-MYJ1H


## STANDARD FUNCTION




| Model/Indoor unit | | | CF43CV028-MYJ1H | CF43CV036-MYJ1H | CF43CV045-MYJ1H | CF43CV056-MYJ1H | CF43CV071-MYJ1H |
|---|---|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 9.5 | 12.3 | 15.4 | 19.1 | 24.2 |
| | | kW | 2.8 | 3.6 | 4.5 | 5.6 | 7.1 |
| | Heating | Btu/h | 10.9 | 13.6 | 17.1 | 21.5 | 27.3 |
| | | kW | 3.2 | 4.0 | 5 | 6.3 | 8 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| Performance | Air flow (H) | $m^3/h$ | 820/750/690 | 820/750/690 | 950/820/690 | 950/820/690 | 1420/1270/1240 |
| | Sound pressure level(H/M/L) | dB(A) | 38/36/34 | 38/36/34 | 42/38/35 | 42/38/35 | 46/44/41 |
| | Sound power level(H/M/L) | dB(A) | 52/50/47 | 52/50/47 | 55/51/48 | 55/51/48 | 60/58/54 |
| Installation | External dimensions(W/D/H) | mm | 1000/230/680 | 1000/230/680 | 1000/230/680 | 1000/230/680 | 1325/230/680 |
| | Shipping dimensions(W/D/H) | mm | 1100/305/779 | 1100/305/779 | 1100/305/779 | 1100/305/779 | 1425/305/779 |
| | Net/Shipping weight | kg | 27.9/33.6 | 27.9/33.6 | 27.9/33.6 | 27.9/33.6 | 35.8/42.1 |
| | Refrigerant liquid pipe | mm | 6.35 | 6.35 | 6.35 | 6.35 | 9.52 |
| | Refrigerant gas pipe | mm | 9.52 | 12.7 | 12.7 | 12.7 | 15.88 |
| Controller | Wired (O-Optional/S-Standard) | / | YR-E16B | YR-E16B | YR-E16B | YR-E16B | YR-E16B |
| | | / | HW-BA116ABK | HW-BA116ABK | HW-BA116ABK | HW-BA116ABK | HW-BA116ABK |
| | | / | YR-E17A | YR-E17A | YR-E17A | YR-E17A | YR-E17A |
| | Infrared(O-Optional/S-Standard) | / | YR-HRS01 | YR-HRS01 | YR-HRS01 | YR-HRS01 | YR-HRS01 |

# Ceiling / Floor

- CF43CV080-MYJ1H
- CF43CV090-MYJ1H

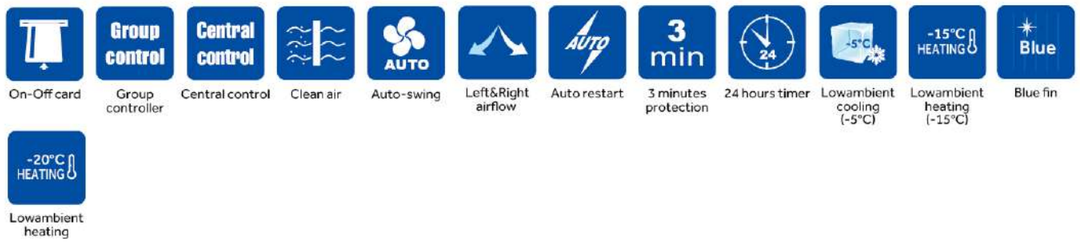
YR-E17A(S)

HW-BA116ABK(O)

YR-E16B(O)

YR-HRS01(O)

## STANDARD FUNCTION




On-Off card | Group controller | Central control | Clean air | Auto-swing | Left&Right airflow | Auto restart | 3 minutes protection | 24 hours timer | Lowambient cooling (-5°C) | Lowambient heating (-15°C) | Blue fin | Lowambient heating

| Model/Indoor unit | | | CF43CV080-MYJ1H | CF43CV090-MYJ1H |
|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 27.3 | 30.7 |
| | | kW | 8 | 9 |
| | Heating | Btu/h | 30.7 | 34.1 |
| | | kW | 9 | 10 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 |
| Performance | Air flow (H) | m³/h | 1570/1420/1240 | 1570/1420/1240 |
| | Sound pressure level(H/M/L) | dB(A) | 47/44/41 | 47/44/41 |
| | Sound power level(H/M/L) | dB(A) | 61/58/54 | 61/58/55 |
| Installation | External dimensions(W/D/H) | mm | 1325/230/680 | 1325/230/680 |
| | Shipping dimensions(W/D/H) | mm | 1425/305/779 | 1425/305/779 |
| | Net/Shipping weight | kg | 35.8/42.1 | 35.8/42.1 |
| | Refrigerant liquid pipe | mm | 9.52 | 9.52 |
| | Refrigerant gas pipe | mm | 15.88 | 15.88 |
| Controller | Wired (O-Optional/S-Standard) | / | YR-E16B | YR-E16B |
| | | / | HW-BA116ABK | HW-BA116ABK |
| | | / | YR-E17A | YR-E17A |
| | Infrared(O-Optional/S-Standard) | | YR-HRS01 | YR-HRS01 |



- CF43CV112-MYJ1H
- CF43CV140-MYJ1H

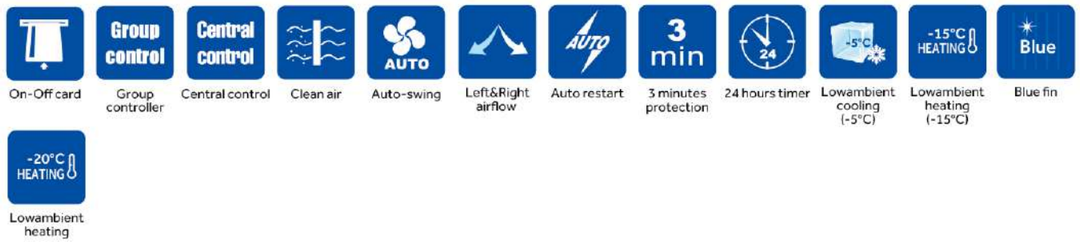
YR-E17A(S)

HW-BA116ABK(O)

YR-E16B(O)

YR-HRS01(O)

## STANDARD FUNCTION



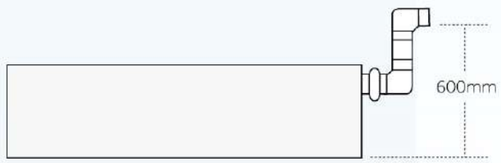

On-Off card | Group controller | Central control | Clean air | Auto-swing | Left&Right airflow | Auto restart | 3 minutes protection | 24 hours timer | Lowambient cooling (-5°C) | Lowambient heating (-15°C) | Blue fin | Lowambient heating

| Model/Indoor unit | | | CF43CV112-MYJ1H | CF43CV140-MYJ1H |
|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 38.2 | 48.0 |
| | | kW | 11.2 | 14.0 |
| | Heating | Btu/h | 42.6 | 55.0 |
| | | kW | 12.5 | 16.0 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 |
| Performance | Air flow (H) | m³/h | 2110/1990/1750 | 2110/1990/1750 |
| | Sound pressure leve(H/M/L) | dB(A) | 50/46/43 | 50/46/43 |
| | Sound power level(H/M/L) | dB(A) | 63/60/57 | 63/60/57 |
| Installation | External dimensions(W/D/H) | mm | 1650/230/680 | 1650/230/680 |
| | Shipping dimensions(W/D/H) | mm | 1750/305/779 | 1750/305/779 |
| | Net/Shipping weight | kg | 43.5/50.5 | 43.5/50.5 |
| | Refrigerant liquid pipe | mm | 9.52 | 9.52 |
| | Refrigerant gas pipe | mm | 15.88 | 15.88 |
| Controller | Wired (O-Optional/S-Standard) | / | YR-E16B | YR-E16B |
| | | / | HW-BA116ABK | HW-BA116ABK |
| | | / | YR-E17A | YR-E17A |
| | Infrared(O-Optional/S-Standard) | | YR-HRS01 | YR-HRS01 |

# Slim duct(0/30Pa)

- 185mm Height Ultra Thin Design and 420mm Depth


- Built in Drain Pump




- Ultra Low Noise: Realize 21 dB(A) Operation Noise
- Rear Air Return
- Static Pressure 0/30Pa
- 6 Models Ranging From 2.2kW to 7.1kW



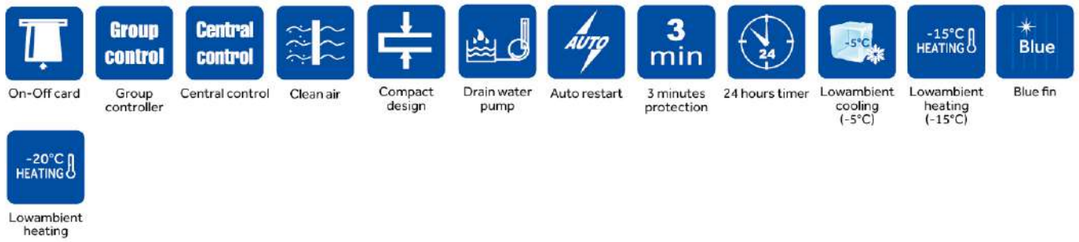
CC43BV022LLYJ1H CC43BV036LLYJ1H
CC43BV028LLYJ1H CC43BV045LLYJ1H

YR-E17A(S)

YR-E16B(O)

YR-HRS01(O)

## STANDARD FUNCTION




On-Off card | Group controller | Central control | Clean air | Compact design | Drain water pump | Auto restart | 3 minutes protection | 24 hours timer | Lowambient cooling (-5°C) | Lowambient heating (-15°C) | Blue fin | Lowambient heating

| Model/Indoor unit | | | CC43BV022LLYJ1H | CC43BV028LLYJ1H | CC43BV036LLYJ1H | CC43BV045LLYJ1H |
|---|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 7.5 | 9.5 | 12.3 | 15.3 |
| | | kW | 2.2 | 2.8 | 3.6 | 4.5 |
| | Heating | Btu/h | 8.5 | 10.9 | 13.6 | 17.1 |
| | | kW | 2.5 | 3.2 | 4 | 5 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| Performance | Air flow (H) | $m^3/h$ | 480 | 480 | 550 | 600 |
| | Sound pressure level(H/M/L) | dB(A) | 27/24/21 | 27/24/21 | 30/28/25 | 33/30/27 |
| | Sound power level(H/M/L) | dB(A) | 41/38/35 | 41/38/35 | 44/42/39 | 47/44/41 |
| Installation | External dimensions(W/D/H) | mm | 850/420/185 | 850/420/185 | 850/420/185 | 850/420/185 |
| | Shipping dimensions(W/D/H) | mm | 1045/540/270 | 1045/540/270 | 1045/540/270 | 1045/540/270 |
| | Net/Shipping weight | kg | 16.5/21.5 | 16.5/21.5 | 17.5/22.5 | 18.5/23.5 |
| | Refrigerant liquid pipe | mm | 6.35 | 6.35 | 6.35 | 6.35 |
| | Refrigerant gas pipe | mm | 9.52 | 9.52 | 12.7 | 12.7 |
| | Static pressure | Pa | 0/30 | 0/30 | 0/30 | 0/30 |
| Drain pump | S-standard | | S | S | S | S |
| Controller | Wired (O-Optional/S-Standard) | / | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) |
| | | / | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) |
| | Infrared(O-Optional/S-Standard) | / | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) |

# Slim duct(0/30Pa)

## CC43BV056LLYJ1H

YR-E17A(S)

