

## DC INVERTER VRF SYSTEM CAC Catalogue



## SUPER KOOL

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### Note

All the data in this catalogue maybe changed without notice for further improvement on quality and performance.

Provide You With Fresh Air

V.SQRQ



**2002** Develop intelligent VRF system, enter VRF market.

**2004** Successfully developed intelligent inverter VRF system.

**2009** Upgrade performance; launch more stable, energy saving, and more comfortable super DC inverter module.

**2011** Launch new CMV system adopt the industry fourth generation core technology, both process and quality upgrade.

**2012** Upgraded EER, new launched CMV. Was selected as the government procurement designated brands.

## VRF Development History



**2019** Launched New generation CHV-Pro VRF series.

**2018** Launched CMV-X\* Full DC inverter EVI VRF system.

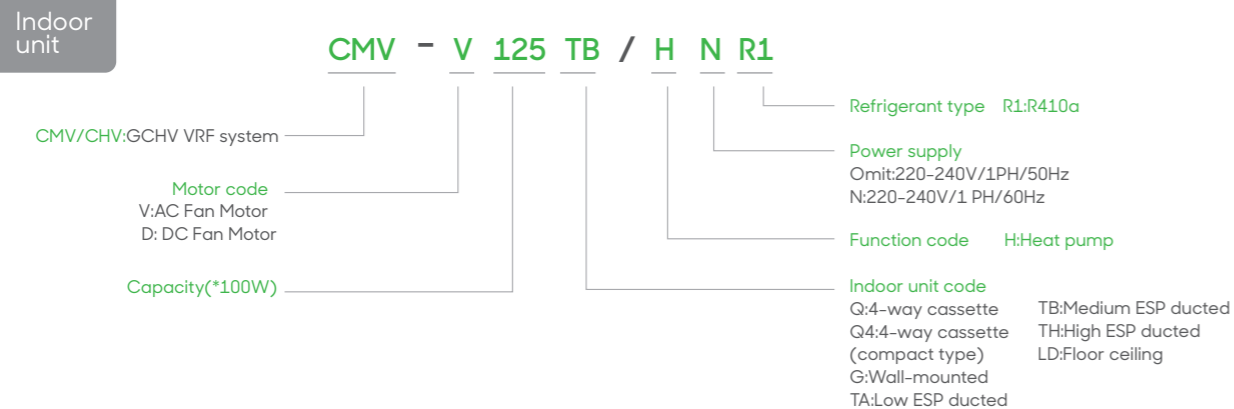
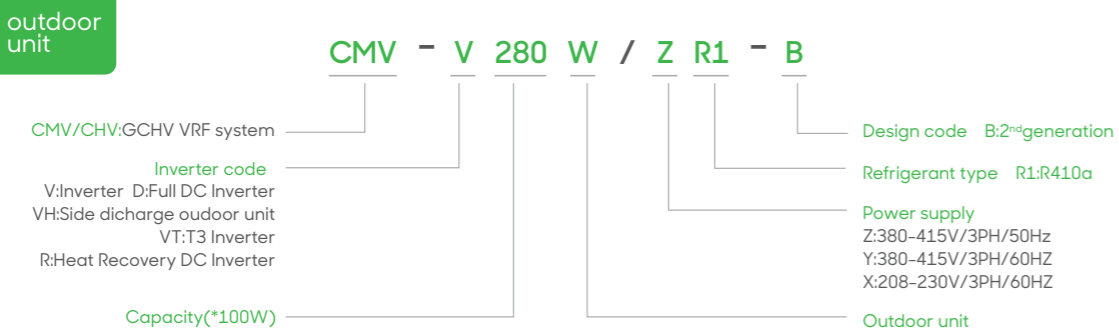
**2017** CMV-X got EUROVENT certification in 2017. Become 2018 Russia World Cup HVAC equipment supplier.

**2016** Launched CMV-R heat recovery VRF system.

**2015** New CMV-C series launched with high efficiency and excellent performance.

**2013** Full DC inverter CMV-X was successful developed; all compressors and fan motors adopt DC inverter technology. Top high energy saving and comfort.

## How To Read The Model Name



## CHV Pro

380~415V/3N/50Hz&60Hz  
New generation Full DC  
Inverter EVI VRF



13 Basic Modules

Capacity	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP	26HP	28HP	30HP	32HP
	25.2kW	28kW	33.5kW	40kW	45kW	50kW	56kW	61.5kW	67kW	73kW	78.5kW	85kW	90kW
Compressor	DC	DC	DC	DC	DC	DC	DC	DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC
Fan motor	DC	DC	DC	DC	DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC

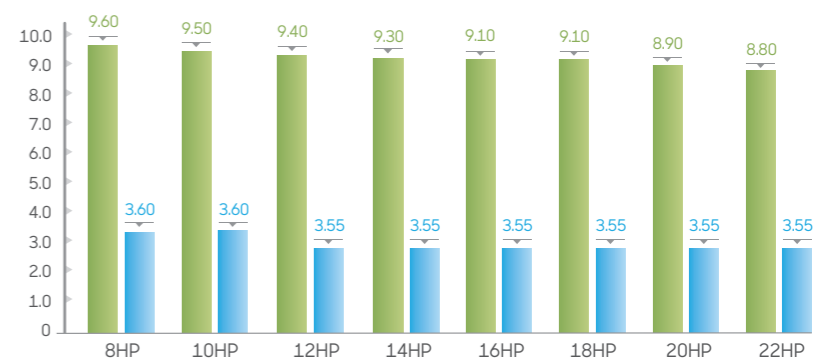
## EER&COP



## IPLV(C)

IPLV: Integrated Part Load Value (ARI 550/590)  
(C): Cooling condition

The Integrated Part Load Value (IPLV) is a performance characteristic developed by the Air-Conditioning, Heating and Refrigeration Institute (AHRI). It is most commonly used to describe the performance of a AC system capable of capacity modulation. Unlike an EER (Energy Efficiency Ratio) or COP (coefficient of performance), which describes the efficiency at full load conditions, the IPLV is derived from the equipment efficiency while operating at various capacities. Since a VRF system does not always run at 100% capacity, the EER or COP is not an ideal representation of the typical equipment performance. The IPLV is a very important value to consider since it can affect energy usage and operating costs throughout the lifetime of the equipment.



\*Note: Due to space limited, here just list IPLV from 8HP-22HP Units.

• National Standard (GB 21454-2008) • CHV Pro

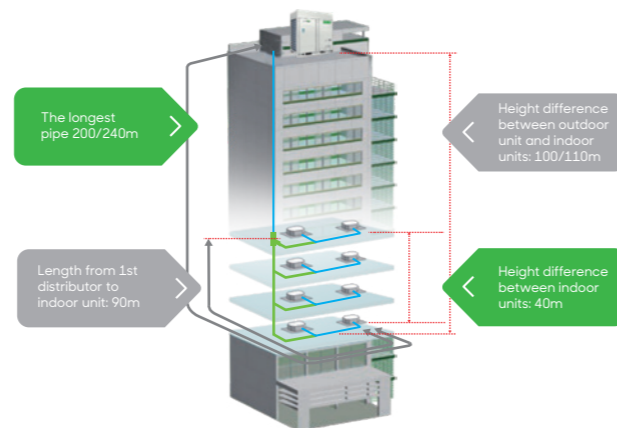
## Combination Table

HP	Cooling Cap.(KW)	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP	26HP	28HP	30HP	32HP
8	25.2	●												
10	28		●											
12	33.5			●										
14	40				●									
16	45					●								
18	50						●							
20	56							●						
22	61.5								●					
24	67									●				
26	73										●			
28	78											●		
30	83.5												●	
32	89.5													●
34	95					●	●							
36	101						●	●						
38	106.5							●	●					
40	111.5								●	●				
42	117.5									●	●			
44	123										●	●		
46	128.5											●	●	
48	134.5												●	●
50	140													●
52	145													
54	151													
56	156.5													
58	163													
60	168													
62	173													
64	179													
66	184.5													
68	190													
70	196													
72	201.5													
74	206.5													
76	212.5													
78	218													
80	224.5													
82	229.5													
84	234.5													
86	240.5													
88	246													

\*Note:Single modules can be freely combined to become a larger unit.Recommended maximum capacity of single system is 96HP,table above listed combination to 88HP for your reference only.

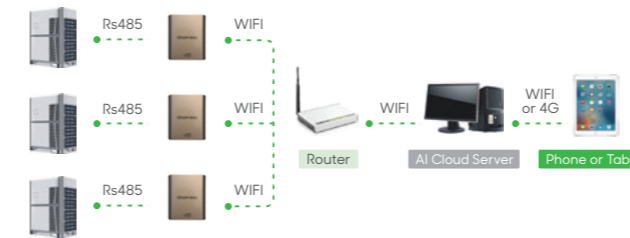
## Long Piping & Height Difference

The total pipe length	1000 m
The longest pipe length	200 /240m
Height difference	Outdoor unit above <100m Outdoor unit below <110m
Height difference between indoor units	40m
Length from first indoor distributor to last indoor unit	90 m
Communication wire length	can be up to 1000m.



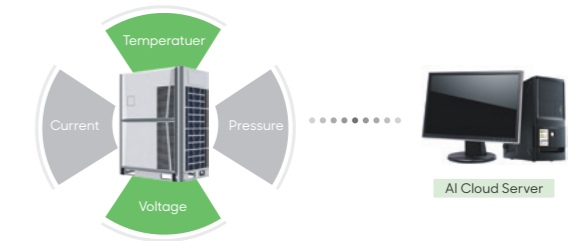
## Features

**Long Distance Remote Control**  
Long distance remote control by phone or tablet.



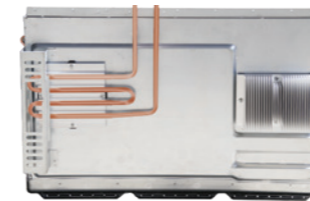
**Malfunction Forecasting**

- Thanks to the AI cloud server, malfunction can be forecasted when system running parameter is abnormal.
- Technician can be sent to site to check the system before it stops.



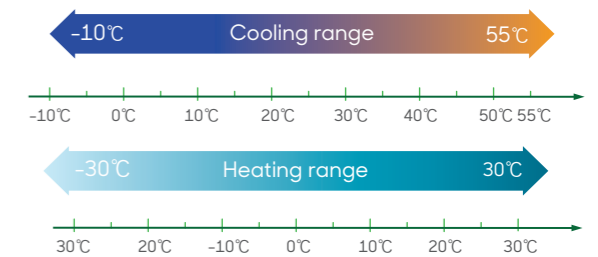
**Refrigerant Cooling Design**

We use refrigerant to cool down inverter modular board to keep it in a safe condition even when outdoor temperature is up to 55°C.



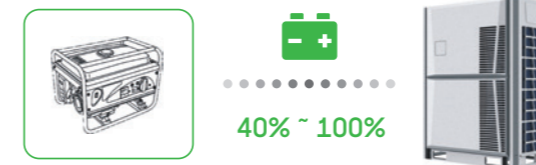
**Wide Outdoor Operation Range**

- Due to EVI technology, CHV PRO heating performance increased by 35% compare to conventional VRF system.
- Due to EVI technology, CHV PRO still has 85% of rated capacity even in -15°C.



**Power Saving Mode**

In the case of power shortage, CHV PRO can run power saving mode to ease generator's pressure.



**Refrigerant Status Detection**

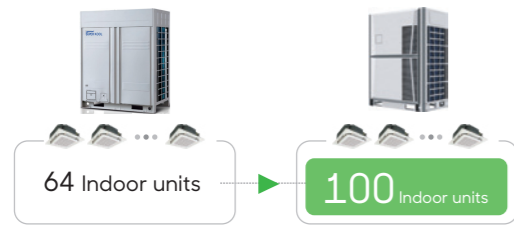
- Built-in with smart refrigerant auto check function, which can give suggestion about refrigerant status.
- Different code means different refrigerant status:

4	Extremely insufficient
12	Insufficient
11	Slightly insufficient
0	Normal
1	Slightly excess
2	Overmuch

## Features

### 2 More indoor units

Max. 100 Indoor units can be connect in ONE system.



### Electrical Lock Function(optional)

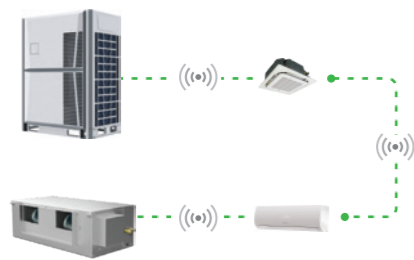


In case of end user doesn't pay as contract, electrical lock function can be used to stop VRF system, and end user can not start the system without permission.

System can be unlock with password by authorized technician.

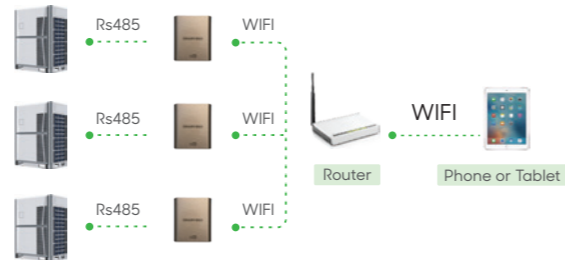
### Wireless Communication(optional)

Wireless communication between indoor units.  
Wireless communication between indoor unit and outdoor unit.



### On Site Diagnosis

Technician can do the commissioning & diagnosis by phone or tablet on site.



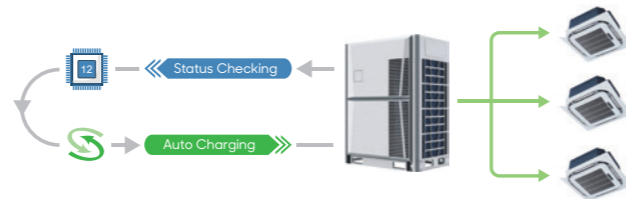
### Service Window On Front Cover

Thanks to the service window, checking outdoor units status and setting is now easy, no need to remove the front cover.



### Auto Charging Refrigerant(optional)

CHV PRO can customize with auto refrigerant charging function, additional solenoid valve will be added in gas pipe, and outdoor unit will control the valve to charge refrigerant.



### 13 Basic Modules



### Maximum 96HP



Max.4 outdoor units can be freely combined to become a larger unit.the maximum capacity of single system is 96HP.

\*:when 4 outdoor units are combined,the single unit capacity can not exceed 24HP.

## CMV-X+

380V-405V/50Hz&60Hz  
Full DC Inverter EVI  
VRF System



### 8 Basic Modules

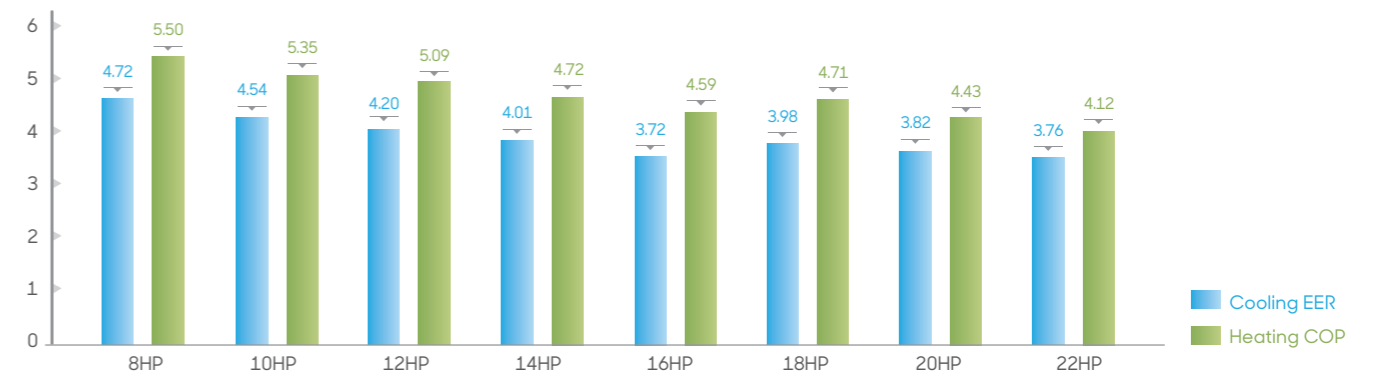
CMV-X+ is GCHV's latest generation VRF product, all compressors and fan motors are DC brushless type, so it has more excellent energy efficiency.

8/10/12HP

14/16/18/20/22HP

Capacity	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP
	25.2kW	28kW	33.5kW	40kW	45kW	50kW	56kW	61.5kW
Compressor	DC	DC	DC	DC	DC	DC+DC	DC+DC	DC+DC
Fan motor	DC	DC	DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC

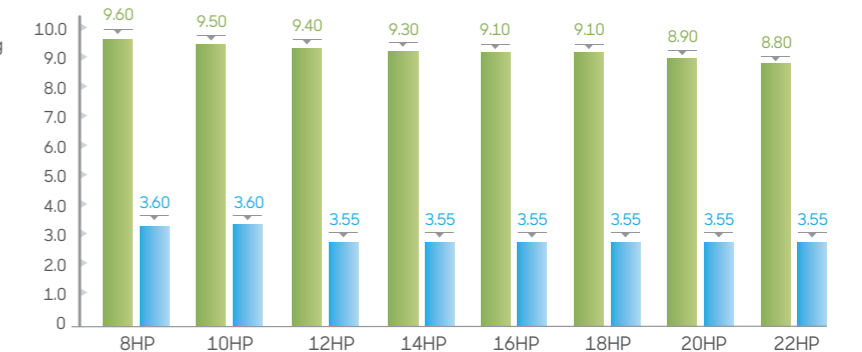
## EER&COP



## IPLV(C)

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• National Standard (GB 21454-2008) • CMV-X+

## Combination Table

HP	Model	Cooling Capacity(KW)	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	Max. Connected Indoor Unit Quantity
8	CMV-D252W/ZR1-B	25.2	●								14
10	CMV-D280W/ZR1-B	28		●							16
12	CMV-D335W/ZR1-B	33.5			●						19
14	CMV-D400W/ZR1-B	40				●					23
16	CMV-D450W/ZR1-B	45					●				26
18	CMV-D500W/ZR1-B	50						●			29
20	CMV-D560W/ZR1-B	56							●		33
22	CMV-D615W/ZR1-B	61.5								●	36
24	CMV-D670W/ZR1-B	67			●●						39
26	CMV-D730W/ZR1-B	73		●			●				43
28	CMV-D780W/ZR1-B	78		●			●				46
30	CMV-D835W/ZR1-B	83.5			●		●				49
32	CMV-D895W/ZR1-B	89.5		●						●	52
34	CMV-D950W/ZR1-B	95			●					●	56
36	CMV-D1010W/ZR1-B	101					●		●		59
38	CMV-D1065W/ZR1-B	106.5					●			●	62
40	CMV-D1115W/ZR1-B	111.5						●		●	64
42	CMV-D1175W/ZR1-B	117.5						●	●	●	64
44	CMV-D1230W/ZR1-B	123							●	●●	64
46	CMV-D1285W/ZR1-B	128.5			●●					●	64
48	CMV-D1345W/ZR1-B	134.5		●			●			●	64
50	CMV-D1400W/ZR1-B	140			●		●			●	64
52	CMV-D1450W/ZR1-B	145			●			●		●	64
54	CMV-D1510W/ZR1-B	151		●						●●	64
56	CMV-D1565W/ZR1-B	156.5			●					●●	64
58	CMV-D1630W/ZR1-B	163				●				●●	64
60	CMV-D1680W/ZR1-B	168					●			●●	64
62	CMV-D1730W/ZR1-B	173						●		●●	64
64	CMV-D1790W/ZR1-B	179							●	●●	64
66	CMV-D1845W/ZR1-B	184.5								●●●	64
68	CMV-D1900W/ZR1-B	190			●●					●●	64
70	CMV-D1960W/ZR1-B	196		●			●			●●	64
72	CMV-D2015W/ZR1-B	201.5			●		●			●●	64
74	CMV-D2065W/ZR1-B	206.5			●			●		●●	64
76	CMV-D2125W/ZR1-B	212.5		●						●●●	64
78	CMV-D2180W/ZR1-B	218			●					●●●	64
80	CMV-D2245W/ZR1-B	224.5				●				●●●	64
82	CMV-D2295W/ZR1-B	229.5					●			●●●	64
84	CMV-D2345W/ZR1-B	234.5						●		●●●	64
86	CMV-D2405W/ZR1-B	240.5							●	●●●	64
88	CMV-D2460W/ZR1-B	246								●●●●	64

## What Is EVI VRF System



### Enhanced Vapor Injection Compressor

The Enhanced vapor injection compressor adopts two-stage throttling intermediate injection technology, which uses a flash vaporizer for gas-liquid separation to achieve the effect of increasing the enthalpy. It is cooled by vapor injection mixing at medium and low pressures while compressing, and then compressed normally at high pressure to increase the displacement of the compressor and achieve great heating performance improvement in a low temperature environment. This compressor could heating at  $-30^{\circ}\text{C}$ , and Heating capacity increased by nearly 20%-50% at  $-15^{\circ}\text{C}$ .



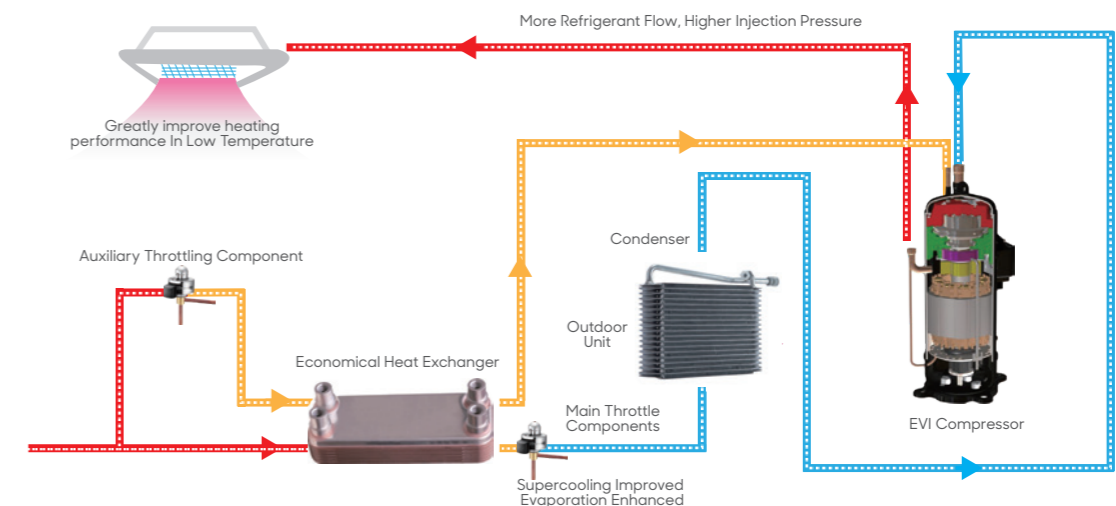
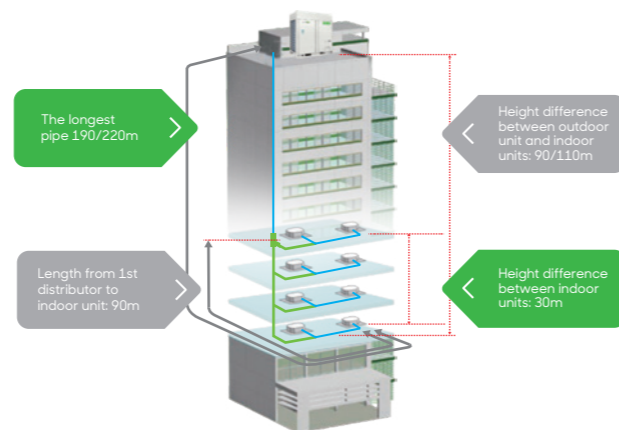
### Theory of Enhanced Vapor Injection

With the help of high-efficiency heat exchanger, on the one hand, the refrigerant in main circulation super cooling before throttling to increase the enthalpy difference, on the other hand, the low temperature and low pressure refrigerant which has been depressurized by the electronic expansion valve in the auxiliary circuit is appropriately preheated to achieve a suitable medium pressure, provide to the compressor for secondary compression.

When the outdoor temperature is very low, the heat exchange capacity of the outdoor unit is reduced, so the normal air return volume of the compressor is reduced, which lead to the reduction of compressor capacity, and the best effect cannot be exerted. However, the refrigerant gas is replenished through the intermediate pressure air return injection port, increase the displacement of the compressor, and the refrigerant circulating amount of the indoor unit heat exchanger is increased to improve the heating capacity. Therefore, it is more suitable for cold regions.

## Long Piping & Height Difference

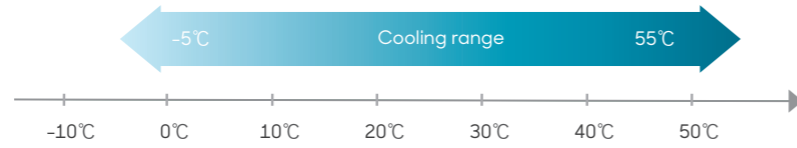
The total pipe length	1000 m
The longest pipe length	Actual length 190m Equivalent length 220m
Height difference	Outdoor unit above <math>90\text{m}</math> Outdoor unit below <math>110\text{m}</math>
Equivalent length from first indoor distributor to last indoor unit	90 m
Height difference between indoor and outdoor unit	Outdoor unit above <math>90\text{m}</math> Outdoor unit below <math>110\text{m}</math>
Height difference between indoor units	30m



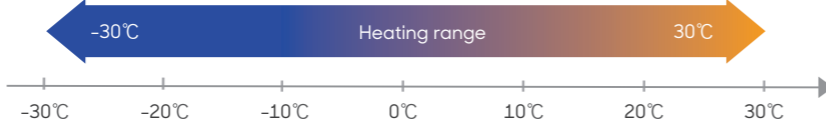


## Wide Operation Range

Due to global warming is getting worse, cooling operating temperature is designed up to 55°C.



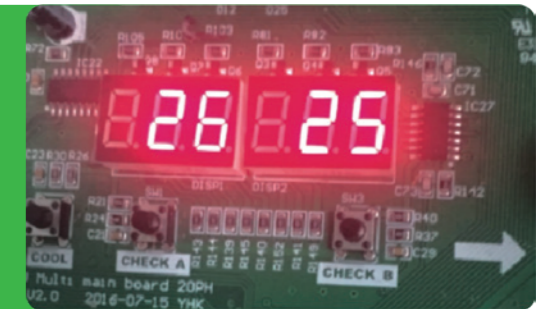
Heating operating temperature is down to -30°C. In the cold winter, CMV system can heat the room continuously.



