

HYUNDAI
AIR CONDITIONER



HYUNDAI
AIR CONDITIONER

HYUNDAI
CATALOGUE

PRODUCT
R410a

INTERNATIONAL AIR CONDITIONER JOINT STOCK COMPANY

📍 1st Floor, Block A, Thanh Dong Tower, No.19 To Huu Street,
Trung Van Ward, Nam Tu Liem District, Hanoi City, Vietnam

☎ 1900 636 659

✉ info@hyundaiaci.com.vn

🖱 www.hyundaiaci.com.vn





Enthalpy Difference Lab



Laboratory Control Room



200kg Transport Simulation Platform



Professional Engineers



EMC Lab



Noise Test Lab



200HP Long-term Running Lab



Modular Chiller Test Lab



Electromagnetic Vibration Lab

HYUNDAI has more than 200 technical engineers. And carry out technology collaboration and joint research with postdoctoral research workstations, at the same time, introducing senior technical experts from Japan to join HVM and served as senior technical consultants, HVM pay great attention in R&D and invest 4.5% of annual income every year to develop new technology, by continuous innovation, HVM has established a solid development foundation and strength in performance, structure, electronic control, industrial design and other professional aspects.

The test center covers an area of more than 6,000 square meters. It has a series of industry-leading professional laboratories. In 2010, it passed the consistency check of the National Energy Efficiency Label Management Center and obtained certificate, in 2018, the test center obtained CNAS national certification

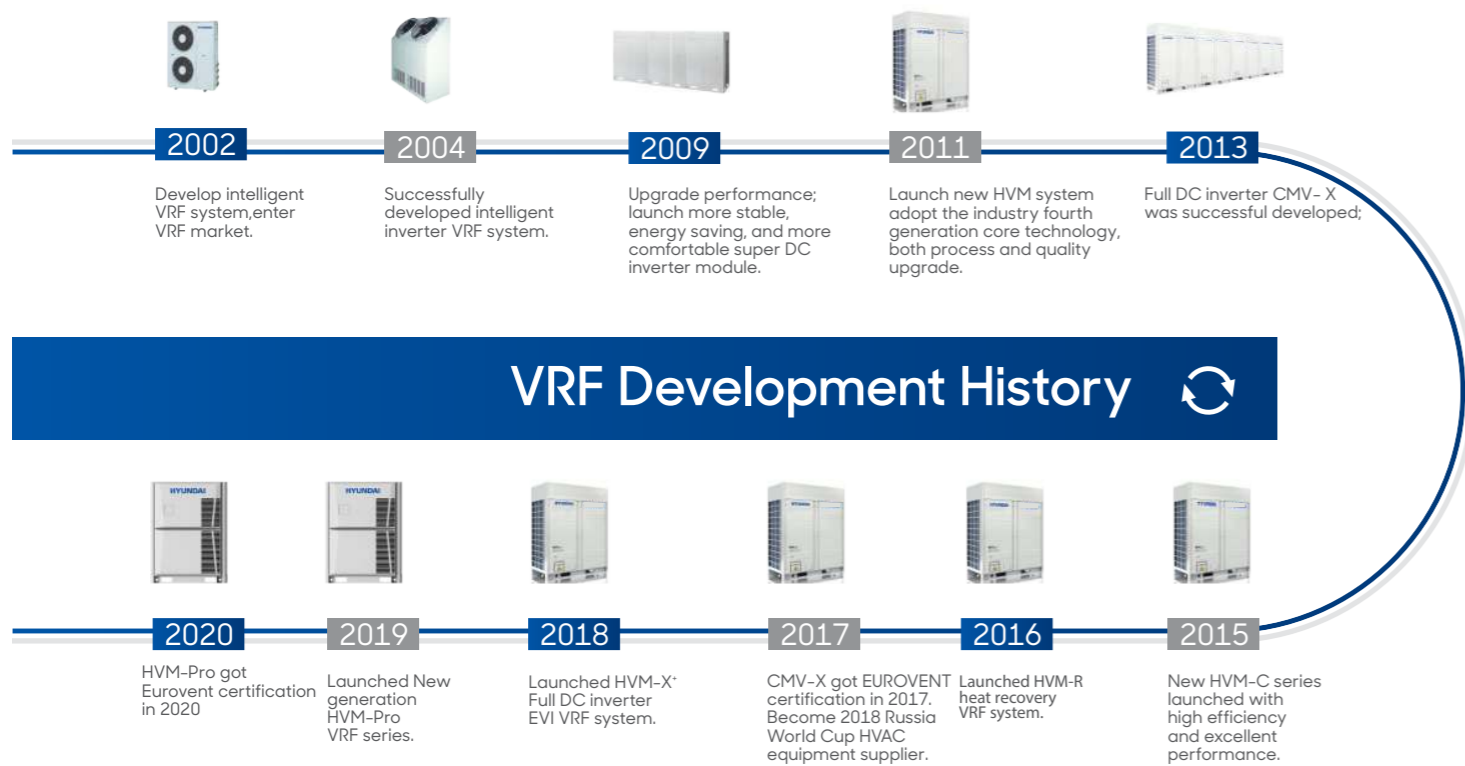
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HYUNDAI AIR CONDITIONER

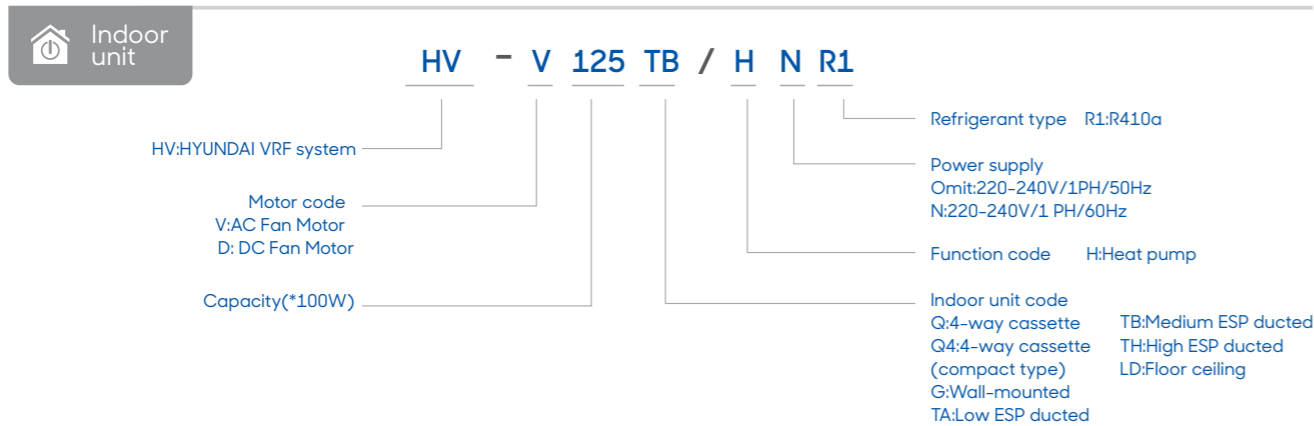
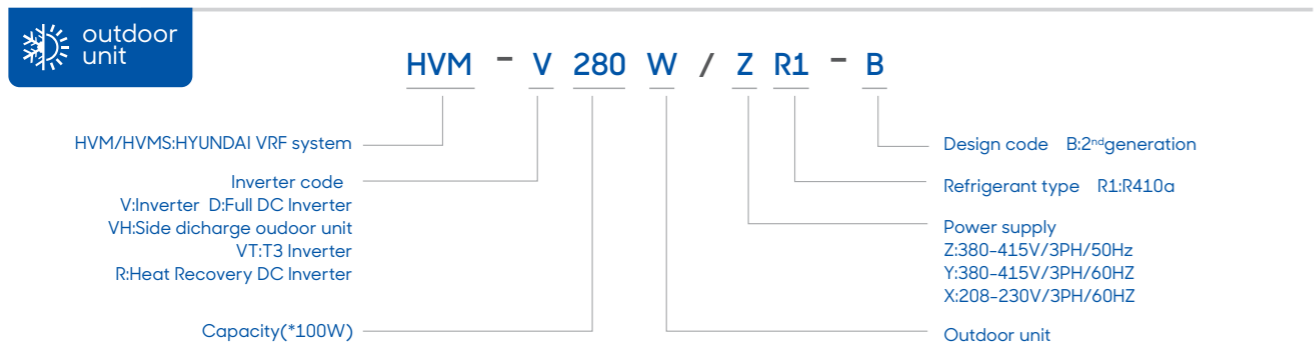
380~415V/3N/50Hz&60Hz
New Generation Full DC Inverter EVI VRF



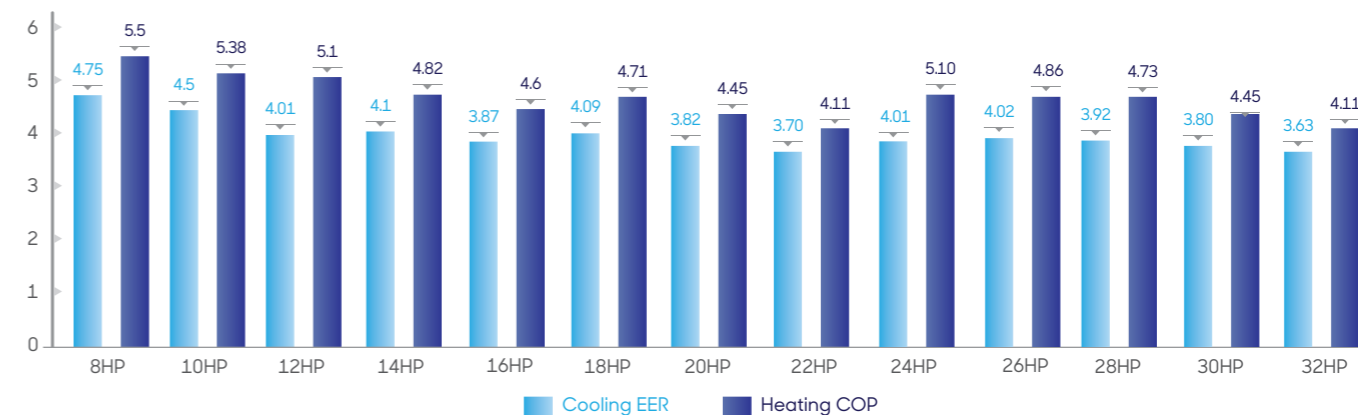
13 Basic Modules

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

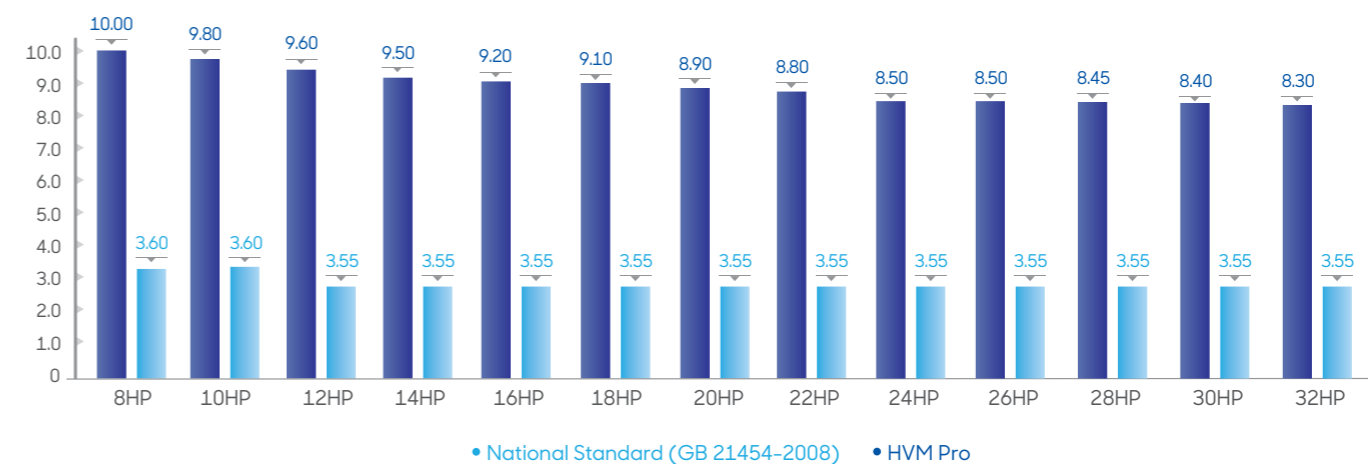
How To Read The Model Name



EER&COP



IPLV(C)



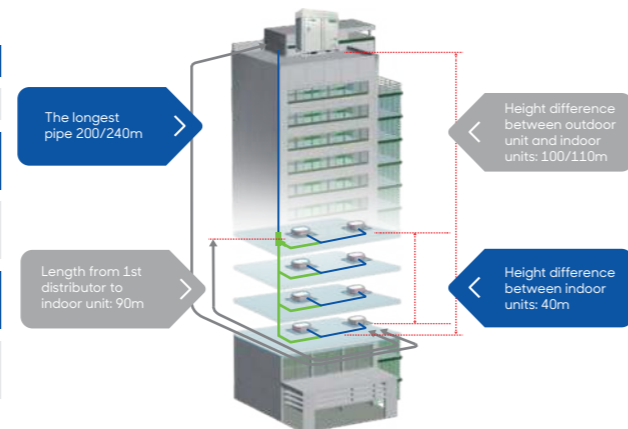
Combination Table

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	78.5											●		
30	85												●	
32	90													●
34	95					●								
36	100						●							
38	106.5							●						
40	111.5								●					
42	117.5									●				
44	123										●			
46	128.5											●		
48	134												●	
50	140													●
52	145.5													
54	152													
56	157													
58	163													
60	168.5													
62	175													
64	180													
66	184.5													
68	190													
70	195.5													
72	201.5													
74	207													
76	212.5													
78	218.5													
80	224													
82	230													
84	235.5													
86	242													
88	247													
90	253													
92	258.5													
94	265													
96	270													

*Note: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.

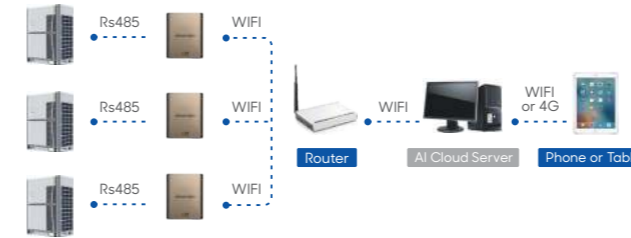
Long Piping & Height Difference

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.



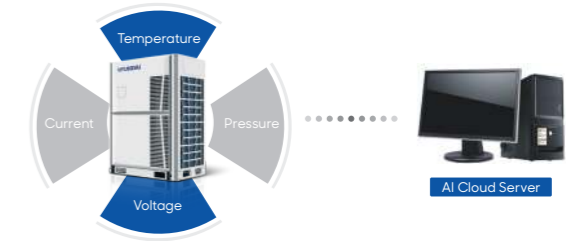
Features

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.



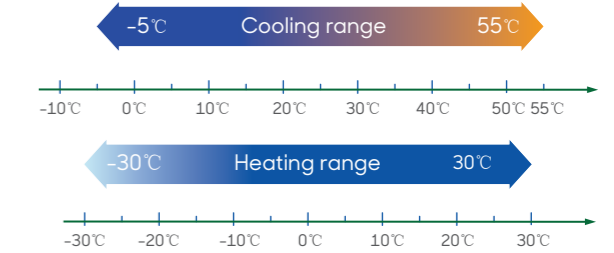
Refrigerant Cooling Design

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.



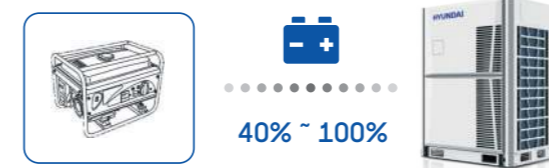
Wide Outdoor Operation Range

- 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)

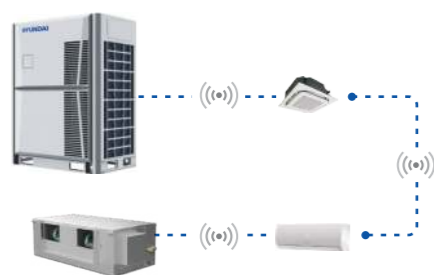


In case of end user doesn't pay as contract, electrical lock function can be used to stop VRF system, and end user can not start the system without permission.

System can be unlock with password by authorized technician.

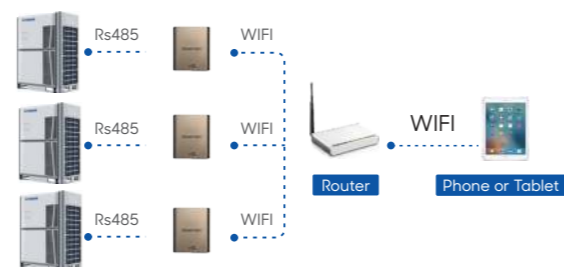
Wireless Communication(optional)

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



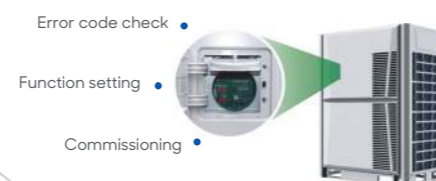
On Site Diagnosis

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



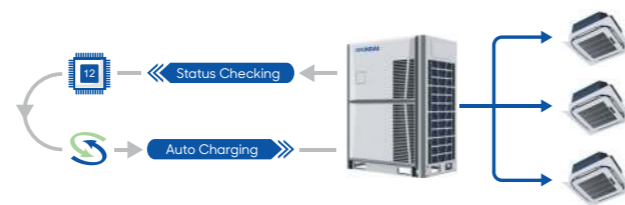
Service Window On Front Cover

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.

1 High Efficiency

2 Benefits For Users

3 Benefits For Installers

Advantages



1 High Efficiency

Low carbon life advocate

GCHV 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

Brushless DC Motor

- High efficiency
- Low noise

180° Sine Wave Control

- High precision rotor speed control

Stepless Control

- On-demand output, high efficiency and energy saving

CCT Inner-grooved Tube

- Excellent heat-exchanging efficiency

2-in-1 Refrigerant Flow Path

- Increase the liquid refrigerant volume proportion

Cross Flow Fins

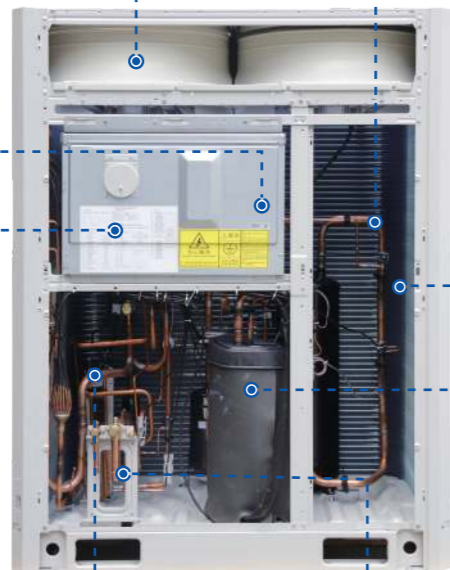
- Enhance the supercool of refrigerant to increase system's efficiency

DC Inverter Compressors

- High pressure type
- Asymmetric scroll design
- Neodymium permanent Magnet rotor

Supercooling Design

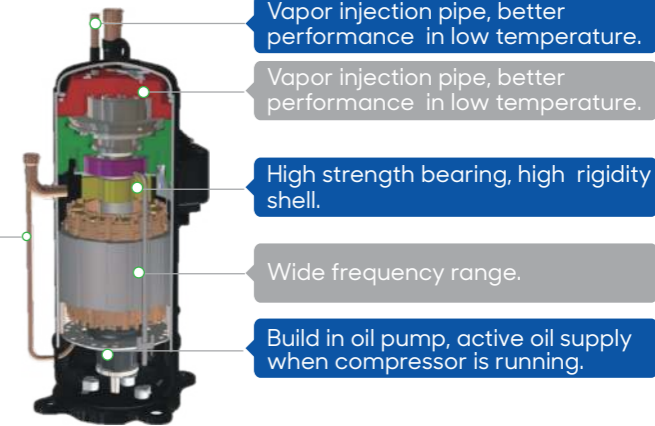
- Reduce air resistance
- Frosting improved



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

Oil balance design, pump extra oil to other compressor.



Vapor injection pipe, better performance in low temperature.

Vapor injection pipe, better performance in low temperature.

High strength bearing, high rigidity shell.

Wide frequency range.

Build in oil pump, active oil supply when compressor is running.

Neodymium permanent magnet rotor

Powerful magnetic force, large force moment and high efficiency.

Ferrite magnet Neodymium permanent magnet

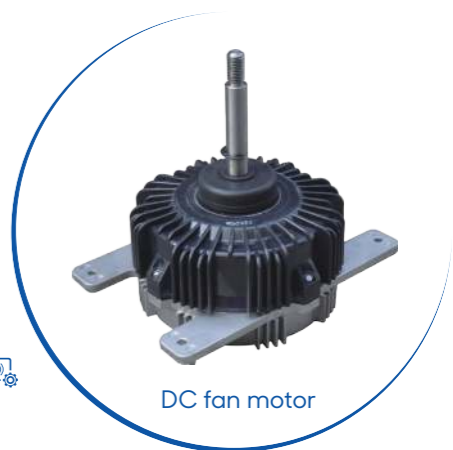
Concentrated winding

Magnetic efficiency is 12% higher than distributed winding

Concentrated winding Distributed winding

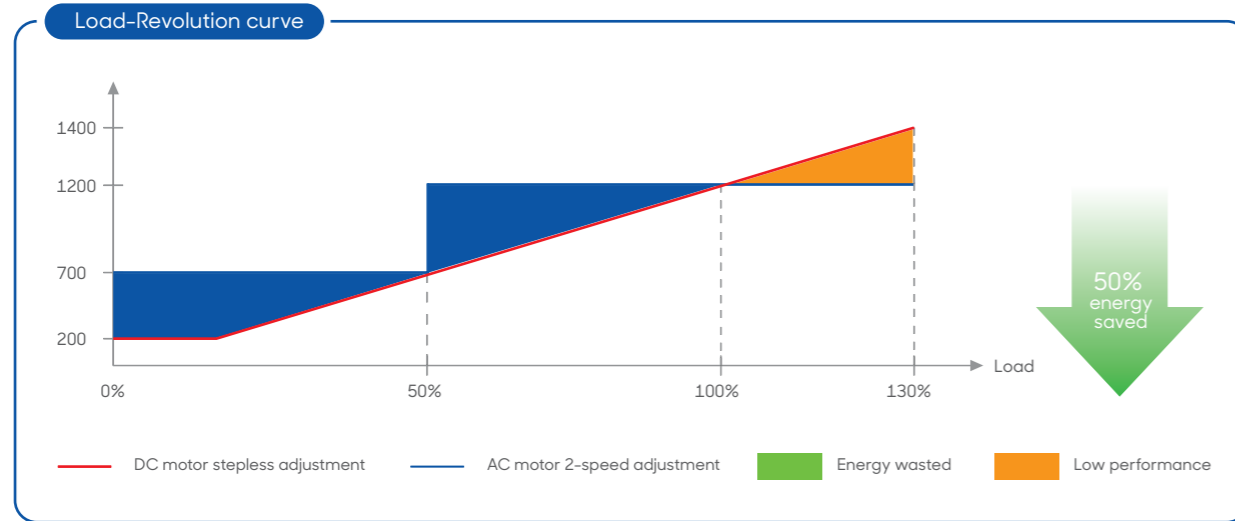
High Efficiency DC Motor

- 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.



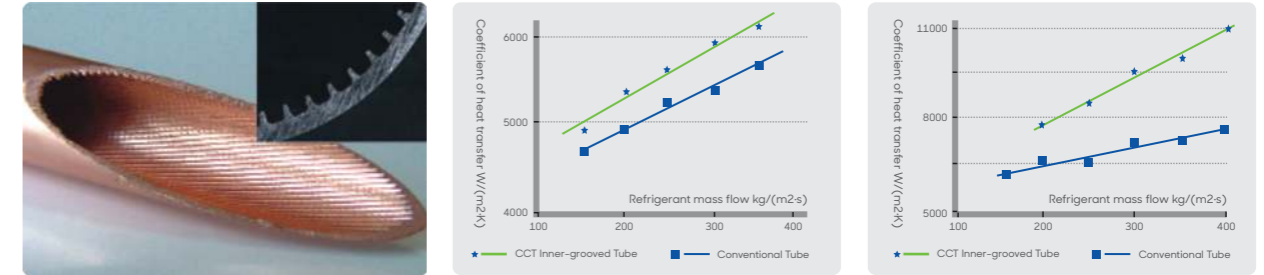
Stepless Control

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.

