Cooper&Hunter

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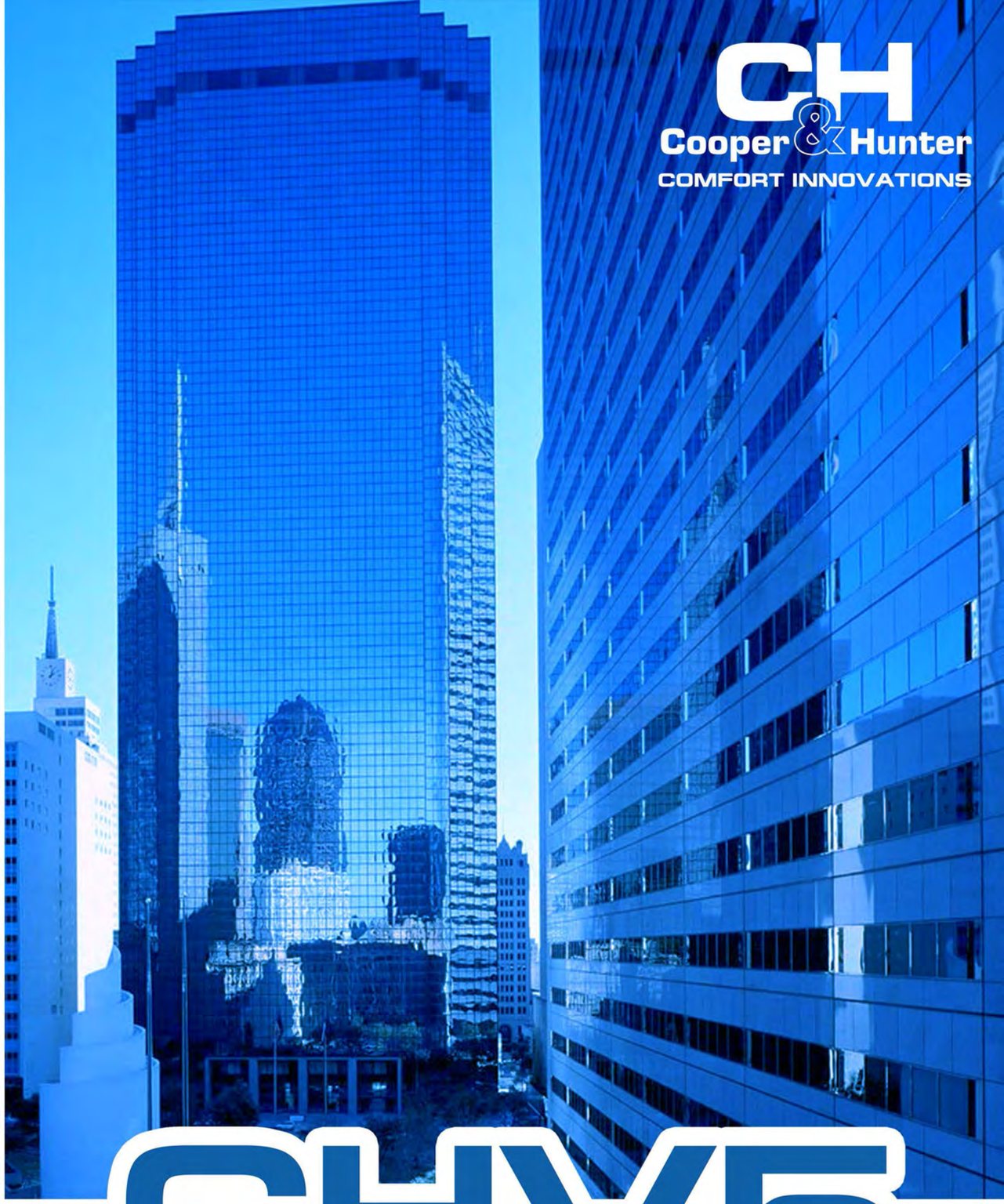


Cooper&Hunter

COMFORT INNOVATIONS

CHV5

ALL DC INVERTER MULTI VRF

CHV5 DC Inverter Multi VRF System with its high-efficient inverter compressors has four exciting features which are different from those found on traditional inverter air conditioners: excellent energy-saving effect, more reliable and precise operation, smarter network control, providing users with best air conditioning experience.

CONTENTS

CHV5

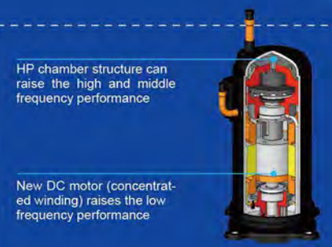
Key Features

All DC Inverter Technology to Improve Compression Efficiency

All DC inverter compressor and high-performance high pressure chamber are adopted to reduce loss of overheat and improve compression efficiency from direct intake. Compared with low pressure chamber, the compression efficiency is improved. High-efficient permasyn motor is adopted to provide better performance than traditional DC inverter compressor.

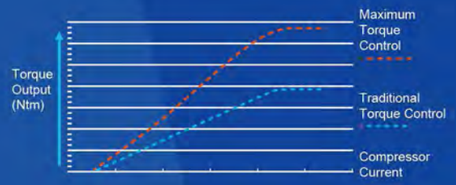
All DC Inverter Compressor

- All DC inverter compressor is used in this system. It can directly intake gas to reduce loss of overheat and improve efficiency.

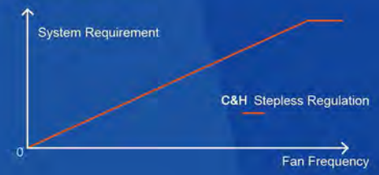


- High-efficient permasyn motor is adopted to provide better performance than traditional DC inverter compressor.

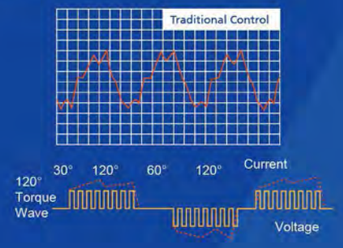
- **Technology of Maximum Torque Control with Minimum Current**
  It can reduce energy loss caused by device winding so as to realize higher efficiency.

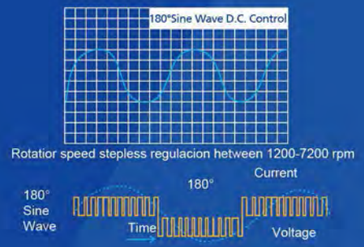


- **Low-frequency Torque Control**
  It can directly control motor torque, through which fan motor can run at a low speed. Users will feel more comfortable while requirements of the system are also met.



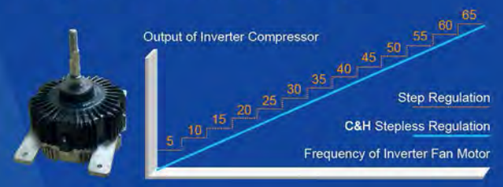
- 180° Sine Wave DC Speed Varying Technology
  It can satisfy various places' demands for different temperature and is able to save a great deal of electricity and provide users with utmost comfort at the same time.



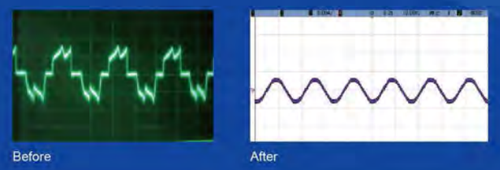


Sensorless DC Inverter Fan Motor

- Stepless speed regulation ranges from **5Hz** to **65Hz**.Compared with traditional inverter motors, the operation is more energy-saving.



- Sensorless control technology guarantees lower noise, less vibration and steadier operation.



88HP Max Capacity-The Largest Free Combination

Max capacity of single outdoor unit reaches **22HP** and max combination capacity is even up to **88HP**, in an industry leading level.

Max combination capacity is extended to 88HP

Money is saved in system cost and piping

Compact design

With compact design, the outdoor unit can be carried to the roof of building through elevator, with no need of crane. It is easier for delivery and installation.

Non-polar CAN Technology to Improve Communication Efficiency

- **C&H** is the first one to adopt non-polar CAN communication technology in the industry. CAN communication technology provides quicker system response speed, more convenient installation debugging and more reliable communication data.

Performance Index	Company A Multi-VRF Network	**CHV5** DC Inverter CAN Network
Reliability	Software check	Hardware check, more reliable
	One unit's communication error may lead to a breakdown of the whole network	If one unit has errors, it will exit from the network without any influence to other units.
Communication Efficiency	Low utilization	High utilization
	Communication speed is about 10Kbps.	Communication speed is 20Kbps.
Compatibility	One main network, difficult to add new equipment	Multiple main networks, easy to add new equipment.
Communication Distance	1000m	1500m

- The non-polar CAN communication technology is applied to support flexible wiring installation, greatly reducing construction difficulties.

Wide Range of Voltage and Operation Condition

- Working voltage range of **CHV5** system has been improved to **320V~460V**, which surpasses the national standard of 342V~420V. For places with unsteady voltage, this system can still be running well.

- Outdoor operation temperature range is improved to **-15℃~52℃ in cooling** and **-25℃~24℃ in heating**.

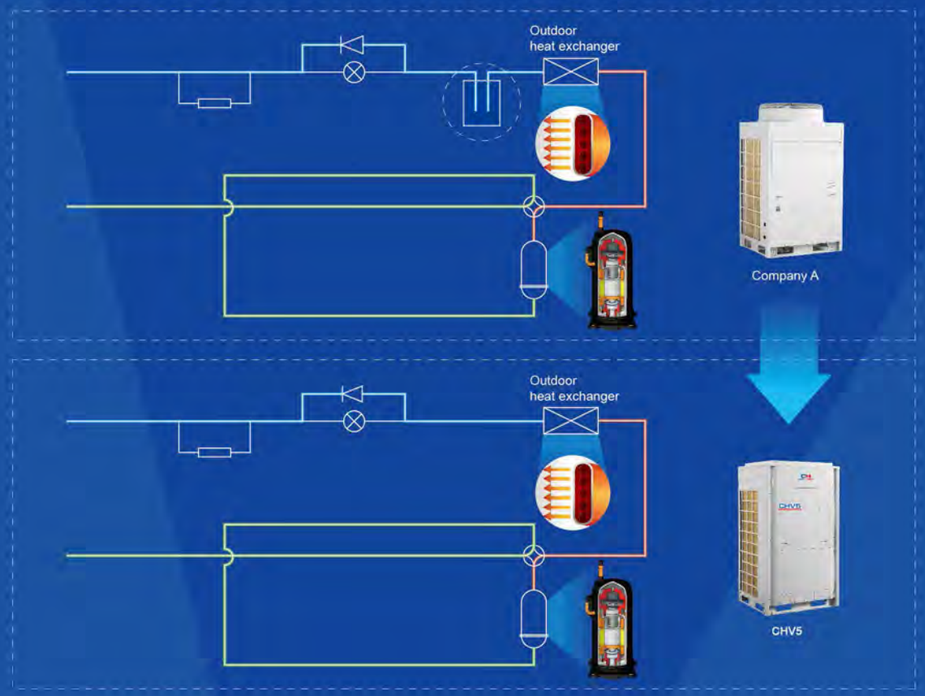
Wider Applicable Location

CHV5 can realize a combination of 4 outdoor unit modules connecting with as many as **80** indoor units. It's especially applicable for business building or hotels.

Max.IDU Connection: **80** sets

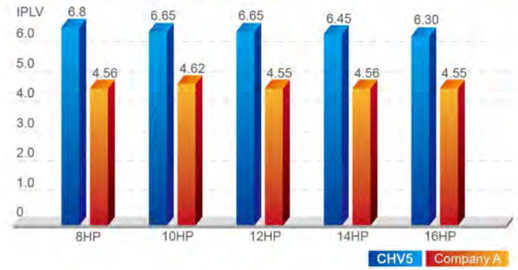
Refrigerant Storage and Distribution

The **CHV5** system is designed without liquid receiver and the excess refrigerant is stored in the piping, which can minimize the refrigerant charging volume and enhance the control accuracy of refrigerant.



High Efficiency and More Energy Saving

Thanks to the advanced all DC inverter technology, optimized system design and accurate intelligent control technology, IPLV of **CHV5** All DC Inverter Multi VRF System is up to 6.8.



New Generation of Energy-saving Operation Control Technology with Energy Saving Up to 20%

The **CHV5** system has 2 modes for energy saving, which can be chosen to meet different electricity demands.

Mode 1:

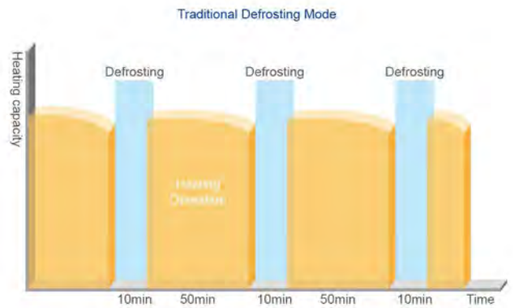
In auto energy-saving mode, the system will self-adjust parameters according to the operation status, thus to lower the cost of electricity. Up to 15% of energy can be saved.

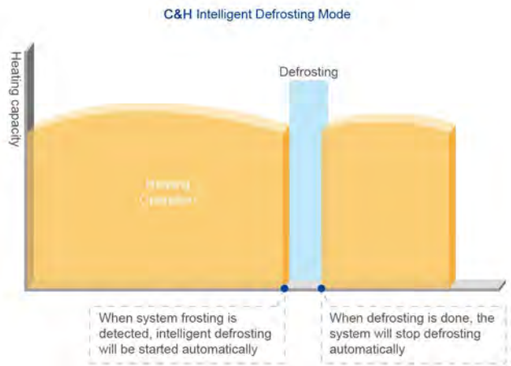
Mode 2:

In compulsory energy-saving mode, the system will limit power output forcibly. Up to 20% of energy can be saved.

Comfortable Heating

Advanced intelligent defrosting mode is adopted. C&H advanced intelligent defrosting mode will choose the best defrosting way according to outdoor temperature and operation status to realize intelligent defrosting, effectively improving heating effect and performance. While in traditional defrosting mode, timing defrosting is adopted, which not only affects comfort but also reduces energy efficiency.





Accurate Intelligent Allocation Technology of Capacity and Output of Optimal Portion to Ensure Highest Efficiency

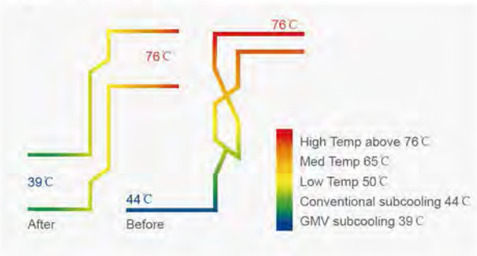
- When total load demands more than 75% of a running system's capacity, one more unit will automatically start;
- When total load demands less than 40% of a running system's capacity, one unit will automatically shut down;
- Therefore, each unit shares 40%-75% of the total load.
- Experiments show that an air conditioner costs the least energy when it's operating within 40%-75% of its capacity.

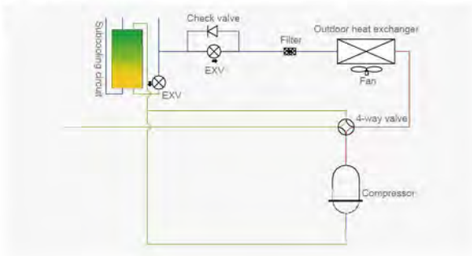
	 Company A	 CH CHV
Allocation Method	10HP(full load) + 2HP(low load)	6HP(partial load) + 6HP(partial load)
Performance Compared	Unit costs more energy and may be soon damaged.	Unit costs less energy and can always be kept in good condition.

- **Output of Optimal Portion to Ensure Highest Efficiency**
  The best heating or cooling performance can be realized in the most energy-saving way. DC inverter compressor and DC inverter fan will also be operating in this way to ensure high efficiency.

Sub-cooling Control Technology to Ensure Optimal Cooling and Heating

- Heat exchange loop can control the first subcooling process of heat exchanger. Subcooling degree can reach 11℃.
- Subcooling loop can realize 9℃ second subcooling to guarantee cooling and heating performance.





Temperature Controlled by Wired Controller with Higher Efficiency and More Energy Saving

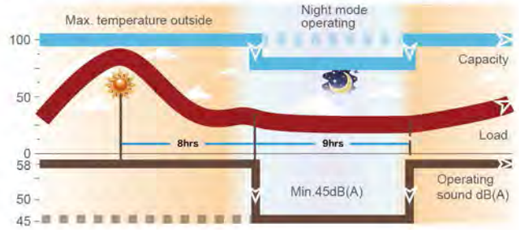
Through setting temperature lower limit in cooling or dry mode, and setting temperature upper limit in heating, 3D heating or heat supply mode, the system is able to operate in a smaller temperature range so as to achieve energy saving.

Comfortable Design for A Better Life

The **CHV5** system has a wide range of working conditions. Whether it's in a cool winter or a hot summer, normal operation is guaranteed with the least noise, making users feel more comfortable.

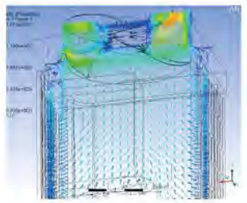
Outdoor Unit Quiet Mode and Quiet Control

- **Quiet at night**
  The system can record the highest outdoor temperature. At night, the system will automatically turn to quiet mode. There are 9 quiet modes which can be set according to actual needs.



- **Quiet in compulsion**
  The system can also be set in this mode to ensure low noise as long as it is operating. Noise is as low as 45dB(A).

- **Quiet Control**
  1. Optimized Bossing Design
  After many times of CFD tests, a new fan bossing structure has been developed to reduce vibration of fan during running. Noise can be reduced by 3dB(A).



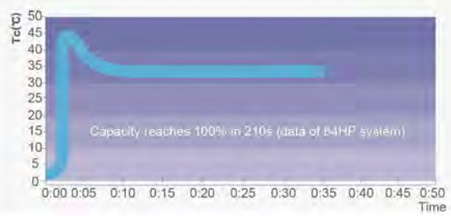
  2. Aerodynamics 3D Axial Fan
  Compared with conventional fan, it can increase air volume by 12%, improving efficiency as well as lowering noise.

Quiet Indoor Unit

The indoor unit of the **CHV5** system also adopts DC inverter motors to realize stepless regulation. According to indoor temperature or people's needs, users can set this mode through wired controller. Noise is as low as 22dB(A).

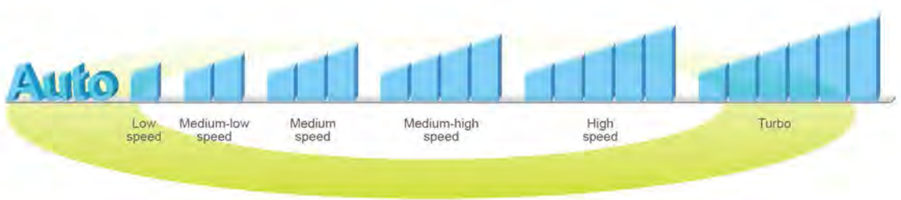
Fast Start-up in Heating

DC Compressor is first started to avoid too much electric current. Inverter compressor can operate in high frequency once starts up, so as to produce more heat.



7 Speeds Indoor Fan

Indoor fan speed can be set in 7 levels by wired controller. They are auto, low speed, medium-low speed, medium speed, medium-high speed, high speed and turbo. When the wired controller is on, press "FAN" button to set indoor fan speed circularly as below:

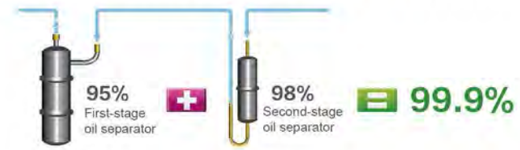


Excellent Performance Ensured by Advanced Technology

Through 10 years of research and development, **C&H CHV5** has been further upgraded to a high level from electrical components, mechanical parts, control technology to communication technology.

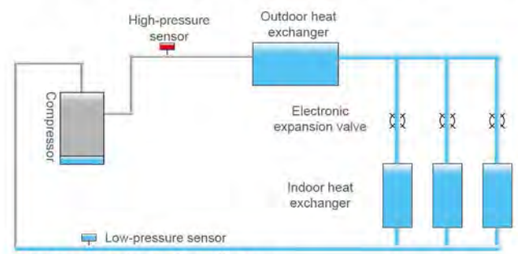
Two-stage Oil Separation Control Technology (Patented)

First-stage oil separator adopts a filtration expansion valve with separation efficiency of 98%; Second-stage oil separator will separate the remained 2% refrigerant oil with separation efficiency of 95%. General oil separation efficiency reaches 99.9%.

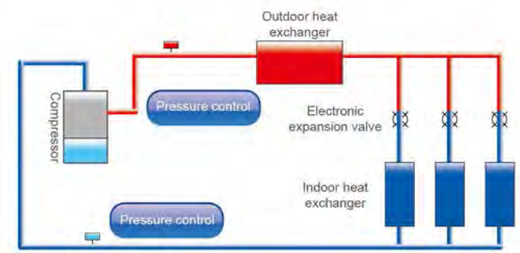


Oil Return Control Technology

- **New Oil Return Control**
  C&H new oil return control technology effectively controls system oil return and oil storage status of each compressor, which greatly improves the operation lifespan of compressor.

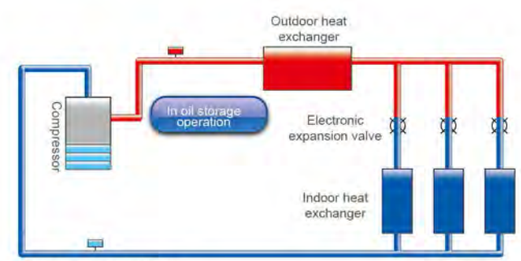


Oil storage status before oil return



Oil return operation

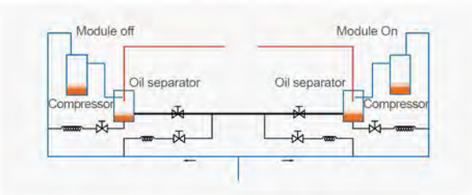
- **Specialized Compressor Oil Storage Control**
  The system applies specialized compressor oil storage technology, which can control the lowest oil level for compressor operation.