## Refrigerant Status Checking

CMV-X\* is building in smart auto checking logic, which can give suggestion about refrigerant status. Different code means different refrigerant status:

- 0 Normal
- 1 Slightly excess
- 2 Overmuch
- 11 Slightly insufficient
- 12 Insufficient
- 13 Extremely insufficient



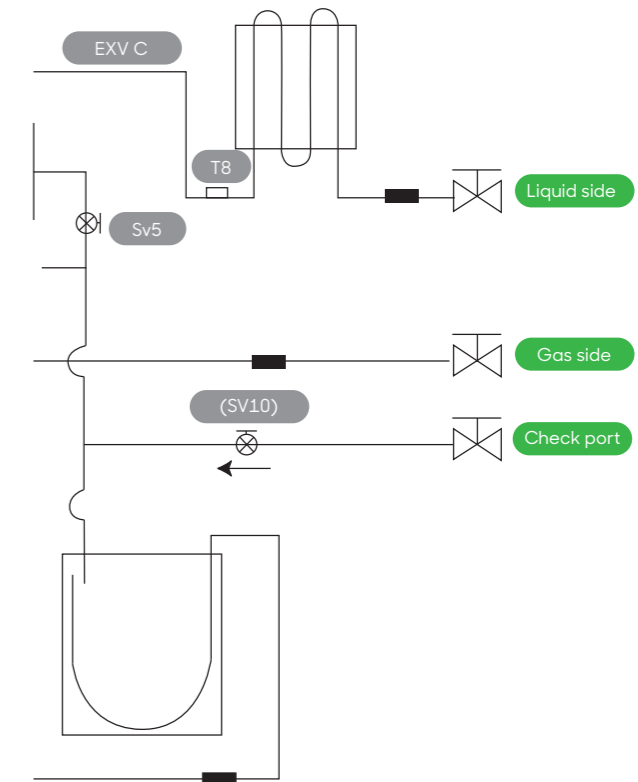
## Power Saving Mode

In case of power shortage, CMV-X\* can run as power saving mode to ease power grid pressure.

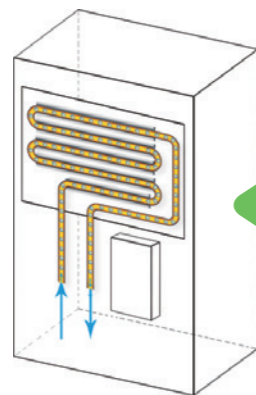


## Refrigerant Auto Charging (Customized Function)

CMV-X\* can customize with auto charging refrigerant function, we will add SV10 valve in gas pipe, and outdoor unit will control SV10 to charge refrigerant or not.



## Refrigerant Cooling Design



In CMV-X\*, we use refrigerant to cool down inverter modular board, to keep unit in a safety condition.





380V-405V/50Hz&60Hz  
Heat Recovery VRF System



8/10/12/14/16HP

### 5 Basic Modules

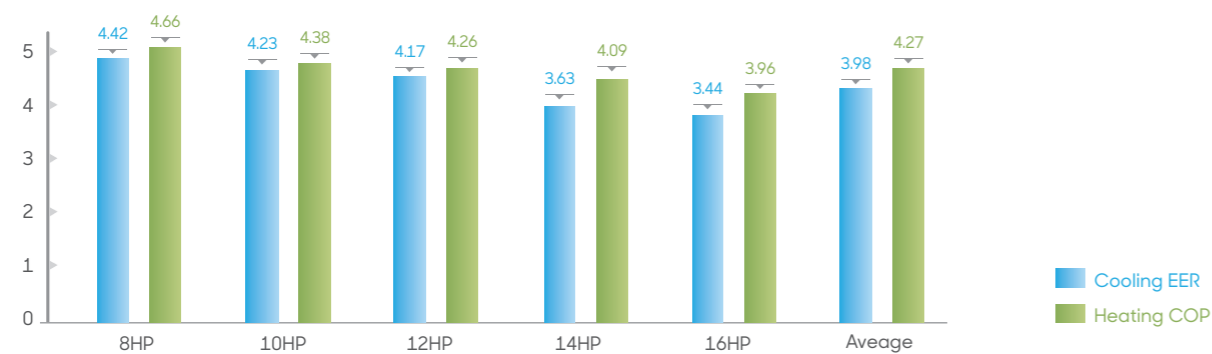
CMV-R is heat recovery VRF product with all DC inverter compressors and DC brushless fan motors. It achieves high operating energy efficiency by drawing heat from the room to be cooled and transferring it as energy for rooms that are to be heated.

Energy saving of the operating systems has been greatly improved as heating and cooling modes can be operated at the same time in one VRF system

Capacity	8HP	10HP	12HP	14HP	16HP
	25.2kW	28kW	33.5kW	40kW	45kW
Compressor	DC	DC	DC	DC+DC	DC+DC
Fan motor	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC

Power type	208-230V	380-415V
50Hz/3phase		●
60Hz/3phase		●

### EER&COP

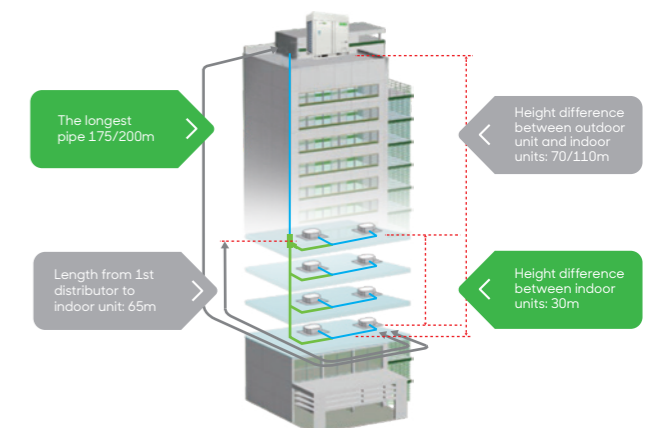


### Combination Table

HP	Cooling Capacity(KW)	8HP	10HP	12HP	14HP	16HP	Max. Connected Indoor Unit Quantity
8	25.2	●					14
10	28		●				16
12	33.5			●			19
14	40				●		23
16	45					●	26
18	53.5	●	●				31
20	56		●●				33
22	61.5		●	●			36
24	68		●		●		40
26	73		●			●	43
28	80				●●		47
30	85				●	●	50
32	90					●●	53
34	96		●●		●		56
36	101		●●			●	59
38	106.5		●	●		●	62
40	113		●		●	●	64
42	120				●●●		64
44	125				●●	●	64
46	130				●	●●	64
48	135					●●●	64
50	143.2	●	●			●●	64
52	146		●●			●●	64
54	151.5		●	●		●●	64
56	158		●		●	●●	64
58	165				●●	●	64
60	170				●●	●●	64
62	175				●	●●●	64
64	180					●●●	64

### Long Piping & Height Difference

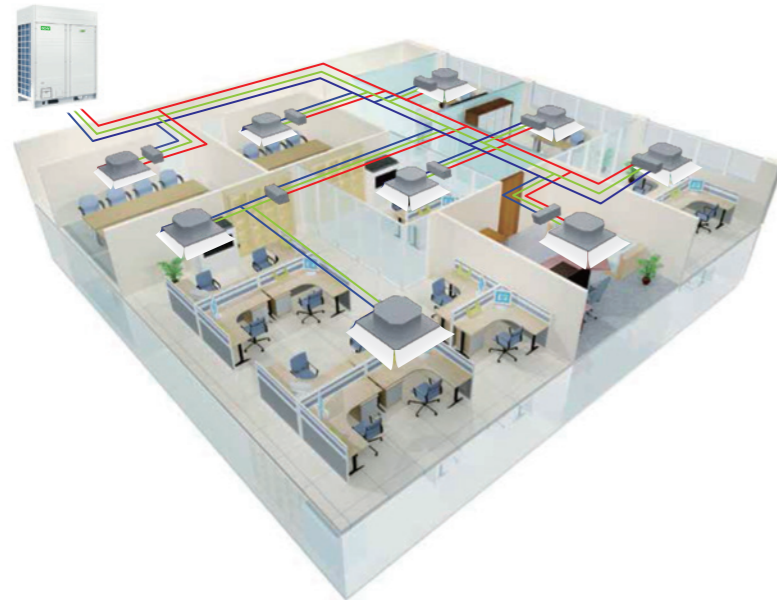
The total pipe length	1000 m
The longest pipe length	Actual length 175m Equivalent length 200m
Equivalent length from first indoor distributor to last indoor unit	65 m
Height difference between indoor and outdoor unit	Outdoor unit above<70m Outdoor unit below<110m
Height difference between indoor units	30m



# What Is Heat Recovery VRF System



## Simultaneous Cooling And Heating Operation



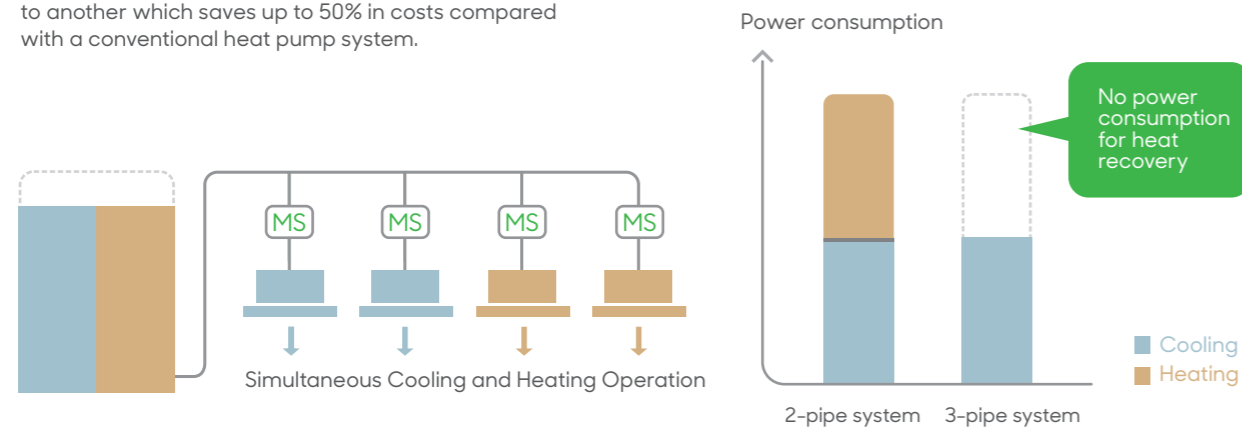
CMV-R is 3-pipe heat recovery VRF product with all DC inverter compressors and DC brushless fan motors. It offers simultaneous cooling and heating operation in one system.

CMV-R achieves high operating energy efficiency by drawing heat from the room to be cooled and transferring it as energy for rooms that are to be heated.



## Heat Recovery, More Efficiency

Simultaneous heating and cooling in different zones, more energy saving by heat recovery from one space to another which saves up to 50% in costs compared with a conventional heat pump system.



CHV Pro

CMV-X+

CMV-R

1

High Efficiency

2

Benefits For Users

3

Benefits For Installers

## Advantages



Provide You With Fresh Air

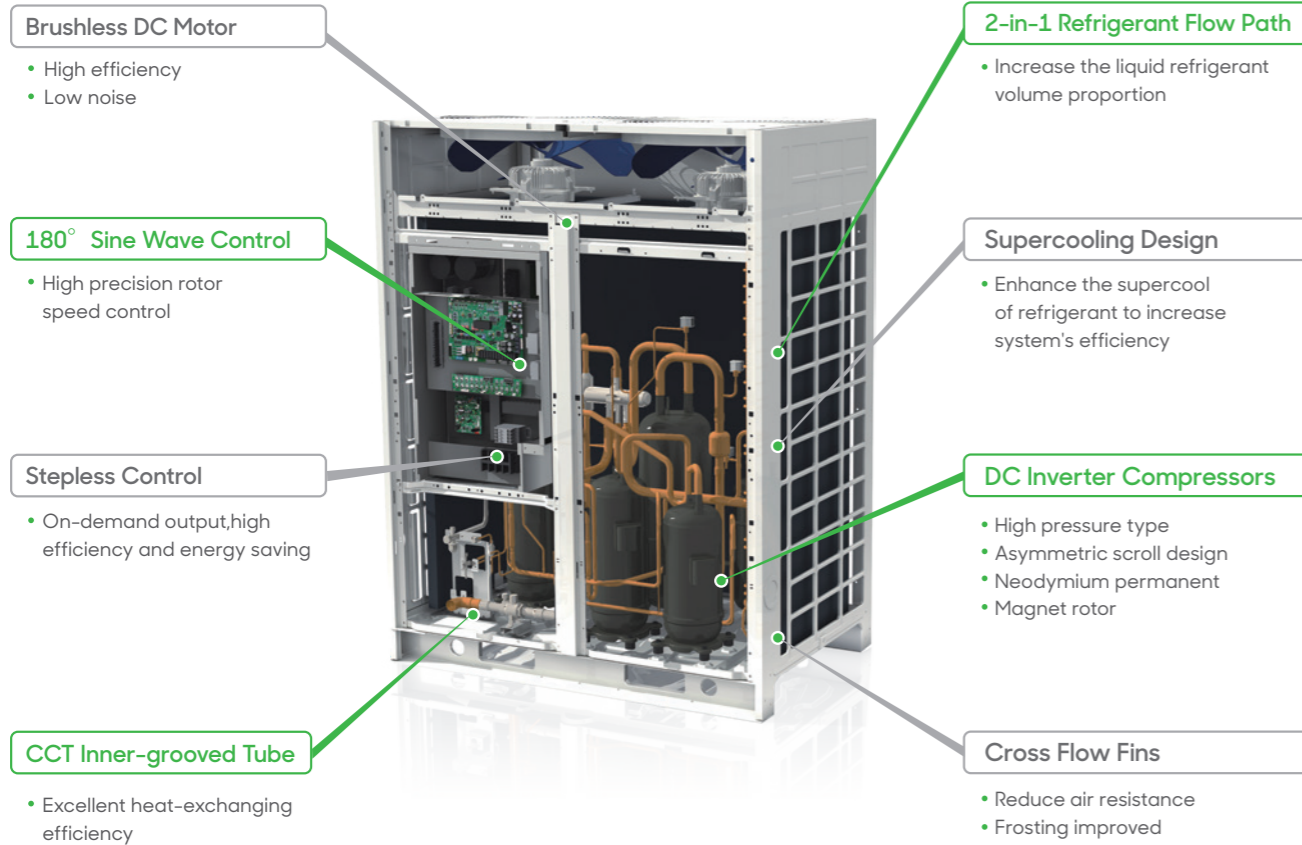


# 1 High Efficiency

## Low carbon life advocate

We always focus on low-carbon energy-saving products development, and spare no effort for technological research and development, to become a practitioner and advocate of low-carbon technology!

### Core Technologies Make High Efficiency



### High Efficiency DC Inverter Compressor

- From Hitachi, famous inverter compressor manufacturer.
- R410a ECO friendly refrigerant.
- Small torque fluctuation, low vibration and quiet operation.
- High efficiency due to its patent internal structure design.
- Internal oil circulation structure.
- High reliability.
- Wide rotation speed range.
- Neodymium permanent magnet rotor, has powerful magnetic force, large torque and high efficiency.
- Concentrated winding, improving low frequency efficiency.
- High pressure chamber
- Has small suction superheat and high refrigerant volume efficiency
- Has large refrigerant discharge buffer volume, Low vibration and noise



- Differential pressure oil film control technology, reducing noise and improving gas tightness
- Special scroll design for R410a
- High precision processing, improving compression efficiency by 15%
- Concentrated winding, improving low frequency efficiency
- High strength bearing, high rigidity shell

#### Neodymium permanent magnet rotor

Powerful magnetic force, large force moment and high efficiency.

Ferrite magnet      Neodymium permanent magnet

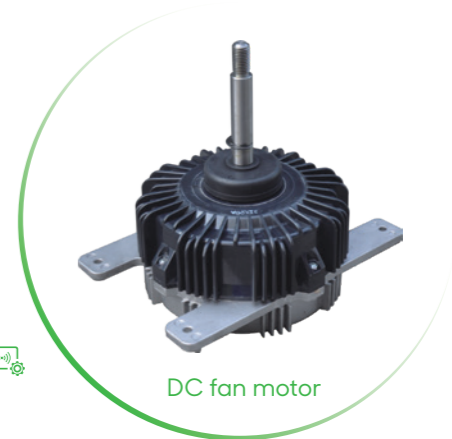
#### Concentrated winding

Magnetic efficiency is 12% higher than distributed winding

Concentrated winding      Distributed winding

### High Efficiency DC Motor

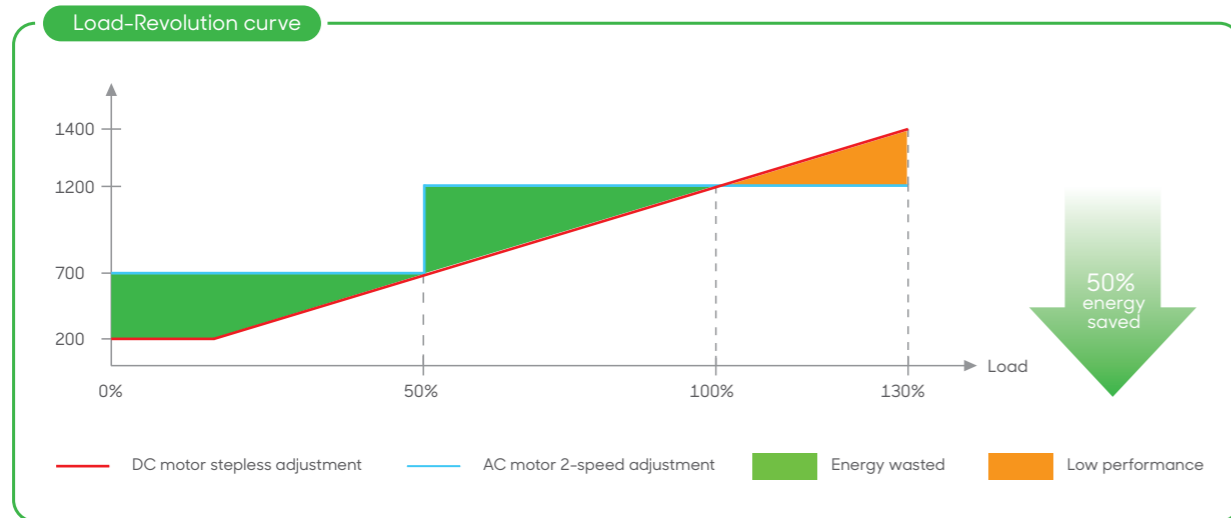
- High efficiency DC fan motor is from well-known brand.
- Low noise and high efficiency because of high-density wire winding engineering.
- Brushless with built-in sensor.





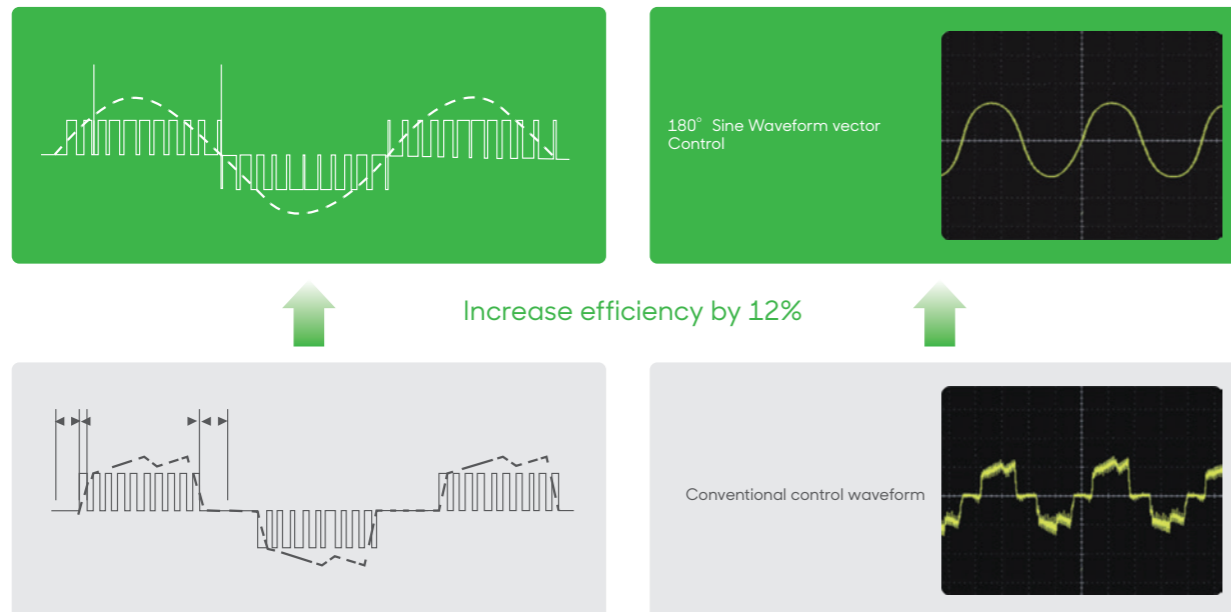
## Stepless Control

DC fan motor can be stepless controlled by outdoor PCB according to system's operating pressure. And it is able to reduce the energy consumption and maintain the system in the best performance.



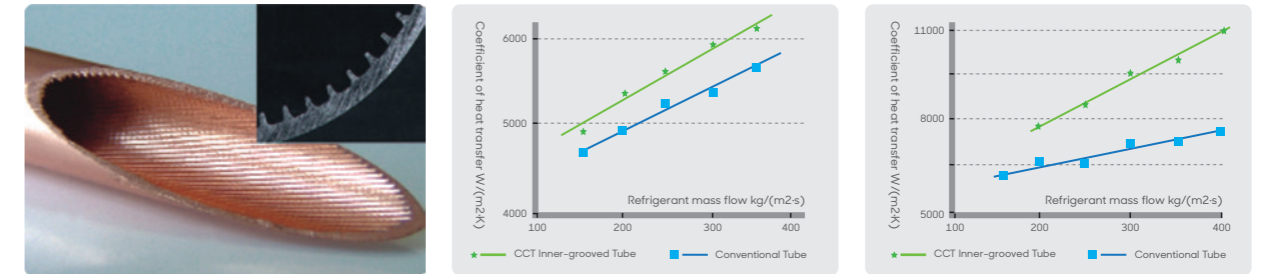
## 180° Sine Waveform Control

The perfect combination of 180° Sine waveform rotor frequency drive control technology and excellent IPM inverters, reduces the reactive loss of motor-driven, increases motor efficiency by 12%.

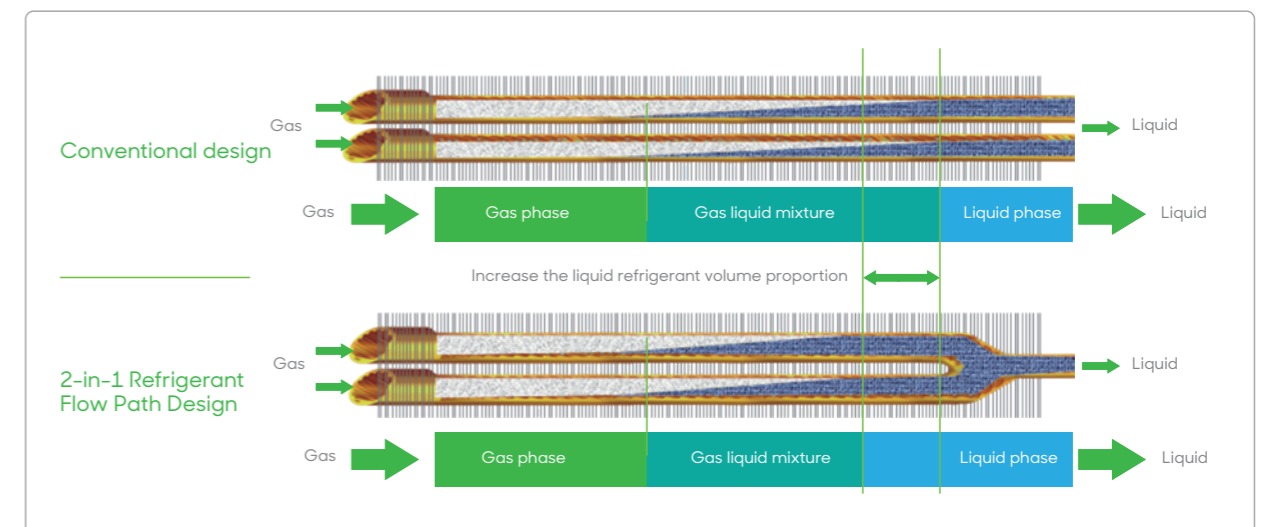
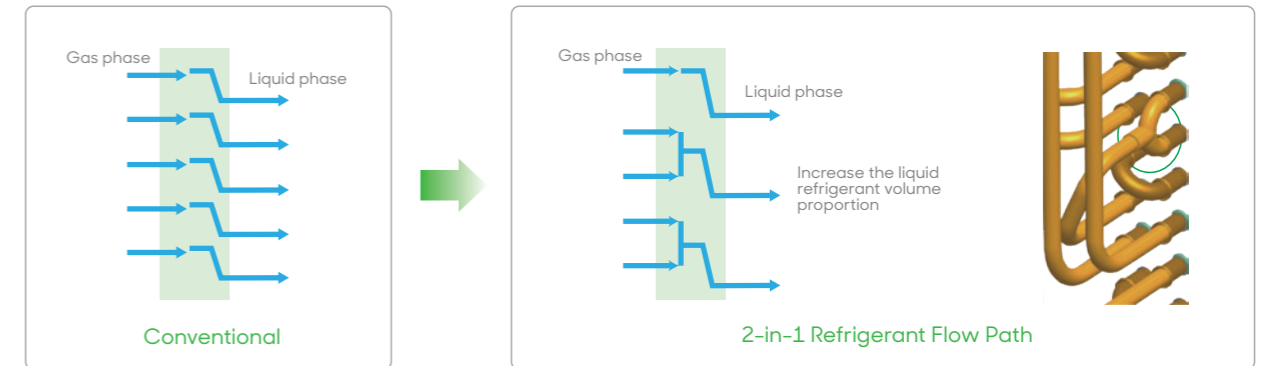


## CCT Inner-grooved Tube

CCT (Continuous Cooling Transformation) inner-grooved copper tube has high thermometric conductivity. This inner-grooved fins break the refrigerant flow boundary layer to enhance refrigerant disturbance to increase heat-exchanging efficiency.



