

HYUNDAI

AIR CONDITIONER

HYUNDAI *Hi-EER VRF*

Full-DC inverter Central Air Conditioning System



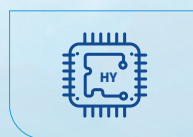
Powerful



High Efficiency



Comfortable



Intelligent



Stable



Convenient



CONTENTS



HYUNDAI

AIR CONDITIONER

04 Powerful cooling

- DC inverter compressor
- Double C high efficiency condenser
- DC inverter fan motor
- High efficiency axial fan
- Air-cooled & refrigeration-cooled technology
- Intelligent inverter technology

12 High efficient energy-saving & environmental friendly

- ODU standby mode
- "2-1" loop design
- Stepless inverter technology
- RoHS certification
- High energy-efficient compressor
- R410A refrigerant
- Variable evaporating /condensing temperature adjustment technology

18 Comfortable & healthy environment

- Extreme fast cooling and heating
- Constant temperature
- Silent-mode
- Healthy air clean strainer
- Fresh air
- Comfortable soft wind
- Intelligent defrost technology
- Auto restart function

24 Intelligent-operation & maintenance control

- Non-polar CAN bus communication technology
- Multiple control solutions
- AHU connection Kit
- BMS gateways

30 Stable & reliable performance

- Inverter module cooling protection technology
- Six levels oil return technology
- High precision refrigerant control technology
- -30°C ~ 56°C Ultra wide operating temperature range
- Pressure self-regulating technology
- Triple backup function
- Rotation function
- Multiple protections

40 Convenient Installation and Maintenance

- 15 basic modules, satisfy all kind of requirement
- Big-capacity module design
- Super long refrigerant pipeline design
- Auto-refrigerant detecting and auto-charging function
- Highest static pressure for outdoor unit
- Convenient for the transportation
- Auto-addressing function
- ODU without oil balance pipe, compact design
- Emergency power-off function
- Commissioning software

46 ODU lineup & parameters

54 MINI VRF

60 IDU lineup & parameters

- One-way cassette
- Two-way cassette
- Four-way cassette
- Low static pressure duct
- DC series slim duct
- High static pressure duct
- Wall mounted
- Ceiling & floor
- Fresh air processing
- Energy recovery ventilation

68 Installation options



POWERFUL COOLING

HY-TMV6 full DC Inverter VRF system, use international famous compressor, DC motor, high-precision EXV and so on, thanks to all these high-technology, HY-TMV6 has the best cooling performance.



DC Inverter
Compressor



Double C
high efficiency condenser



DC Inverter
fan Motor



High Efficiency Axial Fan



Intelligent inverter technology



Air-cooled & refrigerant-cooled
technology for main control board





1.1 Full DC Inverter High Pressure Chamber Scroll Compressor

- Full DC inverter compressor is built-in with brushless reluctance DC compressor control, DC fan motor, and upgraded heat exchanger, which is more efficient and energy-saving.



Less moving parts



Less moving parts



Fine processing



High efficiency



Less vibration



Long life

1 New scroll compressor

Faster suction and higher efficiency

2 High Pressure Shell

Thicker shells, robust welds and large venting volume reduces sound transmission, lowering overall sound level.

3 Aeronautical Material

Fix scroll is made of aeronautical material, which is light-weighted and durable for high pressure.

4 PTFE Crankshaft

PTFE material is applied to reduce the friction and increase its stabilization.

5 High Polymer Material

PTFE material is applied to reduce the friction and increase its stabilization.

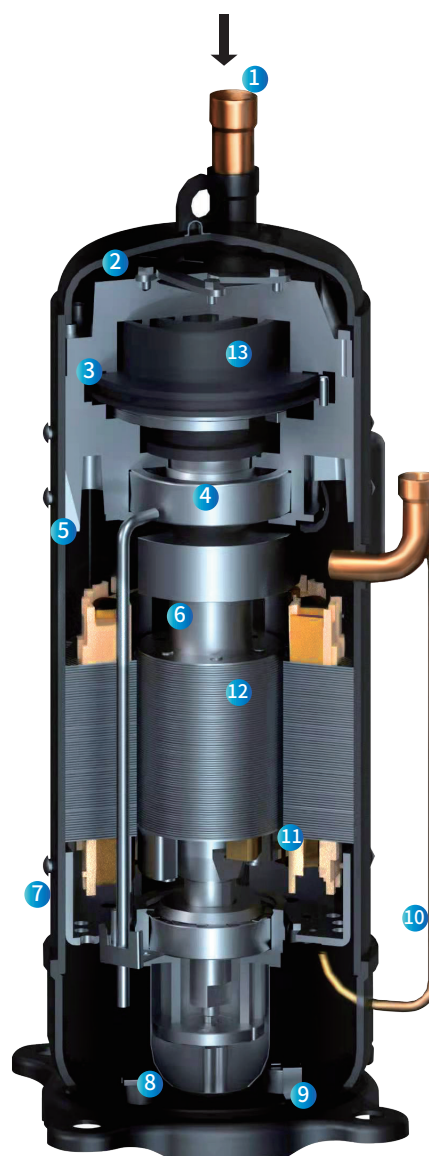
6 IBall Bearing

Additional ball bearing is applied to due with heavy duty.

7 Recycled Lube

Internal recycle is establish to reduce attenuation of heat and thus, increase the efficiency and stabilization.

Suction tube



13 Tip Seal of PPS resin

Almost perfect sealing helps to reduce starting torque and efficiency during operation.

12 Permanent Magnet Synchronous DC Motor

NdFeB and optimized structure enable it to be high-efficient, low noise and wide frequency.

11 180° Sine Wave DC Inverter Driver

DC inverter is driven by the pure sine wave which largely increase its efficiency.

10 Active Oil Balancing

Patented active oil balancing technologies ensure the stabilization of usage of multi-connected compressor.

9 Self-cleaning Lube

Strong magnet absorb contamination in the lube and maintain its lubrication.

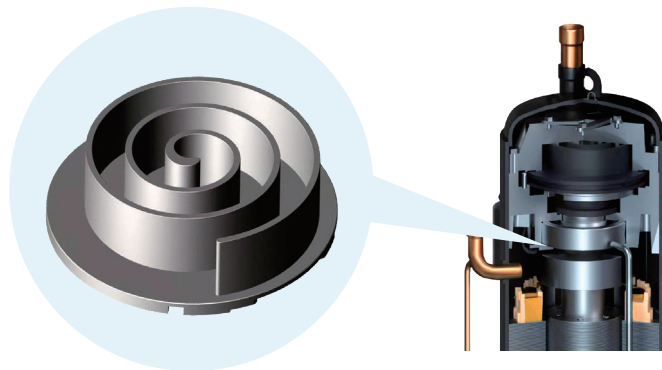
8 Ball Bearing

Additional ball bearing is applied to due with heavy duty.

>> Asymmetric Vortices

- In view of the high pressure characteristics of R410A refrigerant, the compressor strengthens the bearing structure and adopts the design of asymmetric scroll disk, which has the following advantages over the symmetrical scroll disk:

- ✓ Reduce refrigerant leakage and improve efficiency;
- ✓ Two adjacent chambers have small pressure difference, small vibration and more mute;
- ✓ Prevent over compression, prolong the service life of the compressor.



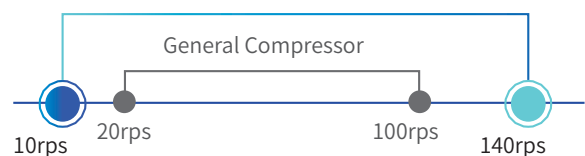
>> Motor Rotor With Neodymium Magnetic Material

- Neodymium, an artificial permanent magnet, is one of the strongest magnetic materials to date. The magnetic force of neodymium magnet is 10 times that of common ferrite magnet. Under the same volume, the electromagnetic field intensity is stronger, the starting torque is larger, and the operation efficiency is higher.



>> Large-displacement and ultra-wideband operation technology

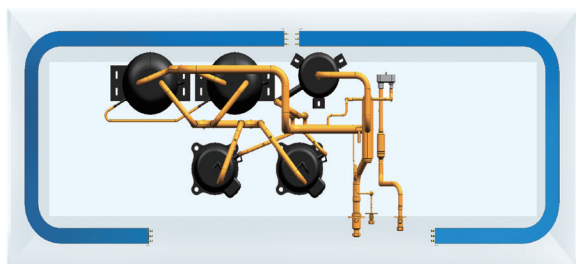
- Displacement up to 98cc, far more than the ordinary compressor (displacement < 80cc), the operation frequency of 10rps-140rps, far more than the ordinary compressor 20rps-100rps, strong power, realizing fast refrigeration and heating.



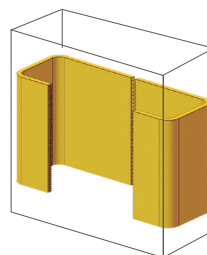


1.2 Double 'C' Type Heat Exchanger

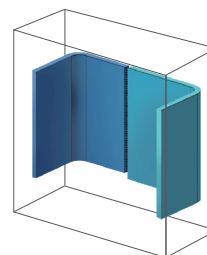
- Double C-type compact super-large area heat exchanger, makes the heat exchange area larger, reduces the pressure loss of the heat exchanger, improves the efficiency of heat exchanger, and has higher efficiency when running under heavy load.



Note: The heat exchanger structure and fan diameter are determined by the specific model.



Double C Compact Large Area Heat Exchanger Ordinary Heat Exchanger



Common heat exchanger

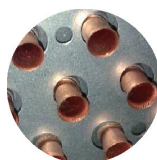
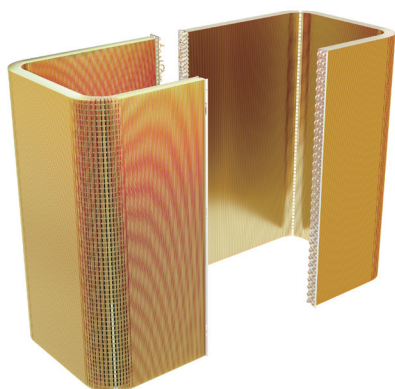
- The new structural design further improves the matching of system partial load and reduces the floor area of the whole machine.



30HP occupies only 1.6055 m², which is 21.4% less than the previous generation



- Heat exchanger adopts the perfect combination of multi-coated hydrophilic aluminum foil heat exchange fins and high-efficiency internally threaded heat exchange copper tubes, which greatly improves the heat exchange efficiency and enhances the corrosion resistance and oxidation resistance of the heat exchanger.

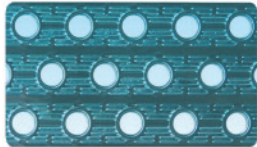


Heat Exchange Copper Tube

Multiple rows of small-diameter heat exchange tubes, the tube spacing is smaller, and the number of copper tubes used in the same length is more, which effectively increases the heat exchange area of the heat exchanger and improves the heat exchange efficiency of the heat exchanger

Internally threaded copper tubes

The inner surface of the internally threaded copper pipe is designed with a groove, which increases the contact area with the refrigerant, so that the heat exchange performance and thermal conductivity of the heat exchanger are better



Hydrophilic aluminum fin

The condensed water will spread out quickly on the hydrophilic aluminum foil without condensing into water droplets, increasing the heat exchange area, speeding up the cooling and heating speed, and effectively avoiding the noise caused by the condensed water obstructing the air flow



Lubricating layer

Destroy the surface tension of water droplets, accelerate the downstream speed of condensed water or defrosting water, and improve the air conditioning capacity

Hydrophilic coating

Ensure that the air conditioner is not easy to form frost when heating

Corrosion resistant coating

Slow down the corrosion of corrosive gas to the heat exchanger

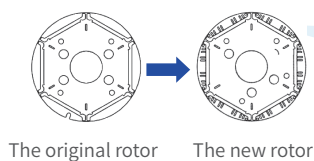
fins

1.3 High Voltage (concentrated coil) DC Motor

- The outdoor unit fan motor adopts a high-voltage centralized winding DC motor, which has a more stable and reliable output, effectively reduces losses and improves operating efficiency.

Concentrated coil motor

Reduced coil height, reduced copper loss, higher efficiency in low and medium speed zones.



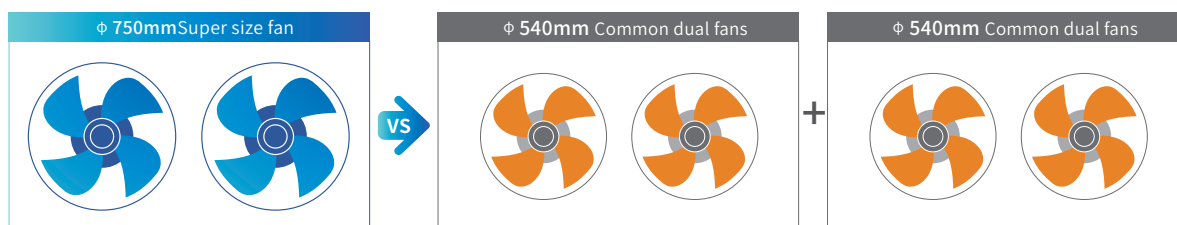
Neodymium magneto rotor
Improve motor efficiency
And reduce motor noise



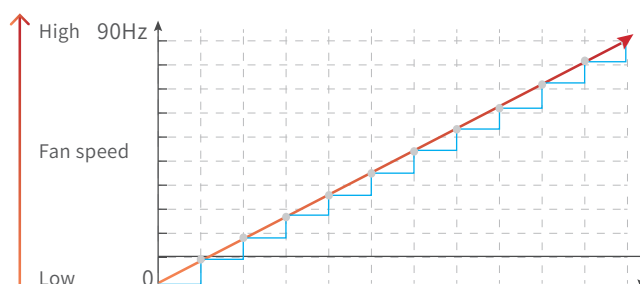


1.4 750mm Large Size Axial Flow Fan

- The outdoor unit fan adopts $\phi 750\text{mm}$ super-size wind wheel, compared with ordinary air conditioner $\phi 540\text{mm}$ dual fans, it has sufficient air volume, higher heat exchange efficiency and lower noise.



- The fan is steplessly adjusted according to environmental conditions and air-conditioning load conditions, and is matched with the compressor's stepless frequency conversion technology, so that the system runs more stable and reliable.



Stepless speed regulation

Average speed

1. Accurately adjust the refrigerant pressure to improve the reliability of the unit;
2. The motor speed is adjusted quickly to better adapt to the rapid changes in air-conditioning load.

1.5 Intelligent Inverter

- The unit uses multiple sets of high-precision, high-efficiency and high-reliability intelligent inverters to control the compressor and fan motors, making the control more flexible, efficient and intelligent.

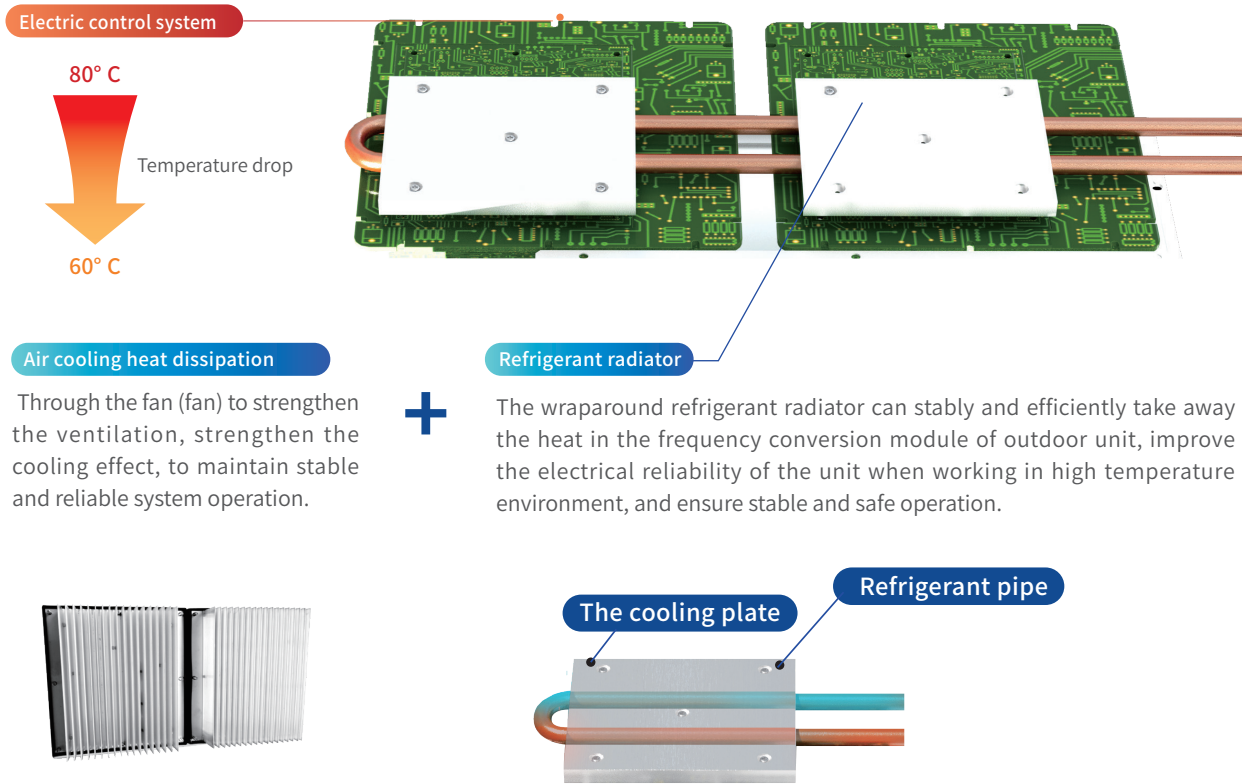
Intelligent inverter

- 1) It can effectively reduce high-order harmonic components, motor vibration, torque fluctuation and noise;
- 2) It can ensure the smooth start of the compressor, reduce the starting current of the compressor, and reduce the impact on the power grid; increase the operating frequency range of the compressor;
- 3) Ultra-wide voltage operating range, stable operation within the three-phase 290V-460V voltage range;
- 4) It has multiple protection functions such as undervoltage, overvoltage, overcurrent, and overtemperature to ensure the efficient and reliable operation of the system.



1.6 Surrounding Refrigerant Cooling Technology

- The outdoor unit's inverter module is cooled by refrigerant to ensure that the inverter module can be effectively cooled in a high-temperature environment, reduce the working temperature of the frequency conversion module, and improve the reliability and service life of the electronic control system. It also prevents poor heat dissipation under extreme conditions, such as due to the periodic stop of the fan.



The heat dissipation plate is fitted 360 ° tightly with the refrigerant tube, effectively reducing the contact thermal resistance between the copper tube and the heat dissipation plate, and the heat dissipation performance is superior.



HIGH EFFICIENT ENERGY-SAVING AND ENVIRONMENTAL FRIENDLY

The global climate is facing severe challenges, in order to achieve the "dual carbon" goal, it has become an urgent issue for enterprises to control carbon emissions effectively, improve energy efficiency and reduce energy consumption. The CAC follows the product design concept of high efficiency, energy saving and low carbon, use high-quality components of efficient refrigeration and leading refrigerating technology, to achieve building air-conditioning systems. Integrate the goal of green, reliable and efficient energy management.



ODU Standby mode



"2-1" loop design



Stepless inverter technology



RoHS Certification



High Energy-efficient compressor



R410A Refrigerant



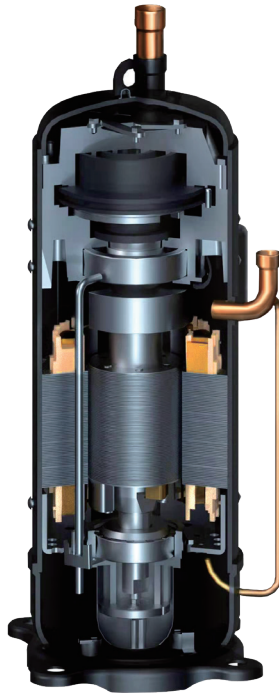
Variable evaporating/condensing temperature adjustment technology





2.1 DC Inverter Scroll Compressor

- The DC variable frequency compressor adopts an asymmetric scroll structure to effectively reduce the leakage loss of refrigerant gas during suction and inside the compression chamber, to improve the efficiency and reliability of compressor operation.



Optimized asymmetric vortex line

Using new type of asymmetric scroll profile can reduce leakage loss and ineffective suction overheating.

Concentrated winding motor

The coil height of the concentrated winding motor is reduced, the copper loss is less the efficiency is higher in the middle and low speed areas.

Suction directly

Small suction preheating, high volume efficiency

Intermediate pressure servo mechanism

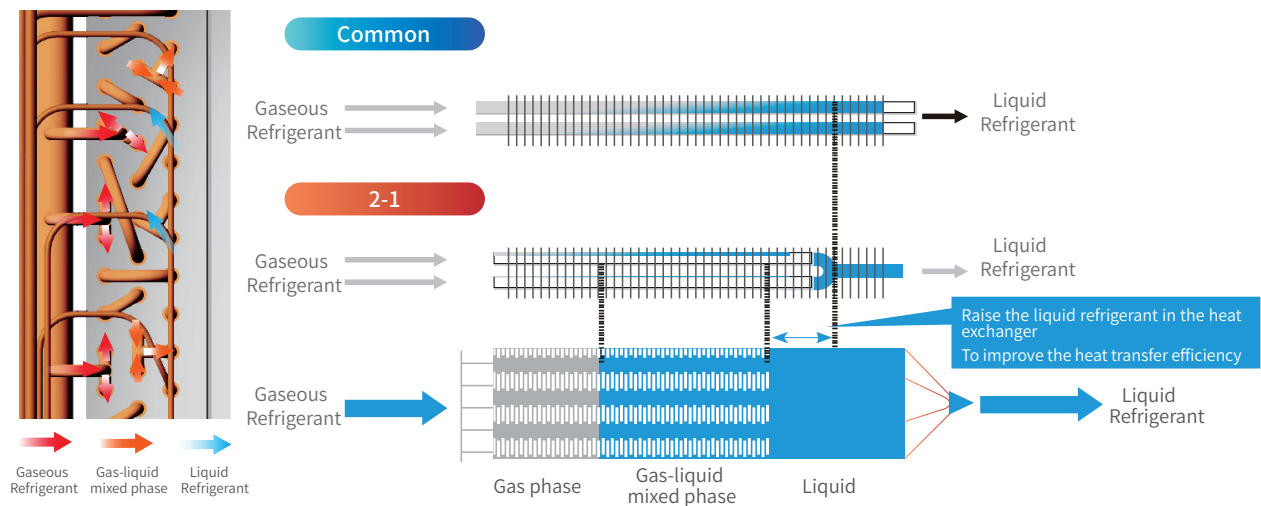
The intermediate pressure is dynamically adjusted according to the operating pressure to achieve axial flexibility, optimize the orbiting and fixed scroll teeth, and improve product performance.