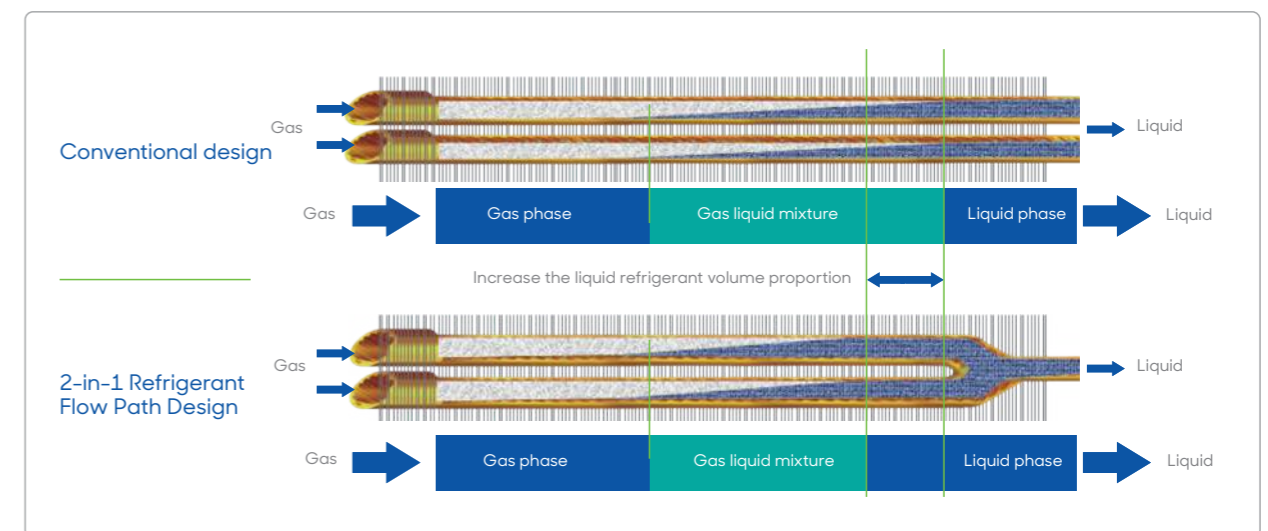
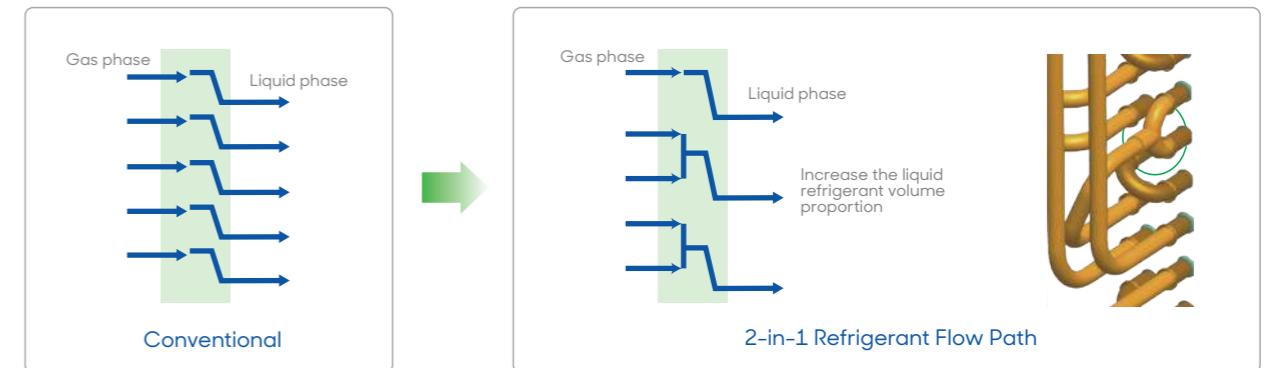


CCT Inner-grooved Tube

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.

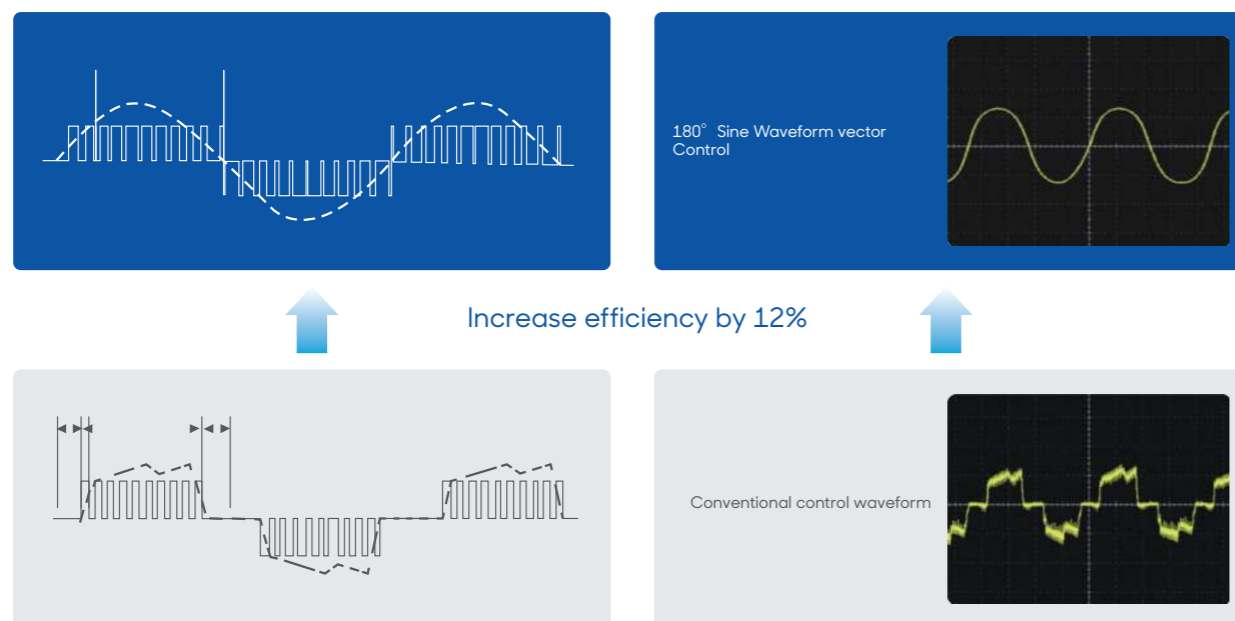


2-in-1 Refrigerant Flow Path Design



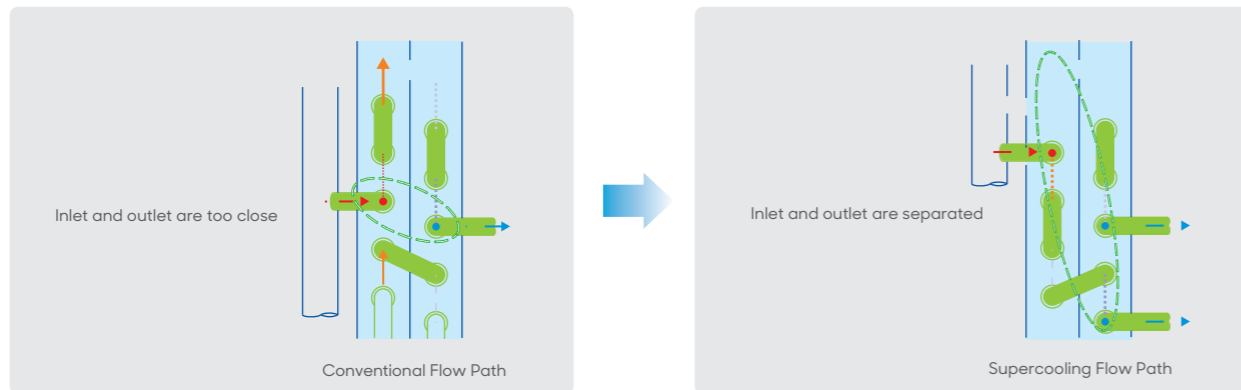
180° Sine Waveform Control

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%.



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.



Benefits For Users

2

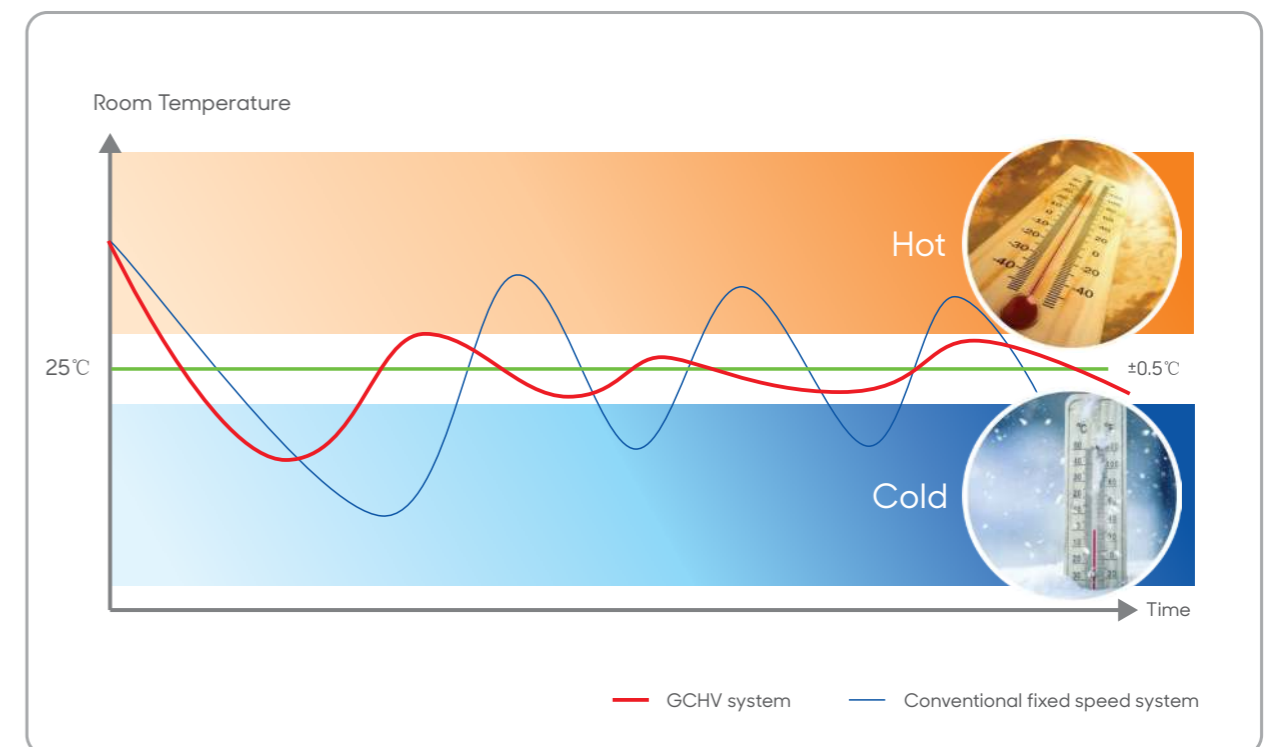
Livable environment creator

GCHV focuses 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.....



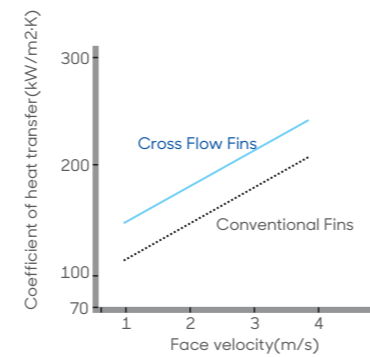
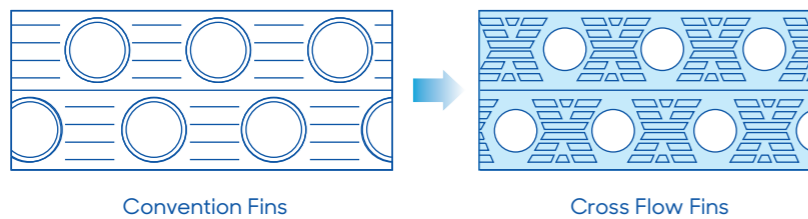
Outstanding Comfort Ability

- GCHV 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.



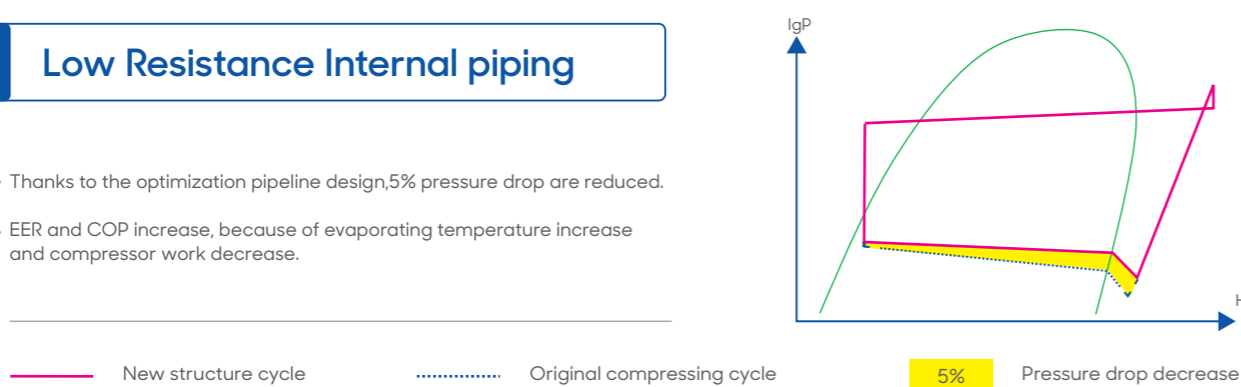
Cross Flow Fins

- 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.



Wide Operation Range

- Due to EVI technology, CHV PRO's 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 .



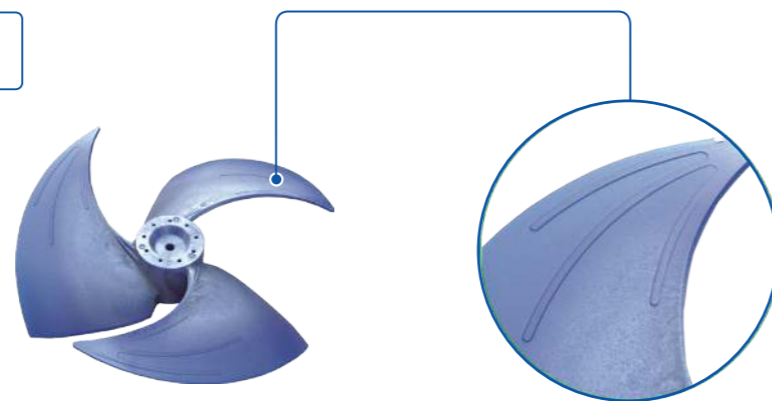
7 Improvements To Reduce Noise

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



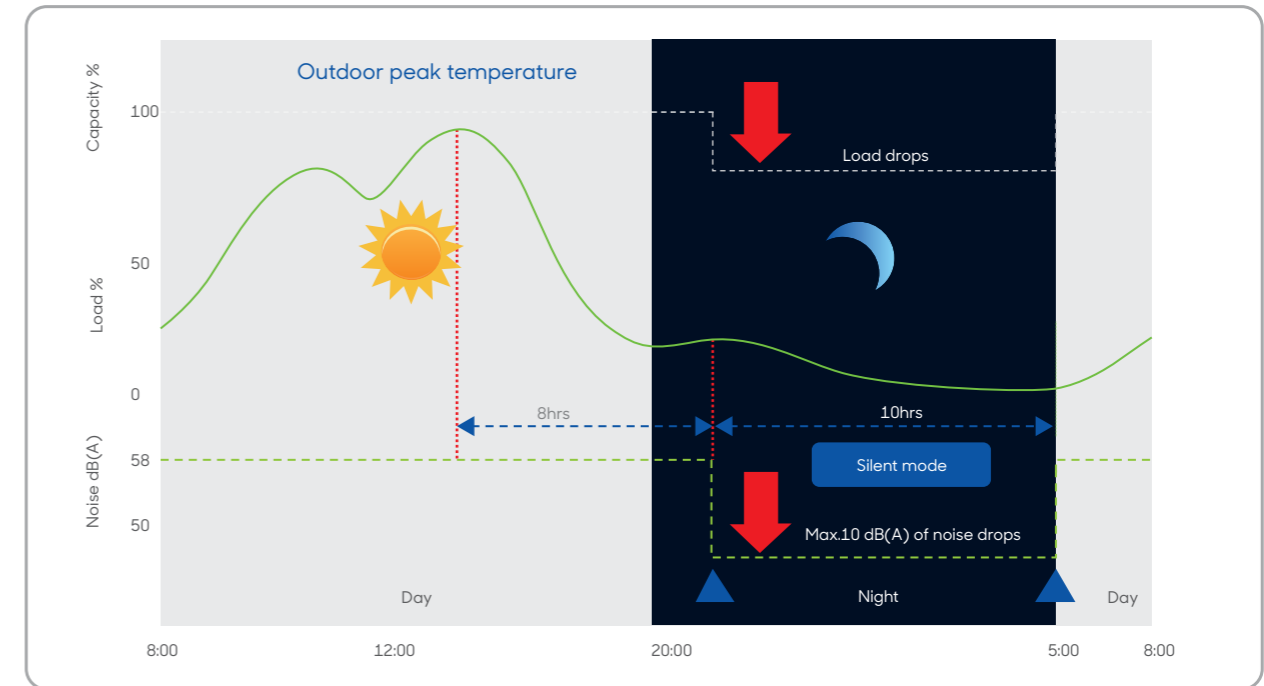
Low Noise Fan Blade

- 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.



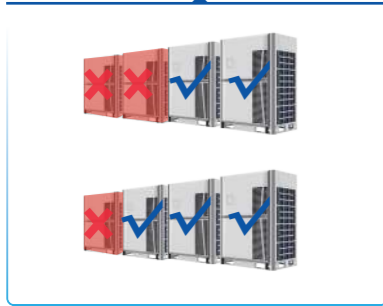
◀ PHE Economizer

The PHE economizer need customization.

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.

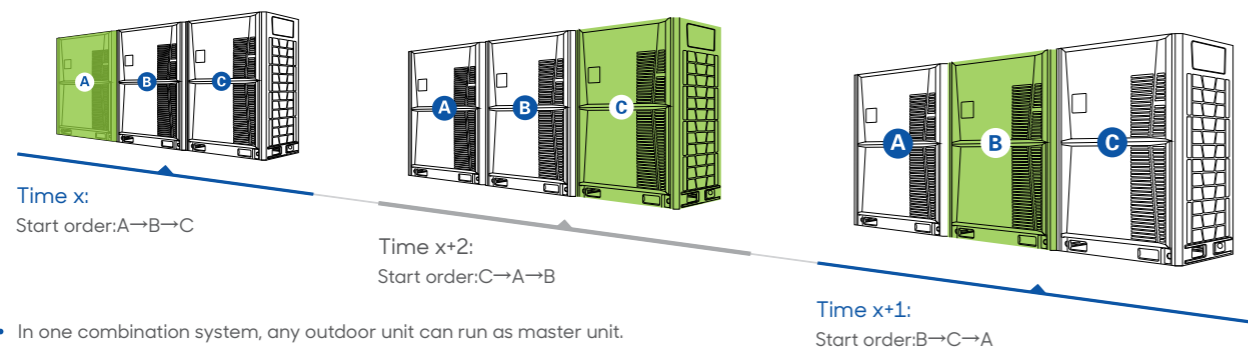


Fan motor back up function.

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



All Outdoor Units Cycle Operation



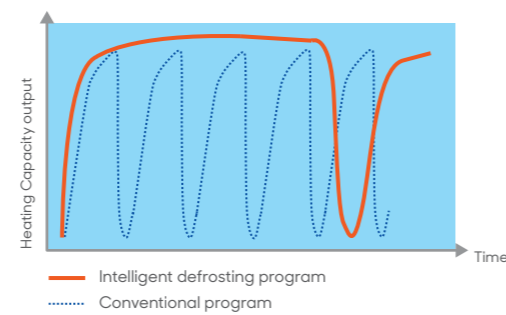
- In one combination system, any outdoor unit can run as master unit.
- Balance the lifespan among outdoor units in one system.

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.

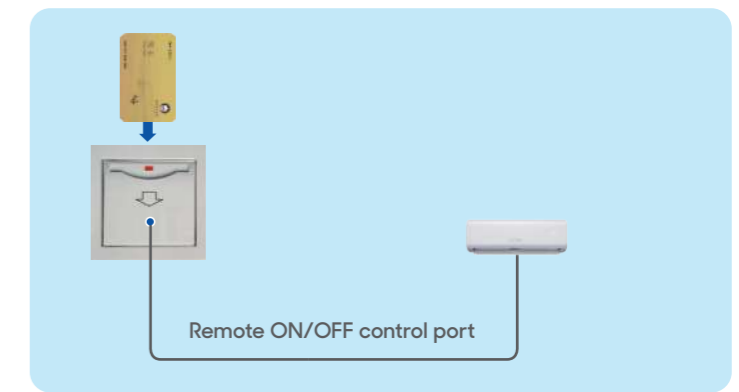
Defrost Curve

- 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.



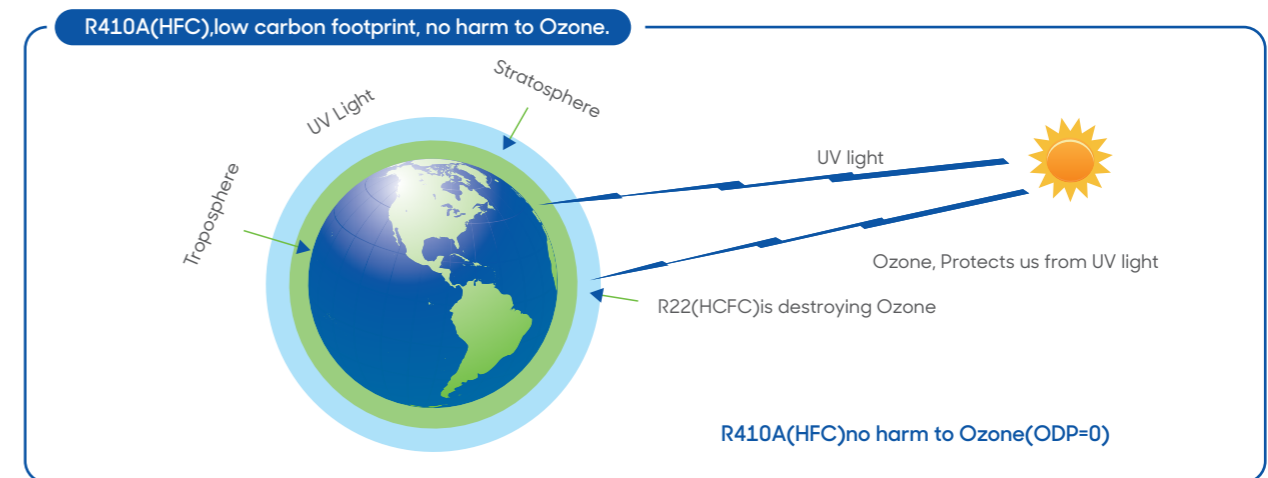
Emergency Stop Operation Function

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.





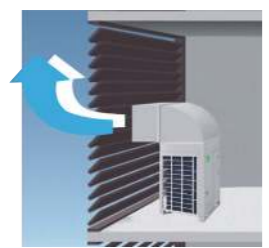
3

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.

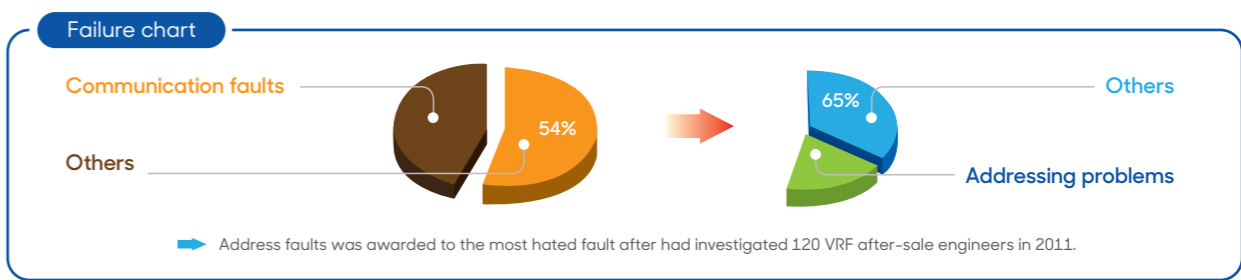
Addressing Methods



- 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.

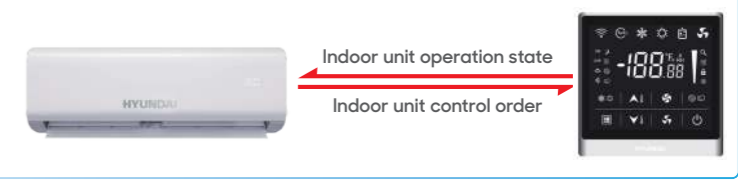
Automatic Addressing

- 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.



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.

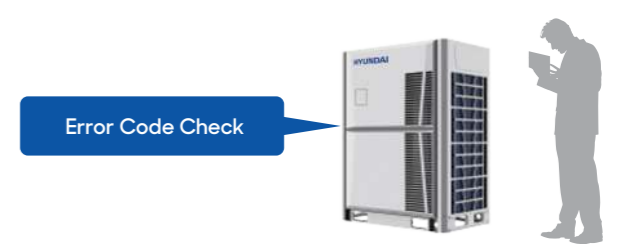


- Record error code list at main PCB chip, easy for service people to check.



