

# *Klarwind*

KOREA

**CLK CORPORATION**

Ryan@carrier.co.kr

11F, Two IFC, 10, Gukjegeumyung-ro, Yeongdeunpo-gu,  
Seoul 07326, South Korea

**VRF**  
Catalogue



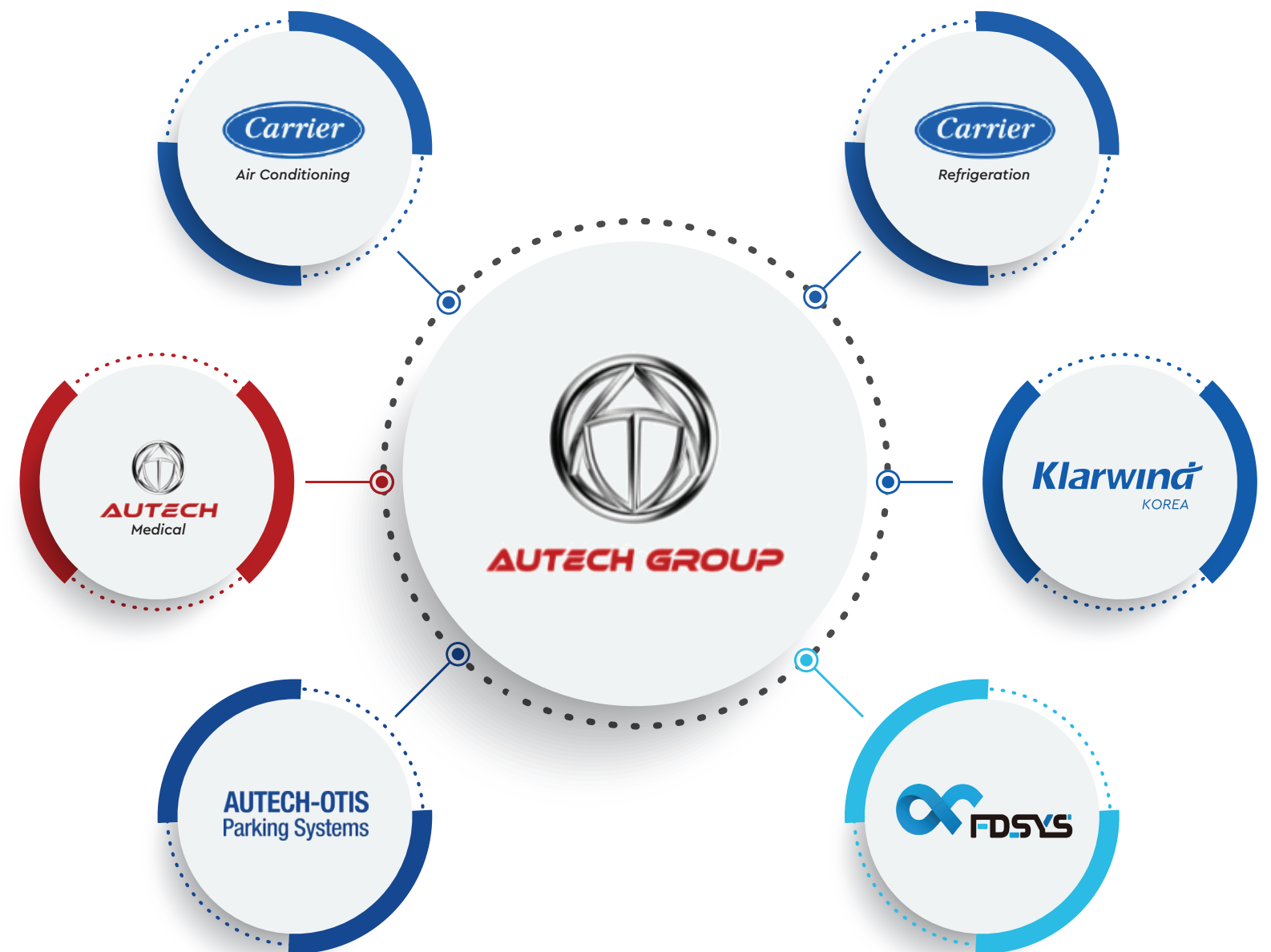
## INTRODUCTION OF **AUTECH GROUP**

Klarwind is a distinguished brand under the umbrella of the Autech Group. Founded in 2000, the Autech Group is a prominent global entity specialising in air conditioning, refrigeration, parking systems, medical and welfare products. With numerous successful joint ventures and subsidiaries, Autech Group has strengthened its presence as a world-class brand.

At the core of Klarwind's inception lies a profound concern for creating a cleaner, healthier environment. Focused on pioneering air-cleaning technology, our passionate founder dedicated extensive efforts to alleviate the discomfort experienced by individuals with respiratory challenges.

Today, Klarwind stands as a global premium brand, providing solutions across a diverse range of products including residential, light commercial, and commercial air conditioning, along with a comprehensive array of air purifiers and home appliances.

Committed to the best in performance, design, and reliability, Klarwind has garnered recognition with prestigious awards in Europe, solidifying our status as a beacon of innovation.



# COMPANY OVERVIEW

## DESIGN & LEADING INNOVATION



**AUTECH GROUP**



### No 1 in Korean Medical & Welfare vehicles

- Ambulance
- Mobile Hospital
- Welfare
- Recreational

#### New Biz

- Electric Vehicle

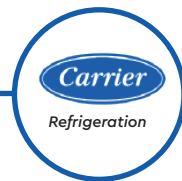


### Leading Brand in Korea HVAC

- Residential
- Commercial
- Building Solution

#### New Biz

- Online & Rental
- HVAC appliance
- Service



### No 1 in Korean Comm. Refrigeration

- Cold Chain system
- Display/Cold Storage

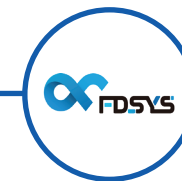
#### New Biz

- Bio Cold Chain
- Smart Farm
- Transport
- Refrigeration



### No 1 in Korean Mechanical Parking (both NE & Service)

- Unmanned Valet (both tower and underground systems)
- Mobile platform
- Parking solution



### Value adding business

- Security Solutions
- Logistics
- Electric Appliance/Component



### Residential & Commercial Air-Conditioning

- Air Purifiers
- Portables
- Residential
- Commercial



# Benefits of Klarwind VRF

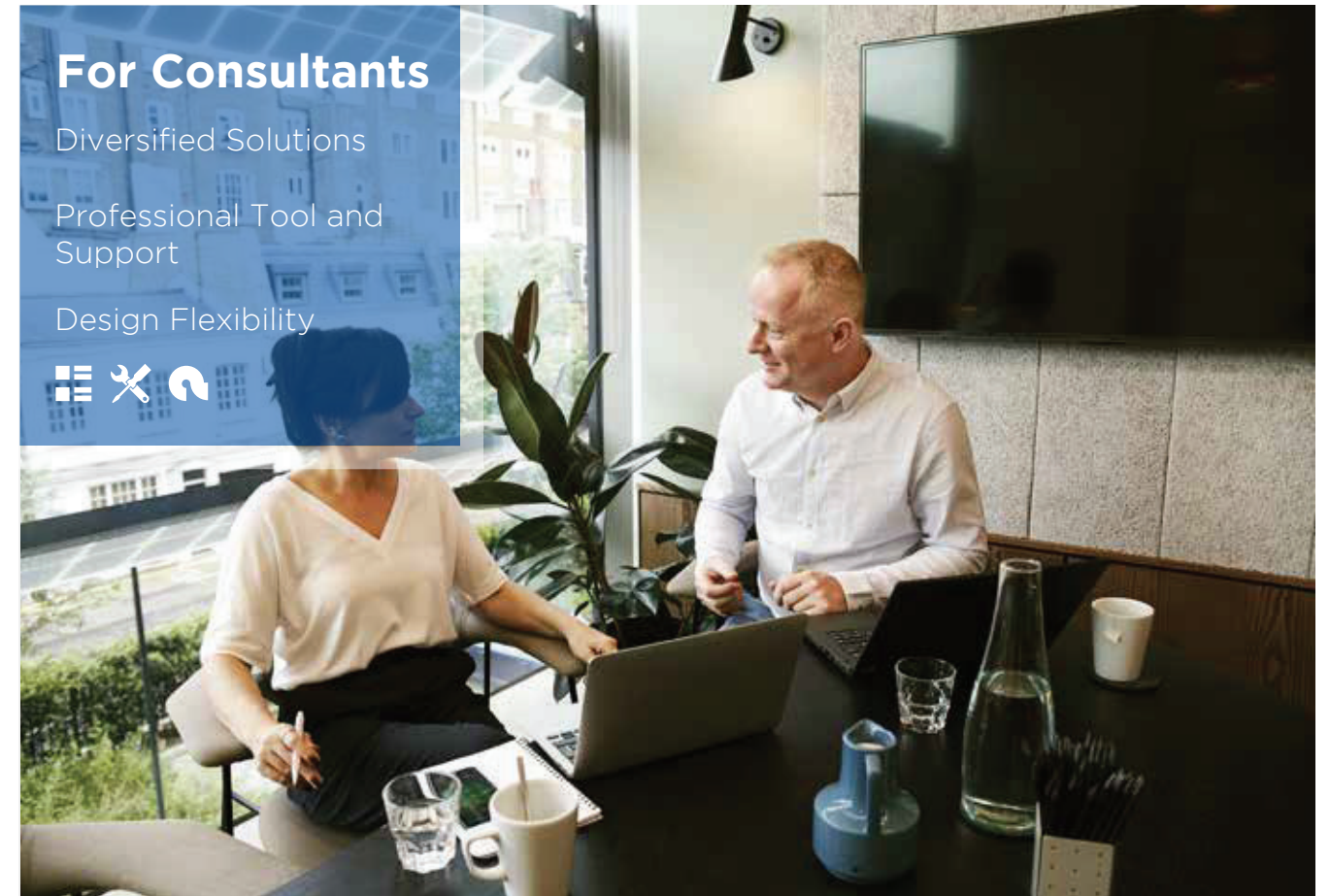
## For End-users

- Healthy Operation
- Cost Saving Operation
- Comfortable Environment



## For Consultants

- Diversified Solutions
- Professional Tool and Support
- Design Flexibility



## For Building Owners

- Energy Saving Management
- Reliable Operation
- Backup Solution



## For Construction Companies

- Green Solutions
- Space Saving Design
- Intelligent Management





## Application Solutions

### Office Complexes

*Enjoy comfort while working*

Klarwind VRF provides solutions for office buildings of all sizes and its smart control solutions streamline the management of VRF. It offers a wide variety of indoor units that are suitable for all designs.



### Residential Apartments

*One for every home*

A compact size and high efficiency make Klarwind VRF suitable for all residential homes.



### Hotels & Shopping Malls

*Increase your business, not your bills*

The high efficiency and reliability of Klarwind VRF make it ideal for commercial applications. Intelligent control solutions like hotel key cards and touch screen controller make management easy.



### Hospitals/ Schools/ Airports

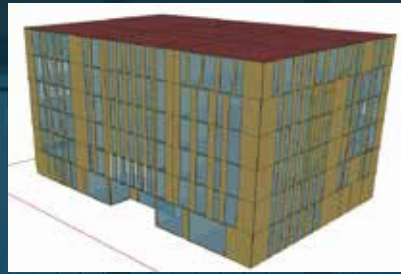
*Meeting all expectations*

The innovative design and variety of indoor unit options make Klarwind VRF suitable for all kinds of applications. The newly designed puro-air kit is perfect for modern hospitals.





### Design Service

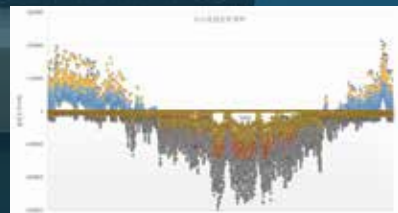


Energy Plus Building load calculation

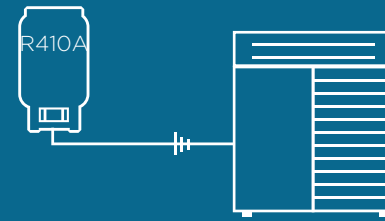


MSSP Online VRF system design

BIM building information import



### Installation service

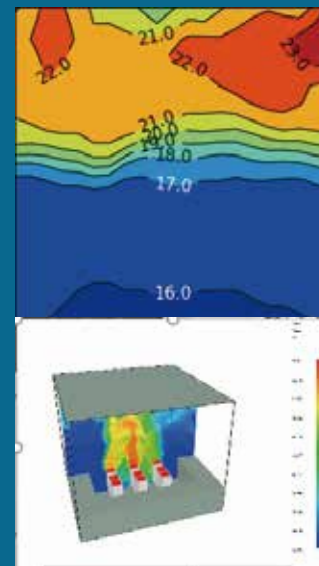


Automatic refrigerant charge



Automatic commissioning report

MCFD Energy consumption and airflow simulation optimization



### Management service



The probability of Filth blockage 80%



Degradation of energy efficiency 25%

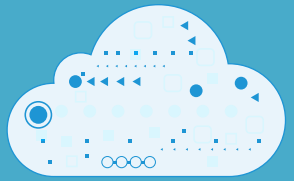
Continuous energy saving service



### After-sales service



Intelligent maintenance tool



Cloud-based big data analytics

2 +10 +N Spare Parts Layout can ensure the timely supply of global after-sales spare parts.





**Klarwind**  
KOREA

 **OUTDOOR UNITS**

V8 (Combinable series)

V8i (Individual series)








**The V8 Series** VRF uses algorithms and self-learning technology to monitor the operation of the equipment, so that the equipment can run stably and be maintained in time to ensure that the equipment always runs in optimal condition throughout its life cycle.

## Outdoor Unit Lineup




### V8 (Combinable series)

HP	8-18	20-26	28-36
Single Unit			

HP	38-72	74-108
Combined Unit		

Note: Four unit combinations are possible for 8-24 HP models. For four unit combinations please contact Klarwind.