2.2 Authoritative Attestation

- The HY-TMV6 series full inverter VRF units, through the compressor core frequency conversion technology upgrade, the overall optimization of the refrigeration system and the control system, makes the unit energy-saving performance even better, and can fulfill all requirements of GULF countries.

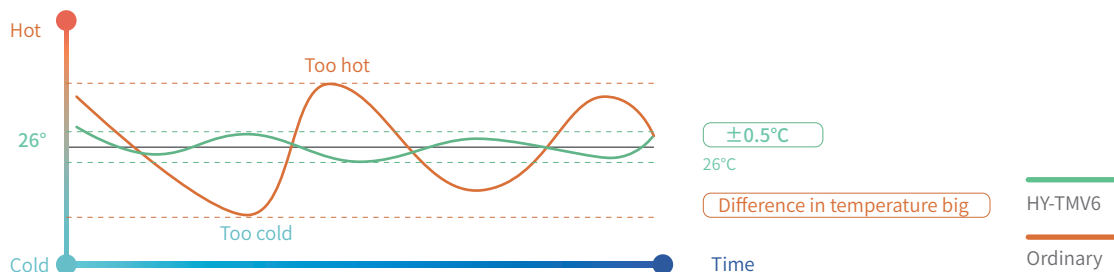
2.3 High Efficiency "2-1" Refrigerant Flow

- Compared with gaseous refrigerant and liquid refrigerant, gas-liquid mixed phase refrigerant has higher heat exchange efficiency. This circuit can not only increase the amount of liquid refrigerant but also increase the flow rate of the refrigerant and increase the heat exchange efficiency.



2.4 Variable Evaporating/condensing Temperature Regulation Technology

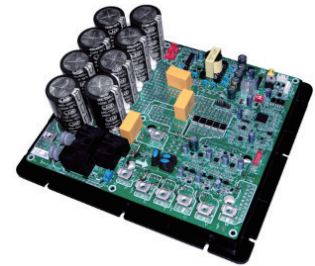
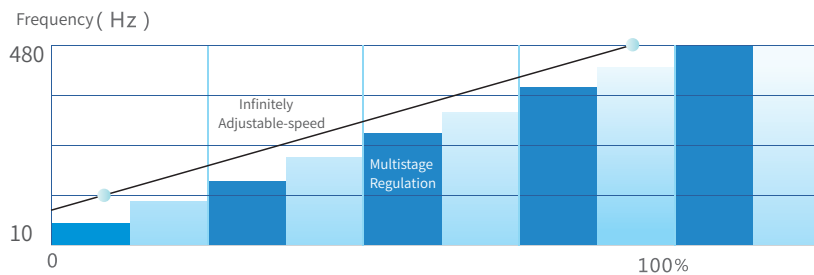
- The self-adaptive adjustment of evaporating and condensing temperature can ensure that when the air conditioner is running, the refrigerant flow can be accurately controlled according to the demand, and the evaporating/condensing temperature can be automatically adjusted to reduce temperature fluctuation, to achieve the effect of energy saving and constant temperature.



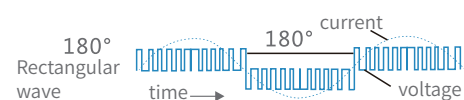
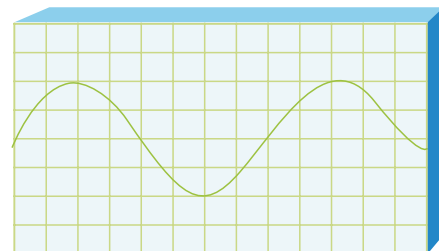
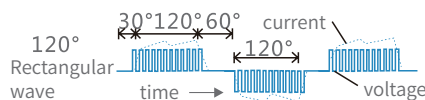
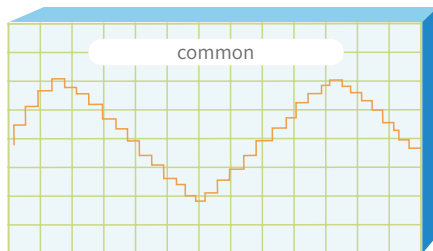


2.50 ~ 480Hz Stepless Frequency Adjustment

- The operating speed of the DC inverter compressor can be adjusted continuously and freely according to the change of the system capacity. The accuracy is higher, the stepless frequency conversion is realized, and the sub-adaptive control technology is combined, and the capacity output is automatically adjusted according to the actual control load to ensure a higher level of accuracy. Smooth change curve to meet higher demands for comfort. HY-TMV6 can only use broadband compressors and powerful inverter control motherboards for multiple connections. The compressors operate at 0-480Hz broadband, which has more capacity and can better cope with various complex and harsh extreme conditions.



- The compressor adopts 180° sine wave vector drive technology, which can obtain an ideal smooth sine wave curve, so that the motor runs smoothly, the electric energy efficiency is higher, and the harsh sound is reduced.
- Vector control technology effectively suppresses high magnetic harmonic current and electromagnetic noise, and has passed the national EMC electromagnetic interference test



2.6 Four Seasons Energy-saving Mode

- Select the automatic energy-saving mode, the system optimizes output according to changes in ambient temperature, realizes automatic control of energy-saving in all seasons, and improves the overall energy efficiency of the unit's all-season operation.



2.7 ODU Standby Mode

- When there is no need for cooling and heating indoors, the control system issues a command to cut off the power supply of the outdoor heating and power devices of the electric control module. The standby power of the outdoor unit is as low , which is low-consumption and energy-saving.



2.8 Multi-priority Modes, VIP Priority Service

- The HY-TMV6 system can be set with a variety of operating modes, cooling only/heating only/cooling priority/heating priority/VIP priority/first opening priority to prevent mode conflict.



Response only
coolong



Respond only
heating



Cooling priority



Heating priority



VIP priority

2.9 R410A High-efficiency Environmentally Friendly Refrigerant

- R410A is an HFC refrigerant that does not damage the ozone layer. Using R410A can increase the COP and protect the ozone layer. It is an efficient and environmental-friendly refrigerant.
- R410A is non-toxic and is a "non-flammable refrigerant".



2.10 RoHS Certification

- HY-TMV6 full inverter VRF unit is highly efficient and environmentally friendly. Seiko builds global quality and has passed EU RoHS certification.





COMFORTABLE AND HEALTHY ENVIRONMENT

People's demand for a healthy air environment is constantly escalating. The improvement of air quality in buildings is more and more important. The intelligent VRF has been seeking technical innovation to provide people with a comfortable and clean, healthy air environment to build people's high-quality life.



Extreme fast
cooling and heating



Constant
temperature



Silent-mode



Comfortable
soft wind



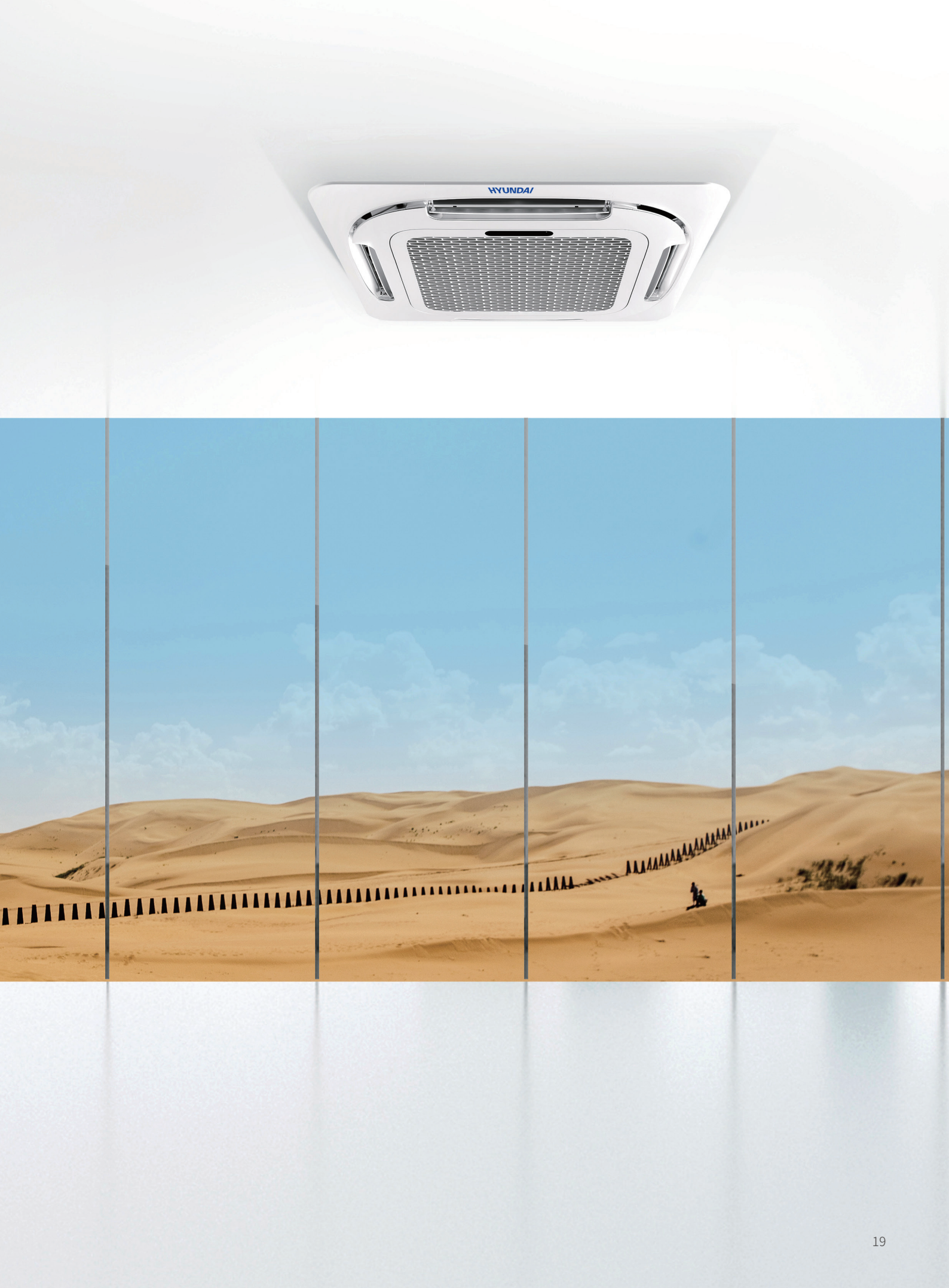
Fresh air



Auto restart
function



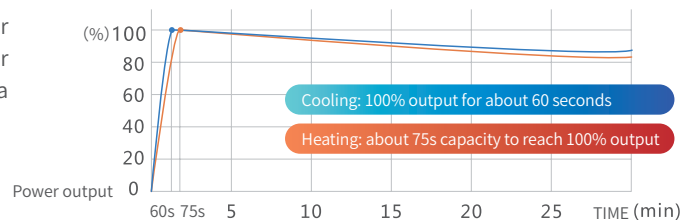
Intelligent defrost
technology





3.1 Fast Cooling And Heating

- The VRF adopts a large-capacity DC inverter compressor which can start the unit quickly and achieve a super cooling and heating capacity output, to provide a comfortable room environment.



3.2 Constant Temperature

- Multiple sensors detect the real time temperature of the system to make sure the indoor temperature fluctuation within $\pm 0.5^{\circ}\text{C}$.

Multi-electronic expansion valves

- The outdoor unit has multiple electronic expansion valves with a control accuracy up to 3000 level(optional), which can adjust the refrigerant circulation and control the compressor overheat accurately to get a precise temperature control.



Electronic expansion valve

High control accuracy

3000 Level(optional)

High-precision temperature sensor

- Can detect accurate temperature with precision $\pm 0.5^{\circ}\text{C}$



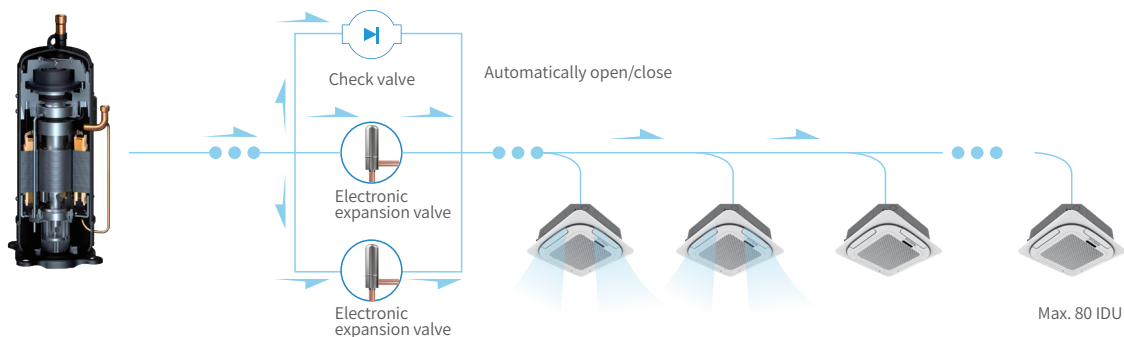
Dual pressure sensors

- High precision and sensitivity can detect the pressure fluctuation quickly and accurately.



Refrigerant liquid by-pass technology

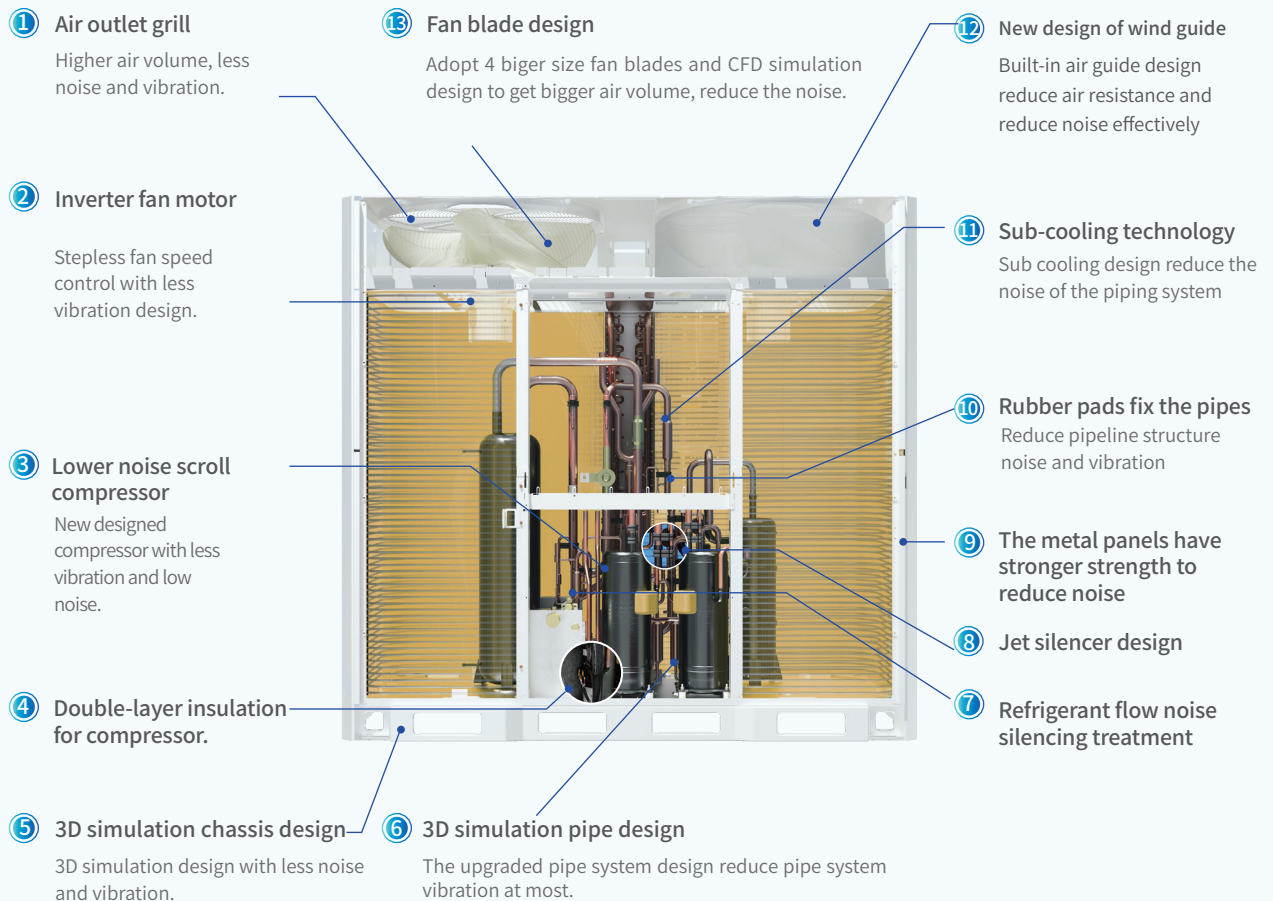
- This technology is mainly used to increase the refrigerant flow and improve the cooling effect when the indoor side refrigerant flow is insufficient.



3.3 Multiple Silence Technology

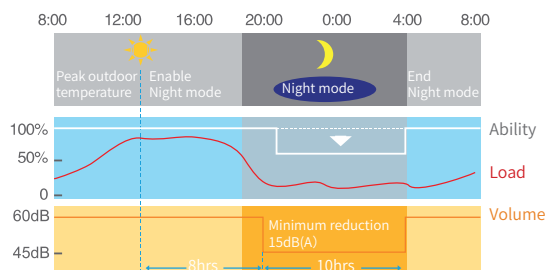
13 items of silent improvements

The structure of each component is involved in optimized airflow analysis, which can not only operate with low noise, but also ensure the air volume and operation effect of the outdoor unit.



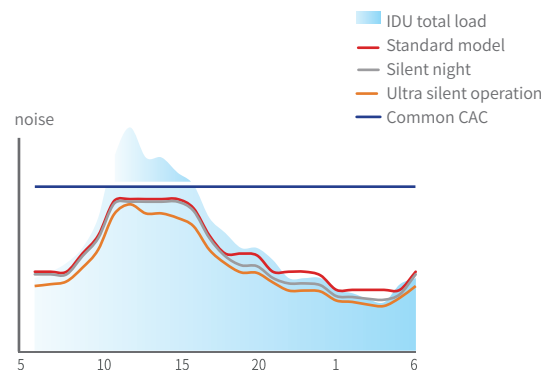
Night silent mode

- The ODU can automatically check the highest ambient temperature and record the time, then to start the silent operation mode after 8 hours, system returns to the normal mode after running for 10 hours. To make the ODU running noise to as low as 45dB(A).



Super silent mode

- In this mode, the running noise of the system will be reduced to be 40dB(A).





3.4 Fresh Air Solution

- The VRF can supply the multiple fresh air solutions such as fresh air processing units , ERV and air handing units etc.



3.5 Comfortable soft wind panel (optional)

- The upgraded panels have a beautiful apperance and provide comfortable air supply .



3.6 Intelligent Auto-restart Function

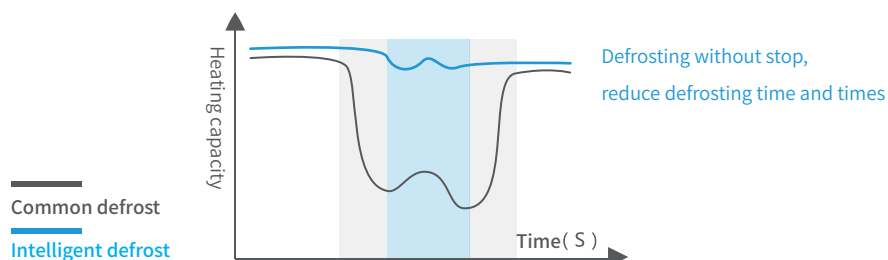
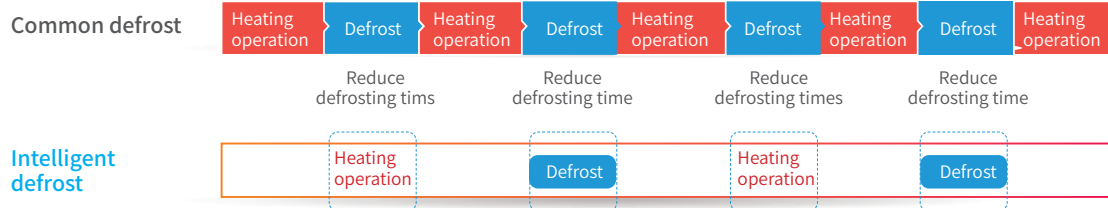
- When a sudden power failure occurs, system will automatically store the state of the machine before the power failure. When the machine is restarted, the system will automatically restart with the settings before the power failure (operation mode, set temperature, fan speed, etc).

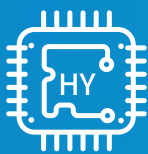
Note: This function can also start manually



3.7 Intelligent Defrost Technology

- The system can automatically decide the time to defrost according to the operation data and heating capacity.
- Under high humidity condition, the system will defrost in advance to keep the room comfortable.
- During defrosting, the system will close the indoor to avoid the cold air.





INTELLIGENT - OPERATION AND MAINTENANCE CONTROL

Full DC inverter VRF systems can provide the intelligent operation and maintenance functions, which provides an efficient solution for the intelligent operation and maintenance of buildings. It ensures energy-saving and high-efficient operation and intelligent management.



Non-polar CAN bus communication technology



Multiple control solutions



VRF WiFi & APP control solution



AHU connection kit



BMS gateways

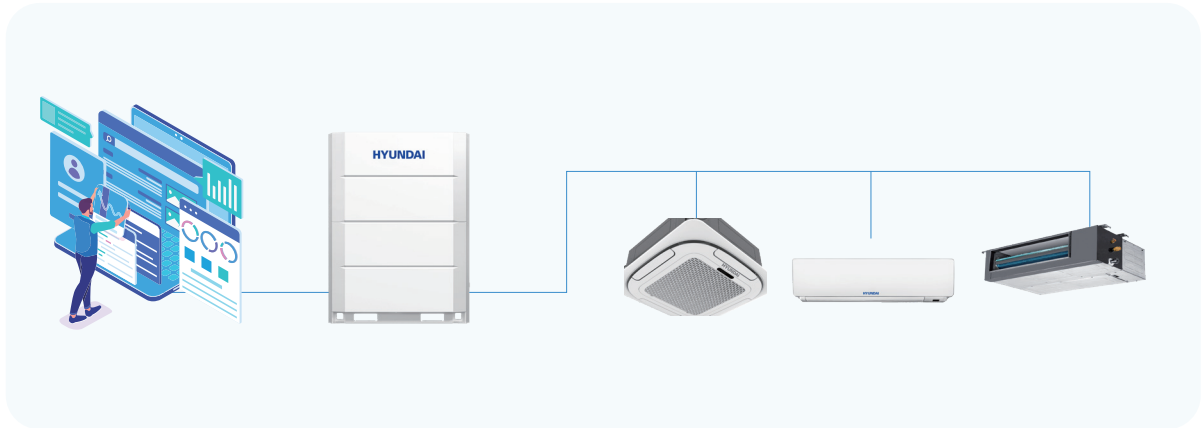




4.1 Intelligent Control

Smart commissioning

- During installation, the system automatically detects the number of indoor and outdoor units, communication link status, and real-time feedback of installation abnormalities, making installation simple and easy.