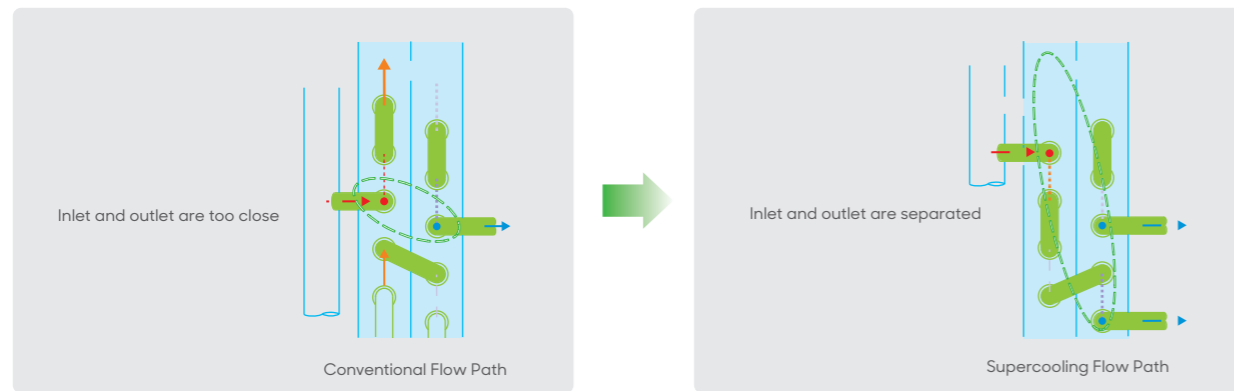
## 2-in-1 Refrigerant Flow Path Design





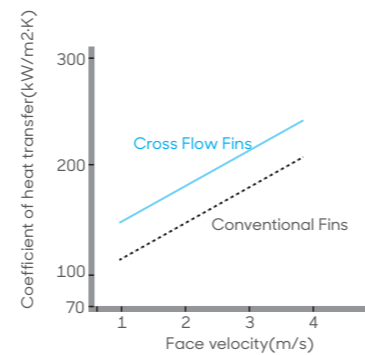
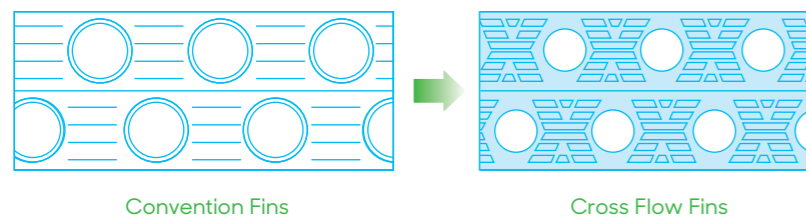
## Supercooling Flow Path Design

Supercooling flow path design, separates the refrigerant inlet and outlet, increase the supercooling degree, reduce the effect of high temperature inlet gas refrigerant to low temperature outlet liquid refrigerant, therefore, the system efficiency will be greatly increased.



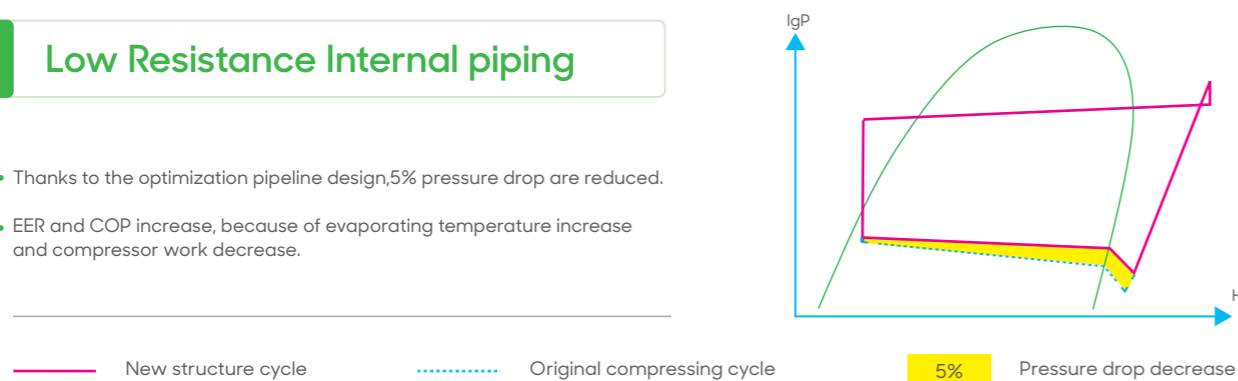
## Cross Flow Fins

- Has low air resistance and great heat transfer coefficient.
- Frosting improved, frost on the heat-exchanger will be well-distributed, easy for defrosting.



## Low Resistance Internal piping

- Thanks to the optimization pipeline design, 5% pressure drop are reduced.
- EER and COP increase, because of evaporating temperature increase and compressor work decrease.



2

## Benefits For Users

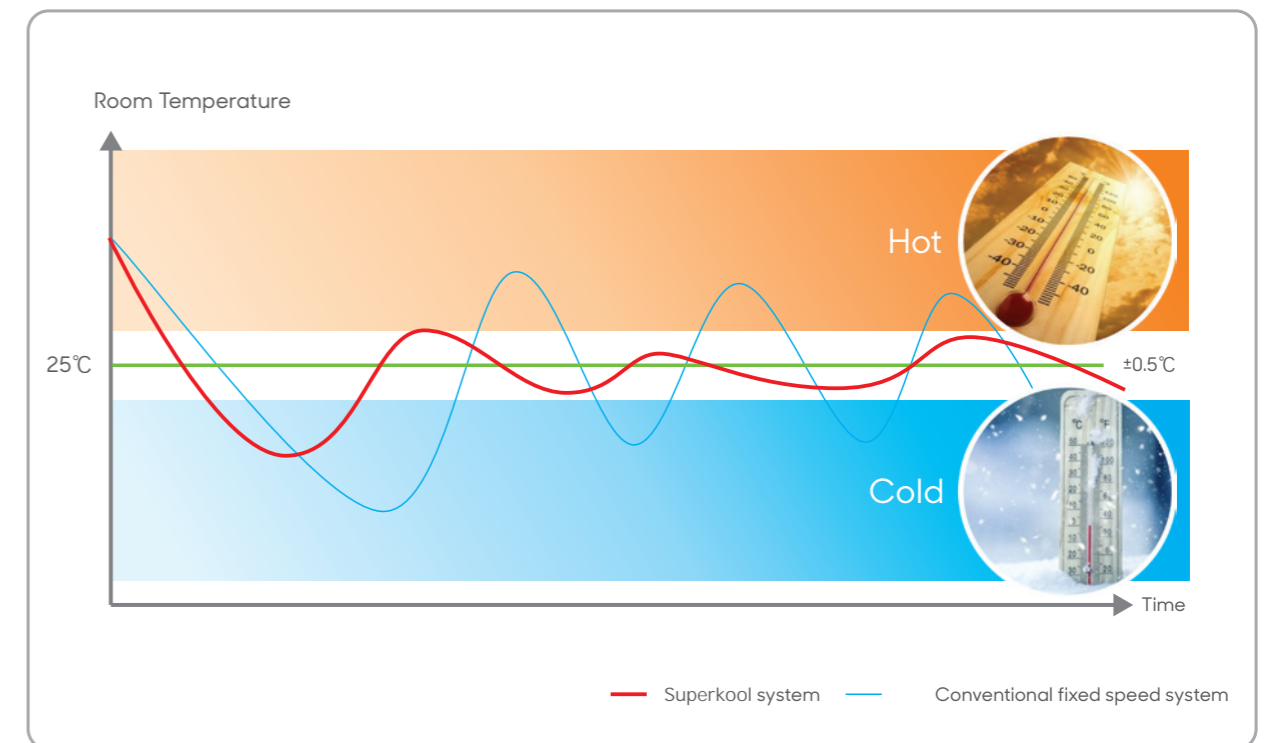
### Livable environment creator

We focus on starting point of CAC system: create a friendly, comfortable and pleasant living environment as always. DC inverter VRF system's comfort technologies include quick cooling and heating, precise temperature control, low noise, use environmental friendly refrigerant and so on, we strive to create livable environment for users.....



## Outstanding Comfort Ability

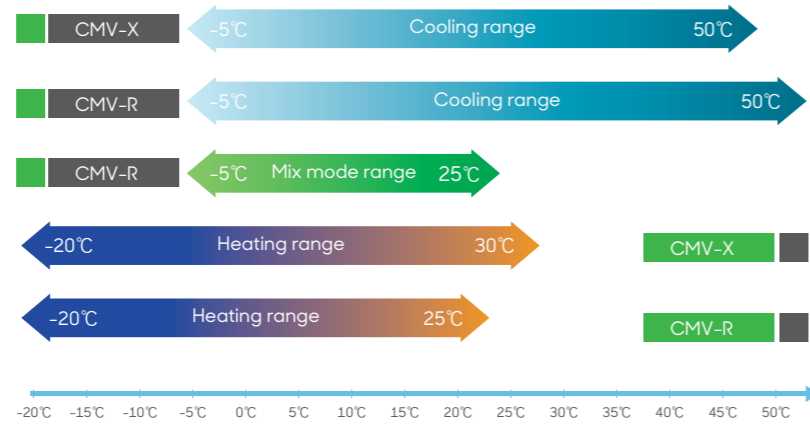
- SUPERKOOL VRF system have excellent cooling&heating performance, thanks to the high efficiency DC fan motor, DC compressor and optimized refrigerant flow control logic.
- Precisely room temperature control by adopting 2000 pulse EXV. Indoor temperature fluctuation can be maintain within 0.5°C, offers outstanding comfort ability.





## Wide Operation Range

- Cooling operating temperature is up to 50°C, suitable for the hot region.
- Heating operating temperature is down to -20°C. In the cold winter, CMV system can stably produce heat.
- Mix mode operating temperature is up to 25°C heating operating temperature is down to -20°C. In the cold winter, CMV system can stably produce heat.
- Outdoor unit running at temperature above 50°C need customized in factory, please consult to sales engineer.



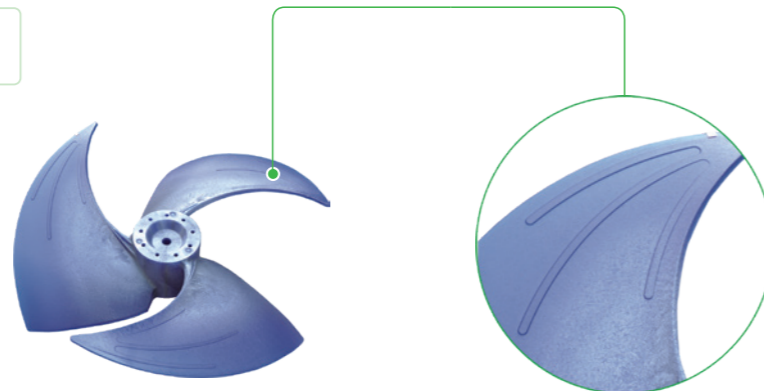
## 7 Improvements To Reduce Noise

- Maximum 10dB(A) of operating sound decrease.



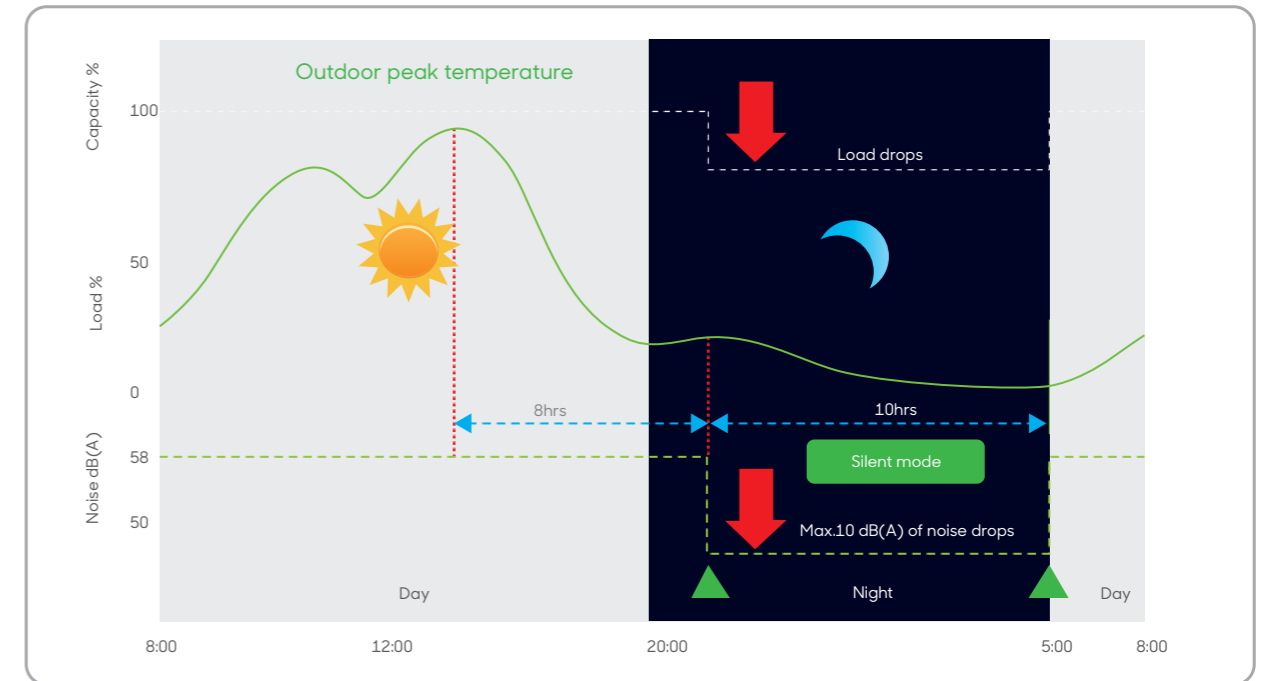
## Low Noise Fan Blade

- Anti-vibration forward fan blade.
- Special design to reduce the air vibration and disturbance



## Silent Mode, Night Time Noise Control

- Compressor and fan motor rotating speed can be reduced to lower the noise at night.
- Maximum 10dB(A) decrease.



## Snow-proof Function

- In the cold weather, outdoor fan will start to run for a while at intervals, for preventing the snow to accumulate on fan blade. Because accumulated snow will freeze and block fan blade rotating, even worse it will damage the motor.
- It only start when temperature is lower than 0°C.



## The PHE Economizer

- PHE Economizer technology provide an additional sub cooling..
- Improved heat exchanger+PHE economizer+Optimized control logic.
- Heating performance highly increased.





### 3-stage Back Up Function

#### Module back up function.

When some modules are failure, the others can keep running by simply settings.



#### Compressor back up function

When one compressor is failure, the other one can keep running by simply settings.

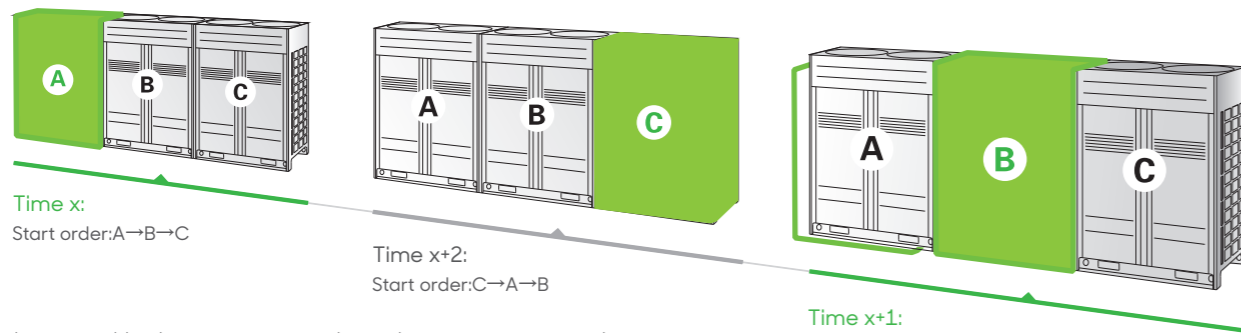


#### Fan motor back up function.

When one fan motor is failure, the other one can keep running by simply settings.



### All Outdoor Units Cycle Operation



- In one combination system, any outdoor unit can run as master unit.
- Balance the lifespan among outdoor units in one system.

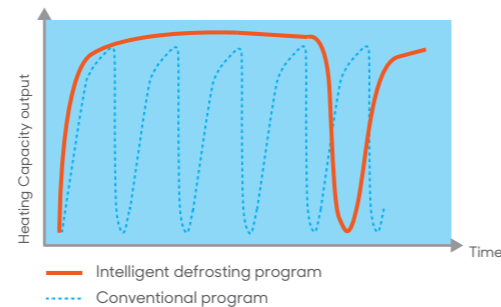


### Intelligent Defrosting Program

Program starts only when unit needs to. Whereas conventional unit's defrosting timing & duration is fixed, causing fluctuations in temperature and personal comfort.

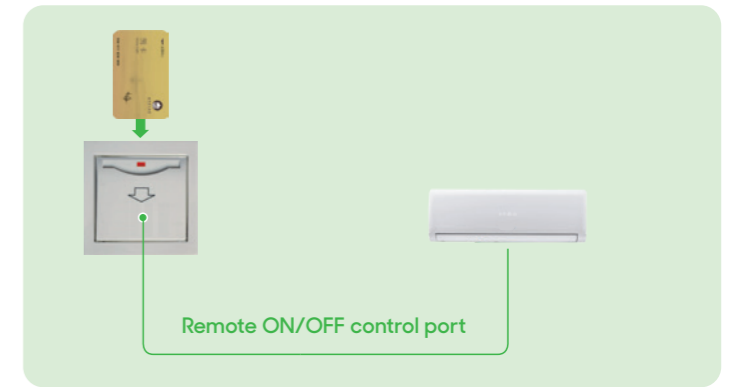
#### Defrost Curve

- Conventional unit's defrosting timing & duration is fixed
- Intelligent defrosting program starts according to heat exchanging efficiency & capacity change due to the frost. Less temperature fluctuations, people feel more comfortable



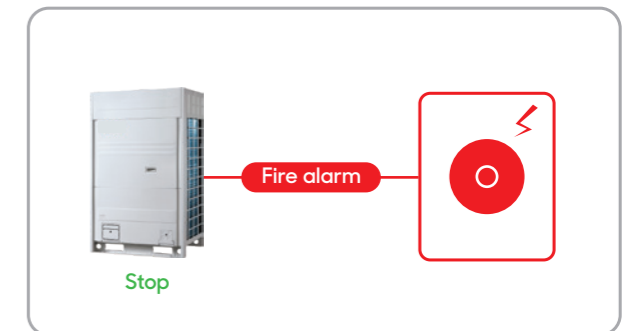
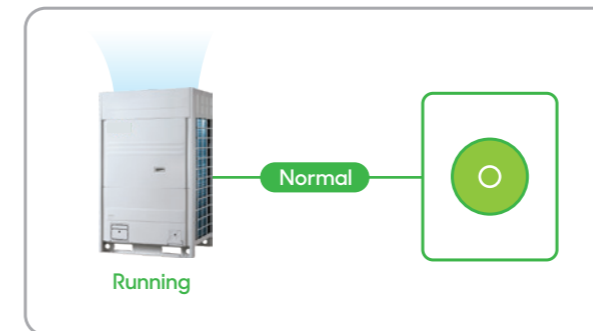
### Remote ON/OFF Control Function

- Indoor units standard build in with ON/OFF control port.
- It can be used for hotel card control and also can be used for long distance remote ON/OFF control. And no need additional hotel VRF indoor unit control module.
- When contactor is open(card pulled out),indoor unit will be off can not be controlled, current running parameters will be saved in indoor PCB.
- When contactor is close(card insert),indoor unit will recover previous running state.



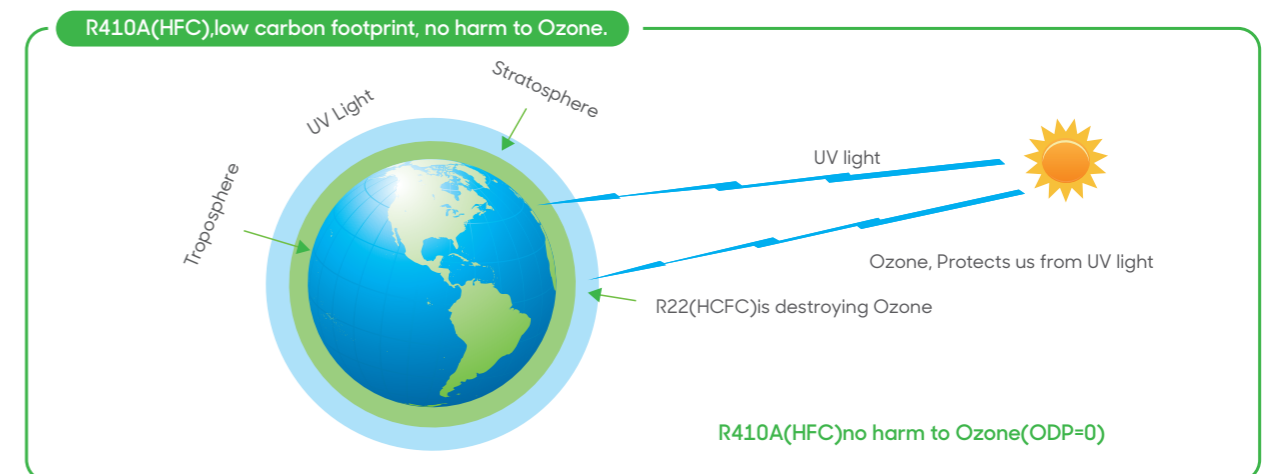
### Emergency Stop Operation Function

Outdoor unit have a fire alarm linkage signal control function. When emergency situation can stop the whole AC system.



### Environment Friendly

Refrigerant R410A(HFC),low carbon footprint, no harm to Ozone.





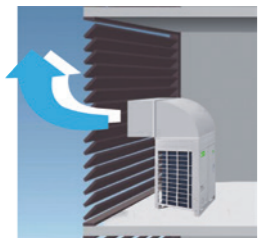
### 3 Benefits For Installers

#### Optimization for designer and installer

CMV DC inverter VRF system is designed with flexible modular combination concept, we keep optimizing the module size, reduce equipment on space occupied to meet the demand of designer and installer. Some unique technologies are used for our installers to reduce their working load, installation is becoming easier and easier!



### Adjustable Outdoor Fan Static Pressure



- Thanks to DC fan motor, the external static pressure of outdoor fan is adjustable.
- Outdoor units can be installed in the service floor or facility room.
- Maximum ESP 85Pa.



### Touch Screen Wired Controller



- Air filter cleaning reminding function.
- Touch screen with black background and white light
- Ultra thin body and stylish design meet high-end environments.
- On/off, temperature setting, fan speed setting, mode setting, timer and check function.



### Addressing Methods



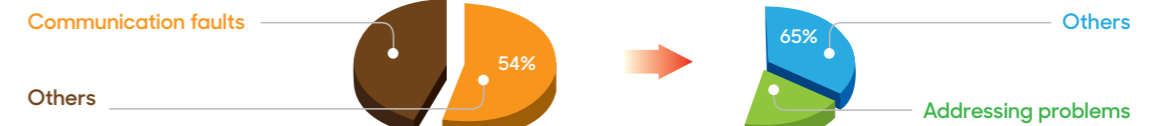
- 2 addressing methods:
  - Automatically addressing: system will distribute address to indoor unit automatically.
  - Manually setting by wireless remote controller.
- Addressing method can be selected easily by adjusting the switch on outdoor PCB.



### Automatic Addressing

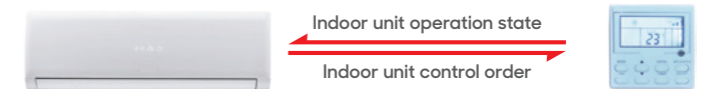
- Automatic addressing will reduce artificial faults by 35% and 5% manual works.
- 54% system failure were caused by communication faults.
- 65% communication faults were caused by address problems.
- Most of the address problems were: address setting forgotten, wrong settings, address repeat.

#### Failure chart



### New Wired Controller

- Bidirectional communication. Indoor unit's operating parameters (error code, temperature, address) can be inquired and displayed on the controller.
- Compact design.
- Timer function.



- Easy
- Safe
- Convenient



User can check the error code and inquiry unit status very easy, safe and convenient.



### LED Display On The PCB

- LED display on the PCB, it can show system's operation status and error codes.



- Record error code list at main PCB chip, easy for service people to check. (CMV-X ONLY)



### Service Window

Thanks to the service window, checking outdoor unit's status and setting is now easy, no need to remove the electric control box cover.