Service Window

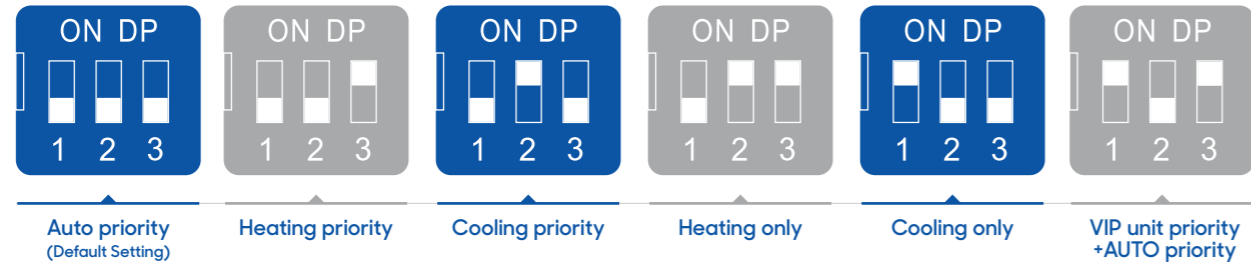
Thanks to the service window, checking outdoor unit's status and setting is now easy, no need to remove the electric control box cover.



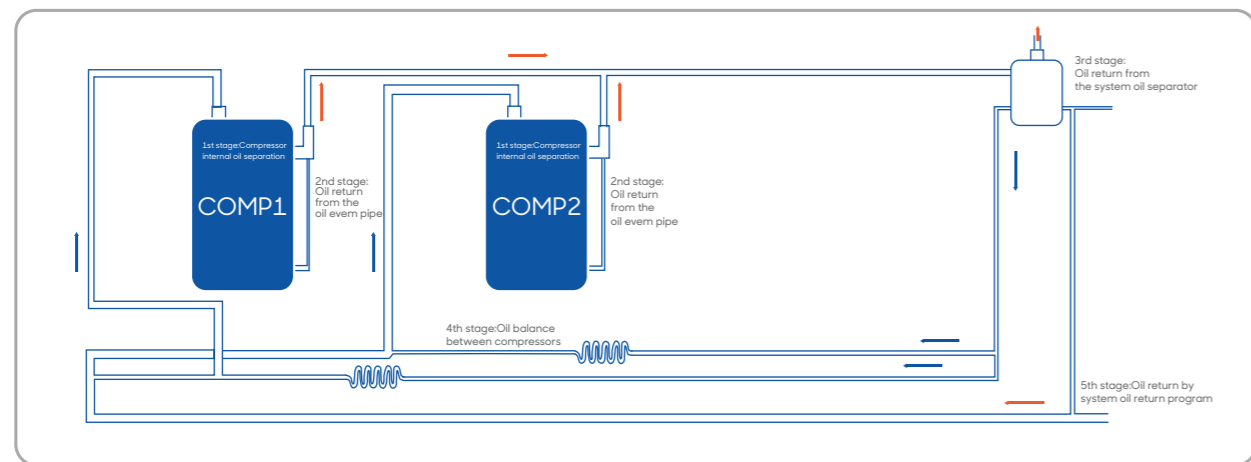
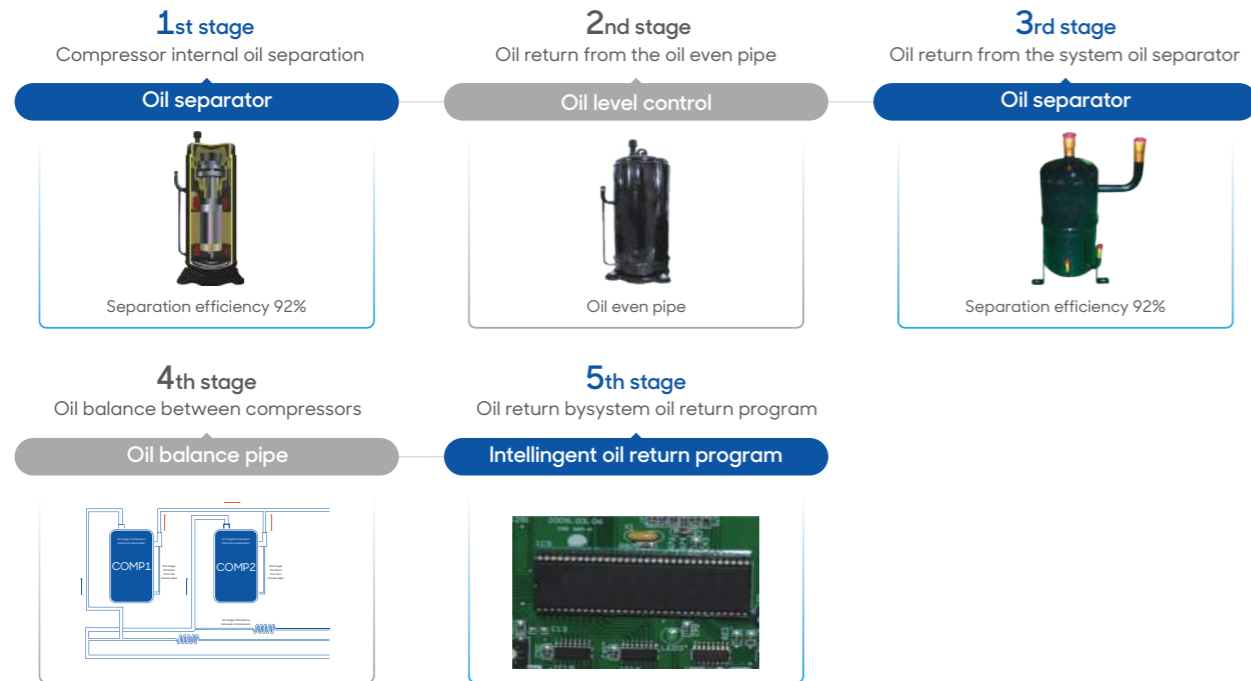
Mode Restriction

- 6 kinds of mode restriction
- Auto priority(Default Setting) • Cooling(or heating)priority mode. • Cooling only(or heating only)mode. • VIP unit priority+AUTO priority mode

• Mode restriction function can be selected on the outdoor PCB.



5-Stage Oil Control



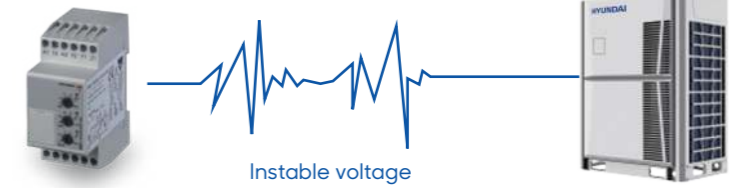
Humanized Internal Structure



- 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.

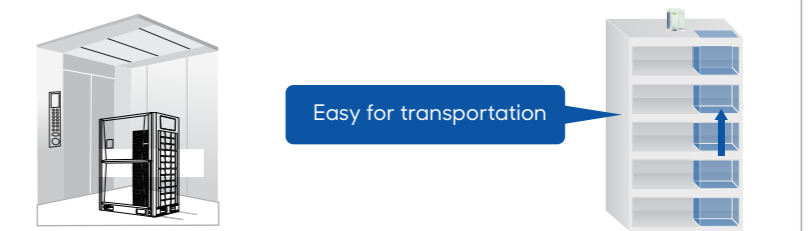
3-Phase Power Protector(Optional)

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.



Model Name			HVE-252H/OZ-K	HVE-280H/OZ-K	HVE-335H/OZ-K	HVE-400H/OZ-M	HVE-450H/OZ-M
Power Supply			380~415V/3N/50&60Hz	380~415V/3N/50&60Hz	380~415V/3N/50&60Hz	380~415V/3N/50&60Hz	380~415V/3N/50&60Hz
Performance Data							
Cooling	Capacity	HP	8HP	10HP	12HP	14HP	16HP
		kW	T1:25.2/T3:22.2	T1:27.9/T3:24.6	T1:33.3/T3:28.2	T1:39.9/T3:33.6	T1:45/T3:37.2
	Btu/h	RT	T1:86000/T3:76000	T1:95000/T3:84000	T1:114000/T3:96000	T1:136000/T3:114000	T1:154000/T3:126000
		RT	T1:7.2/T3:6.4	T1:8.0/T3:7.03	T1:9.5/T3:8.06	T1:11.4/T3:9.6	T1:12.8/T3:10.6
	Rated current	A	T1:10.9/T3:12.0	T1:12.2/T3:13.6	T1:14.7/T3:16.1	T1:17.6/T3:19.4	T1:20.6/T3:21.8
	Power input	kW	T1:6.8/T3:7.5	T1:7.6/T3:8.5	T1:9.2/T3:10.05	T1:11.0/T3:12.10	T1:13.0/T3:13.60
EER	W/W	T1:3.71/T3:2.97	T1:3.66/T3:2.89	T1:3.63/T3:2.80	T1:3.62/T3:2.75	T1:3.47/T3:2.71	
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%						
Compressor Data							
Compressor	Quantity	1					
	Type	Scroll Compressor					
	Brand	HITACHI					
Physical Data							
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					
Piping Data							
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		
Operation Temperature Range							
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		

Model Name			HVE-500H/OZ-M	HVE-560H/OZ-M	HVE-615H/OZ-M	HVE-670H/OZ-S	HVE-730H/OZ-S	HVE-785H/OZ-S	HVE-850H/OZ-S	HVE-900H/OZ-S		
Power Supply			380~415V/3N/50&60Hz	380~415V/3N/50&60Hz	380~415V/3N/50&60Hz	380~415V/3N/50&60Hz	380~415V/3N/50&60Hz	380~415V/3N/50&60Hz	380~415V/3N/50&60Hz	380~415V/3N/50&60Hz		
Performance Data												
Cooling	Capacity	HP	18HP	20HP	22HP	24HP	26HP	28HP	30HP	32HP		
		kW	T1:50/T3:41.5	T1:56/T3:46	T1:61.5/T3:49	T1:67/T3:53.4	T1:73/T3:57.9	T1:78.5/T3:61.8	T1:85/T3:66.7	T1:90/T3:70.4		
	Btu/h	RT	T1:170000/T3:142000	T1:192000/T3:156000	T1:208000/T3:168000	T1:228600/T3:182000	T1:249100/T3:197700	T1:267800/T3:21090	T1:290000/T3:227500	T1:307100/T3:240000		
		RT	T1:14.3/T3:11.6	T1:16/T3:13.1	T1:17.6/T3:14	T1:19.1/T3:15.10	T1:20.8/T3:16.5	T1:22.3/T3:17.6	T1:24.2/T3:19.0	T1:25.6/T3:20		
	Rated current	A	T1:22.9/T3:24.6	T1:25.7/T3:27.3	T1:28.2/T3:28.9	T1:34.3/T3:35.6	T1:37.4/T3:38.7	T1:40.0/T3:41.4	T1:43.5/T3:44.9	T1:46.3/T3:47.5		
	Power input	kW	T1:14.3/T3:15.5	T1:16.2/T3:17.05	T1:17.55/T3:18.16	T1:21.48/T3:22.3	T1:23.43/T3:24.26	T1:25.2/T3:25.9	T1:27.2/T3:28.1	T1:28.97/T3:29.7		
EER	W/W	T1:3.49/T3:2.68	T1:3.47/T3:2.68	T1:3.47/T3:2.71	T1:3.12/T3: 2.39	T1:3.11/T3: 2.39	T1:3.11/T3:2.39	T1:3.10/T3: 2.37	T1:3.10/T3: 2.37			
Heating	Capacity	kW	56.0	63.0	69.0	75.0	81.5	87.5	95.0	100.0		
		Btu/h	191000	214900	235400	255900	278100	298600	324100	341200		
	RT	16.0	18.0	19.7	21.3	23.2	24.86	27.0	28.4			
	Rated current	A	22.61	25.70	28.40	28.65	30.28	33.38	38.52	43.9		
	Power input	kW	11.89	14.16	16.80	14.72	16.78	18.50	21.35	24.33		
COP	W/W	4.71	4.45	4.11	5.10	4.86	4.73	4.45	4.11			
Max. input consumption	kW	22.0	24.4	25.0	26.2	30.7	30.7	35.8	37.7			
Max. Current	A	37.4	41.1	42.1	43.2	50.8	51.8	60.4	63.6			
Capacity adjustment range	50%~130%											
Compressor Data												
Compressor	Quantity	1				2						
	Type	Scroll Compressor				Scroll Compressor			Scroll Compressor			
	Brand	HITACHI				HITACHI			HITACHI			
Physical Data												
Refrigerant	Type	R410a										
	Volume	kg	15	16	20	23						
	Throttle type	EXV										
Dimension (WxHxD)	Net	mm	1340x1740x840			1990x1740x840						
	Packing	mm	1410x1900x910			2060x1900x910						
Weight	Net	kg	285	290	297	388	433	480				
	Gross	kg	303	308	315	406	452	498				
Outdoor sound level	dB(A)	62	63	63	62	63	64					
Max. operating range	Mpa	4.5										
Piping Data												
Pipe size	Liquid pipe	mm	Φ15.88			Φ22.2						
	Gas pipe	mm	Φ28.6			Φ35.0						
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						
Operation Temperature Range												
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°C to 55°C (It can be customized down to -10°C). Heating operating temperature range from -30°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 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.

Model Name			HVC-D252C/OZ-K	HVC-D280C/OZ-K	HVC-D335C/OZ-K	HVC-D400C/OZ-M	HVC-D450C/OZ-M	
Power Supply			380*415V/3N/50&60Hz	380*415V/3N/50&60Hz	380*415V/3N/50&60Hz	380*415V/3N/50&60Hz	380*415V/3N/50&60Hz	
Performance Data								
Cooling	Capacity	HP	8HP	10HP	12HP	14HP	16HP	
		kW	T1:25.2/T3:21.5	T1:28/T3:23.8	T1:33.5/T3:28.4	T1:40/T3:34.1	T1:45/T3:38.3	
	Btu/h	T1:86000/T3:73106	T1:95500/T3:81229	T1:114000/T3:97184	T1:136500/T3:116041	T1:153500/T3:130546		
	RT	T1:7.2/T3:6.09	T1:8/T3:6.77	T1:9.5/T3:8.10	T1:11.4/T3:9.67	T1:12.8/T3:10.9		
	Power input	kW	T1:5.86/T3:6.46	T1:6.79/T3:7.59	T1:9.18/T3:10.01	T1:10.50/T3:11.55	T1:12.20/T3:12.76	
EER	W/W	T1:4.3/T3:3.31	T1:4.12/T3:3.13	T1:3.65/T3:2.85	T1:3.8/T3:2.94	T1:3.68/T3:3.00		
Rated. input consumption		kW	13.90	14.10	14.60	17.96	18.34	
Rated. current		A	24.0	24.5	25.2	30.2	31.0	
Capacity adjustment range			50%~130%					
Compressor Data								
DC Inverter compressor	Quantity		1					
	Type		DC /Twin-rotary					
	Brand		Mitsubishi					
	Frequency range	Hz	20~102	20~106	20~108	20~106	20~108	
Physical Data								
Refrigerant	Type		R410a					
	Volume	kg	10		12.5			
Dimension (DxHxW)	Net	mm	840x1740x990			840x1740x1340		
	Packing	mm	910x1900x1060			910x1900x1410		
Weight	Net	kg	210		260			
	Gross	kg	220		278			
Outdoor sound level		dB(A)	58	60		61		
Maximum operating pressure		MPa	4.5					
Piping & Wiring Data								
Pipe size	Liquid pipe	mm	Φ12.7			Φ15.9		
	Gas pipe	mm	Φ22.2			Φ28.6		
Max. pipe length	Total pipe length	m	1000					
	From OU to farthest IU (Actual length)	m	200					
	From OU to farthest IU (Equivalent length)	m	240					
	From 1st indoor distributor to farthest IU	m	90					
Max. Vertical length	Between OU & IU (OU above IU)	m	100					
	Between OU & IU (OU below IU)	m	110					
	Between IUs	m	40					
	Between Ous	m	0					
Operation Temperature Range								
Cooling	Outdoor side	℃	-15~55					
	Indoor side	℃	16~32					

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

HVC-D500C/OZ-M			HVC-D560C/OZ-M			HVC-D615C/OZ-M			HVC-D670C/OZ-M			HVC-D730C/OZ-S			HVC-D800C/OZ-S			HVC-D850C/OZ-S		
Power Supply			380*415V/3N/50&60Hz			380*415V/3N/50&60Hz			380*415V/3N/50&60Hz			380*415V/3N/50&60Hz			380*415V/3N/50&60Hz			380*415V/3N/50&60Hz		
Performance Data																				
Cooling	Capacity	HP	18HP	20HP	22HP	24HP	26HP	28HP	30HP											
		kW	T1:50/T3:42.4	T1:56/T3:47.7	T1:61.5/T3:52.28	T1:67/T3:57	T1:73/T3:62	T1:78.5/T3:66.73	T1:85/T3:72.3											
	Btu/h	T1:170600/T3:145051	T1:191000/T3:162457	T1:209800/T3:178413	T1:228600/T3:194369	T1:249100/T3:211775	T1:267800/T3:227730	T1:290000/T3:246587												
	RT	T1:14.2/T3:12.08	T1:16/T3:13.53	T1:17.5/T3:14.86	T1:19.1/T3:16.19	T1:20.8/T3:17.64	T1:22.3/T3:18.97	T1:24.2/T3:20.54												
	Power input	kW	T1:15.1/T3:16.37	T1:17.6/T3:18.52	T1:20.36/T3:21.09	T1:20.80/T3:21.60	T1:23.10/T3:23.92	T1:25.49/T3:26.19	T1:29.11/T3:30.07											
EER	W/W	T1:3.31/T3:2.60	T1:3.18/T3:2.57	T1:3.02/T3:2.48	T1:3.22/T3:2.64	T1:3.16/T3:2.59	T1:3.08/T3:2.55	T1:2.92/T3:2.40												
Rated. input consumption		kW	18.74	25.90	27.80	29.50	32.00	32.00	36.50											
Rated. current		A	32.0	46.6	47.5	51.0	53.00	53.00	63.00											
Capacity adjustment range			50%~130%																	
Compressor Data																				
DC Inverter compressor	Quantity		1					2												
	Type		DC /Twin-rotary																	
	Brand		Mitsubishi																	
	Frequency range	Hz	20~110	20~106				20~110												
Physical Data																				
Refrigerant	Type		R410a																	
	Volume	kg	12.5	16.5			18.0		20.0		25.0									
Dimension (DxHxW)	Net	mm	840x1740x1340			840x1740x1990														
	Packing	mm	910x1900x1410			910x1900x2060														
Weight	Net	kg	260	298		306		358		410										
	Gross	kg	278	316		324		376		428										
Outdoor sound level		dB(A)	62	63		65		66		67										
Maximum operating pressure		MPa	4.5																	
Piping & Wiring Data																				
Pipe size	Liquid pipe	mm	Φ15.9			Φ22.2														
	Gas pipe	mm	Φ28.6			Φ35														
Max. pipe length	Total pipe length	m	1000																	
	From OU to farthest IU (Actual length)	m	200																	
	From OU to farthest IU (Equivalent length)	m	240																	
	From 1st indoor distributor to farthest IU	m	90																	
Max. Vertical length	Between OU & IU (OU above IU)	m	100																	
	Between OU & IU (OU below IU)	m	110																	
	Between IUs	m	40																	
	Between Ous	m	0																	
Operation Temperature Range																				
Cooling	Outdoor side	℃	-15~55																	
	Indoor side	℃	16~32																	

HYUNDAI AIR CONDITIONER

Small Capacity Full DC
Inverter VRF Unit



12.5/14/16/18kW



20/22.4kW

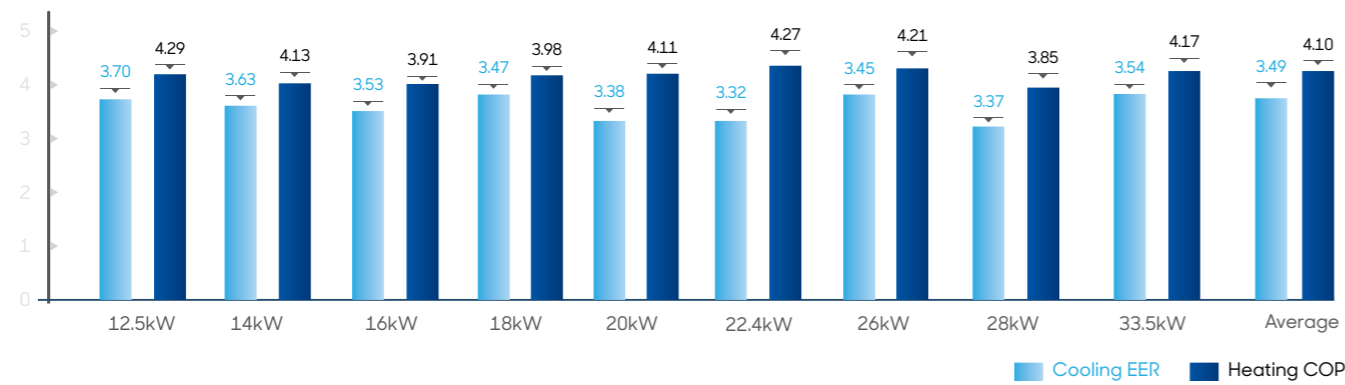


26/28/33.5kW

9 Models

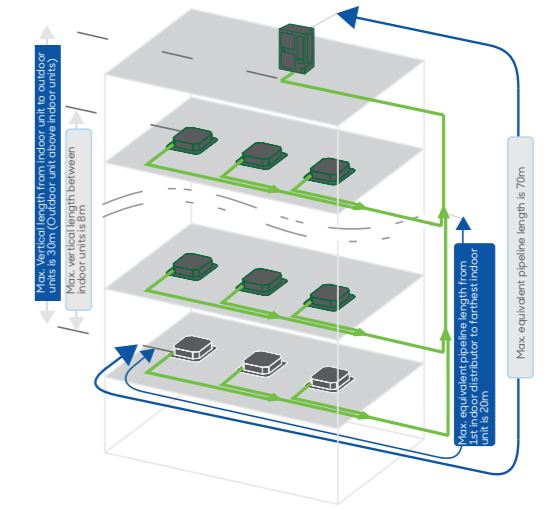
Capacity	12.5kW	14kW	16kW	18kW	20kW	22.4kW	26kW	28kW	33.5kW
Compressor	DC	DC	DC	DC	DC	DC	DC	DC	DC
Fan motor	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC

EER&COP



Long Piping & Height Difference

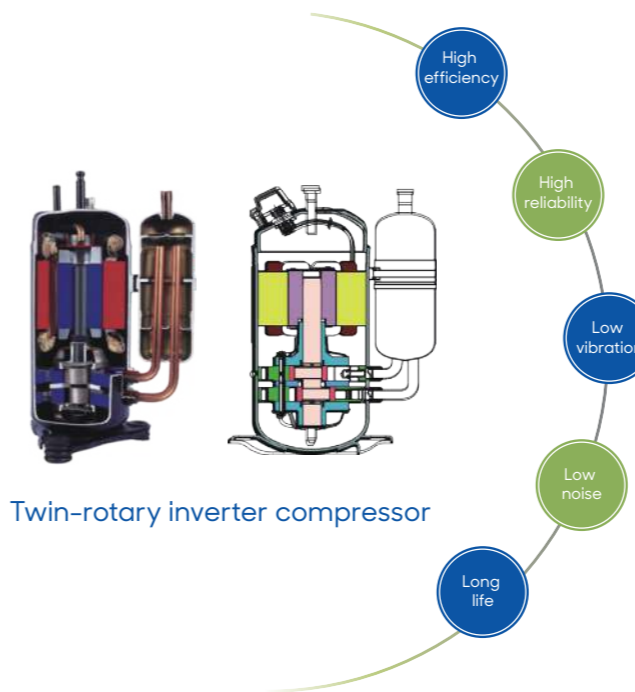
The total pipe length	100m(12.5-18kW),120m(22.4-33.5kW)
The longest pipe length	Actual length 60m Equivalent length 70m
Equivalent length from first indoor distributor to last indoor unit	20m
Height difference between indoor and outdoor unit:	Outdoor unit above<30m Outdoor unit below<20m
Height difference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



Advantage - HVMS-Mini



High Efficiency DC Inverter Compressor



Twin-rotary DC inverter compressor/

- Use high efficiency and reliability compressor
- Has very good efficiency in part load condition

High Efficiency, Low Noise

- Optimized the efficiency and noise during operation with the latest technology.

Environmental Protection

- Developed the compressor with alternative frigerant which can protect environment.

Low Vibration

- Reduced the vibration during compressor start and operation by using 2CYL Structure, simplified the match of air-conditioning.