### V8i (Individual series)

HP	8-18	20-26	28-36
Single Unit			

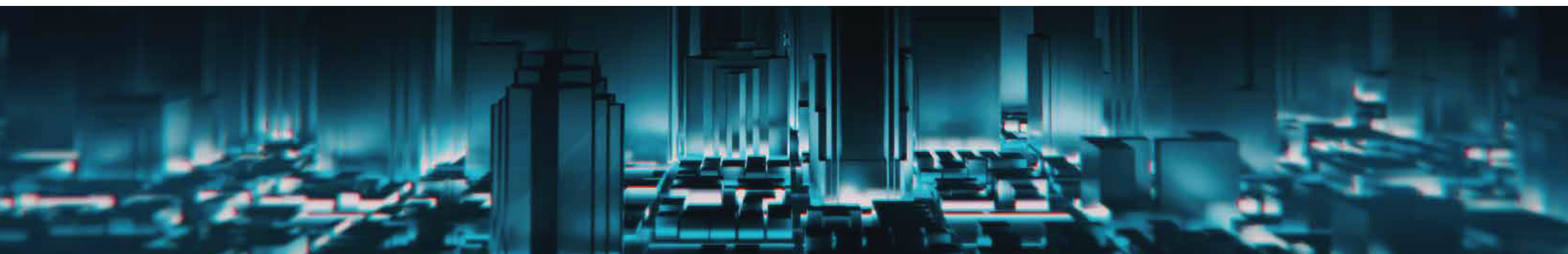




## Outdoor Unit Functions

Functions			V8	V8i
●: equipped as standard; ○: customization option; ✕: function not available				
Innovative Technologies	HyperLink	Klarwind original communication bus chip greatly simplifies installation and saves installation costs	●	●
	ShieldBox	IP55 Fully sealed electric control box realizes resisting all protects against intrusion and damage to the electric control box	●	●
	SuperSense	19 sensors monitor the state of each part of the refrigerant pipeline throughout the whole process	●	●
	Meta 2.0	Triple variable control maximizes comfort and energy efficiency	●	●
	Zen air 2.0	Provides comfort and healthy air supply	●	●
	Doctor M 2.0	Intelligent diagnostic technology makes maintenance easier and more efficient	●	●
	High Efficiency	Full DC inverter technology	All electrical components of outdoor and indoor units use DC power supply, improving electrical efficiency and saving energy	●
Enhanced Vapor Injection (EVI) compressor		Increases refrigerant circulation and improves both cooling and heating capacity	●	●
Micro-channel refrigerant subcooling		The refrigerant system can achieve 15°C refrigerant subcooling, which can further improve the refrigerant heat transfer efficiency while reducing noise	●	●
Low standby power consumption		The standby power consumption is as low as 3.5W	●	●
G-type heat exchanger		Large capacity outdoor unit with G-type heat exchanger, which can increase the heat exchanger area and saves floor space	●	●
60-step energy management		The system can be set from 40% to 100% capacity output in 1% increments	●	●
Duty cycling (unit)		Equalizes the running time of the outdoor units in a multiple-unit system, significantly extending unit lifespan (available for combined units)	●	✕
Duty cycling (compressor)	Equalizes the running time of the compressor in each unit, significantly extending compressor lifespan (available for units with two compressors)	●	●	

Functions			V8	V8i
●: equipped as standard; ○: customization option; ✕: function not available				
High Reliability	Backup operation (unit)	If one unit fails, the other units provide backup so that the system can continue operating (available for combined units)	●	✕
	Backup operation (compressor)	If one compressor fails, the other compressor provides backup so that the system can continue operating (available for units with two compressors)	●	●
	Backup operation (fan motor)	If one fan motor fails, the other fan motor provides backup so that the system can continue operating (available for unit units two fan motors)	●	●
	Backup operation (sensor)	If one sensor fails, the virtual sensor provides backup so that the system can continue operating	●	●
	Precise oil control	Ensures all outdoor compressor oil is at a safe level, eliminating compressor oil shortages	●	●
	Heavy anti-corrosion protection	Can be customized with heavy anti-corrosion treatment for surface protection against corrosive air, acid rain and saline air (for installations in coastal regions) to extend overall useful life	○	○
	UL anti-corrosion certificate	It has been certified by UL that our VRF outdoor unit can withstand 27 years of simulated severe corrosion under a salt contaminated traffic environment	○	○
	Micro-channel refrigerant cooling PCB	10 times higher than ordinary refrigerant pipe cooling efficiency	●	●
	Chassis electrical heater	Prevents condensation on the chassis from freezing in winter	○	○
	Anti-snow shield	Prevents snow from accumulating on the outdoor unit, guaranteeing stable unit operations on snowy days	○	○
	Auto snow-blowing function	Blows away accumulated snow on the outdoor unit, guaranteeing stable unit operations on snowy days	●	●
	Auto dust-clean function	Blows away accumulated dust on the outdoor unit, guaranteeing stable unit operations in a dusty environment	●	●
	Resistant to magnitude 8 earthquakes	A reinforced frame footprint to prevent tipping and deformation damage in magnitude 8 earthquakes	○	○
	Resistant to violent typhoon	A reinforced trusses and double fastening for stable operation even under violent typhoon	○	○
	Alarm output	In the event of system malfunction, remotely output error information and remind maintenance personnel to conduct maintenance	○	○
Fire alarm input	In the event of fire, receive fire information in time and stop the system immediately to avoid serious problems	●	●	



# Outdoor Unit Functions

Functions			V8	V8i
●: equipped as standard; ○: customization option; ×: function not available				
Enhanced Comfort	Silent mode	15-step silent mode selections provide more freedom and convenience to match the needs of customers	●	●
	Intelligent defrosting technology	Calculates the time required for defrosting according to the actual system status, eliminating heat losses from unnecessary defrosting	●	●
	Auto cooling-heating changeover	Automatically selects cooling or heating mode to achieve the set temperature (available in changeover priority mode)	●	●
	Additional ambient temperature sensor	The additional external ambient temperature sensor can detect the true outdoor ambient temperature, correctly judge whether the system is running in cooling or heating in auto priority mode, ensuring indoor comfort	○	○
	0.1 °C control precision	Control precision of the sensor can reach 0.1°C, ensuring less fluctuations in room temperature	●	●
	Multiple priority modes	10 priority modes meet the requirements of all scenarios	●	●
	Wide Application Range	Wide capacity range	Meets all customer requirements from small to large buildings	8-36HP (single) 38-108HP (combined)
Wide range of indoor units		Provides 12 types and more than 100 models of VRF indoor units to meet the needs of different application scenarios	●	●
Wide operation range		Operates stably under extreme conditions	-15-55°C (C) -30-30°C (H)	-15-55°C (C) -30-30°C (H)
Long piping capability		Benefits for the system design, installation flexibility, as well as the less installation cost	●	●
Auto addressing (ODU-IDU)		Distributes addresses to indoor units automatically, simplifying the installation	●	●
Auto addressing (ODU-ODU)	Distributes addresses to slave outdoor units automatically, further simplifying the installation (available for combined units)	●	×	

Functions			V8	V8i
●: equipped as standard; ○: customization option; ×: function not available				
Easy Installation And Service	Automatic refrigerant charging	Makes installation and service easier and more efficient	○	○
	Automatic refrigerant recycling	Refrigerant can be recycled to ODUs or IDUs and normal ODUs, making the maintenance easier and more efficient	●	●
	Bluetooth module	It can be used for fault information storage, operation parameter enquiry, system parameter setting, quick after-sales PCB replacement, programme upgrade for indoor and outdoor units, etc., simplifying installation and maintenance.	○	○
	Digit display	4 digit 7-segment display can be intuitive for parameter setting, parameter checks and error checks	●	●
	High external static pressure	Up to 120Pa ESP allows easy handling in a variety of installation environments	0-20Pa ● 20-120Pa ○	0-20Pa ● 20-120Pa ○
	Arbitrary topology of communication wire	Supports any communication topology, greatly simplifies installation and reduces installation cost	●	●
	2-core non-polarity communication wiring between the indoor and outdoor units	Simplifies installation and reduces wiring failures	●	●
	Long communication wiring	Communication wiring up to 2000m makes installation more flexible	●	●
	Wide combination ratio	Combination ration can be extended to 50%-200% under certain conditions which can meet different project requirements	50-130% ● 50-200% (for single unit system) ○	50-130% ● 50-200% ○
	Supports manual and automatic defrosting	Improves maintenance efficiency	●	●
	Supports manual and automatic oil return	Improves maintenance efficiency	●	●
	Easy software program upgrade*	The software program can be upgraded via on-site USB and burning, or remotely via the web	●	●
	Flexible controller connection	Central controller and BMS gateway can connect to the ODU at the same time, and the central controller can connect to the ODU or IDU	●	●
	Refrigerant amount diagnosis	The unit can diagnose excessive or insufficient amounts of refrigerant, and prompt maintenance personnel to check the system in time to avoid serious malfunction	●	●
Easy system commissioning and checking*	System commissioning and checking can easily be completed on-site or remotely via the web	●	●	
Intelligent maintenance tool	Intelligent bluetooth after-sales kit can simplify maintenance and improve maintenance efficiency	○	○	

Note:

\*: The web function needs to be realized through the data cloud gateway, and the data cloud gateway needs to be purchased separately.





# INNOVATIVE

## TECHNOLOGIES



**HyperLink** *New & Unique*

**ShieldBOX** *New & Unique*

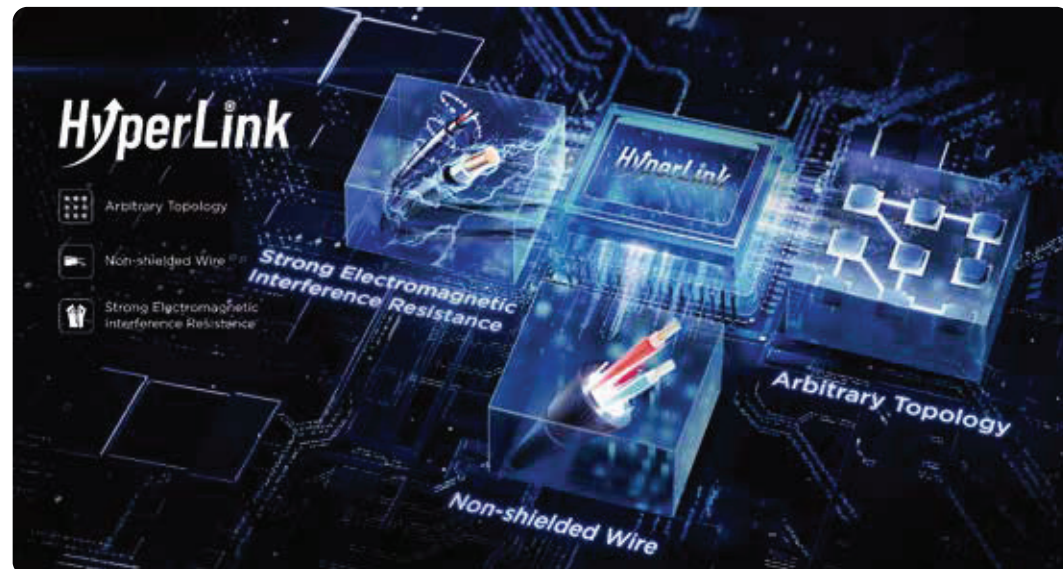
**SuperSense** *New & Unique*

 **ETA 2.0**

 **ENair 2.0**

**DOCTOR m. 2.0**

Klarwind original communication bus chip greatly simplifies installation and saves installation costs.

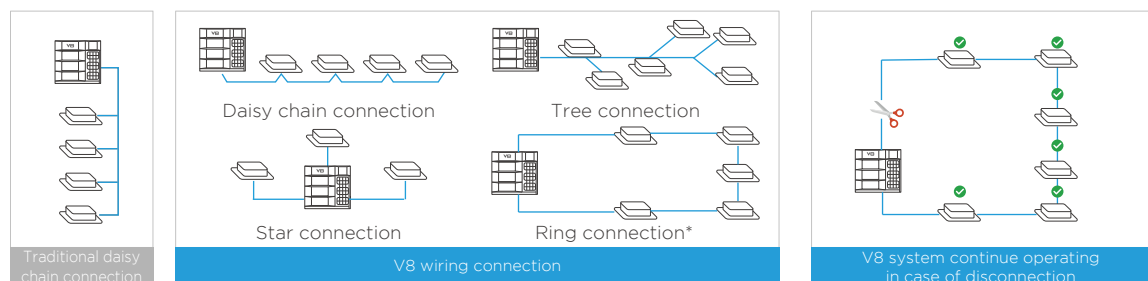


- Benefits**
- Flexible installation
  - Low installation cost
  - High reliability
  - Stable operation

HyperLink communication technology supports any wiring pattern rather than just daisy chain connection, reducing installation costs and the possibility of an incorrect connection. It has stronger anti-interference ability, achieving a communication distance of up to 2000m.

**Arbitrary Topology Communication**

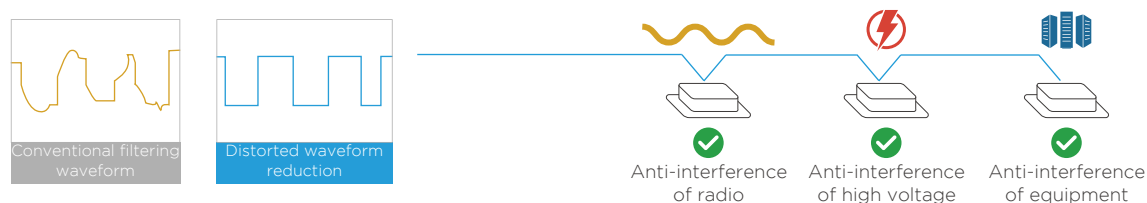
In addition to the traditional daisy chain connection, the communication wire supports tree connection, star connection, ring connection and so on. The wiring is flexible, which greatly reduces installation costs and has no possibility of wrong connection on site.



\*In ring connection, the communication wire must be connected polarized (M1 port to M1 port and M2 port to M2 port).

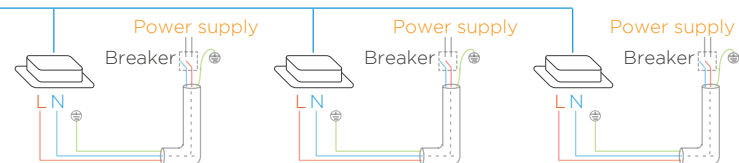
**Super Anti-interference Capability**

Special waveform restoration technology enhances anti-interference performance for more stable communication.