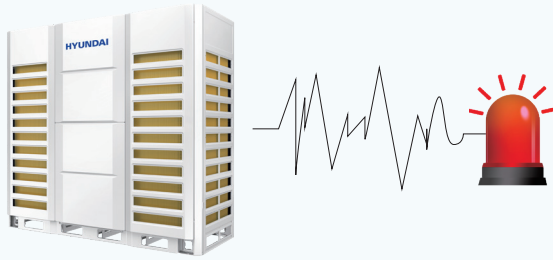
Intelligent detection

- When the equipment is running, the system record the best running status intelligently . And it will adjust the compressor frequency and the step of the EXV for next time automatically .



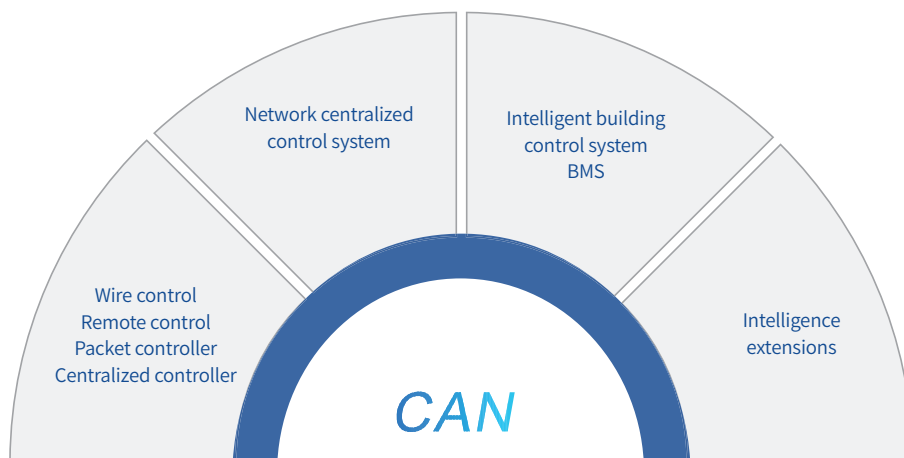
Smart detection

- During system operation, data will be recorded , abnormalities will be automatically detected and raised.



4.2 Non-polar CAN bus Communication Technology

- HY-TMV6 adopts CAN bus communication technology, which is a communication technology applied in the field of automobile and military industry.

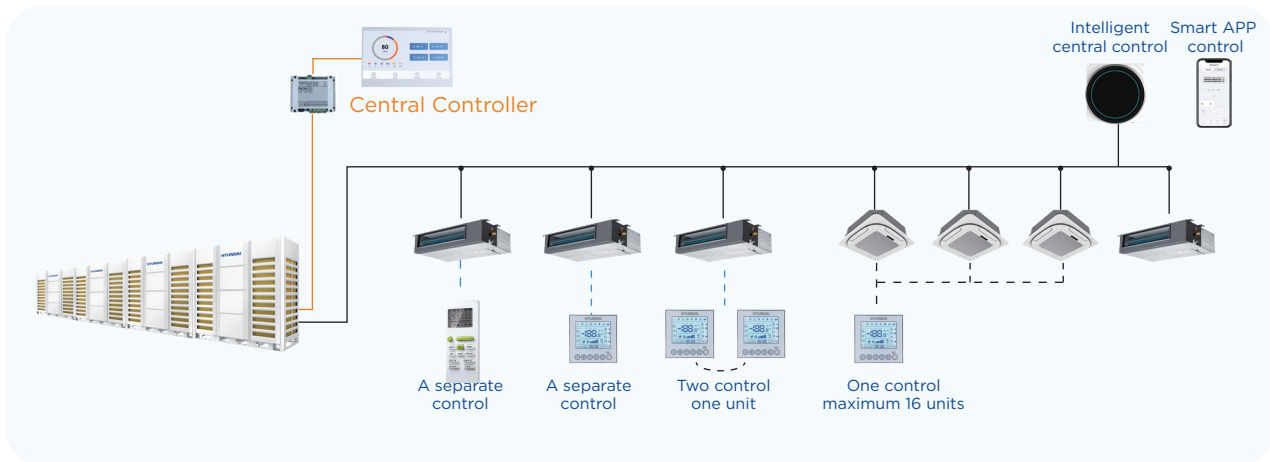


	HY-TMV6 VRF(CAN communication)	Other similar products in the industry(RS 485 communication)
Reliability	High reliability and stable network	The reliability is unstable and easy to be paralyzed
Communication efficiency	Up to 100kbs	About 10kbs
Communication distance	About 2000m	About 1000m
Communication line polarity	No polarity, easy to debug	Polarities need to be distinguished for installation
Scalability	Easy to plug and play	To add new device, the software must be changed, and the scalability is poor



4.3 Multiple Control Solutions

- HY-TMV6 provides a variety control solutions for customers to choose .



Remote Controller

- Cooling / dehumidification / fan / heating / automatic and other operation settings
- Temperature / fan speed setting
- Sleep/timer/swing/turbo and other functions



HY-GYKQ-52e

Wired Controller

- Cooling / dehumidification / fan / heating / automatic and other operation settings
- Temperature / fan speed setting
- Sleep/timer/swing/turbo and other function settings
- Monitoring function, big LCD screen displays the operation status of the unit
- Remote control signal available



HY-KW-86J1

Central Controller

- 7 inches and colorful screen display, beautiful appearance, touch screen, easy operation.
- A variety of combinations, single or multiple machines can be operated simultaneously.
- Up to 16 systems and 1280 indoor units can be connected, easy to set indoor units parameters.
- It also has the schedule setting and historical fault query function.



Central controller

Intelligent APP

After the unit is networked, the air conditioning system can be controlled through the Tsmart mobile APP, which can realize:

- Mode control of air conditioner cooling/heating/dehumidifying/air supply;
- Setting temperature, wind speed, timer on/off function settings;
- Single unit, group, cluster, all control;



4.5 AHU Connection KIT

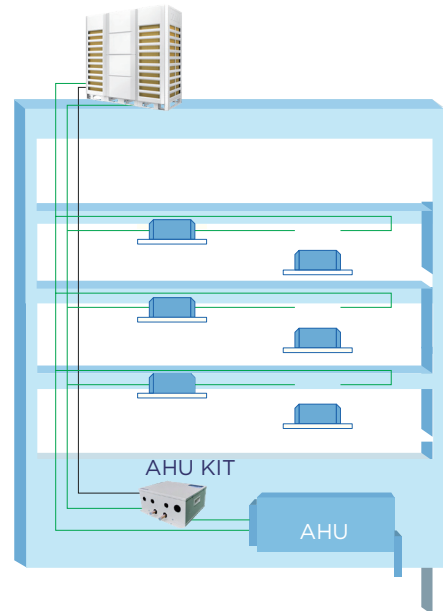
- Solution to extend VRF technology to third party Air Handling Units.

- ✓ Easy for connecting to third party AHU
- ✓ Setting capacity by DIP
- ✓ Remoter or wire controller can be chosen
- ✓ 3 steps fan motor speed, Low/Mid/High
- ✓ Error status: No error or error occurred

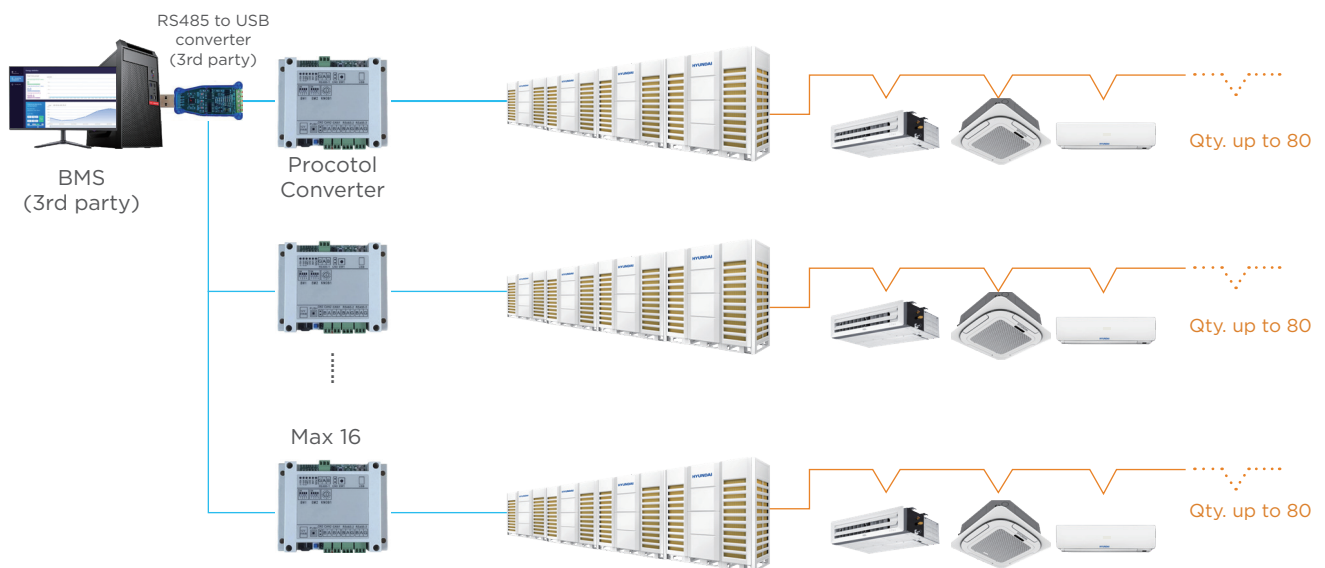
Communication wire

Refrigerant pipe

Type	Model Name	Capacity	Pipe dimension	Combination				Description
				ODU	Motor	Pump	Warning signal	
Communication Kit	HY-TMV6-AK1	8-20Kw	Φ7.94	HY-TMV6	✓	✓	✓	Room air supply by remote controller or wiring controller
	HY-TMV6-AK2	20-40Kw	Φ12.7		✓	✓	✓	
	HY-TMV6-AK2	40-65Kw	Φ15.88		✓	✓	✓	



4.6 BMS Gateways





STABLE AND RELIABLE PERFORMANCE

It has always insisted on making high-quality products relying on advanced manufacturing equipments and deep technical accumulation. Excellent performance guarantees the stability operation.

The VRF can make sure stable and high-efficient operation facing the complex and changeable working conditions.



Inverter module cooling protection technology



Six levels oil return technology



High precision refrigerant control technology



- 25 ° C ~ 56 ° C
Ultra wide operating temperature range



Pressure self-regulating technology



Triple backup function



Rotation function



Multiple protections





5.16-Stage Oil Return Technology

- HY-TMV6 is at the leading position on the oil separate, oil return, oil balance and storage technology. The oil system equipped with precise 6 grade management to make sure compressor safety, stability and reliability.

Multistage Oil Control Technology

- The VRF system have sufficient and balanced oil in working condition to ensure safety and avoid potential oil shortages.

Level 1: Compressor internal oil separate

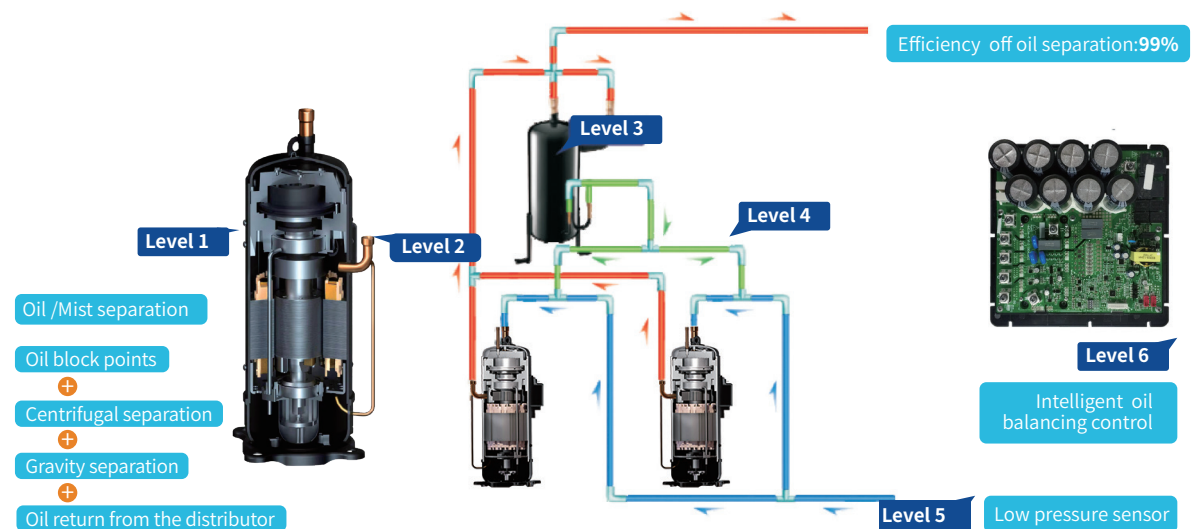
Level 2: Compressor external oil separate

Level 3: High-efficiency centrifugal oil separator

Level 4: Oil balance pipes between compressors to ensure compressors running normally

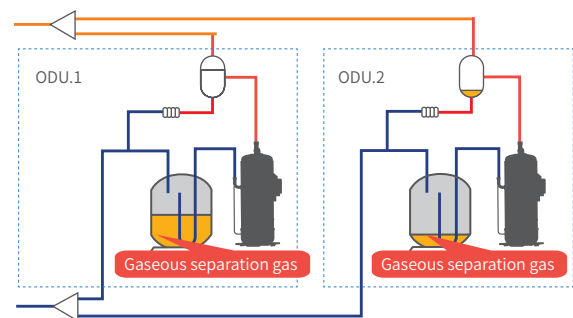
Level 5: Automatic oil balance system improves the compressor reliability

Level 6: Smart oil return program to ensure the oil return completely



Automatic oil balancing

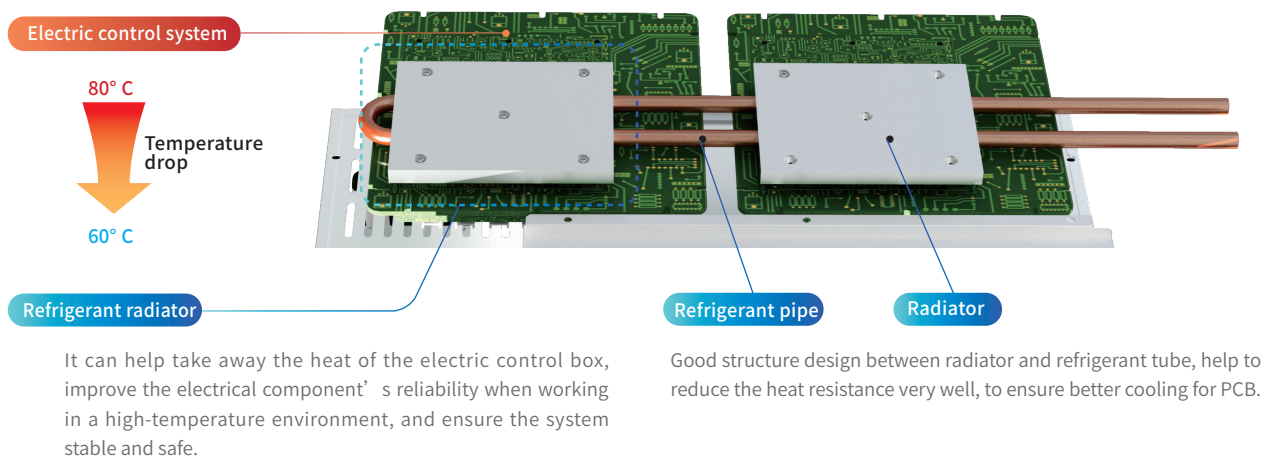
- Oil balancing system improves compressor oil storage and reliability, which also ensures the unit in good performance in cooling / heating mode.



5.2 Inverter Module Cooling Protection

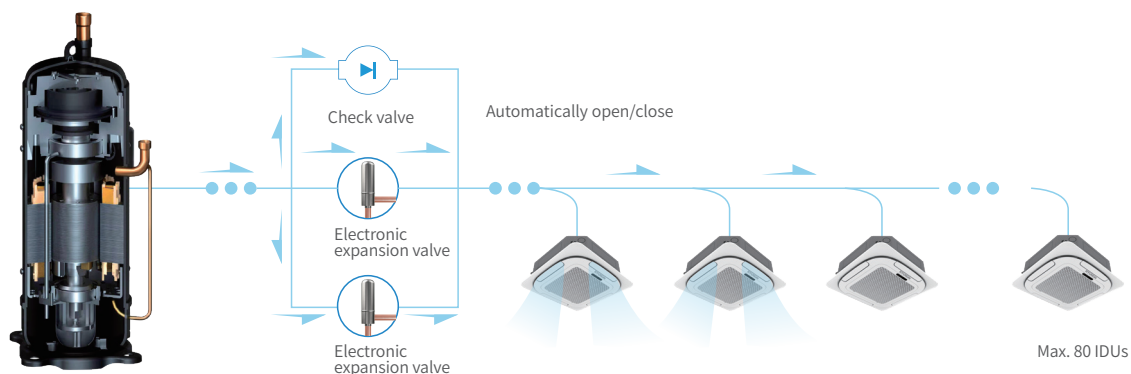
- When the outdoor units are running, high temperature will decrease the compressor frequency, reduce the cooling capacity, and shorten the life time.

Traditional air-cooled method can make high thermal conductivity and worse heat dissipation performance, but the module cooling technology can eliminate the heat of PCB, reduce the working temperature of inverter module and improve the PCB system reliability.

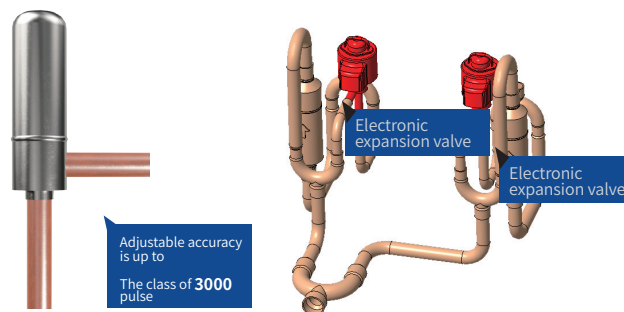


5.3 High Precision Refrigerant Control Function

- The upgraded technology allows the system to manage the volume of refrigerant, and also reduce the refrigerant in entire system and increase efficiency.
- Liquid bypass control technology uses multi-electronic expansion valve; it can adjust the refrigerant flow and control the overheating degree of the compressor, ensure the compressor to be highly efficient, safety and reliable.



- Dual electronic expansion valve used for outdoor unit, adjust accuracy can reach 3000 pulses, can adjust the refrigerant flow for the whole system.
- Silent electronic expansion valve used for indoor unit, precisely control refrigerant flow, improve the comfort and reliability.

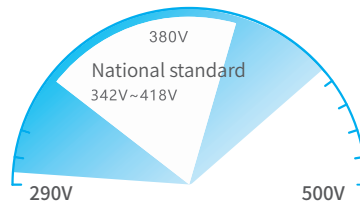


* Note: General adjustment is 480 level, can be customized to 3000 level adjustment



5.4 Wide Voltage Range

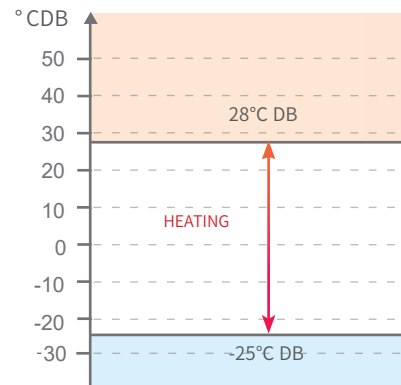
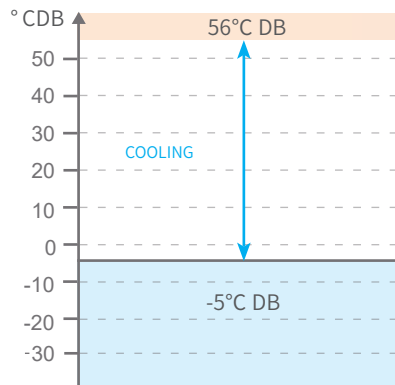
- The unit can operate in the range of voltage 290V~460V (International standard voltage 380V $\pm$ 10%), satisfy all kinds of voltage conditions.



HY-TMV6 Voltage operating range:
290V~460V

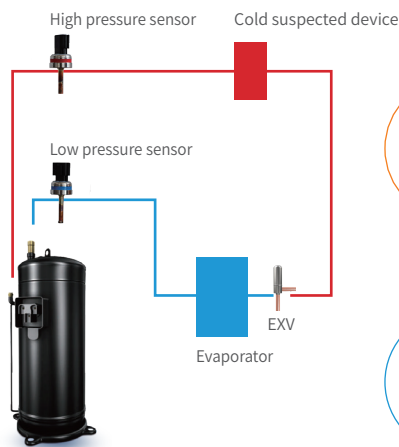
5.5 Wide Operation Temperature Range -25°C ~ 56°C

- Wide operation range, cooling: -5°C ~ 56°C, heating: -25°C ~ 28°C.



5.6 Pressure self-adjustment technology

- Pressure sensor is used to check system pressure, and adjust compressor operation frequency, fan speed, electronic expansion valve, to ensure the system with the best performance



High pressure sensor

Monitor high pressure changes, protect compressor from the impact of pressure suddenly change



Low pressure sensor

Low-pressure sensor feedback the suction pressure, so the unit can adjust quickly, to ensure the high stability of the system.



Adjust motor speed

Compare system pressure with the best pressure value per five seconds, and adjust the motor speed in time.