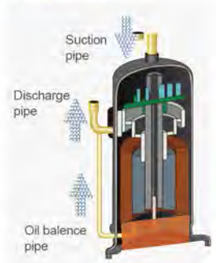
Oil storage operation

Oil Balance Control Technology

- **Oil Balance between Each Module**
  Based on the actual status of each module and compressor, the system can regulate compressor's operation and realize oil balance of each module.

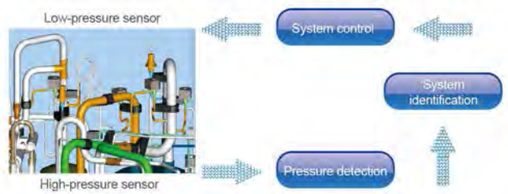


- **Oil Balance between Each Compressor**
  Refrigerant is taken into the compressor by the suction pipe and then runs through the cooling system. It can control the oil level and minimum oil volume required by each compressor so as to realize oil balance between each compressor.



Intelligent Detection Control

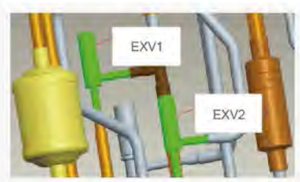
- **Pressure Sensor Detection Control**
  Pressure sensor can precisely detect system high pressure and low pressure, and adjust output of fan and compressor, so as to make sure the system can work under the most energy-saving pressure condition.



- **Temperature Sensor Detection Control**
  Various temperature sensors are equipped to detect ambient temperature, indoor temperature and refrigerant's evaporating temperature, from which the operation status can be measured.

Multi Electronic Expansion Valves Control

Outdoor electronic expansion valve not only has throttling effect, but also control refrigerant flow. The system adopts multi electronic expansion valves control with total 960 grades regulated by two electronic expansion valves, so as to regulate refrigerant flow precisely and ensures reliable operation of system.



Smaller Impact to Power Grid

The start-up frequency of inverter compressor is gradually increased from 0Hz to the appointed operation frequency. The start-up current of compressor rotor is decreased by reducing load torque, hence impact to power grid during start-up is reduced and electromagnetic impact to compressor is reduced too.

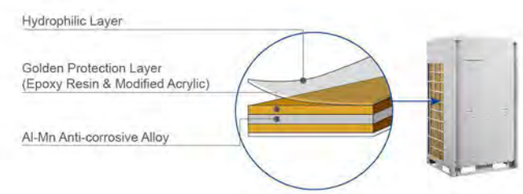
Modules Rotation Operating to Maximize Lifespan

- **Modules 8h rotation operating**
  The operating priority sequence of the outdoor unit modules will be changed without restart when the system accumulatively operates for 8 hours, which can maximize the service life of the system.

Highly Anticorrosive Golden Fins

The primary material of Golden Fin is Al-Mn(Aluminum-Manganese) anti-rust alloy, which is coated with the Golden Protection Layer(Components: Exoxy Resin & Modified Acrylic, Sillcon free), the anti-corrosice performance in salt-spray testing is 200%~300% higher than normal Blue Fin*.

Note: Satt-spary testing result is from C&H materials chemistry testing laboratory.

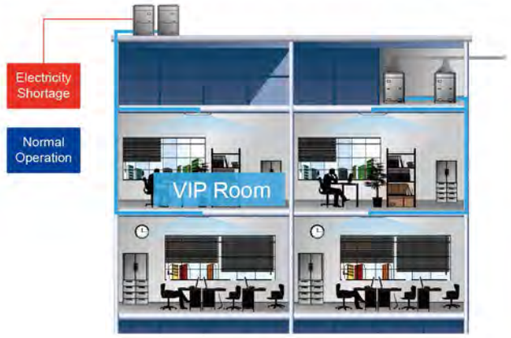


Emergency Auto-Off Control

The outdoor unit can be linked with a fire alarm signal. In case of emergency, unit can automatically turn off to avoid risk or further loss.

Electricity Shortage Identification

The outdoor unit can receive a power signal of electricity shortage. In some places like first-class hotels, if diesel generator is used temporarily for providing electricity, outdoor unit will send the electricity shortage signal to indoor unit. In this case, only VIP rooms can be provided with air conditioning service.



Excellent Emergency Operation Function to Ensure Reliable Operation

- **Emergency Function**
  The CHV 5 system can realize a combination of 4 outdoor unit modules. When error is occurred to one of the modules, the others will perform the emergency operation to sustain the air conditioning.

- **Emergency Operation of Compressor**
  All the compressors in each single module are DC Inverter based, when one compressor has error, others will perform the emergency operation.

ERROR

- **Emergency Operation of Fan**
  Double-fan design fan ensures that one fan can still work even if the other one has error.

Easy Installation for Various Kinds of Construction

ODU High Static Pressure Design

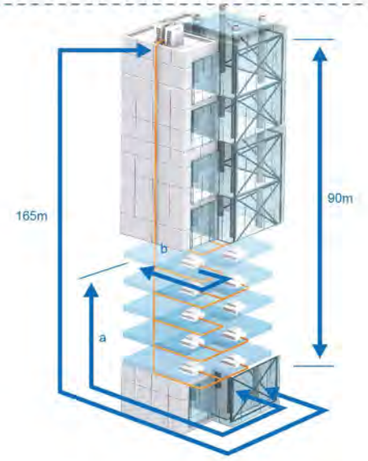
System has 4 levels of static pressure that can be set. Up to 82Pa pressure can be set for an outdoor unit. This design is especially useful when an outdoor unit needs to be placed indoor.

1000m Pipe Design for Flexible Installation

CHV 5 system can be applied in different types of building construction. One of its advantages is the simple pipe design, which will simplify the installation and reduce installation cost.

- Max total pipe length reaches 1000m (with limitation)
- Actual pipe length between the outdoor unit and the farthest indoor unit: 165m
- Max height difference between indoor unit and outdoor unit: 90m

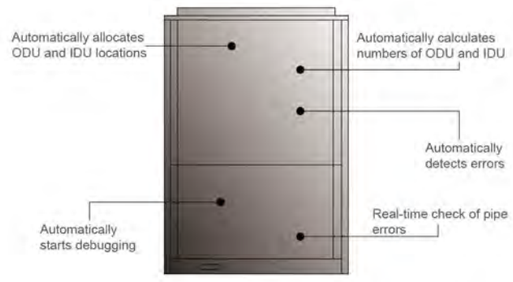
Note:
a: Distance between the first branch and the farthest indoor unit.



Intelligent Debugging for Convenient Construction

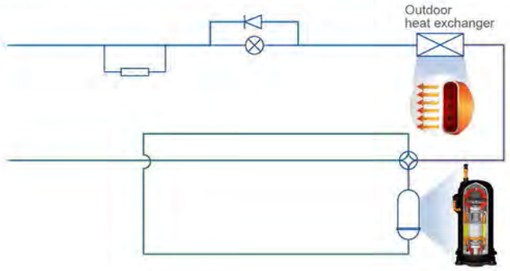
CHV5 has five auto debugging features:

- Automatic allocation of IDU and ODU addresses
- Automatic detection of IDU and ODU quantity
- Automatic detection of errors
- Automatic start-up of debugging
- Real-time judgment of pipe errors



Auto-refrigerant Recovery for Easy Maintenance

When auto refrigerant recovery function is set and cut-off valve of liquid pipe is closed during maintenance, the system will automatically operate compressor, EXV, solenoid valve and fan, etc. Taking advantage of compressor power, the refrigerant is recovered at the condensing side of outdoor unit to achieve environmental effect. Meanwhile, system low pressure is displayed simultaneously during refrigerant recovery.



Inspection Window for Convenient Checking

Inspection window is available for quick checking of system operation status. No need to open panel for checking, which will be more time-saving and easier for maintenance.

Flexible Wiring

Common wire can meet the communication demand with no need of specialized communication wire. Common sheath twisted pair cable can be used as there is no polarity requirement.

Auto Addressing of Outdoor and Indoor Unit

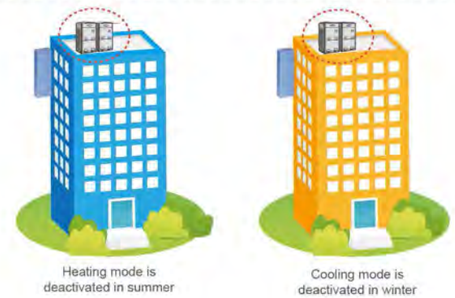
CAN network is adopted to achieve auto addressing of outdoor and indoor unit. It can allocate IDU and ODU addresses and detect IDU and ODU quantity, which greatly improves construction efficiency.

Professional Hotel Functions

C&H CHV5 provides hotels with unique season setting function and key-card control function.

Season Setting

Cooling or heating mode can be deactivated during a certain season to avoid affecting unit's normal operation due to mode conflict.



Key-card Control for Hotel Management

The unit can be turned on or off by inserting or removing the key-card. When the key-card is removed, the system can remember all the setting and stop operation. When the key-card is inserted back, the system will be under standby mode or operate according to the status before removing key-card. It is well suited to hotels, restaurants, etc.

SPECIFICATIONS & PARAMETER OF OUTDOOR UNITS

Outdoor Units Lineup

MODEL		CHV-5S224NMX (8HP)	CHV-5S280NMX (10HP)	CHV-5S335NMX (12HP)	CHV-5S400NMX (14HP)	CHV-5S450NMX (16HP)
	CHV-5S224NMX (8HP)	●				
	CHV-5S280NMX (10HP)		●			
	CHV-5S335NMX (12HP)			●		
	CHV-5S400NMX (14HP)				●	
	CHV-5S450NMX (16HP)					●
	CHV-5S504NMX (18HP)	●	●			
	CHV-5S560NMX (20HP)		●●			
	CHV-5S615NMX (22HP)		●	●		
	CHV-5S680NMX (24HP)		●		●	
	CHV-5S730NMX (26HP)		●			●
	CHV-5S785NMX (28HP)			●		●
	CHV-5S850NMX (30HP)				●	●
	CHV-5S900NMX (32HP)					●●
	CHV-5S960NMX (34HP)		●●		●	
	CHV-5S1010NMX (36HP)		●●			●
	CHV-5S1065NMX (38HP)		●	●		●
	CHV-5S1130NMX (40HP)		●		●	●
	CHV-5S1180NMX (42HP)		●			●●
	CHV-5S1235NMX (44HP)			●		●●
	CHV-5S1300NMX (46HP)				●	●●
	CHV-5S1350NMX (48HP)					●●●
	CHV-5S1410NMX (50HP)		●●		●	●
	CHV-5S1460NMX (52HP)		●●			●●
	CHV-5S1515NMX (54HP)		●	●		●●
	CHV-5S1580NMX (56HP)		●		●	●●
	CHV-5S1630NMX (58HP)		●			●●●
	CHV-5S1685NMX (60HP)			●		●●●
	CHV-5S1750NMX (62HP)				●	●●●
	CHV-5S1800NMX (64HP)					●●●●

Specifications of Outdoor Units

380~415V,50/60Hz

Model		-	CHV-5S224NMX	CHV-5S280NMX	CHV-5S335NMX	CHV-5S400NMX	CHV-5S450NMX	CHV-5S504NMX*1	CHV-5S560NMX*1	CHV-5S615NMX*1
Capacity range		HP	8	10	12	14	16	18	20	22
Capacity	Cooling	kW	22.4	28	33.5	40	45	50.4	56	61.5
	Heating	kW	25	31.5	37.5	45	50	56	63	69
EER		kW/kW	4.70	4.76	4.52	4.20	3.96	4.66	4.41	4.10
COP		kW/kW	5.0	5.28	4.46	4.18	4.07	4.59	4.44	4.13
Power supply		V/Ph/Hz	380~415V-3Ph-50/60Hz							
Max. Circuit/Fuse Current		A	14.5/20	19.3/25	22.7/32	26.5/40	30.6/40	33.9/40	40.3/50	45/50
Power comsumption	Cooling	kW	4.8	5.88	7.41	9.52	11.36	10.82	12.70	15
	Heating	kW	5.0	5.97	8.41	10.77	12.29	12.20	14.19	16.71
Maximum drive IDU NO.		unit	13	16	19	23	26	31	34	38
Refrigerant Charge volume		kg	5.9	6.7	8.2	9.8	10.3	12.7	13	13.5
Sound pressure level		dB(A)	60	61	63	63	63	65	66	66
Connecting pipe	Liquid	mm	Φ9.52		Φ12.7			Φ15.9		
	Gas	mm	Φ19.05	Φ22.2	Φ25.4		Φ28.6	Φ28.6		
	Oil balance	mm	Φ9.52					Φ9.52		
Dimension (W*D*H)	Outline	mm	930*765*1605		1340*765*1605			1340*765*1740		
	Package	mm	1010*840*1775		1420*840*1775			1420*840*1910		
Net weight/Gross weight		kg	225/235	225/235	285/300	360/375	360/375	400/415	400/415	400/415
Loading quantity	40' GP	set	24	24	16	16	16	16	16	16
	40' HQ	set	24	24	16	16	16	16	16	16

208/230V, 60Hz

Model		-	CHV-5S224NMF	CHV-5S280NMF	CHV-5S335NMF	CHV-5S400NMF	CHV-5S450NMF	CHV-5S504NMF	CHV-5S560NMF*1	CHV-5S615NMF*1
Capacity range		HP	8	10	12	14	16	18	20	22
Capacity	Cooling	kW	22.4	28	33.5	40	45	50.4	56	61.5
	Heating	kW	25	31.5	37.5	45	50	56	63	69
EER		kW/kW	4.70	4.76	4.52	4.20	3.96	4.66	4.41	4.10
COP		kW/kW	5.0	5.28	4.46	4.18	4.07	4.59	4.44	4.13
Power supply	Cooling	V/Ph/Hz	208/230V-3Ph-60Hz							
MCA		A	36	38	43	60	65	68	74	45
MOP		A	60	60	60	80	90	93	103	112
Power comsumption	Cooling	kW	4.8	5.88	7.41	9.52	11.36	10.82	12.70	15
	Heating	kW	5.0	5.97	8.41	10.77	12.29	12.20	14.19	16.71
Maximum drive IDU NO.		unit	13	16	19	23	26	31	34	38
Refrigerant Charge volume		kg	5.9	6.7	8.2	9.8	10.3	12.7	13	13.5
Sound pressure level		dB(A)	60	61	63	63	63	65	66	66
Connecting pipe	Liquid	mm	Φ9.52		Φ12.7			Φ15.9		
	Gas	mm	Φ19.05	Φ22.2	Φ25.4		Φ28.6			
	Oil balance	mm	Φ9.52							
Dimension (W*D*H)	Outline	mm	930*765*1605		1340*765*1605			1340*765*1740		
	Package	mm	1010*840*1775		1420*840*1775			1420*840*1910		
Net weight/Gross weight		kg	225/235	225/235	285/300	360/375	360/375	400/415	400/415	400/415
Loading quantity	40' GP	set	24	24	16	16	16	16	16	16
	40' HQ	set	24	24	16	16	16	16	16	16

440~460V,60Hz

Model		-	CHV-5S224NMU*1	CHV-5S280NMU*1	CHV-5S335NMU*1	CHV-5S400NMU*1	CHV-5S450NMU*1	CHV-5S504NMU*1	CHV-5S560NMU*1	CHV-5S615NMU*1
Capacity range		HP	8	10	12	14	16	18	20	22
Capacity	Cooling	kW	22.4	28	33.5	40	45	50.4	56	61.5
	Heating	kW	25	31.5	37.5	45	50	56	63	69
EER		kW/kW	4.54	4.60	4.36	4.05	3.82	4.50	4.26	3.96
COP		kW/kW	4.83	5.10	4.30	4.03	3.93	4.43	4.28	3.99
Power supply	Cooling	V/Ph/Hz	440-460V-3Ph-60Hz							
MCA		A	19	20	24	32	35	37	40	43
MOP		A	30	30	35	40	40	45	50	55
Power comsumption	Cooling	kW	5.4	7.3	8.7	10.85	12.9	14.9	18.9	22.3
	Heating	kW	5.8	7.65	9.35	11.45	13.3	14.6	17.5	21.8
Maximum drive IDU NO.		unit	13	16	19	23	26	31	34	38
Refrigerant Charge volume		kg	6.5	6.7	8.2	9.8	10.3	12.7	13	13.5
Sound pressure level		dB(A)	60	61	63	63	63	65	66	66
Connecting pipe	Liquid	mm	Φ9.52		Φ12.7			Φ15.9		
	Gas	mm	Φ19.05	Φ22.2	Φ25.4		Φ28.6			
	Oil balance	mm	Φ9.52							
Dimension (W*D*H)	Outline	mm	930*765*1605		1340*765*1605			1340*765*1740		
	Package	mm	1010*840*1775		1420*840*1775			1420*840*1910		
Net weight/Gross weight		kg	225/235	225/235	285/300	360/375	360/375	400/415	400/415	400/415
Loading quantity	40' GP	set	24	24	16	16	16	16	16	16
	40' HQ	set	24	24	16	16	16	16	16	16

Note:
*1: This product is under development. The parameters are estimated, please refer to the value on the nameplate.

Specifications of ODU Combination

380~415V,50/60Hz

Model	Power Supply	Cooling Capacity		Power Input		Dimension(W*D*H)	Airflow Volume	ESP	Noise		Connecting pipe diameter		Oil Balance Pipe	Min. circuit current	Max. fuse current	Weight
		Cooling	Heating	Cooling	Heating				Noise at Night Operation Noise		Liquid	Gas				
		kW	kW	kW	kW	mm	m³/h	Pa	dB(A)	dB(A)	mm	mm	mm	A	A	kg
CHV-5S504NMX	380~415V-3Ph-50/60Hz	50.4	56.5	12.2	12.8	2×(930×765×1605)	2×11400	0~82	64	45	Φ15.9	Φ28.6	Φ9.52	36.6	40	225×2
CHV-5S560NMX		56	62.5	14	14.6	2×(930×765×1605)	2×11400	0~82	64	45	Φ15.9	Φ28.6	Φ9.52	41.8	50	225×2
CHV-5S615NMX		61.5	69	15.41	16.3	(930×765×1605)+(1340×765×1605)	11400+14000	0~82	65	45	Φ15.9	Φ28.6	Φ9.52	49.7	50	285+225
CHV-5S680NMX		68	76.5	17.65	18.4	(930×765×1605)+(1340×765×1605)	11400+14000	0~82	65	45	Φ15.9	Φ28.6	Φ9.52	54.1	63	225+360
CHV-5S730NMX		73	81.5	19.65	20.3	(930×765×1605)+(1340×765×1605)	11400+14000	0~82	65	45	Φ19.05	Φ31.8	Φ9.52	57.9	63	225+360
CHV-5S785NMX		78.5	87.5	21.06	22	2×(1340×765×1605)	2×14000	0~82	66	45	Φ19.05	Φ31.8	Φ9.52	66.1	80	285+360
CHV-5S850NMX		85	95	23.3	24.1	2×(1340×765×1605)	2×14000	0~82	66	45	Φ19.05	Φ31.8	Φ9.52	66.4	80	360×2
CHV-5S900NMX		90	100	25.3	26	2×(1340×765×1605)	2×14000	0~82	66	45	Φ19.05	Φ31.8	Φ9.52	66.5	80	360×2
CHV-5S960NMX		96	108	24.65	25.7	2×(930×765×1605)+(1340×765×1605)	2×11400+14000	0~82	67	45	Φ19.05	Φ31.8	Φ9.52	70.6	80	225×2+360
CHV-5S1010NMX		101	113	26.65	27.6	2×(930×765×1605)+(1340×765×1605)	2×11400+14000	0~82	67	45	Φ19.05	Φ38.1	Φ9.52	75	80	225×2+360
CHV-5S1065NMX		106.5	119	28.06	29.3	(930×765×1605)+2×(1340×765×1605)	11400+2×14000	0~82	67	45	Φ19.05	Φ38.1	Φ9.52	78.8	100	225+285+360
CHV-5S1130NMX		113	126.5	30.3	31.4	(930×765×1605)+2×(1340×765×1605)	11400+2×14000	0~82	67	45	Φ19.05	Φ38.1	Φ9.52	82.9	100	225+360×2
CHV-5S1180NMX		118	131.5	32.3	33	(930×765×1605)+2×(1340×765×1605)	11400+2×14000	0~82	67	45	Φ19.05	Φ38.1	Φ9.52	87.3	100	225+360×2
CHV-5S1235NMX		123.5	137.5	33.71	35	3×(1340×765×1605)	3×14000	0~82	68	45	Φ19.05	Φ38.1	Φ9.52	91.1	125	285+360×2
CHV-5S1300NMX		130	145	35.95	37.1	3×(1340×765×1605)	3×14000	0~82	68	45	Φ19.05	Φ38.1	Φ9.52	95.2	125	360×3
CHV-5S1350NMX		135	150	37.95	39	3×(1340×765×1605)	3×14000	0~82	68	45	Φ19.05	Φ38.1	Φ9.52	99.6	125	360×3
CHV-5S1410NMX		141	158	37.3	38.7	2×(930×765×1605)+2×(1340×765×1605)	2×11400+2×14000	0~82	69	47	Φ22.2	Φ44.5	Φ9.52	103.8	125	225×2+360×2
CHV-5S1460NMX		146	163	39.3	40.6	2×(930×765×1605)+2×(1340×765×1605)	2×11400+2×14000	0~82	69	47	Φ22.2	Φ44.5	Φ9.52	108.2	125	225×2+360×2
CHV-5S1515NMX		151.5	169	40.71	42.3	(930×765×1605)+3×(1340×765×1605)	11400+3×14000	0~82	69	47	Φ22.2	Φ44.5	Φ9.52	112.0	125	225+285+360×2
CHV-5S1580NMX		158	176.5	42.95	44.4	(930×765×1605)+3×(1340×765×1605)	11400+3×14000	0~82	69	47	Φ22.2	Φ44.5	Φ9.52	116.1	125	225+360×3
CHV-5S1630NMX		163	181.5	44.95	46.3	(930×765×1605)+3×(1340×765×1605)	11400+3×14000	0~82	69	49	Φ22.2	Φ44.5	Φ9.52	120.5	160	225+360×3
CHV-5S1685NMX		168.5	187.5	46.36	48	4×(1340×765×1605)	4×14000	0~82	70	49	Φ22.2	Φ44.5	Φ9.52	124.3	160	285+360×3
CHV-5S1750NMX		175	195	48.6	50.1	4×(1340×765×1605)	4×14000	0~82	70	49	Φ22.2	Φ44.5	Φ9.52	128.4	160	360×4
CHV-5S1800NMX		180	200	50.6	52	4×(1340×765×1605)	4×14000	0~82	70	49	Φ22.2	Φ44.5	Φ9.52	132.8	160	360×4