YR-E16B(O)

YR-HRS01(O)

### STANDARD FUNCTION


On-Off card | Group controller | Central control | Clean air | Compact design | Drain water pump | Auto restart | 3 minutes protection | 24 hours timer | Lowambient cooling (-5°C) | Lowambient heating (-15°C) | Blue fin


Lowambient heating

| Model/Indoor unit | | | CC43BV056LLYJ1H |
|---|---|---|---|
| Capacity | Cooling | kBtu/h | 19.1 |
| | | kW | 5.6 |
| | Heating | Btu/h | 21.5 |
| | | kW | 6.3 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 |
| Performance | Air flow (H) | m³/h | 800 |
| | Sound pressure level(H/M/L) | dB(A) | 33/30/28 |
| | Sound power level(H/M/L) | dB(A) | 47/44/42 |
| Installation | External dimensions(W/D/H) | mm | 1170/420/185 |
| | Shipping dimensions(W/D/H) | mm | 1365/540/270 |
| | Net/Shipping weight | kg | 22.2/28.2 |
| | Refrigerant liquid pipe | mm | 6.35 |
| | Refrigerant gas pipe | mm | 12.7 |
| | Static Pressure | Pa | 0/30 |
| Drain Pump | S-standard | | S |
| Controller | Wired (O-Optional/S-Standard) | / | YR-E16B(O) |
| | | / | YR-E17A(S) |
| | Infrared(O-Optional/S-Standard) | / | YR-HRS01(O) |



## CC43BV071LLYJ1H

YR-E17A(S)

YR-E16B(O)

YR-HRS01(O)

### STANDARD FUNCTION


On-Off card | Group controller | Central control | Clean air | Compact design | Drain water pump | Auto restart | 3 minutes protection | 24 hours timer | Lowambient cooling (-5°C) | Lowambient heating (-15°C) | Blue fin


Lowambient heating

| Model/Indoor unit | | | CC43BV071LLYJ1H |
|---|---|---|---|
| Capacity | Cooling | kBtu/h | 24.2 |
| | | kW | 7.1 |
| | Heating | Btu/h | 27.3 |
| | | kW | 8 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 |
| Performance | Air flow (H) | m³/h | 930 |
| | Sound pressure level(H/M/L) | dB(A) | 36/33/31 |
| | Sound power level(H/M/L) | dB(A) | 50/47/44 |
| Installation | External dimensions(W/D/H) | mm | 1170/420/185 |
| | Shipping dimensions(W/D/H) | mm | 1365/540/270 |
| | Net/Shipping weight | kg | 24/30 |
| | Refrigerant liquid pipe | mm | 9.52 |
| | Refrigerant gas pipe | mm | 15.88 |
| | Static Pressure | Pa | 0/30 |
| Drain Pump | S-standard | | S |
| Controller | Wired (O-Optional/S-Standard) | / | YR-E16B(O) |
| | | / | YR-E17A(S) |
| | Infrared(O-Optional/S-Standard) | / | YR-HRS01(O) |

# Medium ESP duct(50/100Pa)

- CC43CV056MHYJ1H
- CC43CV071MHYJ1H
- CC43DV112MHYJ1H
- CC43CV080MHYJ1H
- CC43DV090MHYJ1H
- CC43DV140MHYJ1H

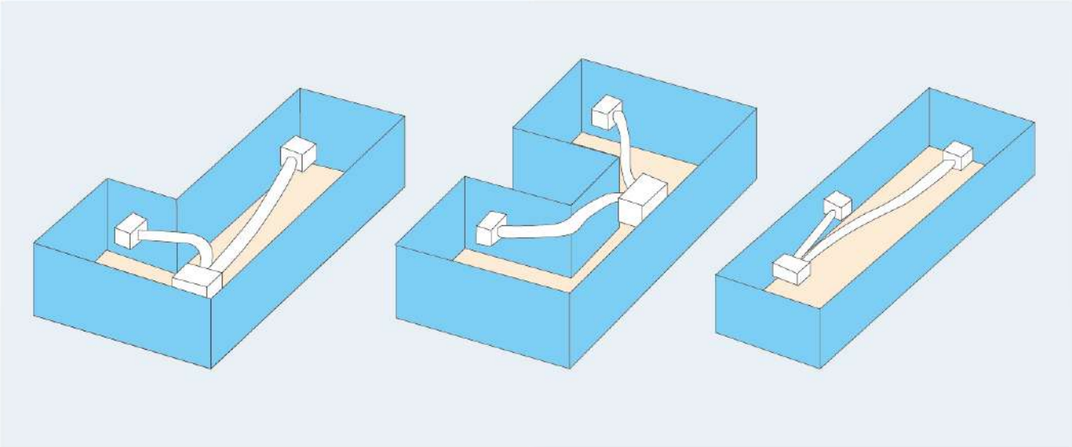
YR-E17A(S)

HW-BA116ABK(O)

YR-E16B(O)

YR-HRS01(O)

- **Flexible Duct Connection**



- **Built in Drain Pump**


- **Static Pressure 50/100Pa**
- **6 Models Ranging From 5.6kW to 14kW**

## STANDARD FUNCTION

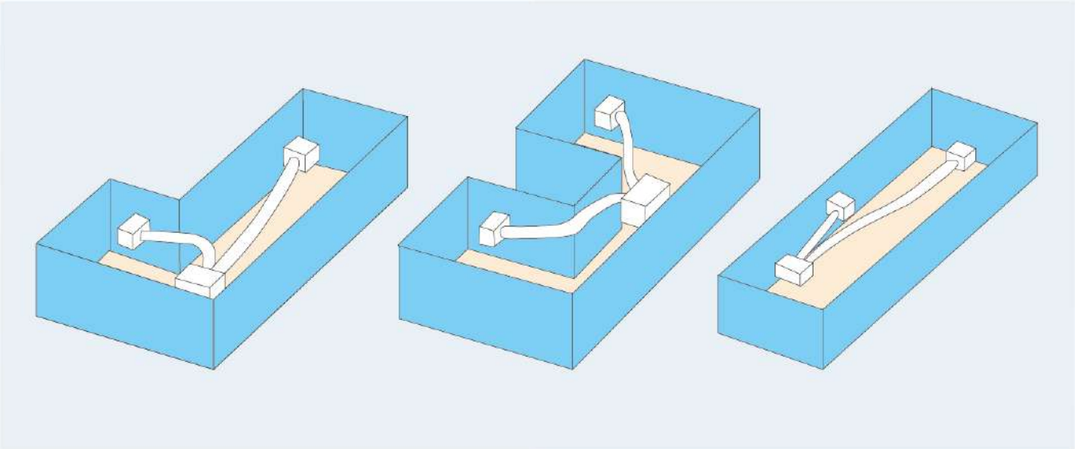

| Model/Indoor unit | | | CC43CV056MHYJ1H | CC43CV071MHYJ1H | CC43CV080MHYJ1H | CC43DV090MHYJ1H | CC43DV112MHYJ1H | CC43DV140MHYJ1H |
|---|---|---|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 19.1 | 24.2 | 27.3 | 30.7 | 38.2 | 47.8 |
| | | kW | 5.6 | 7.1 | 8 | 9 | 11.2 | 14 |
| | Heating | Btu/h | 21.5 | 27.3 | 30.7 | 34.1 | 44.4 | 55.6 |
| | | kW | 6.3 | 8 | 9 | 10 | 13 | 16.3 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/220-230/50/60 | 1/220-230/50/60 | 1/220-230/50/60 |
| Performance | Air flow (H) | m³/h | 980/840/760 | 1174/1080/960 | 1174/1080/960 | 1500/1180/930 | 1700/1300/900 | 2000/1700/1250 |
| | Sound pressure level(H/M/L) | dB(A) | 36/34/32 | 40/37/34 | 42/38/34 | 42/38/34 | 42/39/35 | 43/40/35 |
| | Sound power level(H/M/L) | dB(A) | 40/38/36 | 44/41/38 | 46/42/38 | 46/42/38 | 46/43/39 | 47/44/39 |
| Installation | External dimensions(W/D/H) | mm | 1100/700/248 | 1100/700/248 | 1100/700/248 | 1100/700/248 | 1500/700/248 | 1500/700/248 |
| | Shipping dimensions(W/D/H) | mm | 1332/835/280 | 1332/835/280 | 1332/835/280 | 1332/835/280 | 1698/857/305 | 1698/857/305 |
| | Net/Shipping weight | kg | 36.8/43.4 | 37/43.6 | 37/43.6 | 39.4/45.4 | 48.3/56.5 | 51.3/59.5 |
| | Refrigerant liquid pipe | mm | 6.35 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 |
| | Refrigerant gas pipe | mm | 12.7 | 15.88 | 15.88 | 15.88 | 15.88 | 15.88 |
| | Static Pressure(Standard/Max.) | Pa | 50/100 | 50/100 | 50/100 | 50/100 | 50/100 | 50/100 |
| Drain Pump | O-optional,S-standard,W-without | | S | S | S | S | S | S |
| Controller | Wired (O-Optional/S-Standard) | / | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) |
| | | / | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) |
| | | / | HW-BA116ABK(O) | HW-BA116ABK(O) | HW-BA116ABK(O) | HW-BA116ABK(O) | HW-BA116ABK(O) | HW-BA116ABK(O) |
| | Infrared(O-Optional/S-Standard) | | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) |



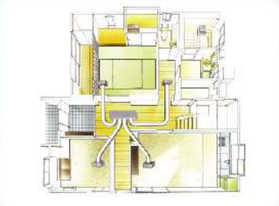


# Medium ESP duct(50/96Pa)

- **Flexible Duct Connection**



- **Optional External Drain Pump**
- **Flexible Duct Connection**



- **Static Pressure 50/96Pa**



**CC43CV090MHYJ1H** **CC43CV112MHYJ1H**
**CC43CV140MHYJ1H**

YR-E17A(S)

HW-BA116ABK(O)

YR-E16B(O)

YR-HRS01(O)

## STANDARD FUNCTION


| Model/Indoor unit | | | CC43CV090MHYJ1H | CC43CV112MHYJ1H | CC43CV140MHYJ1H |
|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 30 | 38 | 48 |
| | | kW | 9 | 11.2 | 14 |
| | Heating | Btu/h | 34 | 43 | 55 |
| | | kW | 10 | 12.5 | 16 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| Performance | Air flow (H) | m³/h | 1500/1400/1200 | 1500/1400/1200 | 1500/1400/1200 |
| | Sound pressure level(H/M/L) | dB(A) | 49/47/43 | 49/47/43 | 49/47/43 |
| | Sound power level(H/M/L) | dB(A) | 62/60/56 | 62/60/56 | 62/60/56 |
| Installation | External dimensions(W/D/H) | mm | 1100/700/248 | 1100/700/248 | 1100/700/248 |
| | Shipping dimensions(W/D/H) | mm | 1332/835/280 | 1332/835/280 | 1332/835/280 |
| | Net/Shipping weight | kg | 45/51 | 45/51 | 45/51 |
| | Refrigerant liquid pipe | mm | 9.52 | 9.52 | 9.52 |
| | Refrigerant gas pipe | mm | 15.88 | 15.88 | 15.88 |
| | Static Pressure(Standard/Max.) | Pa | 50/96 | 50/96 | 50/96 |
| Controller | Wired (O-Optional/S-Standard) | | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) |
| | | / | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) |
| | | / | HW-BA116ABK(O) | HW-BA116ABK(O) | HW-BA116ABK(O) |
| | Infrared(O-Optional/S-Standard) | / | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) |

# High ESP duct(20/200Pa)

CC43CV056HHYJ1H CC43CV071HHYJ1H CC43CV080HHYJ1H
CC43CV090HHYJ1H CC43CV112HHYJ1H CC43CV140HHYJ1H

YR-E17A(S)

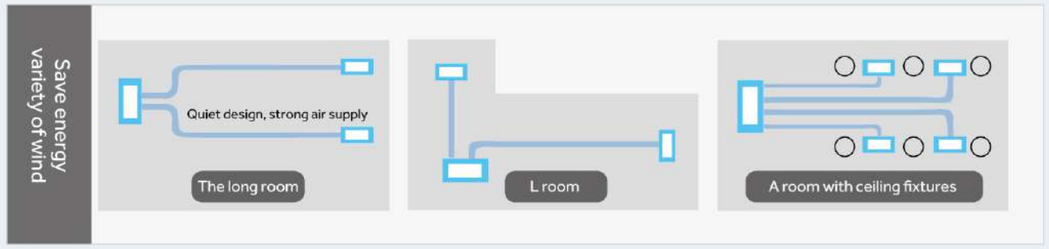
HW-BA116ABK(O)

YR-E16B(O)

YR-HRS01(O)

## •High static pressure design, more room to share

The external static pressure can achieve 250Pa, and the air duct can be freely selected. Do an air conditioning, multi-room sharing.