5.7 Triple Back-up Operation Technology

Compressor backup operation

- In units with two compressors, if one compressor fails, the other compressor can run on its own, to ensure the air conditioning system can work stably.



Running state



Standby



Failure or shutdown status



Running state



Emergency operation

Emergency operation of fan motor

- Some outdoor units are designed with dual fan, if the one fan motor fails, the other motor also can work normally, to avoid impact consumer's work and life.



The normal operation



The fault



The normal operation

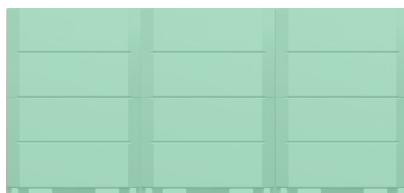


Emergency

ODU backup operation

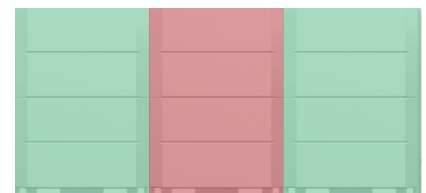
- In a multi-unit system, if one outdoor unit fails, the other modules provide backup so that the system can continue operating.

Running state Running state Running state



Running state

Running state Error Running state



Emergency operation



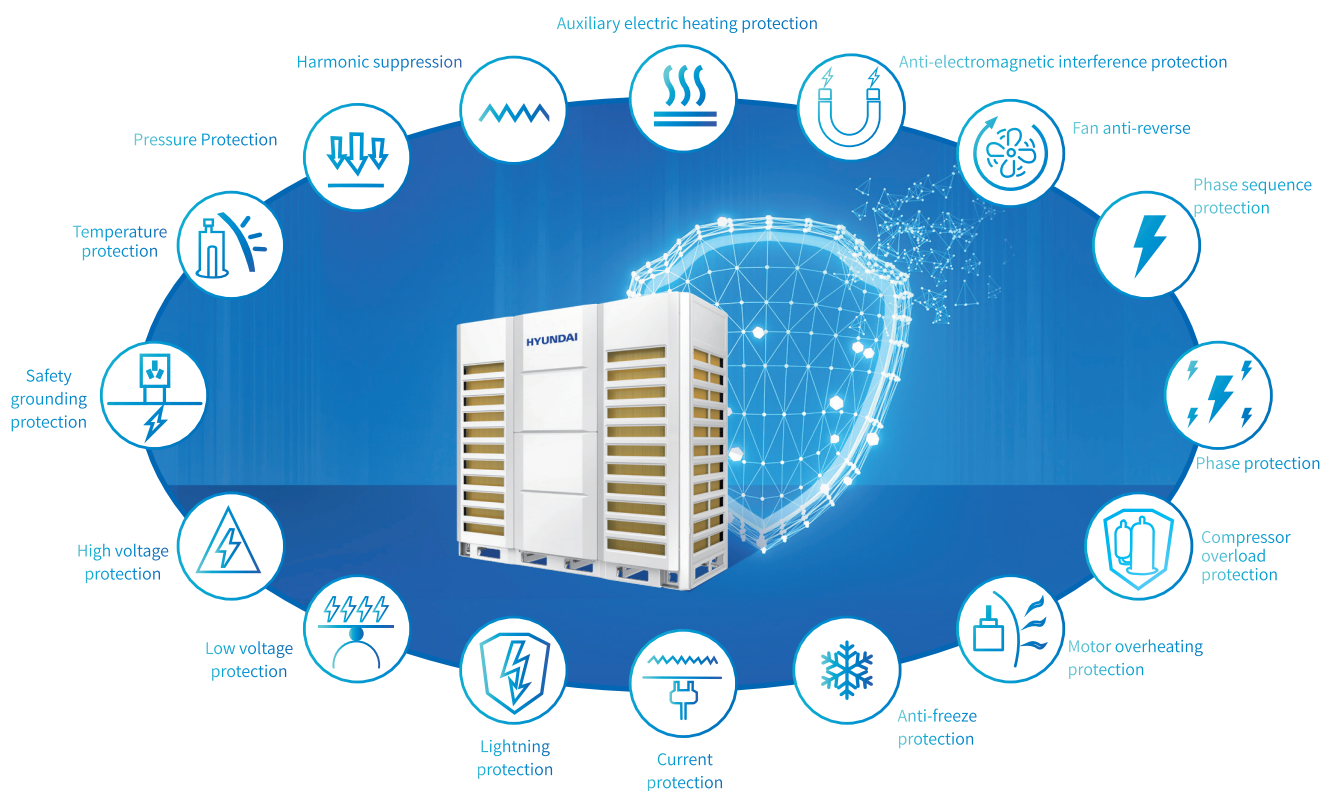
5.8 Rotation Operation Technology

- If the system is connected to multiple modules, in order to ensure the balance of compressor operation, the automatic control of the microprocessor on the host can realize the automatic rotation operation function between the modules, effectively extend the service life of the unit.



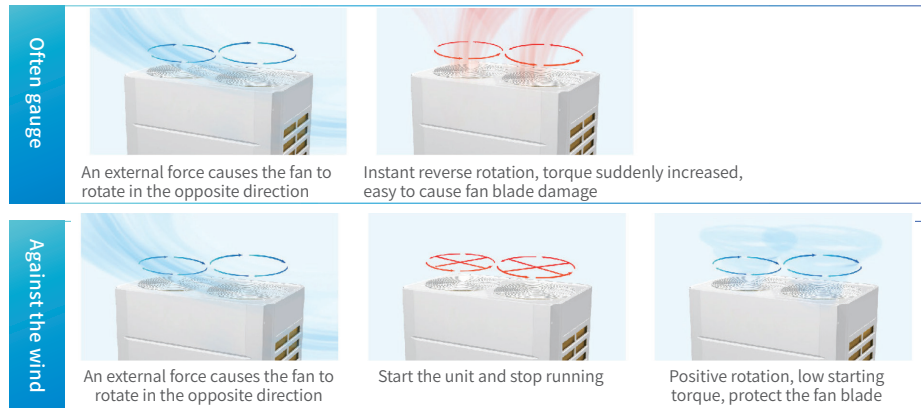
5.9 Multiple Protection Functions

- Multiple protection functions to ensure the safe operation of the system.



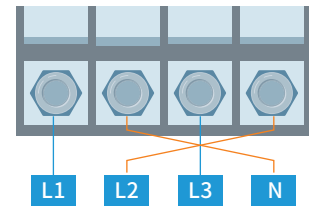
Anti-adversity function

- The external force blows the outdoor unit fan to rotate in reverse. At this time, start and stop the rotation of the fan, and then restart the fan motor in a forward rotation according to the normal procedure, so as not to damage the fan motors due to excessive starting current.



Phase sequence protection

- When the power cord of the outdoor unit is connected incorrectly, the circuit will start self-protection to avoid impact and damage to the main control board, inverter module and compressor. Ensure the normal operation of the air conditioner, without accidental electrical damage, fire, etc.



Low voltage recognition function

- Automatically recognize the working voltage, when the voltage is too low, give an early warning in time, and control the power consumption and capacity output of the multi-line system through the corresponding limit frequency.

Lightning protection

- The outdoor unit has a built-in anti-seismic module, which has anti-seismic and anti-interference functions to ensure the safe and stable operation of the system in bad weather.



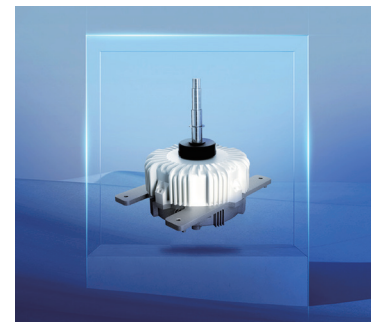
Compressor overload protection

- When the compressor casing or motor temperature is too high, the circuit will automatically cut off to prevent the compressor from overloading and cause electrical damage, fire, etc.



Motor overheating

- When the current exceeds the set value, the temperature will rise, and the motor will be cut off in time during overcurrent operation to protect the motor from burning due to overload.

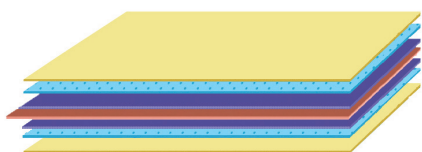




5.10 Anticorrosion Design

Hydrophilic aluminum fin

- It adopts anti-corrosion and anti-oxidation hydrophilic aluminum foil heat exchange fins, which have multiple protections of lubricating coating, hydrophilic coating and corrosion-resistant coating.



■ Lubrication layer ■ Hydrophilic coating
■ Corrosion resistant coating

Special corrosion-resistant coil

- Use special anti-corrosion coils. The base layer of ordinary galvanized sheet is increased with electrophoretic layer to achieve anti-corrosion effect. The coil fixing screws are stainless steel screws.



Electric control anti-corrosion

- The main board is equipped with moisture-proof glue, the sheet metal surface of the electric control box is treated with anti-corrosion spray, and the top of the metal casing fan capacitor is sprayed with anti-corrosion paint separately.

Pressure vessel

- It adopts surface phosphating treatment with good anti-corrosion performance.

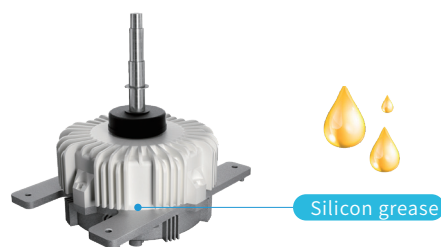
Thick sheet metal design

- The surface of the sheet metal parts is phosphated and coated with special anti-corrosion materials. It improves the salt spray resistance and heat and humidity resistance, and greatly improves the anti-corrosion ability of the sheet metal.



Motor protection upgrade

- Improve the protection level of the motor. The motor shaft is made of stainless steel. During the installation process, the motor shaft, nuts, gaskets and exposed motor shaft are coated with anti-rust grease, and the motor body screws and top cover screws are coated with silicone grease.



Fastener

- The nails, nuts and washers are made of stainless steel or high anti-corrosion materials, and the screw heads inside the machine and outside the electric control box are coated with silicone grease for anti-corrosion.

Copper pipe weld

- Anticorrosive paint is sprayed on the welded joints of copper pipes.

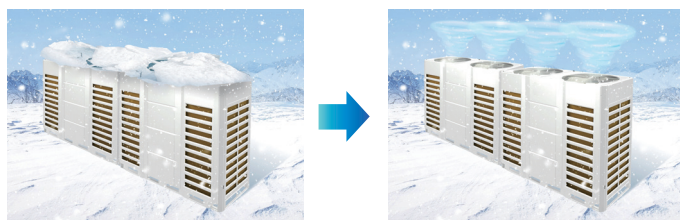
5.11 Electronic control board SMT placement technology

- The electronic control main board adopts SMT patch sealing technology to improve the anti-clutter interference, to ensure that the main board is not affected by wind, sand, high temperature and high humidity, and to make the main control board longer.



5.12 Anti-snow function

- In the snowy weather conditions in winter, in order to prevent the snow from adversely affecting the top of the outdoor unit fan, you can turn on anti-snow mode, the fan starts running to clear the snow to ensure the normal operation of the unit.



5.13 High-altitude adaptive technology *

- In high-altitude areas where the air is thin, the unit is prone to insufficient capacity. The HY-TMV6+ outdoor unit can automatically recognize the altitude position. When the altitude is too high and the capacity is insufficient, the high altitude adaptive mode will be activated for automatic compensation, which will greatly increase the fan speed and increase the air volume.

*Optional WIFI module required

5.14 Fault self-check

- HY-TMV6+ series DC inverter intelligent multi-connected central air-conditioners are equipped with electronic control fault self-diagnosis function, which can accurately locate the faulty parts and display the fault code when a fault occurs, thus improving the maintenance efficiency.





CONVENIENT INSTALLATION AND MAINTENANCE

For different application scenarios, different installation environments should be taken into consideration. The HY-TMV6 takes every detail into consideration, in the product appearance design and function, which greatly improves the convenience of installation, speeds up the installation speed, and also improves the convenience of maintenance.



12 basic modules, satisfy all kind of requirement



Big-capacity module design, easy installation and space saving

1100

Super long refrigerant pipeline design, flexible structure



Auto-refrigerant detecting and autocharging function



130Pa The highest static pressure for outdoor unit



Convenient for the transportation, installation and commissioning



Auto-addressing function



ODU without oil balance pipe, compact design



Emergency power-off function for indoor unit maintenance



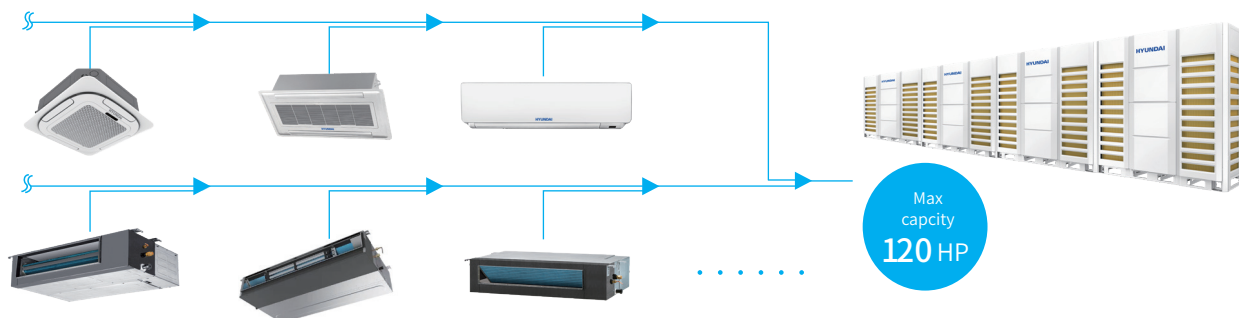
Commissioning software





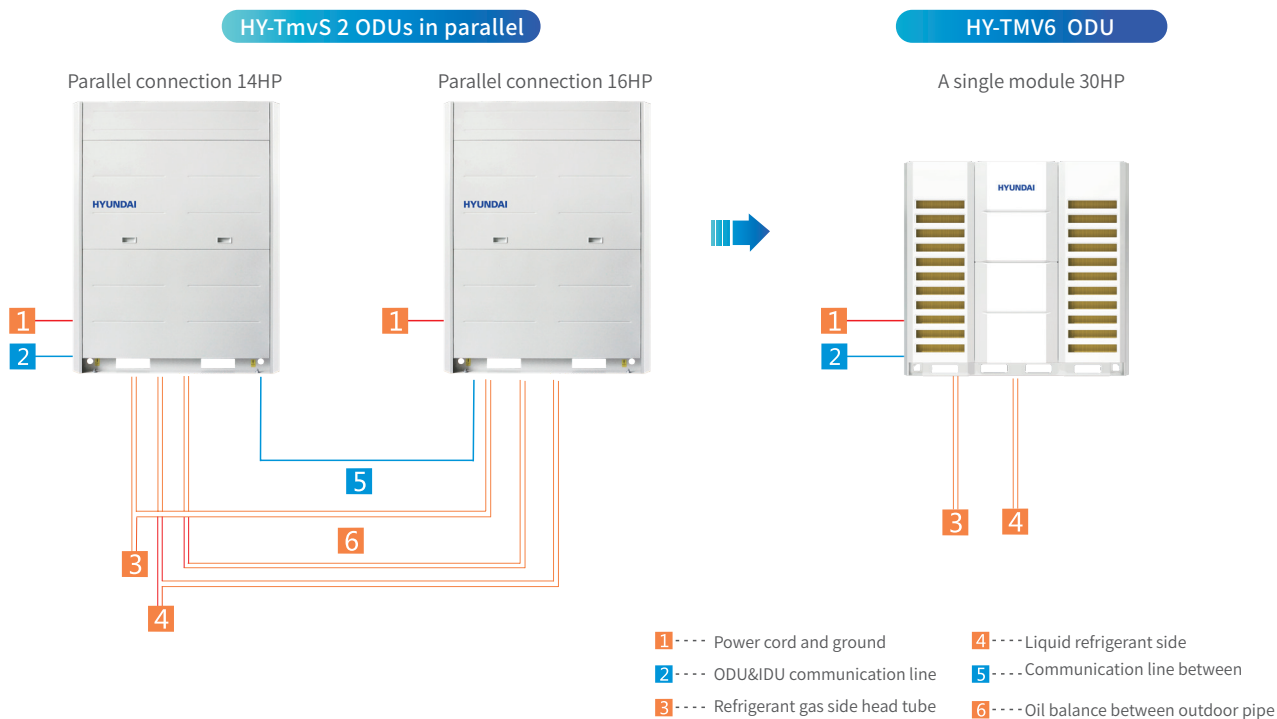
6.1 Intelligent Multi-connection, Easy To Cope With The Spatial Layout

- In order to meet the needs of different building types for air conditioning equipment, 12 basic outdoor unit modules are provided. The modules of 8-30HP can be combined freely, and the maximum combination can reach 120HP. There are 9 categories of indoor units, with more than 100 models to choose. The maximum internal unit capacity is 56kW. Outdoor units and indoor units can be freely matched and multi-connected. A system can connect up to 80 indoor units to meet the needs of different buildings.



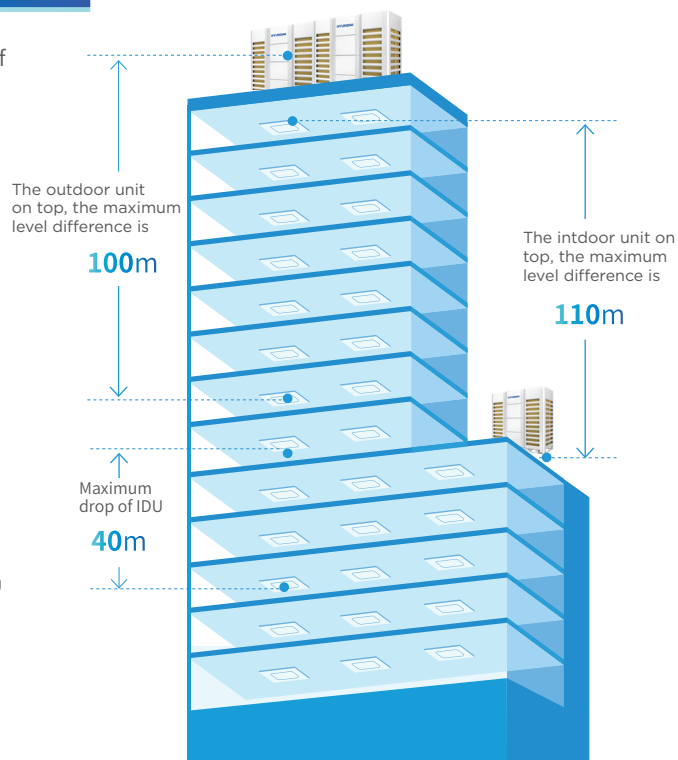
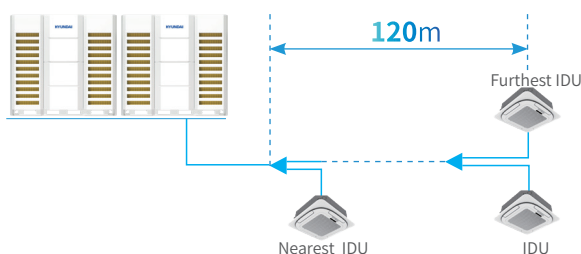
6.2 Large-capacity Module Design, Convenient Installation And Space Saving

- The maximum capacity of a single machine is 30HP.
- Smaller body size saves installation space.
- Reduce the workload of wiring, save labor cost and construction period.
- Less installation materials, saving purchase costs.



6.3 1100m Super Long Piping Design

- The industry-leading piping length, with a total length of 1100m, makes floor design more flexible.
- The max distance between the IDU and the ODU (the higher ODU) is 100m.
The max distance between the IDU and the ODU (the lower ODU) is 110m.
- The maximum distance between indoor units is 40m.
- The maximum actual single pipe length is 220m.
The maximum equivalent single tube length is 240m.
- The equivalent length from first indoor distributor to last indoor unit is 120m.

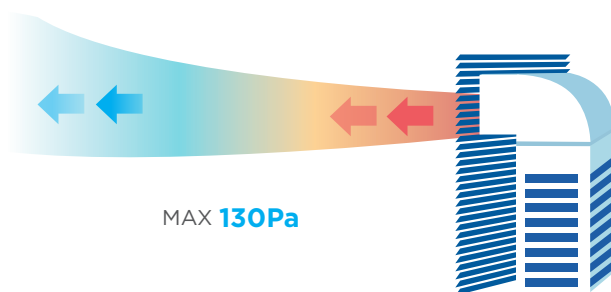


6.4 Single System Can Connect 80 IDUs

- HY-TMV6 adopts the international advanced CAN bus communication technology, and one system can connect up to 80 indoor units, ensure stable and reliable in operation, realizes a large-capacity configuration of a single system, and is more flexible in engineering applications.

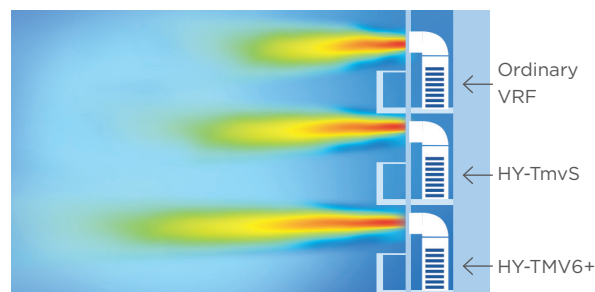
6.5 130Pa external static pressure *

- Through the combined action of new fan blades and high-volume fans, the system achieves higher external static pressures of up to 130 Pa* to ensure heat dissipation in layered or centralized placement of outdoor units.