208/230V, 60Hz

Model	Power Supply	Cooling Capacity		Power Input		Dimension(W*D*H)	Airflow Volume	ESP	Noise		Connecting pipe diameter		Oil Balance Pipe	Min. circuit current	Max. fuse current	Weight
		Cooling	Heating	Cooling	Heating				Noise at Night Operation Noise		Liquid	Gas				
		kW	kW	kW	kW	mm	m³/h	Pa	dB(A)	dB(A)	mm	mm	mm	A	A	kg
CHV-5S504NMF	208/230V-3Ph-60Hz	50.4	56.5	12.2	12.8	2×(930×765×1605)	2×11400	0~82	64	45	Φ15.9	Φ28.6	Φ9.52	66.95	90	225×2
CHV-5S560NMF		56	62.5	14	14.6	2×(930×765×1605)	2×11400	0~82	64	45	Φ15.9	Φ28.6	Φ9.52	76.47	90	225×2
CHV-5S615NMF		61.5	69	15.41	16.3	(930×765×1605)+(1340×765×1605)	11400+14000	0~82	65	45	Φ15.9	Φ28.6	Φ9.52	83.28	110	285+225
CHV-5S680NMF		68	76.5	17.65	18.4	(930×765×1605)+(1340×765×1605)	11400+14000	0~82	65	45	Φ15.9	Φ28.6	Φ9.52	90.79	125	225+360
CHV-5S730NMF		73	81.5	19.65	20.3	(930×765×1605)+(1340×765×1605)	11400+14000	0~82	65	45	Φ19.05	Φ31.8	Φ9.52	98.95	110	225+360
CHV-5S785NMF		78.5	87.5	21.06	22	2×(1340×765×1605)	2×14000	0~82	66	45	Φ19.05	Φ31.8	Φ9.52	105.81	125	285+360
CHV-5S850NMF		85	95	23.3	24.1	2×(1340×765×1605)	2×14000	0~82	66	45	Φ19.05	Φ31.8	Φ9.52	113.32	125	360×2
CHV-5S900NMF		90	100	25.3	26	2×(1340×765×1605)	2×14000	0~82	66	45	Φ19.05	Φ31.8	Φ9.52	121.48	125	360×2
CHV-5S960NMF		96	108	24.65	25.7	2×(930×765×1605)+(1340×765×1605)	2×11400+14000	0~82	67	45	Φ19.05	Φ31.8	Φ9.52	129	125	225×2+360
CHV-5S1010NMF		101	113	26.65	27.6	2×(930×765×1605)+(1340×765×1605)	2×11400+14000	0~82	67	45	Φ19.05	Φ38.1	Φ9.52	137.6	150	225×2+360
CHV-5S1065NMF		106.5	119	28.06	29.3	(930×765×1605)+2×(1340×765×1605)	11400+2×14000	0~82	67	45	Φ19.05	Φ38.1	Φ9.52	144.02	150	225+285+360
CHV-5S1130NMF		113	126.5	30.3	31.4	(930×765×1605)+2×(1340×765×1605)	11400+2×14000	0~82	67	45	Φ19.05	Φ38.1	Φ9.52	151.53	175	225+360×2
CHV-5S1180NMF		118	131.5	32.3	33	(930×765×1605)+2×(1340×765×1605)	11400+2×14000	0~82	67	45	Φ19.05	Φ38.1	Φ9.52	159.07	175	225+360×2
CHV-5S1235NMF		123.5	137.5	33.71	35	3×(1340×765×1605)	3×14000	0~82	68	45	Φ19.05	Φ38.1	Φ9.52	166.55	175	285+360×2
CHV-5S1300NMF		130	145	35.95	37.1	3×(1340×765×1605)	3×14000	0~82	68	45	Φ19.05	Φ38.1	Φ9.52	174.05	175	360×3
CHV-5S1350NMF		135	150	37.95	39	3×(1340×765×1605)	3×14000	0~82	68	45	Φ19.05	Φ38.1	Φ9.52	182.22	200	360×3
CHV-5S1410NMF		141	158	31	38.7	2×(930×765×1605)+2×(1340×765×1605)	2×11400+2×14000	0~82	69	47	Φ22.2	Φ44.5	Φ9.52	189.74	200	225×2+360×2
CHV-5S1460NMF		146	163	39.3	40.6	2×(930×765×1605)+2×(1340×765×1605)	2×11400+2×14000	0~82	69	47	Φ22.2	Φ44.5	Φ9.52	197.9	200	225×2+360×2
CHV-5S1515NMF		151.5	169	40.71	42.3	(930×765×1605)+3×(1340×765×1605)	11400+3×14000	0~82	69	47	Φ22.2	Φ44.5	Φ9.52	204.76	200	225+285+360×2
CHV-5S1580NMF		158	176.5	42.95	44.4	(930×765×1605)+3×(1340×765×1605)	11400+3×14000	0~82	69	47	Φ22.2	Φ44.5	Φ9.52	212.27	225	225+360×3
CHV-5S1630NMF		163	181.5	44.95	46.3	(930×765×1605)+3×(1340×765×1605)	11400+3×14000	0~82	69	49	Φ22.2	Φ44.5	Φ9.52	220.43	225	225+360×3
CHV-5S1685NMF		168.5	187.5	46.36	48	4×(1340×765×1605)	4×14000	0~82	70	49	Φ22.2	Φ44.5	Φ9.52	227.29	225	285+360×3
CHV-5S1750NMF		175	195	48.6	50.1	4×(1340×765×1605)	4×14000	0~82	70	49	Φ22.2	Φ44.5	Φ9.52	234.8	250	360×4
CHV-5S1800NMF		180	200	50.6	52	4×(1340×765×1605)	4×14000	0~82	70	49	Φ22.2	Φ44.5	Φ9.52	242.96	250	360×4

440~460V,60 Hz

Model	Power Supply	Cooling Capacity		Power Input		Dimension(W*D*H)	Airflow Volume	ESP	Noise		Connecting pipe diameter		Oil Balance Pipe	Min. circuit current	Max. fuse current	Weight
		Cooling	Heating	Cooling	Heating				Noise at Night Operation Noise		Liquid	Gas				
		kW	kW	kW	kW	mm	m³/h	Pa	dB(A)	dB(A)	mm	mm	mm	A	A	kg
CHV-5S504NMU	440~460V-3Ph-60Hz	50.4	56.5	12.7	13.45	2×(930×765×1605)	2×11400	0~82	64	43	Φ15.9	Φ28.6	Φ9.52	36	40	225×2
CHV-5S560NMU		56	62.5	14.6	15.3	2×(930×765×1605)	2×11400	0~82	64	43	Φ15.9	Φ28.6	Φ9.52	37	40	225×2
CHV-5S615NMU		61.5	69	16	17	(930×765×1605)+(1340×765×1605)	11400+14000	0~82	65	43	Φ15.9	Φ28.6	Φ9.52	37	50	285+225
CHV-5S680NMU		68	76.5	18.15	19.1	(930×765×1605)+(1340×765×1606)	11400+14000	0~82	65	43	Φ15.9	Φ28.6	Φ9.52	49	50	225+360
CHV-5S730NMU		73	81.5	20.2	20.95	(930×765×1605)+(1340×765×1607)	11400+14000	0~82	65	43	Φ19.05	Φ31.8	Φ9.52	52	60	225+360
CHV-5S785NMU		78.5	87.5	21.6	22.65	2×(1340×765×1605)	2×14000	0~82	66	43	Φ19.05	Φ31.8	Φ9.52	55	60	285+360
CHV-5S850NMU		85	95	23.75	24.75	2×(1340×765×1605)	2×14000	0~82	66	43	Φ19.05	Φ31.8	Φ9.52	64	70	360×2
CHV-5S900NMU		90	100	25.8	26.6	2×(1340×765×1605)	2×14000	0~82	66	43	Φ19.05	Φ31.8	Φ9.52	66	70	360×2
CHV-5S960NMU		96	108	25.45	26.75	2×(930×765×1605)+(1340×765×1605)	2×11400+14000	0~82	67	45	Φ19.05	Φ31.8	Φ9.52	65	70	225×2+360
CHV-5S1010NMU		101	113	27.5	28.6	2×(930×765×1605)+(1340×765×1605)	2×11400+14000	0~82	67	45	Φ19.05	Φ38.1	Φ9.52	67	80	225×2+360
CHV-5S1065NMU		106.5	119	28.9	30.3	(930×765×1605)+2×(1340×765×1605)	11400+2×14000	0~82	67	45	Φ19.05	Φ38.1	Φ9.52	71	80	225+285+360
CHV-5S1130NMU		113	126.5	31.05	32.4	(930×765×1605)+2×(1340×765×1605)	11400+2×14000	0~82	67	45	Φ19.05	Φ38.1	Φ9.52	80	90	225+360×2
CHV-5S1180NMU		118	131.5	33.1	34.25	(930×765×1605)+2×(1340×765×1605)	11400+2×14000	0~82	67	45	Φ19.05	Φ38.1	Φ9.52	83	90	225+360×2
CHV-5S1235NMU		123.5	137.5	34.5	35.95	3×(1340×765×1605)	3×14000	0~82	68	45	Φ19.05	Φ38.1	Φ9.52	86	90	285+360×2
CHV-5S1300NMU		130	145	36.65	38.05	3×(1340×765×1605)	3×14000	0~82	68	45	Φ19.05	Φ38.1	Φ9.52	95	100	360×3
CHV-5S1350NMU		135	150	38.7	39.9	3×(1340×765×1605)	3×14000	0~82	68	45	Φ19.05	Φ38.1	Φ9.52	97	110	360×3
CHV-5S1410NMU		141	158	38.35	40.05	2×(930×765×1605)+2×(1340×765×1605)	2×11400+2×14000	0~82	69	47	Φ22.2	Φ44.5	Φ9.52	96	110	225×2+360×2
CHV-5S1460NMU		146	163	40.4	41.9	2×(930×765×1605)+2×(1340×765×1605)	2×11400+2×14000	0~82	69	47	Φ22.2	Φ44.5	Φ9.52	99	110	225×2+360×2
CHV-5S1515NMU		151.5	169	41.8	43.6	(930×765×1605)+3×(1340×765×1605)	11400+3×14000	0~82	69	47	Φ22.2	Φ44.5	Φ9.52	102	110	225+285+360×2
CHV-5S1580NMU		158	176.5	43.95	45.7	(930×765×1605)+3×(1340×765×1605)	11400+3×14000	0~82	69	47	Φ22.2	Φ44.5	Φ9.52	111	110	225+360×3
CHV-5S1630NMU		163	181.5	46	47.55	(930×765×1605)+3×(1340×765×1605)	11400+3×14000	0~82	69	49	Φ22.2	Φ44.5	Φ9.52	114	125	225+360×3
CHV-5S1685NMU		168.5	187.5	47.4	49.25	4×(1340×765×1605)	4×14000	0~82	70	49	Φ22.2	Φ44.5	Φ9.52	117	125	285+360×3
CHV-5S1750NMU		175	195	49.55	51.35	4×(1340×765×1605)	4×14000	0~82	70	49	Φ22.2	Φ44.5	Φ9.52	126	150	360×4
CHV-5S1800NMU		180	200	51.6	53.2	4×(1340×765×1605)	4×14000	0~82	70	49	Φ22.2	Φ44.5	Φ9.52	128	150	360×4

CHV5 Mini & Slim

Key Features

All DC Inverter Technology to Improve Compression Efficiency

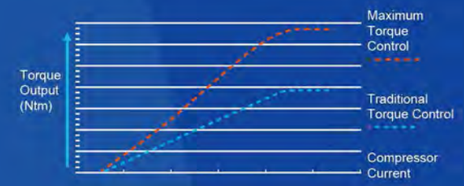
All DC inverter compressor and high-performance high pressure chamber are adopted to reduce loss of overheat and improve compression efficiency from direct intake. Compared with low pressure chamber, the compression efficiency is improved. High-efficient permasyn motor is adopted to provide better performance than traditional DC inverter compressor.

All DC Inverter Compressor

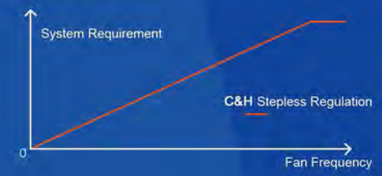
- All DC inverter compressor is used in this system. It can directly intake gas to reduce loss of overheat and improve efficiency.

- High-efficient permasyn motor is adopted to provide better performance than traditional DC inverter compressor.

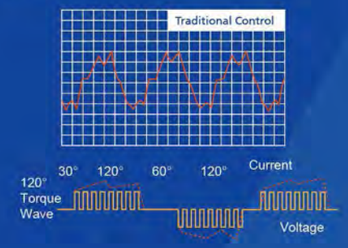
- **Technology of Maximum Torque TControl with Minimum Current**
  It can reduce energy loss caused by device winding so as to realize higher efficiency.

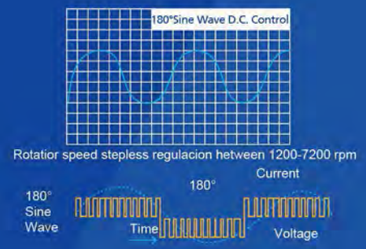


- **Low-frequency Torque Control**
  It can directly control motor torque, through which fan motor can run at a low speed. Users will feel more comfortable while requirements of the system are also met.



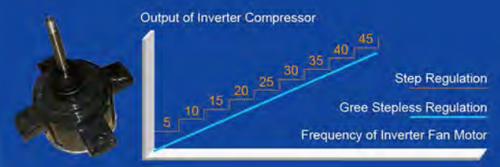
- **180° Sine Wave DC Speed Varying Technology**
  It can satisfy various places' demands for different temperature and is able to save a great deal of electricity and provide users with utmost comfort at the same time.



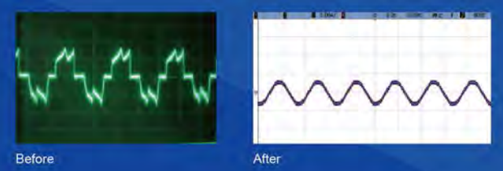


Sensorless DC Inverter Fan Motor

- Stepless speed regulation ranges from **5Hz** to **44Hz**.Compared with traditional inverter motors, the operation is more energy-saving.

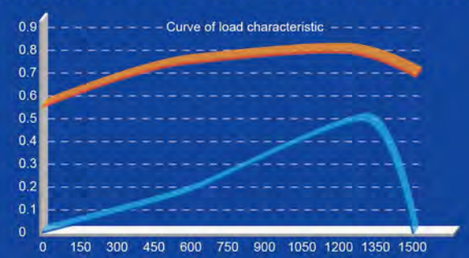


- Sensorless control technology guarantees lower noise, less vibration and steadier operation.



Sensorless DC Inverter Fan Motor

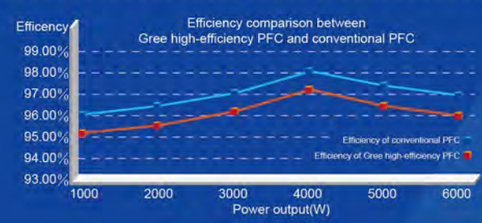
The indoor unit adopts high-efficiency brushless DC motor. Compared with conventional motor, the efficiency of brushless DC motor is improved by more than **30%**. Meanwhile, the design of evaporation capacity flow is optimized through emulation software of refrigeration system and the heat exchange amount of evaporator is greatly improved.



High-efficiency Digital PFC Control *

High-efficiency PFC control technology is adopted with efficiency improved by about 1% compared with conventional PFC. For the air conditioner with rated power of 5kW, **50W** of electricity can be saved every hour and **1.2kW** of electricity can be saved every day.

*This feature is applicable for CHV5 Mini only.



Wider Operation Condition Range

The unit adopts DC motor with more accurate high pressure control, which effectively solves the high pressure control problem in low a mbient temperature cooling. So the operation range in cooling is wider.

Company A	C&H CHV5 Mini	C&H CHV5 Slim
Cooling:10~48°C Heating:-20~27°C	Cooling:-15~48°C Heating:-25~27°C	Cooling:-15~50°C Heating:-25~27°C

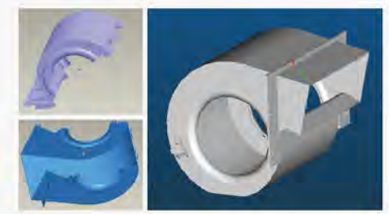
Comfortable and Quiet Mode

Low Noise of Outdoor Unit

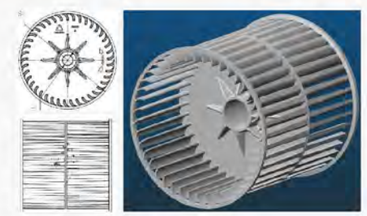
- The advanced sub-cooling control technology is applied to reduce the liquid flow noise of indoor unit in cooling operation.
- Noise of outdoor unit can be as low as 45dB thanks to noise optimized design or fan system and compressor system, and multiple kinds of quiet modes of outdoor unit.

Low Noise of Indoor Unit

- The pioneering and patented high-efficiency centrifugal fan blade and low-noise volute are adopted. Meanwhile, the imported silent valve is adopted to reduce noise of entire unit as low as 22db(A).



- By adopting the optimal inlet angle of centrifugal fan blade and optimal diameter ratio between internal and external circles of impeller, the air volume is increased and fan noise is decreased greatly.



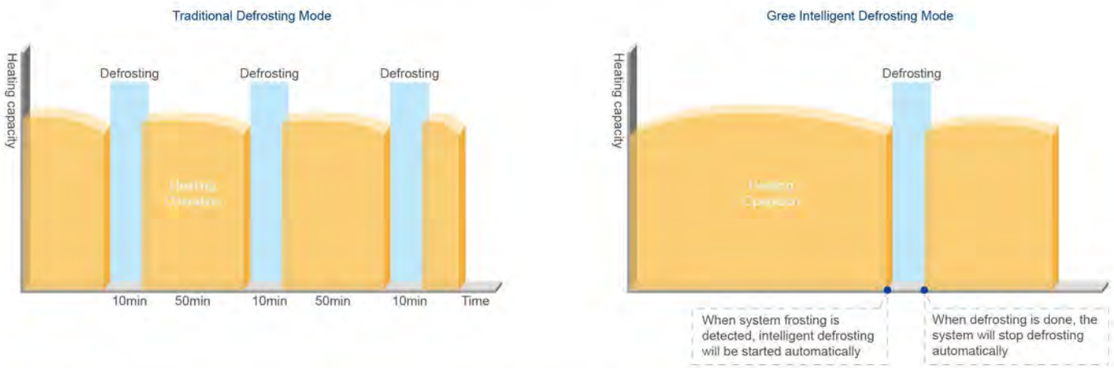
- The advanced supercooling control technology and the oil-return technology under heating mode has efficiently solved the problem of liquid flow noise of indoor unit , which improved the sound quality of indoor unit.

Intelligent Temperature Control Technology

Intelligent temperature control technology is adopted for super fast cooling or heating, so that indoor temperature will reach set temperature more quickly.

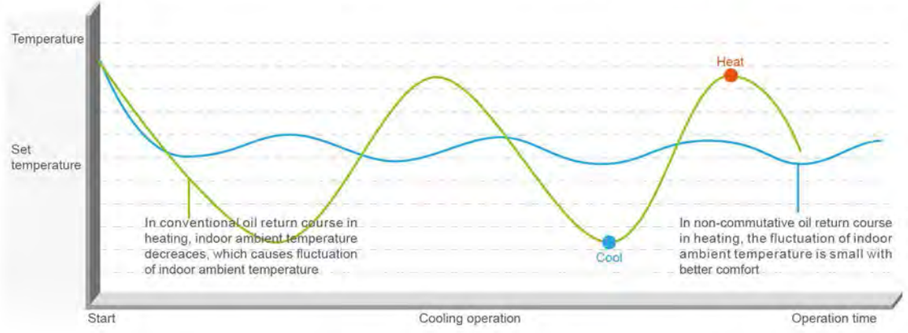
Comfortable Heating

Advanced intelligent defrosting mode is adopted. **C&H** advanced intelligent defrosting mode will choose the best defrosting way according to outdoor temperature and operation status to realize intelligent defrosting, effectively improving heating effect and performance. While in traditional defrosting mode, timing defrosting is adopted, which not only affects comfort but also reduces energy efficiency.



Non-commutative Oil Return Technology in Heating

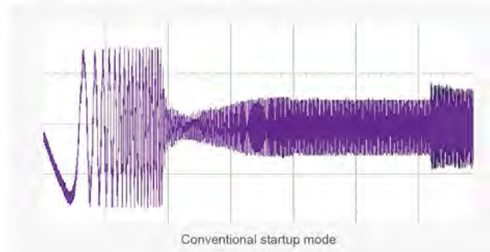
The unit can achieve non-commutative oil return in heating when outdoor ambient temperature is within 0~20°C. Thanks to this technology, indoor ambient temperature is more stable and comfort is improved in heating mode.

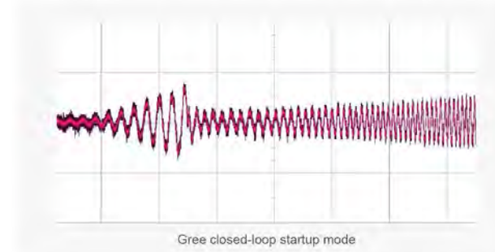


Reliable Operation

Compressor Closed-loop Startup Technology with More Reliable Startup

The self-innovative closed-loop startup control technology is adopted. Thanks to this technology, the startup current is small and startup is more reliable.



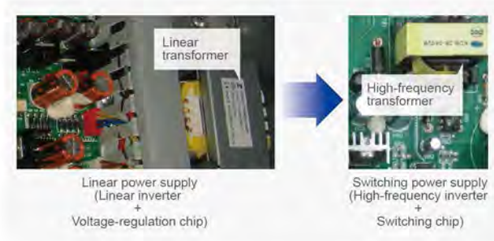


High Anti-interference Ability

The latest CAN bus communication technology is adopted, with non-polar communication and high anti-interference ability. Common communication wire can meet the communication demand with no need of specialized shielded wire. The customers can buy the communication wire by themselves, greatly reducing installation difficulties.