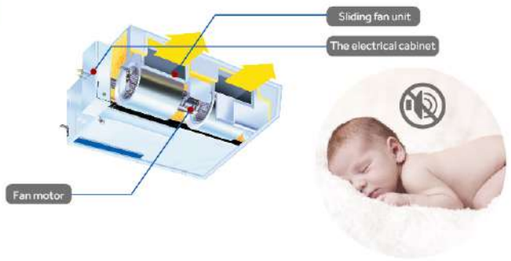



## •Silence design

•Adopt international new sound insulation noise reduction materials, pressure off mute wind wheel.

•Prevents indoor pollution and provides maximum wind speed, ensuring air circulation throughout the room.

•5 speed adjustable wind speed to meet different needs.



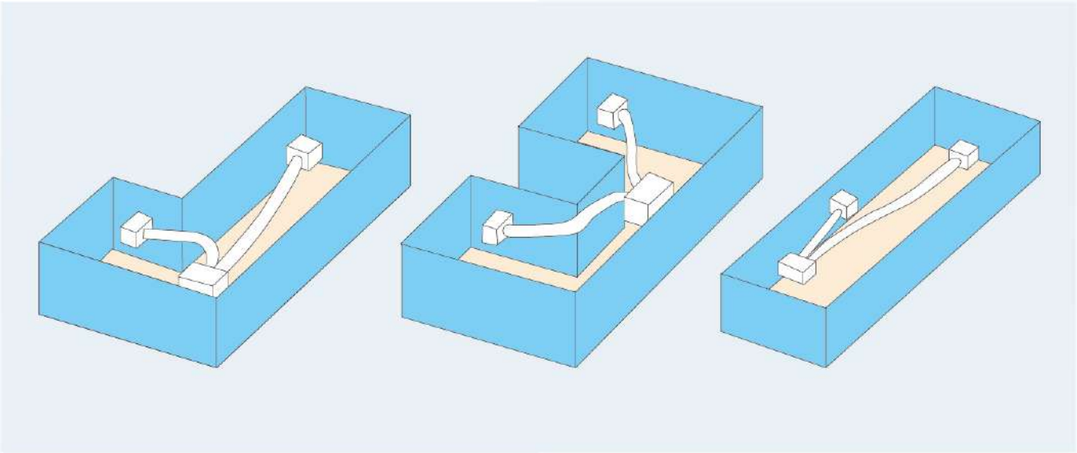

## STANDARD FUNCTION


On-Off card | Group controller | Central control | Clean air | Lowambient heating | Blue fin | Auto restart | 3 minutes protection | 24 hours timer | Lowambient cooling (-5°C) | Lowambient heating (-15°C)

| Model/Indoor unit | | | CC43CV056HHYJ1H | CC43CV071HHYJ1H | CC43CV080HHYJ1H | CC43CV090HHYJ1H | CC43CV112HHYJ1H | CC43CV140HHYJ1H |
|---|---|---|---|---|---|---|---|---|
| Capacity | Model capacity | HP | 2.0 | 2.5 | 3.0 | 3.2 | 4.0 | 5.0 |
| | Cooling | kBtu/h | 19.1 | 24.2 | 27.3 | 30.7 | 38.2 | 47.8 |
| | | kW | 5.6 | 7.1 | 8 | 9 | 11.2 | 14 |
| | Heating | kBtu/h | 21.5 | 27.3 | 30.7 | 34.1 | 44.4 | 55.6 |
| | | kW | 6.3 | 8 | 9 | 10 | 13 | 16.3 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| Dimensions (W/D/H) | Net Product | mm | 1100/700/248 | 1100/700/248 | 1100/700/248 | 1100/700/248 | 1500/700/248 | 1500/700/248 |
| | Shipping Product | mm | 1332/835/280 | 1332/835/280 | 1332/835/280 | 1332/835/280 | 1698/857/305 | 1698/857/305 |
| Weight | Product Net/Shipping | kg | 36.8/43.4 | 36.8/43.4 | 36.8/43.4 | 39.4/45.4 | 48.3/56.5 | 51.3/59.5 |
| Fan | Static Pressure(Standard/Max) | Pa | 20/200 | 20/200 | 20/200 | 20/180 | 20/180 | 20/180 |
| | Air flow (H/M/L) | $m^3/h$ | 915/765/640 | 1275/1050/875 | 1275/1050/875 | 1450/1200/1000 | 2000/1700/1400 | 2150/1750/1400 |
| Sound level | Sound pressure level(H/M/L) | dB(A) | 33/31/29 | 34/31/29 | 35/33/30 | 36/33/30 | 38/35/32 | 40/36/32 |
| | Sound power level(H/M/L) | dB(A) | 45/43/41 | 46/43/41 | 47/45/42 | 48/45/42 | 50/47/44 | 52/48/44 |
| Piping | Refrigerant liquid pipe | mm | 6.35 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 |
| | Refrigerant gas pipe | mm | 12.7 | 15.88 | 15.88 | 15.88 | 15.88 | 15.88 |
| Drain Pump | O-optional,S-standard,N-not | / | S | S | S | S | S | S |
| Controller | Wired(O-Optional/S-Standard) | / | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) | YR-E17A(S) |
| | | / | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) | YR-E16B(O) |
| | | / | HW-BA116ABK(O) | HW-BA116ABK(O) | HW-BA116ABK(O) | HW-BA116ABK(O) | HW-BA116ABK(O) | HW-BA116ABK(O) |
| | Infrared(O-Optional/S-Standard) | / | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) |

# High ESP duct(100/300Pa)

**•Flexible Duct Connection**



**•Variable Static Pressure 100/300Pa Setting**



CC43CV224HHYJ1H CC43CV280HHYJ1H

YR-E17A(S)

HW-BA116ABK(O)

YR-E16B(O)

YR-HRS01(O)

## STANDARD FUNCTION


| Model/Indoor unit | | | CC43CV224HHYJ1H | CC43CV280HHYJ1H |
|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 77.1 | 95.5 |
| | | kW | 22.6 | 28 |
| | Heating | Btu/h | 86.0 | 107.5 |
| | | kW | 25.2 | 31.5 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 |
| Performance | Air flow (H) | m³/h | 4000/3500/3000 | 4500/4000/3600 |
| | Sound pressure level(H/M/L) | dB(A) | 49/46/43 | 51/49/47 |
| | Sound power level(H/M/L) | dB(A) | 63/60/57 | 65/63/61 |
| Installation | External dimensions(W/D/H) | mm | 1512/856/502 | 1512/856/502 |
| | Shipping dimensions(W/D/H) | mm | 1558/896/612 | 1558/896/612 |
| | Net/Shipping weight | kg | 102/116 | 102/116 |
| | Refrigerant liquid pipe | mm | 12.7 | 12.7 |
| | Refrigerant gas pipe | mm | 22.22 | 22.22 |
| | Static Pressure(Standard/Max.) | Pa | 100/300 | 100/300 |
| Controller | Wired (O-Optional/S-Standard) | | YR-E16A(O) | YR-E16A(O) |
| | | / | YR-E16B(O) | YR-E16B(O) |
| | | / | HW-BA116ABK(O) | HW-BA116ABK(O) |
| | Infrared(O-Optional/S-Standard) | / | YR-E17A(S) | YR-E17A(S) |

# Console

CJ43CV022-MYJ1H CJ43CV028-MYJ1H
CJ43CV036-MYJ1H CJ43CV050-MYJ1H

- Air Discharge Through Top ang Bottom

YR-HRS01(S)

- Compact Design & Small Space Occupation
- Quiet Operation
- 4 Models Ranging From 2.2kW to 5.0kW

## STANDARD FUNCTION


On-Off card | Group controller | Central control | Clean air | Lowambient heating (-15°C) | Blue fin | Auto restart | 3 minutes protection | 24 hours timer | Lowambient cooling (-5°C) | Lowambient heating

| Model/Indoor unit | | | CJ43CV022-MYJ1H | CJ43CV028-MYJ1H | CJ43CV036-MYJ1H | CJ43CV050-MYJ1H |
|---|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 7.5 | 9.5 | 12.3 | 17 |
| | | kW | 2.2 | 2.8 | 3.6 | 5 |
| | Heating | kBtu/h | 8.5 | 10.9 | 13.6 | 18.5 |
| | | kW | 2.6 | 3.2 | 4 | 5.5 |
| Power supply | Power supply | Ph-V-Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| Indoor air flow (H/M/L) | Indoor air flow (H/M/L) | m³/h | 540/460/390/310/270 | 540/460/390/310/270 | 580/500/420/350/270 | 620/540/460/390/270 |
| | Sound pressure level (H/M/L) | dB(A) | 45/42/39/35/32 | 45/42/39/35/32 | 47/44/41/38/34 | 48/45/42/39/35 |
| | Sound power level (H/M/L) | dB(A) | 58/55/52/48/45 | 58/55/52/48/45 | 60/57/54/51/47 | 61/58/55/52/48 |
| Dimension (W*H*D) | Dimension (W*H*D) | mm | 700/210/600 | 700/210/600 | 700/210/600 | 700/210/600 |
| | Packing (W*H*D) | mm | 783/303/695 | 783/303/695 | 783/303/695 | 783/303/695 |
| | Net weight | kg | 15.2 | 15.2 | 15.2 | 15.2 |
| | Gross weight | kg | 18.7 | 18.7 | 18.7 | 18.7 |
| | Liquid pipe | mm | 6.35 | 6.35 | 6.35 | 6.35 |
| | Gas pipe | mm | 12.7 | 12.7 | 12.7 | 12.7 |
| Controller | Wired (O-Optional/S-Standard) | / | / | / | / | / |
| | Infrared(O-Optional/S-Standard) | / | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) | YR-HRS01(O) |

# Hi wall

CH43DV022-DYJ1H CH43DV028-DYJ1H CH43DV036-DYJ1H CH43CV045-DYJ1H
CH43CV056-DYJ1H CH43CV071-DYJ1H CH43CV090-DYJ1H

YR-E17A(S)

HW-BA116ABK(O)

YR-E16B(O)

YR-HRS01(O)