**Flexible Power Supply for Indoor Units**

HyperLink's unique communication method allows the indoor units to be powered not only by a uniform power supply, but also by individual and zone power supplies, making it particularly suitable for each shop in a large complex building, which can independently power on and off its own indoor units.



IP55 fully enclosed electric control box provides all-round protection for internal electronic components, greatly improving system **RELIABILITY**.



- Benefits**
- High reliability
  - Stable operation
- IP (INGRESS PROTECTION)
- IP** Dustproof grade code Prevent entry foreign objects and dust
  - 55** Waterproof grade code Prevent water spray in all directions

Fully enclosed electronic components are isolated from the external environment to protect against corrosion, sand, humidity, snowstorms and other harsh conditions, and prevent small animals and insects from entering the chamber. This protects internal electronic devices and improves the overall environmental tolerance.

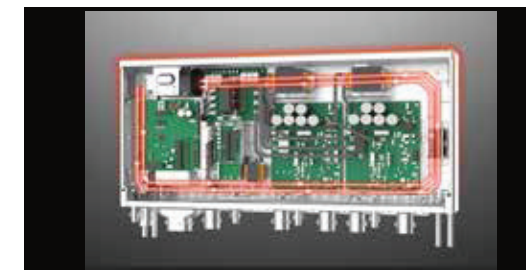
**All Microchannel Refrigerant Cooling**

All electronic components including inverter module, filter module and power module are cooled by specially designed microchannel refrigerant to ensure that the electronic components work in the best temperature range.



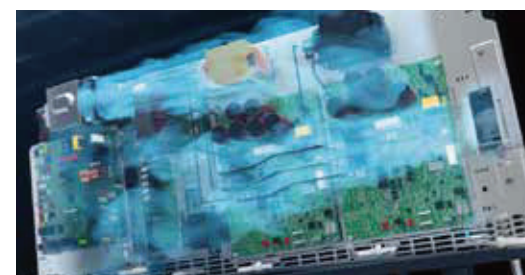
**PTC Heater**

The unique PTC heater, with precise temperature control sensor, can still ensure that the temperature inside the chamber remains within the normal operating temperature range of electronic devices even in the low-temperature environment of -30°C.



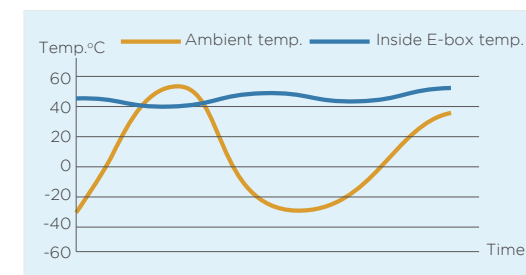
**Built-in Circulating Fan**

The built-in circulating fan accelerates the air flow inside the chamber, and the heat exchange is more sufficient to ensure the consistent ambient temperature inside the chamber.



**5 High Precision Temperature Sensors**

5 high precision temperature sensors are used to accurately monitor the operation state of electronic control under various conditions to ensure that the internal temperature of the chamber is always kept within a stable range.





**SuperSense** New & Unique

The status of the refrigerant can be determined throughout the process, ensuring high **RELIABILITY** and **COMFORT**.



- Benefits**
- High reliability
  - Stable operation
  - Enhanced comfort

Up to 19 sensors are distributed throughout the refrigerant system, and the status of the refrigerant can be determined throughout the process, ensuring stable operation. At the same time, combined with the digital twin technology of the refrigerant system, a virtual sensor can be created in the event of a physical sensor failure, so that the system does not shut down in the event of a sensor failure, ensuring comfort.

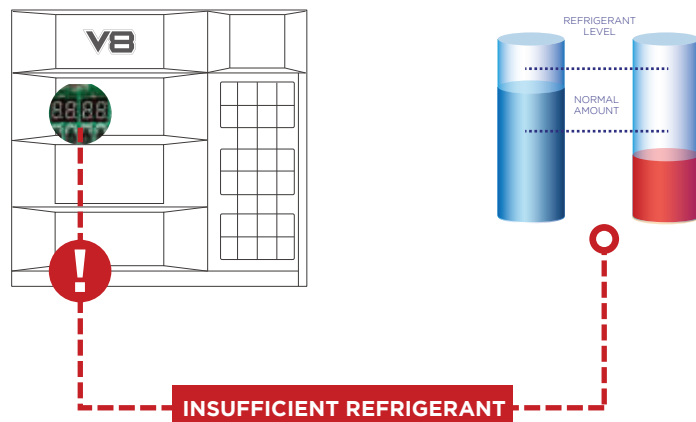
**Complete Sensors**

The V8 Series VRF features the industry's most comprehensive range of 19 condition sensors with built-in data models for compressors, heat exchangers, throttling components and more. By analyzing sensor data in real time, it can sense the status of the refrigerant anywhere in the system.



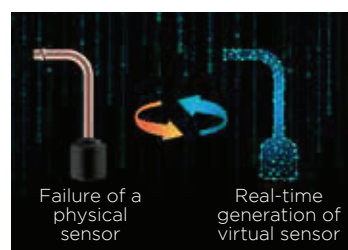
**Refrigerant Amount Diagnosis**

Thanks to the complete sensors, the refrigerant running state is clearly visible, so as to accurately diagnose the amount of refrigerant.



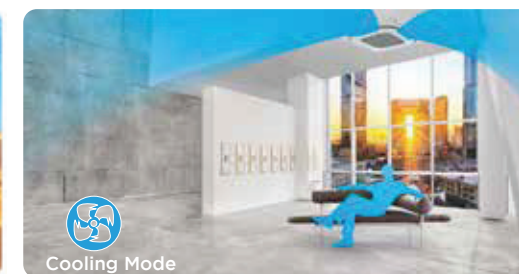
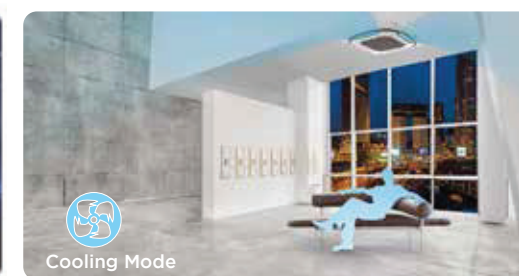
**Virtual Sensor Backup**

In the event of a sensor failure, other sensors can automatically simulate a virtual backup sensor, so that the VRF system can continue to operate without stopping.



**Klarwind ETA (META) 2.0**

META is the abbreviation of Klarwind Evaporating Temperature Alteration. Further upgraded META technology to maximize **ENERGY SAVING**.

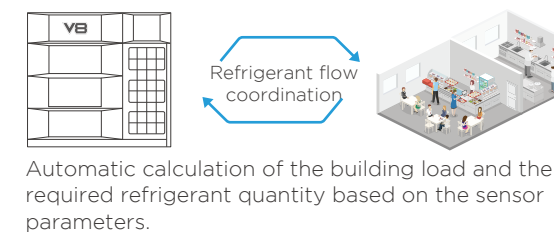


- Benefits**
- Energy saving
  - Enhanced comfort
  - Fast cooling/heating

Built-in professional operation and maintenance algorithm, so that the annual operation energy efficiency of each set of systems is increased by more than 28%.

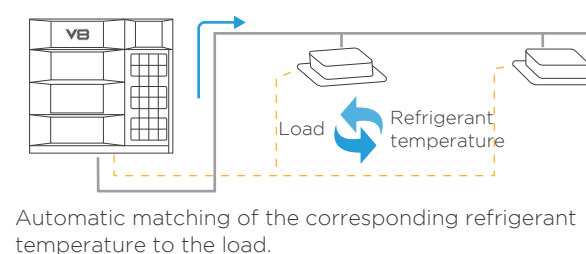
**Variable Refrigerant Flow**

**STEP 1: Architectural space feature recognition**  
The indoor unit automatically recognizes the size of the building space and the effectiveness of the insulation according to the rate of temperature drop.



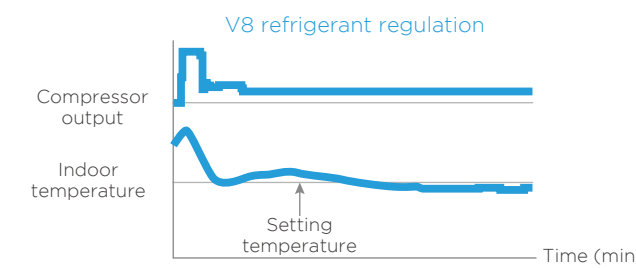
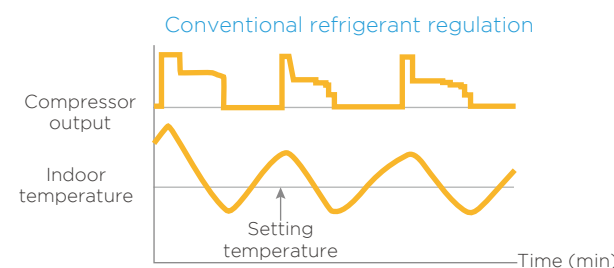
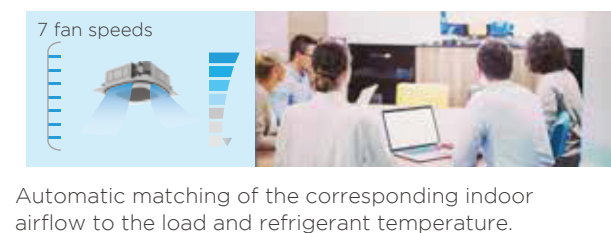
**Variable Refrigerant Temperature**

**STEP 2: System refrigerant temperature determination**  
The system automatically matches the evaporating temperature (in cooling) or condensing temperature (in heating) to the room load to maximize comfort and energy efficiency.



**Variable Indoor Airflow**

**STEP 3: Adaptive indoor airflow and refrigerant flow**  
Each indoor unit automatically adjusts the corresponding indoor airflow and refrigerant flow according to the evaporating/condensing temperature, enabling precise temperature control.



## Zen Air 2.0

Further upgraded ZEN AIR technology to maximize **COMFORT**.



### Benefits



Quiet



Enhanced comfort

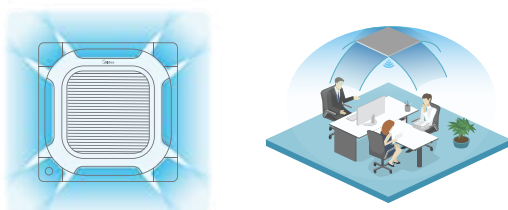


Healthy

0.5°C temperature adjustment, 7 fan speeds selection, sleep mode, silent mode, windless technology, high efficiency filter, a variety of sterilization devices and other advanced technologies used in V8 Series VRF are dedicated to creating a quiet, comfortable and healthy indoor environment.

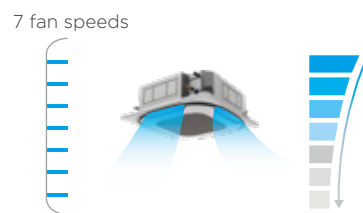
### 360° Airflow

New design, round air flow path ensures uniform air flow and temperature distribution.



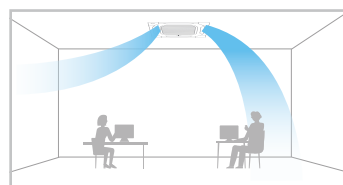
### 7 Fan Speeds

7 indoor fan speed options to meet the needs of different indoor conditions.



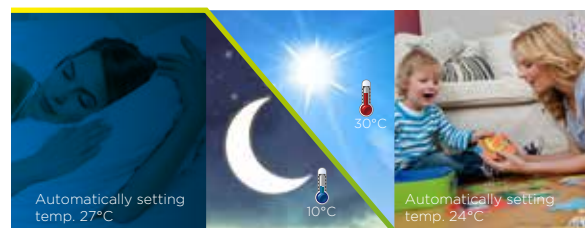
### Individual Louver Control

The Individual louver control can control the motors separately, making it possible to control all four louvers independently.



### Sleep Mode

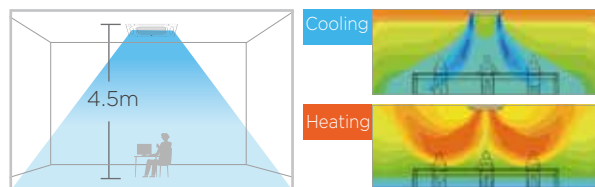
The smart sleep mode provides a comfortable sleep period and a refreshing wake up time.



\*Temperature on left is for reference.

### Long Distance Air Delivery\*

The Four-way Cassette has an additional 50Pa of static pressure for long airflow delivery and can be used in spaces of up to 4.5m in floor height.



\*This function is available as a customization option.

### Innovative Puro-air Kit

Protectors of health and safety

From Germany - OSRAM quality UV light source

Ozone -Free  
UV leakage-Free

\*The indoor unit needs to be customized in order to use the Puro-air Kit.



## Doctor M 2.0

Further upgraded DOCTOR M technology to maximize **EASY SERVICE**.



### Benefits



Easy maintenance



Fast maintenance



Low maintenance cost

Based on a cloud-based platform of big data and artificial intelligence, the V8 Series VRF can monitor the operation status of each unit in real time, predict system faults in advance and provide data analysis for system maintenance. The intelligent Bluetooth module and special Bluetooth after-sales kit can further simplify maintenance and improve maintenance efficiency.

### Intelligent Maintenance Tool

With the intelligent Bluetooth module or special Bluetooth after-sales kit, the data of the outdoor unit can be directly read and written on your smart phone without connecting a PC or opening the cabinet.



\*The Bluetooth module is available as a customization option.

### Real-time Monitoring of Operating Parameters

The V8 Series VRF synchronizes and stores all the unit parameters to the cloud through the data cloud gateway, including the running status, locking status, dirty blocking rate, all spot inspection parameters and so on. Users can query real-time and historical parameters on computers, tablets and mobile phones at any time.



\*The data cloud gateway needs to be purchased separately.

### Cloud-based Big Data Analytics

Klarwind V8 Series VRF transmits the system operation data to the cloud in real time through the data cloud gateway, and timely reminds the system of abnormal conditions through big data analysis, helping users to proactively avoid the risk of failure that has not yet occurred and minimize hidden problems.