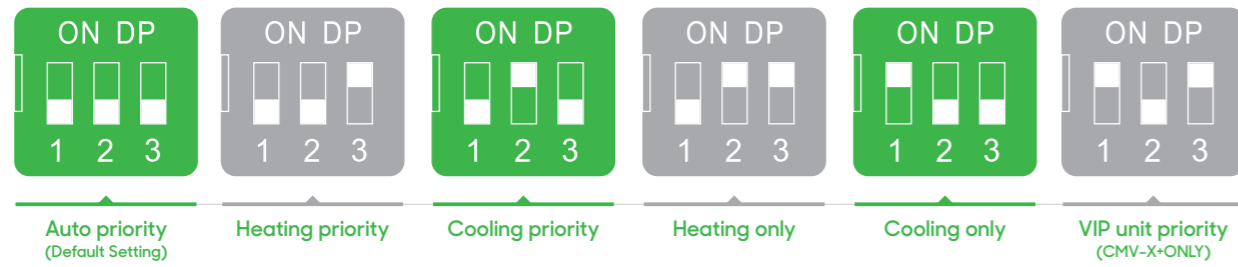
Error Code Check



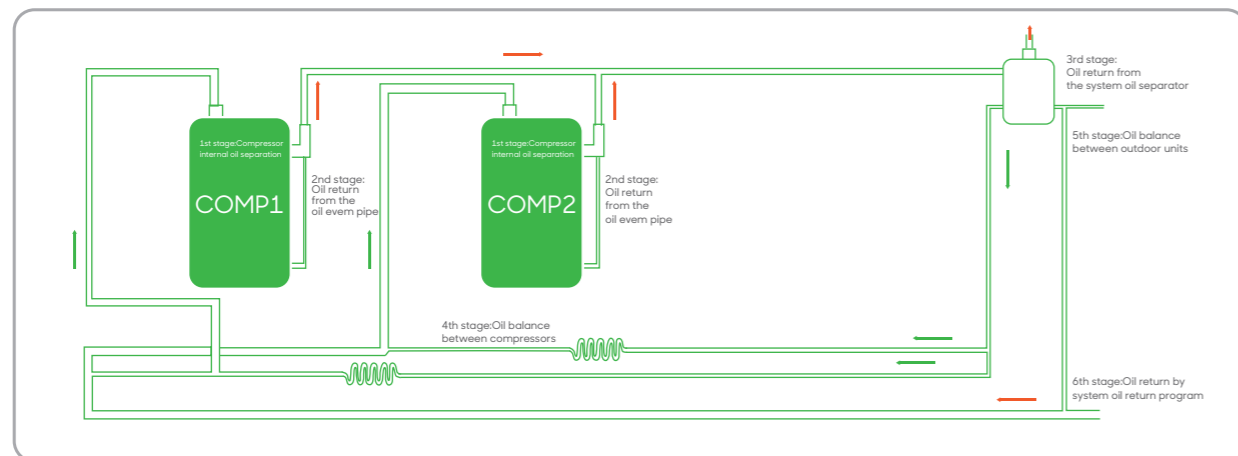
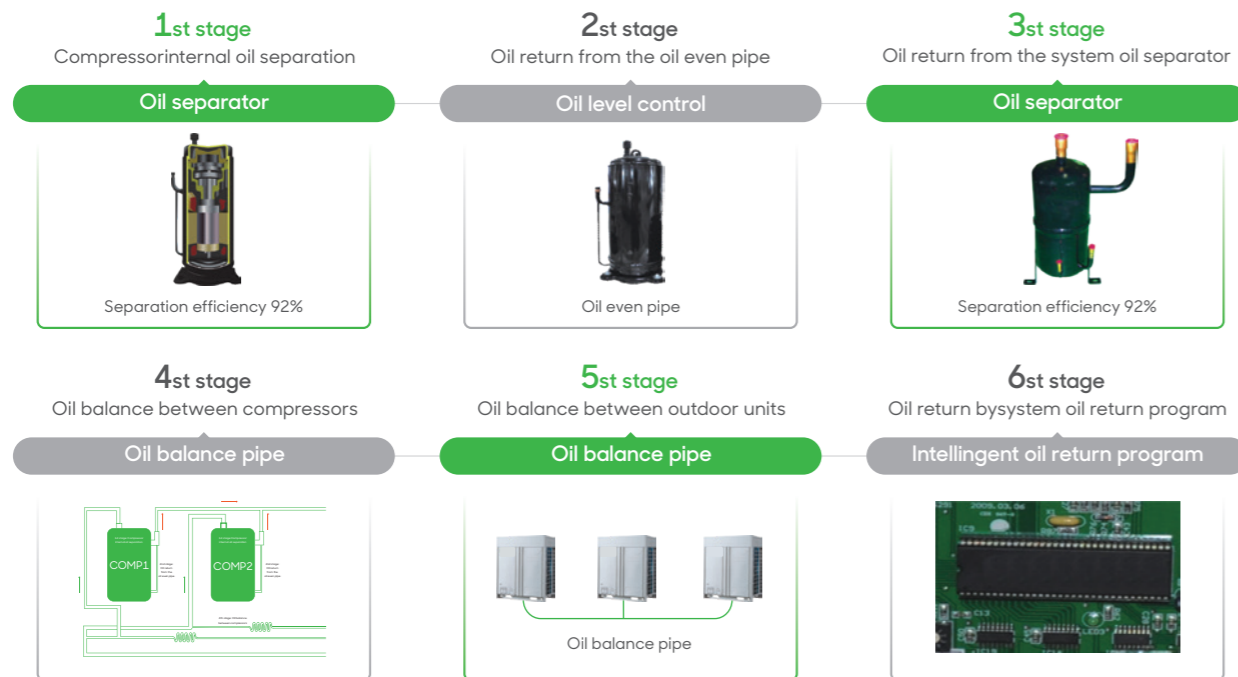


## Mode Restriction

- 6 kinds of mode restriction
- Auto priority(Default Setting) • Cooling(or heating)priority mode. • Cooling only(or heating only)mode. • VIP unit priority
- Mode restriction function can be selected on the outdoor PCB.



## 6-Stage Oil Control



## Humanized Internal Structure

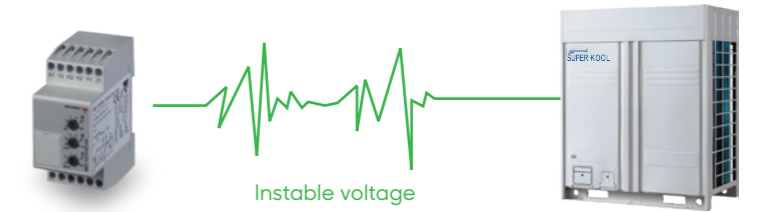


- All key components are designed to close to outside, it is convenient for repair and replacement.
- Thanks to the new balance technology, gas balance pipe does no longer exist, brazing points and leaking risk are decreased.



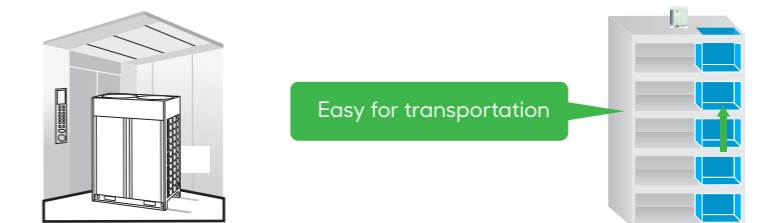
## 3-Phase Power Protector(Optional)

Protect the outdoor unit from instable voltage.



## Easy Installation

- Easy for the outdoor unit to transport to roof floor by elevator due to its compact size.
- Communication wire length can be up to 1000m.



## Use 2-Core Shielded Wire As Signal Wire

- Save installation cost.
- Reduce manual works.





**380-415V/50&60Hz  
NEW DC INVERTER EVI VRF SYSTEM**

Model name			GCHV-E252W/HZR1-DK01	GCHV-E280W/HZR1-DK01	GCHV-E335W/HZR1-DK01	GCHV-E400W/HZR1-DM01	GCHV-E450W/HZR1-DM01
Power supply			380~415V-3N-50Hz				
<b>Performance Data</b>							
Cooling	Capacity	HP	8HP	10HP	12HP	14HP	16HP
		kW	25.2	28.0	33.5	40.0	45.0
		Btu/h	86000	95500	114000	136500	153500
		RT	7.2	8.0	9.5	11.4	12.8
	Rated current	A	9.04	11.30	14.51	18.10	21.60
	Power input	kW	5.31	6.22	8.35	9.76	11.63
EER	W/W	4.75	4.50	4.01	4.10	3.87	
Heating	Capacity	kW	27.4	31.5	37.5	45.0	50.0
		Btu/h	93500	107500	128000	153500	170600
		RT	7.8	9.0	10.7	12.8	14.2
	Rated current	A	8.93	11.25	14.34	18.00	20.25
	Power input	kW	4.98	5.86	7.35	9.34	10.87
COP	W/W	5.50	5.38	5.10	4.82	4.60	
Max. input consumption	kW	13.4	14.3	14.8	18.3	18.8	
Max. Current	A	23.1	24.7	25.5	30.8	31.7	
Capacity adjustment range	50%~130%						
<b>Compressor Data</b>							
Compressor	Quantity	1					
	Type	Scroll Compressor					
	Brand	HITACHI					
<b>Physical data</b>							
Refrigerant	Type	R410a					
	Volume	Kg	9	11	14		
	Throttle type	EXV					
Dimension (WxHxD)	Net	mm	990x1740x840			1340x1740x840	
	Packing	mm	1060x1900x910			1410x1900x910	
Weight	Net	Kg	228	230	275		
	Gross	Kg	240	242	293		
Outdoor sound level		dB(A)	58	60	60	61	
Max. operating range		Mpa	4.5				
<b>Piping Data</b>							
Pipe size	Liquid pipe	mm	Φ12.7			Φ15.88	
	Gas pipe	mm	Φ22.2			Φ28.6	
Max. pipe length	Total pipe length	m	1000			1000	
	ODU to farthest IDU (Actual length)	m	200			200	
	ODU to farthest IDU (Equivalent length)	m	240			240	
	1st IDU distributor to farthest IDU	m	40/90			40/90	
Max. vertical length	Between ODU & IDU (ODU above IDU)	m	100			100	
	Between ODU & IDU (ODU below IDU)	m	110			110	
	Between IDUs	m	40			40	
	Between ODUs	m	0			0	
<b>Operation temperature range</b>							
Cooling	Outdoor side	℃	-5~55				-5~55
	Indoor side	℃	16~32				16~32
Heating	Outdoor side	℃	-30~30				-30~30
	Indoor side	℃	16~32				16~32

**Note**

- Cooling operating temperature range is from -5℃ to 55℃(It can be customized down to -10℃). Heating operating temperature range from -30℃ to 30℃.
- The cooling conditions: indoor side 27℃(80.6°F) DB, 19℃(60°F)WB outdoor side 35℃(95°F) DB.
- The heating conditions: indoor side 20℃(68°F) DB, 15℃(44.6°F)WB outdoor side 7℃(42.8°F) DB.
- Sound level: measured at a point 1 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
- The above data may be changed without notice for future improvement on quality and performance.

GCHV-E500W/HZR1-DM01	GCHV-E560W/HZR1-DM01	GCHV-E615W/HZR1-DM01	GCHV-E670W/HZR1-DS01	GCHV-E730W/HZR1-DS01	GCHV-E785W/HZR1-DS01	GCHV-E850W/HZR1-DS01	GCHV-E900W/HZR1-DS01
380~415V-3N-50Hz							
18HP	20HP	22HP	24HP	26HP	28HP	30HP	32HP
50.0	56.0	61.5	67.0	73.0	78.5	85.0	90.0
170600	191000	209800	228600	249100	267800	290000	307100
14.2	16.0	17.5	19.1	20.8	22.3	24.2	25.6
23.29	26.10	29.06	29.09	32.59	36.13	40.36	44.73
12.22	14.66	16.62	16.71	18.18	20.03	22.37	24.79
4.09	3.82	3.70	4.01	4.02	3.92	3.80	3.63
56.0	63.0	69.0	75.0	81.5	87.5	95.0	100.0
191000	214900	235400	255900	278100	298600	324100	341200
16.0	18.0	19.7	21.3	23.2	24.86	27.0	28.4
22.61	25.70	28.40	28.65	30.28	33.38	38.52	43.9
11.89	14.16	16.80	14.72	16.78	18.50	21.35	24.33
4.71	4.45	4.11	5.10	4.86	4.73	4.45	4.11
22.0	24.4	25.0	26.2	30.7	30.7	35.8	37.7
37.4	41.1	42.1	43.2	50.8	51.8	60.4	63.6
50%~130%							
1				2			
Scroll Compressor				Scroll Compressor			
HITACHI				HITACHI			
R410a							
15	16	20	23				
EXV				EXV			
1340x1740x840				1990x1740x840			
1410x1900x910				2060x1900x910			
285	290	297	388	433		480	
303	308	315	406	452		498	
62	63	62	62	63		64	
4.5							
Φ15.88				Φ22.2			
Φ28.6				Φ35.0			
1000				1000			
200				200			
240				240			
40/90				40/90			
100				100			
110				110			
40				40			
0				0			
-5~55				-5~55			
16~32				16~32			
-30~30				-30~30			
16~32				16~32			





380V-415V/50Hz&60Hz  
TROPICAL TYPE (T3 TYPE) FULL DC INVERTER EVI VRF SYSTEM

CMV-X+			Basic modules							
HP			08	10	12	14	16	18	20	22
Model Name	380°415V/3PH/50Hz		CMV-D252W/ZR1-B	CMV-D280W/ZR1-B	CMV-D335W/ZR1-B	CMV-D400W/ZR1-B	CMV-D450W/ZR1-B	CMV-D500W/ZR1-B	CMV-D560W/ZR1-B	CMV-D615W/ZR1-B
	380°415V/3PH/60Hz		CMV-D252W/YR1-B	CMV-D280W/YR1-B	CMV-D335W/YR1-B	CMV-D400W/YR1-B	CMV-D450W/YR1-B	CMV-D500W/YR1-B	CMV-D560W/YR1-B	CMV-D615W/YR1-B
Max.Connected indoor units quantity			1							
Cooling (T1:T3)	Capacity	kW	T1:25.2/T3:22.9	T1:28.0/T3:25.4	T1:33.5/T3:30.4	T1:40/T3:36.3	T1:45/T3:40.9	T1:50/T3:45.4	T1:56/T3:50.9	T1:61.5/T3:55.9
		k Btu/h	T1:86/T3:78	T1:95.5/T3:86.7	T1:114/T3:103.6	T1:136.5/T3:124	T1:153.5/T3:139.4	T1:170.6/T3:155	T1:191/T3:173.6	T1:209.8/T3:190.7
	Power input	kW	T1:7.2/T3:6.5	T1:8.0/T3:7.22	T1:9.5/T3:8.63	T1:11/T3:10.3	T1:12.8/T3:11.6	T1:14.2/T3:12.9	T1:16/T3:14.77	T1:17.5/T3:15.89
	EER	W/W	T1:5.43/T3:5.7	T1:6.29/T3:6.71	T1:7.98/T3:8.49	T1:9.98/T3:10.18	T1:12.1/T3:12.57	T1:12.56/T3:13.74	T1:14.66/16.35	T1:16.36/T3:18.4
Heating	Capacity	kW	27.4	31.5	37.5	45.0	50.0	56.0	63.0	69.0
		Btu/h	93500	107500	128000	153500	170600	191000	214900	235000
	Power input	kW	4.98	5.89	7.37	9.53	10.89	11.89	14.22	16.75
COP	W/W	5.50	5.35	5.09	4.72	4.59	4.71	4.43	4.12	
Compressor	Quantity		1DC				2DC			
	Type		Hermetic scroll							
Refrigerant	Throttle type		R410A							
	Volume	Kg	10	12	15	15	16	17	17	
Motor	Type		1DC				2DC			
	Quantity		1				2			
Dimension (WxDxH)	Net	mm	970x765x1620				1349x765x1620			
	Packing	mm	1030x825x1750				1405x825x1780			
Net weight		Kg	208	220	287	314	325			
Sound pressure level		dB(A)	58	60	61	62	63			
Total equivalent pipeline length=90m	Liquid	mm	Φ9.52		Φ12.7		Φ15.88		Φ19.05	
	Gas	mm	Φ22.2		Φ25.4		Φ28.6		Φ31.8	
Total equivalent pipeline length=90m	Liquid	mm	Φ12.7		Φ15.88		Φ19.05		Φ22.2	
	Gas	mm	Φ25.4		Φ28.6		Φ31.8		Φ38.1	
Oil balance pipe		mm	/							

CMV-X+			3 modules combination								
HP			46	48	50	52	54	56	58	60	62
Model Name	380°415V/3PH/50Hz		CMV-D1290W/ZR1-B	CMV-D1345W/ZR1-B	CMV-D1400W/ZR1-B	CMV-D1455W/ZR1-B	CMV-D1510W/ZR1-B	CMV-D1565W/ZR1-B	CMV-D1625W/ZR1-B	CMV-D1680W/ZR1-B	CMV-D1730W/ZR1-B
	380°415V/3PH/60Hz		CMV-D1290W/YR1-B	CMV-D1345W/YR1-B	CMV-D1400W/YR1-B	CMV-D1455W/YR1-B	CMV-D1510W/YR1-B	CMV-D1565W/YR1-B	CMV-D1625W/YR1-B	CMV-D1680W/YR1-B	CMV-D1730W/YR1-B
Max.Connected indoor units quantity			48	48	54	54	54	58	58	58	64
Cooling	Capacity	kW	128.5	134.5	140	145	151	156.5	163	168	173
		k Btu/h	438	458	477	494	515	533	556	573	590
	Power input	kW	36.5	38.2	39.8	41.2	42.9	44.4	46.3	47.7	49.1
	EER	W/W	32.31	34.74	36.43	36.90	39.00	40.69	42.69	44.81	45.28
Heating	Capacity	kW	144	150.5	156.5	162.5	169.5	175.5	183	188	194
		Btu/h	491000	513000	533000	554000	578000	598000	624000	641000	661000
	Power input	kW	31.48	33.53	35.01	36.00	39.38	40.86	43.02	44.39	45.38
COP	W/W	4.57	4.49	4.47	4.51	4.30	4.29	4.25	4.24	4.27	
Compressor	Quantity		1DC+2DC+2DC				1DC+2DC+2DC				2DC+2DC+2DC
	Type		Hermetic scroll								
Refrigerant	Throttle type		R410A								
	Volume	Kg	/								
Motor	Type		1DC+2DC+2DC				1DC+2DC+2DC				2DC+2DC+2DC
	Quantity		1				2				3
Dimension (WxDxH)	Net	mm	/								
	Packing	mm	/								
Net weight		Kg	/								
Sound pressure level		dB(A)	/								
Total equivalent pipeline length=90m	Liquid	mm	Φ19.05		Φ22.2		Φ25.4		Φ28.6		Φ31.8
	Gas	mm	Φ38.1		Φ44.5		Φ44.5		Φ44.5		Φ44.5
Total equivalent pipeline length=90m	Liquid	mm	Φ22.2		Φ25.4		Φ25.4		Φ25.4		Φ25.4
	Gas	mm	Φ41.3		Φ44.5		Φ44.5		Φ44.5		Φ44.5
Oil balance pipe		mm	Φ6.35								

**Note**  
1. Cooling operating temperature range is from -5°C to 55°C. Heating operating temperature range is from -30°C to 30°C  
2. The cooling conditions: T1 condition: indoor side 27°C (80.6°F) DB, 19°C (66°F) WB outdoor side 35°C (95°F) DB; T3 condition: indoor side 27°C (80.6°F) DB, 19°C (66°F) WB, outdoor side 46°C (114.8°F) DB.  
3. The heating conditions: indoor side 20°C (68°F) DB, 15°C (44.6°F) WB outdoor side 7°C (42.6°F) DB  
4. Sound level: measured at a point 1m in front of the unit at a height of 1.3 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.  
5. The above data may be changed without notice for future improvement on quality and performance.

2 modules combination											
24	26	28	30	32	34	36	38	40	42	44	
CMV-D670W/ZR1-B	CMV-D730W/ZR1-B	CMV-D780W/ZR1-B	CMV-D840W/ZR1-B	CMV-D895W/ZR1-B	CMV-D950W/ZR1-B	CMV-D1010W/ZR1-B	CMV-D1065W/ZR1-B	CMV-D1120W/ZR1-B	CMV-D1175W/ZR1-B	CMV-D1230W/ZR1-B	
CMV-D670W/YR1-B	CMV-D730W/YR1-B	CMV-D780W/YR1-B	CMV-D840W/YR1-B	CMV-D895W/YR1-B	CMV-D950W/YR1-B	CMV-D1010W/YR1-B	CMV-D1065W/YR1-B	CMV-D1120W/YR1-B	CMV-D1175W/YR1-B	CMV-D1230W/YR1-B	
28	28	28	32	32	36	36	36	36	42	42	
67.0	73.0	78.0	83.5	89.5	95.0	101.0	106.5	111.5	117.5	123.0	
228	249	266	284	305	324	344	363	380	400	419	
19.0	20.7	22.1	23.7	25.4	27.0	28.7	30.2	31.7	33.4	34.9	
15.95	18.39	18.85	20.54	22.65	24.33	26.76	28.45	28.92	31.02	32.71	
4.20	3.97	4.14	4.07	3.95	3.90	3.77	3.74	3.86	3.79	3.76	
75.0	81.5	87.5	93.5	100.5	106.5	113.0	119.0	125.0	132.0	138.0	
255000	278000	298000	319000	342000	363000	385000	406000	426000	450000	470000	
14.73	16.78	17.78	19.26	22.64	24.11	25.11	27.64	28.64	30.97	33.50	
5.09	4.86	4.92	4.86	4.44	4.42	4.50	4.31	4.36	4.26	4.12	
1DC+1DC		1DC+2DC				2DC+2DC					
Hermetic scroll											
R410A											
EXV											
/											
DC motor											
2DC+2DC		1DC+2DC				2DC+2DC					
85											
/											
/											
/											
/											
Φ15.88		Φ19.05				Φ19.05					
Φ31.8		Φ34.9				Φ38.1					
Φ19.05		Φ22.2				Φ22.2					
Φ34.9		Φ38.1				Φ41.3					
Φ6.35											

3 modules combination			4 modules combination									
64	66	68	70	72	74	76	78	80	82	84	86	88
CMV-D1790W/ZR1-B	CMV-D1845W/ZR1-B	CMV-D1905W/ZR1-B	CMV-D1960W/ZR1-B	CMV-D2015W/ZR1-B	CMV-D2070W/ZR1-B	CMV-D2125W/ZR1-B	CMV-D2180W/ZR1-B	CMV-D2240W/ZR1-B	CMV-D2295W/ZR1-B	CMV-D2345W/ZR1-B	CMV-D2405W/ZR1-B	CMV-D2460W/ZR1-B
CMV-D1790W/YR1-B	CMV-D1845W/YR1-B	CMV-D1905W/YR1-B	CMV-D1960W/YR1-B	CMV-D2015W/YR1-B	CMV-D2070W/YR1-B	CMV-D2125W/YR1-B	CMV-D2180W/YR1-B	CMV-D2240W/YR1-B	CMV-D2295W/YR1-B	CMV-D2345W/YR1-B	CMV-D2405W/YR1-B	CMV-D2460W/YR1-B
64	64	64	64	64	64	64	64	64	64	64	64	64
179	184.5	190	196	201.5	206.5	212.5	218	224.5	229.5	234.5	240.5	246
610	629	648	668	687	704	725	743	765	783	800	820	839
50.8	52.4	54	55.7	57.2	58.7	60.4	61.9	63.8	65.2	66.6	68.3	69.9
47.37	49.07	48.67	51.10	52.79	53.25	55.36	57.05	59.04	61.17	61.63	63.73	65.43
3.78	3.76	3.90	3.84	3.82	3.88	3.84	3.82	3.80	3.75	3.80	3.77	3.76
201	207	213	218	225.5	231.5	238.5	244.5	252	257	263	270	276
685000	706000	726000	743000	769000	789000	813000	834000	859000	876000	897000	921000	941000
47.72	50.24	48.23	50.28	51.76	52.75	56.13	57.61	59.78	61.14	62.13	64.46	66.99
4.21	4.12	4.42	4.34	4.36	4.39	4.25	4.24	4.22	4.20	4.23	4.189	4.12
2DC+2DC+2DC			1DC+2DC+2DC+2DC				1DC+2DC+2DC+2DC				2DC+2DC+2DC+2DC	
Hermetic scroll												
R410A												
EXV												
/												
DC motor												
2DC+2DC+2DC			1DC+2DC+2DC+2DC			1DC+2DC+2DC+2DC			2DC+2DC+2DC+2DC			
85												
/												
/												
/												
/												
Φ22.2			Φ44.5				Φ25.4				Φ54.0	
Φ44.5			Φ25.4				Φ54.0				Φ6.35	
Φ6.35												

Model Name			380~415V-3N-50Hz	GCHV-D252W/CZR1	GCHV-D280W/CZR1	GCHV-D335W/CZR1	GCHV-D400W/CZR1	GCHV-D450W/CZR1	GCHV-D500W/CZR1	GCHV-D560W/CZR1	GCHV-D615W/CZR1
<b>Performance data</b>											
Cooling	Capacity	HP	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	
		kW	25.2	28	33.5	40	45	50	56	61.5	
		Btu/h	86000	95500	114000	136500	153500	170600	191000	209800	
		RT	7.2	8	9.5	11.4	12.8	14.2	16	17.5	
	Power input	kW	5.86	6.79	9.18	10.50	12.20	15.10	17.60	20.36	
EER	W/W	4.30	4.12	3.65	3.80	3.68	3.31	3.18	3.02		
Rated input consumption		kW	13.90	14.10	14.60	17.96	18.34	18.74	25.90	27.80	
Rated current		A	24	24.5	25.2	30.2	31	32	46.6	47.5	
Capacity adjustment range		50%~130%									
<b>Compressor data</b>											
DC Inverter compressor	Quantity	1					2				
	Type	DC /Twin-rotary									
	Brand	Mitsubishi									
	frequency range	Hz	20~102	20~106	20~108	20~106	20~108	20~110	20~106	20~110	
<b>Physical data</b>											
Refrigerant	Type	R410a									
	Volume	Kg	10			12.5			16.5		
Dimension (DxHxW)	Net	mm	840x1740x990				840x1740x1340				
	Packing	mm	910x1900x1060				910x1900x1410				
Weight	Net	Kg	218	220	265		280				
	Gross	Kg	230	232	283		298				
Outdoor sound level		dB(A)	58	60		61	62	63			
Maximum operating pressure		MPa	4.5								
<b>Piping &amp; wiring data</b>											
Pipe size	Liquid pipe	mm	Φ12.7				Φ15.9				
	Gas pipe	mm	Φ25.4				Φ31.8				
Max. pipe length	Total pipe length	m	1000								
	From OU to farthest IU(Actual length)	m	190								
	From OU to farthest IU (Equivalent length)	m	220								
	From 1st indoor distributor to farthest IU	m	90								
Max. Vertical length	Between OU & IU (OU above IU)	m	90								
	Between OU & IU (OU below IU)	m	110								
	Between IUs	m	30								
	Between Ous	m	0								
<b>Operation temperature range</b>											
Cooling	Outdoor side	℃	-15~55								
	Indoor side	℃	16~32								

**Note**

\*The above data may be changed without notice for future improvement.

