HYUNDAI

DC INVERTER VRF SYSTEM
Product Catalogue

T1 Condition

Directory

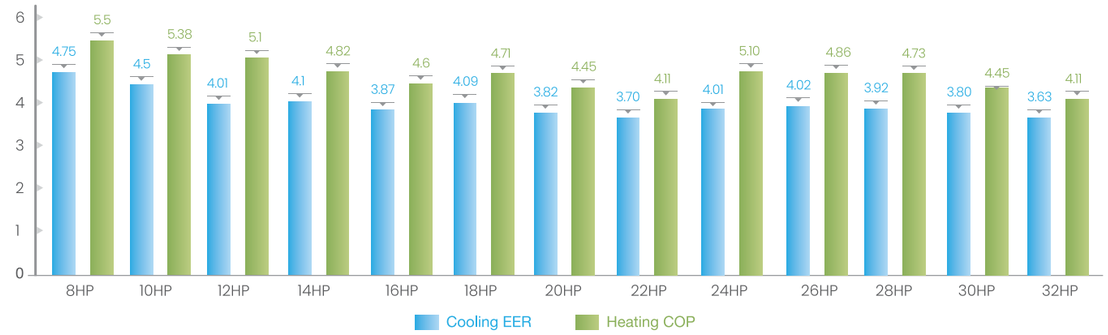
HECO-Pro

380~415V/3N/50Hz&60Hz
208~230V/3N/60Hz
New Generation Full DC
Inverter VRF System

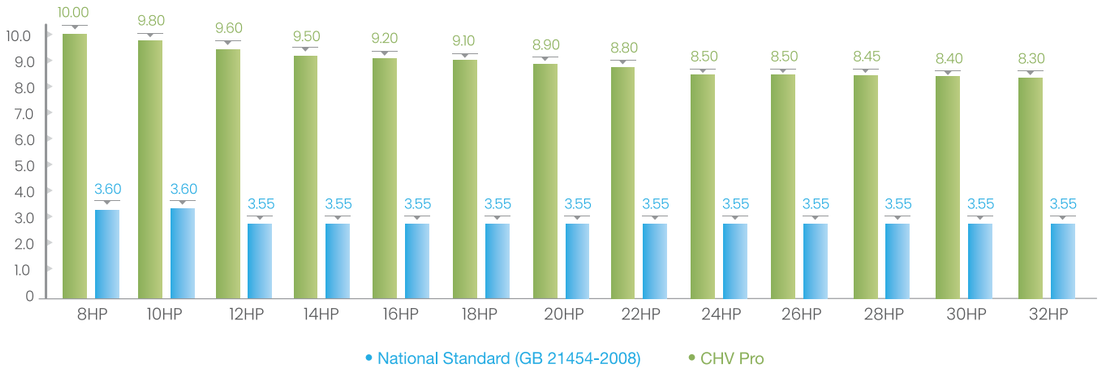
13 Basic Modules

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
Fan motor	DC	DC	DC	DC	DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC

EER&COP



IPLV(C)



Combination Table

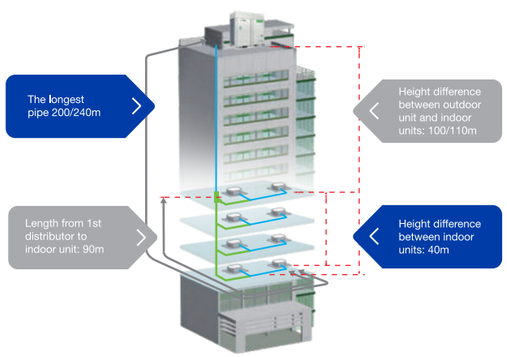
HP	Cooling Cap.(kW)	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP	26HP	28HP	30HP	32HP
8	25.2	●												
10	28		●											
12	33.5			●										
14	40				●									
16	45					●								
18	50						●							
20	56							●						
22	61.5								●					
24	67									●				
26	73										●			
28	78.5											●		
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.

Refrigerant Piping

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.

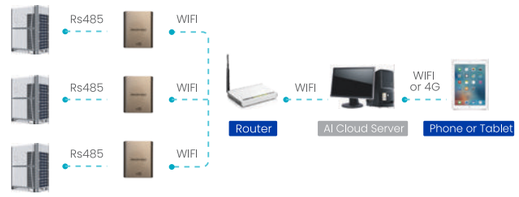
*Please refer to the installation manual for detailed length description.



Features

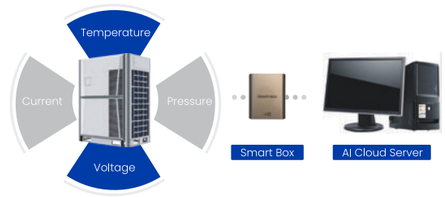
Long distance remote control

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.

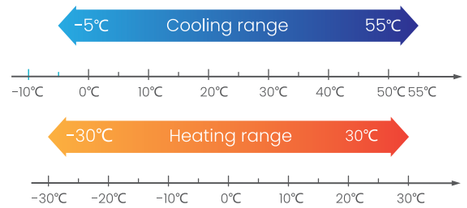


Refrigerant Cooling Design

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

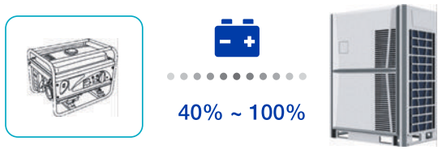
- Due to EVI technology, HECO PRO heating performance is increased by 35% compare to conventional VRF system.
- Due to EVI technology, HECO PRO still has 85% of rated capacity even in -15°C.



*Based on GCHV internal test report

Power Saving Mode

According to power usage, realize 7-level power limit setting.



Refrigerant Status Detection

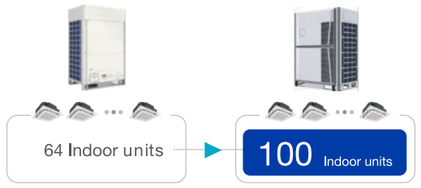
- Built-in with smart refrigerant auto check function, which can give suggestion about refrigerant status.
- Different code means different refrigerant status:

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

Features

More indoor units

Max. 100 Indoor units can be connect in ONE system

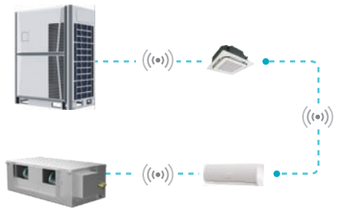


Electrical Lock Function(optional)

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.