Advanced High-frequency Transformer with More Stable Voltage

- The advanced switching power supply is adopted with lower power consumption and higher power efficiency.
- Wide voltage-regulation range ensures stable voltage output when the voltage of grid fluctuates.
- Compared with conventional transformer, the size of high-frequency transformer is small and the weight is light.



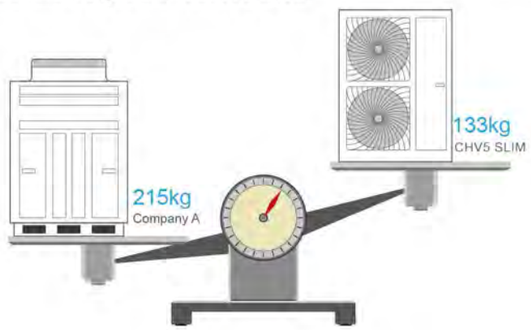
Ultra-long Connection Pipe for More Convenient Connection

Under the subcooling control technology gained by adding subcooler, the indoor unit and outdoor unit of **CHV5** mini can operate reliably with longer connection pipe.

	Company A	C&H CHV5 Slim	C&H CHV5 Mini
Total piping length	150m	300m	300m
Equivalent piping length	70m	100m	150m

Top Advanced Light and Compact Size

CHV5 slim adopts small and compact size design. The dimension of the unit is 1430(H)×940(W) ×320(D). Compared with the normal product with the same capacity, size and weight are reduced a lot.



Easy Installation with Lower Construction Cost

The outdoor unit of **CHV5** slim is with small size and light weight. No need fork lifter and crane for movement and installation

Movement by Stairs and Elevator

The outdoor unit of **CHV5** slim is with compact and small size for saving space and easy movement. It can be carried by elevator or stairs.

CHV5 Mini & Slim Line Up

Mini Line up

HP	Model	Product Outlook
4	CHV-5S120NK	
5	CHV-5S140NK	
6	CHV-5S160NK	

Slim Line up

HP	Model	Product Outlook
7	CHV-5S200SNMX	
8	CHV-5S224SNMX	
9	CHV-5S250SNMX	
10	CHV-5S280SNMX	
11	CHV-5S308SNMX	
12	CHV-5S335SNMX	

Mini

50/60 Hz

Model			CHV-5S120NK*1	CHV-5S140NK*1	CHV-5S160NK*1
Capacity range		HP	4	5	6
Capacity	Cooling	kW	12.1	14	16
	Heating	kW	14	16.5	18.5
EER		W/W	3.97	3.62	3.3
COP		W/W	4.28	4.14	3.97
Power supply		V/Ph/Hz	220~240V-1Ph-50Hz&208~230V-1Ph-60Hz		
Max. Circuit/Fuse Current		A	28.1/32	31.8/32	33.6/40
Power	Cooling	kW	3.05	3.87	4.03
comsumption	Heating	kW	3.27	3.99	4.67
Maximum drive IDU NO.		unit	7	8	9
Refrigerant Charge volume		kg	5	5	5
Sound pressure level		dB(A)	55	56	58
Connecting	Liquid	mm	Φ9.52		
pipe	Gas	mm	Φ15.87		Φ19.05
Dimension	Outline	mm	900*340*1345		
(W*D*H)	Package	mm	998*458*1515		
Net weight/Gross weight		kg	110/120	110/120	110/120
Loading	40' GP	set	57	57	57
quantity	40' HQ	set	57	57	57

*1 This series outdoor unit cannot match with US air handler, fresh air processing unit and high static ESP duct type unit.

Slim

50/60 Hz

Model			CHV-5S200SNMX*2	CHV-5S224SNMX*2	CHV-5S250SNMX*2	CHV-5S280SNMX*2	CHV-5S308SNMX*2	CHV-5S335SNMX*2
Capacity range		HP	7	8	9	10	11	12
Capacity	Cooling	kW	20.0	22.4	24.5	28.0	30.8	33.5
	Heating	kW	22.4	25.0	26.0	31.5	33.9	37.5
EER		W/W	3.29	3.28	3.1	2.97	2.99	3.04
COP		W/W	4.0	4.1	3.7	3.73	3.59	3.60
IPLV	Cooling	kW/kW	6.1	6.1	6.0	6.0	6.0	6.0
Power supply		V/Ph/Hz	380-415~3Ph~50/60Hz					
Max. Circuit/Fuse Current		A	25	25	25	25	25	25
Power	Cooling	kW	6.08	6.83	8.0	9.4	10.3	11.0
comsumption	Heating	kW	5.6	6.1	7.0	3.45	9.6	10.4
Maximum drive IDU NO.		unit	12	13	15	17	18	20
Refrigerant Charge volume		kg	5.5	5.5	6.0	7.5	8.0	8.0
Sound pressure	Cooling	dB(A)	57	58	59	59	59	60
level	Heating	dB(A)	58	59	60	60	60	61
Connecting	Liquid	mm	Φ9.52	Φ9.52	Φ9.52	Φ12.7	Φ12.7	Φ12.7
pipe	Gas	mm	Φ19.05	Φ19.05	Φ19.05	Φ25.4	Φ25.4	Φ25.4
Dimension	Outline	mm	940*320*1430	940*320*1430	940*320*1430	940*460*1615	940*460*1615	940*460*1615
(W*D*H)	Package	mm	1033*433*1580	1033*433*1580	1033*433*1580	1033*573*1765	1033*573*1765	1033*573*1765
Net weight/Gross weight		kg	133/144	133/144	133/144	160/175	165/180	175/185
Loading	40' GP	set	54	54	54	44	44	44
quantity	40' HQ	set	54	54	54	44	44	44

Note:
① Testing conditions of rated cooling capacity: indoor 27℃DB/19℃WB, outdoor 35℃DB, connection pipe length of 5m, no height difference between units.
② Testing conditions of rated heating capacity: indoor 20℃DB, outdoor 7℃DB/6℃WB, connection pipe length of 5m, no height difference between units.
③ The total indoor unit capacity shall be within 50% to 130% of outdoor unit capacity. Correction of other parameters can be referred to the unit capacity correction sheet.
④ The above-mentioned parameters are tested with standard connection pipe length. In actual engineering, please arrange correction according to the capacity correction with long connection pipe.

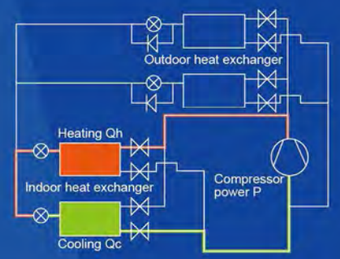
*2 This product is under development. The parameters are estimated, please refer to the value on the nameplate.

CHV5 Heat Revovery

Key Features

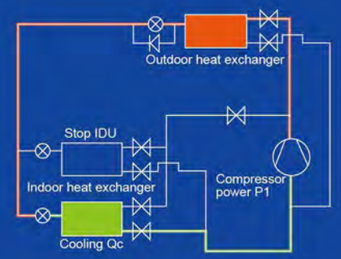
High Efficiency

CHV5 Heat Recovery System embodies the excellent features of **CHV5** (DC inverter technology, DC fan linkage control, precise control of capacity output, balancing control of refrigerant, original oil balancing technology with high pressure chamber, high-efficiency output control, low-temperature operation control technology, super heating technology, high adaptability for project, environmental refrigerant). Its energy efficiency is improved by 78% compared with conventional multi VRF.



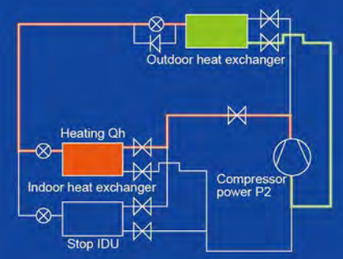
ECOP of heat recovery system

ξ=(13.0＋17.0)/4.5=6.67



EER of common system

ξ1=13.0/3.0=4.33



COP of common system

ξ2=17.0/5.0=3.4

When the cooling capacity and heating capacity of common system are equivalent to the capacity of heat recovery system, its energy efficiency ratio is:

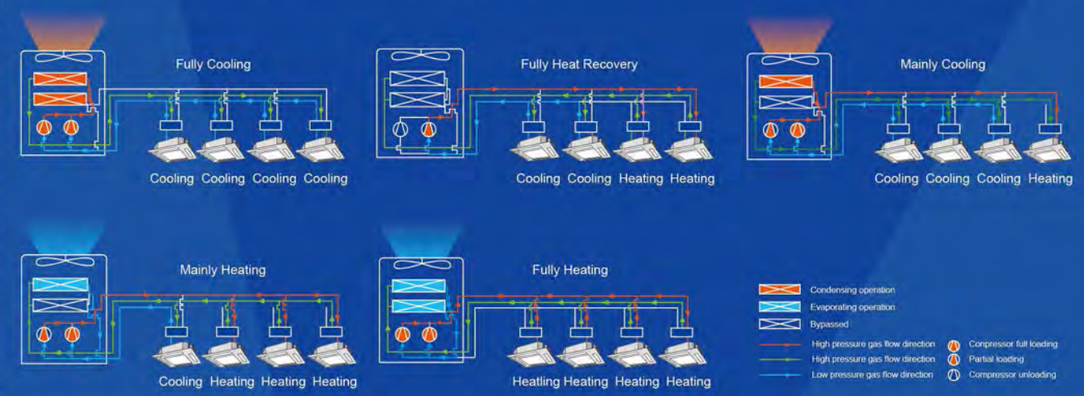
ξ2=(13.0+17.0)/(3.0+5.0)=30.0/8.0=3.75

The energy efficiency ratio of heat recovery system is higher than common system:

(6.67-3.75)x100%/3.75=78%

Note: Working conditions of above-mentioned test: outdoor temperature 7℃/6℃, indoor temperature in cooling 27℃/19℃, indoor temperature in heating 20℃/15℃.

Five Efficient Operation Modes



All DC Inverter Technology to Improve Compression Efficiency

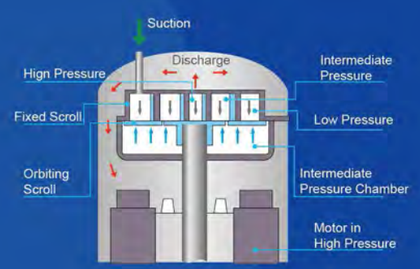
- All DC inverter compressor is used in this system. It can directly intake gas to reduce loss of overheat and improve efficiency.

- High-efficient permasyn motor is adopted to provide better performance than traditional DC inverter compressor.

- **High Pressure Chamber Design**

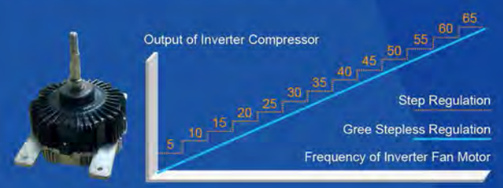
What's high pressure chamber?
The low-temperature and low-pressure refrigerant gas inhaled from the suction inlet of compressor will change to high-temperature and high-pressure gas after compression by scroll plate. Then the gas will go out from the exhaust at the center of fixed scroll and get into the lower chamber of compressor, so that the chamber of compressor is in high temperature and high pressure.

What's the benefits of high pressure chamber?
High pressure chamber compressor inhales directly to reduce overheat suction loss and improve compression efficiency.

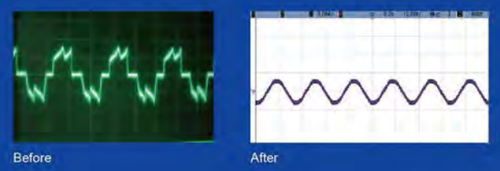


- **Sensorless DC Inverter Fan Motor**

Stepless speed regulation ranges from **5Hz** to **65Hz**.Compared with traditional inverter motors, the operation is more energy-saving.



Sensorless control technology guarantees lower noise, less vibration and steadier operation.



Wide Range of Voltage to Ensure a Steady System Running

Working voltage range of **CHV5** system has been improved to **320V-460V**, which surpasses the national standard of 342V-420V. For places with unsteady voltage, this system can still be running well.

Wider Applicable Location

CHV5 can realize a combination of 4 outdoor unit modules connecting with as many as **80** indoor units. It's especially applicable for business building or hotels.

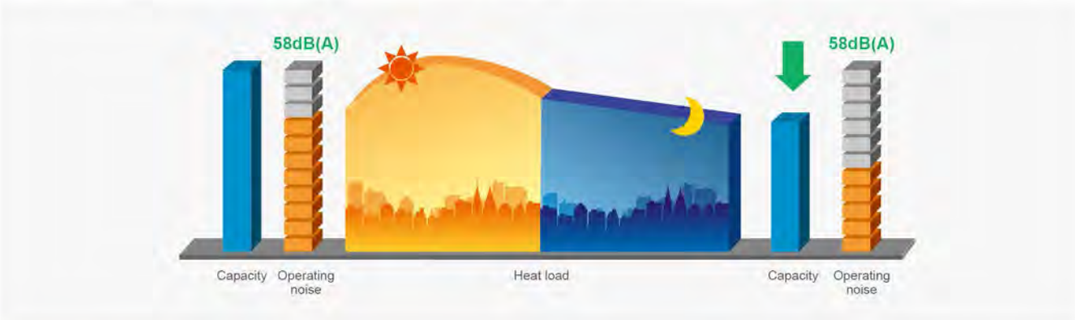
Max. IDU Connection: **80** sets

Comfortable Design for A Better Life

Intelligent Quiet Function at Night

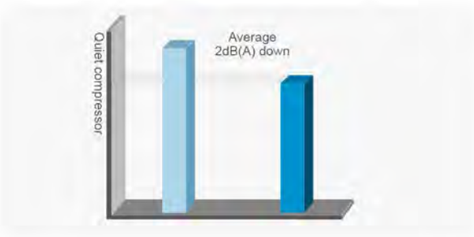
- **Quiet at night**

Intelligently adjustment of outdoor fan control can minimize the noise during night time. Up to 8dB(A) can be reduced and operation noise at night is as low as 50dB(A).



- **Low noise design**

HP Chamber compressor has lower exhaust pressure fluctuation so that noise is lower.



The optimized design of condensing fan blade reduces the air flow turbulence among blades, so that the noise is lower.

Individual Control for More Energy Saving

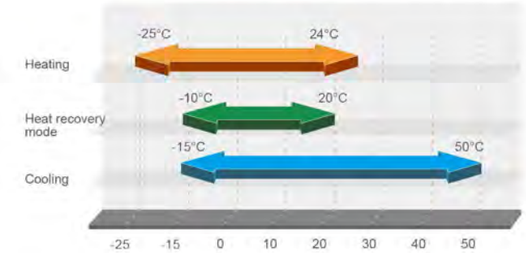
The set temperature of each room may vary by the individual thermostat control of each indoor unit.
The cooling and heating operation can be performed at the same time.

Wide Operation Range

The unit can operates in wide range, greatly reducing the ambient temperature limitation.

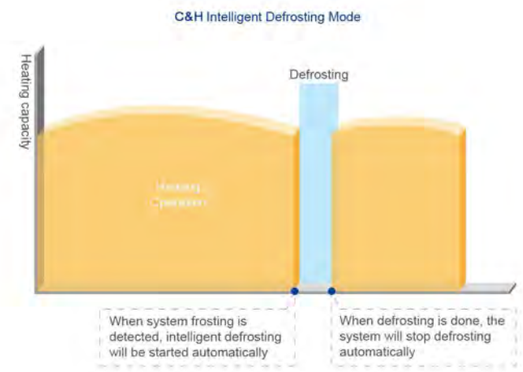
Note:
If the required capacity of indoor units is 50% higher than outdoor unit,cooling range may be lower to -15°C.

If the required capacity of indoor units is 50% higher than outdoor unit,cooling range may be up to -5°C



Comfortable Heating

Advanced intelligent defrosting mode is adopted. **C&H** advanced intelligent defrosting mode will choose the best defrosting way according to outdoor temperature and operation status to realize intelligent defrosting, effectively improving heating effect and performance. While in traditional defrosting mode, timing defrosting is adopted, which not only affects comfort but also reduces energy efficiency.



Excellent Performance Ensured by Advanced Technologyn

Modules Rotation Operating to Maximize Lifespan

Modules 8h rotation operating

The operating priority sequence of the outdoor unit modules will be changed without restart when the system accumulatively operates for 8 hours, which can maximize the service life of the system.

Excellent Emergency Operation Function to Ensure Reliable Operation

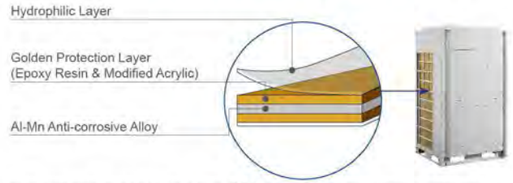
- **Emergency Function**
  The **CHV 5** system can realize a combination of 4 outdoor unit modules. When error is occurred to one of the modules, the others will perform the emergency operation to sustain the air conditioning.

- **Emergency Operation of Compressor**
  All the compressors in each single module are DC Inverter based, when one compressor has error, others will perform the emergency operation.

- **Emergency Operation of Fan**
  Double-fan design ensures that one fan can still work even if the other one has error.

Highly Anticorrosive Golden Fins

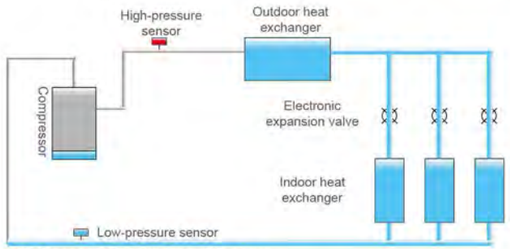
The primary material of Golden Fin is Al-Mn(Alumium-Manganese) anti-rust alloy, which is coated with the Golden Protection Layer(Components: Exoxy Resin & Modified Acrylic, Sillcon free), the anti-corrosice performance in salt-spray testing is 200%~300% higher than normal Blue Fin*.



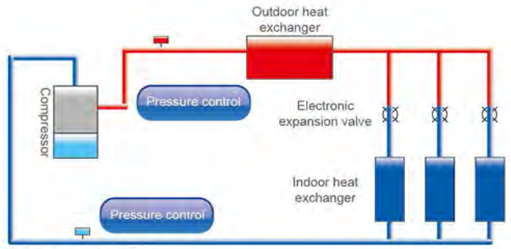
Note: Satt-spary testing result is from C&H materials chemistry testing laboratory.

Oil Return Control Technology

- **New Oil Return Control**
  C&H new oil return control technology effectively controls system oil return and oil storage status of each compressor, which greatly improves the operation lifespan of compressor.

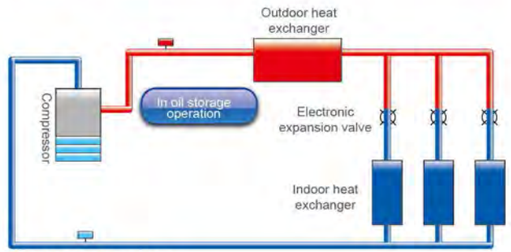


Oil storage status before oil return



Oil return operation

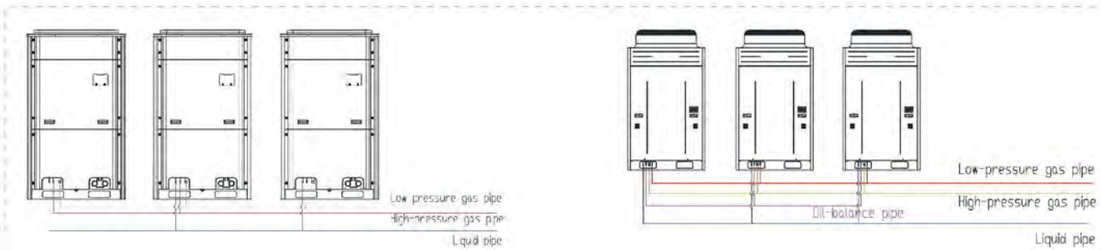
- **Specialized Compressor Oil Storage Control**
  The system applies specialized compressor oil storage technology, which can control the lowest oil level for compressor operation.



Oil storage operation

Without External Oil-balanced Pipe Design

The unit is without external oil-balanced pipe design, reducing system pipeline connection and easy for engineering installation. The system will allocate lubricating oil of each module according to its demand, which is more intelligent, more efficient and more equal.



Easy Installation and Maintenance

Compact Design

With compact design, the outdoor unit can be carried to the roof of building through elevator, with no need of crane. It is easier for delivery and installation.

Company A

CHV5

Easy Transportation

- **Optimized base frame**

Optimized base frame, the locating and fixing of the outdoor unit during installation is more convenient and reliable.

- **Transportable by forklift**

- **Five-way piping connection**

Piping and wiring are availiable to the front and back, left and right, and bottom.

The five-way piping connection reduces installation difficulty and cost, improves the installation efficiency.

Easy Maintenance

- Inspection window is available for quick checking of system operation status. No need to open panel for checking, which will be more time-saving and easier for maintenance.

COMPANY A

CHV5

- **Error Display & Self-diagnostic Function**
Through LED display(different combinations of ON, OFF, or BLINK) on the main board, the malfunction can be judged.