Model Name			380~415V-3N-50Hz	CMVC-D252W/ZR1	CMVC-D280W/ZR1	CMVC-D335W/ZR1	CMVC-D400W/ZR1	CMVC-D450W/ZR1	CMVC-D500W/ZR1	CMVC-D560W/ZR1	CMVC-D615W/ZR1	CMVC-D670W/ZR1
Model Name			380~415V-3N-60Hz	CMVC-D252W/YR1	CMVC-D280W/YR1	CMVC-D335W/YR1	CMVC-D400W/YR1	CMVC-D450W/YR1	CMVC-D500W/YR1	CMVC-D560W/YR1	CMVC-D615W/YR1	CMVC-D670W/YR1
<b>Performance data</b>												
Cooling	Capacity	HP	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP	
		kW	25.2	28	33.5	40	45	50	56	61.5	67	
		Btu/h	86000	95500	114000	136500	153500	170600	191000	209800	228604	
		RT	7.2	8	9.5	11.4	12.8	14.2	16	17.5	19	
	Power input	kW	5.34	6.29	7.98	9.98	12.10	12.56	14.66	16.36	18.20	
EER	W/W	4.72	4.45	4.2	4.01	3.72	3.98	3.82	3.76	3.68		
Rated input consumption		kW	13.9	14.6	15.3	18.6	19.1	24	24.8	25.9	25.9	
Rated current		A	24	25.2	26.4	31.4	32.2	40.8	41.8	46.6	46.6	
Capacity adjustment range		50%~130%										
<b>Compressor data</b>												
DC Inverter compressor	Quantity	1					2					
	Type	Scroll Compressor										
	Brand	HITACHI										
	frequency range	Hz	45~420				30~390			45~420		
<b>Physical data</b>												
Refrigerant	Type	R410a										
	Volume	Kg	9			14			16			
Dimension (DxHxW)	Net	mm	970x1620x765				1349x1620x765					
	Packing	mm	1030x1750x825				1405x1780x825					
Weight	Net	Kg	188	241		311						
	Gross	Kg	198	253		323						
Outdoor sound level		dB(A)	58	60		61	62	63				
Maximum operating pressure		MPa	4.5									
<b>Piping &amp; wiring data</b>												
Pipe size	Liquid pipe	mm	Φ12.7				Φ15.9					
	Gas pipe	mm	Φ25.4				Φ28.6				Φ32	
Max. pipe length	Total pipe length	m	1000									
	From OU to farthest IU(Actual length)	m	190									
	From OU to farthest IU (Equivalent length)	m	220									
	From 1st indoor distributor to farthest IU	m	90									
Max. Vertical length	Between OU & IU (OU above IU)	m	90									
	Between OU & IU (OU below IU)	m	110									
	Between IUs	m	30									
	Between Ous	m	0									
<b>Operation temperature range</b>												
Cooling	Outdoor side	℃	-5~55				-15~55					
	Indoor side	℃	16~32									



**380V-415V/50Hz&60Hz  
HEAT RECOVERY SYSTEM**

			Basic modules				
HP			8	10	12	14	16
Model Name	380°415V/3PH/50Hz		CMV-R252W/ZR1	CMV-R280W/ZR1	CMV-R335W/ZR1	CMV-R400W/ZR1	CMV-R450W/ZR1
	380°415V/3PH/60Hz		CMV-R252W/YR1	CMV-R280W/YR1	CMV-R335W/YR1	CMV-R400W/YR1	CMV-R450W/YR1
Max.Connected indoor units quantity			13	16	16	20	20
Cooling	Capacity	kW	25.2	28.0	33.5	40.0	45.0
		Btu/h	85000	95000	114000	136000	153000
	Power input	kW	7.1	7.9	9.5	11.3	12.7
		EER	5.70	6.62	8.03	11.02	13.08
Heating	Capacity	kW	27.4	31.5	37.5	45.0	50.0
		Btu/h	93000	107000	127000	153000	170000
	Power input	kW	5.88	7.19	8.80	11.00	12.63
		COP	4.66	4.38	4.26	4.09	3.96
Compressor	Quantity		1		2		
Refrigerant	Type		R410 A				
	Throttle type		EXV				
	Volume	Kg	12		16		
Motor	Type		DC motor				
	Quantity		2		85		
Dimension (WxDxH)	Net	mm	1260x765x1620				
	Packing	mm	1315x825x1750				
Net weight		Kg	270		310		
Sound pressure level		dB(A)	57		60		
Liquid Pipe		mm			Φ15.9		
Low Pressure Gas Pipe		mm	Φ22.2		Φ28.6		
High Pressure Gas Pipe		mm	Φ19.1				Φ22.2
High Pressure Gas Balance Pipe		mm	Φ19.1				
Oil Balance Pipe		mm	Φ6.35				

			34HP-48HP					
HP			34	36	38	40	42	44
Model Name	380°415V/3PH/50Hz		CMV-R960W/ZR1	CMV-R1010W/ZR1	CMV-R1065W/ZR1	CMV-R1130W/ZR1	CMV-R1200W/ZR1	CMV-R1250W/ZR1
	380°415V/3PH/60Hz		CMV-R960W/YR1	CMV-R1010W/YR1	CMV-R1065W/YR1	CMV-R1130W/YR1	CMV-R1200W/YR1	CMV-R1250W/YR1
Max.Connected indoor units quantity			36	36	36	42	42	42
Cooling	Capacity	kW	96.0	101.1	106.5	113.0	118.0	123.5
		Btu/h	327000	344000	363000	385000	402000	421000
	Power input	kW	27.2	28.7	30.2	32.1	33.5	35.1
		EER	24.26	26.32	27.73	30.72	32.78	34.19
Heating	Capacity	kW	3.96	3.84	3.84	3.68	3.60	3.61
		Btu/h	108.0	113.0	119.0	126.5	131.5	137.5
	Power input	kW	368000	385000	406000	431000	448000	469000
		COP	25.38	27.01	28.62	30.82	32.45	34.06
Compressor	Quantity		1+1+2		1+2+2			
Refrigerant	Type		Hermetic scroll					
	Throttle type		R410A					
	Volume	Kg	12+12+16		12+16+16			
Motor	Type		DC motor					
	Quantity		2+2+2					
Dimension (WxDxH)	Net	mm	/					
	Packing	mm	/					
Net weight		Kg	/					
Sound pressure level		dB(A)	65		66		67	
Liquid Pipe		mm	Φ19.1					
Low Pressure Gas Pipe		mm	Φ41.3					
High Pressure Gas Pipe		mm	Φ34.9					
High Pressure Gas Balance Pipe		mm	Φ19.1					
Oil Balance Pipe		mm	Φ6.35					

20HP-32HP							
18	20	22	24	26	28	30	32
CMV-R532W/ZR1	CMV-R560W/ZR1	CMV-R615W/ZR1	CMV-R680W/ZR1	CMV-R730W/ZR1	CMV-R800W/ZR1	CMV-R850W/ZR1	CMV-R900W/ZR1
CMV-R532W/YR1	CMV-R560W/YR1	CMV-R615W/YR1	CMV-R680W/YR1	CMV-R730W/YR1	CMV-R800W/YR1	CMV-R850W/YR1	CMV-R900W/YR1
20	24	24	28	28	28	32	32
53.2	56.0	61.5	68.0	73.0	78.5	85.0	90.0
181600	191000	209000	232000	249000	267000	290000	307000
14.3	15.9	17.4	19.3	20.7	22.3	24.1	25.5
12.32	13.24	14.65	17.64	19.70	21.11	24.10	26.16
4.32	4.23	4.20	3.85	3.71	3.72	3.53	3.44
58.9	63.0	69.0	76.5	81.5	87.5	95.0	100.0
190960	214000	235000	261000	278000	298000	324000	341000
13.07	14.38	15.99	18.19	19.82	21.43	23.63	25.26
4.51	4.38	4.32	4.21	4.11	4.08	4.02	3.96
1+1		1+2			2+2		
Hermetic scroll							
R410A							
EXV							
12+12			12+16			16+16	
DC motor							
2+2							
85							
/							
/							
/							
61		62		63		64	
Φ15.9				Φ19.1			
Φ31.8			Φ28.6				
Φ19.1						Φ34.9	
Φ6.35							

50HP-64HP										
46	48	50	52	54	56	58	60	62	64	
CMV-R1300W/ZR1	CMV-R1350W/ZR1	CMV-R1432W/ZR1	CMV-R1460W/ZR1	CMV-R1515W/ZR1	CMV-R1580W/ZR1	CMV-R1650W/ZR1	CMV-R1700W/ZR1	CMV-R1750W/ZR1	CMV-R1800W/ZR1	
CMV-R1300W/YR1	CMV-R1350W/YR1	CMV-R1432W/YR1	CMV-R1460W/YR1	CMV-R1515W/YR1	CMV-R1580W/YR1	CMV-R1650W/YR1	CMV-R1700W/YR1	CMV-R1750W/YR1	CMV-R1800W/YR1	
48	48	54	54	54	58	58	58	64	64	
130.0	135.0	143.2	146.0	151.5	158.0	163.0	168.5	175.0	180.0	
443000	460000	488000	498000	516000	539000	556000	574000	597000	614000	
36.9	38.3	40.7	41.5	43.0	44.9	46.3	47.9	49.7	51.1	
37.18	39.24	38.48	39.40	40.81	43.80	45.86	47.27	50.26	52.32	
3.50	3.44	3.72	3.71	3.71	3.61	3.55	3.56	3.48	3.44	
145.0	150.0	158.9	163.0	169.0	176.5	181.5	187.5	195.0	200.0	
494000	511000	542000	556000	576000	602000	619000	639000	665000	682000	
36.26	37.89	38.33	39.64	41.25	43.45	45.08	46.69	48.89	50.52	
4.00	3.96	4.15	4.11	4.10	4.06	4.03	4.02	3.99	3.96	
2+2+2		1+1+2+2			1+2+2+2			2+2+2+2		
Hermetic scroll										
R410A										
EXV										
16+16+16		12+12+16+16				12+16+16+16			16+16+16+16	
DC motor										
2+2+2+2										
85										
/										
/										
/										
67		68				69				
Φ19.1		Φ22.2						Φ38.1		
Φ41.3		Φ44.5								
Φ34.9		Φ19.1						Φ38.1		
Φ6.35										

**Note**

- Cooling operating temperature range is from -5°C to 55°C. Heating operating temperature range is from -20°C to 30°C
- The cooling conditions: indoor side 27°C(80.6°F)DB, 19°C(66°F)WB outdoor side 35°C(95°F)DB
- The heating conditions: indoor side 20°C(68°F)DB, 15°C(44.6°F)WB outdoor side 7°C(42.8°F)DB
- Sound level: measured at a point 1m in front of the unit at a height of 1.3 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
- The above data may be changed without notice for future improvement on quality and performance.

# CMV-mini Small Capacity Full DC Inverter VRF Unit

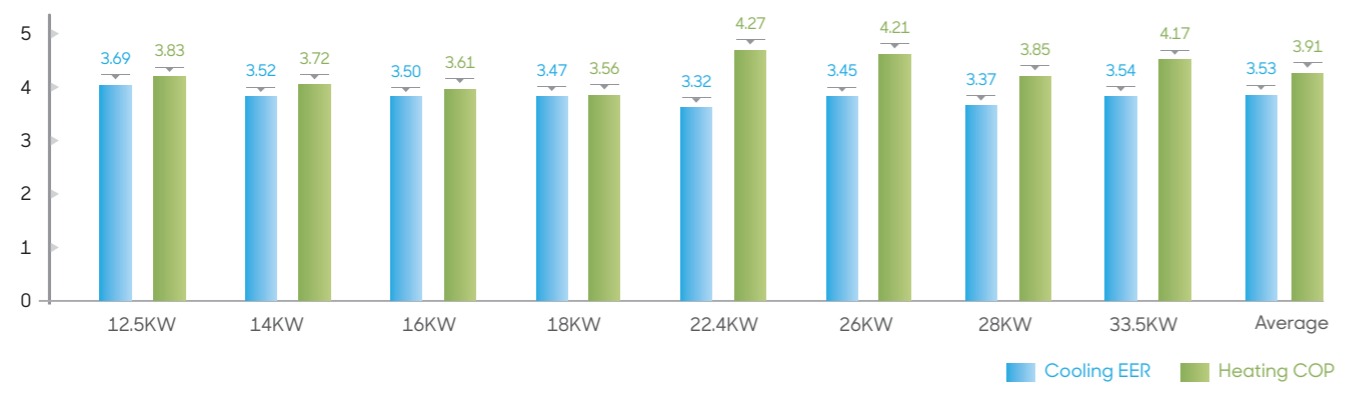


10 Models

Capacity	12.5kW	14kW	16kW	18kW	22.4kW	26kW	28kW	33.5kW
Compressor	DC	DC	DC	DC	DC	DC	DC	DC
Fan motor	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC

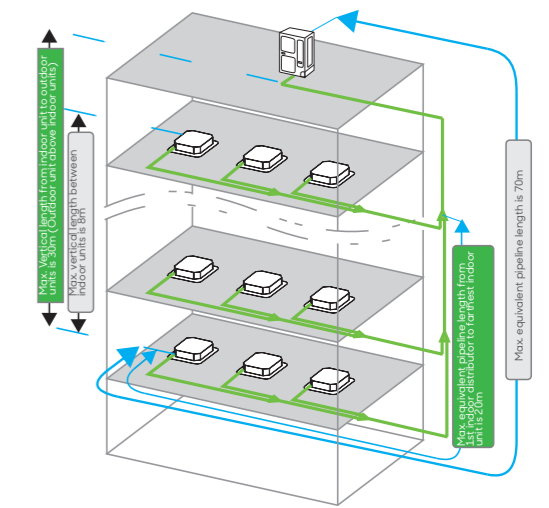
Power type	208~230V/1N	380~415V/3N
50Hz	12.5/14/16kW	12.5/14/16/18/22.4/26/28/33.5kW
60Hz	12.5/14/16kW	12.5/14/16/18/22.4/26/28/33.5kW

## EER&COP



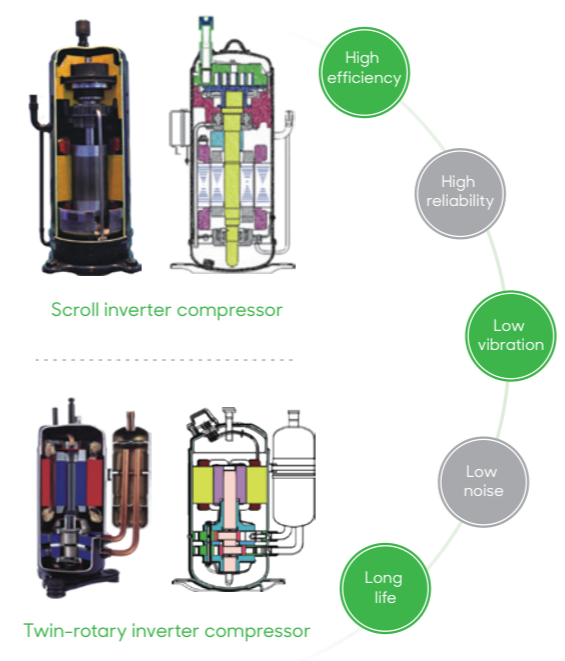
## Long Piping & Height Difference

The total pipe length	100m(12.5-18kW),120m(22.4-33.5kW)
The longest pipe length	Actual length 60m Equivalent length 70m
Equivalent length from first indoor distributor to last indoor unit	20m
Height difference between indoor and outdoor unit:	Outdoor unit above<30m Outdoor unit below<20m
Height difference between indoor units	8m



## Advantage - CMV-mini

### High Efficiency DC Inverter Compressor



- High Efficiency, Low Noise**
  - Use high efficiency and reliability compressor
  - Has very good efficiency in part load condition
  - Optimized the efficiency and noise during operation with the latest technology.
- Environmental Protection**
  - Developed the compressor with alternative refrigerant which can protect environment.
- Low Vibration**
  - Reduced the vibration during compressor start and operation by using 2CYL Structure, simplified the match of air-conditioning.

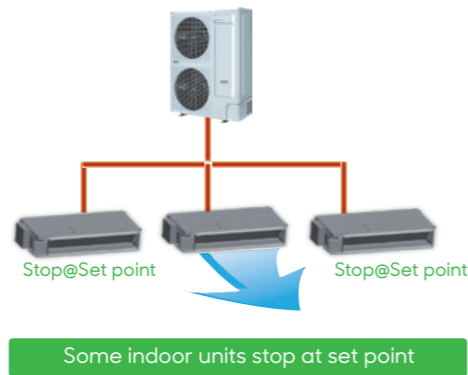
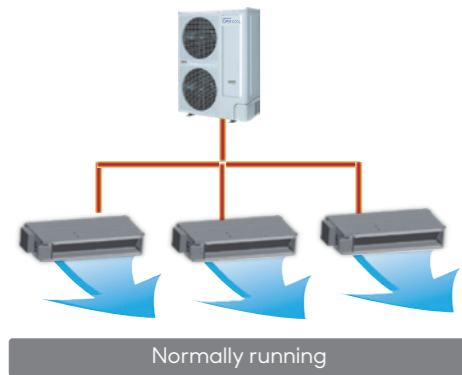
## High Efficiency DC Motor



- ◆ High efficiency DC fan motor
- ◆ Low noise and high efficiency because of high-density wire winding engineering
- ◆ Brushless with built-in sensor

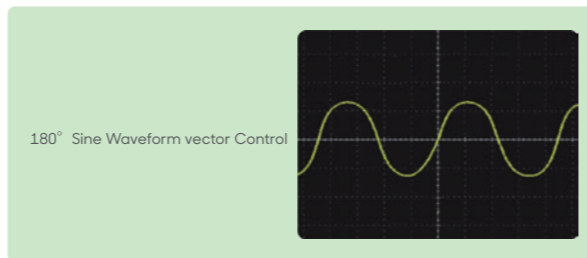
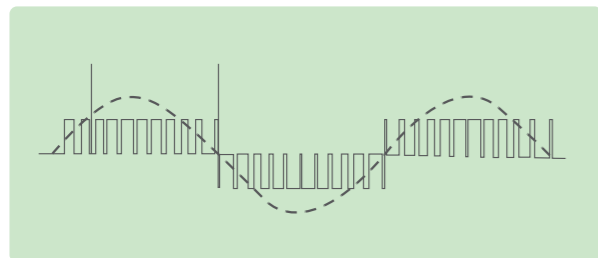
## Fast Cooling And Heating

Every rooms meet set point most quickly and comfortably by optimized refrigerant control.

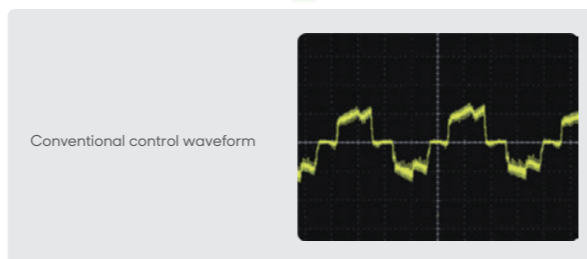
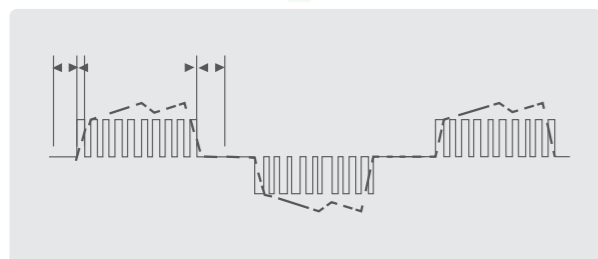


## 180° Sine Wave Control

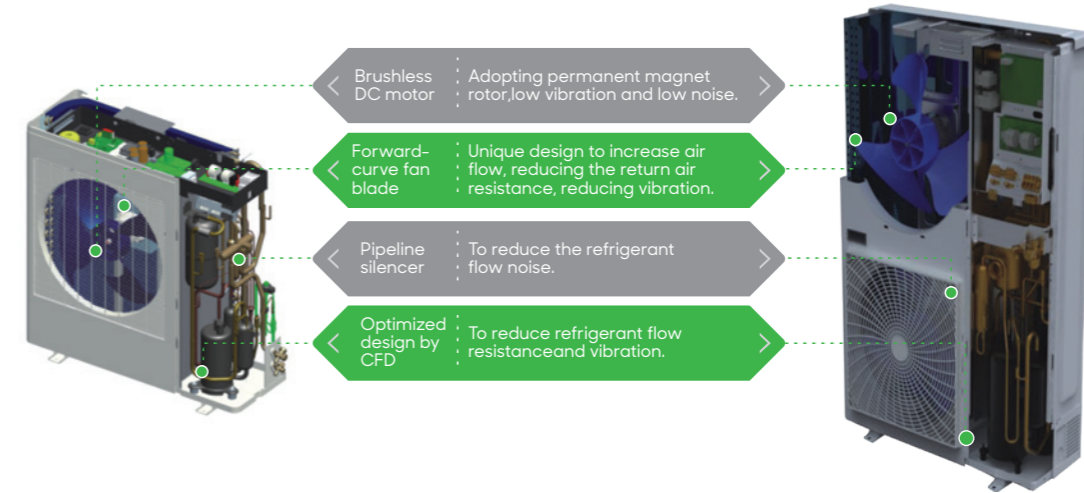
The perfect combination of 180° Sine wave rotor frequency drive control technology and excellent IPM inverters, reduces the reactive loss of motor-driven, increases motor efficiency by 12%.



Increase efficiency by 12%

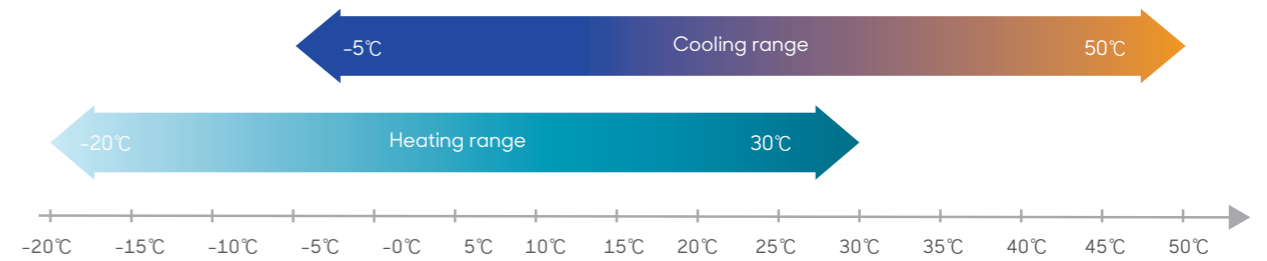


## Silent Technology



## Wide Outdoor Operation Range

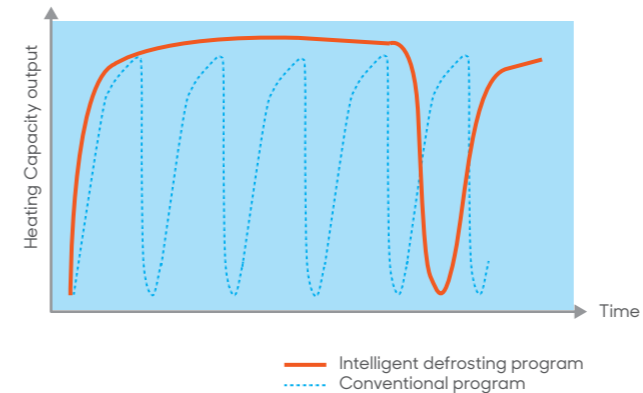
Because global warming is getting worse, Max. cooling operating temperature is designed up to 50°C. Heating operating temperature is down to -20°C. In the cold winter, system can heat the room continuously.



Outdoor unit running at temperature above 50°C need customized in factory, please consult to sales engineer.

## Intelligent Defrosting Program

Program starts only when unit needs to. Whereas conventional unit's defrosting timing & duration is fixed, causing fluctuations in temperature and personal comfort.



### Defrost curve

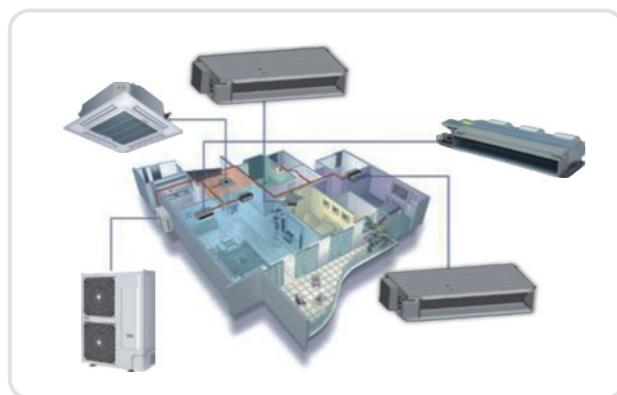
- Conventional unit's defrosting timing & duration is fixed.
- Intelligent defrosting program starts according to heat exchanging efficiency & capacity change due to the frost. Less temperature fluctuations, people feel more comfortable.

## Fan Reversal Protection



## Space Saving Installation

- Multiple indoor units can be connected to 1 outdoor unit, and long piping connection is also possible.
- Compare to one-drive-one type, the outdoor unit can be installed in various places to realize the space-saving installation.



## Active PFC Module



Active PFC module board

- PFC: Power Factor Corrector.
- There will be a power loss because of the different phases between the voltage and current.
- With the PFC module, the power utilization rate is higher, power factor can be up to 98%. System will be more efficiency.

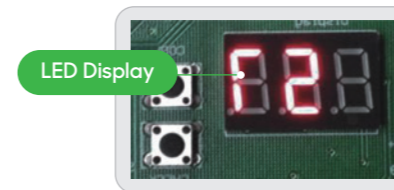
- Power factor refers to the relationship between effective power and total power consumption, power factor is effective power divided by total power consumption.
- Power factor can measure power utilization rate, the power factor bigger, the higher power utilization rate.

## Automatically Addressing

- Automatically addressing: system will distribute address to indoor unit automatically
- Automatic addressing will reduce artificial faults and manual works.



## LED Display On PCB



LED display on the PCB, it can show system's operation status and error codes.

## High Efficiency

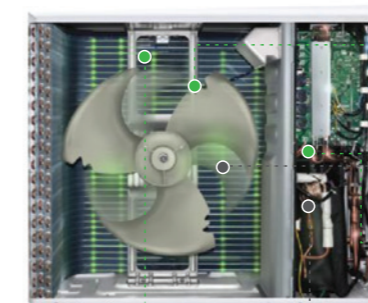


### Refrigerant cooling technology for PCB

- 1 The radiation fin is made of aluminum panels fitting together seamlessly.
- 2 This helps to cool down the IPM, it has better performance compared to air cooling for PCB.
- 3 The outdoor unit has capability to run in max. 55°C ambient temperature.