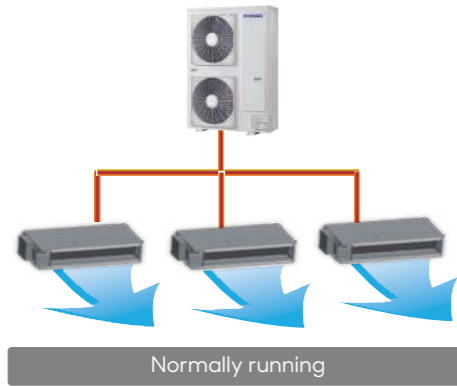
High Efficiency DC Motor



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

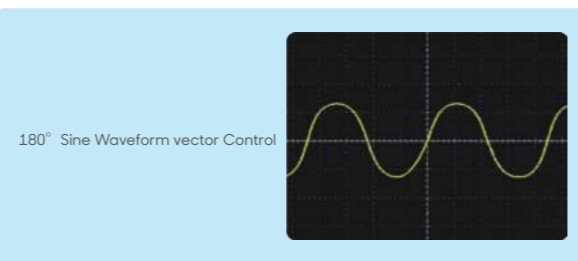
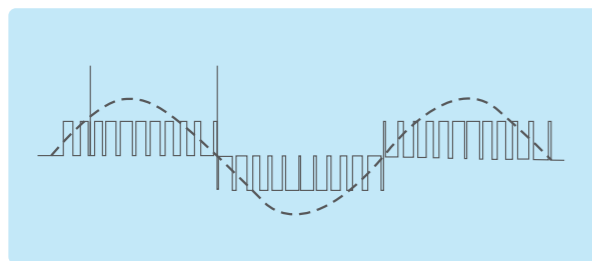
Fast Cooling And Heating

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

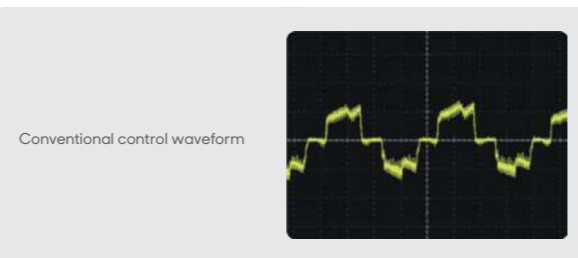
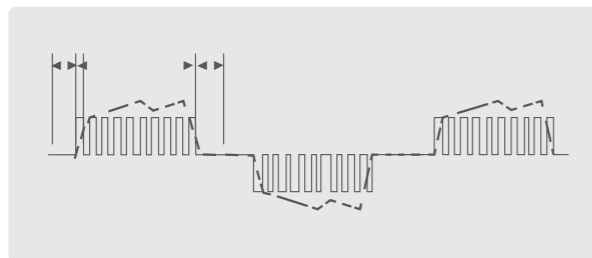


180° Sine Wave Control

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



Brushless DC motor : Adopting permanent magnet rotor, low vibration and low noise.

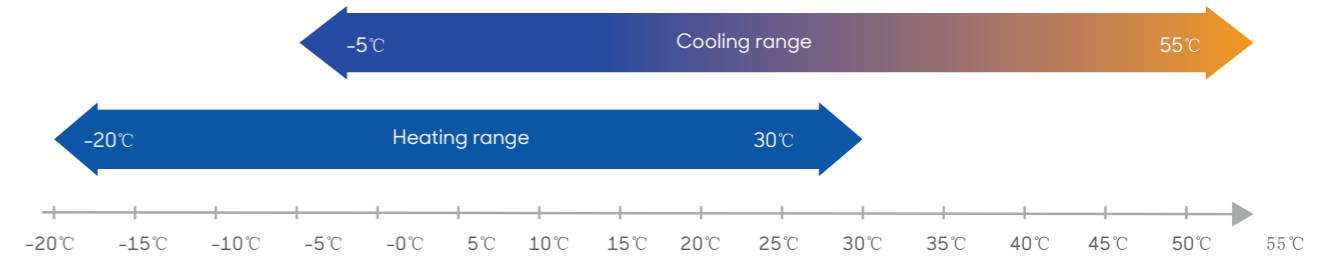
Forward-curve fan blade : Unique design to increase air flow, reducing the return air resistance, reducing vibration.

Pipeline silencer : To reduce the refrigerant flow noise.

Optimized design by CFD : To reduce refrigerant flow resistance and vibration.

Wide Outdoor Operation Range

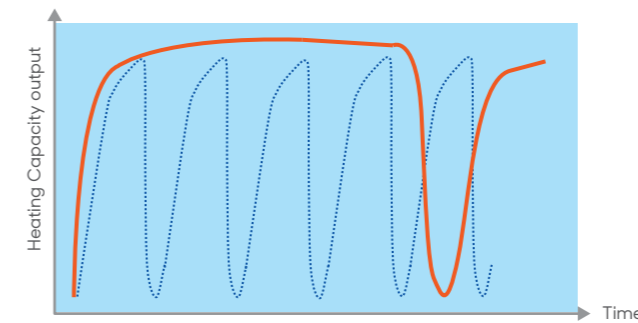
Because global warming is getting worse, Max. cooling operating temperature is designed up to 50°C. Heating operating temperature is down to -20°C. In the cold winter, system can heat the room continuously.



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.



— Intelligent defrosting program
 Conventional program

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



In standby, if the outdoor fan motor is rotating in opposite direction at a high speed by the wind or other natural factors, the unit can't start so as to keep the fan motor from broken down. It will start when the fan motor speed slow down.

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.



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.

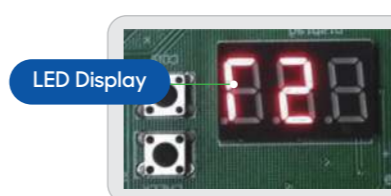
NEW TECHNOLOGY

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

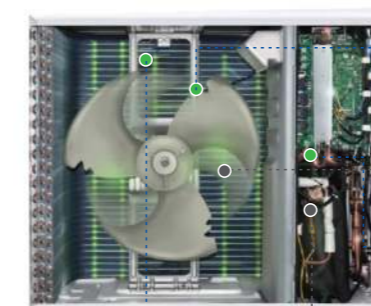


LED display on the PCB, it can show system's operation status and error codes.

Lower Noise

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



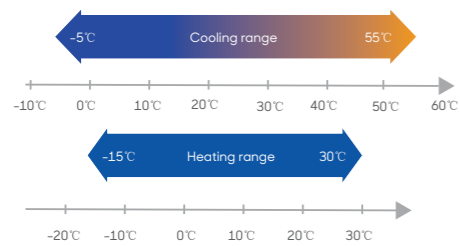
Compact appearance

- 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.



HVMS-Mini

Model name	Power type (V/N/Hz)	Cooling(T1/T3)				Heating			Refrigerant	Sound pressure Level	Dimension (WxHxD)		Weight		Connecting		Max Connected indoor units quantity
		Capacity kW	Capacity kBTU/h	Power input kW	EER	Capacity kW	Power input kW	COP			Type	Volume kg	Packing mm	Body mm	Net kg	Gross kg	
HVMS-125H/OZ-D	380-415/3/50	T1:12.5/T3:10	T1:42/T3:33.6	T1:3.38/T3:3.48	T1:3.70/T3:2.87	14	47	3.26	4.29	R410a	56	1010 x 1445 x 415	975 x 1335 x 400	86.6	96.4	Φ15.88	6
HVMS-140H/OZ-D	380-415/3/50	T1:14/T3:11.48	T1:47.8/T3:39.2	T1:3.80/T3:4.04	T1:3.68/T3:2.84	16	54	3.97	4.03		58	1010 x 1445 x 415	975 x 1335 x 400	86.6	96.4	Φ15.88	7
HVMS-160H/OZ-D	380-415/3/50	T1:16/T3:13.12	T1:54/T3:44.3	T1:4.53/T3:4.69	T1:3.53/T3:2.80	18	61	4.61	3.91		60	1010 x 1445 x 415	975 x 1335 x 400	86.6	96.4	Φ15.88	8
HVMS-180H/OZ-D	380-415/3/50	T1:18/T3:14.76	T1:61/T3:50	T1:5.18/T3:5.37	T1:3.47/T3:2.75	20	68	5.02	3.98		60	1010 x 1445 x 415	975 x 1335 x 400	86.6	96.4	Φ15.88	9
HVMS-200H/OZ	380-415/3/50	T1:20/T3:16.4	T1:68.2/T3:55.9	T1:5.92/T3:6.13	T1:3.38/T3:2.70	22	75	5.35	4.11		60	1095x1545x485	1015x1430x450	112.7	126.8	Φ19.05	10
HVMS-224H/OZ	380-415/3/50	T1:22.4/T3:19	T1:76.4/T3:64.8	T1:6.85/T3:7.05	T1:3.27/T3:2.69	24	81.8	5.62	4.27		60	1278 x 1703 x 560	1120 x 1549 x 528	142	162	Φ12.7	10
HVMS-260H/OZ	380-415/3/50	T1:26/T3:21	T1:88.7/T3:70.9	T1:7.72/T3:7.95	T1:3.37/T3:2.72	28.5	97.2	6.77	4.21		60	1278 x 1703 x 560	1120 x 1549 x 528	142	162	Φ12.7	12
HVMS-280H/OZ	380-415/3/50	T1:28/T3:23.4	T1:95.5/T3:79.3	T1:8.54/T3:8.66	T1:3.28/T3:2.70	31.5	107.5	8.18	3.85		60	1278 x 1703 x 560	1120 x 1549 x 528	142	162	Φ12.7	15
HVMS-335H/OZ	380-415/3/50	T1:33.5/T3:27.5	T1:114.3/T3:93.3	T1:9.77/T3:10.05	T1:3.43/T3:2.75	37.5	128	8.99	4.17		60	1278 x 1703 x 560	1120 x 1549 x 528	142	162	Φ12.7	18

Note
1.Cooling Operation Conditions:
Indoor Air Inlet Temperature: 27°C DB / 19°C WB,T1: Outdoor Air Inlet Temperature: 35°C DB,T3: Outdoor Air Inlet Temperature: 46°C DB
2.Heating Operation Conditions:
Indoor Air Inlet Temperature: 20.0°C DB,Outdoor Air Inlet Temperature: 7°C DB / 6°C WB

HVM-Mini

Model name	HVM-80H/O	HVM-100H/O	HVM-125H/O	HVM-125H/OZ-D	HVM-140H/O	HVM-140H/OZ-F	HVM-160H/O	HVM-160H/OZ-F
Power supply	HVM-DH080W/NR1 220~240V/1N/50Hz 220~240V/1N/60Hz	HVM-DH100W/NR1 220~240V/1N/50Hz 220~240V/1N/60Hz	HVM-DH125W/NR1 220~240V/1N/50Hz 220~240V/1N/60Hz	HVM-DH125W/HYR1-D01 380~415V/3N/50Hz 380~415V/3N/60Hz	HVM-DH140W/NR1 220~240V/1N/50Hz 220~240V/1N/60Hz	HVM-DH140W/HYR1-F01 380~415V/3N/50Hz 380~415V/3N/60Hz	HVM-DH160W/NR1 220~240V/1N/50Hz 220~240V/1N/60Hz	HVM-DH160W/HYR1-F01 380~415V/3N/50Hz 380~415V/3N/60Hz

Performance data		T1		T3		T1		T3		T1		T3		T1		T3	
Cooling	Capacity	8	7.2	10	9.0	12.5	11.3	12.5	11.3	14	12.7	14	12.7	16	14.5	16	14.5
	Power input (T1/T3)	2.60	2.81	3.00	3.25	3.20	3.46	3.20	3.46	3.75	4.06	3.75	4.06	4.75	5.14	4.75	5.14
	Rated current (T1/T3)	11.8	14.2	13.6	16.4	14.5	17.5	6.0	7.2	17.0	20.5	7.0	8.4	21.8	25.96	8.8	10.5
	EER (T1/T3)	3.08	2.56	3.33	2.77	3.91	3.27	3.91	3.27	3.73	3.13	3.73	3.13	3.37	2.82	3.37	2.82
Heating	Capacity	9	11	14	14	16	16	16	16	17	17	17	17	17	17	17	17
	Power input	30700	37500	47800	47800	54600	54600	54600	54600	58000	58000	58000	58000	58000	58000	58000	58000
	Rated current	12	14	16.1	16.1	18.2	18.2	18.2	18.2	20	20	20	20	20	20	20	20
	COP	3.40	3.55	3.98	3.98	3.98	3.98	4.00	4.00	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86
Compressor data		Quantity		1		1		1		1		1		1		1	
DC Inverter compressor	Type	Twin-rotary		Twin-rotary		Twin-rotary		Twin-rotary		Twin-rotary		Twin-rotary		Twin-rotary		Twin-rotary	
	Brand	Mitsubishi		GMCC		Mitsubishi		Highly		Mitsubishi		Highly		Mitsubishi		Mitsubishi	
	Fan data	Type		DC		DC		DC		DC		DC		DC		DC	
Fan motor	Quantity	1		1		1		1		1		1		1		1	
	Power output	75		90		180		90		180		180		180		180	
	Fan blade	Fan Quantity		1		1		1		1		1		1		1	
Physical data	Air flow	3300		4000		5500		5500		5500		5500		5500		5500	
	Outdoor coil	Fin type	Hydrophilic Foil		Hydrophilic Foil		Hydrophilic Foil		Hydrophilic Foil		Hydrophilic Foil		Hydrophilic Foil		Hydrophilic Foil		Hydrophilic Foil
Refrigerant	Number of rows	3		2		2		3		3		3		3		3	
	Tube type	Inner-grooved copper tube		Inner-grooved copper tube		Inner-grooved copper tube		Inner-grooved copper tube		Inner-grooved copper tube		Inner-grooved copper tube		Inner-grooved copper tube		Inner-grooved copper tube	
Dimension (WxHxD)	Type	R410a		R410a		R410a		R410a		R410a		R410a		R410a		R410a	
	Volume	2.00		2.60		3.00		3.00		3.45		3.45		3.80		3.80	
	Net	935x702x383		1032x810x445		1100x870x528		1032x810x445		1100x870x528		1100x870x528		1100x870x528		1100x870x528	
Weight	Packing	975x770x420		1075x875x495		1140x965x540		1075x875x495		1140x965x540		1140x965x540		1140x965x540		1140x965x540	
	Net	47		60		85		67.4		90		90		90		90	
ODU sound level	Gross	50		65		95		72.2		100		100		100		100	
	dB(A)	≤54		≤56		≤56		≤56		≤57		≤57		≤57		≤57	
Operation temperature range		Cooling		Heating		Cooling		Heating		Cooling		Heating		Cooling		Heating	
Operation temperature range	Outdoor side	-5~55		-5~55		-5~55		-5~55		-5~55		-5~55		-5~55		-5~55	
	Outdoor side	-15~30		-15~30		-15~30		-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	Round flow cassette	4-way cassette (Compact type)	Air Handler
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



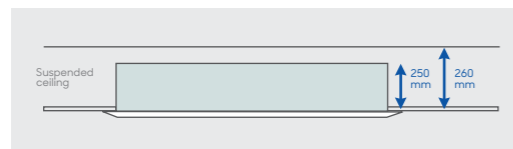
Features

Accessories

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

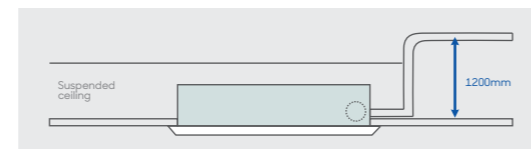
Slim body, easy to install

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		Heating						Packing	Body	Panel packing	Panel	Net	Gross	Gas	Liquid	Drain			
		kW	kBtu/h	kW	kBtu/h	kW	M ³ /h	CFM	DB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm		
HV-22Q1/H-B	50Hz	2.2	7.5	2.5	8.5						1160	994	1090	1070	24/3.6	30/5.0	Φ9.53				
HV-28Q1/H-B	50Hz	2.8	9.5	3.2	10.9	0.04	520	306	32~36		275	250	65	50							
HV-36Q1/H-B	50Hz	3.6	12.2	4.0	13.6						655	532	540	520							
HV-45Q1/H-B	50Hz	4.5	15.3	5.0	17.0	0.05	610	360	36~41	/	1160	994	1090	1070	26/3.6	32/5.0	Φ12.7	Φ6.35	ODΦ25	Remote controller	
											315	290	65	50							
											655	532	540	520							
HV-56Q1/H-B	50Hz	5.6	19.1	6.3	21.4	0.07	750	440	35~41		1470	1304	1390	1380	34/3.6	39/5.0					
											305	290	70	50							
HV-71Q1/H-B	50Hz	7.1	24.2	8.0	27.2	0.09	950	550	38~45		690	572	560	520			Φ15.9	Φ9.53			

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.

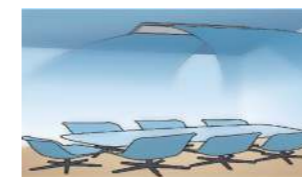
Features

Accessories

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

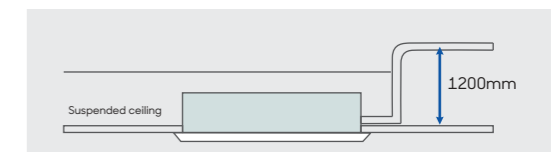
2 way air direction

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		Heating						Packing	Body	Panel packing	Panel	Net	Gross	Gas	Liquid	Drain			
		kW	kBtu/h	kW	kBtu/h	kW	M ³ /h	CFM	DB(A)	Pa	mm	mm	mm	mm	kg	kg	mm	mm	mm		
HV-45Q2/H-B	50Hz	4.5	15.3	5.0	17						1215	1068	1235	1205							
HV-56Q2/H-B	50Hz	5.6	19.1	6.3	21.4	0.07	800	470	36~42	/	365	310	70	50	33/6.5	36/8.5	Φ12.7	Φ6.35	ODΦ25	Remote controller	
											630	517	655	630							
HV-71Q2/H-B	50Hz	7.1	24.2	8.0	27.2						1455	1308	1475	1445							
											365	310	70	50							
HV-80Q2/H-B	50Hz	8.0	27.2	9.0	30.7		1120	650	40~46		630	517	655	630	40/7.5	47/10.0	Φ15.9	Φ9.53			

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.

4-way Cassette/Round-flow Cassette Compact Type



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.



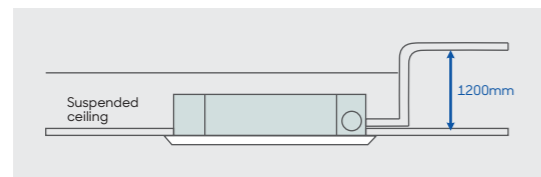
360° round panel is standard.



Built-in with drainage pump

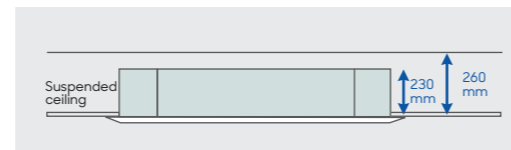
Built-in with low noise long life drainage pump, Pumping head is 1200mm, flexible for drainage pipe design.

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(Compact type)

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller
		Cooling kW	Cooling kBtu/h	Heating kW	Heating kBtu/h		M³/h	CFM			DB(A)	Pg	Packing mm	Body mm	Panel packing mm	Panel mm	Net kg	Gross kg	Gas mm	
HV-22Q4/H-C	50Hz	2.2	7.5	2.5	8.5	0.038	447	263	22~34						17.5	25				
HV-28Q4/H-C	50Hz	2.8	9.5	3.2	10.9	0.038	447	263	22~34						17.5	25				
HV-36Q4/H-C	50Hz	3.6	12.2	4.0	13.6	0.040	515	303	27~38						17.5	25				
HV-45Q4/H-C	50Hz	4.5	15.3	5.0	17	0.040	515	303	27~38						17.5	25				

Round-flow Cassette

Model name	Power type	Capacity				Motor input	Air flow		Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller
		Cooling kW	Cooling kBtu/h	Heating kW	Heating kBtu/h		M³/h	CFM			DB(A)	Pg	Packing mm	Body mm	Panel packing mm	Panel mm	Net kg	Gross kg	Gas mm	
HV-56QR/H	50Hz	5.6	19.1	6.3	21.4	0.09	860	500	32~39						24	30				
HV-71QR/H	50Hz	7.1	24.2	8.0	27.2										24	30				
HV-80QR/H	50Hz	8.0	27.2	8.8	30		1200	700	35~39						24	30				
HV-90QR/H	50Hz	9.0	30.7	10	34.1										28.5	30				
HV-100QR/H	50Hz	10	34.1	11	37.5	0.18									28.5	35				
HV-112QR/H	50Hz	11.2	38.2	12.5	42.6		1400	820	37~41						28.5	35				
HV-125QR/H	50Hz	12.5	42.6	14	47.7										28.5	35				
HV-140QR/H	50Hz	14	47.7	15	51.1										28.5	35				
HV-160QR/H	50Hz	16	54.5	17	58	0.27	1800	1050	38~42						28.5	35				

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.

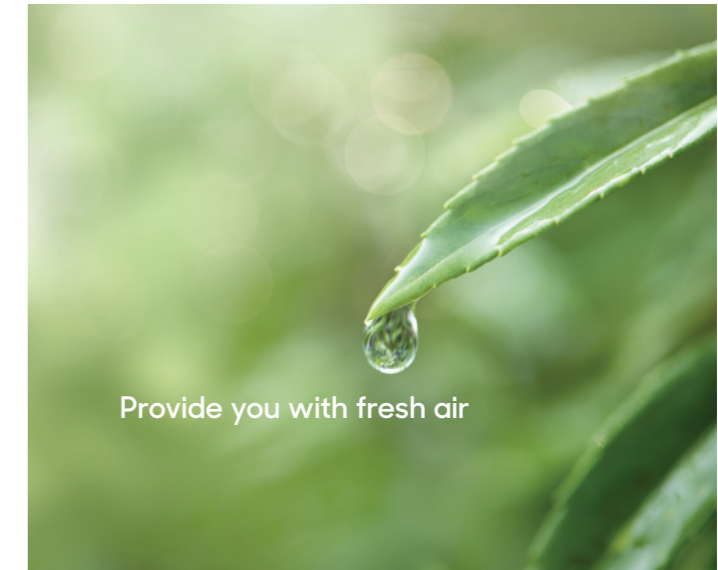
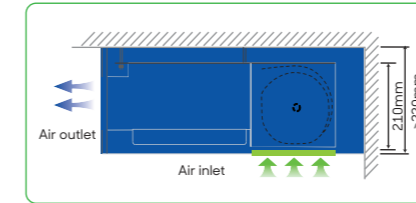
4.The above data may be changed without notice for future improvement on quality and performance.

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

Integrated design of motor and motor bracket, lower noise

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 700mm.

Big air flow low noise centrifugal fan wheel

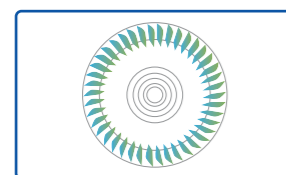
Big air flow low noise centrifugal fan blade with special air tunnel system, and the unique shock absorption measures, making this series ducted units' running noise is as low as 24 dB(A),let users to enjoy the comfort, sleep without any disturbance.



Rustled leaves



Silent reading room



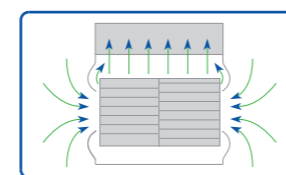
Special resin material fan wheel.



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

Model name	Power type	Capacity				Motor input	Air flow			Sound Level	ESP	Dimension(WxHxD)				Body Weight		Connecting pipe			Standard controller
		Cooling	Heating	kW	kBtu/h		MP/h	CFM	DB(A)			Pa	Packing	Body	Panel packing	Panel	Net	Gross	Gas	Liquid	
HV-22TA/H-C	50Hz	2.2	7.5	2.5	8.5	0.05	450	260	24*29	30	1110 240 510	1010 210 467	16	18.5	Φ9.53	16	18.5	Φ6.35	ODΦ25	Wired controller	
HV-28TA/H-C	50Hz	2.8	9.5	3.2	10.9																
HV-36TA/H-C	50Hz	3.6	12.2	4	13.6																0.07
HV-45TA/H-C	50Hz	4.5	15.3	5	17	0.08	620	360	32*37	16.5	19	Φ12.7	16.5	19	Φ12.7	ODΦ25	Wired controller				
HV-56TA/H-C	50Hz	5.6	19.1	6.3	21.4	0.09	800	520	28*38	21	24	1310 240 510	1214 210 467	25.5	28.5	Φ15.9	Φ9.53				
HV-71TA/H-C	50Hz	7.1	24.2	8	27.2	0.11	1000	640	30*39												

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.