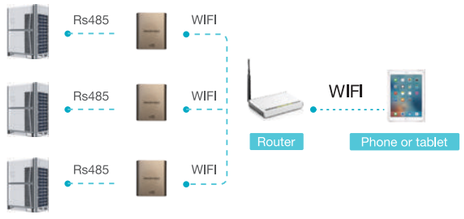
Wireless Communication(optional)

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



Online Diagnosis

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

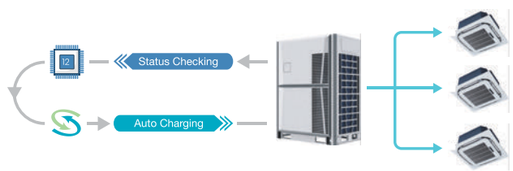


Service Window On Front Cover

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)

HECO 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.3 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

Low carbon life advocate

Hyundai 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

- Reduce wind resistance and improve heat exchange efficiency

DC Inverter Compressors

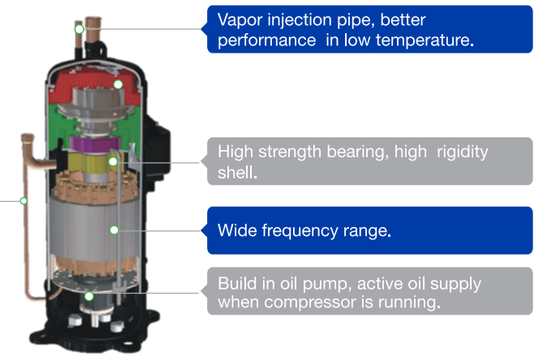
- High pressure type
- Asymmetric scroll design
- Neodymium permanent
- Magnet rotor

G Type Condenser

- Enlarge the heat exchange area, and the heat exchange effect is better (Available for 22/26/28/30/32HP)

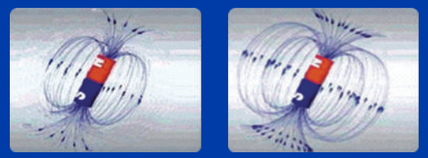
High Efficiency DC Inverter Compressor

- 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 effciency.
- High pressure chamber
  - Has small suction superheat and high refrigerant volume efficiency
  - Has large refrigerant discharge buffer volume, low vibration and noise



Neodymium permanent magnet rotor

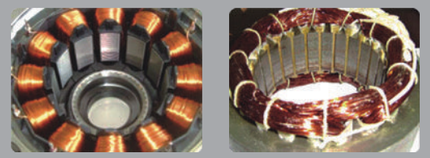
Powerful magnetic force, large force moment and high efficiency.



Ferrite magnet | Neodymium permanent magnet

Concentrated winding

Magnetic efficiency is 12% higher than distributed winding.



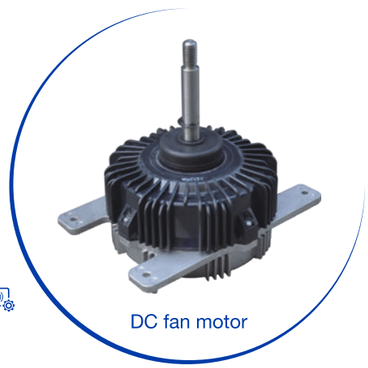
Concentrated winding | Distributed winding

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.

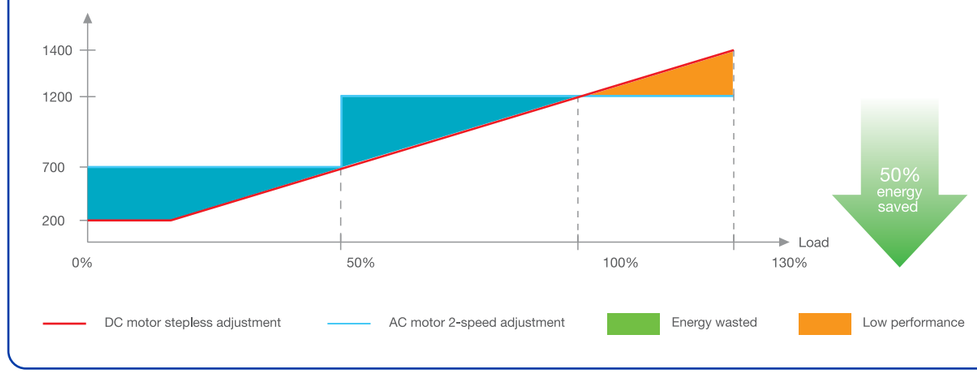


DC fan motor

Stepless Control

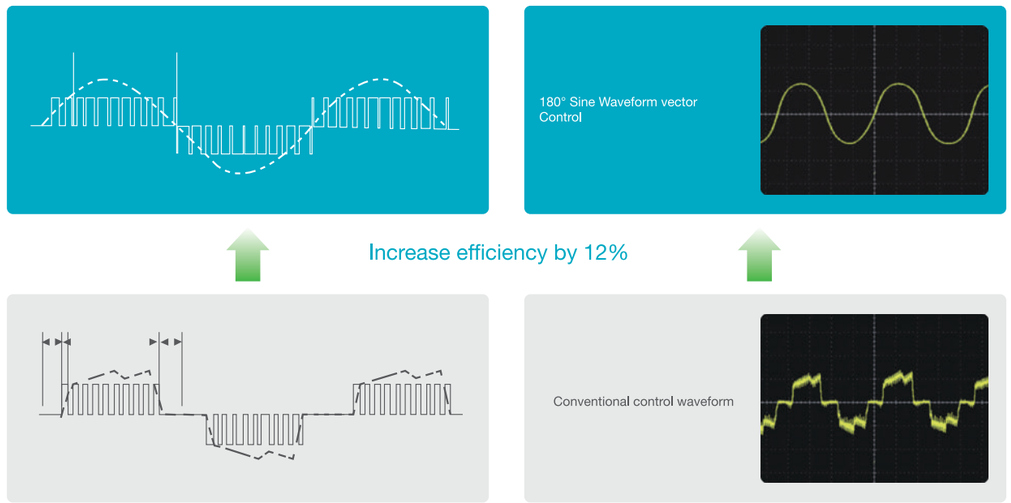
DC fan motor can be stepless contolled by outdoor PCB according to system's operating pressure. And it is able to reducethe energy consumption and maintain the system in the best performance.