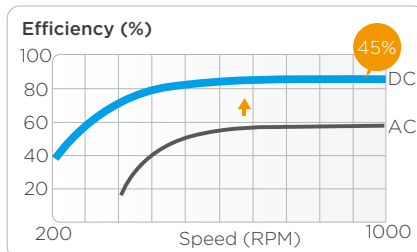


# High Efficiency

## Full DC Inverter Technology

Full DC Inverter for Outdoor Components

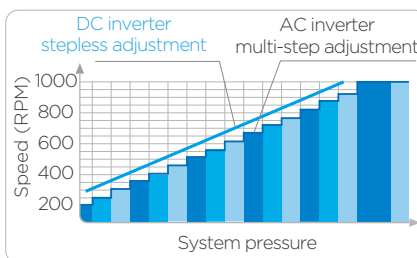
The V8 Series VRF uses full DC inverter compressor and fan motor to achieve high precision stepless speed adjustment according to system operation, and ensures that the system is always in optimum condition, operating more efficiently, more consistently and with less noise.



Wider frequency adjustment range

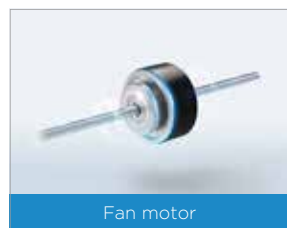
Faster cooling and heating

Higher energy efficiency

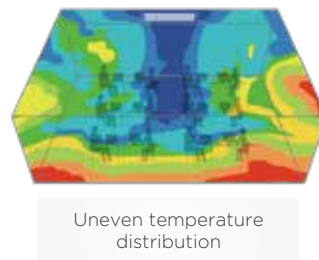


All power devices such as indoor fan motor, drain pump and electric control board are fully DC, which increases electrical efficiency by 20% and results in more accurate temperature control, a more constant indoor temperature and higher energy efficiency.

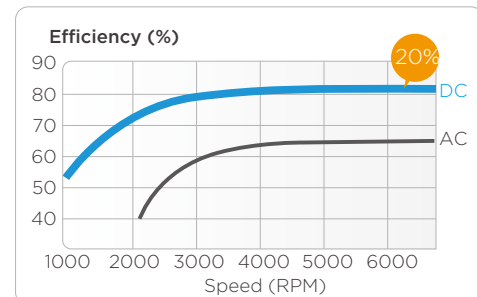
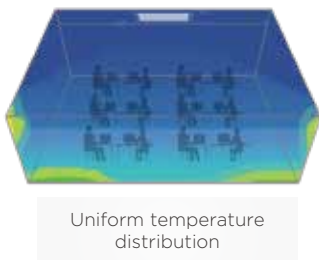
Full DC Inverter for Indoor Components



20% Efficiency improvements

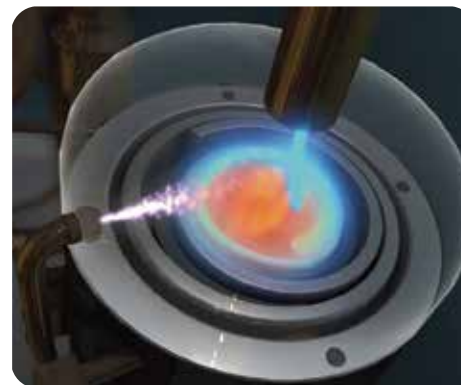


VS

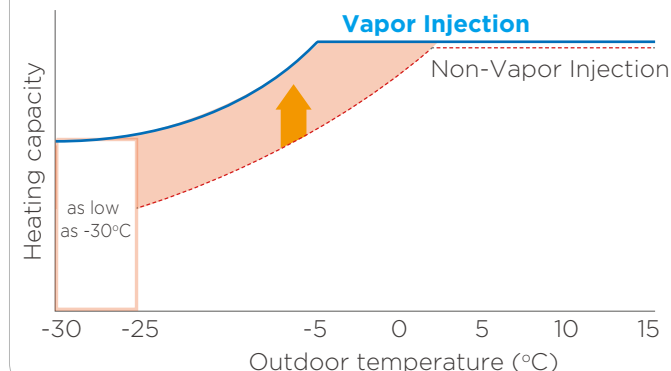


## Enhanced Vapor Injection (EVI) Compressor

The enhanced vapor injection DC inverter compressor increases refrigerant circulation and improves both cooling and heating capacity.

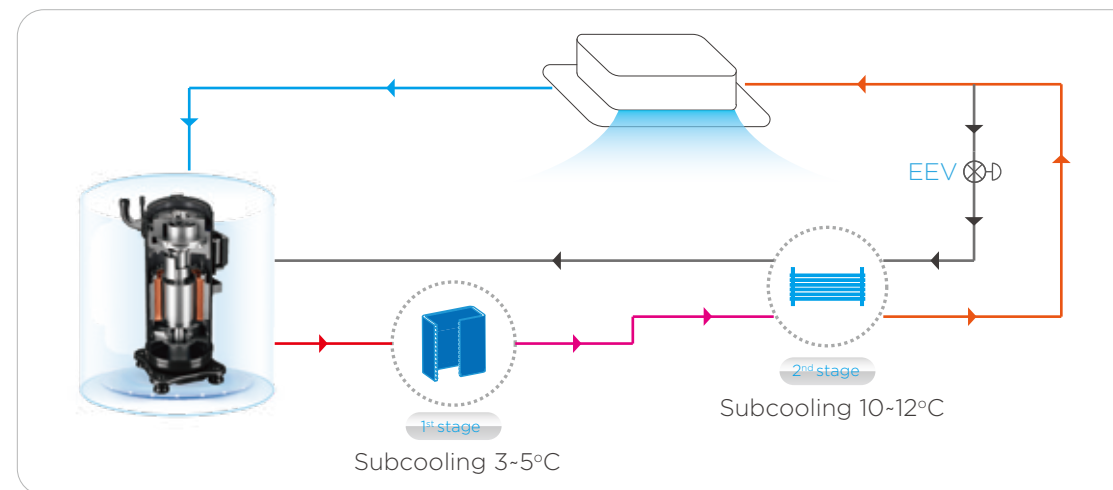


Performance Comparison



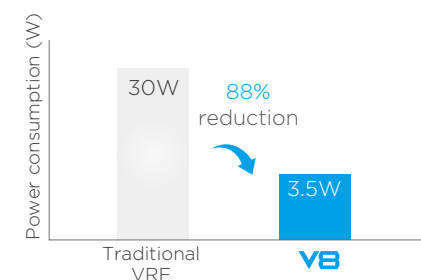
## Advanced Subcooling Technology

The V8 Series VRF uses a micro-channel heat exchanger to further cool the refrigerant and the refrigerant system can achieve 15°C refrigerant subcooling, which can further improve the refrigerant heat transfer efficiency while reducing the sound of refrigerant flow.



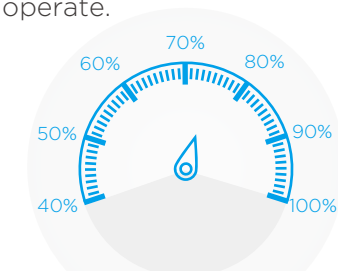
## Low Standby Power Consumption

Compared to the standby power consumption of traditional VRF of about 30W, the V8 Series VRF uses optimized control scheme to further reduce standby power consumption to as low as 3.5W.



## 60-step Energy Management

For projects with temporary electricity supply restrictions, the outdoor unit supports 60-step energy management which can be set to output 40-100% capacity in 1% increments. It prevents tripping during conditions of restricted electricity supply and allows the system to continue to operate.



# High Reliability

## Quadruple Backup

In two fans, two compressors and multiple units, one can run in backup for another. Additionally, the V8 series VRF generates a corresponding virtual sensor for each physical sensor by means of a digital algorithm, which serves as a backup for each other, ensuring no shutdown in the event of a fault, and further guaranteeing comfort.

### 1 Unit Backup

In a multi-unit system, the different units act as a backup to each other, ensuring that the system can continue to operate if one unit fails.



Intelligent load-bearing between units during normal operation

### 2 Fan Backup

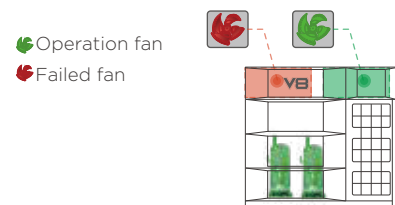
In unit with two fans, the two fans act as a backup to each other, ensuring that the system can continue to operate if one fan fails.



In normal operation, each fan runs on demand



Continue operating in case of failure of one unit



Automatic backup operation of another fan in case of failure of one fan

### 3 Compressor Backup

In unit with two compressors, the two compressors act as a backup to each other, ensuring that the system can continue to operate if one compressor fails.



Intelligent load-bearing between compressors during normal operation



Continue operating in case of failure of one compressor

### 4 Sensor Backup New & Unique

Through digital algorithms, each physical sensor generates a corresponding virtual sensor that acts as a backup to each other, ensuring that the failure of one sensor does not affect the normal operation of the system.

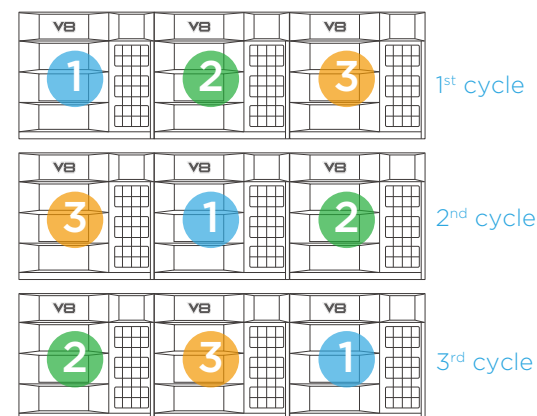


Automatic backup operation of the corresponding virtual sensor in case of failure of one physical sensor

## Double Duty Cycling

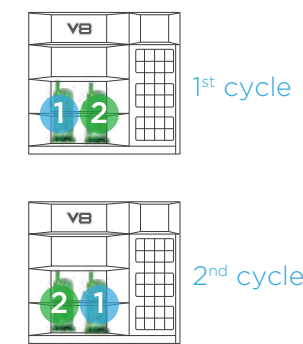
### 1 Unit Duty Cycling

In a multi-unit system, duty cycling equalizes the running time of each outdoor unit, significantly extending unit lifespan.



### 2 Compressor Duty Cycling

In units with two compressors, duty cycling equalizes the running time of each compressor, significantly extending compressor lifespan.

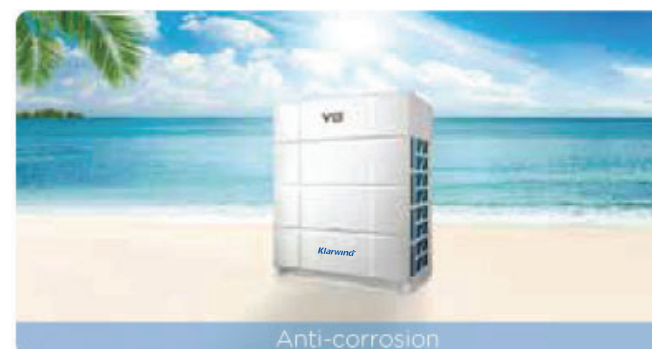


Compressor start-up sequence

Note: The duty cycling sequence shown in the figure is only a schematic reference. The actual duty cycling sequence is not a fixed sequence. Please refer to the technical manual for specific rotation rules.

## ShieldBox

IP55 fully enclosed electric control box provides all-round protection for internal electronic components, greatly improving system reliability.





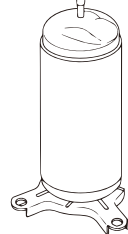
### SuperSense


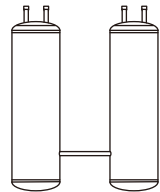
V8 Series VRF uses up to 19 sensors for each outdoor unit and 4 sensors for each indoor unit. The operating status of the system refrigerant is clearly visible, which can achieve intelligent analysis of operation parameters, intelligent error diagnosis and forecasting, and visualized energy saving.

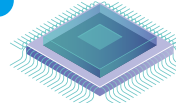


### Precise Oil Control

Four stages of oil control technology ensure all outdoor compressor oil is always kept at a safe level, eliminating any compressor oil shortage problems.

- 1**  Compressor internal oil separation.

**2**  High-efficiency centrifugal oil separator (with separation efficiency of up to 99%) ensures that oil is separated from the discharge gas and returned to the compressors in a timely fashion.
- 3**  Oil balance pipes between gas-liquid separator ensure even oil distribution to keep compressors running normally.

**4**  The automatic oil return program determines the oil return through the running time and the oil discharge amount, enabling precise oil return.

### Heavy Anti-corrosion Protection\*

Standard outdoor units are given anti-corrosion treatment for non-extreme conditions and can also be customized with heavy anti-corrosion treatment on main components for surface protection against corrosive air, acid rain and saline air (for installations in coastal regions) to extend overall useful life. The integrity of the anti-corrosion treatment is ensured by subjecting major components and parts to salt mist testing, moisture and heating testing and light aging testing.



\*Heavy anti-corrosion treatment is available as a customization option.

### UL Anti-Corrosion Certificate\*

It has been certified by UL that our VRF outdoor unit can withstand 27 years of simulated severe corrosion under a salt contaminated traffic environment.

\*UL anti-corrosion certificate is available for heavy anti-corrosion treatment units.

Outdoor Unit can resist 27 years of simulated severe corrosion under a salt contaminated traffic environment



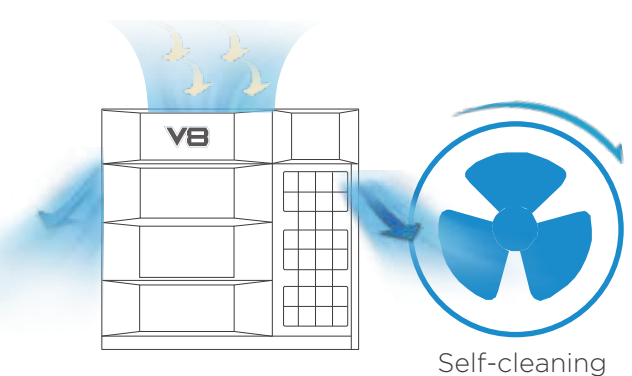
### Auto Snow-blowing Function

The innovatively designed auto snow-blowing function enables the outdoor unit to prevent the accumulation of snow by itself.