Medium Static Pressure Ducted Unit

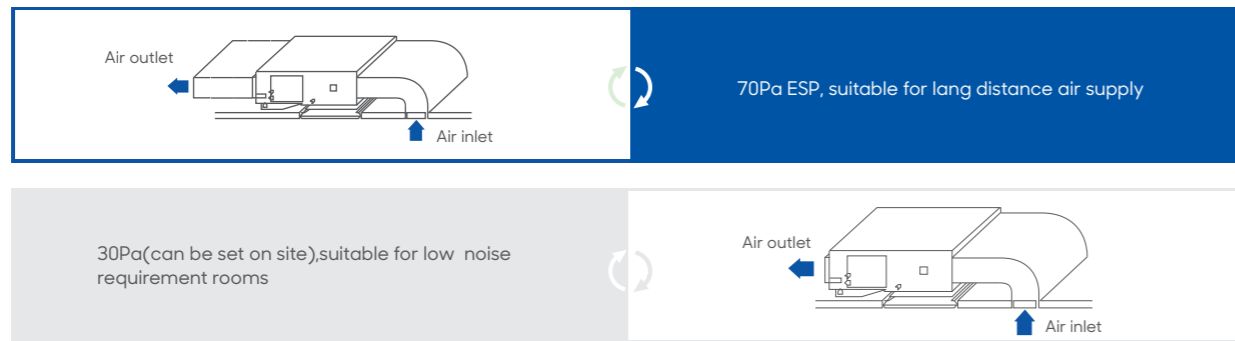


Features

Accessories

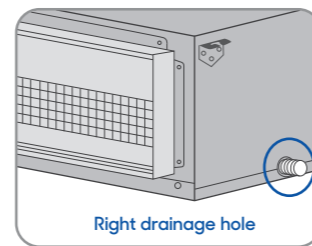
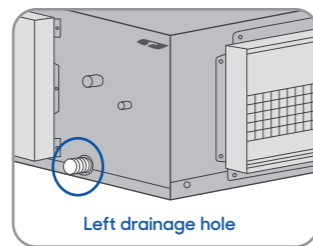
Plenum box	Air filter	EXV	Drain pump	AC motor	DC motor
Standard	Standard	Standard(built-in)	Optional	Standard	Optional

Standard ESP is 70Pa , 30Pa can be customized



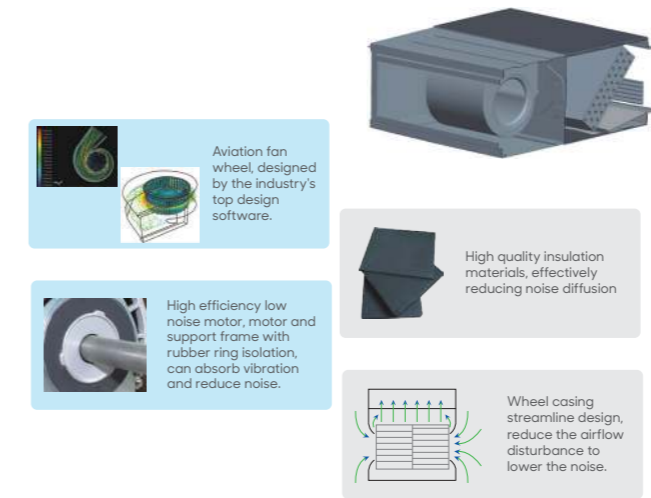
Convenient in drainage pipe installation

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.



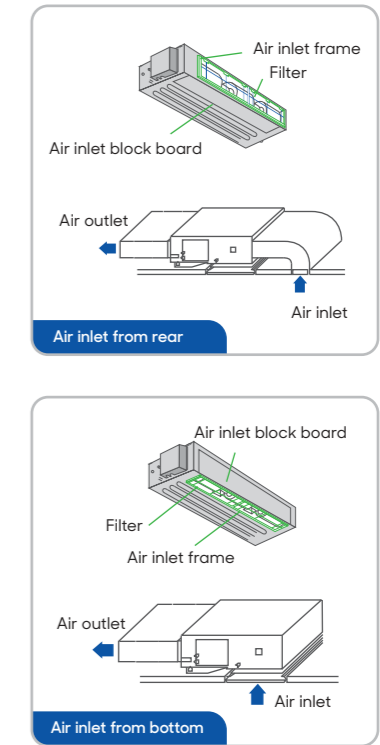
Whole unit low noise design, silent operation

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

Integrated design of motor and motor bracket, lower noise

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 k8tu/h	Heating k8tu/h		M³/h	CFM	DB(A)			Packing mm	Body mm	Panel mm	Panel mm	Net kg	Gross kg	Gas mm	Liquid mm	Drain mm		
HV-71TB/H-B	50Hz	7.1	24.2	8.0	27.2	0.30	1220	710	36'41	70	1255 x 325 x 720	1209 x 260 x 680										
HV-80TB/H-B	50Hz	8.0	27.2	9.0	30.7																	
HV-90TB/H-B	50Hz	9.0	30.7	10.0	34.1	0.34	1850	1080	38'43		1490 x 325 x 720	1445 x 260 x 680										
HV-100TB/H-B	50Hz	10.0	34.1	11.0	37.5																	
HV-120TB/H-B	50Hz	12.0	40.9	13.0	44.3		2000	1170	40'44													
HV-150TB/H-B	50Hz	15.0	51.1	17.0	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.

High Static Pressure Ducted Unit

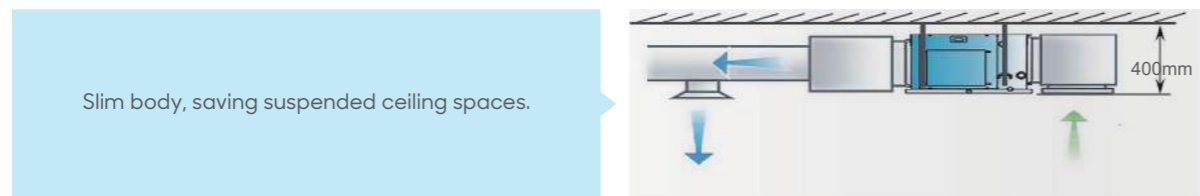


Features

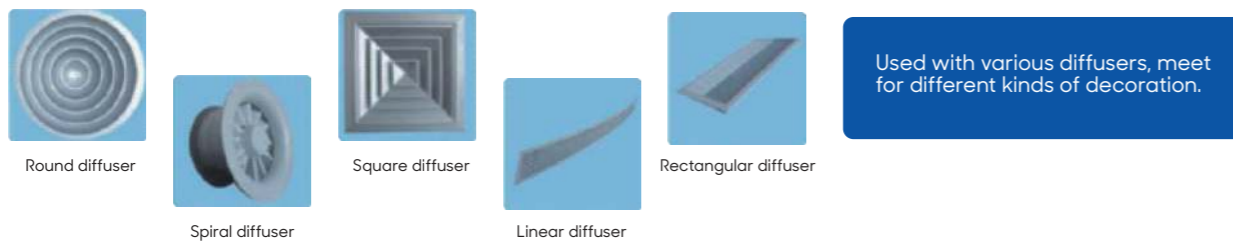
Accessories

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

Slim body, saving suspended ceiling spaces

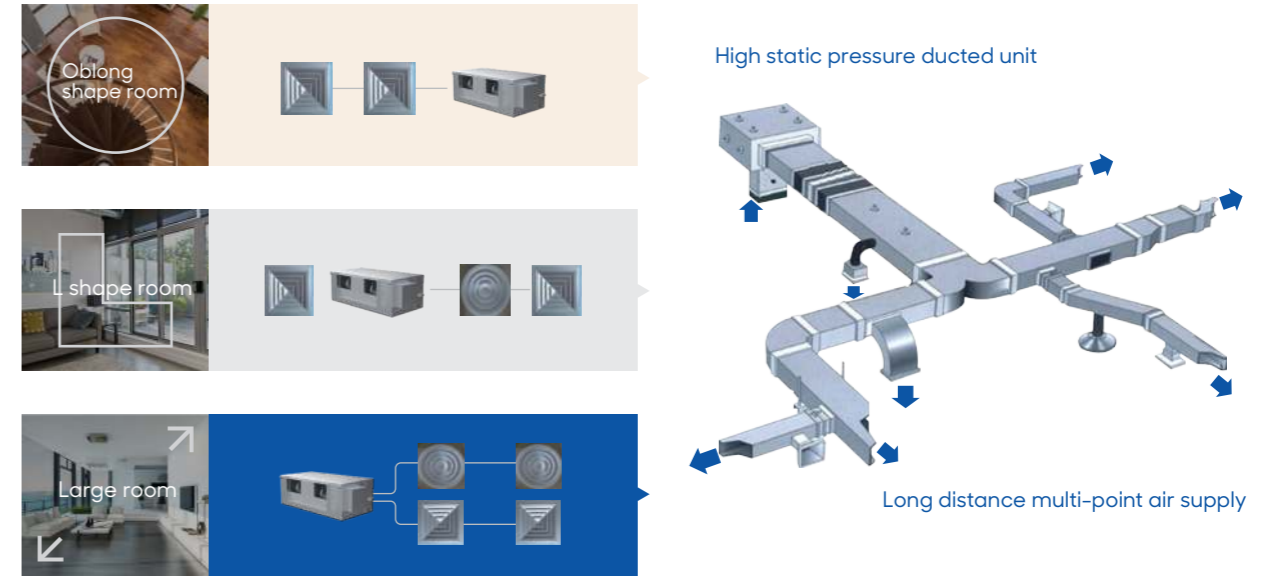


Can be used with various diffusers



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		M³/h	CFM			Packing mm	Body mm	Net kg	Gross kg	Gas mm	Liquid mm	Drain mm	
HV-71TH/H-B	50Hz	7.1	24.2	7.8	26.6						1490	1445	46	50				
HV-80TH/H-B	50Hz	8.0	27.2	8.8	30	0.34	1500	880	40~42		325	260	46	50				
HV-90TH/H-B	50Hz	9.0	30.7	10.0	34.1						720	680	46	50	Φ15.9	Φ9.53	ODΦ25	
HV-100TH/H-B	50Hz	10.0	34.1	11.0	37.5								47	51				
HV-120TH/H-B	50Hz	12.0	40.9	13.0	44.3	0.45	2300	1350	44~52		1245	1190	47	51				
HV-150TH/H-B	50Hz	15.0	51.1	17.0	58.0				150		445	370	47	51				
HV-200TH/H-B	50Hz	20.0	68.2	22.0	75.0	1.2	4000	2350	45~53		655	620	47	51				Wired controller
HV-250TH/H-B	50Hz	25.0	85.3	27.5	93.8	1.2	4200	2470	45~54		1510x580x870	1465x448x811	102	113	Φ22.2	Φ12.7	ODΦ30	
HV-280TH/H-B	50Hz	28.0	95.5	30.8	105.0	1.2	4400	2580	45~55		1510x580x870	1465x448x811						
HV-450TH/HZ	50Hz	45.0	153.5	50.0	170.6	1.6	6000	3520	60		2267	2165	222	260	Φ28.6	Φ15.9	ODΦ32	
HV-560TH/HZ	50Hz	56.0	191.0	63.0	214.9	2.5	8000	4700	64	200	840	676						

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.
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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.

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

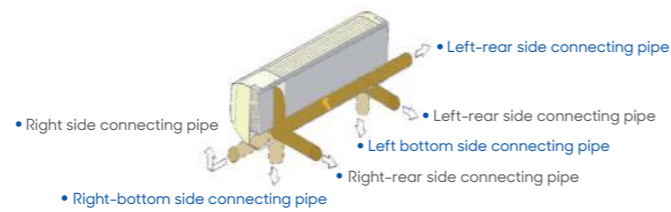
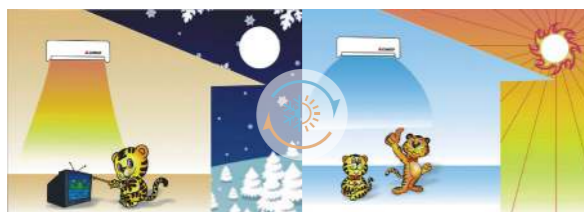
Simple, elegant, stylish, mirror design, suitable for all kinds of decoration style.

Flexible in installation

Refrigerant pipe can be connected from 3 directions.

Wide adjustable angle air supply

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



Specification

Model	HV-D22W/H-B	HV-D28W/H-B	HV-D36W/H-B	HV-D45W/H-C	HV-D56W/H-C	HV-D71W/H-C	
Power Supply	220-240V/1N/50&60Hz	220-240V/1N/50&60Hz	220-240V/1N/50&60Hz	220-240V/1N/50&60Hz	220-240V/1N/50&60Hz	220-240V/1N/50&60Hz	
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	15	15	18	20	23	35	
Fan motor	Type	DC	DC	DC	DC	DC	DC
	Speed (Hi/Med/Low)	1000/900/870/850	1000/900/870/850	1100/1000/950/900	1050/950/900/850	1100/1000/950/900	1300/1200/1100/1000
Air flow	m ³ /h	440/380/360/350	440/380/360/350	500/440/415/380	655/610/565/525	720/645/580/560	890/805/720/645
Sound Pressure level	dB(A)	24~33	24~33	27~36	29~38	32~42	35~43
Body dimension (WxHxD)	Net	864x300x200	864x300x200	864x300x200	972x320x215	972x320x215	972x320x215
	Packing	945x375x290	945x375x290	945x375x290	1060x400x310	1060x400x310	1060x400x310
Body weight	Net/Gross	9.5/12	9.5/12	9.5/12	11.5/14	11.5/14	11.5/14
Refrigerant type		R410A	R410A	R410A	R410A	R410A	R410A
Throttle type		EXV	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/Φ15.88
Drainage water pipe (Outer diameter)	mm	Φ20	Φ20	Φ20	Φ20	Φ20	Φ20
Operation temperature	℃	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℃ DB,19℃ WB outdoor side 35℃ DB.Heating test condition: indoor side 20℃ DB,15℃ WB outdoor side 7℃ 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.
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Wall Mounted Unit



Floor Ceiling Unit



Features

Accessories

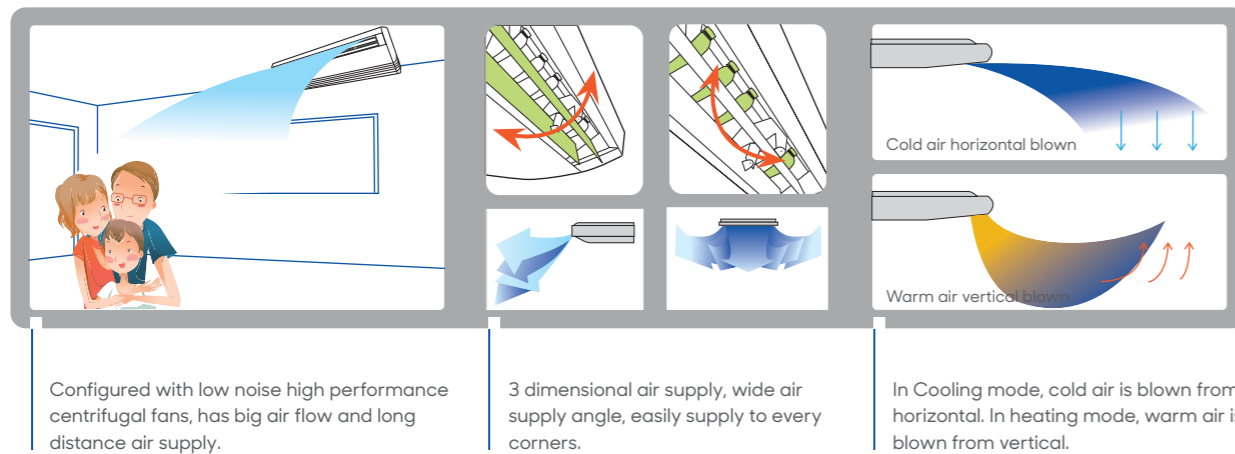
Plenum box	Air filter	EXV	Drain pump	AC motor	DC motor
/	Standard	Standard(built-in)	Optional	Standard	/

Suspended installation, saves valuable floor space

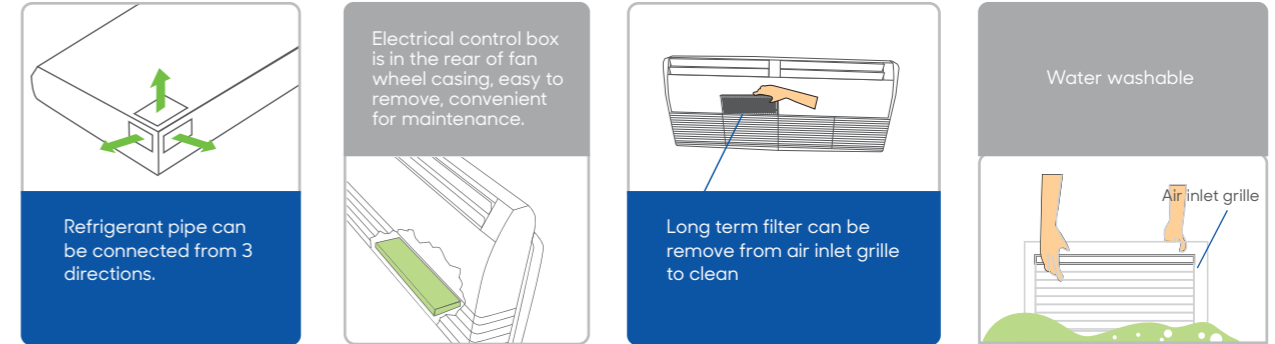
- The use of ark effect: need to take up valuable floor position.
- The use of a hanging type indoor machine effect: Due to the adoption of a suspended installation, without occupying the ground position, will be valuable floor space to save up to add a set of dining table.



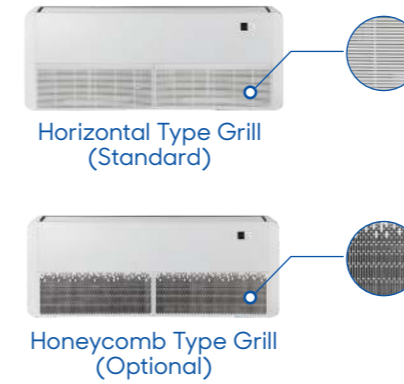
Wide angle air supply



Easy for installation



Two kinds of grilles for selection



Specification

Model name	Power type	Capacity				Motor input	Air flow	Sound Level	Dimension(WxHxD)		Body Weight		Connecting pipe			Standard controller	
		Cooling	Heating	Packing	Body				Net	Gross	Gas	Liquid	Drain				
		kW	kBtu/h	kW	kBtu/h	kW	M ³ /h	CFM	DB(A)	mm	mm	kg	kg	mm	mm	mm	
HV-36UA/H-LDBA	50Hz	3.6	12.3	4.0	13.7					1130	1050						
HV-45UA/H-LDBA	50Hz	4.5	15.3	5.0	17	0.09	800	470	32*46	765	675	26.5	31.5	Φ12.7	Φ6.35	DN20	
HV-56UA/H-LDBA	50Hz	5.6	19.1	6.3	21.4					330	235						
HV-71UA/H-LDBA	50Hz	7.1	24.2	8.0	27.2	0.10	1200	706	41*48	1380	1300						
HV-80UA/H-LDBA	50Hz	8.0	27.2	8.8	30					765	675	32.5	37.5				
HV-90UA/H-LDBA	50Hz	9.0	30.7	10.0	34.1					330	235			Φ15.9	Φ9.52	DN20	Remote controller
HV-112UA/H-LDBA	50Hz	11.2	38.2	12.5	42.6	0.20	2000	1177	38*53	1750	1670						
HV-140UA/H-LDBA	50Hz	14.0	47.7	15	51.1					765	675	41.0	47.0				
HV-160UA/H-LDBA	50Hz	16.0	54.5	17	58					330	235						

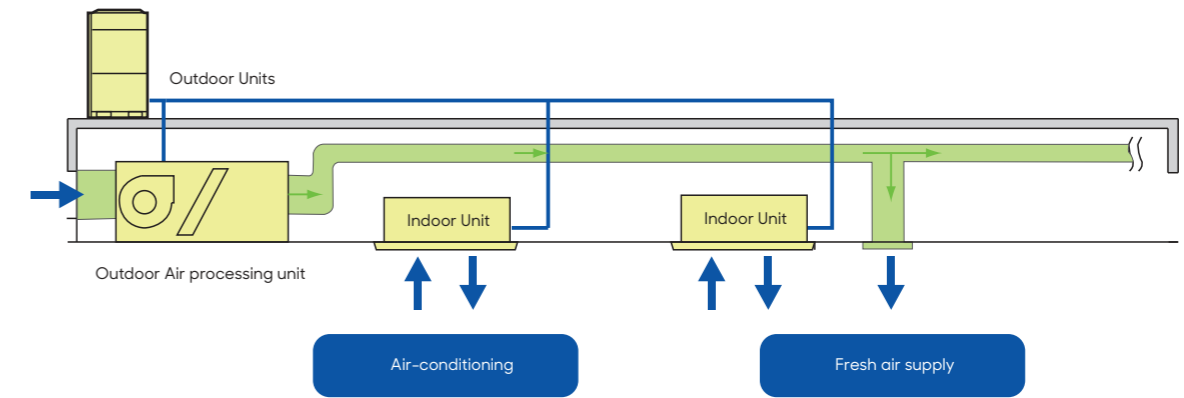
Notes:
 1.Power supply: 220~240V/1N for 50Hz;208~230V/1N for 60Hz
 2.Cooling test condition: indoor side 27°C DB,19°C WB outdoor side 35°C DB.Heating test condition: indoor side 20°C DB, 15°C WB outdoor side 7°C DB
 3.Sound level: measured at a point 1 m in front of the unit at a height of 1.5m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
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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

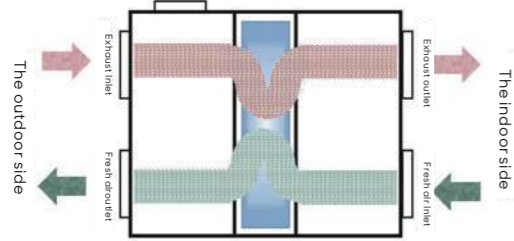
Model name	Power type	Capacity				Motor input	Air flow		Sound level	ESP	Dimension(WxHxD)			Body Weight			Connecting pipe			Standard controller
		Cooling kW	Cooling kBtu/h	Heating kW	Heating kBtu/h		M ³ /h	CFM			Packing mm	Body mm	Panel packing mm	Panel mm	Net kg	Gross kg	Gas mm	Liquid mm	Drain mm	
HV-140TF/H-B	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		
HV-224TF/H-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	
HV-280TF/H-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	Wired controller	
HV-450TF/HZ	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				
HV-560TF/HZ	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	

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°C CB, -2.9°C WB
3.Sound level: measured at a point 1 m 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.

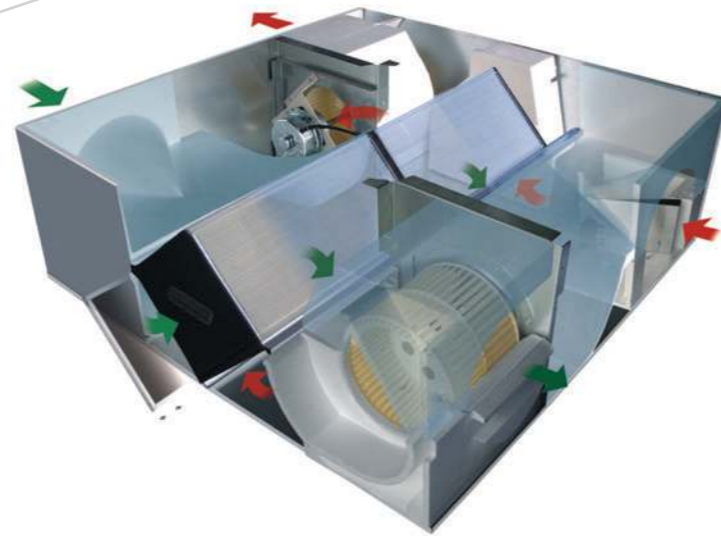
Heat Recovery Ventilator



Features



How it works



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 ³ /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				
HRV-02D	200	75	65	220V/1N/50Hz	60.0	65.0	50.0	55.0	30	666x580x264	25	
HRV-03D	300	75	130		60.0	65.0	50.0	55.0	33	744x599x270	27	
HRV-04D	400	80	200		60.0	65.0	50.0	55.0	35	744x804x270	30	
HRV-05D	500	80	220		60.0	65.0	50.0	55.0	38	824x904x270	41	
HRV-06D	600	90	242		60.0	65.0	50.0	55.0	40	824x904x270	42	
HRV-08D	800	100	410		60.0	65.0	50.0	55.0	42	1116x884x388	68	
HRV-10D	1000	150	510		60.0	65.0	50.0	55.0	43	1116x1134x388	82	
HRV-13D	1300	150	530		60.0	65.0	50.0	55.0	45	1116x1134x388	82	
HRV-15DS/Z	1500	160	1000		380V/3N/50Hz	60.0	65.0	50.0	55.0	51	1600x1200x540	200
HRV-20DS/Z	2000	170	1200			60.0	65.0	50.0	55.0	53	1650x1400x540	225
HRV-25DS/Z	2500	180	2000	60.0		65.0	50.0	55.0	55	1430x1610x600	240	
HRV-30DS/Z	3000	200	2100	60.0		65.0	50.0	55.0	57	1600x1700x640	240	
HRV-40DS/Z	4000	220	2400	60.0		65.0	50.0	55.0	60	1330x1725x1050	275	
HRV-50DS/Z	5000	240	3000	60.0		65.0	50.0	55.0	61	1660x1820x1050	280	
HRV-60WS/Z	6000	290	3600	60.0		65.0	50.0	55.0	70	1660x1820x1050	310	
HRV-70WS/Z	7000	310	4200	60.0		65.0	50.0	55.0	73	2060x1660x1168	360	
HRV-80WS/Z	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



Air Handler Unit



Features

- Insulated cabinet**
 Galvanized steel with paint on all panels. Thermal insulator cover all inside panels to reduce heat and cooling losses and prevent condensed water accumulation.
- Motor & Blower**
 Direct drive motors, 3-speed, provide selections of air flow to meet desired applications. Φ10" big fan, powerful wind.
- Coil**
 "A" shape coils, constructed with copper tubing and enhanced aluminum fins.
- Filter optional**
 Detachable air filter for cleaning or renewal.
- Multi-position installation**
 Versatile 4-way convertible design for vertical up airflow, horizontal right airflow.