Load-Revolution curve



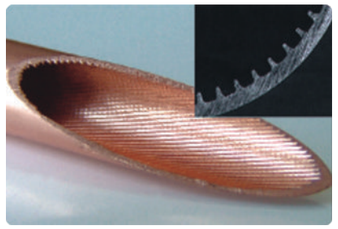
180° Sine Waveform Control

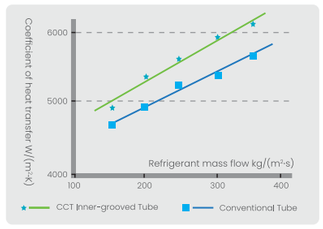
The perfect combination of 180° Sine waveform rotor frequency drive control technology and excellent IPM inverters, reduces the reactive loss of motor-driven, increases motor efficiency by 12%.

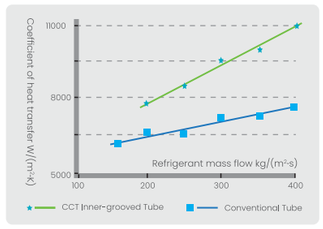


CCT Inner-grooved Tube

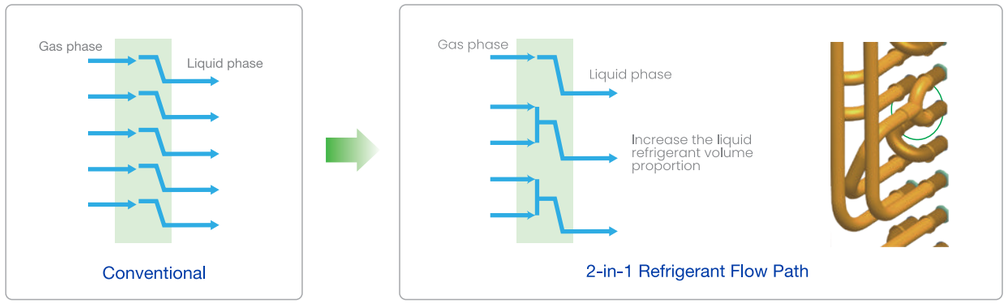
CCT (Continuous Cooling Transformation)inner-grooved copper tube has high thermometic conductivity. This inner-grooved fins break the refrigerant flow boundary layer to enhance refrigerant disturbance to increase heat-exchanging efficiency.

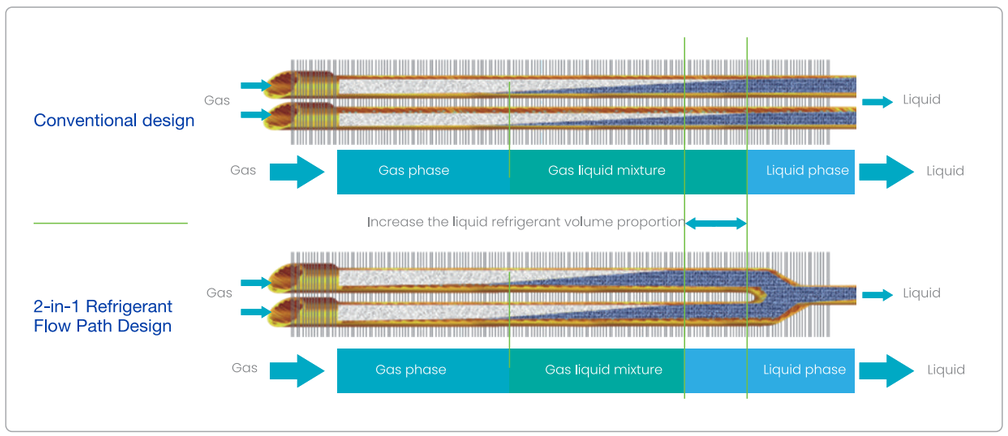






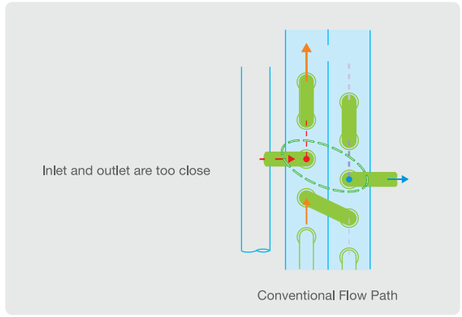
2-in-1 Refrigerant Flow Path Design

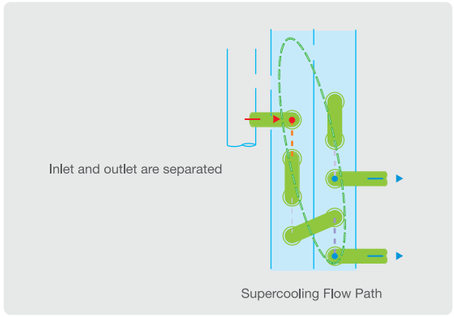




Supercooling Flow Path Design

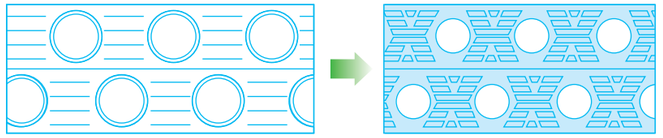
Supercooling flow path design, separates the refrigerant inlet and outlet, increase the supercooling degree, reduce the effect of high temperature inlet gas refrigerant to low temperature outlet liquid refrigerant, therefore,the system efficiency will be greatly increased.

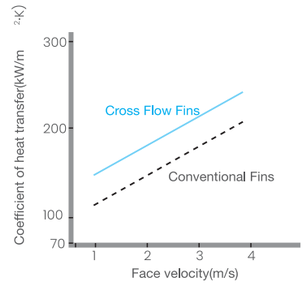




Cross Flow Fins

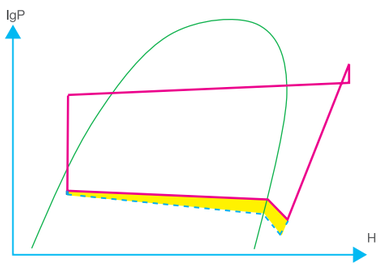
- Has low air resistance and great heat transfer coefficient.
- Frosting improved, frost on the heat-exchanger will be well-distributed, easyfor defrosting.





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.