CHV5 HR Line Up

HR Line up

HP	Model	Product Outlook
8HP	CHV-5SH224NMX	
10HP	CHV-5SH280NMX	
12HP	CHV-5SH335NMX	
14HP	CHV-5SH400NMX	
16HP	CHV-5SH450NMX	

Model	Product Outlook
HRB1NK	
HRBS4NK	
HRBS8NK	

Specifications and Parameters

50/60 Hz

Model			CHV-5SH224NMX	CHV-5SH280NMX	CHV-5SH335NMX	CHV-5SH400NMX	CHV-5SH450NMX
Capacity range		HP	8	10	12	14	16
Capacity	Cooling	kW	22.4	28	33.5	40	45
	Heating	kW	25	31.5	37.5	45	50
EER		W/W	4.27	4.38	4.08	4.25	3.78
COP		W/W	4.44	4.75	4.08	4.41	4.07
IPLV	Cooling	kW/kW	/	/	/	/	/
Power Supply		V/Ph/Hz	380~415V-3Ph-50/60Hz				
Max. circuit/fuse current		A	14.4/20	19.23/25	22.72/32	26.50/40	30.54/40
Power comsumption	Cooling	kW	5.25	6.50	8.21	9.41	11.90
	Heating	kW	5.63	6.63	9.19	10.20	12.29
Maximum drive IDU NO.		unit	13	16	19	23	26
Refrigerant Charge volume		kg	6.2	7.1	8.6	10.2	10.5
Sound pressure level		dB(A)	60	61	63	63	63
Connecting pipe	Liquid	mm	Φ9.52		Φ12.7		
	Gas(Low pressure)	mm	Φ19.05	Φ22.2	Φ25.4		Φ28.6
	Gas(High pressure)	mm	Φ19.05			Φ22.2	
Dimension (W*D*H)	Outline	mm	930*765*1605		1340*765*1605		
	Package	mm	1010*840*1775		1420*840*1775		
Net weight/Gross weight		kg	233/243	233/243	303/318	360/375	360/375
Loading quantity	40' GP	set	24	24	16	16	16
	40' HQ	set	24	24	16	16	16

50 Hz

Model			HRB1NK	HRBS4NK	HRBS8NK
Max.IDU Branches		unit	1	4	8
No. of connectable IDU of each branch		unit	8	8	8
Total Connectable IDU		unit	8	32	64
Max. Capacity of each branch		kW/kW	14	14	14
Max. Capacity of connectable IDU		kW/kW	14	45	65
Power supply		V/Ph/Hz	220-240V-1Ph-50Hz		
Power comsumption		W	20	30	30
Maximum drive IDU NO.		unit	1	4	8
Outdoor Unit Piping Connection	Liquid	mm	Φ9.52	Φ12.7	Φ15.9
	Gas(Low pressure)	mm	Φ15.9	Φ22.2	Φ22.2
	Gas(High pressure)	mm	Φ19.05	Φ28.6	Φ28.6
Indoor Unit Piping Connection	Liquid	mm	Φ9.5	Φ9.5	Φ9.5
	Gas	mm	Φ15.9	Φ15.9	Φ15.9

Key Features of Indoor Units

High Static Pressure Duct Type Indoor Unit

- **High static pressure design**
  Static pressure can be up to 150Pa, especially suitable for places in need of long distance airflow.
- **Convenient installation**
  You can choose circular air duct or rectangular air duct according to actual needs. Or you can choose different ways of air return.
- **Easy maintenance**
  The system has maintenance port for easy maintenance.
- **Protection function**
  Anti-freezing protection, fan motor overload protection, temperature sensor malfunction protection.

Low Static Pressure Duct Type Indoor Unit

- **Low static pressure, low noise**
  Especially suitable for rooms of compact structure or small installation space. Also, it provides you with a comfortable and quiet living environment.

- **Intelligent drainage device**
  Water height difference up to 1.0m, which can effectively drain out condensing water and save space.
  Note: Please specify if you need this function.

- **Convenient installation**
  Tab type plastic filter, detachable fan motor, independent water pump assembly and electric box assembly, all for convenient maintenance.

- **Protection function**
  Water overflow protection, anti-freezing protection, fan motor overload protection, temperature sensor malfunction protection.

Slim Ducted Type Indoor Unit

- **Highly Efficient & Energy-saving**
  High-efficiency DC brushless motor is used. Its efficiency is improved by over 30% compared with common motor. Evaporator flow path adopts simulating optimized design via the refrigeration system simulation software, which has greatly increased the heat exchange capacity of evaporator.

- **Slim & Small**
  The unit is only 200mm's thick and 450mm's deep. Suspended ceiling doesn't have to be very high. It is suitable for ordinary rooms.

- **Wiring of Electric Control Box**
  Mounting board of electric control box elements are arranged at both sides of the mounting board of fan motor. There is a wire-cross notch on each side so that wiring at both sides of the mounting board of fan motor is convenient and efficient. Strong and weak current are also separated to ensure the effectiveness of weak current signal transmission.

- **Protection Functions**
  Anti-freezing protection, fan motor built-in overload protection, temperature sensor error protection

- **Ultra-quiet**
  High-efficiency centrifugal fan and ultralow noise volute are developed with ANSYS and Fluent. They have also gained national patents. Meanwhile, inlet mute valve is adopted so that noise of the complete unit is greatly reduced.

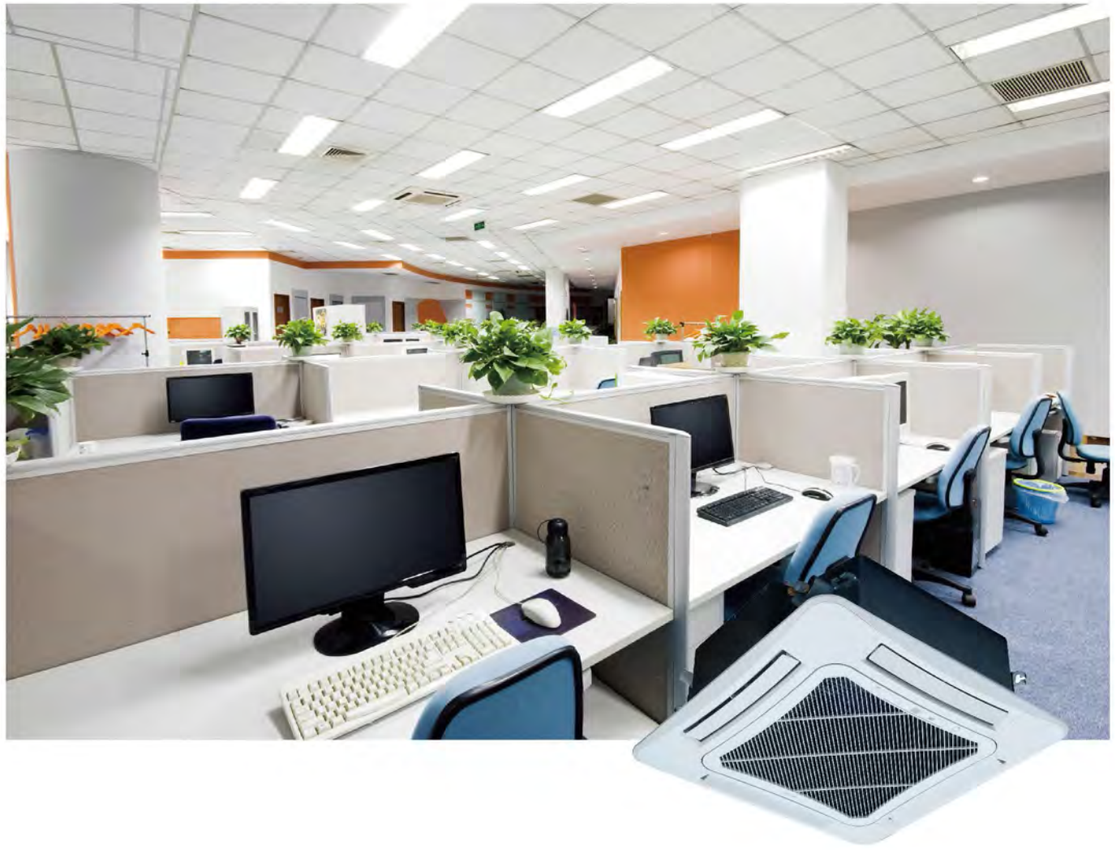
- **Fast & Strong**
  Intelligent temperature control technology is adopted. Cooling/ Heating function is fast and strong so that room temperature can quickly reach set temperature.

- **Flexible Installation**
  Based on the requirements of building and utilization, different ways of air return and different air supply static pressure can be selected.

- **CAN Bus Communication Technology**
  System response speed is faster and communication is more reliable. Auto addressing, non-polar communication, free wire matching

- **Convenient Operation & Maintenance**
  Electric control box is attached independently so that it can be detached as a whole, which is convenient for maintenance. The installation and maintenance of fan and motor is also convenient.

4-way Cassette Indoor Unit



- **Strong and balanced airflow**
  Unit features auto operation, 4-way airflow, 7 fan speeds and strong circulating airflow.

- **Ultra-low noise operation**
  DC inverter motor can realize stepless speed regulation to lower noise. Indoor unit can be set to work under auto quiet mode via wired controller.

- **Intelligent drainage device**
  Water height difference up to 1.0m, which can effectively drain out condensing water and save space.

- **DC inverter motor**
  With good speed regulation performance, motor efficiency improved by 30% v.s. normal motor.

- **Protection function**
  Water overflow protection, anti-freezing protection, temperature sensor malfunction protection, fan motor overload protection.

Compact 4-way Cassette Indoor Unit

- **Compact Design for Easy Installation**
  Units maintain the uniform length and width with consistent ceiling opening and panel dimension, convenient for design and installation;

- **Ultra-low noise operation**
  DC inverter motor can realize stepless speed regulation to lower noise. Indoor unit can be set to work under auto quiet mode via wired controller.

- **Intelligent drainage device**
  Water height difference up to 1.0m, which can effectively drain out condensing water and save space.

2-way Cassette Indoor Unit

- **Beautiful Appearance**
  With beautiful and elegant front panel, it is congenial to the indoor surroundings.
- **Two-way air flow design**
  Two-way air outlet, to stretch air outlet distance and solve air supply problem of elongated room
- **Intelligent drainage device**
  Water height difference up to 1.0m, which can effectively drain out condensing water and save space.
- **Multiple protections**
  Anti-freezing protection, temperature malfunction protection, fan motor overload and humidity sensor protection.

1-way Cassette Indoor Unit

- **Small installation space**
  With 185mm ultrathin design, unit can be installed in the ceiling of 19cm deep.
- **High drain pump lift**
  Drain pump lift reaches 1.0m, which can effectively drain out water.
- **Detachable grille and long life filter**
  Grille is detachable for easy cleaning. With durable filter, cleaning cycle is 20 times longer.
- **Protection function**
  Water overflow protection, anti-freezing protection, fan motor overload protection, temperature sensor malfunction protection.

Wall-mounted Indoor Unit

- **Comfortable and balanced airflow, up&down air outlet**
  Up air outlet: In cooling, cool air blows out horizontally and then gradually drops.
  Down air swing: In heating, warm air blows downward and then gradually climbs up.

- **Triple defenders for better purification**
  Mildew-proof filter, electrostatic fibre and anti-biotic fibre adopted to remove dust, smell, bacteria and mildew.

- **Cold air prevention design**
  During heating in winter, cold air prevention function is enabled so that air won't be blown out until it's warm.

- **Multiple protections**
  Anti-freezing protection, temperature sensor malfunction protection, fan motor overload protection.

Floor Ceiling Type Indoor Unit

- **Hoisted or seated, flexible installation**
  Unit can be hoisted or seated. When seated, suspended ceiling is not needed.

- **Beautiful appearance**
  With beautiful and elegant front panel, it is congenial to the indoor surroundings.

- **Protection function**
  Anti-freezing protection, temperature sensor malfunction protection, fan motor overload protection.

- **Horizontal and vertical air swing**
  Wider air swing range for your comfortable working and living environment.

Console Indoor Unit

- **Multiple fan speed**
  The fan can operate in multiple speed and satisfy different air flow volume requirements.

- **Detachable grille and long life filter**
  Grille is detachable for easy cleaning. With long life filter, cleaning cycle is 20 times longer.

- **High drain pump lift**
  Drain pump lift reaches 1.0m, which can effectively drain out water.

- **Protection function**
  Water overflow protection, anti-freezing protection, fan motor overload protection, temperature sensor malfunction protection, auxiliary electric heating overheat protection(This function is not included in pure heat pump unit).

Floor Standing Indoor Unit

- **Wide Application**
  It can be widely adopted in hotels, restaurants, office, etc.

- **Auto clean to ensure a healthy life**
  After turning off the unit, the indoor fan will keep running in low speed for a moment to dry the inner components and parts, in order to prevent mildew and keep user healthy.

Fresh Air Processing Indoor Unit

Airflow volume: 1200~4000m³/h
Applicable range: Residential houses, villas, business buildings, hotels, apartments, etc.

One system, two functions

- Adopted with DC inverter technology, Fresh Air DC Inverter Multi VRF System features air conditioning function and fresh air function.

Enjoy fresh air

- Airflow volume: 1200~4000m³/h, cooling capacity: 14-45kW
  Applicable for all kinds of structure.
- Direct evaporative cooling adopted, air conditioning+fresh air can be realized accurately and precisely.
- DC inverter technology adopted, constant humidity is enabled with less power consumption.
- Integrated system control with **C&H CHV** Multi VRF System.

Air conditioning and fresh air, two in one

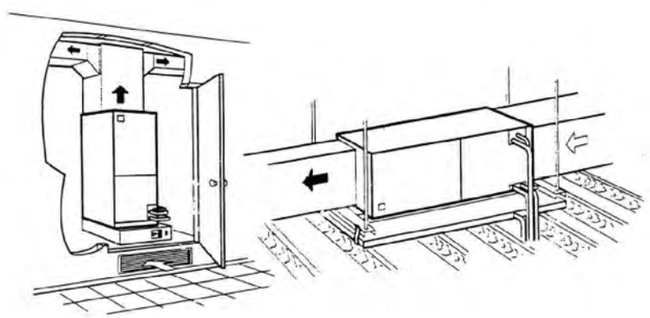
- **Less investment**
  Fresh Air DC Inverter Multi VRF System can be combined with **C&H CHV5**. For a same room, if the same amount of fresh air is to be taken, then the cost of **CHV5+Fresh** air unit is equivalent to the cost of **CHV+Air** exchange fan.

- **Less operation cost**
  Unit can control refrigerant output according to actual needs to ensure constant airflow temperature. By adjusting power output, light-load but high power operation can be avoided. Thus, operation cost can be greatly reduced.

- **Less installation space**
  Save installation space for outdoor units. Especially suitable for places that have restricted installation space.

Air Handler

- **Highly Flexible Installation**
  The unit is designed for outdoor installation and less indoor space taking, allowing easy installation and maintenance. The unit can be installed on the ground or on the roof of the building, which means the installation is totally flexible depending on the project requirement.
- **Cold Air Prevention Design**
  When heating in winter, cold air prevention function is enabled so that air won't be blown out until it's warm.
- **Long life and Washable Filter**
  The filter is easy to be dismantled and installed. You can use dust collector or water to clear away the dust.



Indoor Units Lineup

Specifications of Indoor Units

Type of indoor unit	Specification	22	25	28	32	36	40	45	50	56	63	71	72	80	90	100	112	125	140	160	224	280	450
High Static Pressure Duct Type Unit										●	●	●		●	●	●	●	●	●	●	●	●	
Low Static Pressure Duct Type Unit		●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●				
Slim Ducted Type Indoor Unit		●	●	●	●	●	●	●	●	●	●		●										
4-way Cassette Unit				●		●		●	●	●	●	●		●	●	●	●	●	●	●			
Compact 4-way Cassette Indoor Unit		●		●		●		●	●	●													
2-way Cassette Indoor Unit				●		●		●	●	●	●	●											
1-way Cassette Unit		●		●		●		●	●														
Wall-mounted Type Unit		●		●		●		●	●	●	●	●											
Floor Ceiling Type Indoor Unit				●		●			●		●	●			●		●	●	●				
Console Indoor Unit		●		●		●		●	●														
Floor Standing Type Indoor Unit																●			●				
Fresh Air Processing Indoor Unit																			●		●	●	●
Air handler													●		●	●	●		●				

High Static Pressure Duct Type Indoor Unit

50/60 Hz

Model			CHV-5SDH56NK	CHV-5SDH63NK	CHV-5SDH71NK	CHV-5SDH80NK	CHV-5SDH90NK
Capacity	Cooling	kW	5.6	6.3	7.1	8.0	9.0
	Heating	kW	6.3	7.1	8.0	9.0	10.0
Power supply		V/Ph/Hz	220~240/1/50 & 208~230/1/60				
Power consumption		W	120	120	130	130	200
Airflow volume(H/M/L)		m^3/h	1000/800/600	1000/800/600	1100/900/700	1100/900/700	1700/1450/1100
		CFM	590/471/355	590/471/355	650/530/410	650/530/410	1000/853/650
Rated Current[2]	Cooling	A	0.6	0.6	0.6	0.6	1.0
	Heating	A	0.6	0.6	0.6	0.6	1.0
	Water Heating	A	/	/	/	/	/
ESP		Pa	70/0~100				
Sound pressure level(H/M/L)		dB(A)	44/40/36	44/40/36	45/41/37	45/41/37	46//44/42
Connecting pipe diameter	Liquid	mm	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52
	Gas	mm	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25	Φ25	Φ25
	Thickness	mm	2.5	2.5	2.5	2.5	2.5
Dimension (WxDxH)	Outline	mm	1271x558x268				1229x775x290
	Package	mm	1348x597x283				1338x877x305
Net weight/Gross weight		kg	35/40	35/40	35/40	35/40	47/54
Loading	40' GP	set	192	192	192	192	128
	40' HQ	set	216	216	216	216	128

Model			CHV-5SDH100NK	CHV-5SDH112NK	CHV-5SDH125NK	CHV-5SDH140NK	CHV-5SDH160NK	CHV-5SDH224NK	CHV-5SDH280NK
Capacity	Cooling	kW	10.0	11.2	12.5	14.0	16.00	22.4	28.0
	Heating	kW	11.2	12.5	14.0	16.0	18.00	25.0	31.0
Power supply		V/Ph/Hz	220~240/1/50 & 208~230/1/60				220~240/1/50/60	220~240/1/50 & 208~230/1/60	
Power consumption		W	200	200	220	220	560	800	900
Airflow volume(H/M/L)		m^3/h	1700/1450/1100	1700/1450/1100	2000/1550/1200	2000/1700/1400	3100	4000	4400
		CFM	1000/853/650	1000/853/650	1175/912/706	1175/1000/824	1824	2355	2590
Rated Current[2]	Cooling	A	1.0	1.0	1.0	1.0	4	4.1	4.6
	Heating	A	1.0	1.0	1.0	1.0	4	4.1	4.6
	Water Heating	A	/	/	/	/	/	/	/
ESP		Pa	70/0~100				50	150/50~200	150/50~200
Sound pressure level(H/M/L)		dB(A)	46//44/42	46//44/42	48/45/42	48/46/44	55.0	54.0	55.0
Connecting pipe diameter	Liquid	mm	Φ9.52	Φ9.52	Φ9.52	Φ9.52	φ9.52	Φ9.52	Φ9.52
	Gas	mm	Φ15.9	Φ15.9	Φ15.9	Φ15.9	φ19	Φ22.2	Φ22.2
Drain pipe	External dia.	mm	Φ25	Φ25	Φ25	Φ25	Φ30	Φ30	Φ30
	Thickness	mm	2.5	2.5	2.5	2.5	1.5	1.5	1.5
Dimension (WxDxH)	Outline	mm	1229x775x290				1497x799x389	1483×791×385	1686x870x450
	Package	mm	1338x877x305				1578x883x400	1758×883×470	1788x988x580
Net weight/Gross weight		kg	47/54	47/54	47/54	47/54	79/103	82/104	105/140
Loading	40' GP	set	128	128	128	128	75	65	52
	40' HQ	set	128	128	128	128	75	65	52

Low Static Pressure Duct Type Indoor Unit

50/60 Hz

Model			CHV-5SD22NK	CHV-5SD25NK	CHV-5SD28NK	CHV-5SD32NK	CHV-5SD36NK
Capacity	Cooling	kW	2.2	2.5	2.8	3.2	3.6
	Heating	kW	2.5	2.8	3.6	3.6	4.0
Power supply		V/Ph/Hz	220~240/1/50 & 208~230/1/60				
Power consumption		W	35	35	35	43	43
Airflow volume(H/M/L)		m^3/h	450/350/250	450/350/250	450/350/250	550/450/350	550/450/350
		CFM	265/206/147	265/206/147	265/206/147	325/265/206	325/265/206
Rated Current[2]	Cooling	A	0.2	0.2	0.2	0.2	0.2
	Heating	A	0.2	0.2	0.2	0.2	0.2
	Water Heating	A	/	/	/	/	/
ESP		Pa	15/0~30				
Sound pressure level(H/M/L)		dB(A)	31/28/25	31/28/25	31/28/25	32/30/27	32/30/27
Connecting pipe diameter	Liquid	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ9.52	Φ9.52	Φ9.52	Φ12.7	Φ12.7
Drain pipe	External dia.	mm	25	25	25	25	25
	Thickness	mm	2.5	2.5	2.5	2.5	2.5
Dimension (WxDxH)	Outline	mm	700 x 615 x 200				
	Package	mm	893x743x305				
Net weight/Gross weight		kg	22/27	22/27	22/27	22/28	22/28
Loading	40' GP	set	192	192	192	192	192
	40' HQ	set	192	192	192	192	192

Model			CHV-5SD40NK	CHV-5SD45NK	CHV-5SD50NK	CHV-5SD56NK	CHV-5SD63NK
Capacity	Cooling	kW	4.0	4.5	5.0	5.6	6.3
	Heating	kW	4.5	5.0	5.6	6.3	7.1
Power supply		V/Ph/Hz	220~240/1/50 & 208~230/1/60				
Power consumption		W	52	52	52	99	99
Airflow volume(H/M/L)		m^3/h	700/600/450	700/600/450	700/600/450	1000/800/600	1000/800/600
		CFM	410/355/265	410/355/265	410/355/265	590/471/355	590/471/355
Rated Current[2]	Cooling	A	0.3	0.3	0.3	0.5	0.5
	Heating	A	0.3	0.3	0.3	0.5	0.5
	Water Heating	A	/	/	/	/	/
ESP		Pa	15/0~30				
Sound pressure level(H/M/L)		dB(A)	33/31/28	33/31/28	33/31/28	35/33/30	35/33/30
Connecting pipe diameter	Liquid	mm	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52
	Gas	mm	Φ12.7	Φ12.7	Φ12.7	Φ15.9	Φ15.9
Drain pipe	External dia.	mm	25	25	25	25	25
	Thickness	mm	2.5	2.5	2.5	2.5	2.5
Dimension (WxDxH)	Outline	mm	900 x 615 x 200			1100 x 615 x 200	
	Package	mm	1123x743x305			1323x743x305	
Net weight/Gross weight		kg	27/33	27/33	27/33	31/38	31/38
Loading	40' GP	set	192	192	192	162	162
	40' HQ	set	192	192	192	162	162