Specification

Model name	Power type	Capacity				Power input	Air flow	Sound Level	ESP	Dimension(WxHxD)		Body Weight			Connecting pipe			Standard controller
		Cooling kW	Heating kW	Cooling kbtu/h	Heating kbtu/h					Body mm	Packing mm	Net kg	Gross kg	Gas mm	Liquid mm	Drain mm		
HV-V71AH/HNR1	60Hz	7.1	24.1	8.0	27.2	290	1500	882.3	51"54	25	774x520x460	834x520x565	36	39	Ø15.88	Ø9.52	Ø20	Wired Controller
HV-V105AH/HNR1	60Hz	10.5	35.7	11.5	39.1	290	1500	882.3	51"54	37	774x520x460	834x520x565	36	39	Ø15.88	Ø9.52	Ø20	Wired Controller
HV-V160AH/HNR1	60Hz	16.0	54.4	18.0	61.2	517	2500	1470.6	57"60	50	970x550x500	1030x560x595	48	52	Ø15.88	Ø9.52	Ø20	Wired Controller

Notes: 1. Power supply: 208-230V/1N/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 min 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



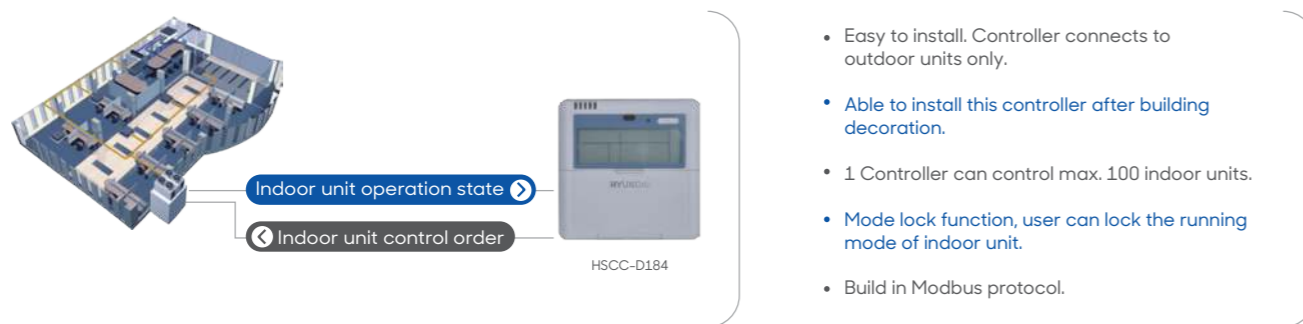
- Bidirectional communication. Indoor unit's operating parameters(error code, temperature, address)can be inquired and displayed on the controller.
- Compact design
- Timer function

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.

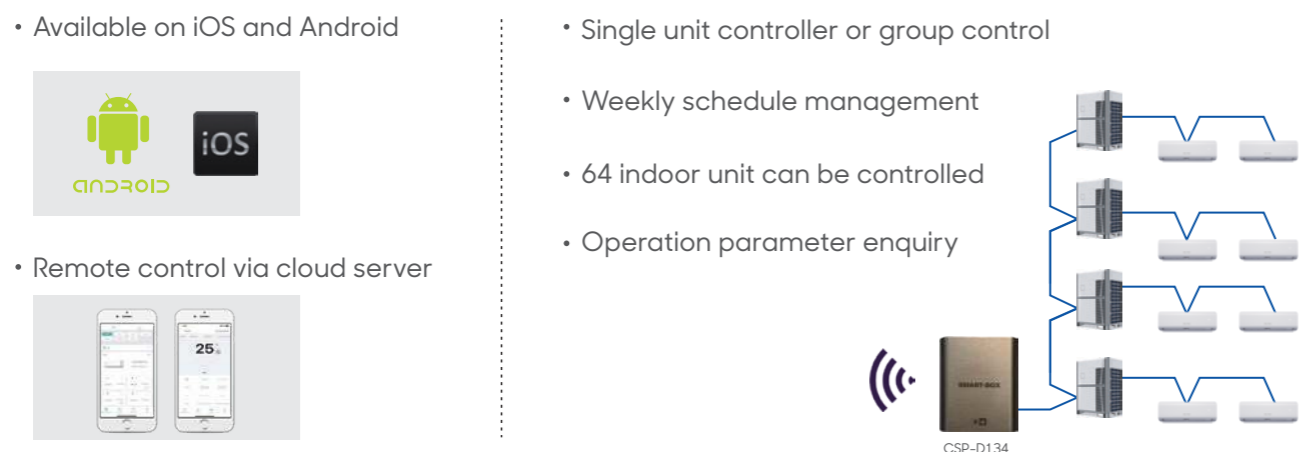
Simple Centralized Controller



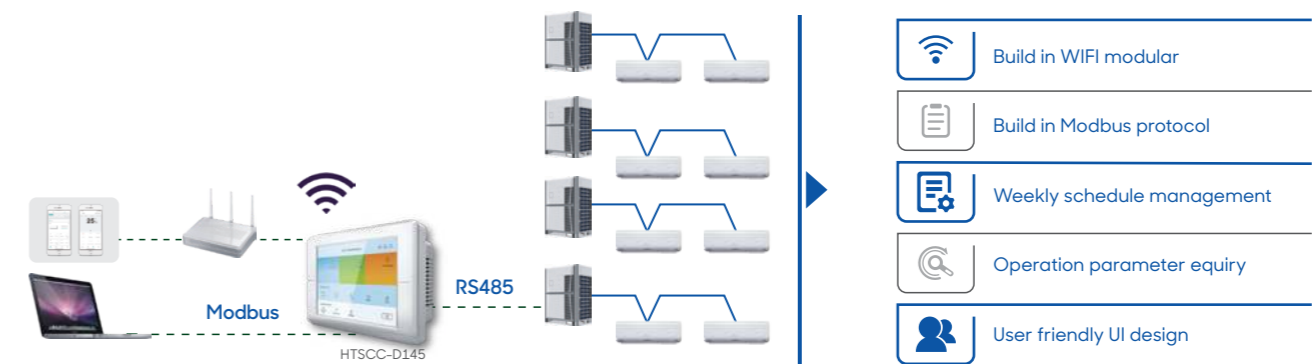
- Easy to install. Controller connects to outdoor units only.
- Able to install this controller after building decoration.
- 1 Controller can control max. 100 indoor units.
- Mode lock function, user can lock the running mode of indoor unit.
- Build in Modbus protocol.

Smart Manager

- 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



Touch Screen Centralized Controller



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

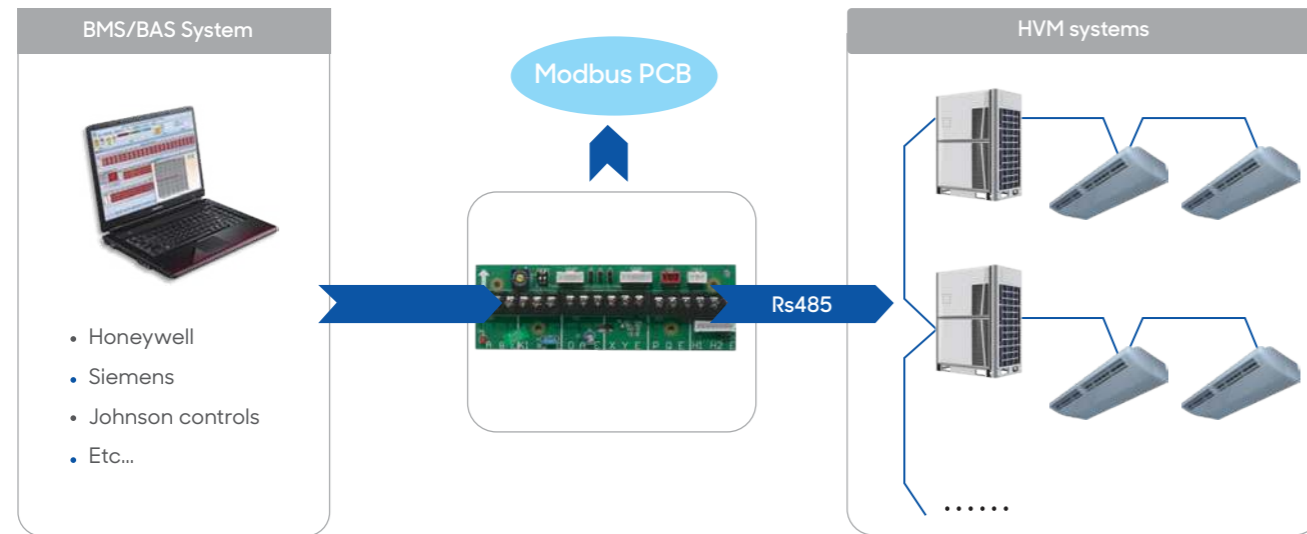
HVM-NET (Centralized Control System)



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

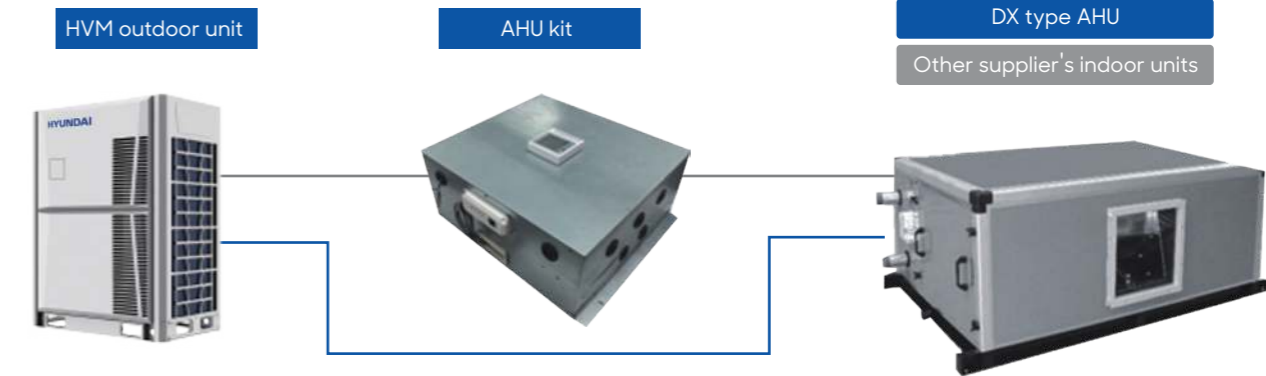
BMS Gateway

- 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



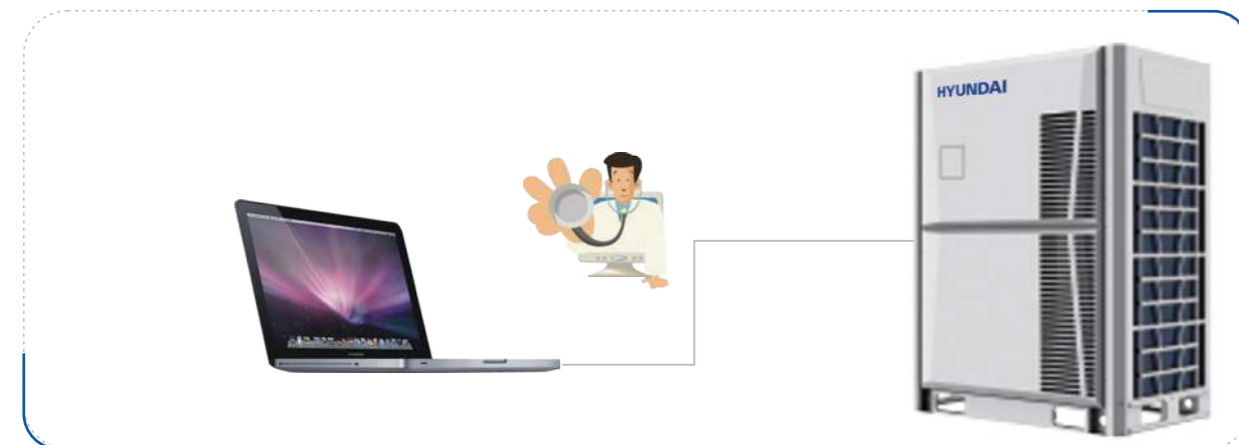
AHU Connection Kit

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

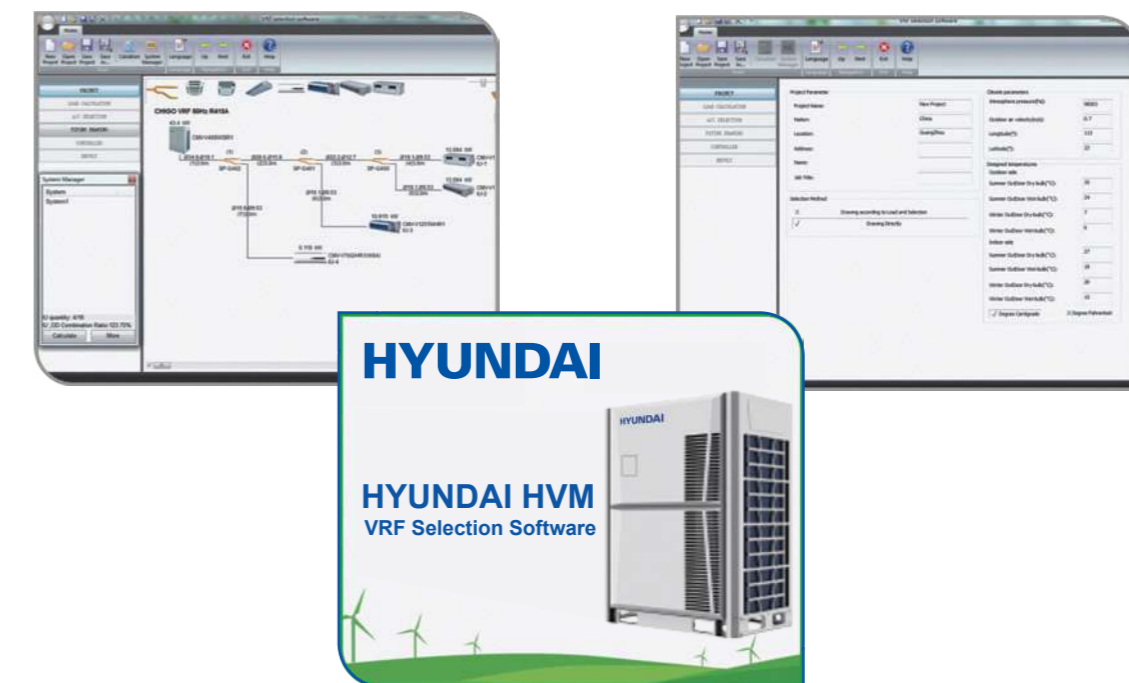


Doctor Kit Pro

- Fast to install, easy to use
- All indoor/outdoor units data can be enquired
- Using the computer to check the parameters



VRF Selection Software Pro





DIRECTORY

Air Cooled Heat Pump Modular Chiller

63 • How To Read The Model

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73 • Modular Chiller With
Heat Recovery

77 • Fan Coil Unit
4-pipe Cassette

79 • Fan Coil Unit
2-pipe Cassette

81 • Accessories



How To Read The Model



R32 ATW Heat Pump



5kW/8kW



10kW/12kW



14kW/16kW



8kW/12kW/16kW Hydraulic module

HC S - F E 65 QR H W / D S R1 A

A: New series

Refrigerant
R1: R410a; R2: R407C; R4: R32

Power supply
Omit: 220~240V/1N/50Hz
S: 380/3N/50Hz
Z: 380-415V/3N/50Hz
K: 380V/3N/60Hz

D: Full DC inverter

W: Outdoor unit without hydraulic module
N: Hydraulic module

Function Code
C: Cooling only; H: Heat pump

QR: With full heat recovery
Omit: Standard model

Capacity(kW)

E: EVI compressor

Compressor code
F: Fixed Speed; D: Inverter

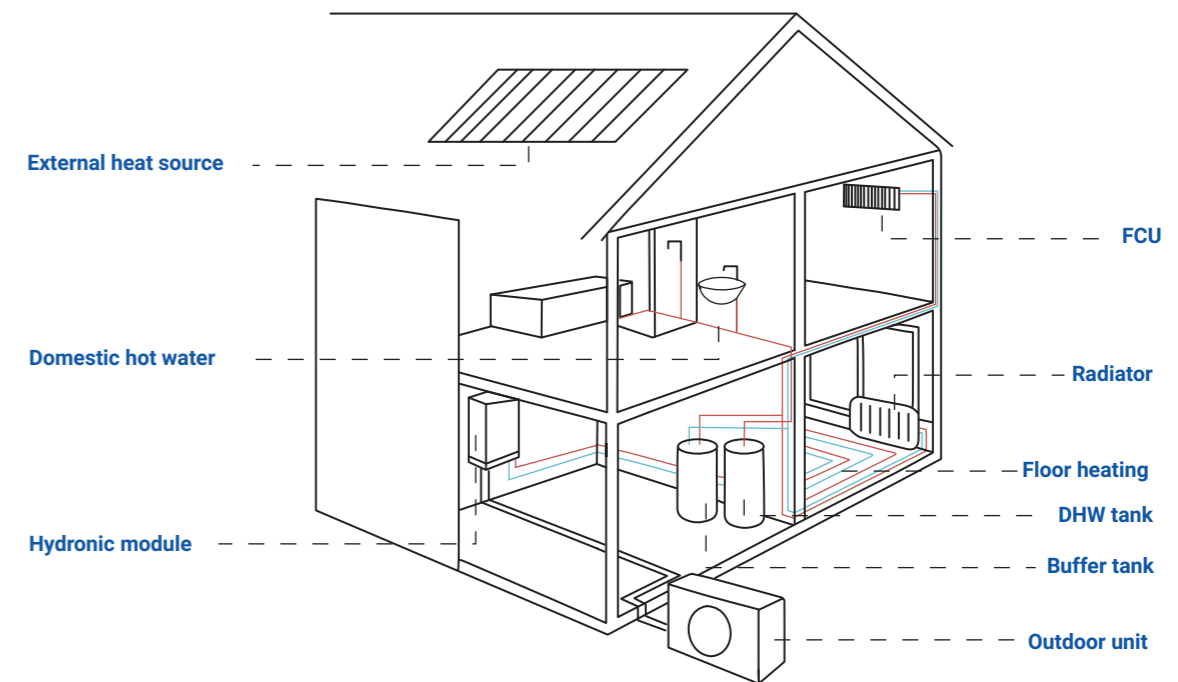
Evaporator code
S: Shell tube; P: Plate heat exchanger

HYUNDAI
Modular chiller system

Features

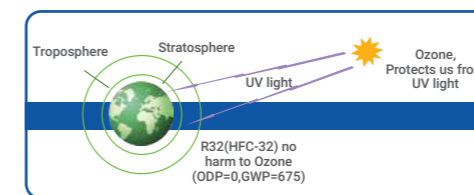
Multi Applications In One System

The system can realize heating in winter and cooling in summer, and can produce domestic hot water throughout the year. Various terminal equipment, floor heating, radiators and fan coils can be connected.



Eco Friendly

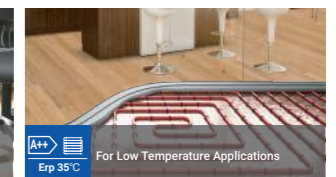
R32(HFC-32) is a highly environmentally friendly refrigerant, with 0 ODP and 675 GWP, low carbon footprint, no harm to the Ozone.



High Efficiency

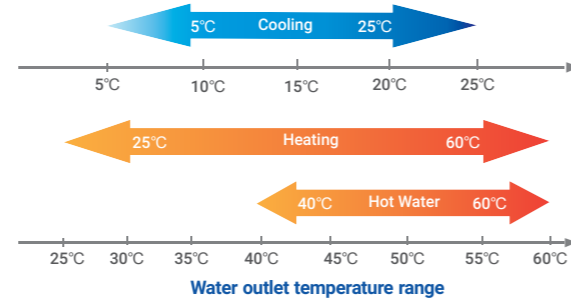
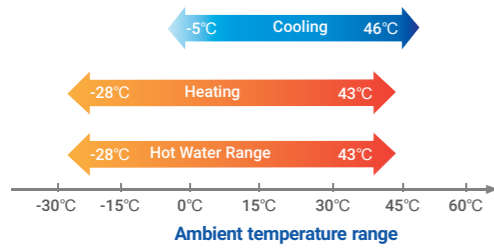


ATW heat pumps are relying on a renewable energy for their functioning, the increased use of renewable energy will also reduce our energy dependency.



Wide Operation Range

- Cooling operating temperature is up to 46°C
- Heating operating temperature is down to -28°C
- The max. water outlet temperature is up to 60°C.



Capture Energy From Ambient Air

Based on Air to Water heat pump technology, it captures heat energy from the ambient air and transfers it to heat the water that is used to warm your home and supply domestic hot water, it can even cool your home as required. Compared to other technologies, up to 75% of the heat energy required is taken from the ambient air.

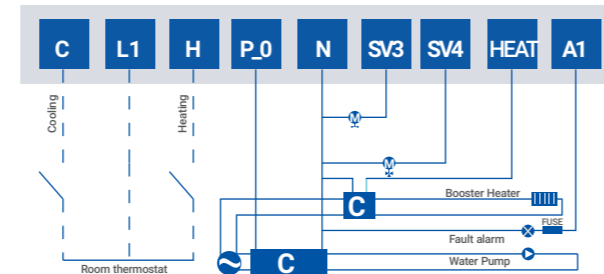


Hydronic Module Components



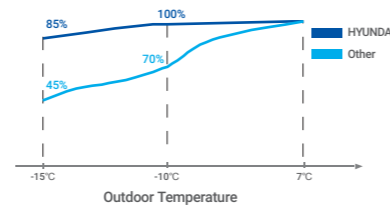
Variable Accessory Connection

- Connect to room thermostat
- Connect to 2-way valve and 3-way valve, to change the water flow direction
- Connect to booster heater to control the heater in DHW tank
- Connect to additional circulation water pump
- Alarm output



High Performance At Low Ambient Temperature

Thanks to the high compression ratio compressor, large heat exchanger and high-precision system control, it is able to maintain a high heat ty and even at -10°C and -15°C.



Controllers



- Window design, easy to operate and view
- Standard with touch screen wired controller, more functions can be realized and it is easier to operate.
- Controller can be took away from hydronic module, and an additional cover is provided



- Mode control
- Weekly timer function
- Electric heater
- Forced defrosting
- Sterilization
- Anti-freezing protection

Specification

Outdoor Unit	HCP-D5HW/DR4	HCP-D8HW/DR4	HCP-D10HW/DR4	HCP-D12HW/DR4	HCP-D14HW/DZR4	HCP-D16HW/DZR4		
Indoor Unit	HCP-D8HN/DR4	HCP-D8HN/DR4	HCP-D12HN/DR4	HCP-D12HN/DR4	HCP-D16HN/DR4	HCP-D16HN/DR4		
Performance Data								
Heating Capacity/COP(A7°C/W35°C)	kW/COP		5.29/3.67	8.26/3.61	10.8/3.84	12.84/3.80	15.26/3.65	17.28/3.64
Heating Capacity/COP(A7°C/W55°C)	kW/COP		3.90/2.47	6.14/2.42	9.6/2.74	11.4/2.71	13.58/2.61	15.36/2.6
Heating Capacity/COP(A-7°C/W35°C)	kW/COP		5.15/3.34	8.04/3.29	10.2/2.88	12.12/2.85	14.42/2.74	16.32/2.73
Heating Capacity/COP(A-7°C/W55°C)	kW/COP		3.95/2.17	6.20/2.13	7.11/1.73	8.42/1.70	11.2/1.83	12.64/1.82
Heating Capacity/COP(A-15°C/W35°C)	kW/COP		4.38/2.39	6.83/2.36	8.5/2.41	10.2/2.41	12.04/2.3	13.6/2.9
Heating Capacity/COP(A-15°C/W55°C)	kW/COP		2.86/1.79	4.49/1.76	6.75/1.63	7.99/1.61	10.64/1.73	12/1.72
Cooling Capacity/EER(A35°C/W7°C)	kW/EER		4.5/2.7	6.5/2.8	8.5/2.8	10/2.7	13.8/2.82	15.2/2.81
cooling Capacity/EER(A35°C/W18°C)	kW/EER		4.2/3.8	6.5/3.8	8.5/4.8	10/4.8	13.8/4.8	15.2/4.8
Seasonal Energy Efficiency(W35°C/W55°C)	SCOP(kW)		4.73/3.29	4.42/3.24	5.15/3.35	4.34/3.33	4.08/3.33	4.07/3.38
Heating Average Climate	ETA(%)		189.14/131.65	176.8/129.6	203/131.1	170.6/130.2	160.2/130.2	159.7/132.1
Seasonal Space Heating Energy eff.Class (Average Climate General) Water Outlet	35°C		A++	A++	A++	A++	A++	A++
	55°C		A++	A++	A++	A++	A++	A++
Hydronic Model								
Power Supply	V/N/Hz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Sound Power Level	dB(A)	45	45	45	45	45	45	45
Dimension(WxHxD)	mm	490x910x340	490x910x340	490x910x340	490x910x340	490x910x340	490x910x340	490x910x340
Packing(WxHxD)	mm	620x1105x425	620x1105x425	620x1105x425	620x1105x425	620x1105x425	620x1105x425	620x1105x425
Net/Gross Weight	kg	47/55	47/55	48/56	48/56	48/56	48/56	48/56
Water Pipe Connector(Inlet/Outlet)	mm	DN32/DN32	DN32/DN32	DN32/DN32	DN32/DN32	DN32/DN32	DN32/DN32	DN32/DN32
Water Pump		Variable Speed	Variable Speed	Variable Speed	Variable Speed	Variable Speed	Variable Speed	Variable Speed
Capacity of Electric Heater	kW	3	3	3	3	3	3	3
Max.power Input	kW	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Max.current Input	A	17	17	17	17	17	17	17
Outdoor Unit								
Power Supply	V/N/Hz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	380-415/3/50	380-415/3/50	380-415/3/50
Sound Power Level	dB(A)	64	66	68	68	70	70	70
Max.power Input	kW	2.86	4.2	5.0	5.0	5.5	6.4	6.4
Max.current Input	A	13	19	22	22	10.5	12.1	12.1
Dimension(WxHxD)	mm	935x702x382	935x702x382	1032x810x445	1032x810x445	1014x1430x450	1014x1430x450	1014x1430x450
Packing(WxHxD)	mm	975x770x435	975x770x435	1075x875x495	1075x875x495	1095x1545x485	1095x1545x485	1095x1545x485
Net/Gross Weight	kg	47/51	55/58	56.3/61	63.5/68	124/138	124/138	124/138
Air Flow	m³/h	3200	3200	4000	4000	6100	6100	6100
Pipe Diameter	mm	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88
Max.piping Length/Height Difference	m	20/10	20/10	20/10	50/20	50/20	50/20	50/20
Refrigerant	Type/Quantity	kg	R32/1.1	R32/1.4	R32/3.0	R32/3.1	R32/3.6	R32/3.8
	Additional Charge	g	(Total Pipe Length-5)m*30g/m					
Ambient Temperature Range	Cooling	°C	-5-46°C					
	Heating	°C	-28-43°C					
	Domestic Hot Water	°C	-28-43°C					
Water Temperature Range	Cooling	°C	5-25°C					
	Heating	°C	25-60°C					
	Domestic Hot Water	°C	40-60°C					

Note 1. Integrated value takes into consideration the capacity drop during frosting and defrosting periods. The capacity is tested in free frequency situation.
2. The above data may be changed without notice for future improvement on quality and performance.