New structure cycle Original compressing cycle 5% Pressure drop decrease

The PHE Economizer

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

Benefits For Users

2

Livable environment creator

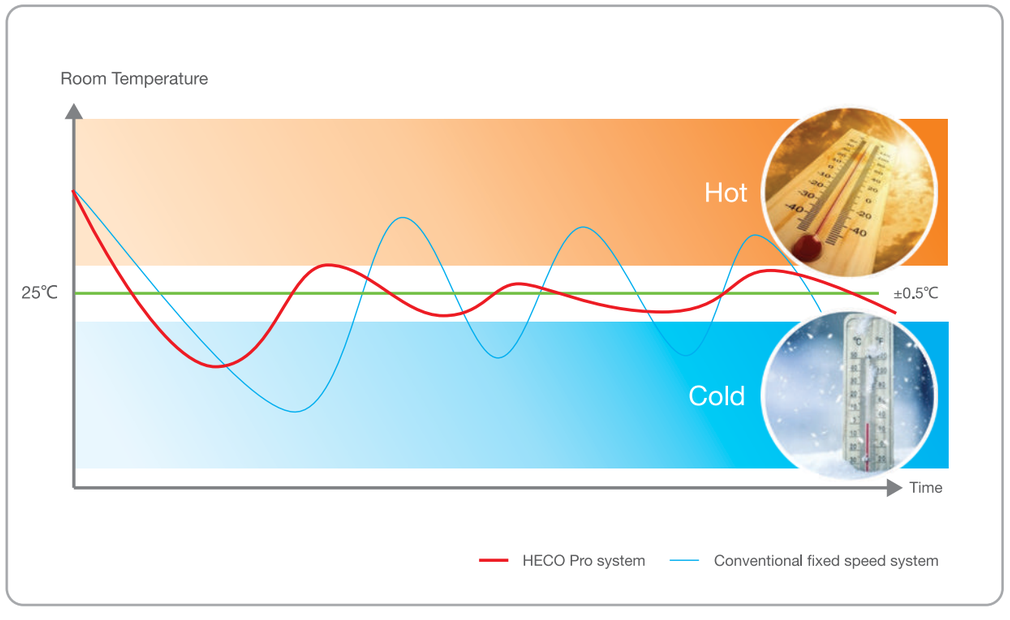
Hyundai focuses on starting point of CAC system: create a friendly, comfortable and pleasant living environment as always. DC inverter VRF system's comfort technologies include quick cooling and heating, precise temperature control, low noise, use environmental friendly refrigerant and so on, we strive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

Wide Operation Range

HECO Pro has a wide ambient temperature operation range, cooling at -5-55°C, and heating at -30-30°C.

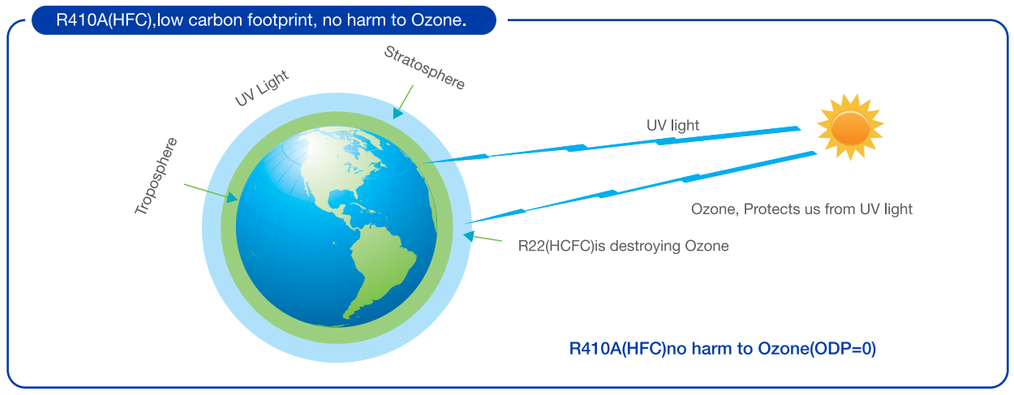
Outstanding Comfort Ability

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



Environment Friendly

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

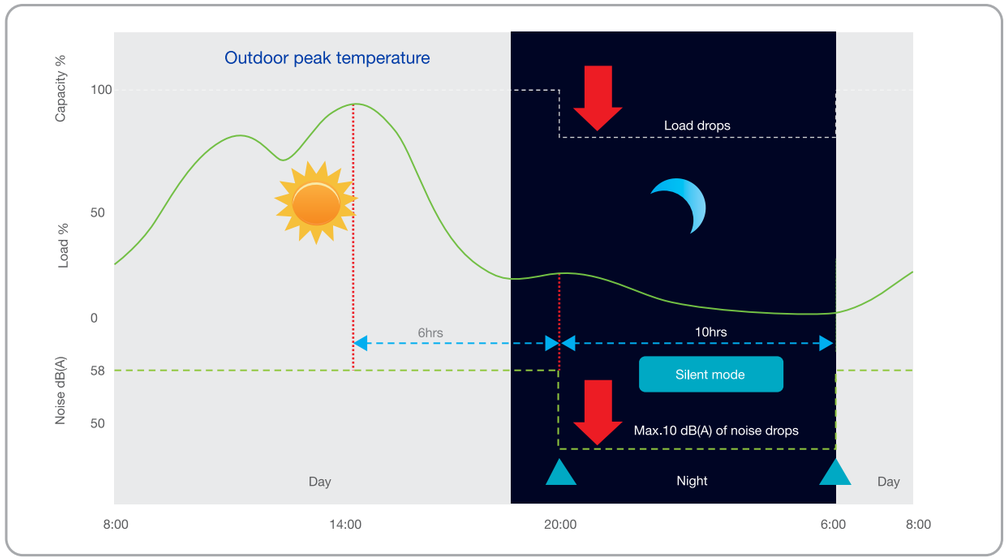


Snow-proof Function

- In the cold weather, outdoor fan will start to run for a while at intervals to prevent the snow to accumulate on fan blade, because accumulated snow will freeze and block fan blade rotating, even worse it will damage the motor.

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.



Low Noise Fan Blade

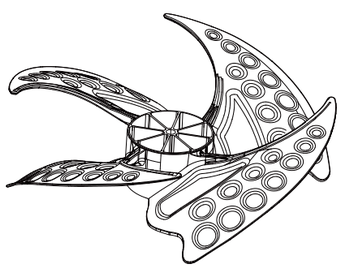
Fan blade with 7 noise reduction design, effectively reduce the noise while operation.