Model			CHV-5SD71NK	CHV-5SD80NK	CHV-5SD90NK	CHV-5SD100NK	CHV-5SD112NK	CHV-5SD125NK	CHV-5SD140NK
Capacity	Cooling	kW	7.1	8.0	9.0	10.0	11.2	12.5	14.0
	Heating	kW	8.0	9.0	10.0	11.2	12.5	14.0	16.0
Power supply		V/Ph/Hz	220~240/1/50 & 208~230/1/60						
Power consumption		W	105	140	209	209	209	230	230
Airflow volume(H/M/L)		m^3/h	1000/800/600	1100/1000/800	1500/1250/950	1500/1350/1000	1700/1500/1100	2000/1500/1150	2000/1500/1150
		CFM	590/471/355	650/590/471	885/736/599	885/795/590	1000/885/650	1175/885/677	1175/885/677
Rated Current[2]	Cooling	A	0.5	0.7	1.0	1.0	1.0	1.1	1.1
	Heating	A	0.5	0.7	1.0	1.0	1.0	1.1	1.1
	Water Heating	A	/	/	/	/	/	/	/
ESP		Pa	30/0~50						
Sound pressure level(H/M/L)		dB(A)	35/33/30	36/34/31	40/36/32	40/36/32	40/36/32	42/40/37	42/40/37
Connecting pipe diameter	Liquid	mm	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52
	Gas	mm	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9
Drain pipe	External dia.	mm	25	25	25	25	25	25	25
	Thickness	mm	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Dimension (WxDxH)	Outline	mm	1200 x 655 x 260			1340 x 655 x 260			
	Package	mm	1448x858x315			1591x861x330			
Net weight/Gross weight		kg	40/47	40/47	46/55	46/55	46/55	47/56	47/56
Loading	40' GP	set	96	96	78	78	78	78	78
	40' HQ	set	96	96	78	78	78	78	78

Slim Ducted Type Indoor Unit

50/60 Hz

Model			CHV-5SDS22NK*	CHV-5SDS25NK*	CHV-5SDS28NK*	CHV-5SDS32NK*	CHV-5SDS36NK*
Capacity	Cooling	kW	2.2	2.5	2.8	3.2	3.6
	Heating	kW	2.5	2.8	3.2	3.6	4.0
Power supply		V/Ph/Hz	220~240/1/50 & 208~230/1/60				
Power consumption		W	25	25	25	30	30
Airflow volume(H/M/L)		m^3/h	450/400/320	450/400/320	450/400/320	550/450/340	550/450/340
		CFM	265/235/188	265/235/188	265/235/188	324/265/200	324/265/200
Rated Current[2]	Cooling	A	0.2	0.2	0.2	0.3	0.3
	Heating	A	0.2	0.2	0.2	0.3	0.3
	Water Heating	A	/	/	/	/	/
ESP		Pa	0/15				
Sound pressure level(H/M/L)		dB(A)	30/28/22	30/28/22	30/28/22	31/29/25	31/29/25
Connecting pipe diameter	Liquid	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ6.35
	Gas	mm	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ12.7
Drain pipe	External dia.	mm	25	25	25	25	25
	Thickness	mm	2.5	2.5	2.5	2.5	2.5
Dimension (WxDxH)	Outline	mm	710x450x200				
	Package	mm	1003x551x285				
Net weight/Gross weight		kg	18.5/22	18.5/22	18.5/22	19.5/23	19.5/23
Loading	40' GP	set	352	352	352	352	352
	40' HQ	set	352	352	352	352	352

Model			CHV-5SDS40NK*	CHV-5SD45NK*	CHV-5SD50NK*	CHV-5SD45NK*	CHV-5SD63NK*	CHV-5SD72NK*
Capacity	Cooling	kW	4.0	4.5	5.0	5.6	6.3	7.2
	Heating	kW	4.5	5.0	5.6	6.3	7.0	8.0
Power supply		V/Ph/Hz	220~240/1/50 & 208~230/1/60					
Power consumption		W	35	35	35	45	45	50
Airflow volume(H/M/L)		m^3/h	750/660/540	750/660/540	750/660/540	850/700/610	850/700/610	1100/800/640
		CFM	441/388/318	441/388/318	441/388/318	500/412/359	500/412/359	647/471/377
Rated Current[2]	Cooling	A	0.3	0.3	0.3	0.3	0.3	0.5
	Heating	A	0.3	0.3	0.3	0.3	0.3	0.5
	Water Heating	A	/	/	/	/	/	/
ESP		Pa	0/15					
Sound pressure level(H/M/L)		dB(A)	33/30/27	33/30/27	33/30/27	35/33/29	35/33/29	37/34/30
Connecting pipe diameter	Liquid	mm	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52
	Gas	mm	Φ12.7	Φ12.7	Φ12.7	Φ15.9	Φ15.9	Φ15.9
Drain pipe	External dia.	mm	25	25	25	25	25	25
	Thickness	mm	2.5	2.5	2.5	2.5	2.5	2.5
Dimension (WxDxH)	Outline	mm	1010x450x200				1010x450x200	1310x450x200
	Package	mm	1303x551x285				1303x551x285	1603x551x285
Net weight/Gross weight		kg	23.5/28	23.5/28	23.5/28	24.5/29	24.5/29	30.5/36
Loading	40' GP	set	288	288	288	288	288	224
	40' HQ	set	288	288	288	288	288	224

Note:
* This series is without water pump.

4-way Cassette Indoor Unit

50/60 Hz

Model			CHV-5SC28NK	CHV-5SC36NK	CHV-5SC45NK	CHV-5SC50NK	CHV-5SC56NK	CHV-5SC63NK	CHV-5SC71NK
Capacity	Cooling	kW	2.8	3.6	4.5	5.0	5.6	6.3	7.1
	Heating	kW	3.2	4.0	5.0	5.6	6.3	7.1	8.0
Power supply		V/Ph/Hz	220~240/1/50 & 208~230/1/60						
Power consumption		W	48	48	48	50	59	59	68
Airflow volume(H/M/L)		m^3/h	750/650/550	750/650/550	750/650/550	830/650/550	1000/900/750	1000/900/750	1180/950/850
		CFM	440/383/325	440/383/325	440/383/325	490/383/325	590/530/440	590/530/440	695/559/550
Rated Current[2]	Cooling	A	0.2	0.2	0.2	0.2	0.3	0.3	0.3
	Heating	A	0.2	0.2	0.2	0.2	0.3	0.3	0.3
	Water Heating	A	/	/	/	/	/	/	/
Sound pressure level(H/M/L)		dB(A)	36/34/31	36/34/31	36/34/31	36/34/31	37/35/32	37/35/32	38/36/33
Connecting pipe diameter	Liquid	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52
	Gas	mm	Φ9.52	Φ12.7	Φ12.7	Φ12.7	Φ15.9	Φ15.9	Φ15.9
Drain pipe	External dia.	mm	25	25	25	25	25	25	25
	Thickness	mm	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Main Body	Dimension (WxDxH) Outline	mm	840x840x190	840x840x190	840x840x190	840x840x190	840x840x240	840x840x240	840x840x240
	Dimension (WxDxH) Package	mm	963x963x272	963x963x272	963x963x272	963x963x272	963x963x325	963x963x325	963x963x325
	Net weight/Gross weight	kg	22.5/29.5	22.5/29.5	22.5/29.5	22.5/29.5	26.5/34.5	26.5/34.5	26.5/34.5
Panel	Dimension (WxDxH) Outline	mm	950x950x65	950x950x65	950x950x65	950x950x65	950x950x65	950x950x65	950x950x65
	Dimension (WxDxH) Package	mm	1033x1038x133	1033x1038x133	1033x1038x133	1033x1038x133	1033x1038x133	1033x1038x133	1033x1038x133
	Net weight/Gross weight	kg	7/11	7/11	7/11	7/11	7/11	7/11	7/11
Loading quantity	40'GP	set	167	167	167	167	140	140	140
	40'HQ	set	171	171	171	171	156	156	156

Model			CHV-5SC80NK	CHV-5SC90NK	CHV-5SC100NK	CHV-5SC112NK	CHV-5SC125NK	CHV-5SC140NK	GMV-ND160T/A-T
Capacity	Cooling	kW	8.0	9.0	10.0	11.2	12.5	14.0	16.0
	Heating	kW	9.0	10.0	11.2	12.5	14.0	16.0	17.5
Power supply		V/Ph/Hz	220~240/1/50 & 208~230/1/60						
Power consumption		W	68	98	98	110	110	110	130
Airflow volume(H/M/L)		m^3/h	1180/950/850	1500/1350/1100	1500/1350/1100	1700/1400/1100	1860/1500/1150	1860/1500/1150	2100/1700/1400
		CFM	695/559/550	880/795/650	880/795/650	1000/824/650	1095/880/677	1095/880/677	1235/1000/824
Rated Current[2]	Cooling	A	0.3	0.4	0.4	0.5	0.5	0.5	0.6
	Heating	A	0.3	0.4	0.4	0.5	0.5	0.5	0.6
	Water Heating	A	/	/	/	/	/	/	/
Sound pressure level(H/M/L)		dB(A)	38/36/33	40/37/35	40/37/35	41/38/36	43/41/38	43/41/38	47/44/42
Connecting pipe diameter	Liquid	mm	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52
	Gas	mm	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ19.05
Drain pipe	External dia.	mm	25	25	25	25	25	25	25
	Thickness	mm	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Main Body	Dimension (WxDxH) Outline	mm	840x840x240	840x840x320	840x840x320	840x840x320	840x840x320	840x840x320	910×910×293
	Dimension (WxDxH) Package	mm	963x963x325	963x963x409	963x963x409	963x963x409	963x963x409	963x963x409	1023×993×375
	Net weight/Gross weight	kg	26.5/34.5	32.5/40.0	32.5/40.0	32.5/40.0	32.5/40.0	32.5/40.0	46.5/56.5
Panel	Dimension (WxDxH) Outline	mm	950x950x65	950x950x65	950x950x65	950x950x65	950x950x65	950x950x65	1040x1040x65
	Dimension (WxDxH) Package	mm	1033x1038x133	1033x1038x133	1033x1038x133	1033x1038x133	1033x1038x133	1033x1038x133	1137x1137x140
	Net weight/Gross weight	kg	7/11	7/11	7/11	7/11	7/11	7/11	7.5/11.5
Loading quantity	40'GP	set	140	104	104	104	104	104	144
	40'HQ	set	156	119	119	119	119	119	144

Compact 4-way Cassette Indoor Unit

50/60 Hz

Model				CHV-5SCC22NK	CHV-5SCC28NK	CHV-5SCC36NK	CHV-5SCC45NK	CHV-5SCC50NK	CHV-5SCC56NK
Capacity		Cooling	kW	2.2	2.8	3.6	4.5	5	5.6
		Heating	kW	2.5	3.2	4	5	5.6	6.3
Power supply			V/Ph/Hz	220~240/1/50 & 208~230/1/60					
Power consumption			W	35	35	35	45	45	45
Airflow volume(H/M/L)			m^3/h	600/500/400	600/500/400	600/500/400	700/600/480	700/600/480	700/600/480
			CFM	355/295/235	355/295/235	355/295/235	410/355/283	410/355/283	410/355/283
Rated Current[2]		Cooling	A	0.4	0.4	0.4	0.5	0.5	0.5
		Heating	A	0.4	0.4	0.4	0.5	0.5	0.5
		Water Heating	A	/	/	/	/	/	/
Sound pressure level(H/M/L)			dB(A)	46/39/35	46/39/35	46/39/35	47/43/38	47/43/38	47/43/38
Connecting pipe diameter		Liquid	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ9.52
		Gas	mm	Φ9.52	Φ9.52	Φ12.7	Φ12.7	Φ12.7	Φ15.9
Drain pipe		External dia.	mm	25	25	25	25	25	25
		Thickness	mm	2.5	2.5	2.5	2.5	2.5	2.5
Main Body	Dimension (WxDxH)	Outline	mm	596x596x240	596x596x240	596x596x240	596x596x240	596x596x240	596x596x240
		Package	mm	773×733×300	773×733×300	733x733x300	733x733x300	733x733x300	733x733x300
	Net weight/Gross weight		kg	20.5/25.5	20.5/25.5	20.5/25.5	20.5/25.5	20.5/25.5	20.5/25.5
Panel	Dimension (WxDxH)	Outline	mm	650x650x50	650x650x50	650x650x50	650x650x50	650x650x50	650x650x50
		Package	mm	763x763x105	763x763x105	763x763x105	763x763x105	763x763x105	763x763x105
	Net weight/Gross weight		kg	3.5/5.0	3.5/5.0	3.5/5.0	3.5/5.0	3.5/5.0	3.5/5.0
Loading quantity		40'GP	set	267	267	267	267	267	267
		40'HQ	set	288	288	288	288	288	288

2-way Cassette Indoor Unit

50/60 Hz

Model				CHV-5SCT28NK	CHV-5SCT36NK	CHV-5SCT45NK	CHV-5SCT50NK	CHV-5SCT56NK	CHV-5SCT63NK	CHV-5SCT71NK
Capacity		Cooling	kW	2.8	3.6	4.5	5.0	5.6	6.3	7.1
		Heating	kW	3.2	4.0	5.0	5.6	6.3	7.1	8.0
Power supply			V/Ph/Hz	220~240/1/50 & 208~230/1/60						
Power consumption			W	55.0	55.0	55.0	55.0	103.0	103.0	103.0
Airflow volume(H/M/L)			m^3/h	830/600/530	830/600/530	830/600/530	830/600/530	1100/820/760	1100/820/760	1100/820/760
			CFM	490/355/312	490/355/312	490/355/312	490/355/312	650/483/647	650/483/647	650/483/647
Rated Current[2]		Cooling	A	0.3	0.3	0.3	0.3	0.7	0.7	0.7
		Heating	A	0.3	0.3	0.3	0.3	0.7	0.7	0.7
		Water Heating	A	/	/	/	/	/	/	/
Sound pressure level(H/M/L)			dB(A)	35/33/31	35/33/31	35/33/31	35/33/31	39/37/35	39/37/35	39/37/35
Connecting pipe diameter		Liquid	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52
		Gas	mm	Φ9.52	Φ12.7	Φ12.7	Φ12.7	Φ15.9	Φ15.9	Φ15.9
Drain pipe		External dia.	mm	25	25	25	25	25	25	25
		Thickness	mm	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Main Body	Dimension (WxDxH)	Outline	mm	1200x520x315	1200x520x315	1200x520x315	1200x520x315	1200x520x315	1200x520x315	1200x520x315
		Package	mm	1520x655x415	1520x655x415	1520x655x415	1520x655x415	1520x655x415	1520x655x415	1520x655x415
	Net weight/Gross weight		kg	40.5/52.5	40.5/52.5	40.5/52.5	40.5/52.5	43.0/55.0	43.0/55.0	43.0/55.0
Panel	Dimension (WxDxH)	Outline	mm	1443x630x33	1443x630x33	1443x630x33	1443x630x33	1443x630x33	1443x630x33	1443x630x33
		Package	mm	1575x765x105	1575x765x105	1575x765x105	1575x765x105	1575x765x105	1575x765x105	1575x765x105
	Net weight/Gross weight		kg	7.0/11.0	7.0/11.0	7.0/11.0	7.0/11.0	7.0/11.0	7.0/11.0	7.0/11.0
Loading quantity		40'GP	set	101	101	101	101	101	101	101
		40'HQ	set	115	115	115	115	115	115	115

1-way Cassette Indoor Unit

50/60 Hz

Model				CHV-5SCW22NK	CHV-5SCW28NK	CHV-5SCW36NK	CHV-5SCW45NK	CHV-5SCW50NK
Capacity		Cooling	kW	2.2	2.8	3.6	4.5	5.0
		Heating	kW	2.5	3.2	4.0	5.0	5.6
Power supply			V/Ph/Hz	220~240/1/50 & 208~230/1/60				
Power consumption			W	30	30	30	45	45
Airflow volume(H/M/L)			m^3/h	600/500/450	600/500/450	600/500/450	830/600/500	830/600/500
			CFM	355/295/265	355/295/265	355/295/265	490/355/295	490/355/295
Rated Current[2]		Cooling	A	0.2	0.2	0.2	0.3	0.3
		Heating	A	0.2	0.2	0.2	0.3	0.3
		Water Heating	A	/	/	/	/	/
Sound pressure level(H/M/L)			dB(A)	36/32/28	36/32/28	36/32/28	40/35/30	40/35/30
Connecting pipe diameter		Liquid	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ6.35
		Gas	mm	Φ9.52	Φ12.7	Φ12.7	Φ12.7	Φ12.7
Drain pipe		External dia.	mm	25	25	25	25	25
		Thickness	mm	2.5	2.5	2.5	2.5	2.5
Main Body	Dimension (WxDxH)	Outline	mm	987x385x178	987x385x178	987x385x178	987x385x178	987x385x178
		Package	mm	1307x501x310	1307x501x310	1307x501x310	1307x501x310	1307x501x310
	Net weight/Gross weight		kg	20.0/27.0	20.0/27.0	20.0/27.0	21.0/28.5	21.0/28.5
Panel	Dimension (WxDxH)	Outline	mm	1200x460x55	1200x460x55	1200x460x55	1200x460x55	1200x460x55
		Package	mm	1265x536x118	1265x536x118	1265x536x118	1265x536x118	1265x536x118
	Net weight/Gross weight		kg	4.2/6.0	4.2/6.0	4.2/6.0	4.2/6.0	4.2/6.0
Loading quantity		40'GP	set	138	138	138	138	138
		40'HQ	set	138	138	138	138	138

Wall-mounted Type Indoor Unit

50 Hz

Model			CHV-5SW22NK*	CHV-5SW28NK*	CHV-5SW36NK*	CHV-5SW45NK*	CHV-5SW50NK*	CHV-5SW56NK*	CHV-5SW63NK*	CHV-5SW71NK*
Capacity	Cooling	kW	2.2	2.8	3.6	4.5	5.0	5.6	6.3	7.1
	Heating	kW	2.5	3.2	4.0	5.0	5.8	6.3	7.0	7.5
Power supply		V/Ph/Hz	220~240/1/50							
Power consumption		W	50	50	60	60	60	70	70	70
Airflow volume(H/M/L)		m^3/h	500/420/350	500/420/350	630/550/480	630/550/480	630/550/480	750/600/500	750/600/500	750/600/500
		CFM	294/247/206	294/247/206	371/324/282	371/324/282	371/324/282	441/353/294	441/353/294	441/353/294
Rated Current[2]	Cooling	A	0.2	0.2	0.31	0.31	0.31	0.31	0.31	0.31
	Heating	A	0.2	0.2	0.31	0.31	0.31	0.31	0.31	0.31
	Water Heating	A	/	/	/	/	/	/	/	/
Sound pressure level(H/M/L)		dB(A)	38/34/30	38/34/30	44/41/38	44/41/38	44/41/38	44/41/38	44/41/38	44/41/38
Connecting pipe diameter	Liquid	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52
	Gas	mm	Φ9.52	Φ9.52	Φ12.7	Φ12.7	Φ12.7	Φ15.9	Φ15.9	Φ15.9
Drain pipe	External dia.	mm	Φ20	Φ20	Φ20	Φ20	Φ20	Φ30	Φ30	Φ30
	Thickness	mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Dimension (WxDxH)	Outline	mm	843x180x275		940x200x298			1008x221x319		
	Package	mm	973x258x370		1068x288x395			1131x398x328		
Net weight/Gross weight		kg	10/12.5	10/12.5	12.5/15.5	12.5/15.5	12.5/15.5	15/18.5	15/18.5	15/18.5
Loading	40' GP	set	702	702	557	557	557	441	441	441
	40' HQ	set	819	819	624	624	624	503	503	503

60 Hz

Model			CHV-5SW22ND*	CHV-5SW28ND*	CHV-5SW36ND*	CHV-5SW45ND*	CHV-5SW50ND*	CHV-5SW56ND*	CHV-5SW63ND*	CHV-5SW71ND*
Capacity	Cooling	kW	2.2	2.8	3.6	4.5	5.0	5.6	6.3	7.1
	Heating	kW	2.5	3.2	4.0	5.0	5.8	6.3	7.0	7.5
Power supply		V/Ph/Hz	208~230/1/60							
Power consumption		W	50	50	60	60	60	70	70	70
Airflow volume(H/M/L)		m^3/h	500/420/350	500/420/350	630/550/480	630/550/480	630/550/480	750/600/500	750/600/500	750/600/500
		CFM	294/247/206	294/247/206	371/324/282	371/324/282	371/324/282	441/353/294	441/353/294	441/353/294
Rated Current2	Cooling	A	0.2	0.2	0.21	0.21	0.21	0.31	0.31	0.31
	Heating	A	0.2	0.2	0.21	0.21	0.21	0.31	0.31	0.31
	Water Heating	A	/	/	/	/	/	/	/	/
Sound pressure level(H/M/L)		dB(A)	38/34/30	38/34/30	44/41/38	44/41/38	44/41/38	44/41/38	44/41/38	44/41/38
Connecting pipe diameter	Liquid	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52
	Gas	mm	Φ9.52	Φ9.52	Φ12.7	Φ12.7	Φ12.7	Φ15.9	Φ15.9	Φ15.9
Drain pipe	External dia.	mm	Φ20	Φ20	Φ20	Φ20	Φ20	Φ30	Φ30	Φ30
	Thickness	mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Dimension (WxDxH)	Outline	mm	843x180x275		940x200x298			1008x221x319		
	Package	mm	973x285x370		1068x288x395			1131x398x328		
Net weight/Gross weight		kg	10/12.5	10/12.5	12.5/15.5	12.5/15.5	12.5/15.5	15/18.5	15/18.5	15/18.5
Loading	40' GP	set	702	702	557	557	557	441	441	441
	40' HQ	set	819	819	624	624	624	503	503	503

Note :
* This series is without water pump.