## STANDARD FUNCTION

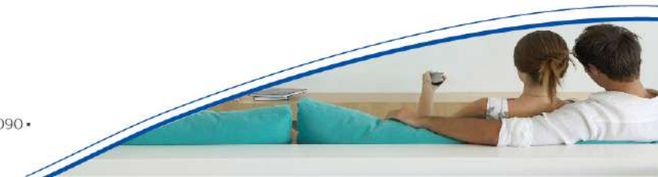

On-Off card | Auto-swing | Central control | Clean air | Lowambient heating (-15°C) | Blue fin | Auto restart | 3 minutes protection | 24 hours timer | Lowambient cooling (-5°C) | Lowambient heating

| Model/Indoor unit | | | CH43DV022-DYJ1H | CH43DV028-DYJ1H | CH43DV036-DYJ1H | CH43CV045-DYJ1H | CH43CV056-DYJ1H | CH43CV071-DYJ1H | CH43CV090-DYJ1H |
|---|---|---|---|---|---|---|---|---|---|
| Capacity | Cooling | kBtu/h | 7.5 | 9.5 | 12.3 | 15.3 | 19.1 | 24.2 | 30.7 |
| | | kW | 2.2 | 2.8 | 3.6 | 4.5 | 5.6 | 7.1 | 9 |
| | Heating | Btu/h | 8.5 | 10.9 | 13.6 | 17.1 | 21.5 | 27.3 | 34.1 |
| | | kW | 2.5 | 3.2 | 4 | 5 | 6.3 | 8 | 10 |
| Electrical Parameters | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| Performance | Air flow (H) | $m^3/h$ | 550/480/420 | 600/530/470 | 630/560/500 | 800/720/650 | 920/800/720 | 1010/920/800 | 1600/1500/1400 |
| | Sound pressure level(H/M/L) | dB(A) | 35/31/29 | 36/31/29 | 37/33/29 | 39/36/34 | 40/39/35 | 44/40/36 | 49/44/41 |
| | Sound power level(H/M/L) | dB(A) | 50/47/42 | 52/48/44 | 54/51/50 | 56/53/51 | 57/54/52 | 58/56/54 | 61/58/54 |
| Installation | External dimensions(W/D/H) | mm | 855/208/280 | 855/208/280 | 855/208/280 | 1115/243/336 | 1115/243/336 | 1115/243/336 | 1316/270/365 |
| | Shipping dimensions(W/D/H) | mm | 954/279/355 | 954/279/355 | 954/279/355 | 1206/342/418 | 1206/342/418 | 1206/342/418 | 1403/384/463 |
| | Net/Shipping weight | kg | 9.9/12 | 9.9/12 | 9.9/12 | 15.8/18.9 | 15.8/18.9 | 15.8/18.9 | 21.8/26.3 |
| | Refrigerant liquid pipe | mm | 6.35 | 6.35 | 6.35 | 6.35 | 6.35 | 9.52 | 9.52 |
| | Refrigerant gas pipe | mm | 9.52 | 9.52 | 12.7 | 12.7 | 12.7 | 15.88 | 15.88 |
| Controller | Wired | / | YR-E16B | YR-E16B | YR-E16B | YR-E16B | YR-E16B | YR-E16B | YR-E16B |
| | (O-Optional/S-Standard) | / | HW-BA116ABK | HW-BA116ABK | HW-BA116ABK | HW-BA116ABK | HW-BA116ABK | HW-BA116ABK | HW-BA116ABK |
| | | / | YR-E17A | YR-E17A | YR-E17A | YR-E17A | YR-E17A | YR-E17A | YR-E17A |
| | Infrared (Standard) | / | YR-HRS01 | YR-HRS01 | YR-HRS01 | YR-HRS01 | YR-HRS01 | YR-HRS01 | YR-HRS01 |

- Stylish Design & LED Display

- Built in EEV, Easy to Installation

- Negative Ion, Vitamin C, and ESF Filter Optional
- 6 Models Ranging From 2.2kW to 7.1kW

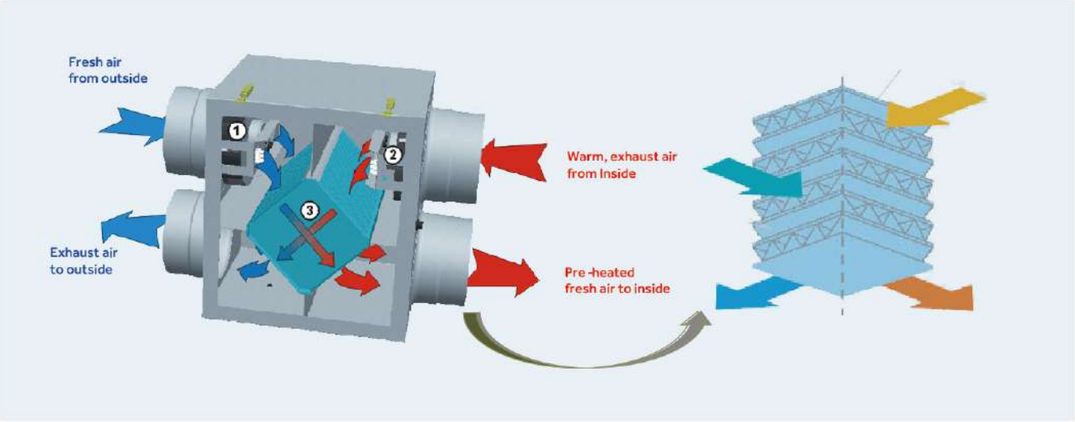


# ERV

## Energy Reclaim Ventilation

CE43CV015-HYJ1H CE43CV026-HYJ1H
CE43CV080-HYJ1H CE43CV100-HYJ1H

- Be Controlled with Other Indoor Units Together




W9301

- Efficient Heat Recovery Air Processing
- Heat Recovery Media Element
- 4 Models Ranging From 150m³/h to 1000m³/h

## STANDARD FUNCTION


Clean air | O₂-refresh | Central control | Auto restart | 3 minutes protection | 24 hours timer

| Model/Indoor unit | | | CE43CV015-HYJ1H | CE43CV026-HYJ1H | CE43CV080-HYJ1H | CE43CV100-HYJ1H |
|---|---|---|---|---|---|---|
| Electrical | Power supply | Ph/V/Hz | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 | 1/208-230/50/60 |
| | Rated power input | W | 135 | 165 | 360 | 420 |
| | Rated current | A | 0.65 | 0.79 | 1.72 | 2.01 |
| Performance | Air flow (H/M/L) | m³/h | 150/110/70 | 250/200/160 | 800/680/600 | 1000/810/730 |
| | Sound pressure level (H/M/L) | dB(A) | 38/35/30 | 40/38/35 | 48/46/43 | 50/48/45 |
| | Sound power level(H/M/L) | dB(A) | 48/45/40 | 50/48/45 | 58/58/53 | 60/58/55 |
| Installation | External dimensions(W/D/H) | mm | 750/530/240 | 750/530/270 | 1200/940/324 | 1250/935/350 |
| | Shipping dimensions(W/D/H) | mm | 955/575/305 | 955/575/335 | 1405/985/389 | 1455/980/415 |
| | Aire inlet / outlet hole | mm | 110 | 150 | 200 | 200 |
| | Net weight/Shipping weight | kg | 26/28 | 30/32 | 55/59 | 56/60 |
| | Static Pressure | Pa | 80 | 80 | 100 | 100 |
| Controller | Wired (Standard) | / | W9301 | W9301 | W9301 | W9301 |

Remark: H/M/L is corresponding to 9/6/3 on controller

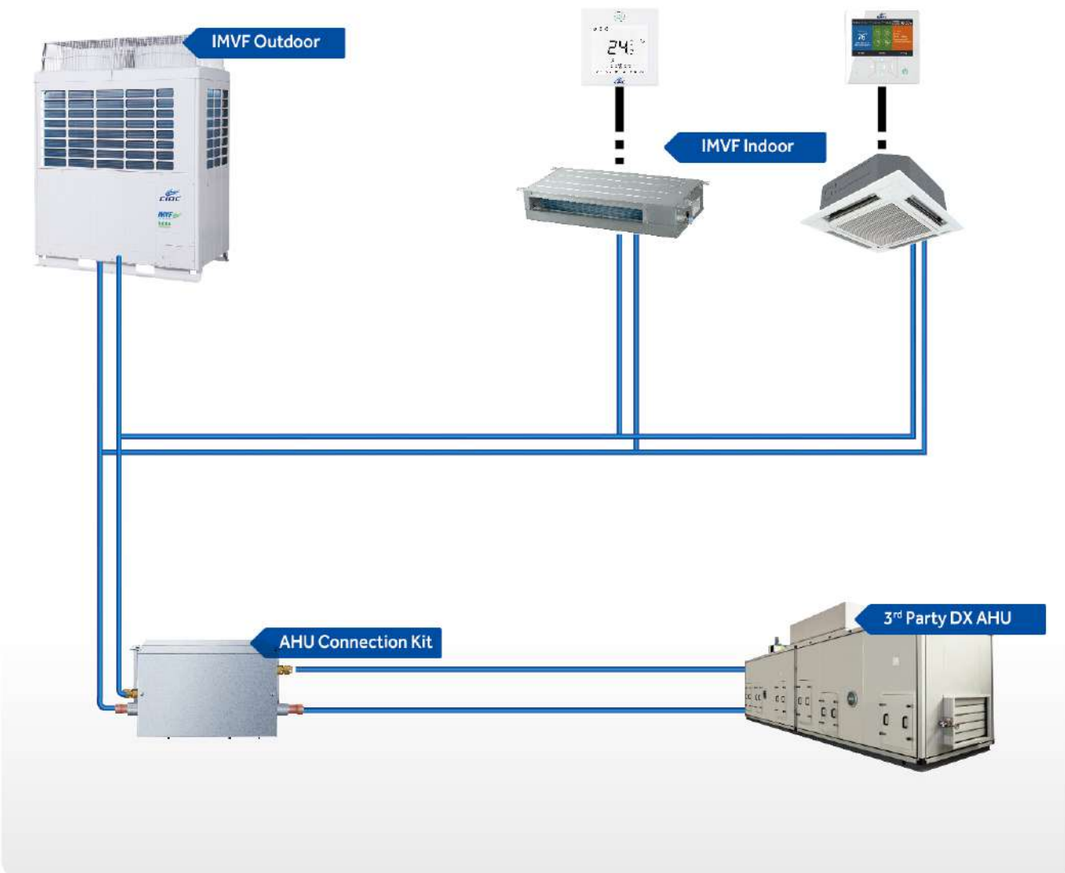




# AHU Connection Kit

## System Introduction

CIAC offers a range of connection kit to connect IMVF outdoor units to third party DX air handling units.






## System Application

•Provide a solution for big space to cool down the supply fresh air with IMVF outdoor units to match the air handling units. Intergraded the advantages of IMVF and AHU units

•Meet the requirement of law in EU, that for every working place it have to supply at minimum 25 m3/h fresh air.so it means that every office, every shop and mostly every commercial building MUST have this solution.