Front edge curve design

Thickened front edge design

Outer edge turn over design

Tail edge cut design



Bionic fan blade design

Concave fan blade design

Anti-resonance design

3-stage Back Up Function

Module back up function.

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

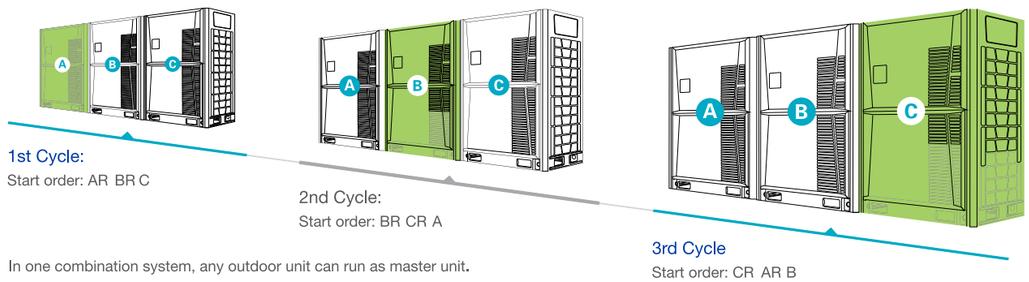
Compressor back up function

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



1st Cycle:
Start order: AR BR C

2nd Cycle:
Start order: BR CR A

3rd Cycle
Start order: CR AR B

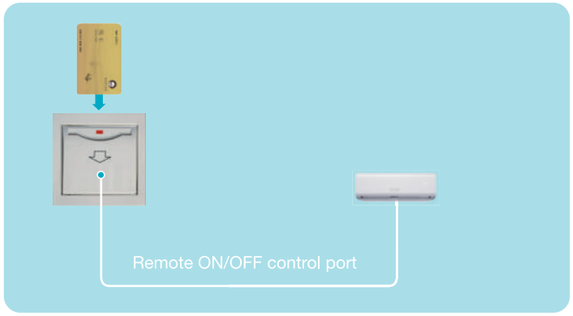
- In one combination system, any outdoor unit can run as master unit.
- Cycle operation equalizes the running time of the outdoor units, greatly extending the lifespan of outdoor units in one system.

IDU and ODU Positioning Function

Turn on the positioning function through the controller, and all the IDU and ODU of the same system will beep through the built-in buzzer, which is convenient for quick positioning during system commissioning, troubleshooting and after sales maintenance.

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.



Intelligent Defrosting Program

5 special defrosting mechanisms

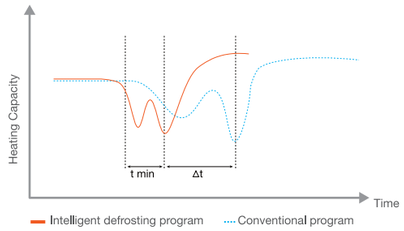
The dedicated temperature sensor monitors the temperature of the condenser coil of the outdoor unit in real time, intelligently selects the defrost mechanism and judges the timing of defrost, effectively prolongs the normal heating time, improves comfort, and achieves energy-saving effects.

- Normal temperature and low humidity defrosting mechanism
- Low temperature and low humidity defrosting mechanism
- Ultra-low temperature environment defrosting mechanism
- Normal temperature and high humidity defrosting mechanism
- Low temperature and high humidity defrosting mechanism

Defrost Curve

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

- 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



3 Benefits For Installers

Optimization for designer and installer

HECO Pro DC inverter VRF system is designed with flexible modular combination concept, we keep optimizing the module size, reduce equipment on space occtupied 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 80 Pa.

Touch Screen Wired Controller

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

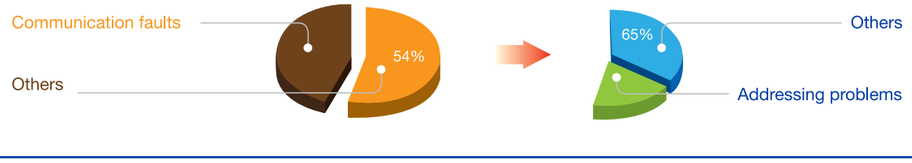
Addressing Methods

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

Automatic Addressing

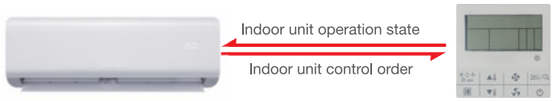
- Automatic addressing will reduce artificial faults by 35% and 5% manual works.
  - 54% system failure were caused by communication faults.
  - 65% communication faults were caused by address problems.
  - Most of the address problems were: address setting forgotten, wrong settings, address repeat.

Failure chart



New Wired Controller

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



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

Digital Display On The PCB

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

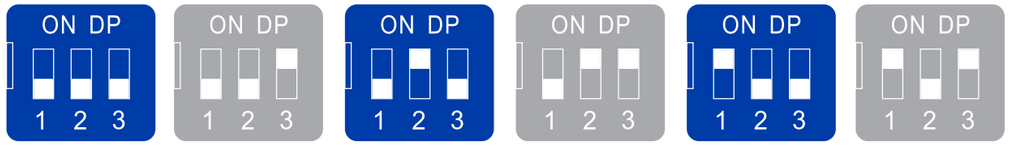
- Record error code list at main PCB chip, easy for service people to check.

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

1st stage
Compressor internal oil separation
Oil separator

Compressor

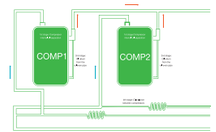
2nd stage
Oil return from the oil even pipe
Oil level control

Oil even pipe

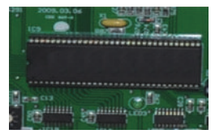
3rd stage
Oil return from the system oil separator
Oil separator