Floor Ceiling Type Indoor Unit

50/60 Hz

Model			CHV-5SF28NK	CHV-5SF36NK	CHV-5SF50NK	CHV-5SF63NK	CHV-5SF71NK	CHV-5SF90NK	CHV-5SF112NK	CHV-5SF125NK	CHV-5SF140NK
Capacity	Cooling	kW	2.8	3.6	5.0	6.3	7.1	9.0	11.2	12.5	14.0
	Heating	kW	3.2	4.0	5.6	7.1	8.0	10.0	12.5	14.0	16.0
Power supply		V/Ph/Hz	220~240/1/50 & 208~230/1/60								
Power consumption		W	40	40	50	75	75	140	160	160	160
Airflow volume(H/M/L)		m^3/h	650/580/500	650/580/500	950/850/700	1400/1150/1000	1400/1150/1000	1600/1400/1200	2000/1800/1450	2000/1800/1450	2000/1800/1450
		CFM	380/341/294	380/341/294	560/500/410	825/677/590	825/677/590	940/824/706	1175/1059/853	1175/1059/853	1175/1059/853
Rated Current[2]	Cooling	A	0.2	0.2	0.25	0.38	0.38	0.7	0.95	0.95	0.95
	Heating	A	0.2	0.2	0.25	0.38	0.38	0.7	0.95	0.95	0.95
	Water Heating	A	/	/	/	/	/	/	/	/	/
Sound pressure level(H/M/L)		dB(A)	36/34/32	36/34/32	42/38/33	44/42/39	44/42/39	50/47/43	51/47/42	52/49/45	52/49/45
Connecting pipe diameter	Liquid	mm	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52
	Gas	mm	Φ9.52	Φ12.7	Φ12.7	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9
Drain pipe	External dia.	mm	Φ17	Φ17	Φ17	Φ17	Φ17	Φ17	Φ17	Φ17	Φ17
	Thickness	mm	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Dimension (WxDxH)	Outline	mm	1220x700x225			1420x700x245			1700x700x245		
	Package	mm	1343x823x315			1548x828x345			1828x828x345		
Net weight/Gross weight		kg	40/49	40/49	40/49	50/58	50/58	50/58	60/68	60/68	60/68
Loading	40' GP	set	145	145	145	90	90	90	84	84	84
	40' HQ	set	158	158	158	98	98	98	98	98	98

Console Indoor Unit

50/60 Hz

Model			CHV-5SK22NK	CHV-5SK28NK	CHV-5SK36NK	CHV-5SK45NK	CHV-5SK50NK
Capacity	Cooling	kW	2.2	2.8	3.6	4.5	5.0
	Heating	kW	2.5	3.2	4.0	5.0	5.5
Power supply		V/Ph/Hz	220-240/1/50 & 208-230/1/60				
Power consumption		W	15	15	20	40	40
Airflow volume(H/M/L)		m^3/h	400/320/270	400/320/270	480/400/310	680/600/500	680/600/500
		CFM	235/188/159	235/188/159	282/235/182	400/353/294	400/353/294
Rated Current[2]	Cooling	A	0.15	0.15	0.15	0.15	0.15
	Heating	A	0.15	0.15	0.15	0.15	0.15
	Water Heating	A	/	/	/	/	/
ESP		Pa	0	0	0	0	0
Sound pressure level(H/M/L)		dB(A)	38/33/27	38/33/27	40/37/32	46/43/39	46/43/39
Connecting pipe diameter	Liquid	mm	6.35	6.35	6.35	6.35	6.35
	Gas	mm	9.52	9.52	9.52	12.7	12.7
Drain pipe	External dia.	mm	17.2	17.2	17.2	17.2	17.2
	Thickness	mm	1	1	1	1	1
Dimension (WxDxH)	Outline	mm	700/215/600	700/215/600	700/215/600	700/215/600	700/215/600
	Package	mm	780x285x682	780x285x682	780x285x682	780x285x682	780x285x682
Net weight/Gross weight		kg	16/19	16/19	16/19	16/19	16/19
Loading	40' GP	set	387	387	387	387	387
	40' HQ	set	433	433	433	433	433

Air Handler

60 Hz

Model			CHV-5SAH71NK	CHV-5SAH90NK	CHV-5SAH100NK	CHV-5SAH112NK	CHV-5SAH140NK
Capacity	Cooling	kW	7.1	9.0	10.0	11.2	14.0
	Heating	kW	7.1	10.0	11.0	12.5	15.0
Power supply		V/Ph/Hz	208~230/1/60				
Power consumption		W	140	170	245	245	368
Airflow volume(H/M/L)		m3/h	1400	1660	1940	2210	2380
		CFM	825	980	1140	1300	1400
Rated Current[2]	Cooling	A	1.52	1.35	2.00	2.00	2.50
	Heating	A	1.52	1.35	2.00	2.00	2.50
	Water Heating	A	/	/	/	/	/
ESP		Pa	25	37	37	37	50
Sound pressure level(H/M/L)		dB(A)	48	50	52	53	54
Connecting pipe diameter	Liquid	mm	φ9.52	φ9.52	φ9.52	φ9.52	φ9.52
	Gas	mm	Φ15.9	φ15.9	φ15.9	φ15.9	φ15.9
Drainage Connection Size (Outer Diameter×Wall Thickness)		mm	φ19	φ19	φ19	φ19	φ19
Dimension (WxDxH)	Outline	mm	460*540*1105	460*540*1105	540*540*1224	540*540*1224	630*540*1224
	Package	kg	514*617*1155	514*617*1155	594*617*1274	594*617*1274	684*618*1280
Net weight/Gross weight		set	53/57	55.5/59	65/70	67/72	79/84
Loading	40' GP	set	164	164	85	85	85
	40' HQ		172	172	114	114	114

Fresh Air Processing Indoor Unit

50 Hz

Model			CHV-5SA140N(X1.2)K *	CHV-5SA224N(X2.0)M *	CHV-5SA280N(X2.5)M *	CHV-5SA280N(X3.0)M *	CHV-5SA450N(X4.0)M *
Capacity	Cooling	kW	14.0	22.4	28.0	28.0	45.0
	Heating	kW	10.0	16.0	20.0	20.0	32.0
Power supply		V/Ph/Hz	220~240/1/50	380~415/3/50			
Power consumption		W	360	740	760	1060	1240
Airflow volume(H/M/L)		m^3/h	1200	2000	2500	3000	4000
		CFM	705	1175	1470	1765	2355
Rated Current[2]	Cooling	A	1.82	1.32	1.36	1.89	2.22
	Heating	A	1.82	1.32	1.36	1.89	2.22
	Water Heating	A	/	/	/	/	/
ESP		Pa	150	200			
Sound pressure level(H/M/L)		dB(A)	42	47	48	51	52
Connecting pipe diameter	Liquid	mm	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ12.7
	Gas	mm	Φ15.9	Φ19.05	Φ22.2	Φ22.2	Φ28.6
Drain pipe	External dia.	mm	25	25	25	25	25
	Thickness	mm	2.5	2.5	2.5	2.5	2.5
Dimension (WxDxH)	Outline	mm	1463 x 756 x 300	1500 x 1000 x 500			1700 x 1100 x 650
	Package	mm	1514x785x360	1840x1200x673			1890x1460x835
Net weight/Gross weight		kg	63.5/71	130/182	134/188	134/188	208/266
Loading	40' GP	set	84.0	18.0	18.0	18.0	16.0
	40' HQ	set	98.0	18.0	18.0	18.0	16.0

Note: * This series can be matched with GMV5(Top discharge outdoor unit)only.

Floor Standing Type

50/60 Hz

Model			CHV-5SFS100NK	CHV-5SFS140NK
Capacity	Cooling	kW	10	14
	Heating	kW	11	15
Power supply		V/Ph/Hz	220-240/1/50 & 208-230/1/60	
Power consumption		W	185	185
Airflow volume(H/M/L)		m^3/h	1850/1600/1400	1850/1600/1400
		CFM	1089/942/824	1089/942/824
Rated Current[2]	Cooling	A	1.5	1.5
	Heating	A	1.5	1.5
	Water Heating	A	/	/
ESP		Pa	0	0
Sound pressure level(H/M/L)		dB(A)	50/48/46	50/48/46
Connecting pipe diameter	Liquid	mm	9	9
	Gas	mm	16	16
Drain pipe	External dia.	mm	31	31
	Thickness	mm	4.5	4.5
Dimension (WxDxH)	Outline	mm	1870x580x400	1870x580x400
	Package	mm	2083/738/545	2083/738/545
Net weight/Gross weight		kg	54/74	57/77
Loading	40' GP	set	67	67
	40' HQ	set	67	67

Control System

Smart Model Selection Software and Debugging Software

Model Selection Software

C&H multi VRF selection software is a kind of advanced computer program for selecting models automatically in sales and project bidding. It integrates multi VRF selection logic and computer software to provide a user-friendly interactive interface, which is able to automatically recommend suitable models to user according to ambient condition of project and user's demand. It is applicable for **CHV5**.

Flexible Setting of Project Design Conditions

When setting up a new model selection project, the information of customer, designer, unit series and working conditions, etc. can be set as relevant parameters of model selection, and then sent to data report for checking during project design.

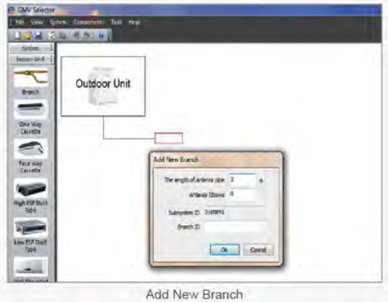

Project Setting


Project Design Conditions


Confirmation

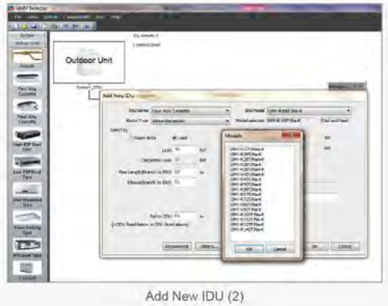
Accurate Recommendation of Indoor Unit and Outdoor Unit

When selecting indoor unit model with the software, you can use automatic recommendation way only by inputting the required air conditioning load and indoor unit series. Then the software will recommend the suitable indoor unit model automatically according to model selection logic. When selecting outdoor unit model, you can use automatic recommendation way directly to select the suitable outdoor unit model.

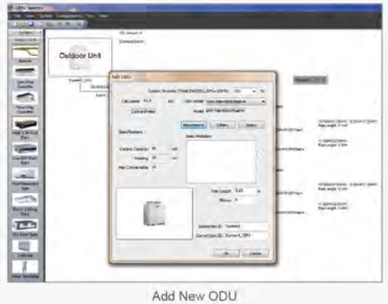


Add New Branch

Add New IDU (1)



Add New IDU (2)

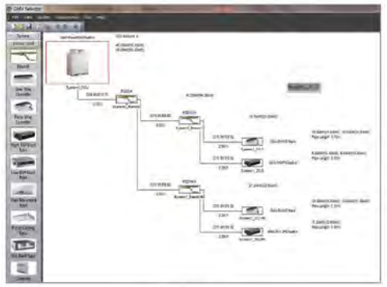


Add New ODU

Free Modification of Selected Models

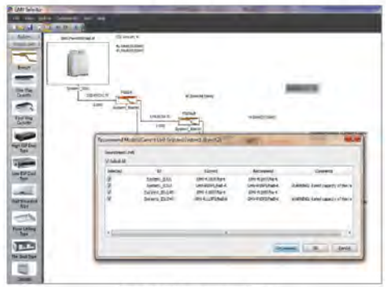
If you are not satisfied with the system recommended by the software, you can select or adjust indoor unit model through alternate selection function.


Edit IDU


Confirmation

One-click Modification and System Validation

When reselection is needed due to major changes of indoor units, one-click recommendation function can be adopted to reselect all indoor units with simple operation; after finishing model selection, you can use one-click system validation function to check various parameters requirements of air conditioning system.

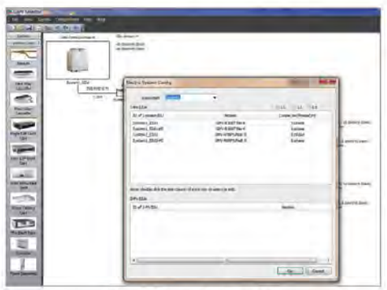

One-click Recommendation


System Validation

Optional Controller Configuration and Electric System Configuration

The software will offer controller model matched with the system. The user only needs to choose controller type and then the software will output the controller model into the report.

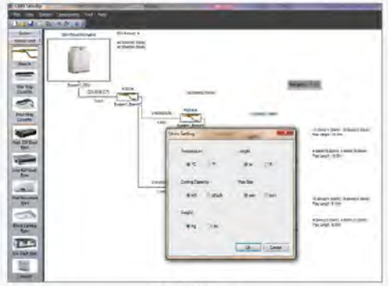

Optional Controller Configuration


Electric System Configuration

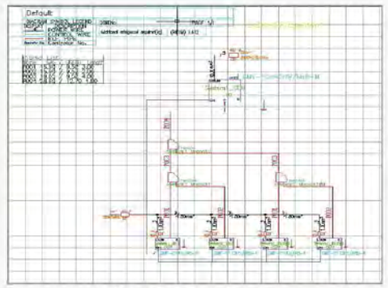
Save Model Selection Project, Output Data Report and System Wiring Diagram

After finishing system selection and various system configurations, the user can save model selection project freely for future reference. Then the user can output relevant parameters of selected project in an excel form and output system wiring CAD diagram for reference in installation.


Save Data


Units Setting


Parameters Output in Excel Form


Output CAD Wiring Diagram

Intelligent Debugging Software

CHV5 offers an intelligent debugging software to the end-users for faster construction needs.

Monitoring Functions

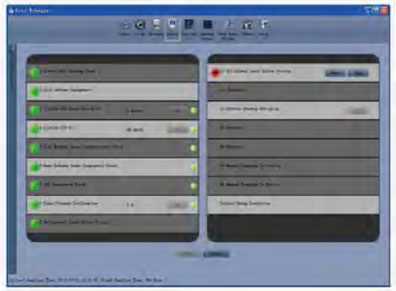
- Fully control the operation status of each device of the system;
- Hover the mouse over the parameter to display its remarks.
- The online devices will be displayed in a tree structure;
- Display the information of air conditioner in divided regions;
- Each display region can be moved or concealed;
- Display updated status of units in real time;

Control Functions

- Control the operation of unit as you like;
- Comprehensive control of outdoor unit, indoor unit, water tank, hydro box, etc.;
- Real-time display of current status or status after being controlled;
- Both single control and group control are available.

Project Debugging Functions

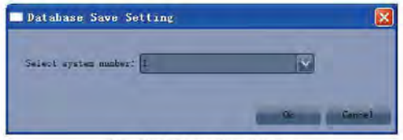
- One-click and automatic project debugging;
- Project debugging is arranged step by step from left to right;
- Manual intervention and skipping of some debugging phases are available.
- Green icons will be displayed for the items finishing debugging; red icons will be displayed for the items having debug exception; light yellow icons display debugging information;



Auto Data-Saving Function

Data will be saved automatically. Database saving path can be changed or data document can be generated repeatedly.

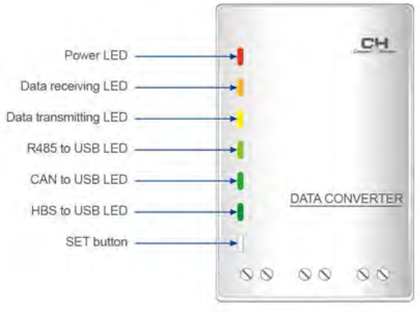
Step 1: Change Database Saving Path



Step 2: Database Save Setting

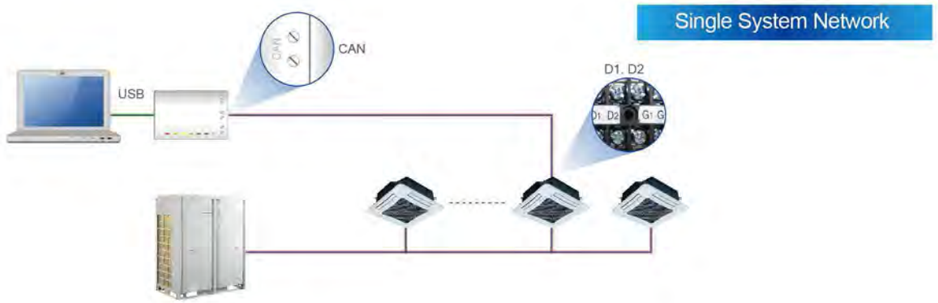
USB Data Converter

Users can use USB data converter to freely convert CAN/HBS/RS485 data into USB data, achieving data interchange between computer and air conditioner.



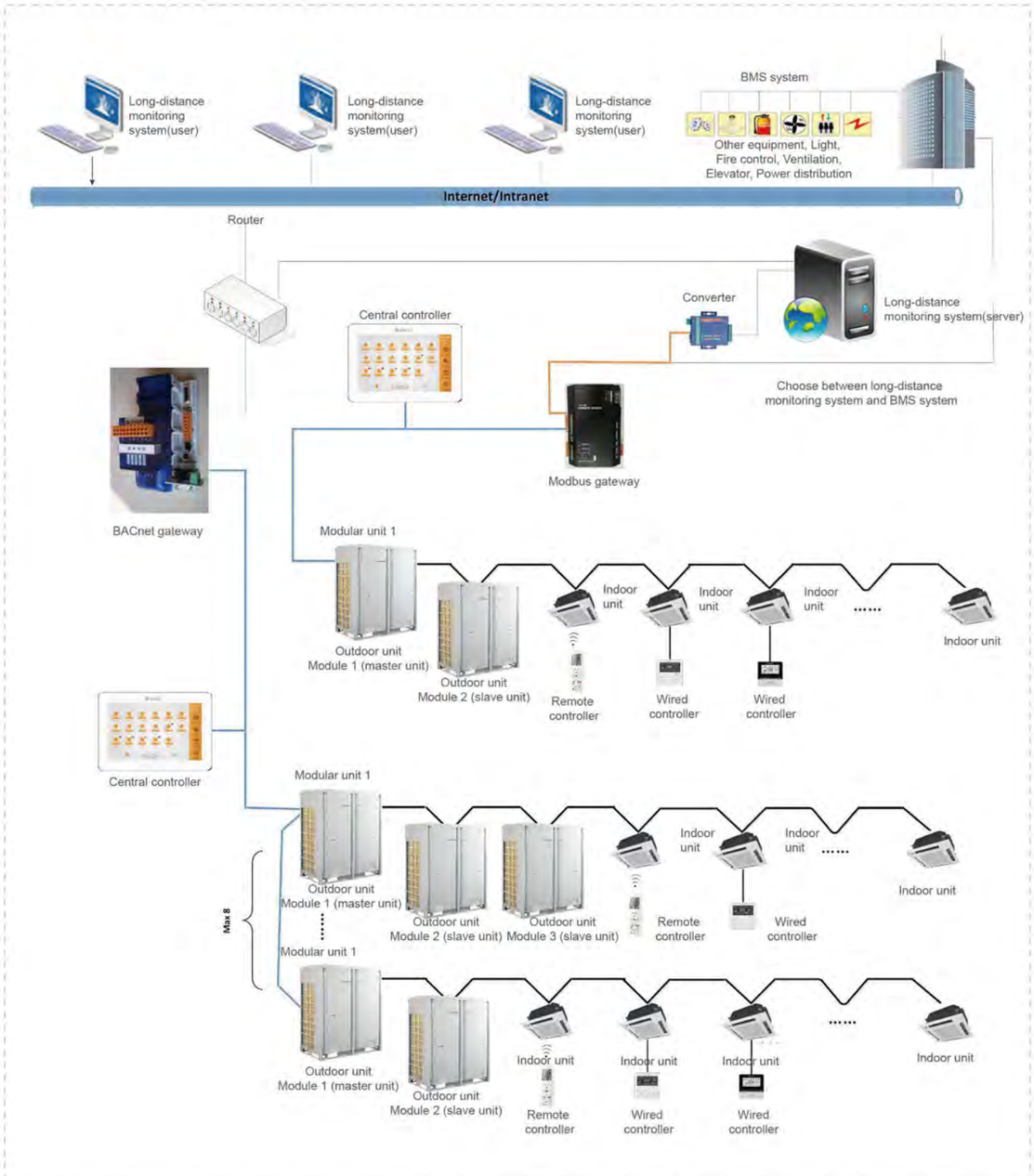
Auto Direction of Connection Way

The wiring diagram will direct connection way automatically, so that the user can get the connection way quickly.



Multiple Intelligent Remote Control Management

C&H CHV5 provides multiple intelligent controls in order to satisfy all demands. It can control both a room and a building at the same time.

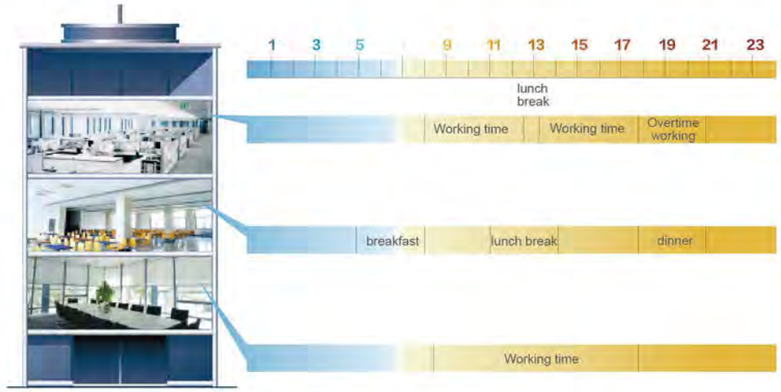


Visualized Management

- System has a map that can display air conditioners' locations in rooms and buildings.
- System is able to measure the status and number of air conditioners in different levels

Everyday Management

- **Setting for daily operation**
  a.Management in days/weeks/months/years
  b.Management in each unit
  c.Simple display for management
- **Other functions**
  a.Power on/off, modes, humidity, fan speed
  b.Waste of energy that may be caused by forgetting to turn off the air conditioner can be avoided
- **Everyday Management at different locations**
  a.Management for overtime working
  b.Management for meal breaks
  c.Management for working time



Group Management

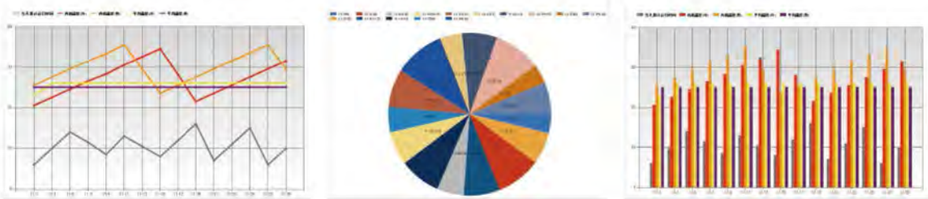
- **Central management in groups**
  a.Free choices of dividing groups
  b.Central control over power on/off
  c.Central control over temperature
  d.Central control over modes
  e.Central control over user authority

Authority Management

- **Only for indoor units**
  a.Limited control over power on/off
  b.Limited control over temperature
  c.Limited control over modes

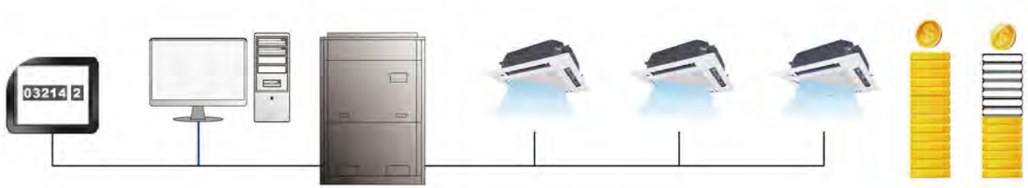
Statistics Analysis

- **Recording statistics**
  System can self generate graphs of statistics for easy management and analysis.
- **Recording errors**
  System can show the information of errors in charts and send alarms of errors through emails.
- **Recording operation**
  System can record users' daily operation.