High rise building without podium

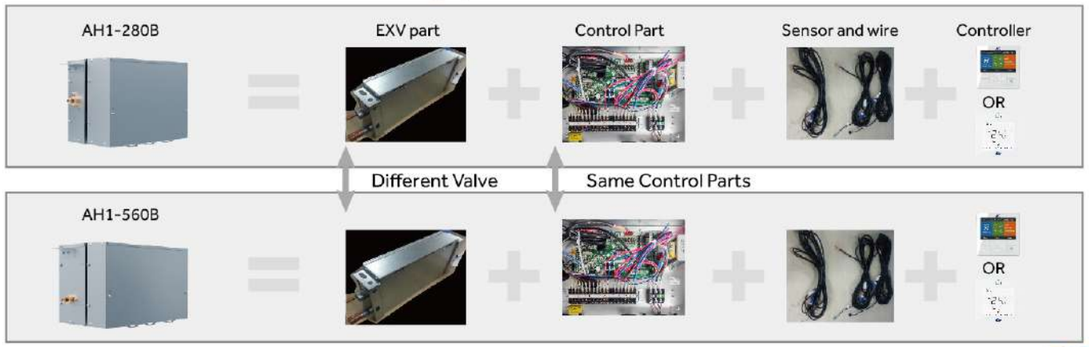
High rise building with podium

Single layer with a large area

## System Line Up


## AHU Kit Configuration

CIAC AHU Connection Kit consists the following 4 parts.

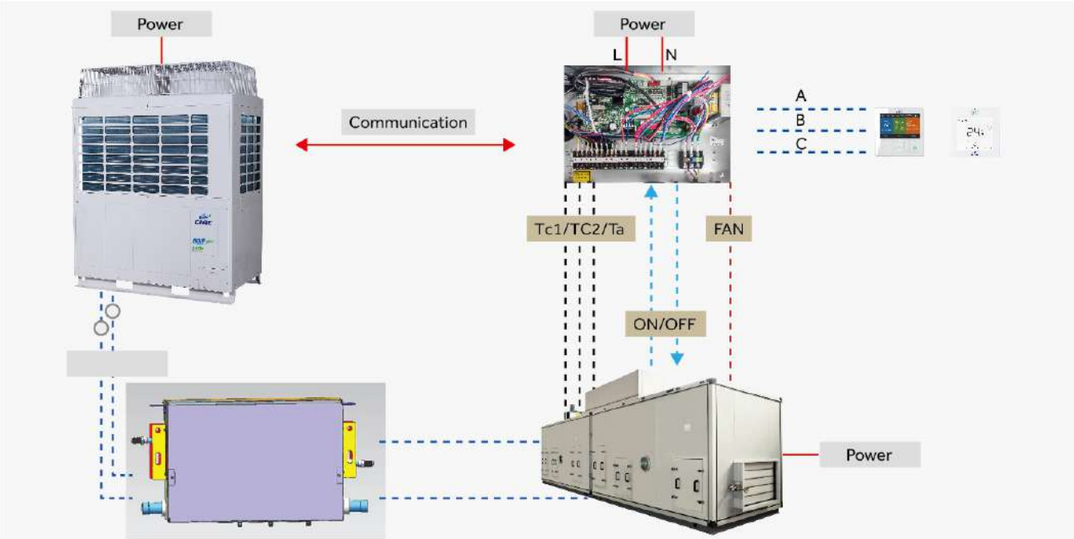



•EXV part, Control part, Sensor and wire are all integrated in one box.

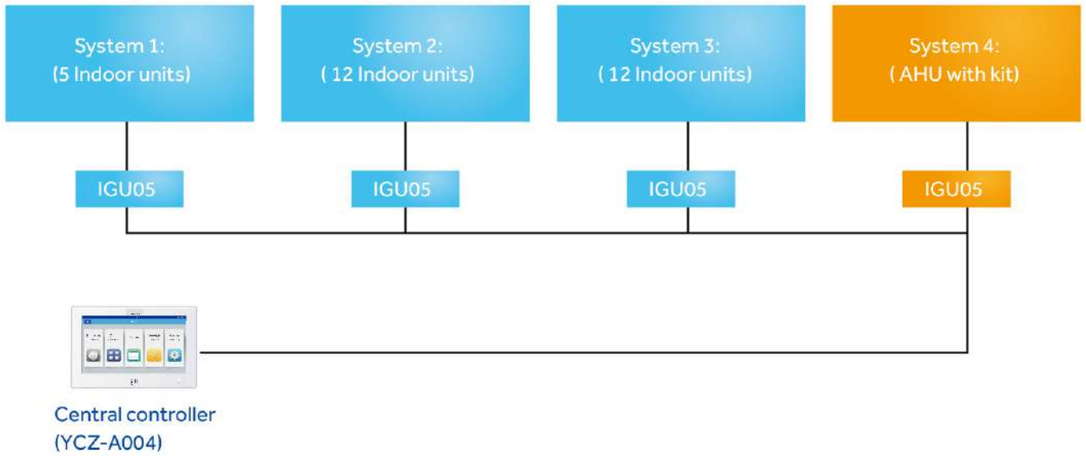
•Controller need to be purchased separately.

# AHU Connection Kit Control

System Control



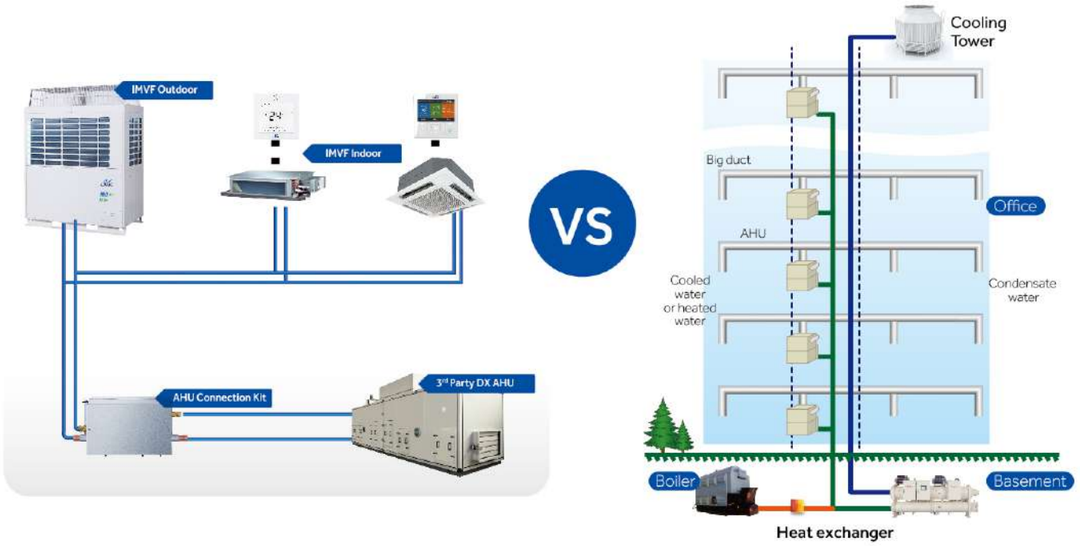

Central Control: AHU control is same as IMVF, models indoor unit control.

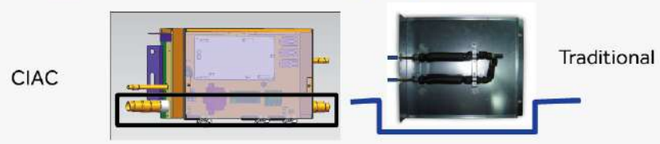
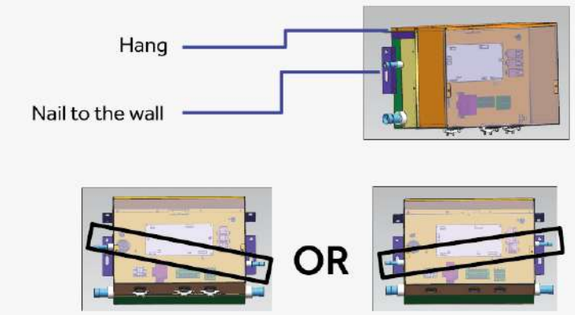





## Easy Installation

•Adopting the IMVF outdoor ,not the traditional chiller outdoor system, is easy to design and install since no additional water system such as boilers , gas connections, cooling tower etc. are required. This also reduces the total system cost.
•AHU can provide enough cooled fresh air to big space other than ERV and fresh air indoor units.
•All the control system for IMVF outdoor is available:
-Wired control -Central control -Network control -BMS control




| | |
|---|---|
| EXV part and Control part integration, easy for translation and installation. Gas pipe is integrated into the valve box. | Gas pipe no need the bend and welding, easy installation.   |
| Optional installation location<br><br>EEV box inlet and outlet pipe can be left or right. | Installation can choose lifting or nailed to the wall.   |

# Advantages

| | |
|---|---|
| Broad capacity | Connected AHU capacity from 5HP to 20HP. |
| High Compatible | 1.Same PCB board with IMVF indoor, easy operation and service.<br>2.Same wired controller can be used with IMVF indoor unit such as YR-E14, YR-E16 and YR-E17. |
| Reliable EEV |   |

# Specification

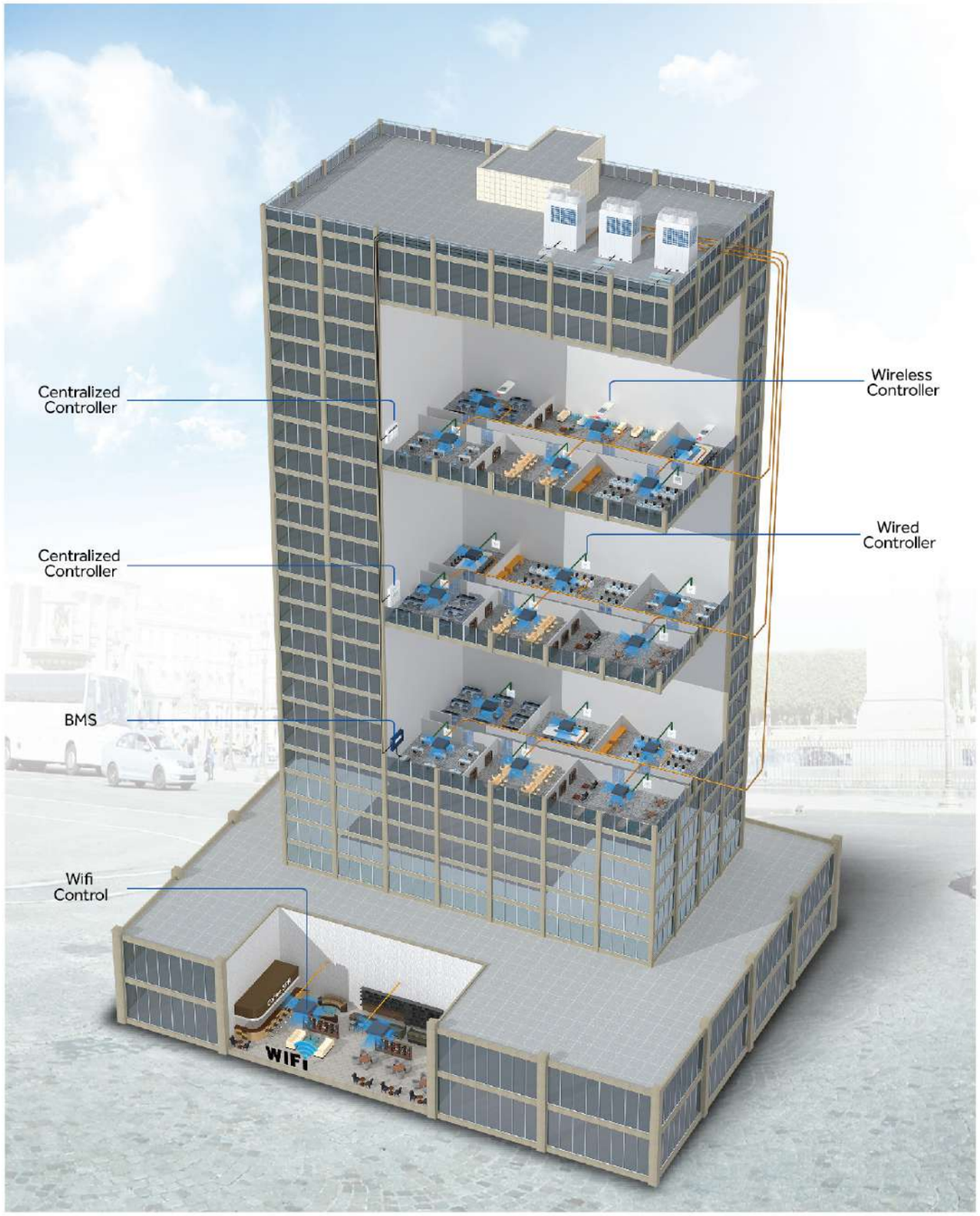

| Model | AH1-280B | AH1-560B |
|---|---|---|
| Connected | 14<X≤28KW | 28<X≤56KW |
| AHU capacity | (5-10HP) | (10-20HP) |
| Power Supply (Ph/V/Hz) | 1/220-240/50/60 | 1/220-240/50/60 |
| Dimension (W/D/H) (mm) | 420/260/165 | 420/260/215 |
| Shipping dimensions (mm) | 520/340/225 | 520/340/275 |
| Material | Galvanized steel | Galvanized steel |
| Color | Grey | Grey |
| Weight (KG) | 5.5 | 6.5 |
| Shipping Weight (KG) | 8.5 | 10 |
| Liquid pipe (mm) | 9.52 (Main) / 6.35 | 12.7 (Main) / 15.88 |
| Pipe connection method | Flare connection and welding | Flare connection and welding |
| AHU Kit-3rd party AHU Max Single pipe length (m) | 5 | 5 |
| AHU Kit-3rd party AHU Max Single pipe length (m) | 5 | 5 |