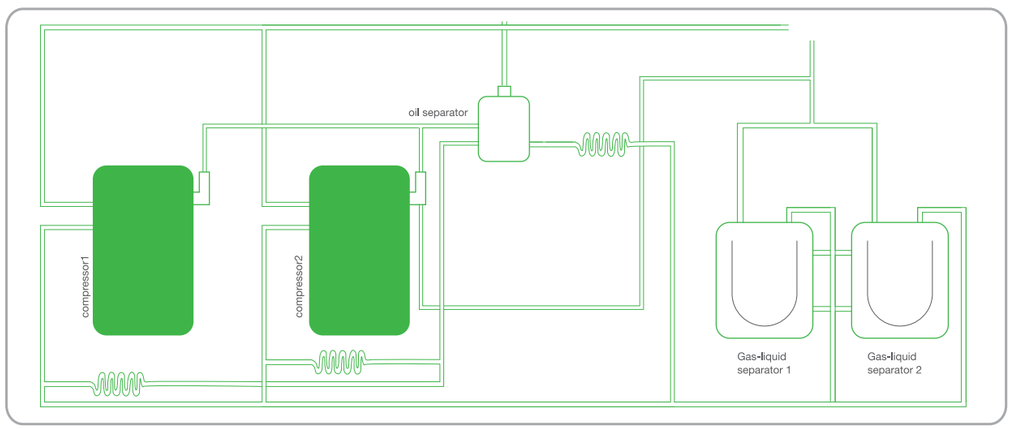
Oil separator

4th stage
Oil balance between compressors
Oil balance pipe



5th stage
Oil return by system oil return program
Intellingent oil return program



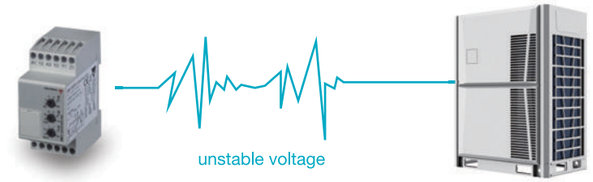


Humanized Internal Structure

- 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.

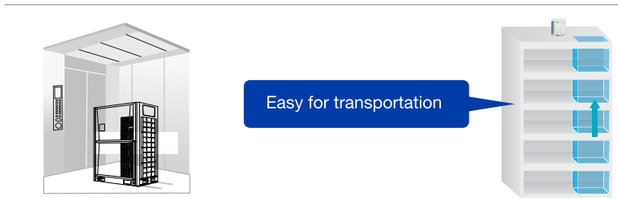
3-Phase Power Protector(Optional)

Protect the outdoor unit from instable voltage.



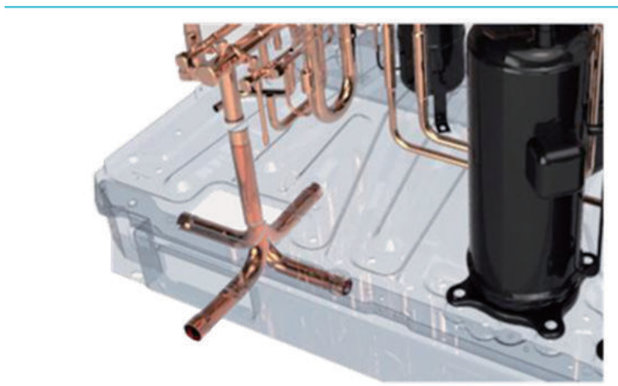
Easy Installation

- Easy for the outdoor unit to transport to roof floor by elevator due to its compact size.



360° Pipe Connection

- The outlet pipe of the outdoor unit can be extended to all directions through the bottom space;
- No outlet pipe on the front can improve the aesthetics of installation;



Specifications

HECO PRO

380-415V/3N/50&60Hz
NEW DC INVERTER EVI VRF SYSTEM

Model Name			HECO080P8VP	HECO100P8VP	HECO120P8VP	HECO140P8VP	HECO160P8VP
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	25.2	28.0	33.5	40.0	45.0
		Btu/h	86000	95500	114000	136500	153500
		RT	7.2	8.0	9.5	11.4	12.8
	Rated current	A	9.04	11.30	14.51	18.10	21.60
	Power input	kW	5.31	6.22	8.35	9.76	11.63
	EER	W/W	4.75	4.50	4.01	4.10	3.87
Heating	Capacity	kW	27.4	31.5	37.5	45.0	50.0
		Btu/h	93500	107500	128000	153500	170600
		RT	7.8	9.0	10.7	12.8	14.2
	Rated current	A	8.93	11.25	14.34	18.00	20.25
	Power input	kW	4.98	5.86	7.35	9.34	10.87
	COP	W/W	5.50	5.38	5.10	4.82	4.60
Max. input consumption		kW	13.4	14.3	14.8	18.3	18.8
Max. Current		A	23.1	24.7	25.5	30.8	31.7
Capacity adjustment range			50%~130%				
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 (Acual 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 Tem perature 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	

HECO180P8VP	HECO200P8VP	HECO220P8VP	HECO240P8VP	HECO260P8VP	HECO280P8VP	HECO300P8VP	HECO320P8VP
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
18HP	20HP	22HP	24HP	26HP	28HP	30HP	32HP
50.0	56.0	61.5	67.0	73.0	78.5	85.0	90.0
170600	191000	209800	228600	249100	267800	290000	307100
14.2	16.0	17.5	19.1	20.8	22.3	24.2	25.6
23.29	26.10	29.06	29.09	32.59	36.13	40.36	44.73
12.22	14.66	16.62	16.71	18.18	20.03	22.37	24.79
4.09	3.82	3.70	4.01	4.02	3.92	3.80	3.63
56.0	63.0	69.0	75.0	81.5	87.5	95.0	100.0
191000	214900	235400	255900	278100	298600	324100	341200
16.0	18.0	19.7	21.3	23.2	24.88	27.0	28.4
22.61	25.70	28.40	28.65	30.28	33.38	38.52	43.9
11.89	14.16	16.80	14.72	16.78	18.50	21.35	24.33
4.71	4.45	4.11	5.10	4.86	4.73	4.45	4.11
22.0	24.4	25.0	26.2	30.1	30.7	35.8	37.7
37.4	41.1	42.1	43.2	50.8	51.8	60.4	63.6
50%~130%							
1			2				
Scroll Compressor			Scroll Compressor				
HITACHI			HITACHI				
R410a							
15	16		20		23		
EXV			EXV				
1340x1740x840			1990x1740x840				
1410x1900x910			2060x1900x910				
285	290	297	388	433	480		
303	308	315	406	452	498		
62	63		62	63	64		
4.5							
Φ15.88			Φ22.2				
Φ28.6			Φ35.0				
1000			1000				
200			200				
240			240				
40/90			40/90				
100			100				
110			110				
40			40				
0			0				
-5~55			-5~55				
16~32			16~32				
-30~30			-30~30				
16~32			16~32				

Note

1. Cooling operating temperature range is from -5℃ to 55℃(It can be customized down to -10℃). Heating operating temperature range from -30℃ to 30℃.
2. The cooling conditions: indoor side 27℃(80.6℉) DB, 19℃(60℉)WB outdoor side 35℃(95℉) DB.
3. The heating conditions: indoor side 20℃(68℉) DB, 15℃(44.6℉)WB outdoor side 7℃(42.8℉) DB.
4. 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.
5. The above data may be changed without notice for future improvement on quality and performance.