### 5 Major Technology Leads to Lower Noise

The Min. noise level is 54 dB(A)



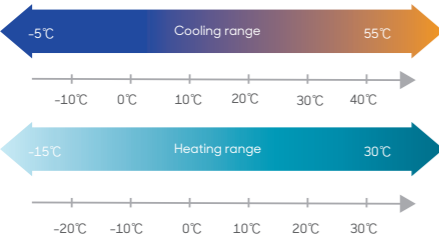
- Streamline optimization for fan blade
- CFD simulation improvements to eliminate most of the turbulence
- Silent EXV
- Low noise compressor
- DC motor



8 / 10 / 12.5 / 14 / 16kW  
Smaller size, higher efficiency

### Compact appearance

- The center of gravity has been reduced
- The vibration level is smaller
- It is suitable to be installed on terrace due to its compact appearance



### Wide Outdoor Operation Range

Due to global warming, cooling ambient temperature is designed up to 55°C. Heating ambient temperature is down to -15°C. In cold weather, CHV Mini VRF has capability to heat the room continuously.



### Easy Maintenance Window

LED display on the PCB: this is available to show operation status and error codes of the system.



## CMV-mini

Model name	Power type	Cooling					Heating					Compressor		Motor		Refrigerant	Sound pressure Level	Sound Level	Dimension (W*H*D)		Weight		Connecting		Max Connected indoor units quantity
		Capacity KW	Capacity Btu/h	Power input KW	Current A	EER	Capacity KW	Capacity Btu/h	Power input KW	Current A	COP	Type	Quantity	Type	Quantity				Volume kg	DB(A)	DB(A)	Packing mm	Body mm	Net kg	
CMV-V125W/R1	220-240V-1N-50Hz	12.5	42000	3.38	8.96	3.69	14	47000	3.65	9.68	3.83	DC/Twin-rotary	1	DC/fan motor	2	R410a			964 x 1445 x 402	900 x 1328 x 400	89	100			6
CMV-V125W/ZR1	380-415V-3N-50Hz	12.5	42000	3.38	5.24	3.69	14	47000	3.66	5.67	3.83														
CMV-V140W/R1	220-240V-1N-50Hz	14	47000	3.96	10.50	3.52	16	54000	4.3	11.40	3.72	DC/Twin-rotary	1	DC/fan motor	2	R410a			964 x 1445 x 402	900 x 1328 x 400	89	100			7
CMV-V140W/ZR1	380-415V-3N-50Hz	14	47000	3.98	6.17	3.52	16	54000	4.3	6.67	3.72														
CMV-V160W/R1	220-240V-1N-50Hz	16	54000	4.57	12.11	3.50	18	61000	5.13	13.60	3.61	DC/Twin-rotary	1	DC/fan motor	2	R410a			1278 x 1703 x 560	1120 x 1549 x 528	100	111			8
CMV-V160W/ZR1	380-415V-3N-50Hz	16	54000	4.58	7.10	3.50	18	61000	5.13	7.95	3.61														
CMV-V180W/R1	220-240V-1N-50Hz	18	61000	5.19	14.10	3.47	20	69000	5.85	14.99	3.56	DC/Twin-rotary	1	DC/fan motor	2	R410a			1278 x 1703 x 560	1120 x 1549 x 528	145	165			10
CMV-V180W/ZR1	380-415V-3N-50Hz	18	61000	5.19	8.05	3.47	20	69000	5.85	8.71	3.56														
CMV-V224W/ZR1	380-415V-3N-50Hz	22.4	76500	6.74	18.10	3.32	25	85300	6.85	19.9	4.27	DC/Twin-rotary	1	DC/fan motor	2	R410a			1278 x 1703 x 560	1120 x 1549 x 528	176	196			15
CMV-V260W/ZR1	380-415V-3N-50Hz	26	88700	7.54	21.10	3.45	28.5	97300	6.77	21.1	4.21														
CMV-V280W/ZR1	380-415V-3N-50Hz	28	95500	8.32	23.6	3.37	30.5	104000	7.93	22.9	3.85	DC/Twin-rotary	1	DC/fan motor	2	R410a			1278 x 1703 x 560	1120 x 1549 x 528	176	196			15
CMV-VH335W/ZR1	380-415V-3N-50Hz	33.5	114200	9.45	26.10	3.54	37.5	127900	9	26.1	4.17														
CMV-V125W/YR1	220-240V-1N-60Hz	12.5	42000	3.38	8.86	3.69	14	47000	3.65	9.68	3.83	DC/Twin-rotary	1	DC/fan motor	2	R410a			964 x 1445 x 402	900 x 1328 x 400	89	100			6
CMV-V125W/YR1	380-415V-3N-60Hz	12.5	42000	3.38	5.24	3.69	14	47000	3.66	5.67	3.83														
CMV-V140W/YR1	220-240V-1N-60Hz	14	47000	3.96	10.50	3.52	16	54000	4.3	11.40	3.72	DC/Twin-rotary	1	DC/fan motor	2	R410a			964 x 1445 x 402	900 x 1328 x 400	89	100			7
CMV-V140W/YR1	380-415V-3N-60Hz	14	47000	3.98	6.17	3.52	16	54000	4.3	6.67	3.72														
CMV-V160W/YR1	220-240V-1N-60Hz	16	54000	4.57	12.11	3.50	18	61000	5.13	13.60	3.61	DC/Twin-rotary	1	DC/fan motor	2	R410a			1278 x 1703 x 560	1120 x 1549 x 528	100	111			8
CMV-V160W/YR1	380-415V-3N-60Hz	16	54000	4.58	7.10	3.50	18	61000	5.13	7.95	3.61														
CMV-V180W/YR1	220-240V-1N-60Hz	18	61000	5.19	14.10	3.47	20	69000	5.85	14.99	3.56	DC/Twin-rotary	1	DC/fan motor	2	R410a			1278 x 1703 x 560	1120 x 1549 x 528	145	165			10
CMV-V180W/YR1	380-415V-3N-60Hz	18	61000	5.19	8.05	3.47	20	69000	5.85	8.71	3.56														
CMV-V260W/YR1	380-415V-3N-60Hz	26	88700	7.54	21.10	3.45	28.5	97300	6.77	21.1	4.21	DC/Twin-rotary	1	DC/fan motor	2	R410a			1278 x 1703 x 560	1120 x 1549 x 528	176	196			15
CMV-V280W/YR1	380-415V-3N-60Hz	28	95500	8.32	23.6	3.37	30.5	104000	7.93	22.9	3.85														
CMV-V335W/YR1	380-415V-3N-60Hz	33.5	114200	9.45	26.10	3.54	37.5	127900	9	26.1	4.17										176	196	Φ25.4	Φ12.7	18

## CHV-mini

Model name	GCHV-D080W/HR1	GCHV-D100W/HR1	GCHV-D125W/HR1	GCHV-D140W/HR1	GCHV-D160W/HR1						
	GCHV-D080W/HNR1	GCHV-D100W/HNR1	GCHV-D125W/HNR1	GCHV-D140W/HNR1	GCHV-D160W/HNR1						
Power supply	220~240V/1N/50Hz	220~240V/1N/50Hz	220~240V/1N/50Hz	220~240V/1N/50Hz	220~240V/1N/50Hz						
	220~240V/1N/60Hz	220~240V/1N/60Hz	220~240V/1N/60Hz	220~240V/1N/60Hz	220~240V/1N/60Hz						
Performance data	Cooling										
	Capacity	8	7.2	10	9.0	12.5	11.3	14	12.7	16	14.5
	Power input (T1/T3)	2.60	2.81	3.00	3.25	3.20	3.46	3.75	4.06	4.75	5.14
	Rated current (T1/T3)	11.8	14.2	13.6	16.4	14.5	17.5	17.0	20.5	21.8	25.96
	EER (T1/T3)	3.08	2.56	3.33	2.77	3.74	3.27	3.55	3.13	3.5	2.82
Heating											
Capacity	9		11		14		16		17		
Power input	30700		37500		47800		54600		58000		
Rated current	2.65		3.1		3.52		4		4.4		
Rated current	12		14		16.1		18.2		20		
COP	3.39		3.55		3.83		3.72		3.61		
Compressor data	Quantity										
	Quantity	1	1	1	1	1					
DC Inverter compressor	Type										
	Type	Twin-rotary Compressor	Twin-rotary Compressor	Twin-rotary Compressor	Twin-rotary Compressor	Twin-rotary Compressor					
Fan data	Brand										
	Brand	Mitsubishi	GMCC	Mitsubishi	Mitsubishi	Mitsubishi					
Fan motor	Type										
	Type	DC	DC	DC	DC	DC					
	Quantity	1	1	1	1	1					
Fan blade	Power output										
	Power output	75	90	180	180	180					
Physical data	Fan Quantity										
	Fan Quantity	1	1	1	1	1					
Outdoor coil	Air flow										
	Air flow	3300	4000	8000	8000	8000					
Refrigerant	Fin type										
	Fin type	Hydrophilic Aluminum	Hydrophilic Aluminum	Hydrophilic Aluminum	Hydrophilic Aluminum	Hydrophilic Aluminum					
Dimension (W*H*D)	Number of rows										
	Number of rows	3	2	2	3	3					
Weight	Tube type										
	Tube type	Inner-grooved copper tube	Inner-grooved copper tube	Inner-grooved copper tube	Inner-grooved copper tube	Inner-grooved copper tube					
Outdoor sound level	Type										
	Type	R410a	R410a	R410a	R410a	R410a					
Operation temperature range	Volume										
	Volume	2	2.6	3	3.8	3.8					
Cooling	Net										
	Net	935x702x383	1032x810x445	1100x870x528	1100x870x528	1100x870x528					
Heating	Packing										
	Packing	975x770x420	1075x875x495	1140x965x540	1140x965x540	1140x965x540					
Cooling	Net										
	Net	47	60	85	90	90					
Heating	Gross										
	Gross	50	65	95	100	100					
Cooling	Outdoor sound level										
	Outdoor sound level	≤54	≤56	≤56	≤57	≤57					
Heating	Operation temperature range										
	Operation temperature range	-5~55	-5~55	-5~55	-5~55	-5~55					
Cooling	Outdoor side										
	Outdoor side	-15~30	-15~30	-15~30	-15~30	-15~30					
Heating	Outdoor side										
	Outdoor side	-15~30	-15~30	-15~30	-15~30	-15~30					

Note  
 1. The cooling conditions: indoor temp.:27°C DB(80.6°F),19°C WB(60°F) outdoor temp.:35°C DB(95°F) equivalent pipe length:5m drop length:0m.  
 2. The heating conditions: indoor temp.:20°C DB(68°F),15°C WB(44.6°F) outdoor temp.:7°C DB(42.8°F) equivalent pipe length:5m drop length:0m.  
 3. Sound level: Anechoic chamber conversion value, measured at point 1 min front of the unit at a height of 1.2m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.  
 4. The above data may be changed without notice for future improvement on quality at performance.

# INDOOR UNITS

Provide you with fresh air



## Indoor Units line Up

Capacity (KW)	1-way cassette	2-way cassette	4-way cassette	Round flow cassette	4-way cassette (compact type)	Floor Standing Unit
2.2	•				•	
2.8	•				•	
3.6	•				•	
4.5	•	•			•	
5.6	•	•	•	•		
7.1	•	•	•	•		
8.0		•	•	•		
9.0			•	•		
10.0			•	•		•
11.2			•	•		•
12.0						•
12.5			•	•		•
14.0			•	•		•
15.0						•
16.0			•	•		•

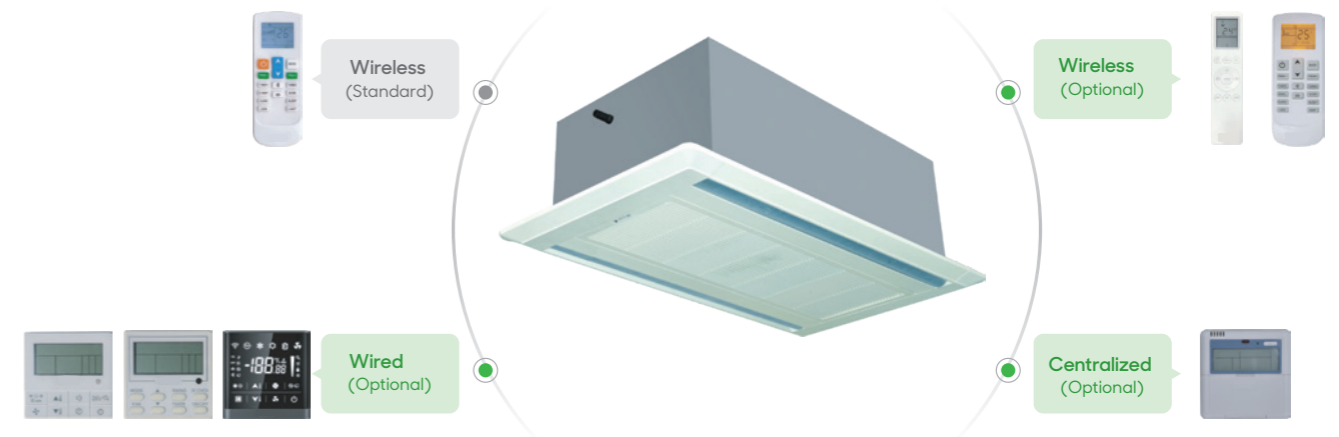
Capacity (KW)	Wall-mounted	Floor Ceiling	Short ceiling concealed ducted unit	Medium ESP ducted unit	High ESP ducted unit	Fresh air processor
2.2	•		•			
2.8	•		•			
3.6	•		•			
4.5	•	•	•			
5.6	•	•	•			
7.1	•	•	•	•	•	
8.0		•	•	•	•	
9.0		•	•	•	•	
10.0				•	•	
11.2		•			•	
12.0				•	•	
14.0		•				•
15.0				•		
16.0		•				
20.0					•	
22.4						•
25.0					•	
28.0					•	•
45.0					•	•
56.0					•	•



# 1-way Cassette



# 2-way Cassette



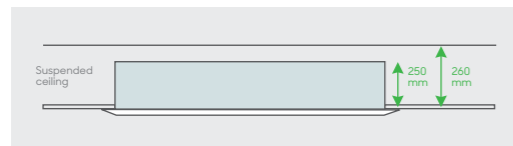
## Features

### Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
/	Standard	Standard(built-in)	Standard(built-in)	Standard	/

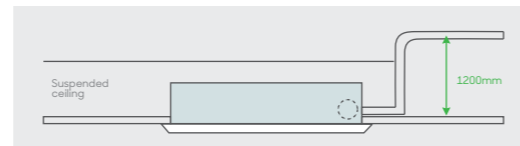
### Slim body, easy to install

Has slim body with 250mm height, it is specially suitable for low suspended ceiling rooms.



### Built-in with drainage pump

Built-in with low noise long life drainage pump, Pumping head is 1200mm, flexible for drainage pipe design.



## Specification

Model name	Power type	Capacity				Motor input	Air flow	Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller
		Cooling KW	Heating KW	Cooling Kbtu/h	Heating Kbtu/h					Packing mm	Body mm	Panel packing mm	Panel mm	Net kg	Gross kg	Gas mm	Liquid mm	Drain mm	
CMV-V22Q1/HR1-B	50Hz	2.2	7.5	2.5	8.5	0.04	520	306	32~36	1160 x 275 x 655	994 x 250 x 532	1090 x 65 x 540	1070 x 50 x 520	24/3.6	30/5.0	Φ9.53	Φ6.35	ODΦ25	Remote controller
CMV-V28Q1/HR1-B	50Hz	2.8	9.5	3.2	10.9														
CMV-V36Q1/HR1-B	50Hz	3.6	12.2	4.0	13.6														
CMV-V45Q1/HR1-B	50Hz	4.5	15.3	5.0	17.0	0.05	610	360	36~41	1160 x 315 x 655	994 x 290 x 532	1090 x 65 x 540	1070 x 50 x 520	26/3.6	32/5.0	Φ12.7	ODΦ25	Remote controller	
CMV-V56Q1/HR1-B	50Hz	5.6	19.1	6.3	21.4	0.07	750	440	35~41										
CMV-V71Q1/HR1-B	50Hz	7.1	24.2	8.0	27.2	0.09	950	550	38~45										1470 x 305 x 690
CMV-V80Q2/HR1-B	50Hz	8.0	27.2	9.0	30.7														

Notes:  
 1.Power supply: 220~240V/1N for 50Hz;  
 2.Cooling test condition: indoor side 27°C DB,19°C WB outdoor side 35°C DB.Heating test condition: indoor side 20°C DB,15°C WB outdoor side 7°C DB  
 3.Sound level: measured at a point 1 m in front of the unit at a height of 1.5m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.  
 4.The above data may be changed without notice for future improvement on quality and performance.

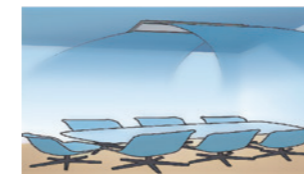
## Features

### Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
/	Standard	Standard(built-in)	Standard(built-in)	Standard	/

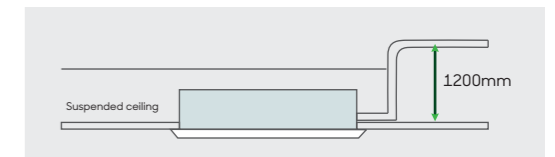
### 2 way air direction

Two direction air flow, flexibly install in various rooms or hallway



### Built-in with drainage pump

Built-in with low noise long life drainage pump, Pumping head is 1200mm,flexible for drainage pipe design.



## Specification

Model name	Power type	Capacity				Motor input	Air flow	Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller
		Cooling KW	Heating KW	Cooling Kbtu/h	Heating Kbtu/h					Packing mm	Body mm	Panel packing mm	Panel mm	Net kg	Gross kg	Gas mm	Liquid mm	Drain mm	
CMV-V45Q2/HR1-B	50Hz	4.5	15.3	5.0	17	0.07	800	470	36~42	1215 x 365 x 630	1068 x 310 x 517	1235 x 70 x 655	1205 x 50 x 630	33/6.5	36/8.5	Φ12.7	Φ6.35	ODΦ25	Remote controller
CMV-V56Q2/HR1-B	50Hz	5.6	19.1	6.3	21.4														
CMV-V71Q2/HR1-B	50Hz	7.1	24.2	8.0	27.2														
CMV-V80Q2/HR1-B	50Hz	8.0	27.2	9.0	30.7	0.10	1120	650	40~46	1455 x 365 x 630	1308 x 310 x 517	1475 x 70 x 655	1445 x 50 x 630	40/7.5	47/10.0	Φ15.9	Φ9.53	ODΦ25	Remote controller
CMV-V80Q2/HR1-B	50Hz	8.0	27.2	9.0	30.7														

Notes:  
 1.Power supply: 220~240V/1N for 50Hz;  
 2.Cooling test condition: indoor side 27°C DB,19°CWB outdoor side 35°C DB.Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB.  
 3.Sound level: measured at a point 1 m in front of the unit at a height of 1.5m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.  
 4.The above data may be changed without notice for future improvement on quality and performance.

# 4-way Cassette/Round-flow Cassette



## Features

### Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
/	Standard	Standard(built-in)	Standard(built-in)	Standard	Optional

### 4 way air delivering

Air flow is soft and smooth, air can be delivered to every corner without dead angle, it makes the room temperature distribution more balance.



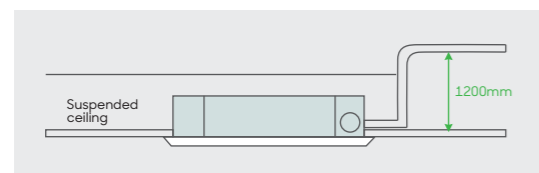
### 360° round panel is optional.



### Built-in with drainage pump

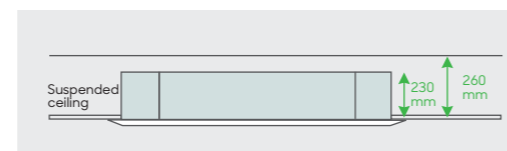
Built-in with low noise long life drainage pump, Pumping head is 1200mm, flexible for drainage pipe design.

Note: The pumping head of 4-way cassette unit (compact type) is 700mm.



### Slim body, easy to install

Has slim body with 230mm height, it is specially suitable for low suspended ceiling rooms.



### DC fan motor is optional

## Specification

### 4-way Cassette Unit

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller	
		Cooling		Heating			M <sup>3</sup> /h	CFM			Packing	Body	Panel packing	Panel	Net	Gross	Gas	Liquid	Drain		
		KW	KBtu/h	KW	KBtu/h	KW	M <sup>3</sup> /h	CFM	DB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm		
CMV-V56Q/HR1-C	50Hz	5.6	19.1	6.3	21.4	0.054	810	470	35~39					24	30	Φ12.7	Φ6.35				
CMV-V56Q/HNR1-C	60Hz																				
CMV-V71Q/HR1-C	50Hz	7.1	24.2	8.0	27.2									24	30						
CMV-V71Q/HNR1-C	60Hz					0.093	1200	700	36~39												
CMV-V80Q/HR1-C	50Hz	8	27.2	8.8	30									24	30						
CMV-V80Q/HNR1-C	60Hz																				
CMV-V90Q/HR1-C	50Hz	9	30.7	10.0	34.1									28.5	35						
CMV-V90Q/HNR1-C	60Hz																				
CMV-V100Q/HR1-C	50Hz	10	34.1	11.0	37.5									28.5	35						
CMV-V100Q/HNR1-C	60Hz																				
CMV-V112Q/HR1-C	50Hz	11.2	38.2	12.5	42.6									28.5	35						
CMV-V112Q/HNR1-C	60Hz					0.16	1600	940	37~41												
CMV-V125Q/HR1-C	50Hz	12.5	42.6	14.0	47.7									28.5	35						
CMV-V125Q/HNR1-C	60Hz																				
CMV-V140Q/HR1-C	50Hz	14.0	47.7	15.0	51.1									28.5	35						
CMV-V140Q/HNR1-C	60Hz																				
CMV-V160Q/HR1-C	50Hz	16.0	54.5	17.0	58									28.5	35						
CMV-V160Q/HNR1-C	60Hz																				

### 4-way Cassette Unit(Compact type)

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller
		Cooling		Heating			M <sup>3</sup> /h	CFM			Packing	Body	Panel packing	Panel	Net	Gross	Gas	Liquid	Drain	
		KW	KBtu/h	KW	KBtu/h	KW	M <sup>3</sup> /h	CFM	DB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm	
CMV-V22Q/HR1-C	50Hz	2.2	7.5	2.5	8.5	0.038	447	263	22~34					17.5	25					
CMV-V22Q/HNR1-C	60Hz																			
CMV-V28Q/HR1-C	50Hz	2.8	9.5	3.2	10.9	0.038	447	263	22~34					17.5	25					
CMV-V28Q/HNR1-C	60Hz																			
CMV-V36Q/HR1-C	50Hz	3.6	12.2	4.0	13.6	0.040	515	303	27~38					17.5	25					
CMV-V36Q/HNR1-C	60Hz																			
CMV-V45Q/HR1-C	50Hz	4.5	15.3	5.0	17	0.040	515	303	27~38					17.5	25					
CMV-V45Q/HNR1-C	60Hz																			

### Round-flow Cassette

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller
		Cooling		Heating			M <sup>3</sup> /h	CFM			Packing	Body	Panel packing	Panel	Net	Gross	Gas	Liquid	Drain	
		KW	KBtu/h	KW	KBtu/h	KW	M <sup>3</sup> /h	CFM	DB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm	
CMV-V56QR/HR1	50Hz	5.6	19.1	6.3	21.4	0.09	860	500	32~39					24	30	Φ12.7	Φ6.5			
CMV-V71QR/HR1	50Hz	7.1	24.2	8.0	27.2									24	30					
CMV-V80QR/HR1	50Hz	8.0	27.2	8.8	30									24	30					
CMV-V90QR/HR1	50Hz	9.0	30.7	10	34.1									28.5	30					
CMV-V100QR/HR1	50Hz	10	34.1	11	37.5	0.18								28.5	35					
CMV-V112QR/HR1	50Hz	11.2	38.2	12.5	42.6		1400	820	37~41					28.5	35					
CMV-V125QR/HR1	50Hz	12.5	42.6	14	47.7									28.5	35					
CMV-V140QR/HR1	50Hz	14	47.7	15	51.1									28.5	35					
CMV-V160QR/HR1	50Hz	16	54.5	17	58	0.27	1800	1050	38~42					28.5	35					

Notes:

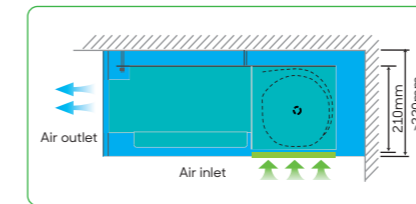
- 1.Power supply: 220~240V/1N for 50Hz;
- 2.Cooling test condition: indoor side 27°C DB,19°C WB outdoor side 35°C DB.Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB
- 3.Sound level: measured at a point 1 m in front of the unit at a height of 1.5m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
- 4.The above data may be changed without notice for future improvement on quality and performance.

# Short Ceiling Concealed Ducted Unit



## ✂ Slim body, easy to install

Has slim body with 210mm height, it is specially suitable for low suspended ceiling rooms.



## 🌿 DC fan motor is optional

## Features

### Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
Standard	Optional	Standard(built-in)	Optional	Standard	Optional

## ✂ Short body, easy to install.

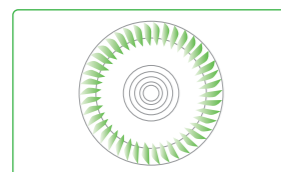
Has short body, minimum 700mm width, It is specially suitable for installation location in entrance ceiling of hotel room. Low noise and light Weight.

## 🚰 Drain pump is optional

Pumping head is 750mm.

## 🌀 Big air flow low noise centrifugal fan wheel

Big air flow low noise centrifugal fan blade with special air tunnel system, and the unique shock absorption measures, making this series ducted units' running noise is as low as 24 dB(A), let users to enjoy the comfort, sleep without any disturbance.



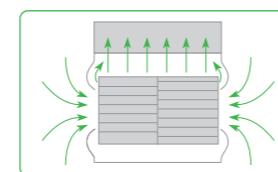
Special resin material fan wheel.