### Auto Dust-clean Function

The innovatively designed dust-clean function enables the outdoor unit to prevent the dust by itself.



### Resistant to Magnitude 8 Earthquakes\*

The V8 Series VRF has a reinforced frame footprint to prevent tipping and deformation damage and can still operate normally in magnitude 8 earthquakes.



\*This function is available as a customization option.

### Resistant to Violent Typhoons\*

The V8 Series VRF has reinforced trusses and double fastening for stable operation even under violent typhoons (Category 17).



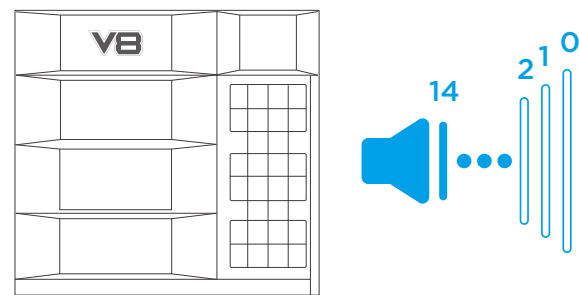
\*This function is available as a customization option.



# Enhanced Comfort

## Advanced Silent Technology

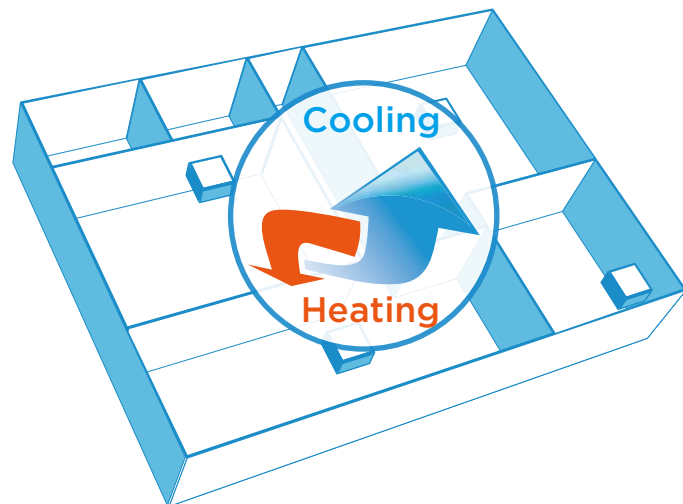
15-step silent mode provide more freedom and convenience to match the customer needs.



15 silent options

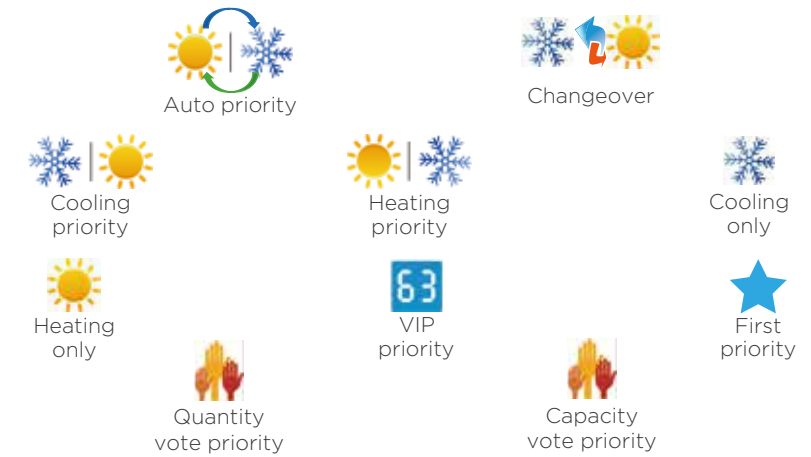
## Auto Cooling-heating Changeover

Automatically selects cooling or heating mode to achieve the set temperature.



## 10 Priority Modes

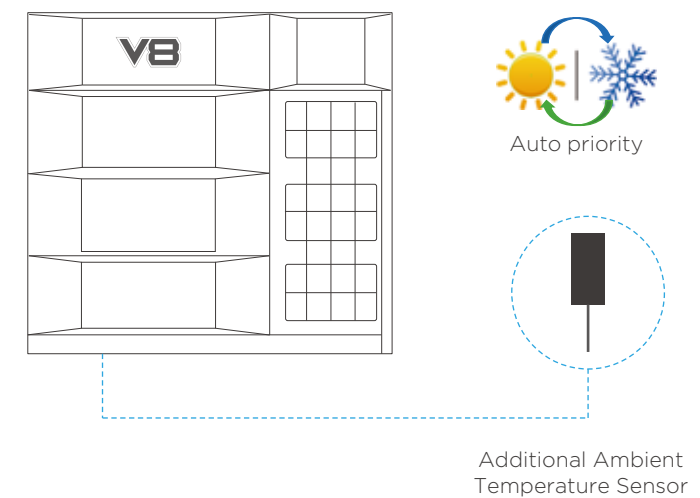
10 priority mode options provide more freedom and convenience to match the customer needs.



## Additional Ambient Temperature Sensor\*

The V8 Series VRF can be equipped with an additional external ambient temperature sensor to determine whether the system is operating in cooling or heating in auto priority mode. For some installations, the ambient temperature sensor fixed on the unit cannot detect the true ambient temperature, resulting in the system operating in an inappropriate mode and affecting indoor comfort. The external ambient temperature sensor can detect the true outdoor ambient temperature, and correctly judge whether the system is running in cooling or heating mode, ensuring indoor comfort.

\*This function is available as a customization option.



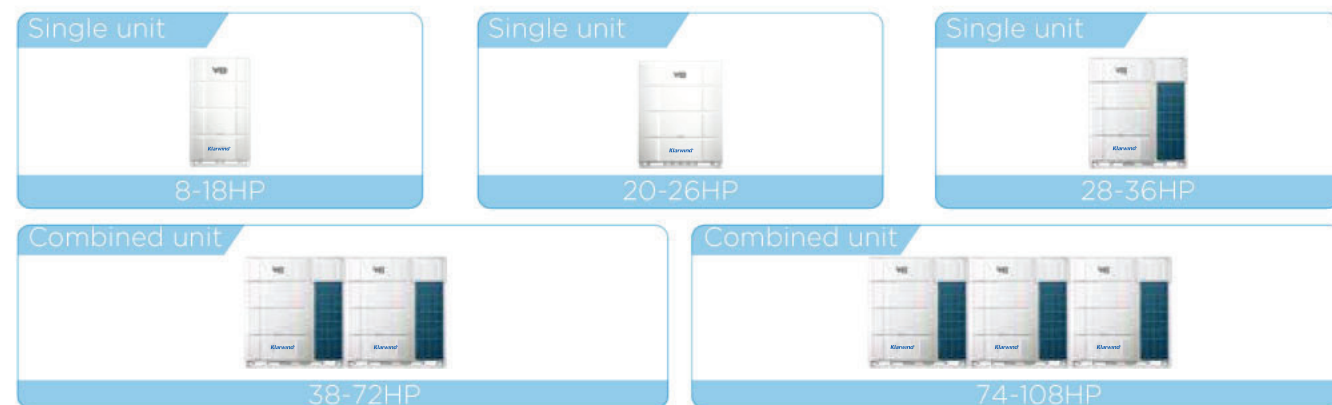


# Wide Application Range

## Wide Capacity Range

The V8 Series VRF are available in individual series and combinable series. The individual series has capacities from 8HP to 36HP and the combinable series from 8HP to 108HP, perfectly suited for small to large buildings.

### V8 - Combinable Series



Note: Four unit combinations are possible for 8-24 HP models. For four unit combinations please contact Klarwind.

### V8i - Individual Series



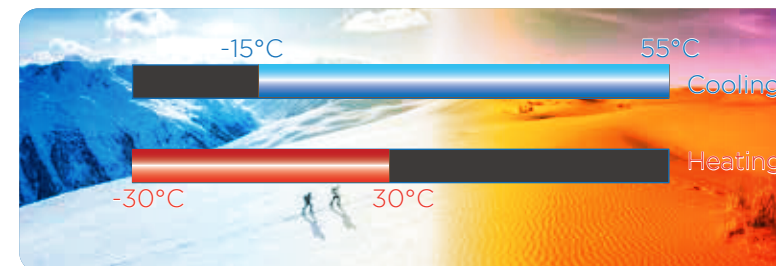
## Wide Range of Indoor Units

The V8 Series VRF offers 12 types of over 100 models of indoor units to meet different scenarios of applications such as offices, shopping malls, hotels, airports, schools, hospitals, etc.



## Wide Operation Range

Thanks to the EVI compressor and refrigerant cooling technology, the V8 Series VRF can operate at temperatures as low as -30°C for heating and up to 55°C for cooling. It also supports continuous operation in temperatures of up to 60°C to cope with short periods of extreme heat.

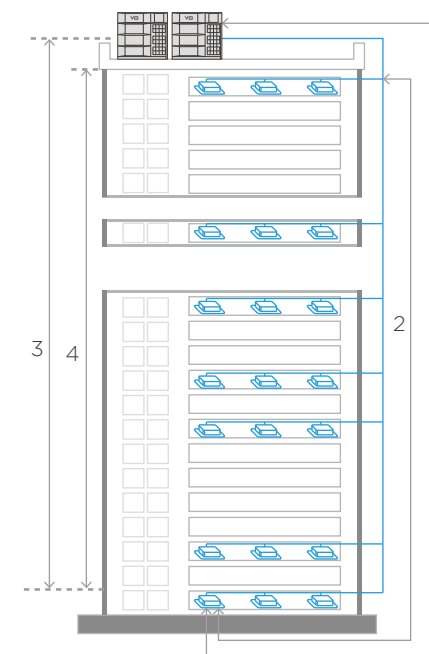


## Long Piping Capability

The V8 system can support a total piping length of up to 1100m, an installation height difference of up to 110m between indoor and outdoor units, and up to 40m between indoor units, making the V8 Series VRF adaptable to a wide range of building designs.

- Total piping length: **1100m**
- 1 Longest piping length - actual (equivalent): **220(260)m**
- 2 Longest piping length after first branch: **40/120\*m**
- 3 Level difference between IDUs and ODU - ODU above (below): **110(110)m**
- 4 Level difference between IDUs: **40m**

\*The longest length after first branch is 40m as a standard but can be extended to up to 120m under certain conditions. Please contact your local dealer for further information.





# Easy Installation and Service



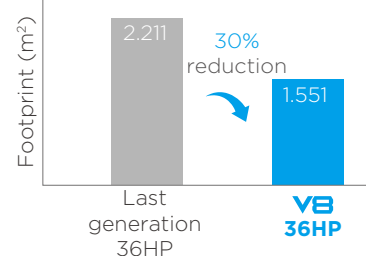
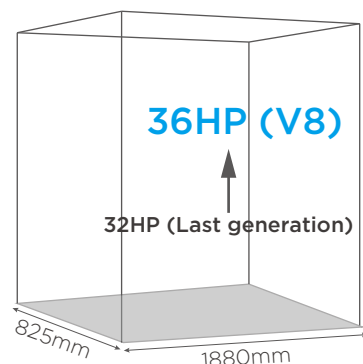
## Free Wiring

HyperLink communication technology supports any wiring pattern rather than just daisy chain connection, reducing the installation cost and the possibility of incorrect connection. It has stronger anti-interference ability, achieving a communication distance of up to 2000m.



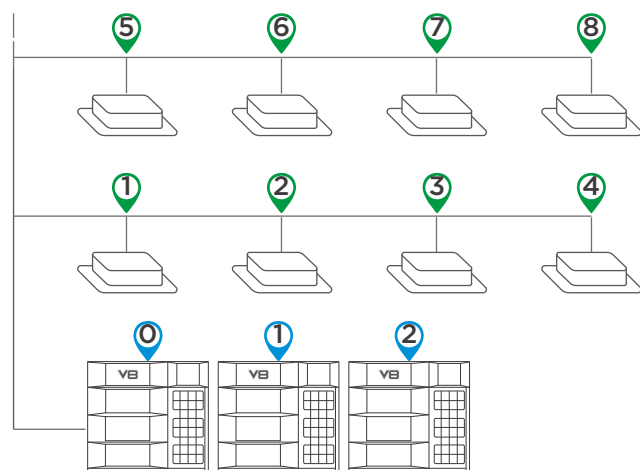
## Space Saving

The V8 Series VRF has large capacity and small size, with a capacity of up to 36 HP in a single unit. A single unit can provide cooling/heating for a space of 400m<sup>2</sup>. The space-saving advantages are particularly obvious for large projects.



## Auto Addressing

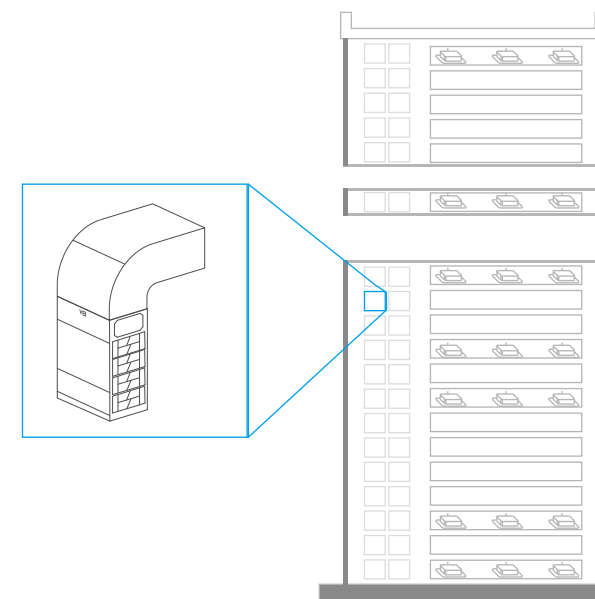
Addresses for all indoor units and combined outdoor units can be assigned automatically by the V8 system, further simplifying installation.



## External Static Pressure up to 120Pa\*

The static pressure of the outdoor unit can be up to 120Pa which facilitates installation of the unit on each floor of high-rise buildings or on balconies.

\*External static pressure above 20Pa is available as a customization option.