IMVF
Inverter Multi Variable Flow

# Control Systems

# Control System Structure






## User Friendly Management Control Solution

### Integrated Management

Convenient and efficient, CIAC controllers realize the co-management of IMVF in one system, providing you more combination choices for better managing large or middle-sized buildings.

### Building Management

The excellent building management system provides a professional and reliable service for a better management of your air conditioning units.

### Intelligent Management

"CIAC Smart AC" provides an intelligent and personalized experience for your smart life.

### Applications

CIAC control products are designed to provide you a perfect solution for the small, medium or large commercial projects.

# Individual Controller

The individual control system has a variety of wired and wireless controllers which enable you an easy and intelligent control of your air conditioners. You can choose the one which best suits for your air conditioning management.


YR-E16B


YR-E17A


YR-HRS01



## YR-HRS01

- On/Off, Operation Mode, Fan speed, Temperature setting, Swing
- Turbo and quiet
- Individual louver control for Round Flow 4- way cassette and mini 4-way cassette
- Self-Clean
- Timer
- Health function
- Backlight

## YR-HQS01

- On/Off, Operation Mode, Fan speed, Temperature setting, Swing
- Turbo and Quiet
- Individual louver control for Round Flow 4- way cassette and mini 4-way cassette
- Clock & Timer
- Health function
- Self-Clean
- Backlight
- Convenient to operate most functions through one button

## HW-BA116ABK

- Alternating current
- Basic fucntion: on/off, mode, fan speed, temperature
- Individual & group control (max.16 indoor units)
- Simple and smart design. 86*86*14.80mm
- Could receive wireless controller signal

## YR-E17A

- On/Off, Mode, Fan speed, Temperature setting, Swing
- Individual & Group control (Max.16 indoor units)
- Simple and Smart design, 86*86*13.05mm
- Touch button with back light
- Timer/ Clock
- Individual flap control for round way cassette and compact cassette
- Built-in infrared signal receiver for duct units
- Self-cleaning function
- Built-in humidity sensor and humidity display

## YR-E16B

- Colorful screen
- On/off, mode, fan speed, temperature setting, swing
- Individual & group control (max 16 indoor units)
- Fahrenheit/ celsius selectable; sensitivity ±0.5°c (±1°F)
- Weekly timer
- Individual louver control for MINI 4-way cassette and Round Flow 4-way cassette
- Static pressure setting

## RE-02

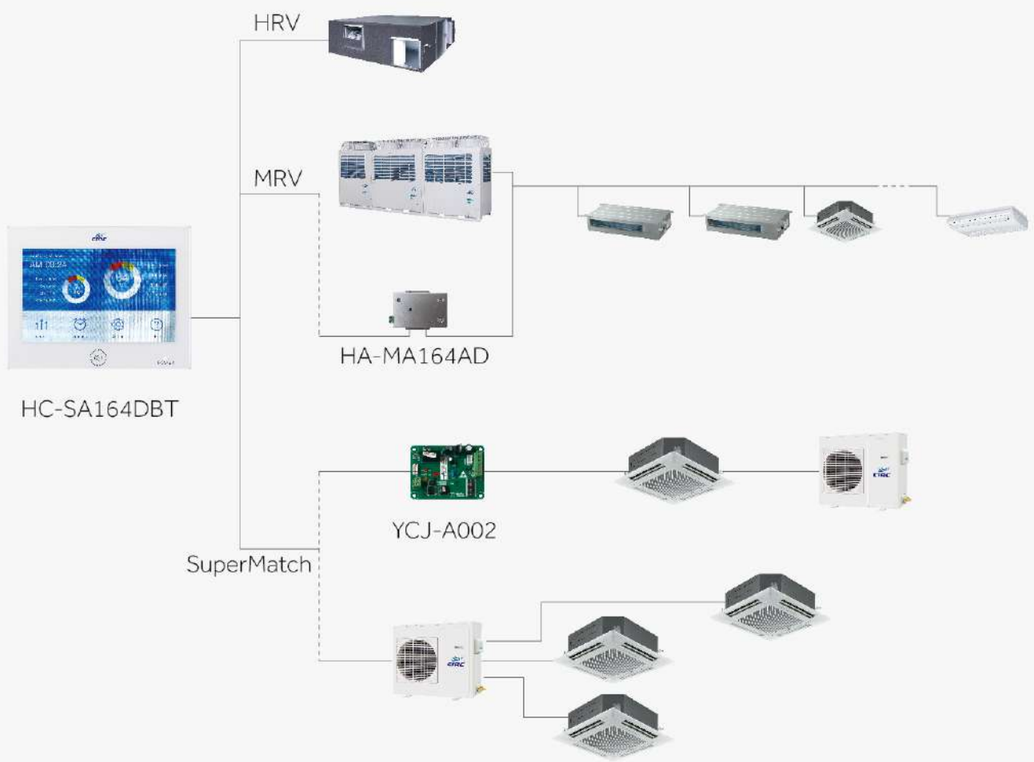
- Infrared signal receiver
- Realize the remote control of duct type indoor unit
- Model selection depens on the duct indoor unit

# Central Controller

## HC-SA164DBT

- Individual control, central control (max. 64 indoor units)
- 5-inch TFT LCD touch screen with back light
- Weekly timer
- Indoor units' information editable
- Historical error
- MRV 5 system and upgraded MRV SII(8/10/12HP) outdoor units can connect directly
- Other MRV system requires HA-MA164AD

## HC-SA164DBT System

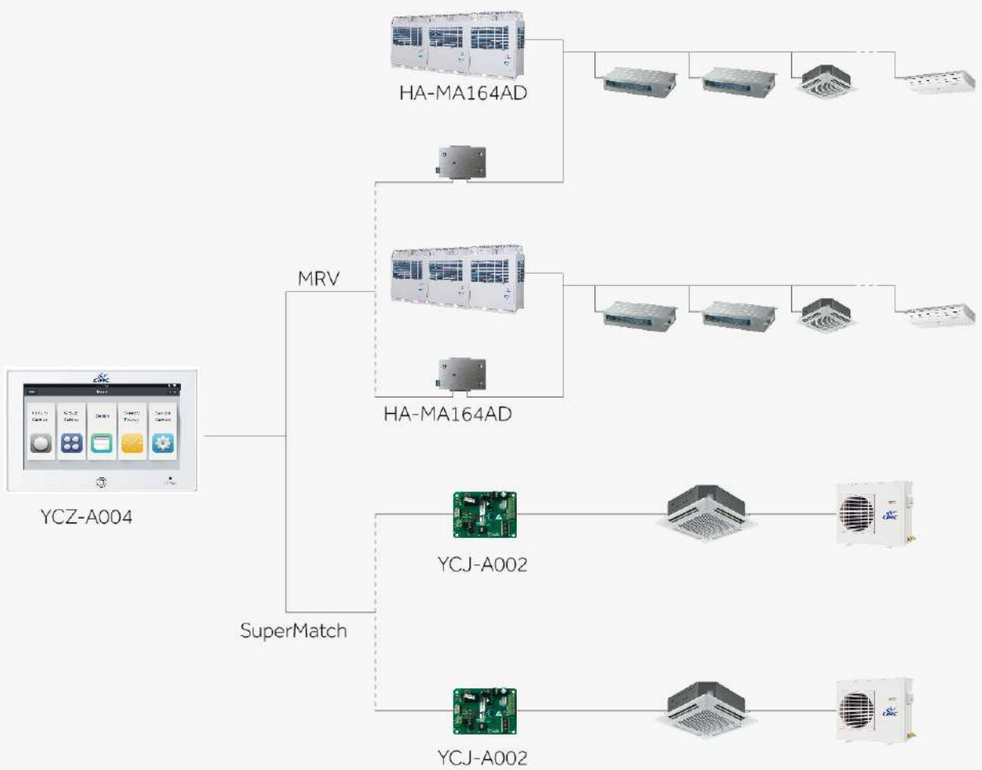





## YCZ-A004

- Individual control, group control & central control (Max. 256 indoor units)
- 7-inch TFT LCD touch screen with back light
- Weekly timer
- Indoor units' information editable
- Error display
- Other MRV system requires HA-MA164AD

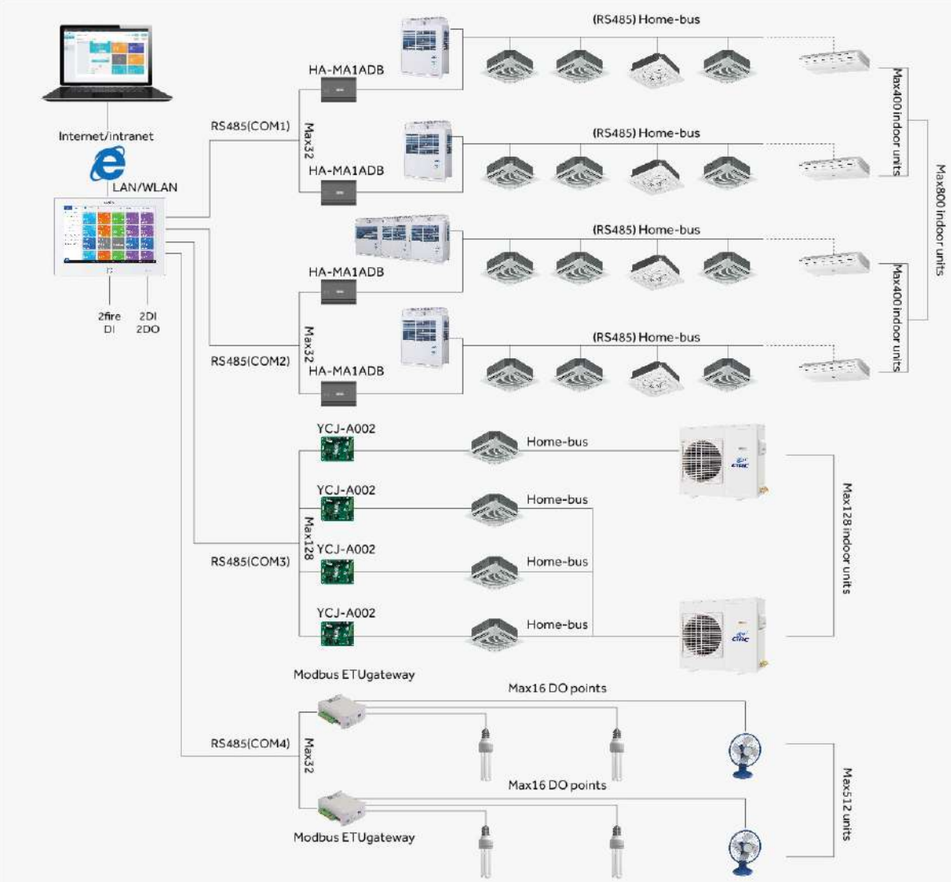
## YCZ-A004 System



## HC-LA1CDBT

- 12.5-inch TFT LCD touch screen
- Max. 800 MRV indoor units and Max. 128 LCAC IDUs connectable for one controller totally 928 IDUS connectable
- Floor plan layout view
- Web Access and Email Alarm
- Weekly Schedule and Special day setting
- Integrate 3rd party devices like fire alarm, lighting with Haier indoor units
- All MRV system requires the new gateway HA-MA1ADB(one system requires one gateway)
- LCAC products requires PCB adapter YCJ-A002(One IDU requires one YCJ-A002)
- Total electricity consumption display
- Data curve
- Electricity consumption distribution for Tenant billing
- Multi Language