All vanes are dislocation distribution to offset sound wave, so that the noise can be reduced.



High efficiency low noise motor, motor and support frame with rubber ring isolation, can absorb vibration and reduce noise.



Air inlet of fan wheel casing is arch curved design; it can reduce air flow's disturbance, make if flow smoother to reduce noise.

## Specification

### Round-flow Cassette

Model name	Power type	Capacity				Motor input	Air flow	Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller									
		Cooling	Heating	Motor input	Air flow					Packing	Body	Panel packing	Panel	Net	Gross	Gas	Liquid	Drain										
		KW	KBtu/h	KW	KBtu/h	KW	M <sup>3</sup> /h	CFM	DB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm									
CMV-V22TA/HR1-C	50Hz	2.2	7.5	2.5	8.5	0.05	450	260	24*29	30	910 x 240 x 510	814 x 210 x 467	/	/	16	18.5	Φ9.53											
CMV-V22TA/HNR1-C	60Hz																											
CMV-V28TA/HR1-C	50Hz	2.8	9.5	3.2	10.9	0.07	550	324	25*32						/	/	/	/	16.5	19	Φ6.35							
CMV-V28TA/HNR1-C	60Hz																											
CMV-V36TA/HR1-C	50Hz	3.6	12.2	4	13.6	0.08	620	360	32*37										/	/	/	/	16.5	19	Φ12.7			
CMV-V36TA/HNR1-C	60Hz																											
CMV-V45TA/HR1-C	50Hz	4.5	15.3	5	17	0.09	800	520	28*38		/	/	/	/									21	24				
CMV-V45TA/HNR1-C	60Hz																											
CMV-V56TA/HR1-C	50Hz	5.6	19.1	6.3	21.4	0.11	1000	640	30*39						/	/	/	/					25.5	28.5	Φ15.9	Φ9.53		
CMV-V56A/HNR1-C	60Hz																											
CMV-V71TA/HR1-C	50Hz	7.1	24.2	8	27.2														/	/	/	/	25.5	28.5				
CMV-V71TA/HNR1-C	60Hz																											

Notes:

1.Power supply: 220~240V/1N for 50Hz;

2.Cooling test condition: indoor side 27°C DB,19°C WB outdoor side 35°C DB;Heating test condition: indoor side 20°C DB,15°C WB outdoor side 7°C DB

3.Sound level: measured at a point 1 m in front of the unit at a height of 1.5m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

4.The above data may be changed without notice for future improvement on quality and performance.

# Medium Static Pressure Ducted Unit

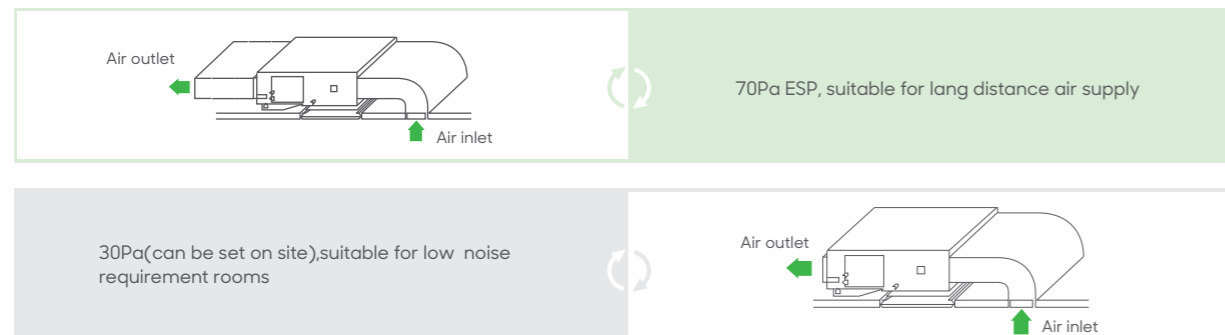


## Features

### Accessories

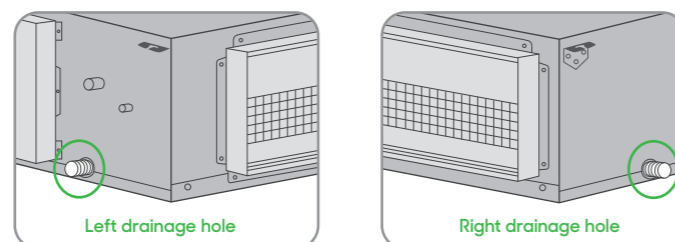
Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
Standard	Standard	Standard(built-in)	Optional	Standard	Optional

### Standard ESP is 70Pa , 30Pa can be customized



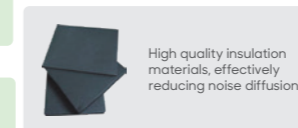
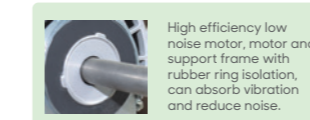
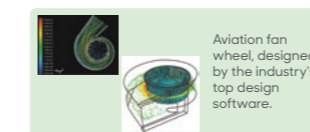
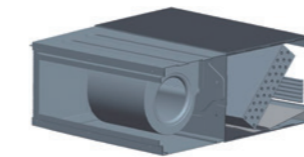
### Convenient in drainage pipe installation

Reserved drainage pipe outlet holes on left side and right side, installer can choose the outlet holes on site as per actual conditions, flexible for drainage pipe installation.



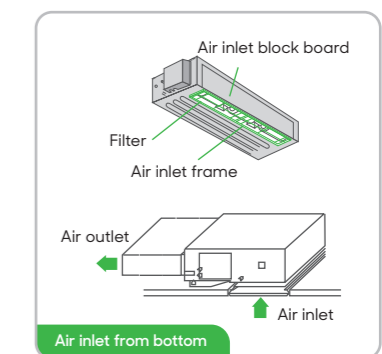
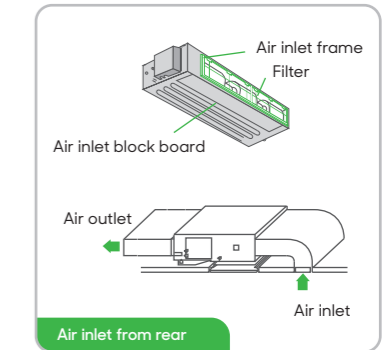
### Whole unit low noise design, silent operation

Using multiple noise reduction technology, including the design of high efficiency low noise motor, aviation fan wheel, low vibration wheel casing, unique design, the inner wall configuration with high quality insulation materials, and so on, to make the units running in a low noise condition.



### Two air return installation methods

Air return from rear or bottom is easy to change on site, convenient for installation.



### DC fan motor is optional

## Specification

Model name	Power type	Capacity				Motor input	Air flow	Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller	
		Cooling KW	Heating KW	Cooling KBTu/h	Heating KBTu/h					Packing mm	Body mm	Panel packing mm	Panel mm	Net kg	Gross kg	Gas mm	Liquid mm	Drain mm		
CMV-V71TB/HR1-B	50Hz	7.1	24.2	8.0	27.2	0.30	1220	710	36°41	70	1255	1209	/	/	33	37	Φ15.9	Φ9.53	ODΦ25	Wired controller
CMV-V71TB/HNR1-B	60Hz										325	260			33	37				
CMV-V80TB/HR1-B	50Hz	8.0	27.2	9.0	30.7	0.34	1850	1080	38°43	70	1490	1445	/	/	46	50	Φ15.9	Φ9.53	ODΦ25	Wired controller
CMV-V80TB/HNR1-B	60Hz														325	260				
CMV-V90TB/HR1-B	50Hz	9.0	30.7	10.0	34.1	0.34	2000	1170	40°44	70	1490	1445	/	/	46	50	Φ15.9	Φ9.53	ODΦ25	Wired controller
CMV-V90TB/HNR1-B	60Hz														325	260				
CMV-V100TB/HR1-B	50Hz	10.0	34.1	11.0	37.5	0.34	2000	1170	40°44	70	1490	1445	/	/	46	50	Φ15.9	Φ9.53	ODΦ25	Wired controller
CMV-V100TB/HNR1-B	60Hz														325	260				
CMV-V120TB/HR1-B	50Hz	12.0	40.9	13.0	44.3	0.34	2000	1170	40°44	70	1490	1445	/	/	46	50	Φ15.9	Φ9.53	ODΦ25	Wired controller
CMV-V120TB/HNR1-B	60Hz														325	260				
CMV-V150TB/HR1-B	50Hz	15.0	51.1	17.0	58	0.34	2000	1170	40°44	70	1490	1445	/	/	46	50	Φ15.9	Φ9.53	ODΦ25	Wired controller
CMV-V150TB/HNR1-B	60Hz														325	260				

Notes:

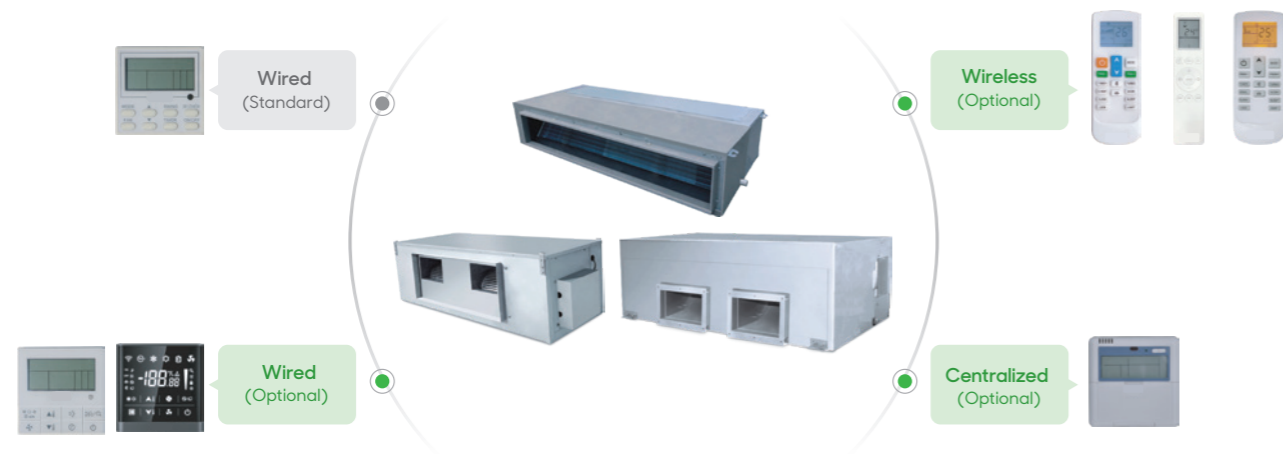
1.Power supply: 220~240V/1N for 50Hz;208~230V/1N for 60Hz

2.Cooling test condition: indoor side 27°C DB,19°C WB outdoor side 35°C DB.Heating test condition: indoor side 20°C DB,15°C WB outdoor side 7°C DB

3.Sound level: measured at a point 1 m in front of the unit at a height of 1.5m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

4.The above data may be changed without notice for future improvement on quality and performance.

# High Static Pressure Ducted Unit



## Features

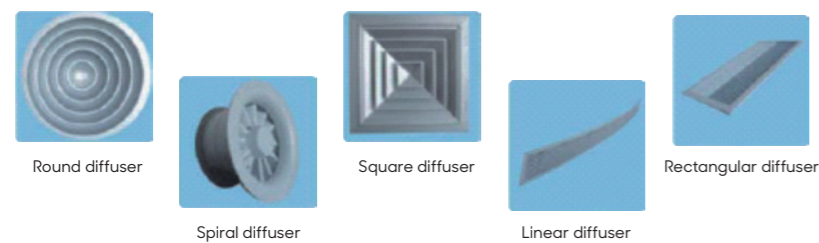
### Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
Standard	Standard	Standard(built-in)	Optional	Standard	/

### Slim body, saving suspended ceiling spaces



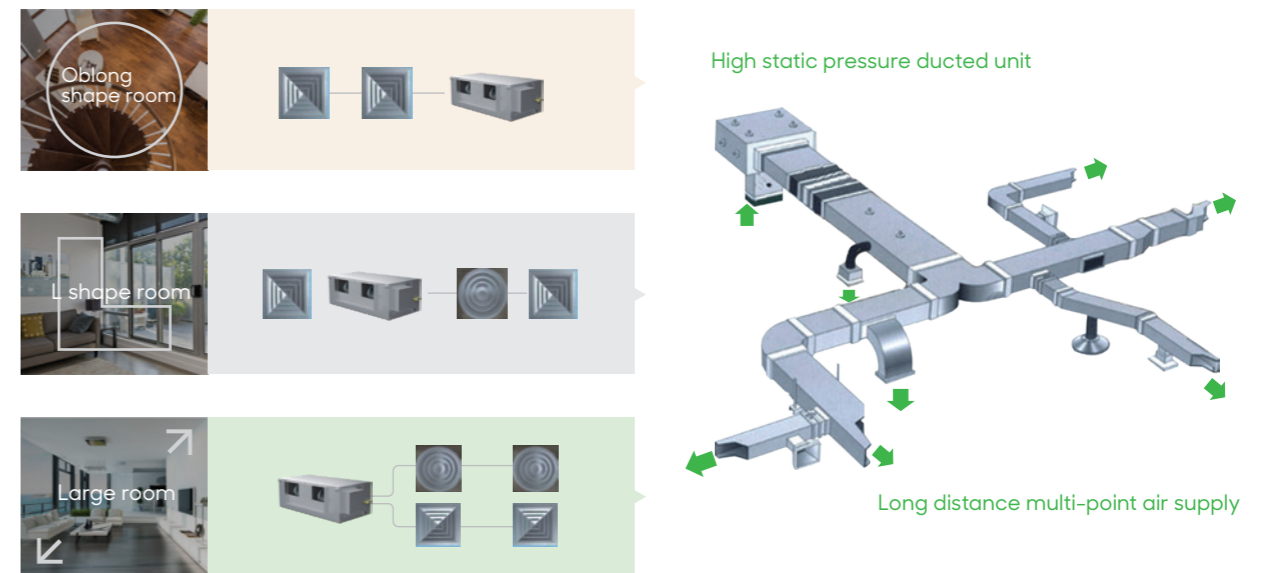
### Can be used with various diffusers



Used with various diffusers, meet for different kinds of decoration.

### High static pressure

Big air flow with high static pressure, easy for large rooms duct design. Suitable for different shape of rooms.



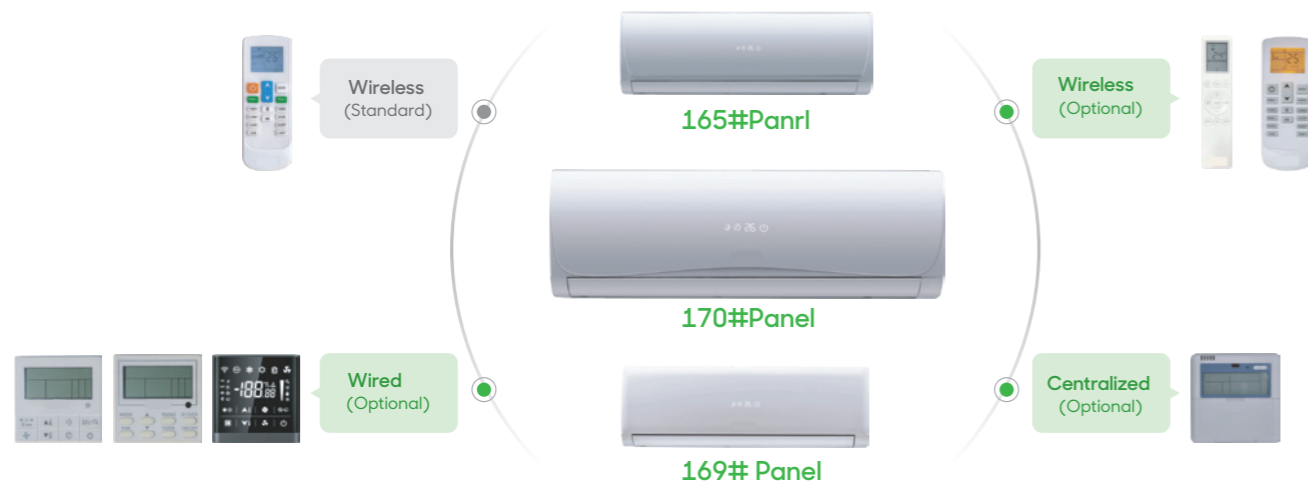
## Specification

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller								
		Cooling KW	Heating KW	Cooling Kbtu/h	Heating Kbtu/h		M <sup>3</sup> /h	CFM			Packing mm	Body mm	Panel packing mm	Panel mm	Net kg	Gross kg	Gas mm	Liquid mm	Drain mm									
CMV-V71TH/HR1-B	50Hz	7.1	24.2	7.8	26.6	0.34	1500	880	40*42	150	1490 x 325 x 720	1445 x 260 x 680	/	/	46	50	/	/	/	Wired controller								
CMV-V71TH/HNR1-B	60Hz																											
CMV-V80TH/HR1-B	50Hz	8.0	27.2	8.8	30																			46	50			
CMV-V80TH/HNR1-B	60Hz																											
CMV-V90TH/HR1-B	50Hz	9.0	30.7	10.0	34.1											46	50	Φ15.9	Φ9.53		ODΦ25							
CMV-V90TH/HNR1-B	60Hz																											
CMV-V100TH/HR1-B	50Hz	10.0	34.1	11.0	37.5											47	51											
CMV-V100TH/HNR1-B	60Hz																											
CMV-V120TH/HR1-B	50Hz	12.0	40.9	13.0	44.3	0.45	2300	1350	44*52							47	51											
CMV-V120TH/HNR1-B	60Hz																											
CMV-V150TH/HR1-B	50Hz	15.0	51.1	17.0	58.0											47	51											
CMV-V150TH/HNR1-B	60Hz																											
CMV-V200TH/HR1-B	50Hz	20.0	68.2	22.0	75.0	1.2	4000	2350	45*53						102	113												
CMV-V200TH/HNR1-B	60Hz																											
CMV-V250TH/HR1-B	50Hz	25.0	85.3	27.5	93.8	1.2	4200	2470	45*54						102	113	Φ22.2	Φ12.7	ODΦ30									
CMV-V250TH/HNR1-B	60Hz																											
CMV-V280TH/HR1-B	50Hz	28.0	95.5	30.8	105.0	1.2	4400	2580	45*55						102	113												
CMV-V280TH/HNR1-B	60Hz																											
CMV-V450TH/HZR1-B	50Hz	45.0	153.5	50.0	170.6	1.6	6000	3520	60						222	260												
CMV-V450TH/HXR1-B	60Hz																											
CMV-V560TH/HR1-B	50Hz	56.0	191.0	63.0	214.9	2.5	8000	4700	64						222	260	Φ28.6	Φ15.9	ODΦ32									
CMV-V560TH/HXR1-B	60Hz																											

#### Notes:

- Power supply: 220~240V/1N for 50Hz;
- Cooling test condition: indoor side 27°C DB, 19°C WB outdoor side 35°C DB. Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB
- Sound level: measured at a point 1 m in front of the unit at a height of 1.5m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
- The above data may be changed without notice for future improvement on quality and performance.

# Wall Mounted Unit



## Features

### Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
/	Standard	Standard(built-in)	/	/	Standard

### Air supply smoothly

Cross flow fan, In Cooling mode, cold air is blown from horizontal. In heating mode, warm air is blown from vertical.

### 6 panels can be chosen, suitable for all kinds of decoration style

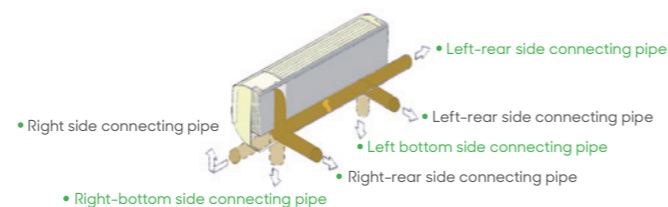
Simple, elegant, stylish, mirror design, suitable for all kinds of decoration style.

### Flexible in installation

Refrigerant pipe can be connected from 3 directions.

### Wide adjustable angle air supply

65° Wide angle air supply, louver angle can be fixed or set to auto-swing by controller.



## Specification

Model	CMV-D22G/HR1-C2	CMV-D28G/HR1-C2	CMV-D36G/HR1-C2	CMV-D45G/HR1-C2	CMV-D56G/HR1-C2	CMV-D71G/HR1-C2	CMV-D80G/HR1-C2
Power Supply	220-240V/1N/50Hz	220-240V/1N/50Hz	220-240V/1N/50Hz	220-240V/1N/50Hz	220-240V/1N/50Hz	220-240V/1N/50Hz	220-240V/1N/50Hz
Capacity	Cooling	2.2	2.8	3.6	4.5	5.6	7.1
	Heating	2.5	3.2	4.0	5.0	6.3	8.0
Power input	W	15	15	20	20	30	50
Fan motor	Type	DC	DC	DC	DC	DC	DC
	Speed (Hi/Med/Low)	r/min	950/850/800	950/850/800	900/800/750	900/800/750	1100/950/850
Air flow	m <sup>3</sup> /h	410/350/330	410/350/330	640/540/520	640/540/520	800/690/600	990/850/700
Sound Pressure level	dB(A)	24~33	24~33	27~36	29~38	32~42	35~43
Body dimension (WxHxD)	#170	mm	782x277x215	782x277x215	948x314x243	948x314x243	1050x314x246
	#169	mm	782x277x205	782x277x205	948x314x239	948x314x239	1050x314x239
	#165	mm	782x277x210	782x277x210	948x314x239	948x314x239	1050x314x242
	Packing	mm	870x365x280	870x365x280	1045x400x330	1045x400x330	1045x400x330
Body weight	Net/Gross weight	kg	8.5/10	8.5/10	13/15	13/15	13/15
Refrigerant type			R410A	R410A	R410A	R410A	R410A
Throttle type			EXV	EXV	EXV	EXV	EXV
Liquid pipe/Gas pipe	mm	Φ6.35/Φ9.53	Φ6.35/Φ9.53	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ9.52/Φ15.9
Drainage water pipe (Outer diameter)	mm	Φ20	Φ20	Φ20	Φ20	Φ20	Φ20
Operation temperature	°C	16~32	16~32	16~32	16~32	16~32	16~32

Notes:  
 1. Power supply: 220~240V/1N for 50Hz; 208~230V/1N for 60Hz  
 2. Cooling test condition: indoor side 27°C DB, 19°C WB outdoor side 35°C DB, 15°C WB outdoor side 7°C DB  
 3. Sound level: measured at a point 1 m in front of the unit at a height of 1.5m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.  
 4. The above data may be changed without notice for future improvement on quality and performance.

## Wall Mounted Unit



# Floor Ceiling Unit



## Features

### Accessories

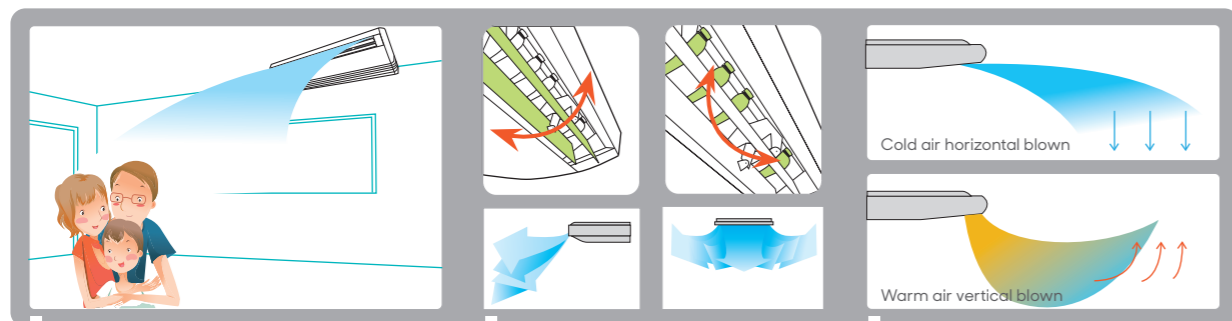
Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
/	Standard	Standard(built-in)	Optional	Standard	/

### Suspended installation, saves valuable floor space

- The use of ark effect: need to take up valuable floor position.
- The use of a hanging type indoor machine effect: Due to the adoption of a suspended installation, without occupying the ground position, will be valuable floor space to save up to add a set of dining table.



### Wide angle air supply

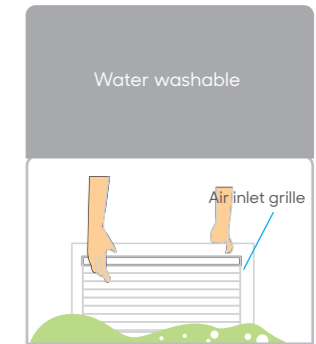
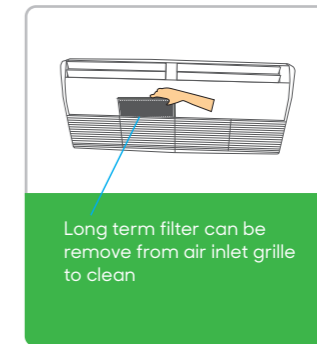
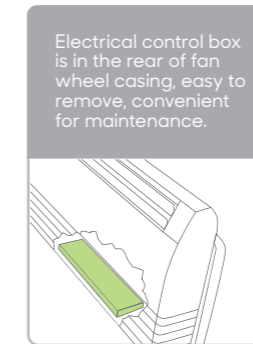
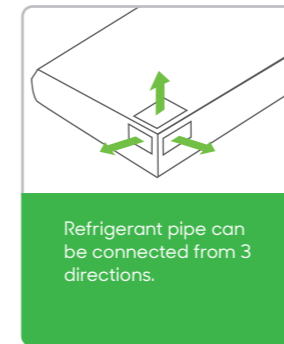


Configured with low noise high performance centrifugal fans, has big air flow and long distance air supply.

3 dimensional air supply, wide air supply angle, easily supply to every corners.

In Cooling mode, cold air is blown from horizontal. In heating mode, warm air is blown from vertical.