Better heat dissipation, better refrigeration effect

*Customizable to 130Pa, 80Pa for standard model



VRF static pressure contrast diagram



6.6 Automatic Refrigerant Judgment And Charging

Automatic refrigerant judgment

- When refrigerant is leaked and affecting the system operating, it will alert with error code, to avoid further impact to the system

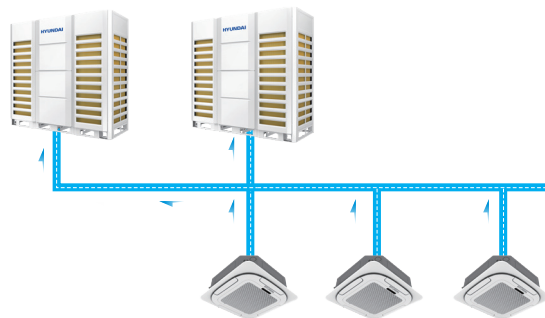


Refrigerant automatic judgment

Refrigerant recycle mode *

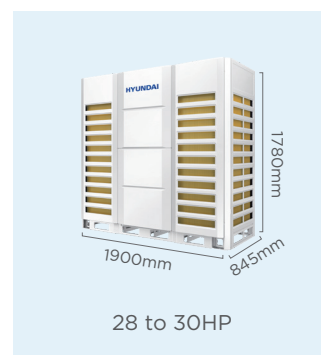
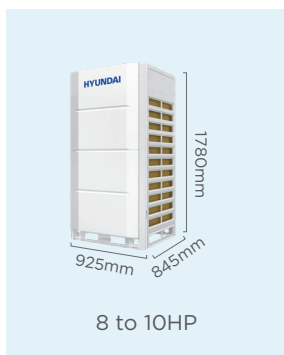
- While the system needs maintenance, refrigerant could be recycled and stored in ODU, by active this mode on PCB buttons, to avoid emission and pollution.

*Customized for local conditions



6.7 Compact Design And Convenient Transport

- The outdoor unit module has only 4 basic structures with the same height, which simplifies the design process and improves the flexibility of the system.



6.8 One-button Commissioning Function

- You can choose to perform a one-button trial running on the outdoor unit side, or perform a one-button trial running on any indoor unit side to achieve cooling and heating trial operation, no need turning on the indoor units one by one, facilitating on-site commissioning and improving the quality of project site construction.

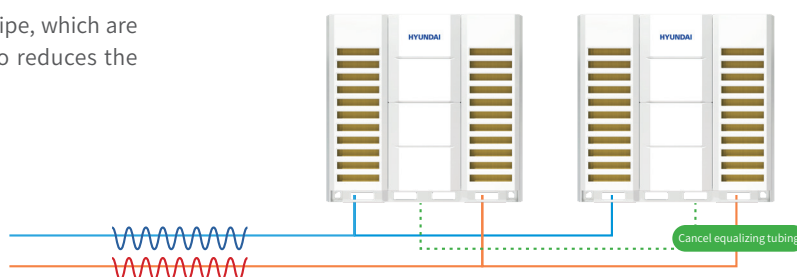
6.9 Non-polarity Communication Connection

- CAN bus communication mode is applied between indoor and outdoor unit, no need to distinguish between positive and negative poles, and the installation is simpler and more efficient.

6.10 No Oil Balance Pipe For ODU

- The outdoor units without oil equalizing pipe, which are more convenient for installation and also reduces the error of pipeline leakage.

- Liquid refrigerant tube
- Refrigerant trachea
- Equalizing tubing



6.11 360° pipe Connection Design

- These units allow the freedom to connect the piping in multiple directions, such as front side, left side, right side and back side, making installation easier.



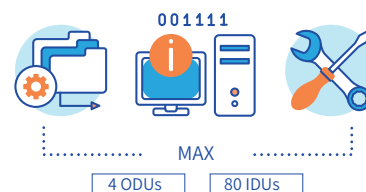
6.12 Emergency Power-off Function For IDU Maintenance

- If an indoor unit needs to be powered off for maintenance due to failure, in order not to affect the operation of the entire system, the indoor unit can be powered off separately for maintenance, and other indoor units in the system can operate normally.



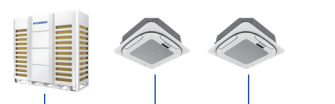
6.13 Commissioning Software

- The commissioning software is specially developed for the air-conditioning system, which can carry out real-time status monitoring and loading control of the air-conditioning system.
- It can monitor the real-time operation parameters of 4 outdoor units and 80 indoor units in parallel system; And the operating parameters can be showed in Curve; It contains the function of saving the original data of operation, which is convenient for the R & D Engineers to remotely analyze the cause of failure; It also contains the forced load control function of the equipment, which is convenient for loading maintenance verification on the project site.



6.14 Auto-addressing Function

- The system can realize the automatic allocation of indoor unit address. There is no need to dial code during commissioning, which avoids the trouble of manual setting one by one. It is more intelligent and convenient.





ODU lineup



8 to 10 HP



12 to 18 HP



20 to 26 HP



28 to 30 HP

ODU Parameters (8-30HP)

Loading Capacity		8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP	26HP	28HP	30HP
Model:HY-TMV-Vd+()W/N1S-C(E3)		252	280	335	400	450	504	560	615	680	730	785	850
Cooling capacity (T1)	Capacity	Btu/h	86000	95000	114000	136000	154000	172000	191000	210000	232000	249000	290000
	Capacity	kW	25.2	27.9	33.3	40.0	45.0	50.5	56.0	61.5	68.0	73.0	85.0
	Input	kW	5.30	6.05	7.50	9.20	10.60	12.15	13.85	15.50	17.70	19.20	22.90
	Current	A	8.09	9.23	11.44	14.04	16.17	18.54	21.13	23.65	27.00	29.29	34.94
	EER Btu/ (W·h)		16.20	15.70	15.20	14.80	14.55	14.15	13.80	13.55	13.10	12.95	12.65
	EER	W/W	4.76	4.61	4.44	4.35	4.25	4.16	4.04	3.97	3.84	3.80	3.71
Cooling capacity (T3)	Capacity	Btu/h	79000	87000	105000	125000	136000	157000	174000	194000	210000	227000	263000
	Capacity	kW	23.1	25.5	30.9	36.6	40.0	46.0	51.0	57.0	61.5	66.5	77.0
	Input	kW	6.80	7.60	9.25	11.05	12.80	14.49	16.11	17.93	19.65	21.37	25.05
	Current	A	10.37	11.59	14.11	16.86	19.53	22.10	24.58	27.35	29.97	32.59	38.21
	EER	Btu/ (W·h)	11.60	11.45	11.35	11.30	10.65	10.85	10.80	10.80	10.70	10.60	10.50
	EER	W/W	3.40	3.36	3.34	3.31	3.13	3.18	3.17	3.18	3.13	3.11	3.07
Cooling capacity (T4)	Capacity	Btu/h	76000	84000	102000	120000	133000	152000	169000	186000	203000	220000	254000
	Capacity	kW	22.2	24.6	30.0	35.0	39.0	44.5	49.5	54.5	59.5	64.5	74.5
	Input	kW	6.69	7.48	9.10	10.87	12.60	14.26	15.95	17.64	19.33	21.02	24.41
	Current	A	10.21	11.41	13.89	16.59	19.21	21.75	24.33	26.91	29.49	32.07	37.24
	EER	W/W	3.32	3.29	3.30	3.22	3.10	3.12	3.11	3.09	3.08	3.07	3.05
	EER	kW/RT	1.06	1.07	1.07	1.09	1.14	1.13	1.13	1.14	1.14	1.15	1.15
Heating capacity (T1)	Capacity	Btu/h	92000	105000	128000	153000	171000	191000	215000	235000	256000	278000	299000
	Capacity	kW	27.0	30.9	37.5	45.0	50.0	56.0	63.0	69.0	75.0	81.5	95.0
	Input	kW	5.35	5.98	7.40	9.25	10.96	12.48	14.10	15.72	17.34	18.95	22.19
	Current	A	8.16	9.12	11.29	14.11	16.72	19.04	21.51	23.98	26.45	28.92	33.85
	COP	W/W	5.04	5.17	5.07	4.87	4.56	4.49	4.47	4.39	4.33	4.30	4.28
Outdoor noise level (sound pressure level)		dB(A)	58	59	60	61	62	63	63	64	64	65	66
Refrigerant type/Quantity	Type		R410A										
	Charged volume	kg	11	11	12	12	14	14	18	18	23	23	28
Design pressure		MPa	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5
Power supply			380-415V 3N ~ 50/60Hz										
Max. Power		kW	11.30	12.43	13.73	16.25	18.40	21.39	23.70	26.07	29.68	31.49	33.27
Max. Current		A	20.0	22.0	24.3	28.8	32.6	37.9	42.0	46.2	52.6	55.8	59.3
Voltage Range		V	340-460	340-460	340-460	340-460	340-460	340-460	340-460	340-460	340-460	340-460	340-460
Connecting Pipe	Liquid	mm	φ12.7	φ12.7	φ12.7	φ12.7	φ15.88	φ15.88	φ19.05	φ19.05	φ19.05	φ19.05	φ19.05
	Gas	mm	φ25.4	φ25.4	φ28.6	φ28.6	φ28.6	φ28.6	φ31.8	φ31.8	φ31.8	φ31.8	φ34.9
Max. height drop (high head)		m	110(100)										
Max. length of connecting indoor unit		m	220	220	220	220	220	220	220	220	220	220	220
Max. length of connecting pipe		m	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
Net dimensions(W x H x D)		mm	925×1780×845		1340×1780×845				1760×1780×845				1900×1780×845
Net weight		kg	230	230	270	270	315	315	380	380	420	420	480
Packing dimensions(W x H x D)		mm	1000×1940×920				1420×1940×920				1840×1940×920		
Gross weight		kg	240	240	290	290	335	335	405	405	445	445	505
Cooling operating range	Outdoor side	°C	-5-56	-5-56	-5-56	-5-56	-5-56	-5-56	-5-56	-5-56	-5-56	-5-56	-5-56
	Heating operating range	°C	-25-28	-25-28	-25-28	-25-28	-25-28	-25-28	-25-28	-25-28	-25-28	-25-28	-25-28
motor		Qty	1	1	1	1	2	2	2	2	2	2	2
Air volume		m³/h	11000	11000	14000	15500	19000	19000	26000	27000	27000	29000	29000

Note: Specifications are based on the following conditions:

- 1.Cooling: Indoor temperature 29°C DB/19°C WB, and outdoor temperature 46°C DB/24°C WB.
- 2.Heating: Indoor temperature 20°C DB/15°C WB, and outdoor temperature 7°C DB/6°C WB.
- 3.Equivalent piping length:5m; Level difference:0m; Voltage:230V.
- 4.Sound Level: Indoor unit sound pressure level, measured at a point 1.5m downward from the unit center.
- 5.Outdoor unit sound pressure level, measured at a point 1.0m in front of the unit.
- 6.Optional simple wired controller; Universal remote controller; auto-restart(optional); Timer:only one circle.
- 7.Due to ongoing product development, specifications are subject to change without notice.



VRF systems, Various combinations

- In response to the different needs of building types for air-conditioning equipment, it provides four basic outdoor unit modules, which can be freely combined in 2HP increments, and the maximum combination can reach 120HP, which can meet the high level design capacity differentiation, installation and transportation requirements of large and medium-sized air-conditioning projects.

Recommended combination table

HP	Combination1 (Space saving)	Combination2 (High efficiency)	Connected indoor unit qty.	HP	Combination1 (Space saving)	Combination2 (High efficiency)	Connected indoor unit qty.
8	8	8	13	62	18+22+22	16+16+16+14	80
10	10	10	16	64	20+22+22	16+16+16+16	80
12	12	12	19	66	22+22+22	18+16+16+16	80
14	14	14	23	68	24+22+22	18+18+16+16	80
16	16	16	26	70	26+22+22	18+18+18+16	80
18	18	18	29	72	26+20+20	18+18+18+18	80
20	20	20	33	74	22+26+26	20+18+18+18	80
22	22	22	36	76	24+26+26	20+20+18+18	80
24	24	12+12	39	78	26+26+26	20+20+20+18	80
26	26	14+12	43	80	28+26+26	20+20+20+20	80
28	28	16+12	46	82	30+26+26	22+20+20+20	80
30	30	16+14	50	84	30+30+24	22+22+20+20	80
32	18+14		53	86	30+30+26	22+22+22+20	80
34	18+16		56	88	30+30+28	22+22+22+22	80
36	18+18		59	90	30+30+30		80
38	18+20	14+12+12	63	92	22+22+24+24		80
40	22+18	14+14+12	66	94	22+24+24+24		80
42	20+22	14+14+14	69	96	24+24+24+24		80
44	22+22	16+14+14	72	98	26+24+24+24		80
46	24+22	16+16+14	78	100	26+26+24+24		80
48	22+26	16+16+16	80	102	26+26+26+24		80
50	24+26	18+16+16	80	104	26+26+26+26		80
52	26+26	18+18+16	80	106	28+26+26+26		80
54	28+26	18+18+18	80	108	28+28+26+26		80
56	26+30	14+14+14+14	80	110	28+28+28+26		80
58	28+30	16+14+14+14	80	112	28+28+28+28		80
60	30+30	16+16+14+14	80	114	30+28+28+28		80
				116	30+30+28+28		80
				118	30+30+30+28		80
				120	30+30+30+30		80

Space Saving Combination

2 ODU's

HP		32	34	36	38	40	42	44	46	
Recommended combination		18+14	18+16	18+18	20+18	22+18	20+22	22+22	24+22	
Model (HY-TMV-Vd+***W/N1S-C(E3))		904	954	1008	1065	1119	1184	1240	1295	
Naminal cooling *1	(kW)	82	86	92	97	102.5	107.5	113	118	
Naminal heating*2	(kW)	101	106	112	119	125	132	138	144	
Rated cooling power input	(kW)	23.85	27.29	28.98	30.60	32.42	29.98	35.86	37.58	
Rated heating power input	(kW)	21.73	23.44	24.96	26.58	28.20	29.82	31.44	33.06	
Power supply	/	380V ~ 3N 50Hz/60Hz								
Compressor type	-	DV Inverter Scroll								
Dimension (W×D×H)	(mm)	(1340×1780×845)×2				1760×1780×845+ 1340×1780×845		(1760×1780×845)×2		
Motor	Type	DC Inverter								
	Air volume	m³/h	34500	38000	38000	45000	46000	53000	54000	54000
	Drive type	Direct								
Net weight	kg	585	730	730	695	695	760	760	800	
Operation noise *3	dB(A)	63	63	64	64	65	65	65	65	
Min. Amps *4	A	37.9+28.8	37.9+32.6	37.9+37.9	42.0+37.9	46.2+37.9	42.0+46.2	46.2+46.2	52.6+46.2	
MFC *4	A	63+50	63+63	63+63	63+63	80+63	63+80	80+80	80+80	

HP		48	50	52	54	56	58	60	
Recommended combination		22+26	24+26	26+26	28+26	26+30	30+28	30+30	
Model (HY-TMV-Vd+***W/N1S-C(E3))		1360	1400	1465	1515	1570	1630	1685	
Nominal cooling *1	(kW)	123	128	133	138	143.5	148.5	154	
Nominal heating*2	(kW)	150.5	156.5	163	169	176.5	182.5	190	
Rated cooling power input	(kW)	39.30	41.05	42.74	44.46	46.42	48.14	50.10	
Rated heating power input	(kW)	34.67	36.29	37.90	39.52	41.14	42.76	44.38	
Power supply	/	380V ∼ 3N 50Hz/60Hz							
Compressor type	-	DV Inverter Scroll							
Dimension (W×D×H)	(mm)	(1760×1780×845)×2				1900×1780×845+ 1760×1780×845		(1900×1780×845)×2	
Motor	Type	DC Inverter							
	Air volume	m ³ /h	56000	56000	58000	58000	58000	58000	58000
	Drive type	Direct							
Net weight	kg	800	840	840	900	900	960	960	
Operation noise *3	dB(A)	66	66	66	66	67	67	67	
Min. current *4	A	46.2+55.8	52.6+55.8	55.8+55.8	58.95+55.8	55.8+59.31	59.31+58.95	59.31+59.31	
MFC *4	A	80+80	80+80	80+80	100+80	80+100	100+100	100+100	

*1. Rated cooling capacity test conditions: indoor 29°C DB/19°C WB, outdoor 46°C DB/24°C WB

*2. Rated heating capacity test conditions: indoor 20°C DB/15°C WB, outdoor 7°C DB/6°C WB, The performance parameters of the equipment are supposed to change due to product improvements, please note it would be not notice for this. Please refer to the product nameplate for specific parameters

*3. The noise is in accordance with the value tested under GB/T 18837-2015

*4. The air switch is selected according to the maximum fuse current, the electrical wiring specification is selected according to the minimum wire current.



Space Saving Combination

3 ODUs

HP		62		64		66		68		70		72		74						
Recommended combination		18+22+22		20+22+22		22+22+22		24+22+22		26+22+22		26+26+20		22+26+26						
Model (HY-TMV-Vd+***W/N1S-C(E3))		1750		1800		1850		1900		1950		2000		2080						
Nominal cooling capacity *1	(kW)	159		164		169.5		174.5		179.5		184		189.5						
Nominal heating capacity *2	(kW)	194		201		207		213		219.5		226		232						
Reted cooling power input	(kW)	50.35		51.97		53.79		55.51		57.23		58.85		60.67						
Rated heating power input	(kW)	43.92		45.54		47.16		48.78		50.39		52.00		53.62						
Power supply	/	380V ∼ 3N 50Hz/60Hz																		
Compressor type	-	DC inverter Scroll																		
Dimension (W×D×H)	(mm)	1340×1780×845+ (1760×1780×845)×2			(1760×1780×845)×3															
Motor	Type		DC Inverter																	
	Air volume	m³/h	73000			80000			81000			81000			83000		84000		85000	
	Drive type		Direct																	
Net	kg	1075			1140			1140			1180			1180			1220		1220	
Operation level *3	dB(A)	67			67			67			67			68			68		68	
Min. current *4	A	37.9+46.2+46.2			42.0+46.2+46.2			46.2+46.2+46.2			52.6+46.2+46.2			55.8+46.2+46.2			55.8+55.8+42.0		46.2+55.8+55.8	
MFC *4	A	63+80+80			63+80+80			80+80+80			80+80+80			80+80+80			80+80+63		80+80+80	

HP		76		78		80		82		84		86		88		90	
Recommended combination		24+26+26		26+26+26		28+26+26		30+26+26		30+30+24		30+28+28		30+30+28		30+30+30	
Model (HY-TMV-Vd+***W/N1S-C(E3))		2145		2185		2250		2300		2355		2415		2470		2530	
Nominal cooling *1	(kW)	194.5		199.5		204.5		210		215.5		220		225.5		231	
Nominal heating *2	(kW)	238		244.5		250.5		258		265		270		277.5		285	
Rated cooling power input	(kW)	62.39		64.11		65.83		67.79		69.75		71.23		73.19		75.15	
Rated heating power input	(kW)	55.24		56.85		58.47		60.09		61.72		63.33		64.95		66.57	
Power supply	/	380V ∼ 3N 50Hz/60Hz															
Compressor type	-	DC inverter scroll															
Dimension (W×D×H)	(mm)	85000		87000		87000		87000		88000		89000		89000		89000	
Motor	Type		DC inverter														
	Air volume	m³/h	(1760×1780×845)×3			1900×1780×845+ (1760×1780×845)×2			(1900×1780×845)×2 +1760×1780×845			(1900×1780×845)×3					
	Drive way		Direct														
Net weight	kg	1260		1260		1320		1320		1380		1440		1440		1440	
Operation noise*3	dB(A)	68		68		68		69		69		69		69		69	
Min. current*4	A	52.6+55.8+55.8		55.8+55.8+55.8		59.0+55.8+55.8		59.3+55.8+55.8		59.3+59.3+52.6		59.3+59.0+59.0		59.3+59.3+59.0		59.3+59.3+59.3	
MFC *4	A	80+80+80		80+80+80		100+80+80		100+80+80		100+100+80		100+100+100		100+100+100		100+100+100	

*1. Rated cooling capacity test conditions: indoor 29°C DB/19°C WB, outdoor 46°C DB/24°C WB

*2. Rated heating capacity test conditions: indoor 20 °C DB/15 °C WB, outdoor 7 °C DB/6 °C WB, The performance parameters of the equipment are supposed to change due to product improvements, please note it would be not notice for this. Please refer to the product nameplate for specific parameters

*3. The noise is in accordance with the value tested under GB/T 18837-2015

*4. The air switch is selected according to the maximum fuse current, the electrical wiring specification is selected according to the minimum wire current.

Space Saving Combination

4 ODU's

HP		92	94	96	98	100	102	104	106
Recommended combination		22+22+24+24	22+24+24+24	24+24+24+24	26+24+24+24	26+26+24+24	26+26+26+24	26+26+26+26	28+26+26+26
Model (HY-TMV-Vd+***W/N1S-C(E3))		2585	2650	2700	2750	2800	2850	2900	2950
Nominal cooling capacity*1	(kW)	236	241	246	251	256	261	266	271
Nominal heating capacity*2	(kW)	288	294	300	306.5	313	319.5	326	332
Rated cooling power input	(kW)	75.16	76.88	78.60	80.32	82.04	83.76	85.48	87.20
Rated heating power input	(kW)	66.12	67.74	69.36	70.97	72.58	74.19	75.80	77.42
Power supply	/	380V ~ 3N 50Hz/60Hz							
Compressor type	-	DC inverter Scroll							
Dimension (W×D×H)	(mm)	(1760×1780×845)×4							1900×1780×845+ (1760×1780×845)×3
Motor	Type	DC inverter							
	Air volume	m ³ /h	108000	108000	108000	110000	112000	114000	116000
	Drive type	Direct							
Net weight	kg	1600	1640	1680	1680	1680	1680	1680	1740
Operation noise*3	dB(A)	67	67	67	68	68	68	68	68
Min. current*4	A	46.2+46.2 +52.6+52.6	46.2+52.6 +52.6+52.6	52.6+52.6 52.6+52.6	55.8+52.6 +52.6+52.6	55.8+55.8 +52.6+52.6	55.8+55.8 +55.8+52.6	55.8+55.8 +55.8+55.8	58.95+55.8 +55.8+55.8
MFC *4	A	80+80+80+80	80+80+80+80	80+80+80+80	80+80+80+80	80+80+80+80	80+80+80+80	80+80+80+80	100+80+80+80

HP		108	110	112	114	116	118	120
Recommended combination		28+28+26+26	28+28+28+26	28+28+28+28	30+28+28+28	30+30+28+28	30+30+30+28	30+30+30+30
Model (HY-TMV-Vd+***W/N1S-C(E3))		3000	3085	3140	3200	3255	3315	3370
Nominal cooling*1	(kW)	276	281	286	291.5	297	302.5	308
Nominal heating*2	(kW)	338	344	350	357.5	365	372.5	380
Rated cooling power input	(kW)	88.92	90.64	92.36	94.32	96.28	98.24	100.2
Rated heating power input	(kW)	79.04	80.66	82.28	83.90	85.52	87.14	88.76
Power supply	/	380V ∼ 3N 50Hz/60Hz						
Compressor type	-	DC inverter scroll						
Dimension (W×D×H)	(mm)	(1900×1780×845)×2+ (1760×1780×845)×2	(1900×1780×845)×3 +1760×1780×845	(1900×1780×845)×4				
Motor	Type	DC inverter						
	Air volume	m³/h	116000	116000	116000	119000	119000	119000
	Drive type	Direct						
Net weight	kg	1800	1860	1920	1920	1920	1920	1920
Operation noise*3	dB(A)	68	68	68	69	69	69	69
Min. current*4	A	58.95+58.95 +55.8+55.8	58.95+58.95 +58.95+55.8	58.95+58.95 +58.95+58.95	59.31+58.95 +58.95+58.95	59.31+59.31 +58.95+58.95	59.31+59.31+ 59.31+58.95	59.31+59.31 +59.31+59.31
MFC *4	A	100+100+80+80	100+100+100+80	100+100+100+100	100+100+100+100	100+100+100+100	100+100+100+100	100+100+100+100

*1. Rated cooling capacity test conditions: indoor 29°C DB/19°C WB, outdoor 46°C DB/24°C WB

*2. Rated heating capacity test conditions: indoor 20 °C DB/15 °C WB, outdoor 7 °C DB/6 °C WB, The performance parameters of the equipment are supposed to change due to product improvements, please note it would be not notice for this. Please refer to the product nameplate for specific parameters

*3. The noise is in accordance with the value tested under GB/T 18837-2015

*4. The air switch is selected according to the maximum fuse current, the electrical wiring specification is selected according to the minimum wire current.