New Modular Chiller



30kW

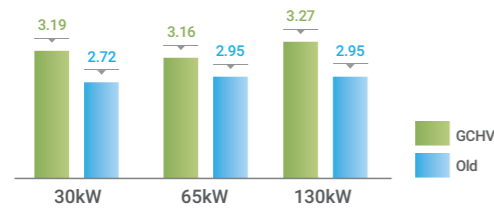
65kW

130kW

Features

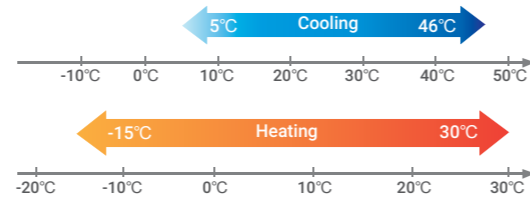
ErP High Cooling Performance

Meet ERP Standard, EER improved greatly compared with previous generation.



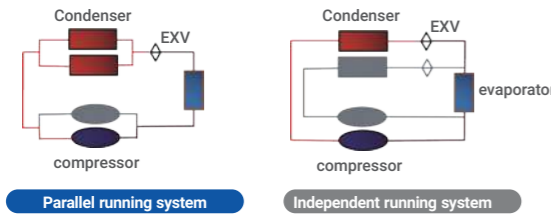
Wide Operation Range

Operate from -15°C to 46°C without failure.



Parallel Running System

- Efficiency will increase 12% when one compressor full load running because the condenser area is 2 times than independent running system.
- Refrigerant circuit will be simpler and running condition will be more stable.



Unit Back-up Function

If master unit fails, all the units will stop and any of the slave units can be set as master unit manually. If one slave unit fails, this unit will stop but others keep running.



Modular Design Concept

Max. 32 units can be combined in one group (16 units for 130kW units), max. capacity can be up to 2080kW.



Flexible combination

Unique Control Logic

For example, when a system with four 65kW units running at part load and 4 compressors are needed, in ordinary control logic two units will run at full load but in Giwee new control logic, four compressors in four units will run to make full use of all condensers, so the efficiency improves a lot.



Ordinary control logic

New control logic

Space Saving

Occupied area is decreased by 30% compare with last generation, suitable for projects with narrow installation area.

Old 130kW unit	New 130kW unit
Width: 2000mm	Width: 2200mm
Depth: 1700mm	Depth: 1100mm



Built-in Water Flow Switch

Standard with high quality water flow switch. Convenient for installation, no need to install water flow switch in water system on site. The water flow control will be more precisely.



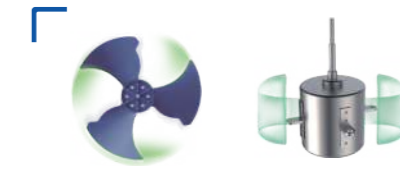
High Efficiency Shell & Tube Heat Exchanger

Shell&tube heat exchanger uses spiral turn-back design and high heat transfer efficiency copper pipes, to avoid rectangular place of dead heat, decrease water pressure drop, and improve heat exchange efficiency.



Smart Motor Speed Control

- Two-speed control independently guarantees the best condenser condition and low consumption.
- In part load running condition, the motor will run in low speed and with low consumption.



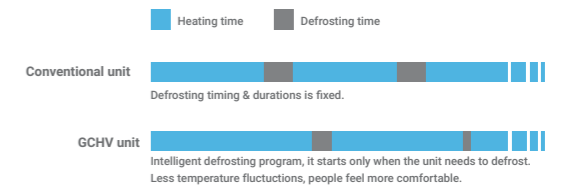
Cycle Operation

In one combination system, according to the accumulated operation time, all slaver units operates as alternative in cycle, which increases reliability and balances units lifespan.



Intelligent Defrosting Program

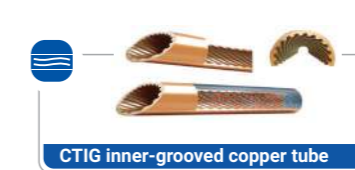
Defrosting starts only when the unit needs to, which decrease defrosting time and water temperature fluctuation.



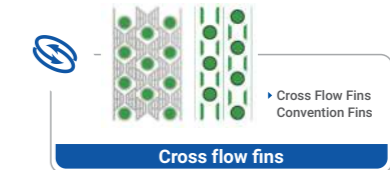
Round-designed Condenser



The airflow is evener and heat exchange is more sufficient.



Higher thermometric conductivity and increases heat-exchanging efficiency.



Low air resistance and great heat transfer coefficient, and frosting improves a lot.

Multiple Protections

- Power phase sequence protection
- Compressor ON/OFF frequently protection
- Low pressure protection of compressor
- Power-off memory function
- High temperature protection of condenser
- Over-current protection of compressor
- Water outlet temperature protection
- Compressor high pressure/overload protection
- Anti-ice protection in winter
- Insufficient water flow switch

Specification

Heat pump unit

Model			HCS-F30HW/ZR1B	HCS-F65HW/ZR1B	HCS-F130HW/ZR1B
Power			380-415V/3N/50Hz	380-415V/3N/50Hz	380-415V/3N/50Hz
Capacity	Cooling	kW	30	65	130
	Heating	kW	35	70	132
Rated Power Input	Cooling	kW	9.4	20.6	39.8
	heating	kW	9.8	21.3	40.8
Rated Current	Cooling	A	18	38	78
	heating	A	19	39	80
Max. Power Input	Cooling	kW	15	28	60
	heating	kW	15	28	60
Max. Current	Cooling	A	30	51	106
	heating	A	30	51	106
EER	Cooling		3.18	3.16	3.26
	Heating		3.18	3.16	3.26
Refrigerant	Type		R410A	R410A	R410A
	Charge	kg	7.3	13.5	15x2
Water Flow		m ³ /h	5.16	11.18	22.36
Pressure Drop		kPa	30	30	40
Max. Pressure		Mpa	1.0	1.0	1.0
Water Inlet/Outlet Diameter		mm	DN40	DN65	DN65
Connection type		m ³ /h	12000	24000	48000
Air Flow			1 1/2" inch Male Connection	Flange connection	Flange connection
Acoustic pressure (1m)		dB(A)	62	64	65
			1160x1920x900	2000x1920x900	2200x2220x1100
Dimension(WxHxD)	Net	mm	1160x1920x900	2000x1920x900	2200x2220x1100
	Packing	mm	1240x2060x950	2080x2060x950	2280x2360x1140
Weight	Net	kg	320	610	1010
	Packing	kg	350	630	1060
Ambient Temperature	Cooling	°C		5-46(-15-46 for 65kW)	
	Heating	°C		-15-30	
Inlet Water	Cooling	°C		9-25	
	Heating	°C		26-48	

Cooling only unit

Model			HCS-F30CW/ZR1	HCS-F65CW/ZR1	HCS-F130CW/ZR1
Power			380-415V/3N/50Hz	380-415V/3N/50Hz	380-415V/3N/50Hz
Capacity	Cooling	kW	33.15	65	130
	Heating	kW			
Rated Power Input	Cooling	kW	10.1	19.2	38.4
	heating	kW			
Rated Current	Cooling	A	18	36	76
	heating	A			
Max. Power Input	Cooling	kW	32	32	64
	heating	kW			
Max. Current	Cooling	A	30	59	120
	heating	A			
EER	Cooling		3.26	3.38	3.38
	Heating				
Refrigerant	Type		R410A	R410A	R410A
	Weight	kg	7.3	13.0	12x2
Water Flow		m ³ /h	5.16	11.18	22.36
Pressure Drop		kPa	30	30	30
Operation pressure		MPa	4.5	4.5	4.5
Water Inlet/Outlet Diameter		mm	DN40	DN65	DN65
Air Flow		m ³ /h	12000	24000	48000
Noise		dB(A)	62	64	68
			1160x1920x900	2000x1920x900	2200x2280x1100
Dimension(WxHxD)	Net	mm	1160x1920x900	2000x1920x900	2200x2280x1100
	Packing	mm	1240x2060x950	2080x2060x920	2280x2420x1140
Weight	Net	kg	320	500	1010
	Packing	kg	350	520	1060
Ambient Temperature	Cooling	°C		15-48(5-48 for 65kW)	
	Heating	°C			
Inlet Water	Cooling	°C		9-25	
	Heating	°C			

Note

- Cooling: water inlet/outlet: 12 °C/7°C , outdoor ambient temperature:35°C DB.
- Heating: water inlet/outlet: 40°C/45°C, outdoor ambient temperature: 7°C DB/6°C WB
- Water side fouling factor: 0.086m²/kW.
- The above data may be changed without notice for future improvement on quality and performance.

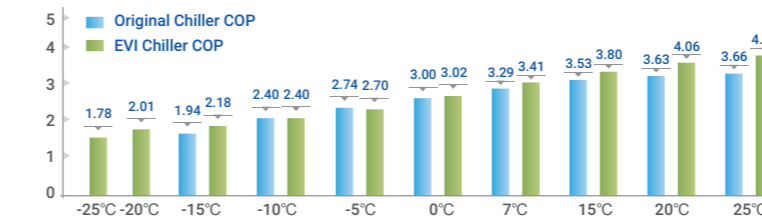
EVI Modular Chiller



Features

High Heating Performance

Low temperature heat pump unit adopts EVI technology. Two-stage compression improves heating capacity and efficiency in low ambient temperature.



EVI Compressor

Low-temperature heat pump unit adopts EVI (Enhanced Vapor Injection) compressor. A part of drawn intermediate pressure gas refrigerant is mixed and compressed with compressed refrigerant, which realizes two-stage compression in one compressor, increases compression efficiency and improves the heating performance in low temperature.

Wide Operation Range

- Cooling operating temperature is up to 46°C
- Heating operating temperature is down to -30°C

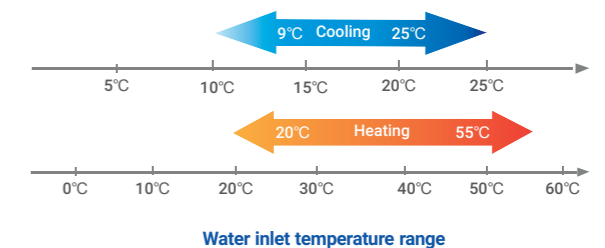
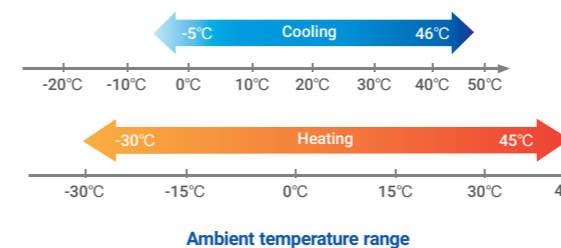
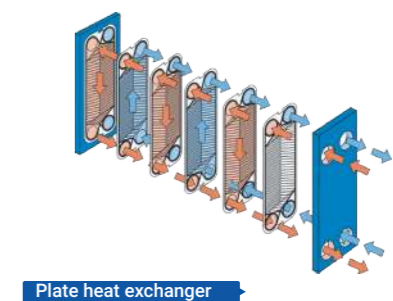
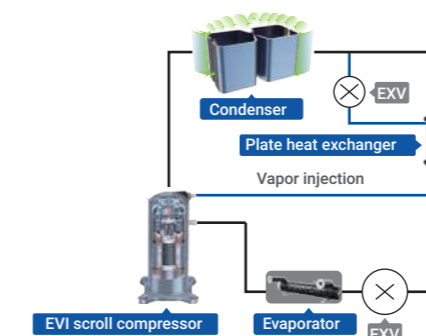


Plate Heat Exchanger

Plate heat exchanger plays an important role in EVI heat pump unit. Sub-cool the refrigerant before throttling in primary loop, increase enthalpy difference. Preheat the throttled refrigerant in auxiliary loop, supply gas refrigerant to compressor for secondary compression.



Specification

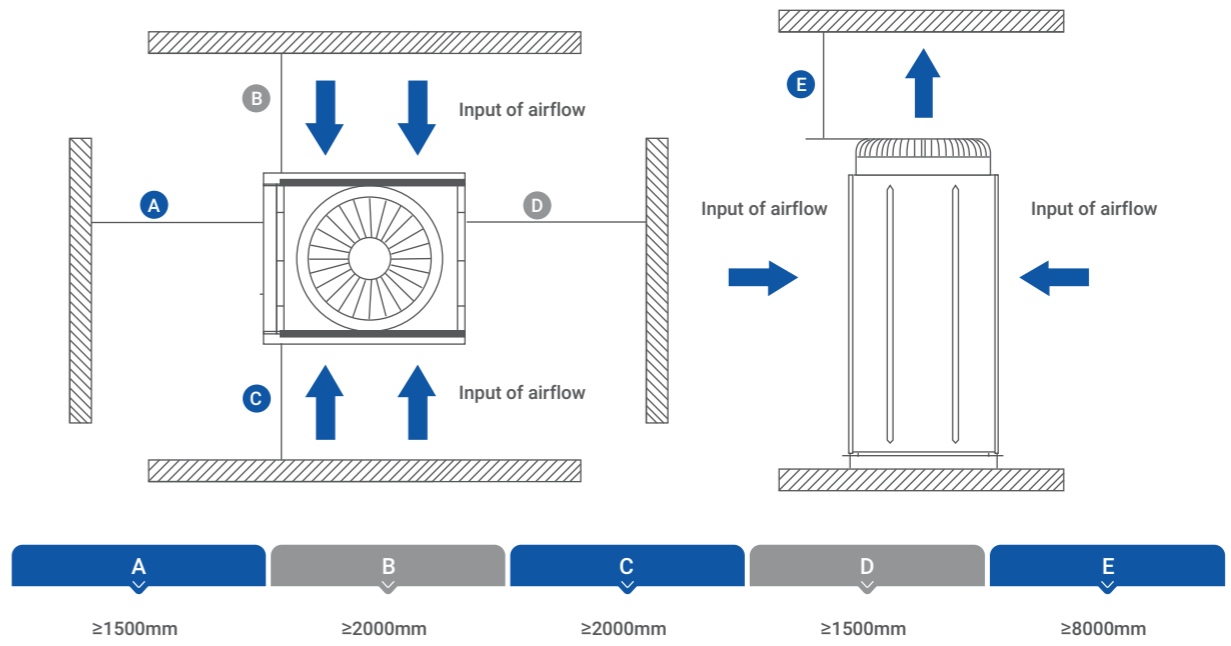
Model			HCS-FE35HW/ZR1A	HCS-FE75HW/ZR1A	HCS-FE155HW/ZR1A
Power			380~415V/3N/50Hz		
Rated heating (A7°C/W45°C)	Capacity	kW	36	77	155
	Power input	kW	10.3	22.6	43
	Current input	A	19	40	82
	COP	W/W	3.49	3.41	3.6
Nominal heating (A-12°C/W41°C)	Capacity	kW	24	50	100
	Power input	kW	9.8	20	39.4
	Current input	A	18	37	74
	COP	W/W	2.45	2.5	2.54
Rated Cooling (A35°C/W7°C)	Capacity	kW	30	60	138
	Power input	kW	9.5	20.7	43.1
	Current input	A	18	38	78
	EER	W/W	3.16	2.9	3.2
IPLV(H)			2.82	2.82	2.93
IPLV(C)			3.42	3.22	3.5
Max. current		A	34	72	125
Max. power input		kW	15	34	70
Basic parameter					
Refrigerant	Type		R410A	R410A	R410A
	Refrigerant control		EXV	EXV	EXV
	Weight	kg	7.5	6.5x2	12.0x2
Water side heat exchanger	Type		Shell tube heat exchanger		
	Max. pressure	MPa	1	1	1
	Water flow	m³/h	6.2	13.2	23.7
	Pressure drop	kPa	30	30	55
	Water inlet diameter	mm	DN40	DN65	DN65
	Water outlet diameter	mm	DN40	DN65	DN65
	Joint Type		1 1/2" Male connection	Flange joint	Flange joint
Waterproof grade			IPX4	IPX4	IPX4
Air flow		m³/h	12000	24000	48000
Noise		dB(A)	62	64	69
Dimension (WxHxD)	Net	mm	1160x1920x900	2000x1920x900	2200x2280x1100
	packing	mm	1240x2060x950	2080x2060x950	2280x2300x1120
Weight	Net	kg	320	635	1010
	Packing	kg	350	650	1020
Operation Range					
Ambient Temperature	Cooling	°C	5~46	5~46	5~43
	Heating	°C	-30~45	-30~45	-30~45
Water Inlet Temperature	Cooling	°C	9~25	9~25	9~25
	Heating	°C	20~55	20~55	20~55
Water Outlet Temperature	Cooling	°C	5~20	5~20	5~20
	Heating	°C	25~60	25~60	25~60

Note

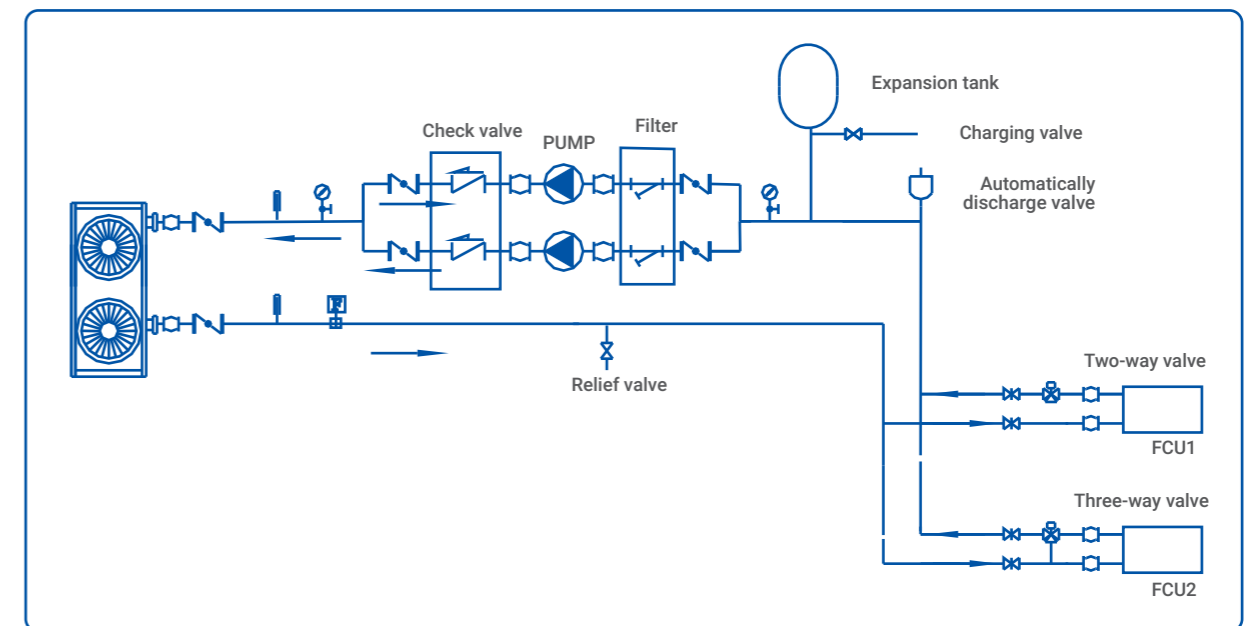
- The rated cooling conditions: water flow 0.172m³/(h·kW), ambient temperature 35°C DB, water outlet temperature 7°C
- The rated heating conditions: water flow 0.172m³/(h·kW), ambient temperature 7°C DB, water outlet temperature 45°C
- The nominal heating conditions: water flow 0.172m³/(h·kW), ambient temperature -12°C DB, indoor side water outlet temperature 41°C
- The above data may be changed without notice for future improvement on quality and performance.

Installation

Installation space requirement



Connection of pipeline system



- ⊗ > Stop valve
- ⊕ > Pressure gauge
- ⊗ > Gate valve
- ⊞ > Flexible joint
- ⊞ > Water flow switch
- ⊞ > Y-shaped filter
- ⊞ > Thermometer
- ⊞ > Circulation Pump
- ⊞ > Check Valve
- ⊞ > Automatically discharge valve

Modular Chiller with Heat Recovery



30kW



65kW

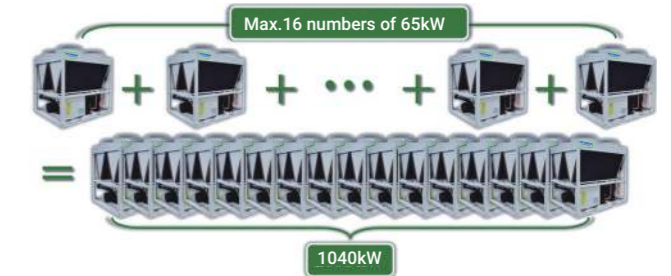
High Efficiency Pot

Specially designed high efficiency pot, compact structure and great heat exchange efficiency.



Modular Design Concept

Modular design concept, a good solution for agencies to make stocks. Excellent flexibility in installation, max. 16 units can be combined in a group, max. Capacity can be up to 1040kW.



Features

Multi Function

Multi function, offering air conditioning and hot living water whole year.



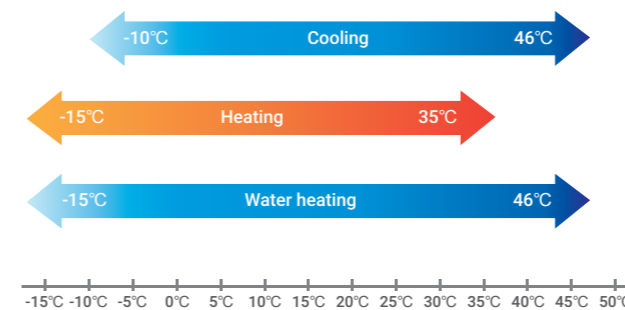
High Reliable Compressor

Adopting high reliable Copeland compressor.

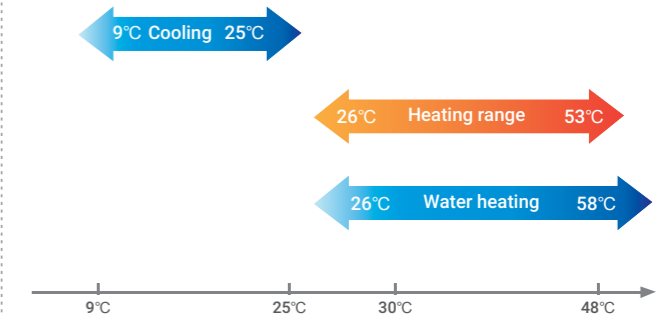
- Better liquid handling** Radial compliance allows the scroll members to separate in the presence of liquid refrigerant, thus, providing protection against liquid damage.
- Greater efficiency** With axial compliance, optimized force between two scrolls can be obtained, leading to high efficiency over the entire operating range.
- Unmatched reliability** Ability to start under any system load, without start components. Easy to service and maintain due to their compact size and light weight, simple design. Engineered for optimum performance with today's chlorine-free refrigerants. No complex internal suction and discharge valves for quieter operation and higher reliability.