## Automatic Refrigerant Charging\*

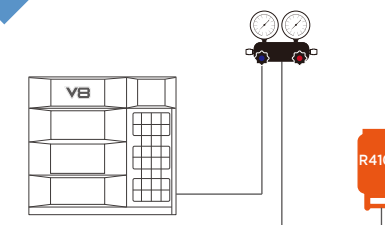
Compared to manual refrigerant charging, automatic refrigerant charging greatly simplifies the process, making installation and maintenance easier and more efficient.

### Manual refrigerant charging

- 1 Calculate additional refrigerant quantity
- 2 Connect refrigerant tank to the outdoor unit & start the filling process
- 3 Observe the weight scale to check the refrigerant charge
- 4 Close the shut-off valve manually & finish the filling process

### Automatic refrigerant charging

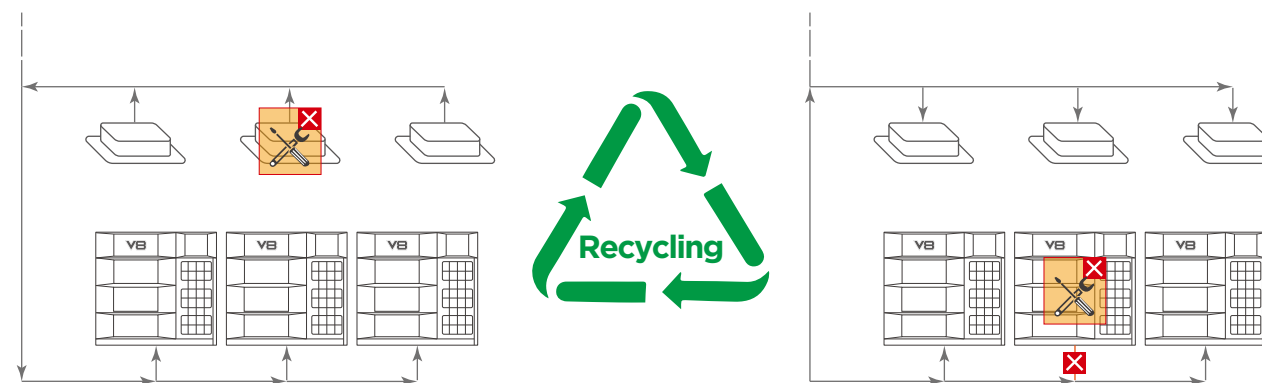
- 1 Connect refrigerant tank to the outdoor unit & activate automatic charging function
- 2 Close the shut-off valve automatically & finish the filling process



\*This function is available as a customization option.

## Automatic Refrigerant Recycling

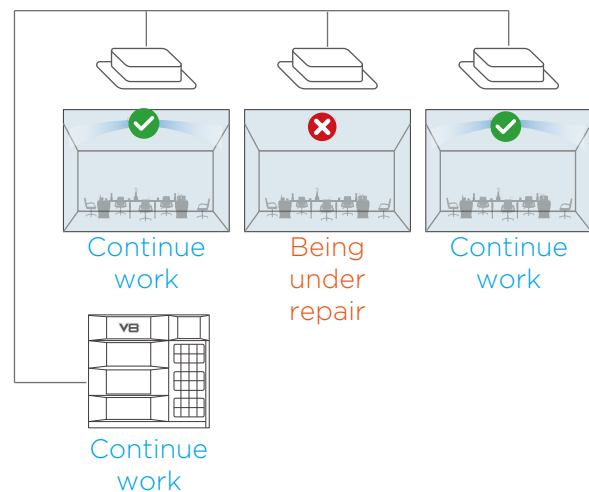
When an indoor unit fails, the refrigerant can be recycled into the outdoor units. When part of the outdoor unit fails, the refrigerant can be recycled into the indoor units and the normal outdoor unit. Two types of refrigerant recycling make the maintenance process easier and more efficient.





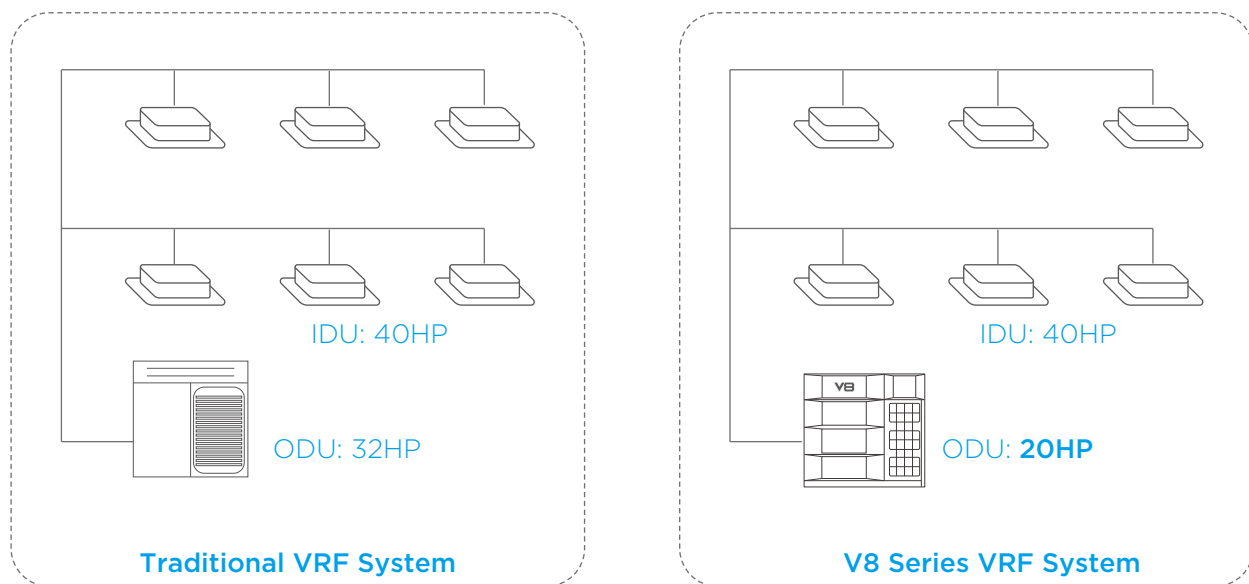
### Maintenance Mode

The maintenance mode allows the shutdown of some indoor units without shutting down the whole VRF system, and it can be activated on site during the maintenance period as the remaining indoor units continue to operate.



### Wide Combination Ratio\*

Compared to traditional VRF with combination ratio of 50-130%, the V8 Series VRF can be extended to 50-200%, and the wider combination ratio allows for more flexible system configuration. The larger combination ratio can be applied to long-term part-load operation scenarios, allowing for further reduction in installation costs.



\*Combination ratio over 130% is available as a customization option.

### Easy Software Program Upgrade

In addition to upgrading the program of outdoor and indoor units through USB and burner, the new product can also remotely upgrade all the programs of indoor and outdoor units through the data cloud gateway, making system upgrades very convenient and ensuring that the system program is always up to date.

\*The data cloud gateway needs to be purchased separately.

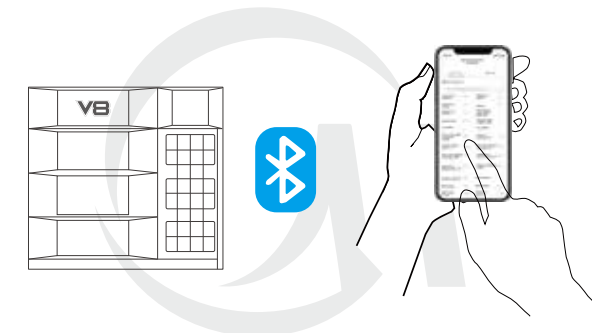


### Smart Commissioning/Maintenance Tool

With the newly developed smart tool (Bluetooth module and special Bluetooth after-sales kit), system settings, operating parameter queries, trial runs and programme upgrades are all possible without opening the cabinet.

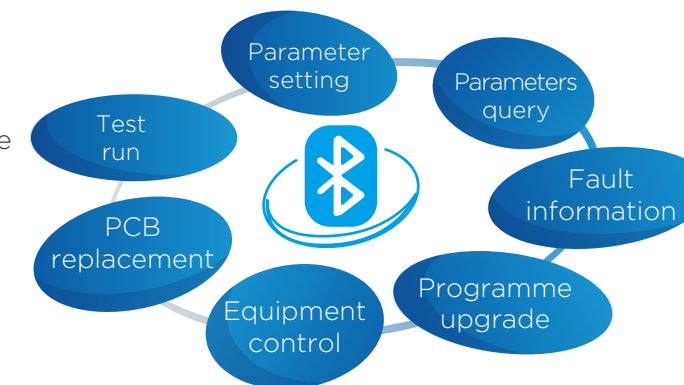
#### Useful in the following situations:

- Installation
- Service maintenance



#### Main functions:

- Fault information storage
- Operating parameters query
- Start commissioning test run
- System parameter setting
- Quick after-sales PCB replacement
- Equipment control
- Indoor and outdoor units programme upgrade





## Specifications

### V8 (Combinable series)

HP			8	10	12	14
Model name			KVHB080HL1	KVHB100HL1	KVHB120HL1	KVHB140HL1
Power supply	V/Ph/Hz		380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	25.2	28	33.5	40
		kBtu/h	86.0	95.5	114.3	136.5
	Power input	kW	5.3	6.8	8.3	9.9
	EER		4.76	4.14	4.06	4.05
Heating <sup>2</sup>	Capacity	kW	27	31.5	37.5	45
		kBtu/h	92.1	107.5	128.0	153.5
	Power input	kW	5.4	6.6	8.5	10.2
	COP		5.03	4.76	4.43	4.40
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		13	16	19	22
Compressor	Type		DC inverter	DC inverter	DC inverter	DC inverter
	Quantity		1	1	1	1
Fan	Type		DC	DC	DC	DC
	Quantity		1	1	1	1
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m <sup>3</sup> /h	12600	12600	13500	15600
Refrigerant	Type		R410A	R410A	R410A	R410A
	Factory charge	kg	7	7	8	8
Pipe connections <sup>3</sup>	Liquid pipe	mm	Φ12.7	Φ12.7	Φ12.7	Φ15.9
	Gas pipe	mm	Φ25.4	Φ25.4	Φ25.4	Φ28.6
Sound pressure level <sup>4</sup>		dB(A)	56	57	59	59
Net dimensions (WxHxD)		mm	940x1760x825	940x1760x825	940x1760x825	940x1760x825
Packed dimensions (WxHxD)		mm	1010x1945x890	1010x1945x890	1010x1945x890	1010x1945x890
Net weight		kg	195	195	195	213
Gross weight		kg	213	213	213	230
Ambient temp.	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
operation range	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

HP			16	18	20	22
Model name			KVHB160HL1	KVHB180HL1	KVHB200HL1	KVHB220HL1
Power supply	V/Ph/Hz		380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	45	50	56	61.5
		kBtu/h	153.5	170.6	191.1	209.8
	Power input	kW	11.7	12.8	15.1	17.9
	EER		3.83	3.91	3.71	3.43
Heating <sup>2</sup>	Capacity	kW	50	56	63	69
		kBtu/h	170.6	191.1	215.0	235.4
	Power input	kW	11.7	13.5	15.3	17.6
	COP		4.27	4.15	4.13	3.91
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		26	29	32	35
Compressor	Type		DC inverter	DC inverter	DC inverter	DC inverter
	Quantity		1	1	1	2
Fan	Type		DC	DC	DC	DC
	Quantity		1	1	2	2
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m <sup>3</sup> /h	15600	16500	22000	22000
Refrigerant	Type		R410A	R410A	R410A	R410A
	Factory charge	kg	8	8.4	9.3	9.3
Pipe connections <sup>3</sup>	Liquid pipe	mm	Φ15.9	Φ15.9	Φ15.9	Φ15.9
	Gas pipe	mm	Φ28.6	Φ28.6	Φ28.6	Φ28.6
Sound pressure level <sup>4</sup>		dB(A)	60	61	62	62
Net dimensions (WxHxD)		mm	940x1760x825	940x1760x825	1340x1760x825	1340x1760x825
Packed dimensions (WxHxD)		mm	1010x1945x890	1010x1945x890	1410x1945x890	1410x1945x890
Net weight		kg	213	215	295	295
Gross weight		kg	230	232	315	315
Ambient temp.	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
operation range	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

#### Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Diameters given are those of the unit's stop valves.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

HP			24	26	28	30
Model name			KVHB240HL1	KVHB260HL1	KVHB280HL1	KVHB300HL1
Power supply	V/Ph/Hz		380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	67	73	78.5	85
		kBtu/h	228.6	249.1	267.9	290.0
	Power input	kW	19.0	21.0	24.0	27.2
	EER		3.52	3.47	3.27	3.12
Heating <sup>2</sup>	Capacity	kW	75	81.5	87.5	95
		kBtu/h	255.9	278.1	298.6	324.2
	Power input	kW	19.0	21.0	24.2	27.6
	COP		3.95	3.88	3.62	3.44
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		39	42	45	48
Compressor	Type		DC inverter	DC inverter	DC inverter	DC inverter
	Quantity		2	2	2	2
Fan	Type		DC	DC	DC	DC
	Quantity		2	2	2	2
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m <sup>3</sup> /h	21500	21500	29000	28000
Refrigerant	Type		R410A	R410A	R410A	R410A
	Factory charge	kg	12	19	19	21
Pipe connections <sup>3</sup>	Liquid pipe	mm	Φ15.9	Φ15.9	Φ22.2	Φ22.2
	Gas pipe	mm	Φ28.6	Φ28.6	Φ31.8	Φ34.9
Sound pressure level <sup>4</sup>		dB(A)	62	62	63	64
Net dimensions (WxHxD)		mm	1340x1760x825	1340x1760x825	1880x1760x825	1880x1760x825
Packed dimensions (WxHxD)		mm	1410x1945x890	1410x1945x890	1935x1945x890	1935x1945x890
Net weight		kg	315	315	373	405
Gross weight		kg	335	335	403	435
Ambient temp.	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
operation range	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

HP			32	34	36
Model name			KVHB320HL1	KVHB340HL1	KVHB360HL1
Power supply	V/Ph/Hz		380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	90	95.2	101
		kBtu/h	307.1	324.2	344.6
	Power input	kW	30.2	32.5	35.4
	EER		2.98	2.93	2.85
Heating <sup>2</sup>	Capacity	kW	100	106	112
		kBtu/h	341.2	361.7	382.2
	Power input	kW	30.2	32.2	34.7
	COP		3.31	3.29	3.23
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity		
	Maximum quantity		52	55	58
Compressor	Type		DC inverter	DC inverter	DC inverter
	Quantity		2	2	2
Fan	Type		DC	DC	DC
	Quantity		2	2	2
	Static pressure	Pa	0-20 (standard)20-120 (customized)		
	Airflow rate	m <sup>3</sup> /h	28000	29000	29000
Refrigerant	Type		R410A	R410A	R410A
	Factory charge	kg	21	21	21
Pipe connections <sup>3</sup>	Liquid pipe	mm	Φ22.2	Φ22.2	Φ22.2
	Gas pipe	mm	Φ34.9	Φ34.9	Φ34.9
Sound pressure level <sup>4</sup>		dB(A)	64	66	66
Net dimensions (WxHxD)		mm	1880x1760x825	1880x1760x825	1880x1760x825
Packed dimensions (WxHxD)		mm	1935x1945x890	1935x1945x890	1935x1945x890
Net weight		kg	405	406	406
Gross weight		kg	435	436	436
Ambient temp.	Cooling	°C	-15 to 55	-15 to 55	-15 to 55
operation range	Heating	°C	-30 to 30	-30 to 30	-30 to 30

#### Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Diameters given are those of the unit's stop valves.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.