High Efficiency Combination

2 ODUs

HP		24	26	28	30	
Recommended combination		12+12	14+12	16+12	16+14	
Model (HY-TMV-Vd+***W/N1S-C(E3)		670	735	785	850	
Nominal cooling *1	(kW)	61.8	66.9	70.9	76	
Nominal heating *2	(kW)	75	82.5	87.5	95	
Rated cooling power input	(kW)	18.50	20.30	22.05	23.85	
Rated heating power input	(kW)	14.80	16.65	18.36	20.21	
Power supply	/	380V ∼ 3N 50Hz/60Hz				
Compressor type	-	DC inverter Scroll				
Dimension (W×D×H)	(mm)	(1340×1780×845)×2				
Motor	Type	DC Inverter				
	Air volume	m³/h	28000	29500	33000	34500
	Drive way	Direct				
Net weight	kg	540	540	585	585	
Operation noise *3	dB(A)	61	61	62	62	
Min. current *4	A	24.3+24.3	28.8+24.3	32.6+24.3	32.6+28.8	
MFC *4	A	50+50	50+50	63+50	63+50	

3 ODUs

HP		38	40	42	44	46	48	50	52	54
Recommended combination		14+12+12	14+14+12	14+14+14	16+14+14	16+16+14	16+16+16	18+16+16	18+18+16	18+18+18
Model (HY-TMV-Vd+***W/N1S-C(E3))		1065	1119	1184	1240	1295	1360	1400	1465	1515
Nominal cooling *1	(kW)	97.8	102.9	108	112	116	120	126	132	138
Nominal heating *2	(kW)	120	127.5	135	140	145	150	156	162	168
Rated cooling power input	(kW)	29.55	31.35	33.15	34.90	36.65	38.40	40.09	41.78	43.47
Rated heating power input	(kW)	24.05	25.90	27.75	29.46	31.17	32.88	34.40	35.92	37.44
Power supply	/	380V ~ 3N 50Hz/60Hz								
Compressor type	-	DC inverter scroll								
Dimension (W×D×H)	(mm)	(1340×1780×845)×3								
Motor	Type	DC inverter								
	Air volume	m ³ /h	43500	45000	46500	50000	53500	57000	57000	57000
	Drive type	Direct								
Net weight	kg	810	810	810	855	900	945	945	945	945
Operation noise *3	dB(A)	64	64	64	65	65	65	66	66	66
Min. current*4	A	28.8+24.3 +24.3	28.8+28.8 +24.3	28.8+28.8 +28.8	32.6+28.8 +28.8	32.6+32.6 +28.8	32.6+32.6 +32.6	37.9+32.6 +32.6	37.9+37.9 +32.6	37.9+37.9 +37.9
MFC *4	A	50+50+50	50+50+50	50+50+50	63+50+50	63+63+50	63+63+63	63+63+63	63+63+63	63+63+63

*1. Rated cooling capacity test conditions: indoor 29°C DB/19°C WB, outdoor 46°C DB/24°C WB

*2. Rated heating capacity test conditions: indoor 20°C DB/15°C WB, outdoor 7°C DB/6°C WB, The performance parameters of the equipment are supposed to change due to product improvements. Please refer to the product nameplate for specific parameters

*3. The noise is in accordance with the value tested under GB/T 18837-2015

*4. The air switch is selected according to the maximum fuse current, the electrical wiring specification is selected according to the minimum wire current.

High Efficiency Combination

4 ODU's

HP		56	58	60	62	64	66	68	70	72
Recommended combination		14+14+14+14	16+14+14+14	16+16+14+14	16+16+16+14	16+16+16+16	18+16+16+16	18+18+16+16	18+18+18+16	18+18+18+18
Model (HY-TMV-Vd+***W/N1S-C(E3))		1600	1650	1700	1750	1800	1854	1908	1962	2016
Nominal cooling capacity *1	(kW)	144	148	152	156	160	166	172	178	184
Nominal heating capacity *2	(kW)	180	185	190	195	200	206	212	218	224
Rated cooling power input	(kW)	44.20	45.95	47.70	49.45	51.20	52.89	54.58	56.27	57.96
Rated heating power input	(kW)	37.00	38.71	40.42	42.13	43.84	45.36	46.88	48.40	49.92
Power supply	/	380V~3N 50Hz/60Hz								
Compressor type	-	DCinverter Scroll								
Dimension (W×D×H)	(mm)	(1340×1780×845)×4								
Motor	Type	DCinverter								
	Air volume	m ³ /h	62000	65500	69000	72500	76000	76000	76000	76000
	Drive type		Direct							
Net weight	kg	1080	1125	1170	1215	1260	1260	1260	1260	1260
Operation noise*3	dB(A)	64	65	65	65	65	66	66	66	66
Min. current*4	A	28.8+28.8 +28.8+28.8	32.6+28.8 +28.8+28.8	32.6+32.6 +28.8+28.8	32.6+32.6 +32.6+28.8	32.6+32.6 +32.6+32.6	37.9+32.6 +32.6+32.6	37.9+37.9 +32.6+32.6	37.9+37.9 +37.9+32.6	37.9+37.9 +37.9+37.9
MFC *4	A	50+50+50+50	63+50+50+50	63+63+50+50	63+63+63+50	63+63+63+63				

HP		74	76	78	80	82	84	86	88	
Recommended combination		20+18+18+18	20+20+18+18	20+20+20+18	20+20+20+20	22+20+20+20	22+22+20+20	22+22+22+20	22+22+22+22	
Model (HY-TMV-Vd+***W/N1S-C(E3))		2072	2128	2184	2240	2295	2350	2405	2460	
Nominal cooling *1	(kW)	189	194	199	204	209.5	215	220.5	226	
Nominal heating capacity *2	(kW)	231	238	245	252	258	264	270	276	
Reted cooling power input	(kW)	59.58	61.20	62.82	64.44	66.26	68.08	69.90	71.72	
Rated heating power input	(kW)	51.54	53.16	54.78	56.40	58.02	59.64	61.26	62.88	
Power supply	/	380V ~ 3N 50Hz/60Hz								
Compressor type	-	DC inverter Scroll								
Dimension (W×D×H)	(mm)	(1760×1780×845)+ (1340×1780×845)×3	(1760×1780×845)×2+ (1340×1780×845)×2	(1760×1780×845)×3 +(1340×1780×845)	(1760×1780×845)×4					
Motor	Type	DC inverter								
	Air volume	m³/h	83000	90000	97000	104000	105000	106000	107000	108000
	Drive type		Drrect							
Net weight	kg	1325	1390	1455	1520	1520	1520	1520	1520	
Operation noise *3	dB(A)	66	66	66	66	67	67	67	67	
Min. current*4	A	42.0+37.9 +37.9+37.9	42.0+42.0 +37.9+37.9	42.0+42.0 +42.0+37.9	42.0+42.0 +42.0+42.0	46.2+42.0 +42.0+42.0	46.2+46.2 +42.0+42.0	46.2+46.2 +46.2+42.0	46.2+46.2 +46.2+46.2	
MFC *4	A	63+63 +63+63	63+63+63 +63	63+63 +63+63	63+63 +63+63	80+63 +63+63	80+80 +63+63	80+80 +80+63	80+80 +80+80	

*1: Cooling capacity test working condition: indoor temperature 29°C DB/19°C WB, outdoor temperature 46°C DB/24°C WB

*2: Heat production test conditions: indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB/6°C WB

*3: Noise according to GB/T 18837-2015 test value

*4: Select air switch according to the maximum fuse current, select electrical wiring specifications according to the minimum line current.

Unit performance parameters are subject to modification without notice. For details, see the product nameplate.

Mini VRF

Full DC Inverter Tropical Unit



Powerful



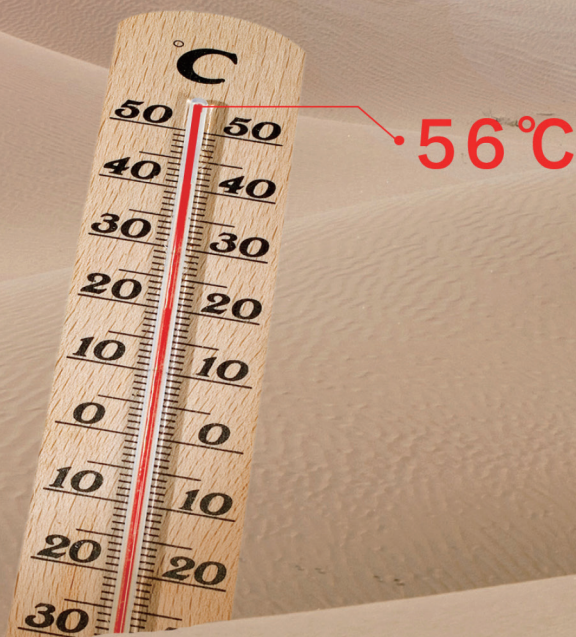
High Efficiency



Comfortable



Stable







7.1 Strong Power, Stable Operation

High efficiency full DC inverter and twin rotary compressor

- The Mini VRF use full DC inverter twin rotary compressor, which has high- efficiency both for full load condition and partial load condition, also leads to low noise, stable and reliable operation.



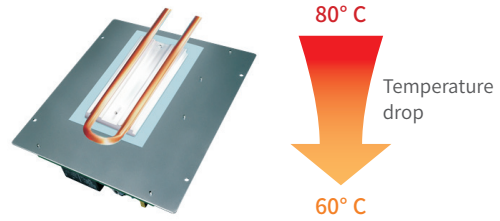
High efficiency DC fan motor

- The stepless regulation of the fan motor can meet the actual requirement of the capacity output, efficiency of motor is increased up to be 45%, higher efficiency in low speed.



Electrical control box refrigerant cooling technology

- The refrigerant cooling technology can cool the PCBs in high ambient temperature condition, which improves the reliability, efficiency and lifespan of the MINI VRF units.



Wide operation temperature range

- The Mini VRF can operate under -25°C to ensure the heating demand, operate up to 54°C to make sure the cooling capacity output with high efficiency and stability.

7.2 Energy Saving And Environmental Friendly

High energy efficiency

- The mini VRF adopts full DC inverter compressor, DC fan motor, high-precision electronic expansion valve to create a durable system .



R410A High-efficiency and environmentally friendly refrigerant

- R410A is an HFC refrigerant which does not damage the ozone layer. It is an energy efficient and environmentally friendly refrigerant.
- R410A is non-toxic and is a "non-flammable refrigerant". The composition structure of R410A is not easy to change and very stable.



RoHS Certification

- The mini VRF unit meets the RoHS environmental certification, which is environmental friendly.



7.4 Beautiful Appearance, Upgraded Structure Design

Simple and elegant appearance

The top panel

No screw design to get high-quality structure and improve the strength, more beautiful

The front panel

Double 528mm wind wheel, larger air volume and lower noise.

Grille

Grille adopts DOE simulation design, air volume increased more than 7%

Footing

High strength foundation with rust - proof, corrosion - proof, more stable and reliable.



Right front side plate

Mold forming and integrated design to make sure the strength of the panel

Lifting handle

Upgraded handle design, easy to carry

Right back plate

The mold is integrally formed and the new designed diffuser improves the heat exchange efficiency.

Seal plate

Ensure simple pipe connection.

Three side direction pipe connection

- The front, side and back of the unit are designed with knock-out holes, copper pipes can be connected from various directions, which is more convenient to do the installation.



Sealing plate is combined with knock-out plate
Three side pipe connection design
Different installation options



7.5Mini VRF Parameters



10-16 KW

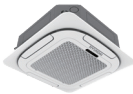
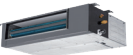


18-22.4 KW

Loading Capacity			3.5HP	4HP	5HP	6HP	7HP	8HP
Model			HY-TMV-Vd100W/ N1-C(E3)	HY-TMV-Vd120W/ N1-C(E3)	HY-TMV-Vd140W/ N1-C(E3)	HY-TMV-Vd160W/ N1-C(E3)	HY-TMV-Vd180W/ N1S-C(E3)	HY-TMV-Vd224W/ N1S-C(E3)
Cooling capacity	Capacity	Btu/h	32400	36500	41000	46500	57000	66000
	Capacity	kW	9.3	10.5	12.0	13.5	16.5	19.2
	Input	kW	2.73	3.11	3.39	4.30	5.76	6.86
	EER	Btu/ (Wh)	11.85	11.70	12.10	10.80	9.90	9.60
	EER	W/W	3.41	3.37	3.54	3.14	2.87	2.80
Heating capacity	Capacity	Btu/h	40000	47000	54500	61500	68000	84000
	Capacity	kW	11.7	13.8	15.9	18.0	19.8	24.6
	Input	kW	2.64	3.13	3.63	4.24	4.82	6.05
	COP	W/W	4.43	4.42	4.39	4.25	4.11	4.07
	COP	W/W	4.43	4.42	4.39	4.25	4.11	4.07
Refrigerant type/ Quantity	Type		R410A	R410A	R410A	R410A	R410A	R410A
	Charged volume	kg	4	4	4.3	5.6	6.5	8.5
Design pressure		MPa	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5
Voltage Range		V	220-240V ~ 50/60Hz				380-415V 3N ~ 50/60Hz	
Voltage Range		V	198-264V	198-264V	198-264V	198-264V	340~460	340~460
Max. Power		kW	6000	6000	6900	7200	11000	12000
Max. Current		A	27.8	27.8	31.4	33	17.6	19.2
Connecting Pipe	Liquid	mm	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
	Gas	mm	3/4"	3/4"	3/4"	3/4"	7/8"(22.2)	7/8"(22.2)
Max. height drop (high head)		m	30(20)	30(20)	30(20)	30(20)	30(20)	30(20)
Max. length of connecting indoor unit		m	120	120	120	120	120	120
Max. length of connecting pipe		m	70	70	70	70	70	70
Net dimensions	W x H x D	mm	950×1330×340				1120×1560×400	
Net weight	Outdoor	kg	91	91	94	99	130	140
Packing dimensions	W x H x D	mm	1080×1480×430				1250×1721×560	
Gross weight	Outdoor	kg	102	102	105	110	145	163
Cooling operating range	Outdoor side	°C	-5~56	-5~56	-5~56	-5~56	-5~56	-5~56
	Indoor side	°C	16~32	16~32	16~32	16~32	16~32	16~32
Heating operating range	Outdoor side	°C	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28
	Indoor side	°C	15~31	15~31	15~31	15~31	15~31	15~31

Notes: 1. Specifications are based on the following conditions:
2. Cooling: Indoor temperature 29°C DB/19°C WB, and outdoor temperature 46°C DB/24°C WB.
3. Heating: Indoor temperature 20°C DB/15°C WB, and outdoor temperature 7°C DB/6°C WB.
4. Equivalent piping length: 5m; Level difference: 0m; Voltage: 230V.

IDU lineup

Series	Type	Fan motor	Model	Capacity range(x100w) 他																		
				18	22	25	28	32	36	40	45	50	56	63	71	80	90	100	112	125	140	160
 360° air outlet cassette	Cooling & Heating	DC	HY-TMV-V(**) Q8/NIDY (E)				●		●		●	●	●	●	●	●	●	●	●	●	●	
 compact cassette	Cooling & Heating	DC	HY-TMV-V(**) Q4R/NIDY (E)	●	●	●	●	●	●	●	●	●	●									
 F5 slim DC inverter duct	Cooling & Heating	DC	HY-TMV-V(**) F5/NIDY(E)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
 Wall- mounted (External EXV)	Cooling & Heating	DC	HY-TMV-V(**) G/NIDY-B(E)		●		●		●		●	●	●		●	●	●	●				
 Wall- mounted (Built-in EXV)	Cooling & Heating	AC (60Hz)	HY-TMV-V(**) G/N1Y-B(E) (60Hz)		●		●		●		●	●	●		●	●						



360° Air-outlet Cassette



Recommended places

Office, restaurant, supermarket, shopping mall, lobby, etc

Technical characteristics



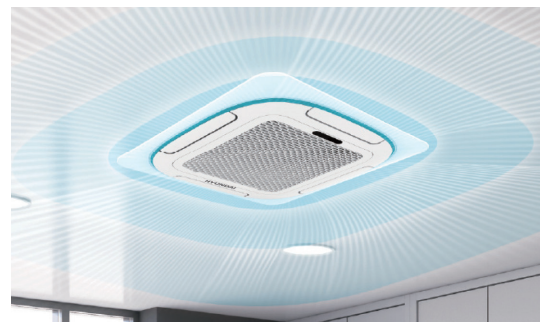
New panel design

Adopt the new design of "porcelain white" color, beautiful and generous, so that the indoor machine panel and the ceiling color more easily integrated, more noble, surround type air supply panel, air supply more comfortable.



360° wide-angle air supply

Comfortable air supply does not leave dead corner, every corner can enjoy cool; Uniform air supply, reduce the temperature difference, keep the indoor temperature comfortable; Air supply is no longer directed single, keep air circulation, air more fresh and healthy.



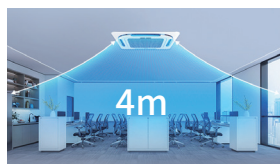
Large Air Outlet Volume

Through the new DC inverter fan motor, achieve 2100m³/h air outlet volume, and improve the air Exchange efficiency by 30%



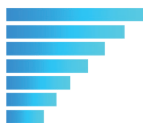
50Pa Static Pressure Adjustment

Build-in 4 gear static pressure, 0~50Pa can be adjusted, to achieve the 4m long air outlet distance



7-level Fan Speed Volume

Thin fuselage, the installation space required is small, the unit can be easily installed in a fairly narrow ceiling.



Standard condensate pump, easy to install

Equipped with advanced high-lift condensate drainage pump, the maximum head up to 1200mm, easy to install drainpipes.



Clean sterilization, healthy life

Standard health filter screen, effectively remove large particles in the air, optional silver ion purification module, adsorption of formaldehyde and odor, eliminate germs.



DC inverter fan motor technology

Adoption DC inverter motor technology, to improve the running efficiency by 15% and reduce the operation noise (min 31dB)



Ultra low noise

Using the advanced technology of three-dimensional spiral blade design, can reduce the air resistance, realize the machine low noise operation, "quiet" enjoy a comfortable life.



Standard float switch, timely warning

Standard float switch, when the condensate pump is faulty or the drainpipe is blocked, timely warning, prevent the water tray inside the machine overflow.

360° Air-outlet Cassette

Indoor Model:HY-TMV-V(**)Q8/NIDY(E)			28	36	45	50	56	63	71
IDU Power Supply		V-,Hz,Ph	220-240V,50/60Hz,1Ph						
Capacity	Cooling	Btu/h	10000	12000	15000	17000	19000	21000	24000
		KW	2.8	3.6	4.5	5	5.6	6.3	7.1
	Heating	Btu/h	11000	14000	17000	19000	21000	24000	27000
		KW	3.2	4	5	5.6	6.3	7.1	8
Electric Data (T1)	Rated Cooling Power Input	KW	0.02	0.02	0.025	0.025	0.025	0.035	0.035
	Rated Heating Power Input	KW							
	Rated Cooling Current	A	0.09	0.09	0.11	0.11	0.11	0.16	0.16
	Rated Heating Current	A							
Indoor Air Flow (Hi/Mi/Lo)		m ³ /h	800/750/700	800/750/700	900/800/700	900/800/700	900/800/700	1100/900/750	1100/900/750
Indoor sound pressure (Hi/Mi/Lo)		dB(A)	31/29/27	31/29/27	33/31/29	33/31/29	33/31/29	35/33/31	37/34/32
Indoor Unit	Net Dimension (WxDxH)	mm	840×245×840						
	Packing imension (WxDxH)	mm	920×270×920						
	Net Weight	Kg	21.5	21.5	21.5	21.5	21.5	22	22
	Gross Weight	Kg	25	25	25	25	25	25.5	25.5
Panel	Net Dimension (WxDxH)	mm	950×950×50						
	Packing Dimension (W*D*H)	mm	1055×1055×90						
	Net weight	Kg	6						
	Gross weight	Kg	9						
Refrigerant Pipe	Gas Side	mm/in	12.7(1/2)	12.7(1/2)	12.7(1/2)	12.7(1/2)	12.7(1/2)	15.88(5/8)	15.88(5/8)
	Liquid Side	mm/in	6.35(1/4)	6.35(1/4)	6.35(1/4)	6.35(1/4)	6.35(1/4)	9.52(3/8)	9.52(3/8)
Operation Temperature Range		°C	16-31						

Indoor Model:HY-TMV-V(**)Q8/NIDY(E)			80	90	100	112	125	140	160
IDU Power Supply		V-,Hz,Ph	220-240V,50/60Hz,1Ph						
Capacity	Cooling	Btu/h	27000	30000	34000	38000	42000	48000	55000
		KW	8	9	10	11.2	12.5	14	16
	Heating	Btu/h	30000	34000	38000	42000	48000	55000	62000
		KW	9	10	11.2	12.5	14	16	18
Electric Data (TI)	Rated Cooling Power Input	KW	0.04	0.06	0.06	0.06	0.07	0.085	0.132
	Rated Heating Power Input	KW							
	Rated Cooling Current	A	0.18	0.27	0.27	0.27	0.32	0.39	0.6
	Rated Heating Current	A							
Indoor Air Flow (Hi/Mi/Lo)		m³/h	1300/1000/800	1500/1100/800	1600/1200/900	1600/1200/900	1800/1300/950	1800/1300/950	2100/1700/1200
Indoor sound pressure (Hi/Mi/Lo)		dB(A)	38/35/33	39/36/33	40/37/34	41/37/35	43/38/35	43/38/35	47/42/37
Indoor Unit	Net Dimension (WxDxH)	mm	840×245×840			840×290×840			
	Packing imension (WxDxH)	mm	920×270×920			920×315×920			
	Net Weight	Kg	22	22.5	25	25	25	27.5	27.5
	Gross Weight	Kg	25.5	26	28.5	28.5	28.5	31	31
Panel	Net Dimension (WxDxH)	mm	950×950×50						
	Packing Dimension (WxDxH)	mm	1055×1055×90						
	Net weight	Kg	6						
	Gross weight	Kg	9						
Refrigerant Pipe	Gas Side	mm/in	15.88(5/8)			15.88(5/8)		15.88(5/8)	
	Liquid Side	mm/in	9.52(3/8)			9.52(3/8)		9.52(3/8)	
Operation Temperature Range		°C	16-31						

Notes:

- Specifications are based on the following conditions:
- Cooling: Indoor temperature 27°C DB/19°C WB, and outdoor temperature 35°C DB/24°C WB.
- Heating: Indoor temperature 20°C DB/15°C WB, and outdoor temperature 7°C DB/6°C WB.
- Equivalent piping length:5m; Level difference:0m; Voltage:230V.
- Sound Level: Indoor unit sound pressure level,measured at a point 1.5m downward from the unit center.
- Outdoor unit sound pressure level,measured at a point 1.0m in front of the unit.
- Optional simple wired controller; Universal remote controller; auto-restart(optional); Timer:only one circle.
- Due to ongoing product development, specifications are subject to change without notice.



compact cassette



Recommended places

Office, restaurant, supermarket, shopping mall, lobby, etc

Technical characteristics



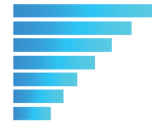
Ultra low noise

Using the advanced technology of three-dimensional spiral blade design, can reduce the air resistance, realize the machine low noise operation, "quiet" enjoy a comfortable life.