Calculating Cost of Electricity

Auto calculation according to users
a.According to the operating time, modes, flow of refrigerant, humidity and other factors, system can calculate the cost of electricity for users in different locations.
b.Detailed information of bills and operation can be provided.



Energy Management

- **Analysis of energy cost**
  a.Air conditioners that cost much energy
  b.Air conditioners that are set in low temperature
  c.Air conditioners with bad cooling performance
- **Ways to save energy based on the following aspects:**
  a.Operating time
  b.Unit is on too early
  c.Unit is off too late
  d.Comfort
  e.Cost of electricity/cost of electricity per square meter

Energy saving

- **Limits on electricity**
  a.Analysis on the cost of electricity
  b.Set the maximum cost of electricity and unit will be operating in limited conditions when the maximum number is reached.
  c.System can remind users the cost of electricity during operation and give suggestions on energy saving.
- **Economic operation**
  System is able to operate under an energy-saving condition

VIP Management

System can provide independent and unique service to VIP users.

Wired Controller and Remote Controller

There are two kinds of controllers: wired controller and remote controller. The system provides various controls for users, such as cooling, heating, dehumidifying and fan etc,, users can select it flexibly according to their own using methods.

Wired controller XK46

- LCD with black background and white words; touch buttons;
- Clock can be displayed and set; 24 hours timer setting for on/off;
- 7 levels of fan speed, up & down swing and left&right swing;
- Can be switched in auto, cooling, dehumidifying, fan, heating, floor heating, 3D heating and space heating operation modes;
- Master and slave wired controllers can be set; simultaneous control over several IDUs is available;
- Available functions: sleep, ventilation, quiet/auto quiet, light, energy saving, auxiliary heating, drying, memory, low-temperature dehumidifying, absence in heating, controllable auxiliary heating in dehumidifying, filter cleaning reminder, etc.;
- Detect ambient temperature; receive infrared remote controller signal;
- With project parameters viewing and setting functions.

Wired controller XK49 (For hotel)

- With simplified functions, mechanical buttons, back lighting LCD and convenient operation;
- Can be switched in auto, cooling, dehumidifying, fan and heating operation modes;
- Master and slave wired controllers can be set; simultaneous control over several IDUs is available;
- Detect ambient temperature; receive infrared remote controller signal;
- With system parameters viewing and setting functions;
- 7 levels of fan speed, up&down swing;
- Door control system can be connected.

Remote controller YAP1F

- Can be switched in auto, cooling, dehumidifying, fan and heating operation modes;
- Besides turbo,6 levels of fan speed can be set;
- Available functions: child lock, drying, health, ventilation, turbo, sleep, light, absence, I-feel and timer;
- Clock display and indoor/outdoor ambient temperature viewing functions;
- Up & down swing and left & right swing.

Remote Controller YV1L1

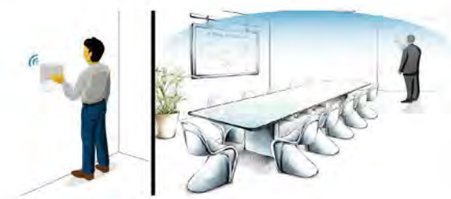
- Back lighting LCD;
- Can be switched in auto, cooling, dehumidifying, fan, heating, floor heating, 3D heating and space heating operation modes;
- 7 levels of fan speed, up&down swing and left&right swing;
- Available functions: child lock, energy saving, drying, health, ventilation, quiet/auto quiet, sleep, light, absence, low-temperature dehumidifying, I-feel and timer;
- With clock display, system parameters viewing and setting functions.

Wired controller XK55

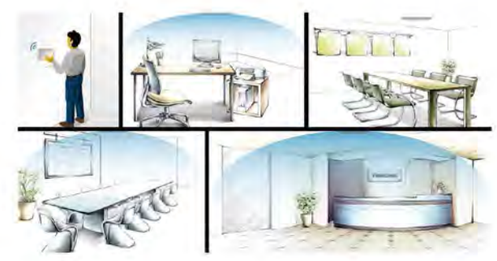
- Elegant appearance;
- High-resolution color LCD;
- Capacitive touch control; receive infrared remote controller signal;
- Various timing functions: three weekly timers and one countdown timer can be set simultaneously; mode, temperature and fan speed can be preset in weekly timer;
- Complete system functions; each function will be implemented in an individual page with interactive and humanized interface;
- Various personalized functions, e.g. setting brightness and backlight time;
- Sufficient viewing functions, e.g. viewing on/off status and after-sales service hot line.

- **Single control of one unit**
  Each indoor unit has an independent controller.

- **Multiple control of one unit**
  One indoor unit can be controlled by several wired controllers at different places.



- **Central control of several indoor units**
  One wired controller can control as many as 16 indoor units.



- **Joint control of remote controller and wired controller**
  Users can control one unit with two types of controllers: a remote controller which is convenient and flexible; or a wired controller which includes every function of an air conditioner.

Smart Zone Controller and Central Controller

Smart zone controller CE53-24/F(C)

- 1280*800 high-resolution color LCD;
- 7" capacitive touch screen for easy operation;
- Shielding function of single unit, group and all IDUs (shielding on/off, mode, temp setting, etc.);
- With various functions: centralized control(control all indoor units), group management(support DIY grouping), schedule management(setting of several schedules) and single unit control(on/off, mode, temp setting, fan speed, quiet, swing control, etc.);
- Provide naming of indoor units, selection of icons and personalized settings(setting background, backlight, etc);
- Up to 32 units can be centrally controlled;
- Elegant and fashionable appearance;
- Embedded installation in wall with projecting thickness only of 11mm;
- Connectable with network of indoor units or outdoor units;
- Independent power supply in 110~240V wide voltage range;
- With project setting, parameter viewing, malfunction record and access management functions.

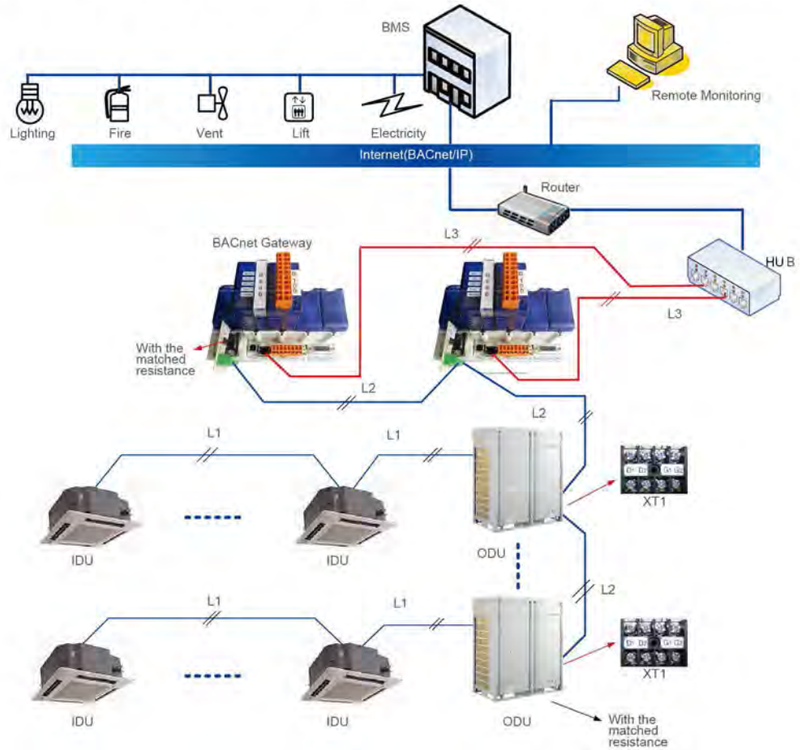
Central controller CE52-24/F(C)

- 1280*800 high-resolution color LCD;
- 7" capacitive touch screen for easy operation;
- With project setting, parameter viewing, malfunction record and access management functions.
- With various functions: centralized control(control all indoor units), group management(support DIY grouping), schedule management(setting of several schedules) and single unit control(on/off, mode, temp setting, fan speed, quiet, swing control, etc.);
- Shielding function of single unit, group and all IDUs (shielding on/off, mode, temp setting, etc.);
- Provide naming of indoor units, selection of icons and personalized settings(setting background, backlight, etc);
- Up to 128 units can be centrally controlled;
- Elegant and fashionable appearance;
- Embedded installation in wall with projecting thickness only of 11mm;
- Connectable with network of indoor units or outdoor units;
- Independent power supply in 110~240V wide voltage range;

BACnet Gateway

BACnet gateway kits MG30-24/D2(B) are intended to realize the data exchange between the air conditioning unit and BAS, and providing the standard BACnet/IP building interface and 8 I/O interfaces, one of which is the fire alarm signal interface. The status of the other 7 I/O interfaces is mapped to the specific objects of the BACnet/IP bus and can be defined by the user.

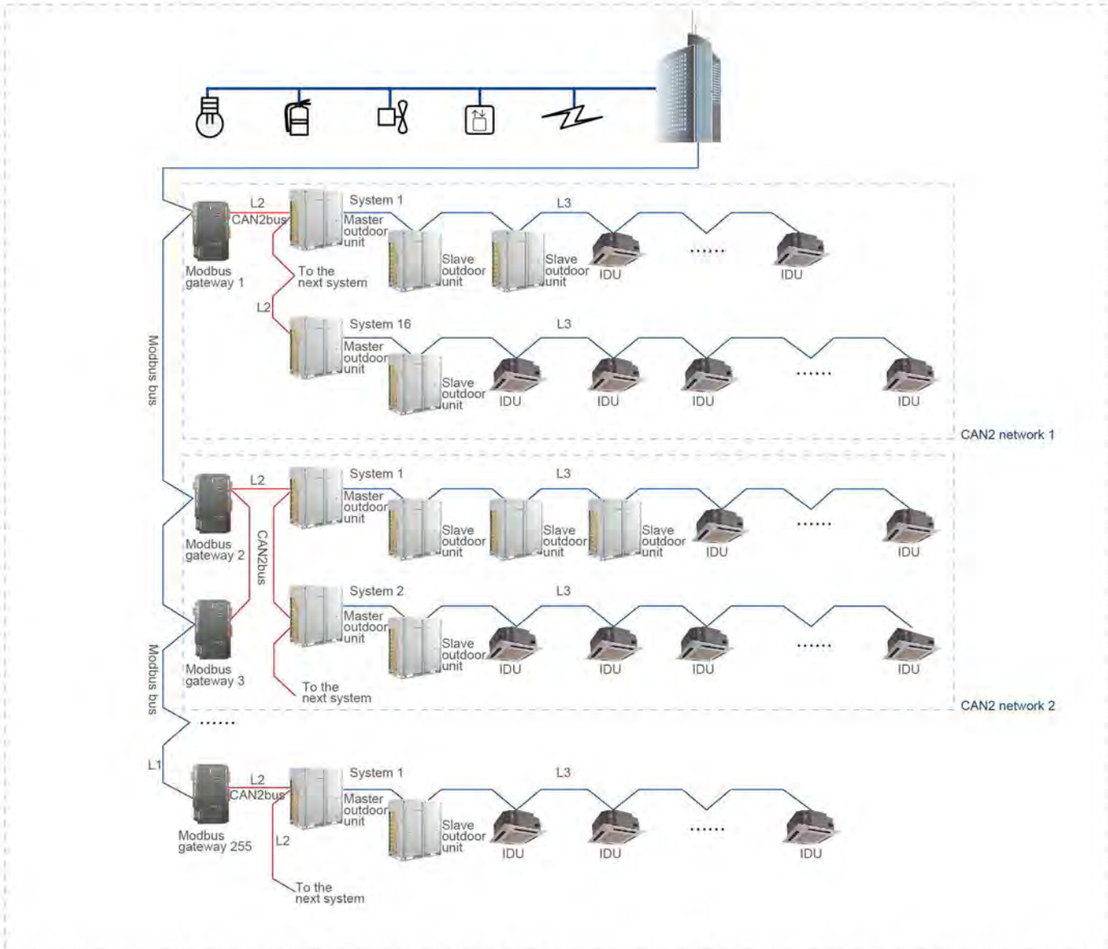
Applicable models: **CHV5** All DC Inverter Multi VRF System, **CHV5** DC Inverter Multi VRF System, **CHV** DC Inverter Water Cooled Heat Pump Multi VRF System.



- International standard BACnet/IP interface, which has passed BTL certification;
- Real-time monitoring of unit operation status, e.g. on/off, mode, temperature;
- Real-time response to the control of unit (on/off, mode setting and speed setting, etc.) by monitoring software;
- Monitor unit errors;
- Lock unit operation statuses, directing at all control functions of unit itself or a certain setting function;
- Achieve cooling and heating temperature limitation functions;
- 8 DI/DO interfaces for receiving fire alarm signal and user's definition logic;
- Big storage capacity of unit operation data for 6 months.

Modbus Gateway

Modbus Gateway provides **CHV5** system with the Modbus protocol interface when connecting to the Building Management System(BMS) in order to achieve central control and remote control over **CHV5** system by BMS.



Applicable models: **CHV5** All DC Inverter Multi VRF System, **CHV5** DC Inverter Multi VRF System, **CHV** DC Inverter Water Cooled Heat Pump Multi VRF System.

- Real-time monitoring of unit operation status, e.g. on/off, mode, temperature;
- Real-time response to the control of unit (on/off, mode setting and speed setting, etc.) by monitoring software;
- Control all the units switches of on and off.
- Monitor unit errors;
- One Modbus bus can support up to 255 gateways. One Modbus gateway can support at most 16 outdoor units(up to 64 modular outdoor units) and 128 indoor units;
- Lock unit operation statuses, directing at all control functions of unit itself or a certain setting function;
- Linkage control, supporting 5 DI and 5 DO for receiving fire alarm signal and user's definition logic;
- CAN, RS485 communication ports are non-polar, convenient for construction wiring;
- Achieve cooling and heating temperature limitation functions;
- 100-240 VAC,50/60Hz wide voltage range, adapted to the power supply of each country and region.

Control System Lineup

Controlling system		Product series		Cassette Type	(High ESP, Low ESP, Slim Ducted) Duct Type	Fresh Air Processing	Wall mounted Type	Floor Ceiling Type	Console Type	Floor Standing Type	Air Handler
Wireless Controller		YAP1F		●	○	○	●	●	●	●	○
		YV1L1		○	○	○	○	○	○	○	○
Wired controller		XK46		○	●	●	○	○	○	○	●
		XK49		○	○	○	○	○	○	○	○
		XK55		○	○	○	○	○	○	○	○
		JS05(receiver)			○	○					
Centralized Controller		CE52-24/F(C)		○	○	○	○	○	○	○	○
Smart Zone Controller		CE53-24/F(C)		○	○	○	○	○	○	○	○
Long-distance monitoring software		FE31-00/AD(BM)		○	○	○	○	○	○	○	○
BMS Accessories	Commmunication module(modbus) GMV BACnet gateway (BACnet)	ME30-24/E4(M)		○	○	○	○	○	○	○	○
		MG30-24/D2(B)		○	○	○	○	○	○	○	○
Other modules	Optoelectronic isolated converter	RS232-RS422\485		○	○	○	○	○	○	○	○
	Optoelectronic isolated signal multiplier	RS-422\485		○	○	○	○	○	○	○	○

Note: ● means standard, ○ means optional.

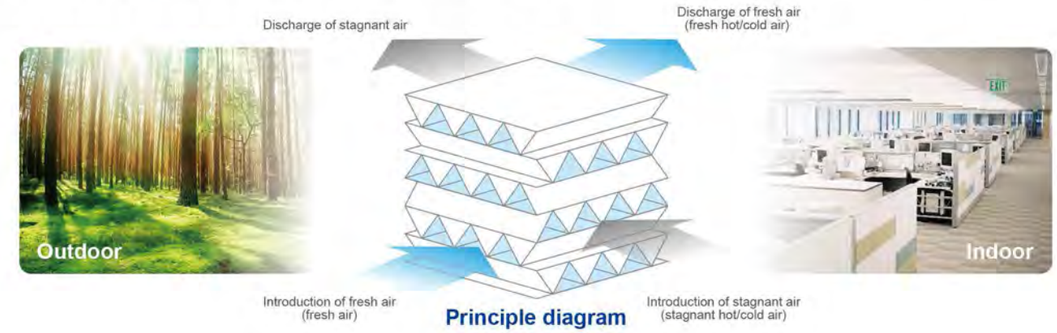
Energy Recovery Ventilation(ERV)

- Air flow: 350~3000m³/ h
- Energy Recovery Ventilation System can introduce the fresh air freely on the condition that all the windows closed or exhausted fan uninstalled. It can solve the problem of stagnant air effectively.

  It is usually installed in the ceiling of corridor and supplies fresh air to each room through ducts.

Adopt Advanced Heat Exchange Core

ERV adopts cross flow plate exchanger with air volume below 3000m3/h. Fresh air will be introduced and internal leakage is low, which effectively prevent pollution to fresh air.



Double-way Ventilation for Fresh Air

ERV can not only introduce lots of fresh air, but also discharge the stagnant air at the same time, which effectively minimizes the toxic air from the inner and other materials. The ventilation effect is very obvious, ensuring enough supply of fresh air to the indoor space.

No Cross Contamination for Ensuring Healthy Fresh Air

The unique cross-flow heat exchange valve sub-assy is adopted. There is only energy exchange between indoor air and outdoor air with little exchange of air, which effectively prevents cross contamination and “air-condition” disease.

Pretreatment of Fresh Air for Energy-saving

When fresh air is introduced, its temperature and humidity will be exchanged with the discharged warm air. As the fresh air is preheated and humidified, energy is saved and load of unit is reduced.

Energy Recovery Ventilation(ERV)

Model			FHBQ-D3.5-K	FHBQ-D5-K	FHBQ-D8-K	FHBQ-D10-K	FHBQ-D15-M	FHBQ-D20-M	FHBQ-D30-M	FHBQ-D5-D	FHBQ-D8-D*1	FHBQ-D10-D	FHBQ-D15-D*1
Air flow volume	H/M/L	M3/ h	350	500	800	1000	1500	2000	3000	500	800	1000	1500
ESP	H/M/L	Pa	100	100	110	110	150	150	220	100	100	110	150
Temperatuer exchange efficiency	H/M/L	%	71.00	68.00	70.00	73.00	73.00	71.00	70.00	68.00	70.00	75.00	73.00
Enthalpy exchange efficiency(H/M/L)	Heating	%	65.00	62.00	63.00	66.00	65.00	62.00	62.00	62.00	63.00	66.00	65.00
	Cooling	%	61.00	57.00	60.00	62.00	60.00	58.00	58.00	57.00	60.00	62.00	60.00
Power supply		Ph/V/Hz	1/220/50	1/220/50	1/220/50	1/220/50	3/380/50	3/380/50	3/380/50	1/220/60	1/220/60	1/220/60	3/220/60
Power input		KW	0.165	0.262	0.40	0.44	0.80	0.95	2.80	0.262	0.50	0.50	1.10
Sound Pressure Level		Db(A)	37	39	45	46	48	50	54	39	50	46	60
Dimension (W*D*H)	Outline	mm	800*879*306	800*879*306	832*1016*380	832*1016*380	1210*1215*452	1210*1215*452	1340*1550*572	800*879*306	832*1016*380	832*1016*380	1210*1215*452
	Package	mm	1050*1165*315	1050*1165*315	1087*1320*400	1087*1320*400	1540*1550*470	1540*1550*470	1610*1710*700	1050*1165*315	1087*1320*400	1087*1320*400	1540*1550*470
Net weight		kg	45	45.0	57.0	57.0	110.0	110.0	215.0	45.0	57.0	57.0	110.0
Gross weight		kg	53	53.0	66.5	66.5	130.0	130.0	236.0	53.0	66.5	66.5	130.0
Loading quantity	40'GP	set	147	147	85	59	37	37	24	147	59	59	37
	40'HQ	set	168	168	104	67	44	44	24	168	67	67	44
Standard wired remote controller			Z5N151	Z5N151	Z5N151	Z5N151	Z5N151	Z5N151	/	Z5N151	Z5N151	Z5N151	Z5N151

Note:
*1:This product only gets CB certification.

Control System Lineup

Control system \ Product series			ERV 
Wired controller	Z5N151		●
Interface of the main board	BMS		●
Optoelectronic isolated converter	RS232-RS422\485		○
Optoelectronic isolated signal multiplier	RS-422\485		○

Note: ● means standard, ○ means optional.

Note

Note

Award and Certification




ISO 9001 Quality System Certificate

ISO 14001 Environment Management System Certificate

ISO 18001 Occupation Healthy Safety System Certificate

Canadian CSA Certificate

German TÜV Certificate

3C Certificate

European Communities CE Certificate

American UL Certificate

Russian Safety Certificate

EQM

SASO Certificate

Mexico NOM Safety Certificate

German GS Certificate

European EMC Certificate

Argentina Safe Certificate

China EMC Certificate

Hongkong Energy-saving Certificate

Hongkong Safety Certificate

Australian SAA Safe Certificate

Australia SAA Certificate

CQC Certificate

America ETL Certificate

Canadian ETL Certificate

Thailand TIS Certificate