HP			38	40	42	44
<b>Model name (Combination unit)</b>						
Combination type			KVHB380PLC	KVHB400PLC	KVHB420PLC	KVHB440PLC
Power supply			16HP+22HP	16HP+24HP	16HP+26HP	16HP+28HP
Cooling <sup>1</sup>	Capacity	V/N/Hz	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
		kW	106.5	112.0	118.0	123.5
	kBtu/h	363.3	382.1	402.6	421.4	
	Power input	kW	29.6	30.7	32.7	35.7
Heating <sup>2</sup>	Capacity	kW	119.0	125.0	131.5	137.5
		kBtu/h	406.0	426.5	448.7	469.2
	Power input	kW	29.3	30.7	32.7	35.9
	COP		4.06	4.07	4.02	3.83
Connected indoor unit	Total capacity	50-130% of outdoor unit capacity				
	Maximum quantity	64	64	64	64	
Compressor	Type	DC inverter				
	Quantity	3	3	3	3	
Fan	Type	DC				
	Quantity	3	3	3	3	
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m <sup>3</sup> /h	37600	37100	37100	44600
Refrigerant	Type	R410A				
	Factory charge	kg	8+9.3	8+12	8+12	8+19
Pipe connections <sup>3</sup>	Liquid pipe	mm	Φ19.1	Φ19.1	Φ19.1	Φ19.1
	Gas pipe	mm	Φ38.1	Φ38.1	Φ38.1	Φ38.1
Sound pressure level <sup>4</sup>		dB(A)	64	64	64	65
Net dimensions (W×H×D)		mm	(940×1760×825)+(1340×1760×825)	(940×1760×825)+(1340×1760×825)	(940×1760×825)+(1340×1760×825)	(940×1760×825)+(1880×1760×825)
Packed dimensions (W×H×D)		mm	(1010×1945×890)+(1410×1945×890)	(1010×1945×890)+(1410×1945×890)	(1010×1945×890)+(1410×1945×890)	(1010×1945×890)+(1935×1945×890)
Net weight		kg	213+295	213+315	213+315	213+373
Gross weight		kg	230+315	230+335	230+335	230+403
Ambient temp.	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
operation range	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

HP			46	48	50	52
<b>Model name (Combination unit)</b>						
Combination type			KVHB460PLC	KVHB480PLC	KVHB500PLC	KVHB520PLC
Power supply			22HP+24HP	22HP+26HP	24HP+26HP	26HP+26HP
Cooling <sup>1</sup>	Capacity	V/N/Hz	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
		kW	128.5	134.5	140.0	146.0
	kBtu/h	438.4	458.9	477.7	498.2	
	Power input	kW	36.9	38.9	40.0	42.0
Heating <sup>2</sup>	Capacity	kW	144.0	150.5	156.5	163.0
		kBtu/h	491.3	513.5	534.0	556.2
	Power input	kW	36.6	38.6	40.0	42.0
	COP		3.93	3.90	3.91	3.88
Connected indoor unit	Total capacity	50-130% of outdoor unit capacity				
	Maximum quantity	64	64	64	64	
Compressor	Type	DC inverter				
	Quantity	4	4	4	4	
Fan	Type	DC				
	Quantity	4	4	4	4	
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m <sup>3</sup> /h	43500	43500	43000	43000
Refrigerant	Type	R410A				
	Factory charge	kg	9.3+12	9.3+12	12×2	12×2
Pipe connections <sup>3</sup>	Liquid pipe	mm	Φ19.1	Φ19.1	Φ19.1	Φ19.1
	Gas pipe	mm	Φ38.1	Φ38.1	Φ38.1	Φ38.1
Sound pressure level <sup>4</sup>		dB(A)	65	65	65	65
Net dimensions (W×H×D)		mm	(1340×1760×825)×2	(1340×1760×825)×2	(1340×1760×825)×2	(1340×1760×825)×2
Packed dimensions (W×H×D)		mm	(1410×1945×890)×2	(1410×1945×890)×2	(1410×1945×890)×2	(1410×1945×890)×2
Net weight		kg	295+315	295+315	315×2	315×2
Gross weight		kg	315+335	315+335	335×2	335×2
Ambient temp.	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
operation range	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

## Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to the V8 Series Engineering Data Book for connection piping diameters.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

HP			54	56	58	60
<b>Model name (Combination unit)</b>						
Combination type			KVHB540PLC	KVHB560PLC	KVHB580PLC	KVHB600PLC
Power supply			18HP+36HP	20HP+36HP	22HP+36HP	24HP+36HP
Cooling <sup>1</sup>	Capacity	V/N/Hz	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
		kW	151.0	157.0	162.5	168.0
	kBtu/h	515.2	535.7	554.4	573.2	
	Power input	kW	48.2	50.5	53.3	54.4
Heating <sup>2</sup>	Capacity	kW	168.0	175.0	181.0	187.0
		kBtu/h	573.3	597.2	617.6	638.1
	Power input	kW	48.2	50.0	52.3	53.7
	COP		3.49	3.50	3.46	3.48
Connected indoor unit	Total capacity	50-130% of outdoor unit capacity				
	Maximum quantity	64	64	64	64	
Compressor	Type	DC inverter				
	Quantity	3	4	4	4	
Fan	Type	DC				
	Quantity	3	4	4	4	
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m <sup>3</sup> /h	45500	51000	51000	50500
Refrigerant	Type	R410A				
	Factory charge	kg	8.4+21	9.3+21	9.3+21	12+21
Pipe connections <sup>3</sup>	Liquid pipe	mm	Φ19.1	Φ19.1	Φ19.1	Φ19.1
	Gas pipe	mm	Φ38.1	Φ41.3	Φ41.3	Φ41.3
Sound pressure level <sup>4</sup>		dB(A)	67	67	67	67
Net dimensions (W×H×D)		mm	(940×1760×825)+(1880×1760×825)	(1340×1760×825)+(1880×1760×825)	(1340×1760×825)+(1880×1760×825)	(1340×1760×825)+(1880×1760×825)
Packed dimensions (W×H×D)		mm	(1010×1945×890)+(1935×1945×890)	(1410×1945×890)+(1935×1945×890)	(1410×1945×890)+(1935×1945×890)	(1410×1945×890)+(1935×1945×890)
Net weight		kg	215+406	295+406	295+406	315+406
Gross weight		kg	232+436	315+436	315+436	335+436
Ambient temp.	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
operation range	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

HP			62	64	66	68
<b>Model name (Combination unit)</b>						
Combination type			KVHB620PLC	KVHB640PLC	KVHB660PLC	KVHB680PLC
Power supply			26HP+36HP	28HP+36HP	30HP+36HP	32HP+36HP
Cooling <sup>1</sup>	Capacity	V/N/Hz	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
		kW	174.0	179.5	186.0	191.0
	kBtu/h	593.7	612.5	634.6	651.7	
	Power input	kW	56.4	59.4	62.6	65.6
Heating <sup>2</sup>	Capacity	kW	193.5	199.5	207.0	212.0
		kBtu/h	660.3	680.8	706.4	723.4
	Power input	kW	55.7	58.9	62.3	64.9
	COP		3.47	3.39	3.32	3.27
Connected indoor unit	Total capacity	50-130% of outdoor unit capacity				
	Maximum quantity	64	64	64	64	
Compressor	Type	DC inverter				
	Quantity	4	4	4	4	
Fan	Type	DC				
	Quantity	4	4	4	4	
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m <sup>3</sup> /h	50500	58000	57000	57000
Refrigerant	Type	R410A				
	Factory charge	kg	12+21	19+21	21×2	21×2
Pipe connections <sup>3</sup>	Liquid pipe	mm	Φ19.1	Φ19.1	Φ19.1	Φ22.2
	Gas pipe	mm	Φ41.3	Φ41.3	Φ41.3	Φ44.5
Sound pressure level <sup>4</sup>		dB(A)	67	68	68	68
Net dimensions (W×H×D)		mm	(1340×1760×825)+(1880×1760×825)	(1880×1760×825)×2	(1880×1760×825)×2	(1880×1760×825)×2
Packed dimensions (W×H×D)		mm	(1410×1945×890)+(1935×1945×890)	(1935×1945×890)×2	(1935×1945×890)×2	(1935×1945×890)×2
Net weight		kg	315+406	373+406	405+406	405+406
Gross weight		kg	335+436	403+436	435+436	435+436
Ambient temp.	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
operation range	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

## Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to the V8 Series Engineering Data Book for connection piping diameters.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.



HP			70	72	74	76
Model name (Combination unit)			KVHB700PLC	KVHB720PLC	KVHB740PLC	KVHB760PLC
Combination type			34HP+36HP	36HP+36HP	14HP+24HP+36HP	14HP+26HP+36HP
Power supply			V/N/Hz 380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	196.2	202.0	208.0	214.0
		kBtu/h	668.8	689.2	709.7	730.2
	Power input	kW	67.9	70.8	64.3	66.3
	EER		2.89	2.85	3.23	3.23
Heating <sup>2</sup>	Capacity	kW	218.0	224.0	232.0	238.5
		kBtu/h	743.9	764.4	791.6	813.8
	Power input	kW	66.9	69.4	63.9	65.9
	COP		3.26	3.23	3.63	3.62
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC inverter	DC inverter	DC inverter	DC inverter
	Quantity		4	4	5	5
Fan	Type		DC	DC	DC	DC
	Quantity		4	4	5	5
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m <sup>3</sup> /h	58000	58000	66100	66100
Refrigerant	Type		R410A	R410A	R410A	R410A
	Factory charge		kg	21×2	21×2	8+12+21
Pipe connections <sup>3</sup>	Liquid pipe		mm	Φ22.2	Φ22.2	Φ22.2
	Gas pipe		mm	Φ44.5	Φ44.5	Φ44.5
Sound pressure level <sup>4</sup>			dB(A)		69	69
Net dimensions (W×H×D)			mm		(1880×1760×825)×2	(1880×1760×825)×2
Packed dimensions (W×H×D)			mm		(1935×1945×890)×2	(1935×1945×890)×2
Net weight			kg		406×2	406×2
Gross weight			kg		436×2	436×2
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

HP			78	80	82	84
Model name (Combination unit)			KVHB780PLC	KVHB800PLC	KVHB820PLC	KVHB840PLC
Combination type			16HP+26HP+36HP	16HP+28HP+36HP	20HP+26HP+36HP	22HP+26HP+36HP
Power supply			V/N/Hz 380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	219.0	224.5	230.0	235.5
		kBtu/h	747.2	766.0	784.8	803.5
	Power input	kW	68.1	71.1	71.5	74.3
	EER		3.22	3.16	3.22	3.17
Heating <sup>2</sup>	Capacity	kW	243.5	249.5	256.5	262.5
		kBtu/h	830.9	851.4	875.3	895.7
	Power input	kW	67.4	70.6	71.0	73.3
	COP		3.61	3.53	3.61	3.58
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC inverter	DC inverter	DC inverter	DC inverter
	Quantity		5	5	6	6
Fan	Type		DC	DC	DC	DC
	Quantity		5	5	6	6
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m <sup>3</sup> /h	66100	73600	72500	72500
Refrigerant	Type		R410A	R410A	R410A	R410A
	Factory charge		kg	8+12+21	8+19+21	9.3+12+21
Pipe connections <sup>3</sup>	Liquid pipe		mm	Φ22.2	Φ22.2	Φ25.4
	Gas pipe		mm	Φ44.5	Φ44.5	Φ50.8
Sound pressure level <sup>4</sup>			dB(A)		68	68
Net dimensions (W×H×D)			mm		(940×1760×825)+(1340×1760×825)+(1880×1760×825)	(940×1760×825)+(1880×1760×825)
Packed dimensions (W×H×D)			mm		(1010×1945×890)+(1410×1945×890)+(1935×1945×890)	(1010×1945×890)+(1410×1945×890)+(1935×1945×890)
Net weight			kg		213+315+406	213+373+406
Gross weight			kg		230+335+436	230+403+436
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

## Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to the V8 Series Engineering Data Book for connection piping diameters.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