Wide Operation Range

Ambient temperature range

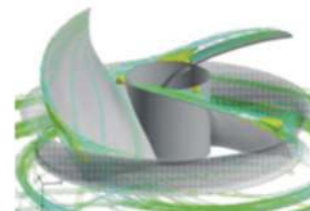


Water inlet temperature range



Full Heat Recovery

Full heat recovery, using total condensation heat to produce hot living water, high efficiency and great energy saving.



Full heat recovery
Zero discharge

500 Steps EXV From Famous Brand

Compare to TXV, it controls refrigerant flow as per operation mode and temperature condition, because EXV has faster load reaction speed, bigger regulation range, higher refrigerant control, accuracy, so the water outlet temperature can be controlled more precisely.



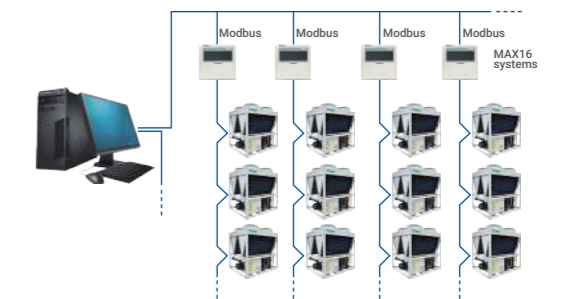
Multi Protections

Comprehensive protections to guarantee system's safety.

- Low/High pressure protection of compressor
- Compressor malfunction protection
- Compressor overload protection
- Overheat protection of condenser
- Phase sequence protection
- Water flow cut off protection

Modbus Gateway

Modbus gateway is built in the control logical for standard. it can realize BMS control without any device.



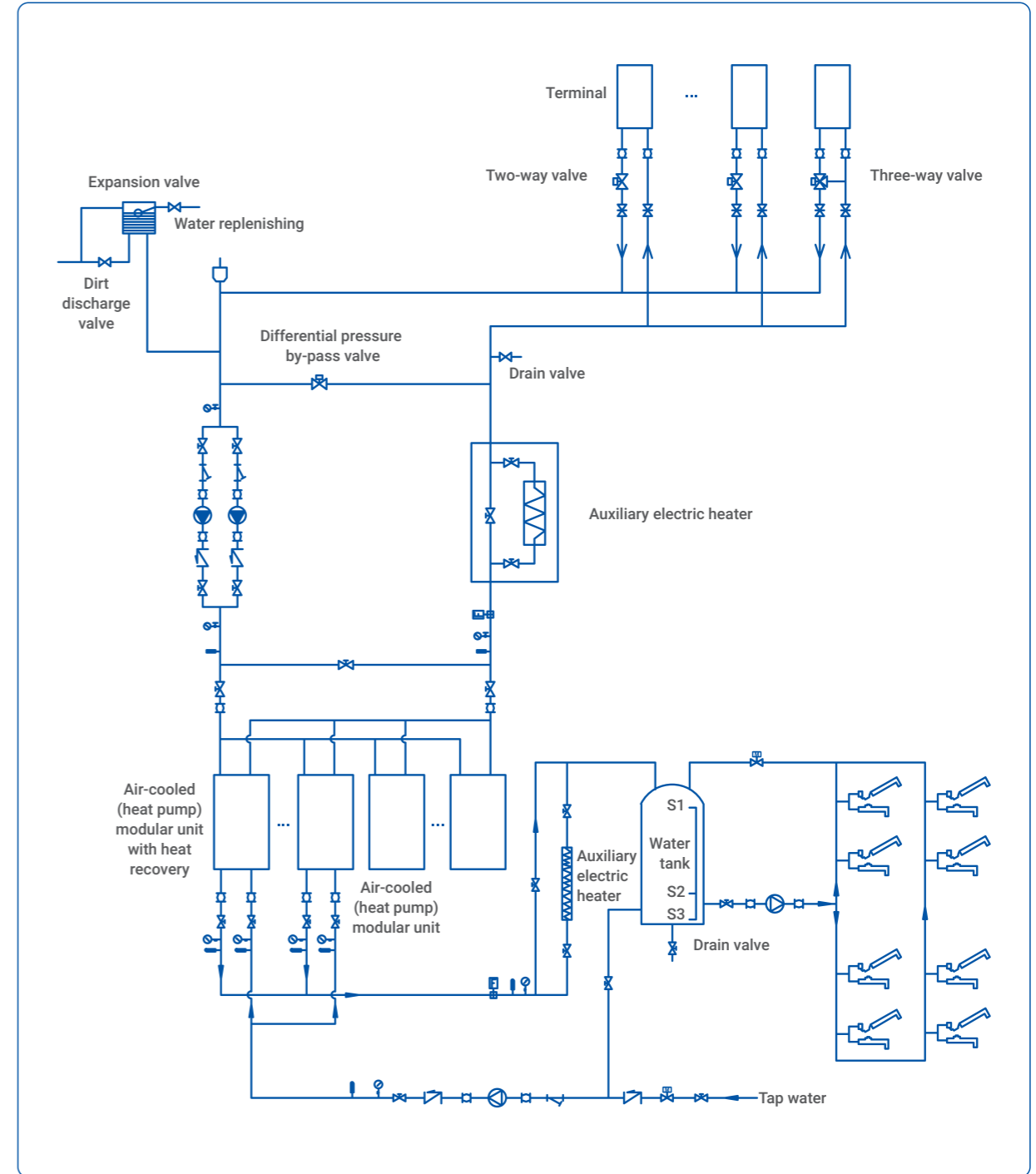
Specification

Type			R407C/50Hz	R407C/50Hz
Model			HCS-F30QRHW/ZR2	HCS-F65QRHW/ZR2
Power supply	V/N/Hz		380~415V/3N/50Hz	380~415V/3N/50Hz
Capacity				
Cooling	kW		30	65
Heating	kW		35	70
Water heating	kW		38	76
Electrical data				
Power input	Cooling	kW	11	22
	Heating	kW	12	23
	Water heating	kW	10.2	20.5
	Max. Power Input	kW	20	40
Rated current	Cooling	A	19	39
	Heating	A	21	41
	Water heating	A	18	36
	Max. Current	A	38	76
Physical data				
Refrigerant	Weight	kg	7	7x2
	Refrigerant control		EXV+ Capillary throttle	EXV+Capillary throttle
Compressor	Type		R407C	R407C
	Brand		Emerson	Emerson
	Type		Scroll	Scroll
Fan motor	Quantity	pcs	1	2
	Quantity	pcs	1	2
Evaporator (Water side)	Air flow volume	m ³ /h	12000/6000	24000/18000/12000/6000
	Heat-exchanger type		Shell and tube evaporator	Shell and tube evaporator
	Water pressure drop	kPa	30	30
	Water inlet/outlet diameter	mm	DN40	DN65
	Water flow volume	m ³ /h	6	11.18
	Max. Pressure	Mpa	1.00	1.15
	Connection type		Thread + rubber gasket	Flange + rubber gasket
High efficiency pot (hot water side)	Heat-exchanger type	kPa	Shell and tube evaporator	Shell and tube evaporator
	Water pressure drop	inch	50	65
	Water inlet/outlet diameter	m ³ /h	1.5	2
	Water flow volume	MPa	6.5	13.07
	Max. Pressure		1	1
Dimension (WxHxD)	Water pipe connection type	mm	Thread connection	Thread connection
	Net	mm	1160x2090x900	2000x2090x900
Weight	Packing	kg	1240x2245x950	2080x2245x950
	Net	kg	360	650
Control type	Gross	kg	380	680
			Wired controller	Wired controller
Sound level(semi-anechoic)	dB(A)		58-62	60-65
Operation range				
Water inlet temperature	Cooling	°C	(Water return)9-25	(Water return)9-25
	Heating	°C	(Water return)26-53	(Water return)26-53
	Water heating	°C	(Water return)26-58	(Water return)26-58
Ambient temperature	Cooling	°C	-10-46	-10-46
	Water heating	°C	-15-35	-15-35
	Heating	°C	-15-46	-15-46

Remarks (Specifications are based on the following conditions):
 1. Cooling: water inlet/outlet: 12°C/7°C, outdoor ambient temperature is 35°C DB.
 2. Heating: water inlet/outlet: 40°C/45°C, outdoor ambient temperature is 7°C DB/6°C WB.
 3. Water heating: water inlet/outlet: 40°C/45°C, outdoor ambient temperature is 20°C DB/15°C WB.

Installation

Connection of pipeline system



- > Stop valve
 > Pressure gauge
 > Gate valve
 > Flexible joint
 > Water flow switch
 > Solenoid valve
- > Y-shaped filter
 > Thermometer
 > Pump
 > Check Valve
 > Automatic discharge valve

Fan Coil Unit (4-pipe Cassette)



Round Flow Cassette
600-1000CFM

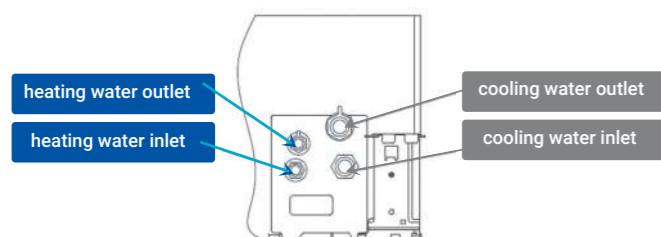


Compact 4-way Cassette
300~470CFM

Features

4-Pipe Design

The 4-pipe unit consists of two separate cooling and heating water coils. Each coil has its own dedicated set of pipes (supply and return) and valve. This type of fan coil can cool and heat at the same time and is not dependent of the actual mode of the building.



360° Round Panel

For big cassette type unit, 360° panel is standard. The cold or warm air can reach each corner of the room, providing a stable and comfortable environment. For compact cassette, 4-way panel is standard.



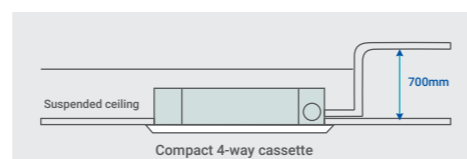
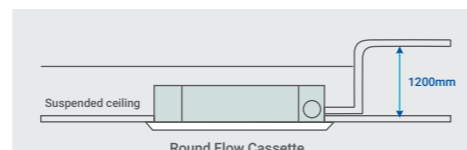
Various Selections

Digital display board, wired controller, different wired controllers are optional.



Built-in With Drainage Pump

Built-in with low noise and long life drainage pump. The pump head is 1200mm for big cassette and 700mm for compact cassette, flexible for drainage pipe design.



Specification

FCU type			Round Flow Cassette			
Model			HSQ-600R-F	HSQ-760R-F	HSQ-880R-F	HSQ-1000R-F
Power supply			220-240/1/50			
Capacity						
Air flow volume	Hi/Med/Lo	CFM	600/500/410	760/700/530	880/790/645	1000/880/700
		m ³ /h	1000/850/700	1300/1200/900	1500/1350/1100	1700/1500/1200
Cooling capacity	Hi/Med/Lo	kW	4.5/4.0/3.5	4.8/4.3/3.8	5.5/5.0/4.5	5.8/5.3/4.8
Heating capacity	Hi/Med/Lo	kW	8.5/7.6/6.0	10.5/9.6/8.0	12.5/11.0/9.5	13.0/11.5/10.0
Physical data						
Rated power input			127			
Noise level(high speed)			40-49			
Water flow volume	Cooling	m ³ /h	0.72	0.79	0.86	0.95
	Heating	m ³ /h	0.73	0.90	1.07	1.12
Water pressure drop	Cooling	kPa	32	35	24	26
	Heating	kPa	43	46	40	42
Waterproof grade			IP24			
Indoor unit	Dimension(WxHxD)	mm	840x230x840	840x230x840	840x285x840	840x285x840
	Packing(WxHxD)	mm	920x265x920	920x265x920	920x310x920	920x310x920
	Net/Gross weight	kg	23.6/27.7	23.6/27.7	28.2/32.6	28.2/32.6
Panel	Dimension(WxHxD)	mm	950x50x950	950x50x950	950x50x950	950x50x950
	Packing(WxHxD)	mm	1030x100x1030	1030x100x1030	1030x100x1030	1030x100x1030
	Net/Gross weight	kg	6.5/9.5	6.5/9.5	6.5/9.5	6.5/9.5
Pipe	Cooling water-inlet pipe	mm	DN20	DN20	DN20	DN20
	Cooling water-outlet pipe	mm	DN20	DN20	DN20	DN20
	Heating water-inlet pipe	mm	DN15	DN15	DN15	DN15
	Heating water-outlet pipe	mm	DN15	DN15	DN15	DN15
	Drainage pipe	mm	DN25	DN25	DN25	DN25
Controller			Remote controller(standard), wired controller(optional)			

FCU type			Compact 4-way Cassette		
Model			HSQ4-300R-F	HSQ4-350R-F	HSQ4-470R-F
Power supply			220-240/1/50		
Capacity					
Air flow volume	Hi/Med/Lo	CFM	295/220/175	350/280/235	470/320/245
		m ³ /h	500/380/300	600/480/400	800/550/420
Cooling capacity	Hi/Med/Lo	kW	1.90/1.7/1.5	2.1/1.85/1.6	2.4/2.05/1.7
Heating capacity	Hi/Med/Lo	kW	4.4/3.45/2.5	4.8/3.55/2.9	5.5/4.5/3.2
Physical data					
Rated power input			48		
Noise level(high speed)			43		
Water flow volume	Cooling	m ³ /h	0.33	0.38	0.45
	Heating	m ³ /h	0.38	0.41	0.47
Water pressure drop	Cooling	kPa	15	15	20
	Heating	kPa	15	15	20
Waterproof grade			IP24		
Indoor unit	Dimension(WxHxD)	mm	580x260x580	580x260x580	580x260x580
	Packing(WxHxD)	mm	745x375x675	745x375x675	745x375x675
	Net/Gross weight	kg	16.5/22	16.5/22	16.5/22
Panel	Dimension(WxHxD)	mm	650x30x650	650x30x650	650x30x650
	Packing(WxHxD)	mm	750x95x750	750x95x750	750x95x750
	Net/Gross weight	kg	2.7/4.0	2.7/4.0	2.7/4.0
Pipe	Cooling water-inlet pipe	mm	DN20	DN20	DN20
	Cooling water-outlet pipe	mm	DN20	DN20	DN20
	Heating water-inlet pipe	mm	DN15	DN15	DN15
	Heating water-outlet pipe	mm	DN15	DN15	DN15
	Drainage pipe	mm	DN25	DN25	DN25
Controller			Remote controller(standard), wired controller(optional)		

Remarks

- Cooling capacity test condition: air side temperature:27DB°C/19WB°C, water inlet temperature 7°C, water temperature difference 5°C.
- Heating capacity test condition: air side temperature:21DB°C, water inlet temperature 65°C, water temperature difference 10°C.
- The above data may be changed without notice for future improvement on quality and performance.

Fan Coil Unit (2-pipe Cassette)



4-way Cassette
600-1000CFM



Compact 4-way Cassette
300~470CFM

Features

Low Operation Noise

- Streamline plate ensures quietness.
- Creating natural and comfortable environment.

Optimized Structure

Optimized structure enhances air volume and capacity greatly.

3D Centrifugal Fan

- Adopting the most advanced 3D centrifugal fan.
- Reduce air resistance and smooth air flow.
- Making air flow distributed uniformly to the heat exchanger.

Easy Installation And Maintenance

There are several improvements for easy installation and maintenance:

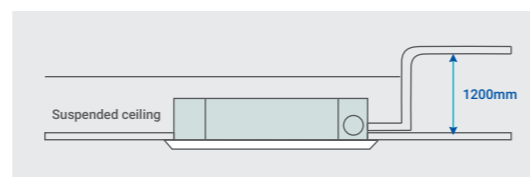
- Less space is required for installation in the shallow ceiling.
- Thanks to the compactness and weight reduction, all models can be installed without hoists.

Full Series Of Controllers

Full series of controllers offer the most suitable solution according to different requirements of different customers.

Built-in Drainage Pump

With the help of built-in drainage pump, the pump lift can reach to 1200mm.



Optional Controllers

For standard cassette, wired controller and digital display panel are optional.



Specification

FCU type			Compact 4-way Cassette		
Model			CSQ4-300R-A	CSQ4-350R-A	CSQ4-470R-A
Power supply	V/N/Hz		220~240/1/150	220~240/1/50	220~240/1/150
Capacity			▼	▼	▼
Air flow volume	Hi/Med/Lo	CFM	295	350	440
		m ³ /h	500/340/260	600/420/330	750/560/420
Cooling capacity	Hi/Med/Lo	kW	2.5/2.2/1.8	3.5/3.0/2.3	4.5/3.9/2.9
Heating capacity	Hi/Med/Lo	kW	3/2.6/2.0	4/3.2/2.4	5.2/4.2/3.3
Physical data			▼	▼	▼
Noise level(High-speed)	dB(A)		40	42	44
Water flow volume	m ³ /h		0.43	0.60	0.78
Water pressure drop	kPa		25	28	30
Indoor coil	Number of Rows		1	2	2
	Max.Pressure	Mpa	1.0	1.0	1.0
	Fin type		copper tube, aluminum fin		
Fan motor	Quantity	pcs	1	1	1
	Power Input	W	55	58	90
Indoor unit	Dimension(WxHxD)	mm	580x260x580	580x260x580	580x260x580
	Packing(WxHxD)	mm	745x375x675	745x375x675	745x375x675
	Net/Gross weight	kg	16/21.5	17/22.5	17/22.5
Panel	Dimension(WxHxD)	mm	650x30x650	650x30x650	650x30x650
	Packing(WxHxD)	mm	750x95x750	750x95x750	750x95x750
	Net/Gross weight	kg	2.7/4.0	2.7/4.0	2.7/4.0
Pipe	Water inlet pipe	mm	DN20	DN20	DN20
	Water outlet pipe	mm	DN20	DN20	DN20
	Drainage pipe	mm	DN25	DN25	DN25
Controller			remote controller(standard)		

FCU type			4-way Cassette			
Model			CSQ-600R	CSQ-760R	CSQ-880R	CSQ-1000R
Power supply	V/N/Hz		220-240/1/150	220-240/1/150	220-240/1/150	220-240/1/150
Capacity			▼	▼	▼	▼
Air flow volume	Hi/Med/Lo	CFM	600/510/360	760/646/456	880/748/528	1000/850/600
		m ³ /h	1000/867/612	1300/1098/775	1500/1272/898	1700/1445/1020
Cooling capacity	Hi/Med/Lo	kW	5.3/4.6/3.4	7.2/6.3/4.7	8.5/7.4/5.5	10.0/8.7/6.5
Heating capacity	Hi/Med/Lo	kW	8.0/7.0/5.2	10.8/9.4/7.0	12.8/11.1/8.3	15.0/13.1/9.8
Physical data			▼	▼	▼	▼
Noise level(High-speed)	dB(A)		43-48	44-48	45-52	45-53
Water flow volume	m ³ /h		1.10	1.24	1.46	1.55
Water pressure drop	kPa		36	36	38	40
Indoor coil	Number of Rows		2	2	2	2
	Fin type		Copper tube,aluminum fin			
Fan motor	Quantity	pcs	1	1	1	1
	Power Input	W	140	150	160	180
Indoor unit	Dimension(WxHxD)	mm	840x230x840	840x230x840	840x285x840	840x285x840
	Packing(WxHxD)	mm	920x265x920	920x265x920	920x310x920	920x310x920
	Net/Gross weight	kg	23/28	23/28	26/31.5	28/33.5
Panel	Dimension(WxHxD)	mm	950x50x950	950x50x950	950x50x950	950x50x950
	Packing(WxHxD)	mm	1030x105x1030	1030x105x1030	1030x105x1030	1030x105x1030
	Net/Gross weight	kg	5.4/8.0	5.4/8.0	5.4/8.0	5.4/8.0
Pipe	Water inlet pipe	mm	DN20	DN20	DN20	DN20
	Water outlet pipe	mm	DN20	DN20	DN20	DN20
	Drainage pipe	mm	DN25	DN25	DN25	DN25
Controller			Remote controller(standard),wired controller(optional)			

Remarks

- Cooling capacity test condition: air side temperature:27DB°C/19WB°C, water inlet temperature7°C, water temperature difference 5°C.
- Heating capacity test condition: air side temperature:21DB°C, water inlet temperature 45°C, water temperature difference 5°C.
- The above data may be changed without notice for future improvement on quality and performance.

Fan Coil Unit (2-pipe Cassette)

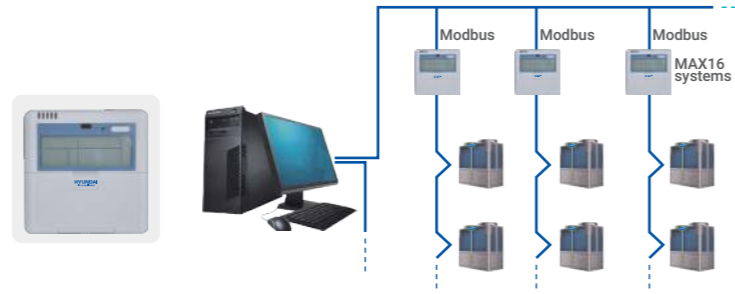


Wireless Controller (In Package Of Cassette FCUs)

- Wireless 8m transmission
- 5 operation mode: Auto, Cooling, Dehumidification, Heating, Fan
- Timer ON/OFF setting up to 24Hr
- Temperature control range 16-32°C
- Three fan speed selection

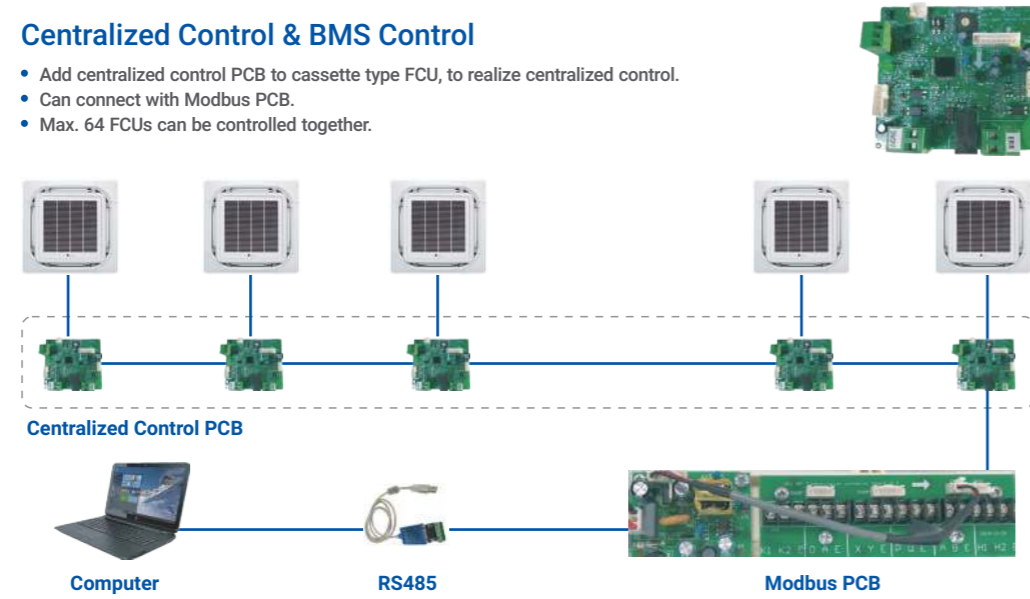
Wired Controller

- 2 operation mode
- Timer function
- Operation and error information inquiry
- Forced defrosting operation
- Button lock
- MODBUS function



Centralized Control & BMS Control

- Add centralized control PCB to cassette type FCU, to realize centralized control.
- Can connect with Modbus PCB.
- Max. 64 FCUs can be controlled together.



FCU Selection Software



FCU Calculation and Selection Result
Project 1: Project1

Basic information

Project information

Project name	Project1
Project location	
Project name	
Project location	
Project name	
Project location	

Equipment List

Model	Picture	Remarks
MT-08		

External Accessories List

Model	Picture	Remarks
MT-08		

Calculation Results Table

Room	Room Name	Room Area (m²)	Room Volume (m³)	Room Height (m)	Room Temp. (°C)	Room Humidity (%)	Room Air Change (1/h)	Room Air Flow (m³/h)	Room Air Flow (L/s)	Room Air Flow (CFM)	Room Air Flow (GPM)	Room Air Flow (GPM)	Room Air Flow (GPM)	Room Air Flow (GPM)	Room Air Flow (GPM)	Room Air Flow (GPM)
1	Room 1	100	3000	3.0	25.0	50	10	3000	83.3	1800	1800	1800	1800	1800	1800	1800
2	Room 2	150	4500	3.0	25.0	50	15	4500	125.0	2700	2700	2700	2700	2700	2700	2700
3	Room 3	200	6000	3.0	25.0	50	20	6000	166.7	3600	3600	3600	3600	3600	3600	3600