HECM-Mini

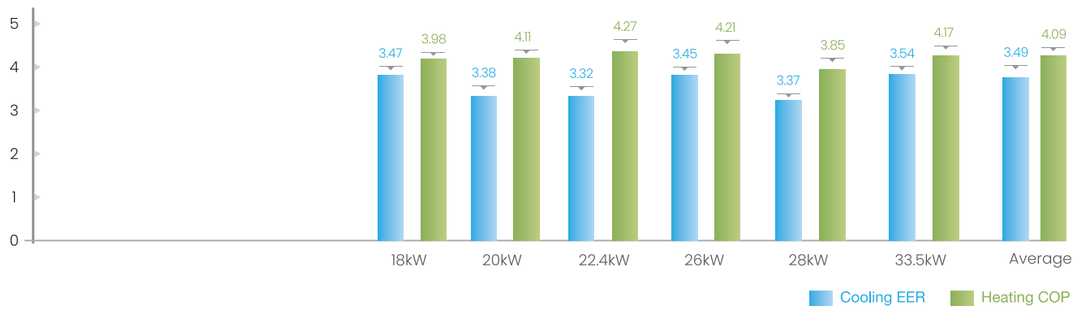
Small Capacity Full DC
Inverter VRF Unit

18kW　20/22.4kW　26/28/33.5kW

6 Models

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

EER&COP

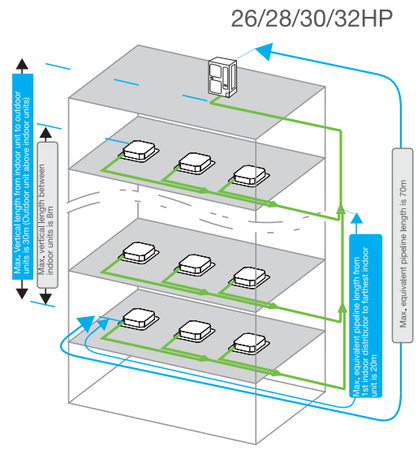


Refrigerant Piping

The total pipe length	100m(12.5-22.4kW),120m(26-33.5kW)
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

*Please refer to the installation manual for detailed length description.

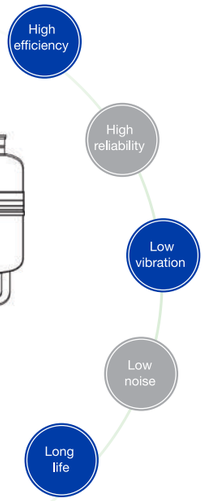
26/28/30/32HP



Features

High Efficiency DC Inverter Compressor

Twin-rotary 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 alternativere 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

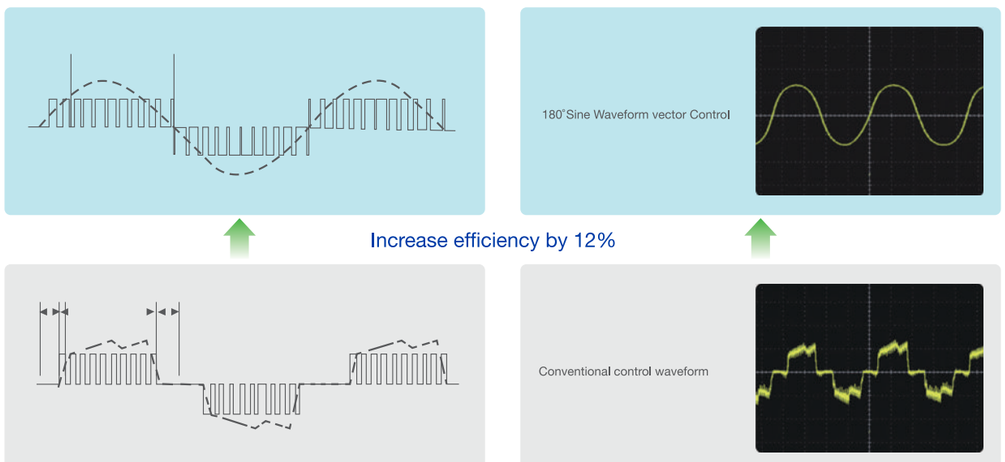
- High efficiency DC fan motor
- Low noise and high efficiency because of high-density wire winding engineering
- Brushless with built-in sensor

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.

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%.

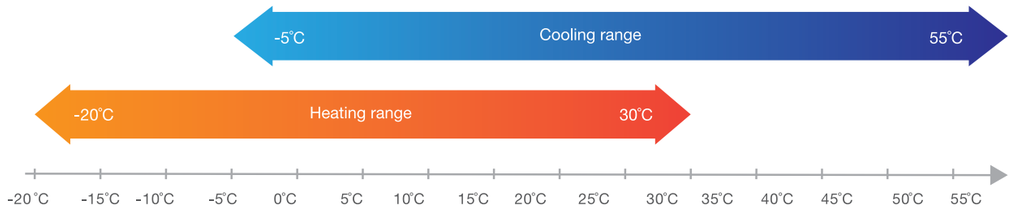


Silent Technology

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 resistanceand vibration.

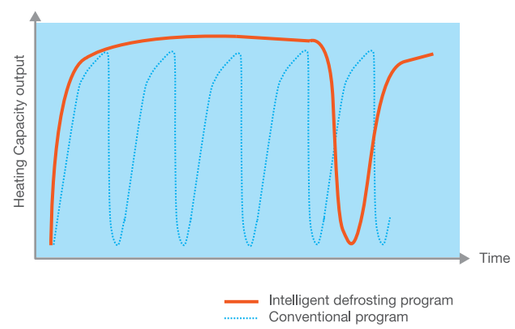
Wide Outdoor Operation Range

Max. cooling operating temperature is designed up to 55˚. Heating operating temperature is down to -20˚



Intelligent Defrosting Program

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



Defrost curve

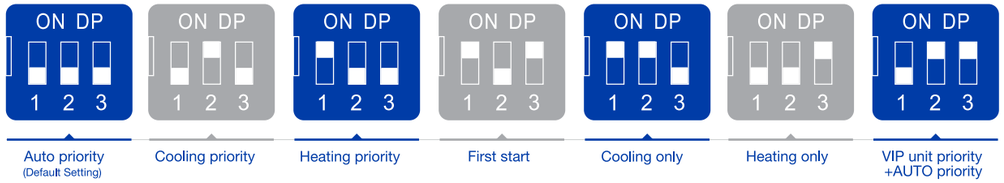
- Conventional unit's defrosting timing & duration is fixed.
- Intelligent defrosting program starts according to heat exchanging efficiency & capacity change due to the frost. Less temperature fluctuations, people feel more comfortable.