HP			86	88	90	92
Model name (Combination unit)			KVHB860PLC	KVHB880PLC	KVHB900PLC	KVHB920PLC
Combination type			24HP+26HP+36HP	26HP+26HP+36HP	18HP+36HP+36HP	20HP+36HP+36HP
Power supply			V/N/Hz 380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	241.0	247.0	252.0	258.0
		kBtu/h	822.3	842.8	859.8	880.3
	Power input	kW	75.4	77.4	83.6	85.9
	EER		3.20	3.19	3.01	3.00
Heating <sup>2</sup>	Capacity	kW	268.5	275.0	280.0	287.0
		kBtu/h	916.2	938.4	955.5	979.4
	Power input	kW	74.7	76.7	82.9	84.7
	COP		3.59	3.59	3.38	3.39
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC inverter	DC inverter	DC inverter	DC inverter
	Quantity		6	6	5	6
Fan	Type		DC	DC	DC	DC
	Quantity		6	6	5	6
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m <sup>3</sup> /h	72000	72000	74500	80000
Refrigerant	Type		R410A	R410A	R410A	R410A
	Factory charge		kg	12×2+21	12×2+21	8.4+21×2
Pipe connections <sup>3</sup>	Liquid pipe		mm	Φ25.4	Φ25.4	Φ25.4
	Gas pipe		mm	Φ50.8	Φ50.8	Φ50.8
Sound pressure level <sup>4</sup>			dB(A)		69	69
Net dimensions (W×H×D)			mm		(1340×1760×825)×2+(1880×1760×825)	(1340×1760×825)×2+(1880×1760×825)
Packed dimensions (W×H×D)			mm		(1410×1945×890)×2+(1935×1945×890)	(1410×1945×890)×2+(1935×1945×890)
Net weight			kg		315×2+406	315×2+406
Gross weight			kg		335×2+436	335×2+436
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

HP			94	96	98	100
Model name (Combination unit)			KVHB940PLC	KVHB960PLC	KVHB980PLC	KVHBK00PLC
Combination type			22HP+36HP+36HP	24HP+36HP+36HP	26HP+36HP+36HP	28HP+36HP+36HP
Power supply			V/N/Hz 380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	263.5	269.0	275.0	280.5
		kBtu/h	899.0	917.8	938.3	957.1
	Power input	kW	88.7	89.8	91.8	94.8
	EER		2.97	3.00	3.00	2.96
Heating <sup>2</sup>	Capacity	kW	293.0	299.0	305.5	311.5
		kBtu/h	999.8	1020.3	1042.5	1063.0
	Power input	kW	87.0	88.4	90.4	93.6
	COP		3.37	3.38	3.38	3.33
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		64	64	64	64
Compressor	Type		DC inverter	DC inverter	DC inverter	DC inverter
	Quantity		6	6	6	6
Fan	Type		DC	DC	DC	DC
	Quantity		6	6	6	6
	Static pressure	Pa	0-20 (standard)20-120 (customized)			
	Airflow rate	m <sup>3</sup> /h	80000	79500	79500	87000
Refrigerant	Type		R410A	R410A	R410A	R410A
	Factory charge		kg	9.3+21×2	12+21×2	19+21×2
Pipe connections <sup>3</sup>	Liquid pipe		mm	Φ25.4	Φ25.4	Φ25.4
	Gas pipe		mm	Φ50.8	Φ50.8	Φ50.8
Sound pressure level <sup>4</sup>			dB(A)		70	70
Net dimensions (W×H×D)			mm		(1340×1760×825)+(1880×1760×825)×2	(1340×1760×825)+(1880×1760×825)×2
Packed dimensions (W×H×D)			mm		(1410×1945×890)+(1935×1945×890)×2	(1410×1945×890)+(1935×1945×890)×2
Net weight			kg		295+406×2	315+406×2
Gross weight			kg		315+436×2	335+436×2
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

## Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to the V8 Series Engineering Data Book for connection piping diameters.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

HP			102	104
Model name (Combination unit)			KVHBK02PLC	KVHBK04PLC
Combination type			32HP+34HP+36HP	32HP+36HP+36HP
Power supply		V/N/Hz	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	286.2	292.0
		kBtu/h	975.9	996.3
	Power input	kW	98.1	101.0
	EER			2.92
Heating <sup>2</sup>	Capacity	kW	318.0	324.0
		kBtu/h	1085.1	1105.6
	Power input	kW	97.1	99.6
COP			3.27	3.25
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity	
	Maximum quantity		64	64
Compressor	Type		DC inverter	
	Quantity		6	6
Fan	Type		DC	
	Quantity		6	6
	Static pressure	Pa	0-20 (standard)20-120 (customized)	
	Airflow rate	m <sup>3</sup> /h	86000	86000
Refrigerant	Type		R410A	
	Factory charge	kg	21×3	21×3
Pipe connections <sup>3</sup>	Liquid pipe	mm	Φ25.4	Φ25.4
	Gas pipe	mm	Φ50.8	Φ50.8
Sound pressure level <sup>4</sup>		dB(A)	70	70
Net dimensions (W×H×D)		mm	(1880×1760×825)×3	(1880×1760×825)×3
Packed dimensions (W×H×D)		mm	(1935×1945×890)×3	(1935×1945×890)×3
Net weight		kg	405+406×2	405+406×2
Gross weight		kg	435+436×2	435+436×2
Ambient temp.	Cooling	°C	-15 to 55	-15 to 55
operation range	Heating	°C	-30 to 30	-30 to 30

## Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to the V8 Series Engineering Data Book for connection piping diameters.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

HP			106	108
Model name (Combination unit)			KVHBK06PLC	KVHBK08PLC
Combination type			34HP+36HP+36HP	36HP+36HP+36HP
Power supply		V/N/Hz	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	297.2	303.0
		kBtu/h	1013.4	1033.8
	Power input	kW	103.3	106.2
	EER			2.88
Heating <sup>2</sup>	Capacity	kW	330.0	336.0
		kBtu/h	1126.1	1146.6
	Power input	kW	101.6	104.1
COP			3.25	3.23
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity	
	Maximum quantity		64	64
Compressor	Type		DC inverter	
	Quantity		6	6
Fan	Type		DC	
	Quantity		6	6
	Static pressure	Pa	0-20 (standard)20-120 (customized)	
	Airflow rate	m <sup>3</sup> /h	87000	87000
Refrigerant	Type		R410A	
	Factory charge	kg	21×3	21×3
Pipe connections <sup>3</sup>	Liquid pipe	mm	Φ25.4	Φ25.4
	Gas pipe	mm	Φ50.8	Φ50.8
Sound pressure level <sup>4</sup>		dB(A)	71	71
Net dimensions (W×H×D)		mm	(1880×1760×825)×3	(1880×1760×825)×3
Packed dimensions (W×H×D)		mm	(1935×1945×890)×3	(1935×1945×890)×3
Net weight		kg	406×3	406×3
Gross weight		kg	436×3	436×3
Ambient temp.	Cooling	°C	-15 to 55	-15 to 55
operation range	Heating	°C	-30 to 30	-30 to 30

## Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to the V8 Series Engineering Data Book for connection piping diameters.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.



## V8i (Individual series)

HP			8	10	12	14
Model			KVHB080PLI	KVHB100PLI	KVHB120PLI	KVHB140PLI
Power supply	V/N/Hz		380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	25.2	28.0	33.5	40.0
		kBtu/h	86.0	95.5	114.3	136.5
	Power input	kW	5.5	7.2	8.6	11.0
	EER		4.58	3.91	3.88	3.63
Heating <sup>2</sup>	Capacity	kW	27.0	31.5	37.5	45.0
		kBtu/h	92.1	107.5	128.0	153.5
	Power input	kW	5.7	7.0	9.1	11.6
	COP		4.77	4.49	4.14	3.89
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		13	16	19	22
Compressors	Type		DC inverter	DC inverter	DC inverter	DC inverter
	Quantity		1	1	1	1
Fan motors	Type		DC	DC	DC	DC
	Quantity		1	1	1	1
	Airflow rate	m <sup>3</sup> /h	12600	12600	13500	14400
	Max. ESP	Pa	0-20 (standard) 20-120 (customized)	0-20 (standard) 20-120 (customized)	0-20 (standard) 20-120 (customized)	0-20 (standard) 20-120 (customized)
Refrigerant	Type		R410A	R410A	R410A	R410A
	Factory charge	kg	7	7	7	7
Pipe connections <sup>3</sup>	Liquid pipe	mm	Ø12.7	Ø12.7	Ø12.7	Ø12.7
	Gas pipe	mm	Ø25.4	Ø25.4	Ø25.4	Ø25.4
Sound pressure level <sup>4</sup>		dB(A)	56	57	59	59
Net dimensions (W×H×D)		mm	940×1760×825	940×1760×825	940×1760×825	940×1760×825
Packed dimensions (W×H×D)		mm	1010×1945×890	1010×1945×890	1010×1945×890	1010×1945×890
Net weight		kg	195	195	195	197
Gross weight		kg	213	213	213	215
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

HP			16	18	20	22
Model			KVHB160PLI	KVHB180PLI	KVHB200PLI	KVHB220PLI
Power supply	V/N/Hz		380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	45.0	50.0	56.0	61.5
		kBtu/h	153.5	170.6	191.1	209.8
	Power input	kW	12.6	14.3	16.5	18.9
	EER		3.57	3.50	3.39	3.26
Heating <sup>2</sup>	Capacity	kW	50.0	56.0	63.0	69.0
		kBtu/h	170.6	191.1	215.0	235.4
	Power input	kW	12.8	14.6	16.7	19.1
	COP		3.91	3.83	3.77	3.61
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		26	29	32	35
Compressors	Type		DC inverter	DC inverter	DC inverter	DC inverter
	Quantity		1	1	2	2
Fan motors	Type		DC	DC	DC	DC
	Quantity		1	1	2	2
	Airflow rate	m <sup>3</sup> /h	15600	16500	22000	22000
	Max. ESP	Pa	0-20 (standard) 20-120 (customized)	0-20 (standard) 20-120 (customized)	0-20 (standard) 20-120 (customized)	0-20 (standard) 20-120 (customized)
Refrigerant	Type		R410A	R410A	R410A	R410A
	Factory charge	kg	8	8.4	9.3	9.3
Pipe connections <sup>3</sup>	Liquid pipe	mm	Ø15.9	Ø15.9	Ø15.9	Ø15.9
	Gas pipe	mm	Ø28.6	Ø28.6	Ø28.6	Ø28.6
Sound pressure level <sup>4</sup>		dB(A)	60	61	62	62
Net dimensions (W×H×D)		mm	940×1760×825	940×1760×825	1340×1760×825	1340×1760×825
Packed dimensions (W×H×D)		mm	1010×1945×890	1010×1945×890	1410×1945×890	1410×1945×890
Net weight		kg	213	215	295	295
Gross weight		kg	230	232	315	315
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

## Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Diameters given are those of the unit's stop valves.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

HP			24	26	28	30
Model			KVHB240PLI	KVHB260PLI	KVHB280PLI	KVHB300PLI
Power supply	V/N/Hz		380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	67.0	73.0	78.5	85.0
		kBtu/h	228.6	249.1	267.9	290.0
	Power input	kW	20.9	23.0	24.9	27.5
	EER		3.20	3.18	3.15	3.09
Heating <sup>2</sup>	Capacity	kW	75.0	81.5	87.5	95.0
		kBtu/h	255.9	278.1	298.6	324.2
	Power input	kW	21.3	22.8	26.1	29.1
	COP		3.52	3.57	3.35	3.26
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		39	42	45	48
Compressors	Type		DC inverter	DC inverter	DC inverter	DC inverter
	Quantity		2	2	2	2
Fan motors	Type		DC	DC	DC	DC
	Quantity		2	2	2	2
	Airflow rate	m <sup>3</sup> /h	21500	21500	29000	28000
	Max. ESP	Pa	0-20 (standard) 20-120 (customized)	0-20 (standard) 20-120 (customized)	0-20 (standard) 20-120 (customized)	0-20 (standard) 20-120 (customized)
Refrigerant	Type		R410A	R410A	R410A	R410A
	Factory charge	kg	9.3	12	19	21
Pipe connections <sup>3</sup>	Liquid pipe	mm	Ø15.9	Ø15.9	Ø22.2	Ø22.2
	Gas pipe	mm	Ø28.6	Ø28.6	Ø31.8	Ø34.9
Sound pressure level <sup>4</sup>		dB(A)	62	62	63	64
Net dimensions (W×H×D)		mm	1340×1760×825	1340×1760×825	1880×1760×825	1880×1760×825
Packed dimensions (W×H×D)		mm	1410×1945×890	1410×1945×890	1935×1945×890	1935×1945×890
Net weight		kg	300	315	373	405
Gross weight		kg	320	335	403	435
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55	-15 to 55
	Heating	°C	-30 to 30	-30 to 30	-30 to 30	-30 to 30

HP			32	34	36
Model			KVHB320PLI	KVHB340PLI	KVHB360PLI
Power supply	V/N/Hz		380-415/3/50(60)	380-415/3/50(60)	380-415/3/50(60)
Cooling <sup>1</sup>	Capacity	kW	90.0	95.2	101.0
		kBtu/h	307.1	324.2	344.6
	Power input	kW	31.5	33.9	36.3
	EER		2.86	2.81	2.78
Heating <sup>2</sup>	Capacity	kW	100.0	106.0	112.0
		kBtu/h	341.2	361.7	382.2
	Power input	kW	31.1	33.5	36.0
	COP		3.22	3.16	3.11
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity		
	Maximum quantity		52	55	58
Compressors	Type		DC inverter	DC inverter	DC inverter
	Quantity		2	2	2
Fan motors	Type		DC	DC	DC
	Quantity		2	2	2
	Airflow rate	m <sup>3</sup> /h	28000	29000	29000
	Max. ESP	Pa	0-20 (standard) 20-120 (customized)	0-20 (standard) 20-120 (customized)	0-20 (standard) 20-120 (customized)
Refrigerant	Type		R410A	R410A	R410A
	Factory charge	kg	21	21	21
Pipe connections <sup>3</sup>	Liquid pipe	mm	Ø22.2	Ø22.2	Ø22.2
	Gas pipe	mm	Ø34.9	Ø34.9	Ø34.9
Sound pressure level <sup>4</sup>		dB(A)	64	66	66
Net dimensions (W×H×D)		mm	1880×1760×825	1880×1760×825	1880×1760×825
Packed dimensions (W×H×D)		mm	1935×1945×890	1935×1945×890	1935×1945×890
Net weight		kg	405	406	406
Gross weight		kg	435	436	436
Ambient temp. operation range	Cooling	°C	-15 to 55	-15 to 55	-15 to 55
	Heating	°C	-30 to 30	-30 to 30	-30 to 30

## Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Diameters given are those of the unit's stop valves.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

# *Klarwind* KOREA

**CLK CORPORATION**

Ryan@carrier.co.kr

11F, Two IFC, 10, Gukjegeumyung-ro, Yeongdeunpo-gu,

Seoul 07326, South Korea

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