7-level Fan Speed Volume

Thin fuselage, the installation space required is small, the unit can be easily installed in a fairly narrow ceiling.



Clean sterilization, healthy life

Standard health filter screen, effectively remove large particles in the air, optional silver ion purification module, adsorption of formaldehyde and odor, eliminate germs.



DC inverter fan motor technology

Adoption DC inverter motor technology, to improve the running efficiency by 15% and reduce the operation noise (min 25dB)



Specification

Indoor Model: HY-TMV-V(**)Q4R/NID1Y(E)			18	22	25	28	32	36	40	45	50	56
IDU Power Supply		V-,Hz,Ph	220-240V,50/60Hz,1Ph									
Capacity	Cooling	Btu/h	6,000	7,500	9,000	10,000	11,000	12,000	14,000	15,000	17,000	19,000
		KW	1.8	2.2	2.5	2.8	3.2	3.6	4	4.5	5	5.6
	Heating	Btu/h	7,500	9,000	10,000	11,000	12,000	14,000	15,000	17,000	19,000	21,000
		KW	2.2	2.5	2.8	3.2	3.6	4	4.5	5	5.6	6.3
Electric Data (TI)	Rated Cooling Power Input	KW	0.014	0.014	0.014	0.014	0.016	0.016	0.022	0.022	0.044	0.05
	Rated Heating Power Input	KW										
	Rated Cooling Current	A	0.06	0.06	0.06	0.06	0.07	0.07	0.1	0.1	0.2	0.23
	Rated Heating Current	A										
Indoor Air Flow(Hi/Mi/Lo)		m³/h	520/390/260				560/410/280		620/460/300		750/560/310	800/590/330
Indoor sound pressure(Hi/Mi/Lo)		dB(A)	30/28/25				31/29/25		35/30/26		43/32/26	45/34/27
Indoor Unit	Net Dimension (WxDxH)	mm	570x570x245									
	Packing Dimension (WxDxH)	mm	718x657x301									
	Net Weight	Kg	14.5				14.5		14.5		15	
	Gross Weight	Kg	17				17		17		17.5	
Panel	Net Dimension (WxDxH)	mm	650x650x57									
	Packing Dimension (WxDxH)	mm	734x734x95									
	Net weight	Kg	2									
	Gross weight	Kg	4.25									
Refrigerant Pipe	Gas Side	mm/in	12.7(1/2)									
	Liquid Side	mm/in	6.35 (1/4)									
Operation Temperature Range		°C	16-32									

Notes:

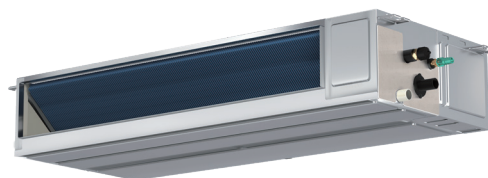
1. Specifications are based on the following conditions:
2. Cooling: Indoor temperature 27°C DB/19°C WB, and outdoor temperature 35°C DB/24°C WB.
3. Heating: Indoor temperature 20°C DB/15°C WB, and outdoor temperature 7°C DB/6°C WB.
4. Equivalent piping length: 5m; Level difference: 0m; Voltage: 230V.

5. Sound Level: Indoor unit sound pressure level, measured at a point 1.5m downward from the unit center.
6. Outdoor unit sound pressure level, measured at a point 1.0m in front of the unit.
7. Optional simple wired controller; Universal remote controller; auto-restart(optional); Timer: only one circle.
8. Due to ongoing product development, specifications are subject to change without notice.





F5 slim DC inverter duct



Recommended places

Office, conference room, hotel room, restaurant, living room, etc

Technical characteristics



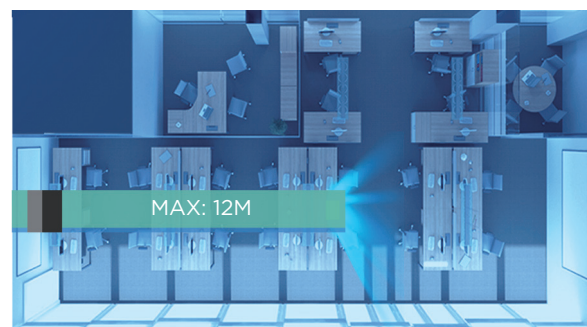
Constant air volume

Fan motor automatically adjusts speed according to real-time wind resistance. To provide stable air volume to rooms.



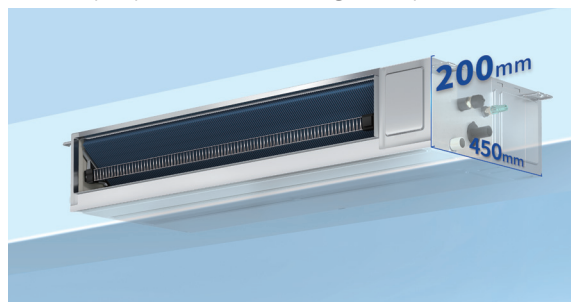
High ESP

ESP up to 80Pa supports longer air duct and fits with more installation scenario.



Ultra-thin body design, fashion and beautiful

The minimum height of the body is only 200mm, saving space. The drain pump can lift the condensing water up to 1200mm.



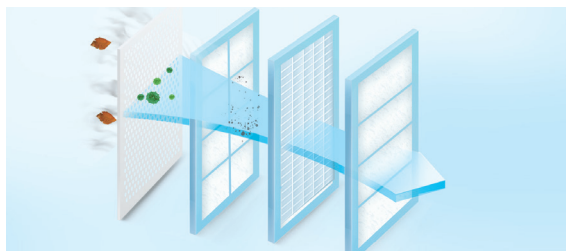
Dc seven speed wind speed Energy-saving silent operation

DC motor, 7-speed air volume, energy-saving and silent operation. The lowest noise is 20 d B(A).



Health filter (optional)

The duct can be equipped with silver ion and activated carbon health filter.



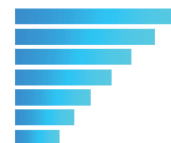
Standard float switch, timely warning

Standard float switch, when the condensate pump is faulty or the drainpipe is blocked, timely warning, prevent the water tray inside the machine overflow.



7-level Fan Speed Volume

Thin fuselage, the installation space required is small, the unit can be easily installed in a fairly narrow ceiling.



F5 slim DC inverter duct

Specification

Indoor Model:HY-TMV-V(**)F5/NIDY(E)			18	22	25	28	32	36	40	45	50	56
IDU Power Supply		V-,Hz,Ph	220-240V,50/60Hz,1Ph									
Capacity	Cooling	Btu/h	6,000	7,500	9,000	10,000	11,000	12,000	14,000	15,000	17,000	19,000
		KW	1.8	2.2	2.5	2.8	3.2	3.6	4.0	4.5	5.0	5.6
	Heating	Btu/h	7,500	9,000	10,000	11,000	12,000	14,000	15,000	17,000	19,000	21,000
		KW	2.2	2.5	2.8	3.2	3.6	4.0	4.5	5.0	5.6	6.3
Electric Data (T1)	Rated Cooling Power Input	KW	0.02	0.02	0.02	0.02	0.03	0.03	0.05	0.05	0.05	0.05
	Rated Heating Power Input	KW										
	Rated Cooling Current	A	0.09	0.09	0.09	0.09	0.14	0.14	0.23	0.23	0.23	0.23
	Rated Heating Current	A										
Indoor Air Flow(Hi/Mi/Lo)		m³/h	500/380/200		500/380/200		550/400/220		850/450/230		850/450/230	
Indoor sound pressure(Hi/Mi/Lo)		dB(A)	30/26/20		30/26/20		30/26/22		34/29/24		34/29/24	
External Static Pressure(Rated)		Pa	20									
External Static Pressure(Range)		Pa	0-50									
Net Dimension(WxDxH)		mm	700×450×200		700×450×200		700×450×200		920×450×200		920×450×200	
Packing Dimension(WxDxH)		mm	900×555×250		900×555×250		900×555×250		1200×555×250		1200×555×250	
Net Weight		Kg	15.5		15.5		15.5		18		18	
Gross Weight		Kg	18		18		18		21		21	
Refrigerant Pipe	Gas Side	mm/in	9.52(3/8)		9.52(3/8)		12.7(1/2)		12.7(1/2)		12.7(1/2)	
	Liquid Side	mm/in	6.35(1/4)									
Operation Temperature Range		°C	16-32									

Indoor Model:HY-TMV-V(**)F5/NIDY(E)			63	71	80	90	100	112	125	140	160	
IDU Power Supply		V-,Hz,Ph	220-240V,50/60Hz,1Ph									
Capacity	Cooling	Btu/h	21,000	24,000	27,000	30,000	34,000	38,000	42,000	48,000		
		KW	6.3	7.1	8.0	9.0	10.0	11.2	12.5	14.0	16.0	
	Heating	Btu/h	24,000	27,000	30,000	34,000	38,000	42,000	48,000	55,000		
		KW	7.1	8.0	9.0	10.0	11.2	12.5	14.0	16.0	18.0	
Electric Data (T1)	Rated Cooling Power Input	KW	0.054				0.18			0.25		0.23
	Rated Heating Power Input	KW										
	Rated Cooling Current	A	0.25				0.9			1.2		1.05
	Rated Heating Current	A										
Indoor Air Flow(Hi/Mi/Lo)		m³/h	1100/760/480			1800/1100/270			2000/1600/700		2100/1400/1050	
Indoor sound pressure(Hi/Mi/Lo)		dB(A)	37/31/27			43/37/33			44/41/37		44/39/34	
External Static Pressure(Rated)		Pa	20			60			60		50	
External Static Pressure(Range)		Pa	0-80			30-80			30-80		0-200	
Net Dimension(WxDxH)		mm	1100×450×200			1400×700×250			1400×700×250		1200×700×245	
Packing Dimension(WxDxH)		mm	1290×565×245			1632×827×298			1632×827×298		1420×830×290	
Net Weight		Kg	22.5			36			38			
Gross Weight		Kg	26			42			44		43	
Refrigerant Pipe	Gas Side	mm/in	15.88(5/8)									
	Liquid Side	mm/in	9.52(3/8)									
Operation Temperature Range		°C	16-32									

Notes: 1. Specifications are based on the following conditions:
2. Cooling: Indoor temperature 27°C DB/19°C WB, and outdoor temperature 35°C DB/24°C WB.
3. Heating: Indoor temperature 20°C DB/15°C WB, and outdoor temperature 7°C DB/6°C WB.
4. Equivalent piping length: 5m; Level difference: 0m; Voltage: 230V.

5. Sound Level: Indoor unit sound pressure level, measured at a point 1.5m downward from the unit center.
6. Outdoor unit sound pressure level, measured at a point 1.0m in front of the unit.
7. Optional simple wired controller; Universal remote controller; auto-restart(optional); Timer: only one circle.
8. Due to ongoing product development, specifications are subject to change without notice.



Wall-mounted(External EXV)



Recommended places

Living room, study, reference room, negotiation room and other places

Technical characteristics



Ultra-low silent operation

Adopt large-diameter blade, high-quality plastic-encapsulated motor, and the noise is as low as 27dB(A).



Ultra-thin body design, smart and beautiful

The minimum thickness of the unit is only 380mm, which makes installation more convenient.



Easy maintenance

The horizontal baffle of the unit is easy to remove for easy cleaning and maintenance.



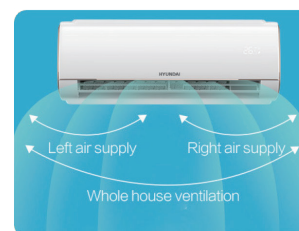
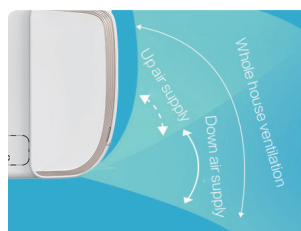
Long-lasting filter design

The long-term filter design makes the air more healthy, reduces the difficulty of maintenance.



Wide-angle air supply, more comfortable

The upper and lower wind guide vanes make the airflow comfortable.



Specification

Indoor Model:HY-TMV-V(**)G/NIDY-B(E)			22	28	36	45	50	56	71	80	90	100
IDU Power Supply		V~,Hz,Ph	220-240V,50/60Hz,1Ph									
Capacity	Cooling	Btu/h	7,500	10,000	12,000	15,000	17,000	19,000	24,000	27,000	30,000	34,000
		KW	2.2	2.8	3.6	4.5	5.0	5.6	7.1	8.0	9.0	10.0
	Heating	Btu/h	9,000	11,000	14,000	17,000	19,000	21,000	27,000	30,000	34,000	41,000
		KW	2.5	3.2	4.0	5.0	5.6	6.3	8.0	9.0	10.0	12.0
Electric Data (T1)	Rated Cooling Power Input Rated Heating Power Input Rated Cooling Current Rated Heating Current	KW	0.04	0.04	0.04	0.045	0.045	0.055	0.055	0.055	0.09	0.09
		KW										
		A	0.19	0.19	0.19	0.2	0.2	0.25	0.25	0.25	0.4	0.4
		A										
Indoor Air Flow(Hi/Mi/Lo)		m³/h	550/450/330			650/550/360		800/700/500			1500/1200/800	
Indoor sound pressure(S/M/Mute)		dB(A)	37/29/22			39/31/27		45/38/34			47/41/36	
Net Dimension(WxDxH)		mm	910×206×294			910×206×294		1010×220×315			1186×258×360	
Packing Dimension(WxDxH)		mm	977×276×367			977×276×367		1094×300×386			1260×328×430	
Net Weight		Kg	9.5			9.5		12			16.5	
Gross Weight		Kg	12			12		14.5			21	
Refrigerant Pipe	Gas Side	mm/in	12.7(1/2)			12.7(1/2)		15.88(5/8)			15.88(5/8)	
	Liquid Side	mm/in	6.35(1/4)			6.35(1/4)		9.52(3/8)			9.52(3/8)	
Operation Temperature Range		℃	16-32									

Notes: 1. Specifications are based on the following conditions:

2. Cooling: Indoor temperature 27°C DB/19°C WB, and outdoor temperature 35°C DB/24°C WB.

3. Heating: Indoor temperature 20°C DB/15°C WB, and outdoor temperature 7°C DB/6°C WB.

4. Equivalent piping length:5m; Level difference:0m; Voltage:230V.

5. Sound Level: Indoor unit sound pressure level, measured at a point 1.5m downward from the unit center.

6. Outdoor unit sound pressure level, measured at a point 1.0m in front of the unit.

7. Optional simple wired controller; Universal remote controller; auto-restart(optional); Timer: only one circle.

8. Due to ongoing product development, specifications are subject to change without notice.

Wall-mounted(Built-in EXV)



Recommended places

Living room, study, reference room, negotiation room and other places

Technical characteristics



Ultra-low silent operation

Adopt large-diameter blade, high-quality plastic-encapsulated motor, and the noise is as low as 27dB(A).



Ultra-thin body design, smart and beautiful

The minimum thickness of the unit is only 380mm, which makes installation more convenient.



Easy maintenance

The horizontal baffle of the unit is easy to remove for easy cleaning and maintenance.



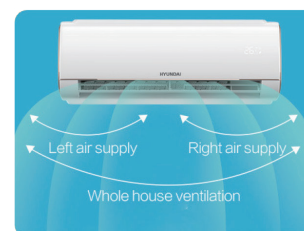
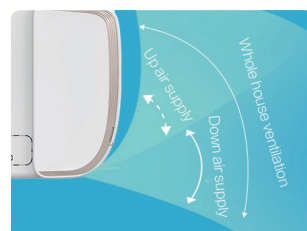
Long-lasting filter design

The long-term filter design makes the air more healthy, reduces the difficulty of maintenance.



Wide-angle air supply, more comfortable

The upper and lower wind guide vanes make the airflow comfortable.



Specification

Indoor Model:HY-TMV-V(**)G/N1Y-B(E)(60Hz)			22	28	36	45	50	56	63	71	80
IDU Power Supply		V-,Hz,Ph	208-230V,60Hz,1Ph								
Capacity	Cooling	Btu/h	7,500	10,000	12,000	15,000	17,000	19,000	21,000	24,000	27,000
		KW	2.2	2.8	3.6	4.5	5.0	5.6	6.3	7.1	8.0
	Heating	Btu/h	9,000	11,000	14,000	17,000	19,000	21,000	24,000	27,000	30,000
		KW	2.5	3.2	4.0	5.0	5.6	6.3	7.1	8.0	9.0
Electric Data (TI)	Rated Cooling Power Input	KW	0.04	0.04	0.04	0.045	0.045	0.07	0.07	0.07	0.07
	Rated Heating Power Input	KW									
	Rated Cooling Current	A	0.19	0.19	0.19	0.2	0.2	0.32	0.32	0.32	0.32
	Rated Heating Current	A									
Indoor Air Flow(Hi/Mi/Lo)		m³/h	550/450/350			650/580/400		800/700/550			
Indoor sound pressure(Hi/Mi/Lo)		dB(A)	38/30/27			42/38/29		44/38/35			
Net Dimension(WxDxH)		mm	910×206×294			910×206×294		1010×220×315			
Packing Dimension(WxDxH)		mm	977×276×367			977×276×367		1094×300×386			
Net Weight		Kg	10			10		13			
Gross Weight		Kg	12.5			12.5		16			
Refrigerant Pipe	Gas Side	mm/in	12.7(1/2)			12.7(1/2)		15.88(5/8)			
	Liquid Side	mm/in	6.35(1/4)			6.35(1/4)		9.52(3/8)			
Operation Temperature Range		℃	16-32								

Notes: 1. Specifications are based on the following conditions:

2. Cooling: Indoor temperature 27°C DB/19°C WB, and outdoor temperature 35°C DB/24°C WB.

3. Heating: Indoor temperature 20°C DB/15°C WB, and outdoor temperature 7°C DB/6°C WB.

4. Equivalent piping length:5m; Level difference:0m; Voltage:230V.

5. Sound Level: Indoor unit sound pressure level, measured at a point 1.5m downward from the unit center.

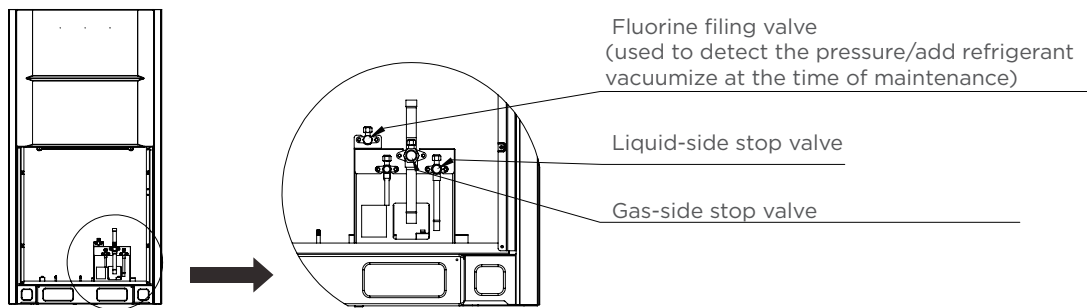
6. Outdoor unit sound pressure level, measured at a point 1.0m in front of the unit.

7. Optional simple wired controller; Universal remote controller; auto-restart(optional); Timer: only one circle.

8. Due to ongoing product development, specifications are subject to change without notice.

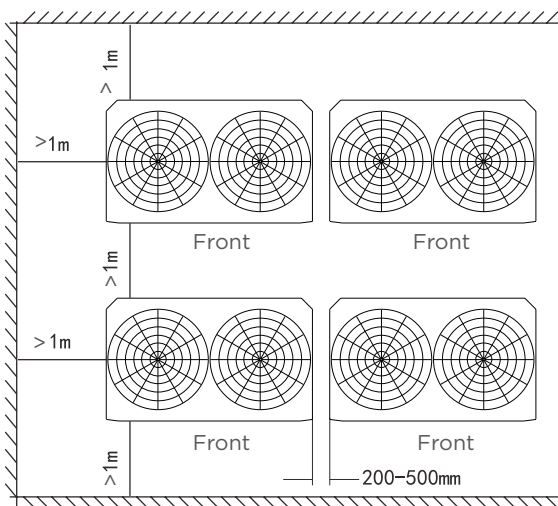


Location of refrigerant pipes

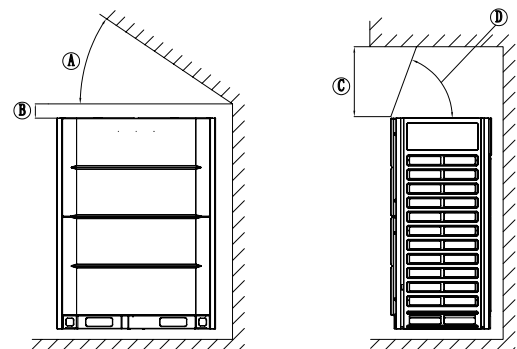


Installation space for ODU

- The space shown in the figure needs to be reserved for the installation of the ODU, and the power supply equipment should be installed separately.