### Easy for installation



## Specification

Model name	Power type	Capacity				Motor input	Air flow	Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller		
		Cooling	Heating	Cooling	Heating					Packing	Body	Panel packing	Panel	Net	Gross	Gas	Liquid	Drain			
		KW	KBtu/h	KW	KBtu/h	KW	M <sup>3</sup> /h	CFM	DB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm		
CMV-V45LD/HR1-B	50Hz	4.5	15.3	5.0	17				37°46					36	42						
CMV-V45LD/HNR1-B	60Hz					0.06	950	550						36	42		Φ12.7	Φ6.35	ODΦ20		
CMV-V56LD/HR1-B	50Hz	5.6	19.1	6.3	21.4				37°46					36	42						
CMV-V56LD/HNR1-B	60Hz													36	42						
CMV-V71LD/HR1-B	50Hz	7.1	24.2	8.0	27.2				39°48					36	42						
CMV-V71LD/HNR1-B	60Hz					0.15	1300	760						36	42						
CMV-V80LD/HR1-B	50Hz	8.0	27.2	8.8	30				39°48					36	42						
CMV-V80LD/HNR1-B	60Hz													36	42						
CMV-V90LD/HR1-B	50Hz	9.0	30.7	10.0	34.1	0.375	1500	880	44°50					38	44						
CMV-V90LD/HNR1-B	60Hz													38	44						
CMV-V112LD/HR1-B	50Hz	11.2	38.2	12.5	42.6				45°52					51	58						
CMV-V112LD/HNR1-B	60Hz					0.26	2300	1350						51	58						
CMV-V140LD/HR1-B	50Hz	14.0	47.7	15	51.1				45°52					51	58						
CMV-V140LD/HNR1-B	60Hz													51	58						
CMV-V160LD/HR1-B	50Hz	16.0	54.5	17	58	0.26	2300	1350	45°52					51	58						
CMV-V160LD/HNR1-B	60Hz													51	58						

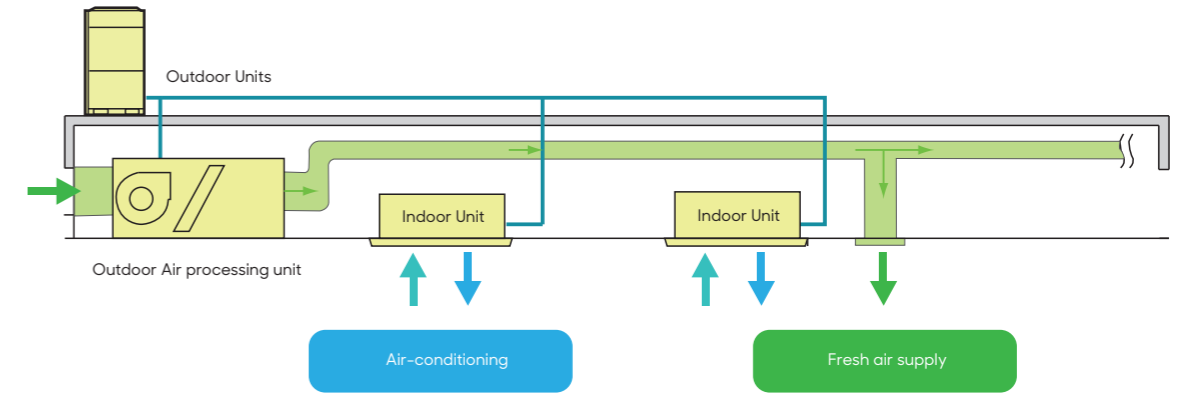
Notes:  
 1.Power supply: 220~240V/1N for 50Hz;208~230V/1N for 60Hz  
 2.Cooling test condition: indoor side 27°C DB,19°C WB outdoor side 35°C DB.Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB  
 3.Sound level: measured at a point 1 m in front of the unit at a height of 1.5m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.  
 4.The above data may be changed without notice for future improvement on quality and performance.

# Fresh Air Processor



## Innovative air supply technology for excellent room temperature control

Fresh air unit can be connected with other type indoor units(only for 14/22.4/28kw fresh air unit).  
Layout Example:



Notes:1. When VRF system connect fresh air indoor unit and other type indoor units together, the capacity combination ratio between indoor unit and outdoor unit should within 100%  
2. Fresh air unit capacity can't bigger than 30% of total indoor units capacity.

## Features

### Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
Standard	Optional	Standard(built-in)	Optional	Standard	/

### Healthy and comfortable

Fresh air is imported, provides a healthy and comfortable living environment.

### 100% Fresh air processing unit

Both fresh air filtration and heating/cooling can be achieved in a single system. Indoor units and fresh air processing unit can be connected to the same refrigerant system, increase design flexibility and greatly reduce total system costs.

### High external static pressure

External static pressure can be up to 300Pa for more flexible duct applications. The maximum distance of air supply is about 20m and the maximum height of air supply is about 6.5m.

## Specification

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller
		Cooling KW	Heating KW	Cooling KBTu/h	Heating KBTu/h		M <sup>3</sup> /h	CFM			Packing mm	Body mm	Panel packing mm	Panel mm	Net kg	Gross kg	Gas mm	Liquid mm	Drain mm	
CMV-V140TF/HR1-B	50Hz	14.0	47.7	9.0	30.7	0.45	1400	820	42~48	220	1245 x 445 x 655	1190 x 370 x 620			47	51	Φ15.9	Φ9.53		
CMV-V140TF/HNR1-B	60Hz																			
CMV-V224TF/HR1-B	50Hz	22.4	76.4	16.0	54.5	1.2	2000	1170	45~52	220	1510 x 580 x 870	1465 x 448 x 811			100	111			ODΦ25	
CMV-V224TF/HNR1-B	60Hz																			
CMV-V280TF/HR1-B	50Hz	28.0	95.5	20.0	68.2	1.2	2800	1640	45~52	220	1510 x 580 x 870	1465 x 448 x 811	/	/	100	111	Φ22.2	Φ12.7		
CMV-V280TF/HNR1-B	60Hz																			
CMV-V450TF/HZR1-B	50Hz	45.0	153.5	31.4	107.1	1.6	4000	3520	58	300	2267 x 840 x 1050	2165 x 676 x 916			222	260				
CMV-V450TF/HXR1-B	60Hz																			
CMV-V560TF/HZR1-B	50Hz	56.0	191.0	39.0	133.0	2.5	6000	4700	62	300	2267 x 840 x 1050	2165 x 676 x 916			222	260	Φ28.6	Φ15.9	ODΦ32	
CMV-V560TF/HXR1-B	60Hz																			

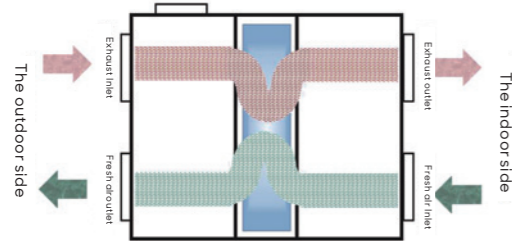
Notes:1.45kW & 56kW units' power supply are 380~415V/3N for 50Hz and 208~230V/3N for 60Hz, the others' power supply is 220~240V/1N for 50Hz and 208~230V/1N for 60Hz  
2.Cooling test condition: Indoor and outdoor side 33°C DB, 28°C WB.Heating test condition: Indoor and outdoor side 0°CDB, -2.9°C WB  
3.Sound level: measured at a point 1 m in front of the unit at a height of 1.5m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.  
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# Heat Recovery Ventilator



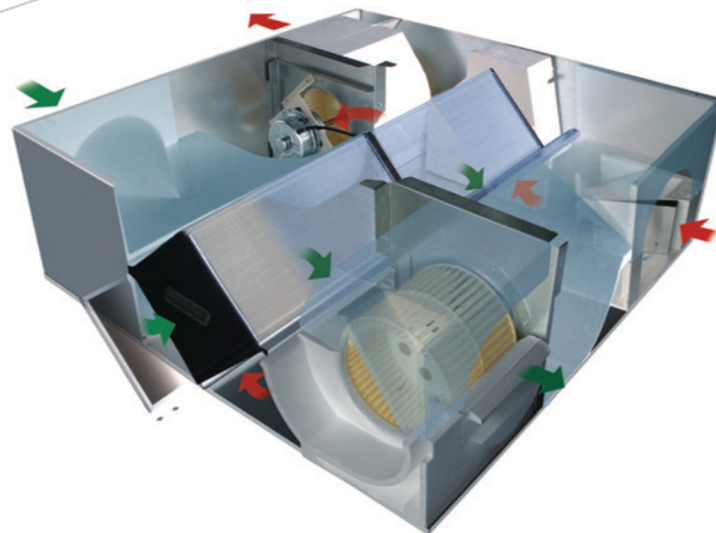
## Features



When air flow formed by exhaust air and outdoor air through the heat exchanged core in cross way, because of temperature difference in the two sides of flat partition board, the heat transmission is occurred.

In summer, outdoor air acquire cooling from air exhaust to decrease environment temperature; In winter, outdoor air acquire heating from air exhaust to increase temperature, that is to say, it realizing the energy recovery during air exhaust process to exchange the heating in heat exchanged core to outdoor air.

Application for: business office buildings, hotels, restaurants, meeting rooms, exhibition centres, leisure centres, workshop and other places.



## Specification

### Suspended type specification

Model name	Air flow M <sup>3</sup> /h	ESP Pa	Power input W	Power supply (V)	Temperature exchanging efficiency(%)		Enthalpy exchanging efficiency(%)		Noise dB(A)	Body dimension (WxDxH) mm	Weight kg	
					Cooling	Heating	Cooling	Heating				
QR-X02D	200	75	65	220V/1N/50Hz	60.0	65.0	50.0	55.0	30	666x580x264	25	
QR-X03D	300	75	130		60.0	65.0	50.0	55.0	33	744x599x270	27	
QR-X04D	400	80	200		60.0	65.0	50.0	55.0	35	744x804x270	30	
QR-X05D	500	80	220		60.0	65.0	50.0	55.0	38	824x904x270	41	
QR-X06D	600	90	242		60.0	65.0	50.0	55.0	40	824x904x270	42	
QR-X08D	800	100	410		60.0	65.0	50.0	55.0	42	1116x884x388	68	
QR-X10D	1000	150	510		60.0	65.0	50.0	55.0	43	1116x1134x388	82	
QR-X13D	1300	150	530		60.0	65.0	50.0	55.0	45	1116x1134x388	82	
QR-X15DS	1500	160	1000		380V/3N/50Hz	60.0	65.0	50.0	55.0	51	1600x1200x540	200
QR-X20DS	2000	170	1200			60.0	65.0	50.0	55.0	53	1650x1400x540	225
QR-X25DS	2500	180	2000	60.0		65.0	50.0	55.0	55	1430x1610x600	240	
QR-X30DS	3000	200	2100	60.0		65.0	50.0	55.0	57	1600x1700x640	270	
QR-X40DS	4000	220	2400	60.0		65.0	50.0	55.0	60	1330x1725x1050	265	
QR-X50DS	5000	240	3000	60.0		65.0	50.0	55.0	61	1660x1820x1050	280	
QR-X60WS	6000	290	3600	60.0		65.0	50.0	55.0	70	1660x1820x1050	310	
QR-X70WS	7000	310	4200	60.0		65.0	50.0	55.0	73	2060x1660x1168	360	
QR-X80WS	8000	320	6000	60.0		65.0	50.0	55.0	74	2060x1660x1168	382	
QR-X90WS	9000	340	7500	60.0		65.0	50.0	55.0	77	2310x1900x1200	500	
QR-X100WS	10000	400	8000	60.0	65.0	50.0	55.0	78	2310x1900x1200	534		

Notes: 1.Cooling test condition: indoor side 27°C DB, 19.5. WB ; outdoor fresh air 35°C DB, 28°C ;  
2.Heating test condition: indoor side 21°C DB, 13, WB outdoor fresh air 5°C DB, 2°C ;  
3.The above data may be changed without notice for future improvement on quality and performance.

## Heat Recovery Ventilator



# Floor Standing Unit



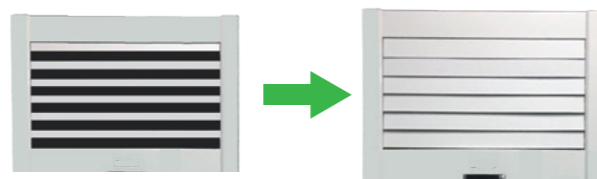
## Features

### Accessories

Plenum box	Air filter	EXV	Drain pump	AC Motor	DC Motor
/	Standard	Standard(built-in)	/	Standard	Optional

### Dust-proof design

When the unit is off, the louvers will close automatically.



### 3D air supply

Two step motors are built in, the air can be easily delivered to every corner of the room, provide comfortable living environment.

## Specification

Model name	Power type	Capacity				Motor input	Air flow			Sound level	ESP	Dimension(WxHxD)		Body Weight		Connecting pipe			Standard controller
		Cooling KW	Heating KW	CFM	Pa		Body mm	Packing mm	Net kg			Gross kg	Gas mm	Liquid mm	Drain mm				
CMV-V100F/HR1	50Hz	10	34.1	11	37.4														
CMV-V112F/HR1	50Hz	11.2	38	12.4	42.2														
CMV-V125F/HR1	50Hz	12.5	42.5	13.9	47.3	0.2	1620	953	53	/	613*1929*379	745*2080*510	56	72.5	Φ15.9	Φ9.53	Φ25	Remote controller	
CMV-V140F/HR1	50Hz	14	47.6	15.5	52.7														
CMV-V160F/HR1	50Hz	16	54.4	17.8	60.5														

Notes: 1. Power supply: 220~240V/1N/50Hz;  
 2. Cooling test condition: Indoor side 27°C DB, 19°C WB, outdoor side 35°C DB. Heating test condition: Indoor side 20°C DB, 15°C WB, outdoor side 7°C DB;  
 3. Sound level: measured at a point 1m in front of the unit at a height of 1.5m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.  
 4. The above data may be changed without notice for future improvement on quality and performance.



# Controllers & Software

## Wireless remote controllers

- Indoor unit address inquiry
- Indoor unit address setting
- Temperature setting

- Operation mode setting
- Fan speed setting
- Timer function

## Wired Controllers



- Bidirectional communication. Indoor unit's operating parameters (error code, temperature, address) can be inquired and displayed on the controller.
- Compact design
- Timer function

## Touch Screen Wired Controller

- Air filter cleaning reminding function.
- Touch screen with black background and white light
- Ultra thin body and stylish design meet high-end environments.
- On/off, temperature setting, fan speed setting, mode setting, timer and check function.



ZKX-C/T-07

## Simple Centralized Controller

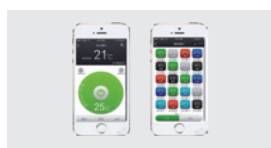


SP-D099

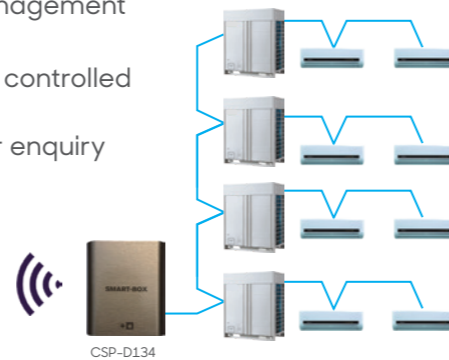
- Easy to install. Controller connects to outdoor units only.
- Able to install this controller after building decoration.
- 1 Controller can control max. 64 indoor units.
- Mode lock function, user can lock the running mode of indoor unit.

## CMV-SMART (Smart Centralized Control App)

- Available on iOS and Android
- Remote control via cloud server

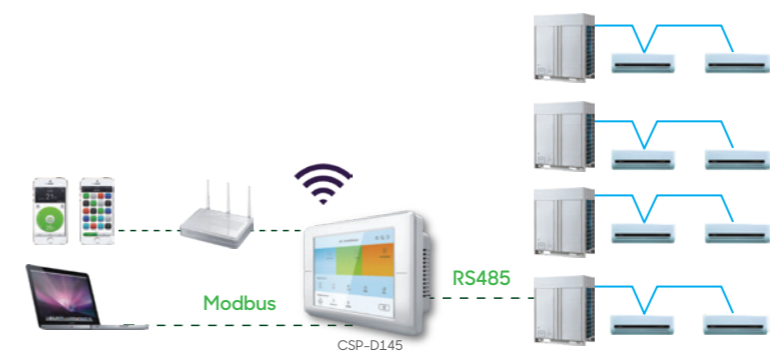


- Single unit controller or group control
- Weekly schedule management
- 64 indoor unit can be controlled
- Operation parameter enquiry



CSP-D134

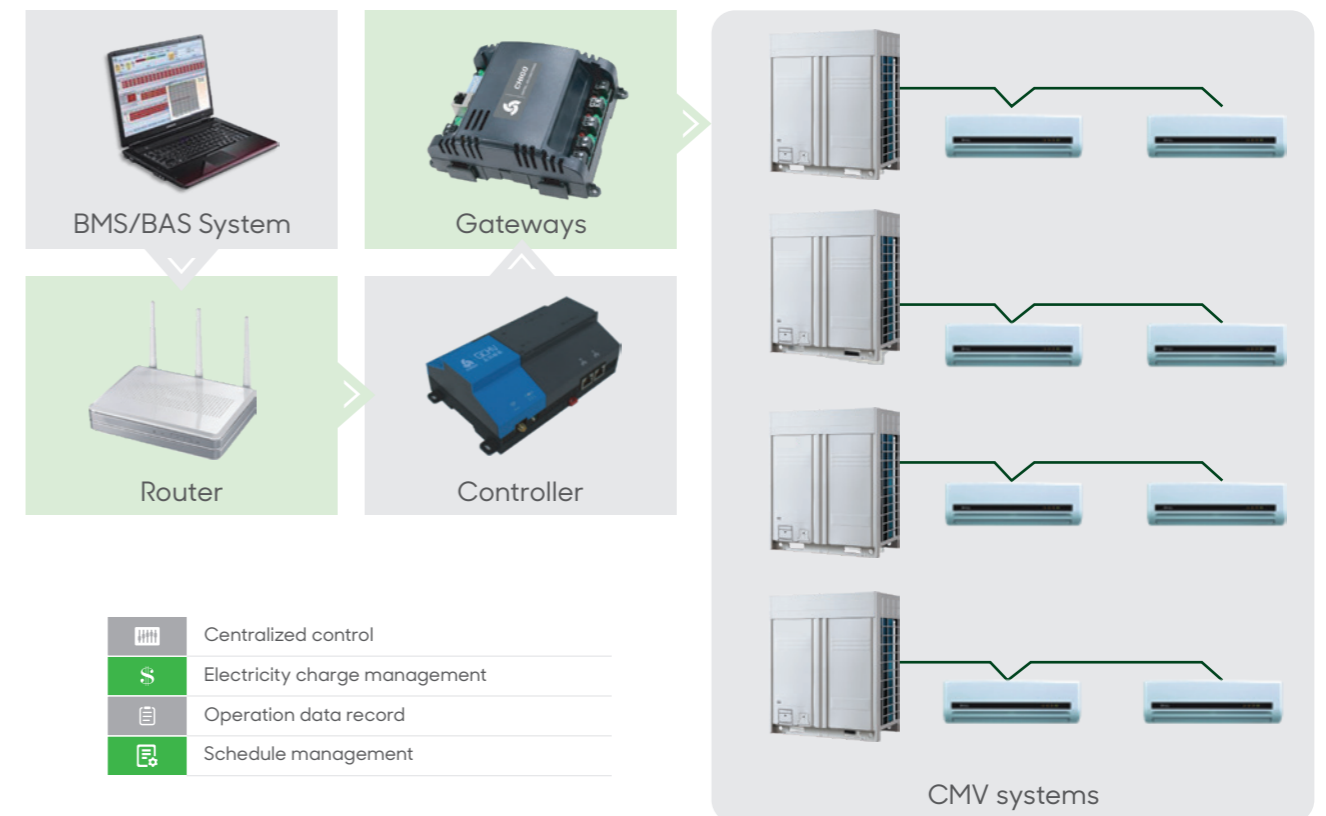
## Touch Screen Centralized Controller



CSP-D145

- Build in WIFI modular
- Build in Modbus protocol
- Weekly schedule management
- Operation parameter enquiry
- User friendly UI design

## CHV-NET (Centralized Control System)

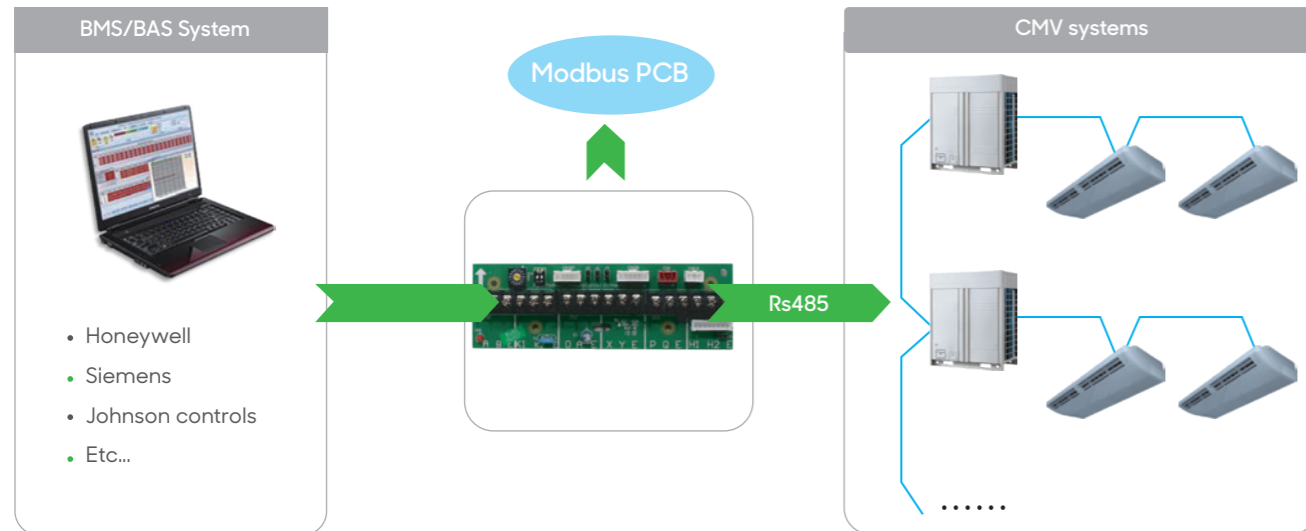


- Centralized control
- Electricity charge management
- Operation data record
- Schedule management

CMV systems

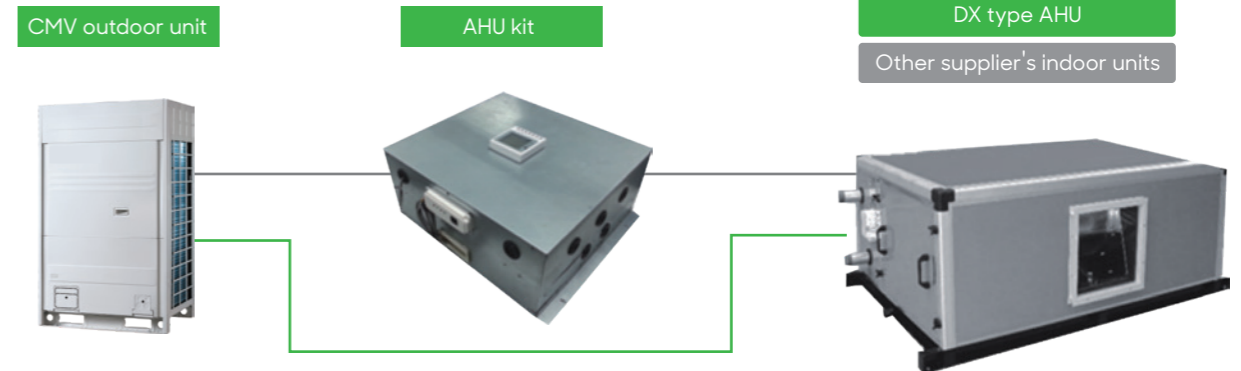
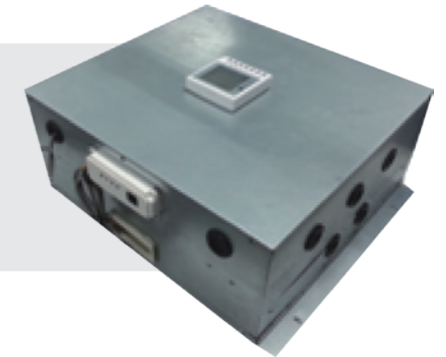
## BMS Gateway

- Modbus gateway | Outdoor unit built in with Modbus gateway can be customized
- BACnet gateway | Verified by BACnet International, fully compatible with all BACnet protocol product



## AHU Connection Kit

- Frikool AHU connection kit is an interface to allow 3rd party manufacturer's AHU connecting to Chigo VRF outdoor units.
- 4 basic modules: 5HP/10HP/20HP/30HP
- Can be combined into bigger capacity.

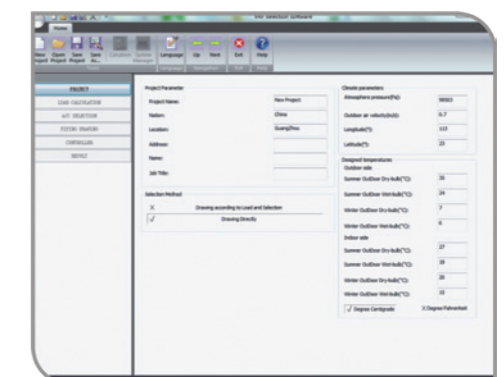
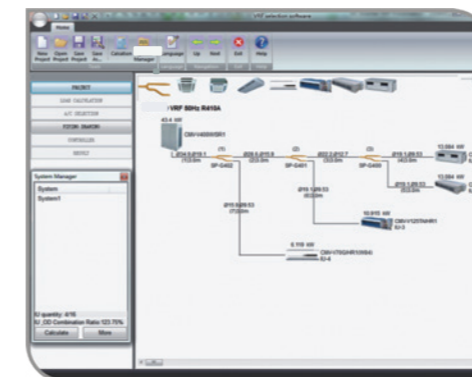


## Doctor Kit Pro

- Fast to install, easy to use
- All indoor/outdoor units data can be enquired
- Indoor unit can be long distance remote controlled and diagnosed



## VRF Selection Software Pro



# PROJECTS



PTT Istanbul office and operation center in Turkey, total VRF capacity 2500kw



Murtala Muhammed Airport Lagos, total VRF capacity 800KW.



Les salines shopping mall in Algeria, total VRF capacity 2000kw



SEB Bank in Kaunas, Lithuania with CMV-R/CMV-X/CMV-MINI VRF system