## HC-LA1CDBT System





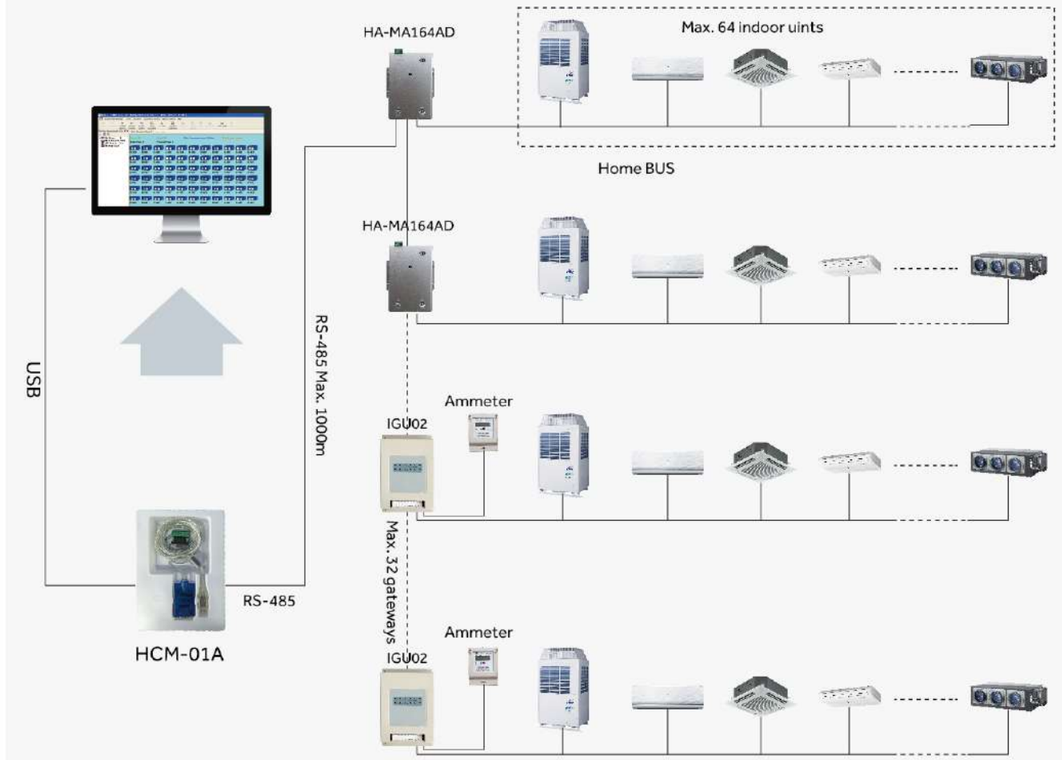

# BMS Solution

The building management modules could perfectly integrate air conditioners into the building management system, providing an excellent solution for large commercial areas.

## HCM-01A

- Local control version; convert USB to RS-485
- Max. 400 indoor units can be controlled
- Modbus rtu interface
- Brand new interface design
- Win 7 32bits/64bits, Win 8 Pro, Win 10 Pro
- Max.32 systems connectable
- MRV 5system and upgraded MRV SII(8/10/12HP) outdoor units can directly connect with HCM-01A
- Other MRV system outdoor units require HA-MA164AD
- Electricity charge report (must use IGU02)

## HCM-01A System

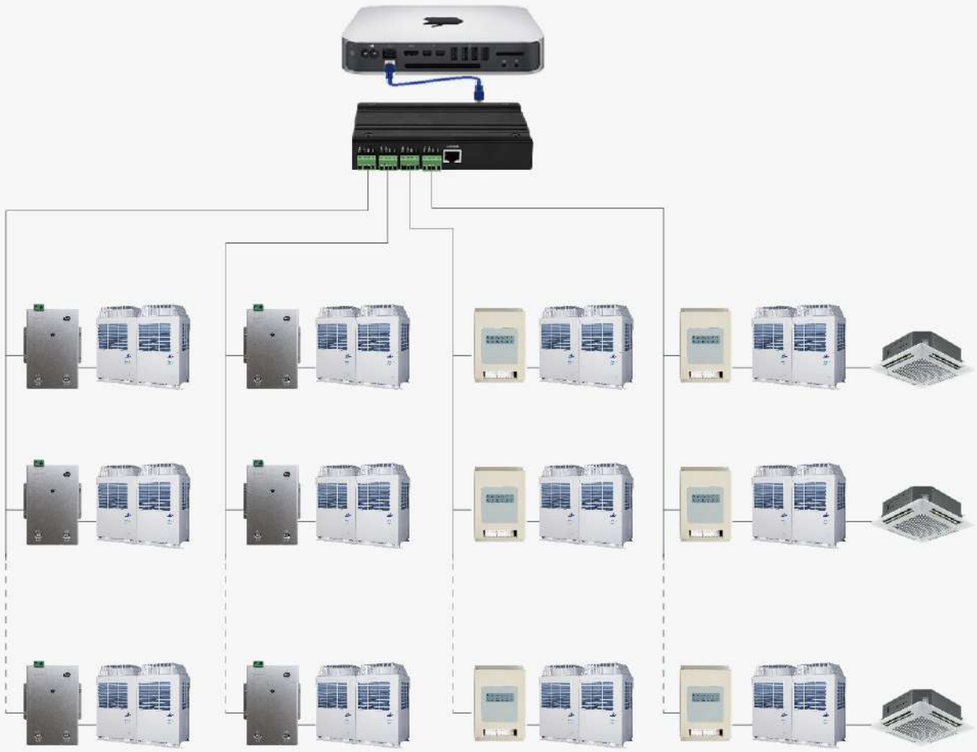



*Each outdoor system requires one HA-MA164AD; For power consumption function, users should connect IGU02 and Ammeter.

## HCM-03A

- Remote monitoring version; third party interface: BACnet ip/ Modbus ip
- Max. 1500 indoor units can be controlled
- Max. 4 groups. each group can connect 20 systems
- MRV 5 system and upgraded MRV SII(8/10/12HP) outdoor units can directly connect with HCM-03A
- Other MRV system outdoor units require HA-MA164AD
- Operation status setting & monitoring.
- Schedule setting
- Multi user management with different authorized levels
- Operation and error history log
- Electricity charge report (must use IGU02)

## HCM-03A System





# BMS interface

The adapters offer you an easy and convenient way to integrate air conditioners into various building management system; perfect for large commercial projects.

## HA-MA164AD

- Protocol adapter, convert homebus to RS-485
- Gateway: modbus rtu
- Max. 64 indoor units can be connected with one HA-MA164AD
- MRV 5system and upgraded MRV SII(8/10/12HP) outdoor units can directly connect with central controller HC-SA164AD and YCZ-A004 or BMS monitor: HCM-01A and HCM-03A
- Other MRV system outdoor units require HA-MA164AD

## HA-MA1ADB

- Interface: Modbus
- Match with 12.5-inch webserver central controller HC-LA1CDBT
- Max. 128 indoor units connectable
- Digital tube display Indoor quantity, gateway address, time and date
- Electricity data collection, calculation, distribution and storage

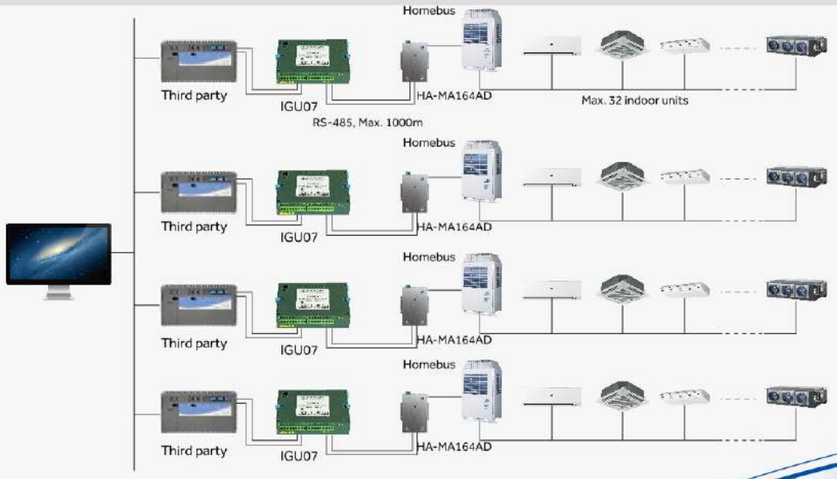
## IGU02

- Protocol adapter, convert homebus to modbus
- Electricity data collection, calculation, allocation and storage
- Match with BMS (HCM-01A,03A,05,05A). each system requires one IGU02
- Max.40 indoor units can be connected with one IGU02

## IGU07

- Protocol adapter, convert modbus rtu to lonworks
- Each system requires one IGU07+ HA-MA164AD
- Max. 32 indoor units can be connected in one system
- External 24V DC power supply is needed


## LonWorks System



## HCM-04

- BACnet gateway, convert modbus rtu to BACnet ip
- Max.128 indoor units/ 4 systems can be controlled. Max. 32 indoor units for one system
- MRV 5 and upgraded MRV SI I (8/10/12HP) can connect directly with HCM-04.
- Other MRV systems require IGU02 or HA-MA164AD
- BTL certificate


## HA-AC-KNX-8 / HA-AC-KNX-16 / HA-AC-KNX-64

- KNX gateway
- Convert modbus to KNX
- Max. 8/ 16/ 64 indoor units can be connected in one system
- MRV 5 and upgraded MRV SI I (8/10/12HP) can connect directly
- Other MRV systems require HA-MA164AD