Fan Reversal Protection

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.

Mode Restriction

- 7 kinds of mode restriction
  - Auto priority(Default Setting)
  - Cooling only mode
  - Cooling priority mode
  - Heating only mode
  - Heating priority mode.
  - VIP unit priority+AUTO priority mode
  - First start mode
- Mode restriction function can be selected on the outdoor PCB.



High Efficiency

NEW TECHNOLOGY

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-ambient temperature.

Automatically Addressing

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

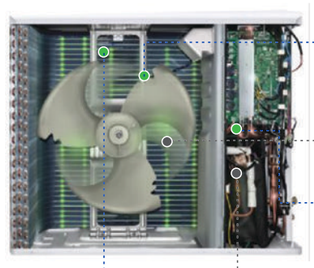
Independent Display Board

Digital 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

HECM-Mini

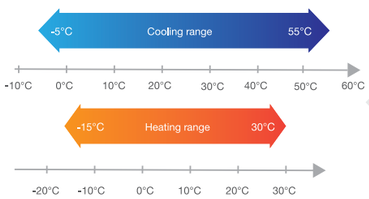
New Generation CHV-Mini
Small Capacity DC Inverter VRF

12.5 / 14 / 16kW
Smaller size, higher efficiency

18 / 20 / 22.4 / 26 / 28 / 33.5kW

Compact appearance

- Easy for transportation.
- It is suitable to be installed on terrace due to its compact appearance.

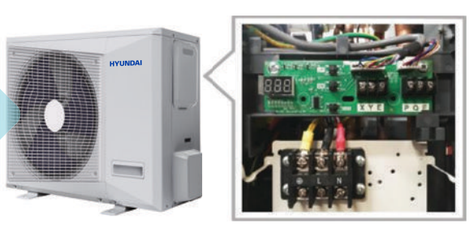


Wide Outdoor Operation Range

- Because of refrigerant cooling design, the cooling ambient temperature range is up to 55°C.
- Heating ambient temperature is down to -15°C, in cold weather, HECM 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.



HECM-Mini

Model name	Power type (V/N/HZ)	Cooling				Heating				Compressor		Motor		Refrigerant		Sound pressure Level	Dimension (WxHxD)		Weight		Connecting		Max Connected indoor units quantity
		Capacity		Power input	EER	Capacity		Power input	COP	Type	Qty	Type	Qty	Type	Volume		Packing	Body	Net	Gross	Gas	Liquid	
		kW	Btu/h	kW		kW	Btu/h	kW							kg	DB(A)	mm	mm	kg	kg	mm	mm	
HECM065P8VA	380-415/3/50	18	61000	5.18	3.47	20	68000	5.02	3.98	DC/ Twin - rotary	1	DC/ fan motor	2	R410a	4.2	58			94.7	104.4		Φ9.52	10
HECM070P8VA	380-415/3/50	20	68200	5.92	3.38	22	75000	5.35	4.11						5.3		1095x 1545x 485	1015x 1430x 450	112.7	126.8	Φ19.05		11
HECM080P8VA	380-415/3/50	22.4	76400	6.75	3.32	24	81800	5.62	4.27						5.3				112.7	126.8			13
HECM090P8VA	380-415/3/50	26	88700	7.54	3.45	28.5	97200	6.77	4.21						6.1		1278 x 1703 x 560	1120 x 1549 x 528	142	162			15
HECM100P8VA	380-415/3/50	28	95500	8.31	3.37	31.5	107500	8.18	3.85						8.0	60			154	174	Φ22.2	Φ12.7	16
HECM120P8VA	380-415/3/50	33.5	114300	9.46	3.54	37.5	128000	8.99	4.17						8.0				154	174			19

Note

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

HECM-Mini New

Model name			HECM045P8VA	HECM050P8VA	HECM055P8VA
Power supply			380~415V/3N/50Hz	380~415V/3N/50Hz	380~415V/3N/50Hz
Performance data					
Cooling	Capacity	kW	12.5	14	16
		Btu/h	42600	47800	54600
	Power input	kW	3.20	3.75	4.75
	Rated current	A	6.0	7.0	8.8
	EER	W/W	3.91	3.73	3.37
Heating	Capacity	kW	14	16	17
		Btu/h	47800	54600	58000
	Power input	kW	3.52	4	4.4
	Rated current	A	6.6	7.5	8.2
	COP	W/W	3.98	4.00	3.86
Compressor data					
DC Inverter compressor	Quantity		1	1	1
	Type		Twin-rotary	Twin-rotary	Twin-rotary
	Brand		Highly	Highly	Mitsubishi
Fan data					
Fan motor	Type		DC	DC	DC
	Quantity		1	1	1
	Power output	W	90	170	170
Fan blade	Fan Quantity		1	1	1
	Air flow	m^3/h	4000	5500	5500
Physical data					
Outdoor coil	Fin type		Hydrophilic Foil	Hydrophilic Foil	Hydrophilic Foil
	Number of rows		2.5	3	3
	Tube type		Inner-grooved copper tube	Inner-grooved copper tube	Inner-grooved copper tube
Refrigerant	Type		R410a	R410a	R410a
	Volume	kg	3.00	3.45	3.80
Dimension (WxHxD)	Net	mm	1032×810×445	1100x870x528	1100x870x528
	Packing	mm	1075×875×495	1140x965x540	1140x965x540
Weight	Net	kg	67.4	87.5	90
	Gross	kg	72.2	97.4	100
ODU sound level		dB(A)			
Operation temp. range					
Cooling	Outdoor side	°C	-5-55	-5-55	-5-55
Heating	Outdoor side	°C	-15-30	-15-30	-15-30

Note

1. The cooling conditions: indoor temp.:27°C DB, 19°C WB, outdoor temp.: 35°C DB equivalent pipe length:5m drop length:0m.
2. The heating conditions: indoor temp.:20°C DB, 15°C WB, outdoor temp.:7°C DB 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.