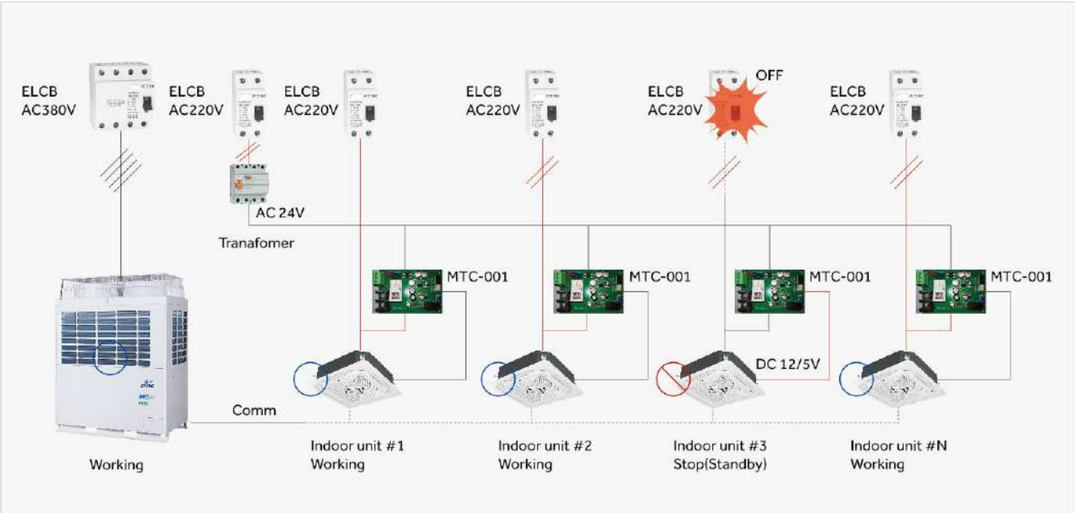
*For the KNX gateway purchase, please contact the KNX manufacture Intesis directly

# MULTI TENANT SOLUTION

## MTC-001

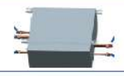
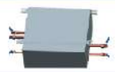
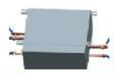
Application Scenario:

- a. The multi tenant site using separate circuit breaker for each indoor unit
- b. The hotel room using key-tag system which cuts off the power of indoor unit directly
- When it is detected that any connected indoor unit is forcibly cut off, the MTC-001 provides DC power to the indoor PCB to ensure that the indoor unit maintains standby mode: the EEV is turned off and the control signal is blocked to prevent the system from alarming
- Note: If there is power or communication failure in the indoor computer board, MTC-001 cannot be prevented and detected






# ACCESSORIES

| Name | Design | Model | Functions | For what units |
|---|---|---|---|---|
| Gather pipe |  | HZG-20A | Refrigerant gathering | 2 IMVF outdoor units |
| Gather pipe |  | HZG-30A | Refrigerant gathering | 3 IMVF outdoor units |
| Gather pipe |  | HZG-R20A | Refrigerant gathering for IMVF Heat Recovery | 2 outdoor units |
| Gather pipe |  | HZG-R30A | Refrigerant gathering for IMVF Heat Recovery | 3 outdoor units |
| Manifold pipe |  | FQG-B335A | Refrigerant distribution for heat pump MRV | Total indoor units capacity less than 33,500W |
| Manifold pipe |  | FQG-B506A | Refrigerant distribution for heat pump MRV | Total indoor units capacity less than 50,600W, but equal or bigger than 33,500W |
| Manifold pipe |  | FQG-B730A | Refrigerant distribution for heat pump MRV | Total indoor units capacity less than 73,000W, but equal or bigger than 50,600W |
| Manifold pipe |  | FQG-B1350A | Refrigerant distribution for heat pump MRV | Total indoor units capacity bigger than 73,000W |
| Manifold pipe |  | FQG-RB335A | Refrigerant distribution for IMVF Heat Recovery | Total indoor units capacity less than 33,500W |
| Manifold pipe |  | FQG-RB506A | Refrigerant distribution for IMVF Heat Recovery | Total indoor units capacity less than 50,600W, but equal or bigger than 33,500W |
| Manifold pipe |  | FQG-RB730A | Refrigerant distribution for IMVF Heat Recovery | Total indoor units capacity less than 73,000W, but equal or bigger than 50,600W |
| Manifold pipe |  | FQG-RB1350A | Refrigerant distribution for IMVF Heat Recovery | Total indoor units capacity less than 135,000W, but equal or bigger than 73,000W |
| VP box |  | VP1-112A | Vavle box | IMVF Heat Recovery |
| VP box |  | VP1-180A | Vavle box | IMVF Heat Recovery |
| VP box |  | VP1-280A | Vavle box | IMVF Heat Recovery |
| VP box |  | VP4-450A | Vavle box | IMVF Heat Recovery |

# CONTROL SYSTEM

| Control System | | Model | Design | Functions |
|---|---|---|---|---|
| Individual Controller | Wireless Controller | YR-HRS01 |  | •On/Off, Mode, Fan speed, Temperature setting, Swing.<br>•Individual control<br>•Five grades of fan speed:<br>•Individual blade control for Smart Power Cassette<br>•Clock & Timer<br>•Follow/Evade function |
| | | YR-HQS01 |  | •On/Off, Operation Mode, Fan speed, Temperature setting, Swing<br>•Turbo and quiet<br>•Individual louver control for Round Flow 4- way cassette and mini 4-way cassette<br>•Self-Clean<br>•Timer<br>•Health function<br>•Backlight |
| | Wired Controller | HW-BA116ABK |  | •Alternating current<br>•Basic fucntion: On/Off, Mode, Fan speed, Temperature<br>•Individual & Group control (Max 16 indoor units)<br>•Simple and Smart design, 86*86*13.05mm |
| | | YR-E17A |  | •On/Off, Mode, Fan speed, Temperature setting, Swing<br>•Individual & Group control (Max.16 indoor units)<br>•Simple and Smart design, 86*86*13.05mm<br>•Touch button with back light<br>•Timer/ Clock<br>•Individual flap control for round way cassette and compact cassette<br>•Built-in infrared signal receiver for duct units<br>•Self-cleaning function<br>•Built-in humidity sensor and humidity display |
| | | YR-E16B |  | •Colorful screen<br>•On/off, mode, fan speed, temperature setting, swing<br>•Individual & group control (max 16 indoor units)<br>•Fahrenheit/ celsius selectable; sensitivity ±0.5°c (±1°F)<br>•Weekly timer<br>•Individual louver control for MINI 4-way cassette and Round Flow 4-way cassette<br>•Static pressure setting |
| | | RE-02 |  | •Infrared signal receiver<br>•Realize the remote control of duct type indoor unit<br>•Model selection depens on the duct indoor unit |
| | Centralized Controller | HC-SA164DBT |  | •Individual control, central control (max. 64 indoor units)<br>•5-inch TFT LCD touch screen with back light<br>•Weekly timer<br>•Indoor units' information editable<br>•Historical error<br>•MRV 5 system and upgraded MRV SII(8/10/12HP) outdoor units can connect directly<br>•Other MRV system requires HA-MA164AD |
| | | YCZ-A004 |  | •Individual control, Group control & Central control (Max 256 indoor units)<br>•7-inch TFT LCD touch screen with back light<br>•Weekly timer<br>•Indoor units' information edit<br>•Historical data backup<br>* Must be used in combination with an HA-MA for eachMRV system. (Max. 32 sets) |
| | | HC-LA1CDBT |  | •12.5-inch TFT LCD touch screen<br>•Max. 800 MRV indoor units and Max. 128 LCAC IDUs connectable for one controller totally 928 IDUS connectable<br>•Floor plan layout view<br>•Web Access and Email Alarm<br>•Weekly Schedule and Special day setting<br>•Integrate 3rd party devices like fire alarm, lighting with Haier indoor units<br>•All MRV system requires the new gateway HA-MA1ADB(one system requires one gateway)<br>•LCAC products requires PCB adapter YCJ-A002(One IDU requires one YCJ-A002)<br>•Total electricity consumption display<br>•Data curve<br>•Electricity consumption distribution for Tenant billing<br>•Multi Language |



# CONTROL SYSTEM

| Control System | Model | Design | Functions |
|---|---|---|---|
| BMS (Building Mannagement System) | HCM-01A |  | •Local control version; convert USB to RS-485<br>•Max. 400 indoor units can be controlled<br>•Modbus rtu interface<br>•Brand new interface design<br>•Win 7 32bits/64bits, Win 8 Pro, Win 10 Pro<br>•Max.32 systems connectable<br>•MRV 5system and upgraded MRV SII(8/10/12HP) outdoor units can directly connect with HCM-01A<br>•Other MRV system outdoor units require HA-MA164AD<br>•Electricity charge report (must use IGU02) |
| | HCM-01A |  | •Remote monitoring version; third party interface: BACnet ip/ Modbus ip<br>•Max. 1500 indoor units can be controlled<br>•Max. 4 groups. each group can connect 20 systems<br>•MRV 5 system and upgraded MRV SII(8/10/12HP) outdoor units can directly connect with HCM-03A<br>•Other MRV system outdoor units require HA-MA164AD<br>•Operation status setting & monitoring.<br>•Schedule setting<br>•Multi user management with different authorized levels<br>•Operation and error history log<br>•Electricity charge report (must use IGU02) |
| BMS Interface | HA-MA164AD |  | •Protocol adapter, convert homebus to RS-485<br>•Gateway: modbus rtu<br>•Max. 64 indoor units can be connected with one HA-MA164AD<br>•MRV 5system and upgraded MRV SII(8/10/12HP) outdoor units can directly connect with central controller HC-SA164AD and YCZ-A004 or BMS monitor: HCM-01A and HCM-03A<br>•Other MRV system outdoor units require HA-MA164AD |
| | HA-MA1ADB |  | •Interface: Modbus<br>•Match with 12.5-inch webserver central controller HC-LA1CDBT<br>•Max. 128 indoor units connectable<br>•Digital tube display Indoor quantity, gateway address, time and date<br>•Electricity data collection, calculation, distribution and storage |
| | IGU02 |  | •Protocol adapter, convert homebus to modbus<br>•Electricity data collection, calculation, allocation and storage<br>•Match with BMS (HCM-01A,03A,05,05A). each system requires one IGU02<br>•Max.40 indoor units can be connected with one IGU02 |
| | IGU07 |  | •Protocol adapter, convert modbus rtu to lonworks<br>•Each system requires one IGU07+ HA-MA164AD<br>•Max. 32 indoor units can be connected in one system<br>•External 24V DC power supply is needed |
| | HCM-04 |  | •BACnet gateway, convert modbus rtu to BACnet ip<br>•Max.128 indoor units/ 4 systems can be controlled. Max. 32 indoor units for one system<br>•MRV 5 and upgraded MRV SII (8/10/12HP) can connect directly with HCM-04.<br>•Other MRV systems require IGU02 or HA-MA164AD<br>•BTL certificate |
| | HA-AC-KNX-8<br>HA-AC-KNX-16<br>HA-AC-KNX-64 |  | •KNX gateway<br>•Convert modbus to KNX<br>•Max. 8/ 16/ 64 indoor units can be connected in one system<br>•MRV 5 and upgraded MRV SII (8/10/12HP) can connect directly<br>•Other MRV systems require HA-MA164AD<br>*For the KNX gateway purchase, please contact the KNX manufacture Intesis directly |
| Multi Tenant Solution | MTC-001 |  | Application Scenario:<br>•a. The multi tenant site using separate circuit breaker for each indoor unit<br>•b. The hotel room using key-tag system which cuts off the power of indoor unit directly<br>•When it is detected that any connected indoor unit is forcibly cut off, the MTC-001 provides DC power to the indoor PCB to ensure that the indoor unit maintains standby mode: the EEV is turned off and the control signal is blocked to prevent the system from alarming<br>•Note: If there is power or communication failure in the indoor computer board, MTC-001 cannot be prevented and detected |

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