- To ensure the heat dissipation of the outdoor unit, there should be no obstacles above the outdoor unit. If it cannot be avoided, a deflector should be installed.



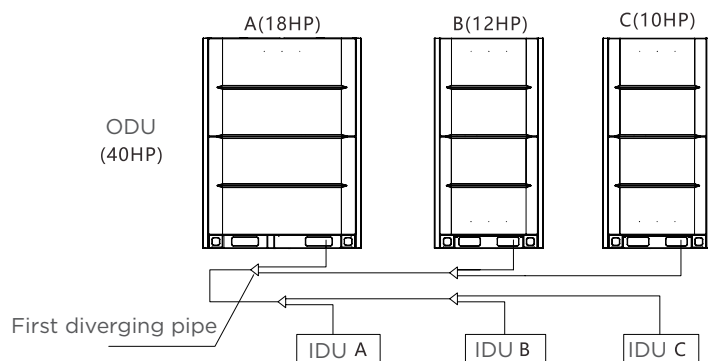
- A More than 45°
- B More than 300mm
- C More than 1000mm
- D Guide plate

- If there are stacks around the outdoor unit, the height should be less than 800mm from the top of the outdoor unit. If it is less than the size, a mechanical exhaust device must be installed.

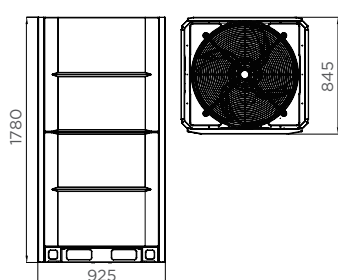
Arrangement sequence of ODU

- When a system has more than two outdoor units, it is necessary to install the units as the followings:

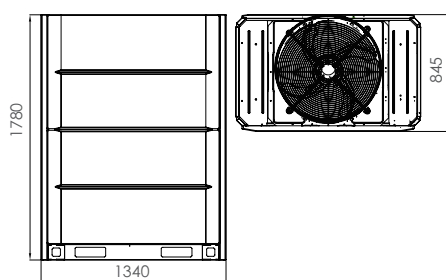
The outdoor units are arranged in descending order (for example, in the right picture, ODU capacity $A \geq \text{ODU capacity } B \geq \text{ODU capacity } C$) and the ODU A should install at the branch pipe.



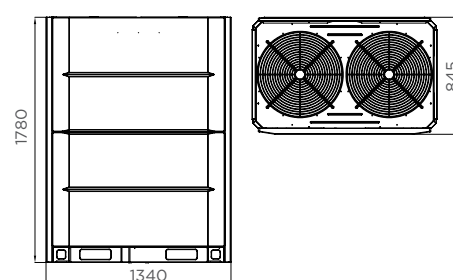
Dimension of ODU



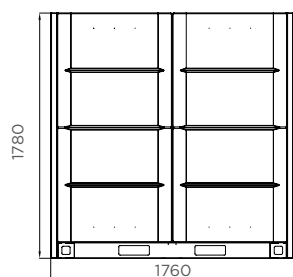
HY-TMV-VED+252(280)W/N1S-C(E3)



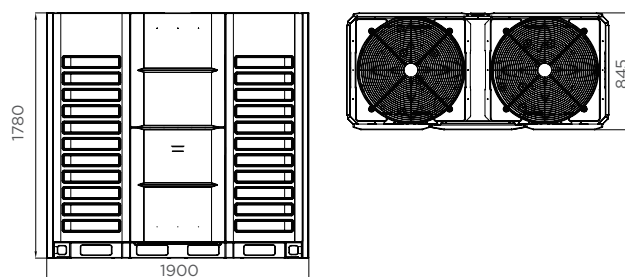
HY-TMV-VED+335(400)W/N1S-C(E3)



HY-TMV-VED+450(504)W/N1S-C(E3)



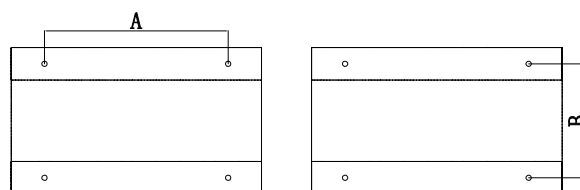
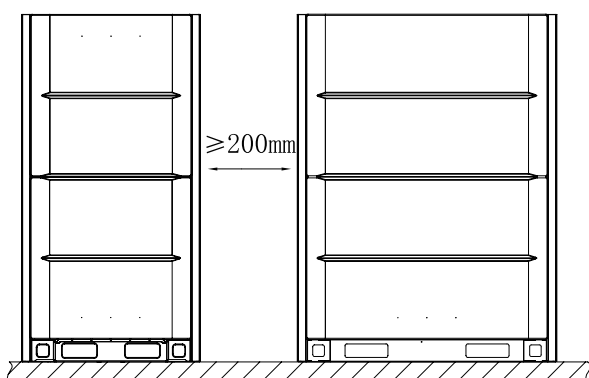
HY-TMV-VED+560(615/680/730) W/N1S-C(E3)



HY-TMV6-VED+785(850)W/N1S-C(E3)

Requirements for ODU installation

- A shock absorber or shock pad should be installed between the unit and the foundation.
- The unit and the foundation should be released tightly, otherwise there will be a lot of noise and vibration.
- The outdoor unit must be grounded reliably.
- It is forbidden to open the valves of the liquid pipe, gas pipe and oil balance pipe of the unit before commission.
- The installation should ensure that there is enough space for maintenance.



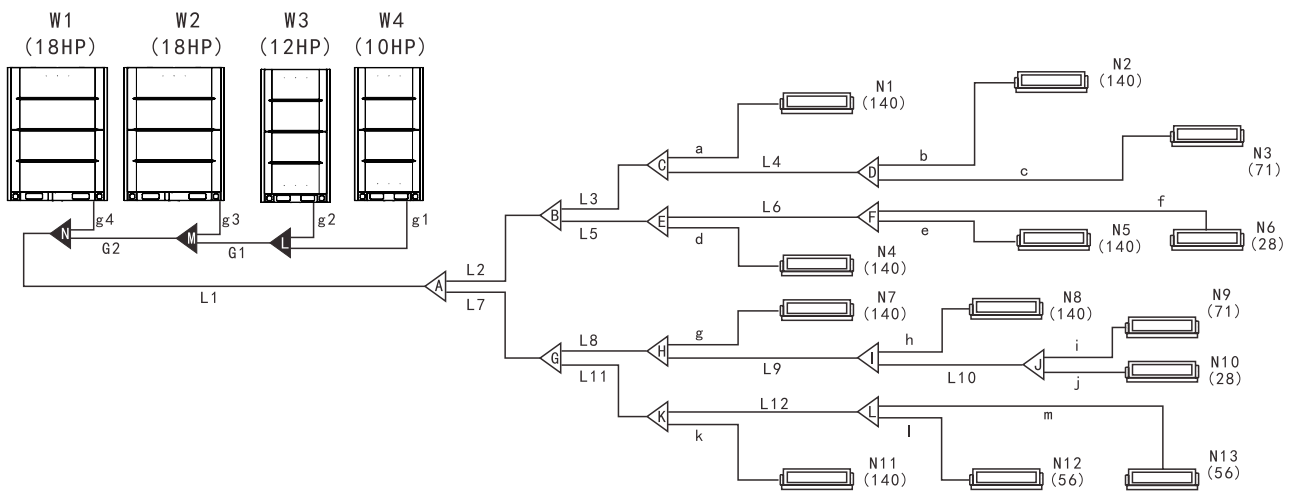
Model	A	B
HY-TMV-Vd+252(280)W/N1S-C(E3)	724	725
HY-TMV-Vd+335(400/450/504)W/N1S-C(E3)	1141	725
HY-TMV-Vd+560(615/680/730)W/N1S-C(E3)	1561	725
HY-TMV-Vd+785(850)W/N1S-C(E3)	1700	725



Piping classification

Allowable length and height difference of refrigerant piping

Name of supporting pipe	Connection position of supporting pipe	Assembly
Main pipe	Pipe between the outdoor unit and the first branch	L1
Main pipe of indoor unit	Pipe behind the first indoor branch which do not connect to indoor unit	L2,L3,L4,... L12
Slave pipe of indoor unit	Pipes between the branch and indoor unit	a,b, c, d,... m
Indoor unit branch assembly	Pipes to the master pipe and slave pipes	A, B, C,D,E,F,G,H, I,J,K,L
Outdoor unit branch assembly	Pipes to the outdoor unit and main pipe	L,Mg
Outdoor unit connecting pipe	Pipe between outdoor and outdoor branch	1,g2, g3, g4, G1, G2



Pipe dimension of indoor unit(NO.: a,b,c,d,... m)

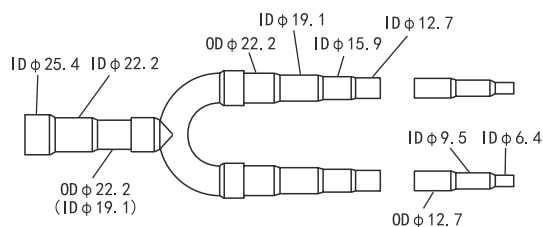
Indoor Unit Model	Gas side	Liquid side
Capacity: 1800-2200W	φ9.52 (flared nut)	φ6.35 (flared nut)
Capacity: 2800-5600W	φ12.7 (flared nut)	φ6.35 (flared nut)
Capacity: 6300-14000W	φ15.9 (flared nut)	φ9.52 (flared nut)

IDU main piping and branch pipe assembly(Number: L2,L3,L4...L12,A,B,C...L)

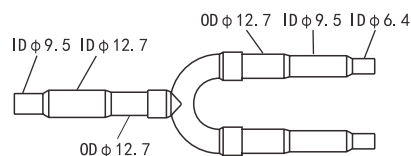
Capacity of downstream Indoor unit A(×100w)	Dimension of Master pipe (Gas/Liquid)	Applicable brance pipe (Gas/Liquid)	A(×100w)	Dimension of master pipe (Gas/Liquid)	Applicable brance pipe (Gas/Liquid)
A < 63	φ12.7/φ6.35	BY06(L01/L01)	63 ≤ A < 168	φ15.9/φ9.52	BY07(L01/L02)
168 ≤ A < 224	φ19.1/φ9.5	BY07(L01/L02)	224 ≤ A < 330	φ22.2/φ12.7	BY01(G01/L01)
330 ≤ A < 470	φ25.4/φ12.7	BY01(G01/L01)	470 ≤ A < 710	φ28.6/φ15.9	BY03(G02/L02)
710 ≤ A < 1040	φ31.8/φ19.1	BY03(G02/L02)	1040 ≤ A < 1540	φ38.1/φ19.1	BY04(G03/L02)
1540 ≤ A < 1800	φ41.2/φ22.2	BY05(G04/L03)	1800 ≤ A < 2500	φ44.5/φ25.4	BY05(G04/L03)
2500 ≤ A	φ54.0/φ28.6	BY08(G05/G02)			

Branch pipe specifications

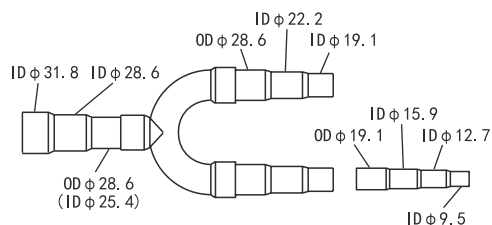
G01: (φ 25.4-φ 19.1) — 2 × (φ 22.2-φ 6.4)



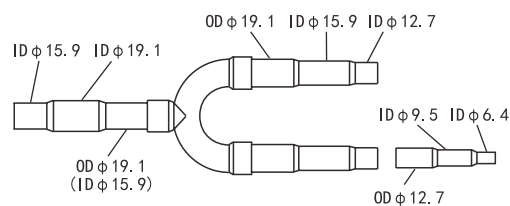
L01: (φ 9.5-φ 12.7) — 2 × (φ 12.7-φ 6.4)



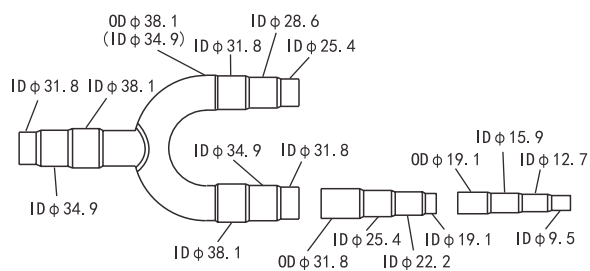
G02: (φ 31.8-φ 25.4) —
(φ 28.6-φ 19.1) + (φ 28.6-φ 9.5)



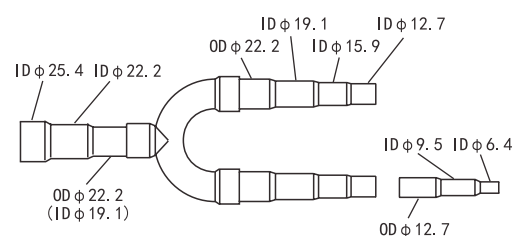
L02: (φ 15.9-φ 19.1) —
(φ 19.1-φ 12.7) + (φ 19.1-φ 6.4)



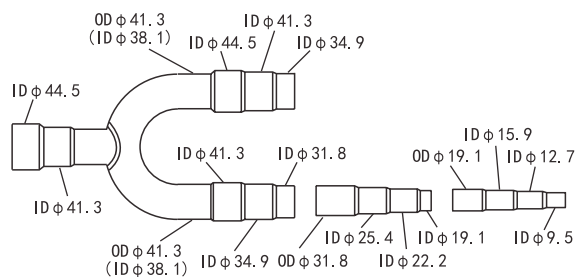
G03: (φ 31.8-φ 38.1) —
(φ 34.9-φ 25.4) + (φ 38.1-φ 9.5)



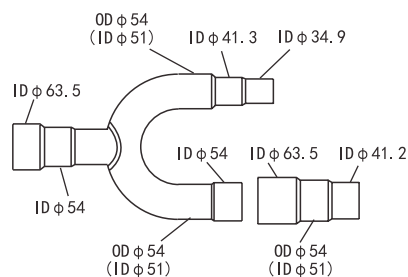
L03: (φ 19.1-φ 25.4) —
(φ 22.2-φ 12.7) + (φ 22.2-φ 6.4)



G04: (φ 41.3-φ 44.5) —
(φ 44.5-φ 34.9) + (φ 41.3-φ 9.5)



G05: (φ 54-φ 63.5) —
(φ 41.3-φ 34.9) + (φ 63.5-φ 41.3)

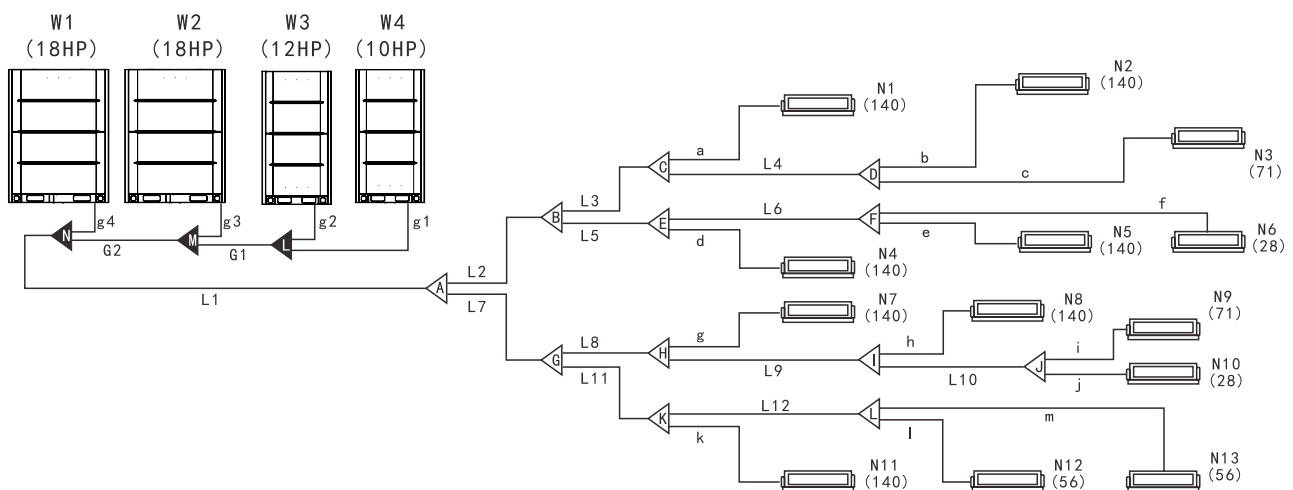




Piping classification

Allowable length and height difference of refrigerant piping

Name of supporting pipe	Connection position of supporting pipe	Assembly
Main pipe	Pipe between the outdoor unit and the first branch	L1
Main pipe of indoor unit	Pipe behind the first indoor branch which do not connect to indoor unit	L2,L3,L4,... L12
Slave pipe of indoor unit	Pipes between the branch and indoor unit	a,b, c, d,... m
Indoor unit branch assembly	Pipes to the master pipe and slave pipes	A, B, C,D,E,F,G,H, I,J,K,L
Outdoor unit branch assembly	Pipes to the outdoor unit and main pipe	L,Mg
Outdoor unit connecting pipe	Pipe between outdoor and outdoor branch	1,g2, g3, g4, G1, G2



Pipe dimension of indoor unit(NO.: a,b,c,d,... m)

Indoor Unit Model	Gas side	Liquid side
Capacity: 1800~2200W	φ9.52 (flared nut)	φ6.35 (flared nut)
Capacity: 2800~5600W	φ12.7 (flared nut)	φ6.35 (flared nut)
Capacity: 6300~14000W	φ15.9 (flared nut)	φ9.52 (flared nut)

IDU main piping and branch pipe assembly(Number: L2,L3,L4...L12,A,B,C...L)

Capacity of downstream Indoor unit A(×100w)	Dimension of Master pipe (Gas/Liquid)	Applicable brance pipe (Gas/Liquid)	A(×100w)	Dimension of master pipe (Gas/Liquid)	Applicable brance pipe (Gas/Liquid)
A < 63	φ12.7/φ6.35	BY06(L01/L01)	63 ≤ A < 168	φ15.9/φ9.52	BY07(L01/L02)
168 ≤ A < 224	φ19.1/φ9.5	BY07(L01/L02)	224 ≤ A < 330	φ22.2/φ12.7	BY01(G01/L01)
330 ≤ A < 470	φ25.4/φ12.7	BY01(G01/L01)	470 ≤ A < 710	φ28.6/φ15.9	BY03(G02/L02)
710 ≤ A < 1040	φ31.8/φ19.1	BY03(G02/L02)	1040 ≤ A < 1540	φ38.1/φ19.1	BY04(G03/L02)
1540 ≤ A < 1800	φ41.2/φ22.2	BY05(G04/L03)	1800 ≤ A < 2500	φ44.5/φ25.4	BY05(G04/L03)
2500 ≤ A	φ54.0/φ28.6	BY08(G05/G02)			

Diameter of outer connecting pipe

● ODU stop valve port diameter(Number: g1,g2,g3,g4)

Model	Gas	Liquid
HY-TMV-Vd+252(280)W/N1S-C(E3)	φ25.4 (welding)	φ12.7 (welding)
HY-TMV-Vd+335(400/450/504)W/N1S-C(E3)	φ28.6 (welding)	φ15.8 (welding)
HY-TMV-Vd+560(615/680/730)W/N1S-C(E3)	φ31.8 (welding)	φ19.1 (welding)
HY-TMV-Vd+785(850)W/N1S-C(E3)	φ34.9 (welding)	φ19.1 (welding)

● ODU Main pipe and branch pipes

Capacity of Outdoor Units(HP)	Dimensions of Master Pipe, when the equivalent length of all supporting pipes is less than 90 meters		Dimensions of Master Pipe, when the equivalent length of all supporting pipes is 90 meters at least	
	Gas/Liquid-side	Indoor Branch Pipe 1 (Gas/Liquid-side)	Gas/Liquid-side	Indoor Branch Pipe 1(Gas/Liquid-side)
8HP	19.1/9.52	Assembly BY01(G01/L01)	22.2/12.7	Assembly BY01(G01/L01)
10HP	22.2/9.52	Assembly BY01(G01/L01)	25.4/12.7	Assembly BY01(G01/L01)
12-14HP	25.4/12.7	Assembly BY01(G01/L01)	28.6/15.9	Assembly BY03(G02/L02)
16HP	28.6/12.7	Assembly BY02(G02/L01)	31.8/19.1	Assembly BY03(G02/L02)
18-22HP	28.6/15.9	Assembly BY03(G02/L02)	31.8/19.1	Assembly BY03(G02/L02)
24-26HP	31.8/19.1	Assembly BY03(G02/L02)	38.1/22.2	Assembly BY04(G03/L02)
28HP	34.9/19.1	Assembly BY04(G03/L02)	38.1/22.2	Assembly BY04(G03/L02)
30-32HP	38.1/19.1	Assembly BY04(G03/L02)	41.2/22.2	Assembly BY05(G04/L03)
34-48HP	38.1/19.1	Assembly BY04(G03/L02)	41.2/22.2	Assembly BY05(G04/L03)
50-54HP	38.1/19.1	Assembly BY04(G03/L02)	44.5/22.2	Assembly BY05(G04/L03)
56-66HP	41.2/22.2	Assembly BY05(G04/L03)	44.5/22.2	Assembly BY05(G04/L03)
68-72HP	44.5/22.2	Assembly BY05(G04/L03)	50.8/25.4	Assembly BY08(G05/G02)
74-84HP	50.8/22.2	Assembly BY05(G04/L03)	50.8/25.4	Assembly BY08(G05/G02)
86-96HP	50.8/25.4	Assembly BY08(G05/G02)	54.0/28.6	Assembly BY08(G05/G02)
98-108HP	54.0/28.6	Assembly BY08(G05/G02)	63.0/28.6	Assembly BY08(G05/G02)

Remark:

1. Please select the main pipe diameter of the outdoor unit follow the above table. If the main pipe is larger , choose the main pipe according to larger one.
2. If the system is more than 108HP, please consult technical personnel.



Electrical system and installation

Electrical wiring precautions

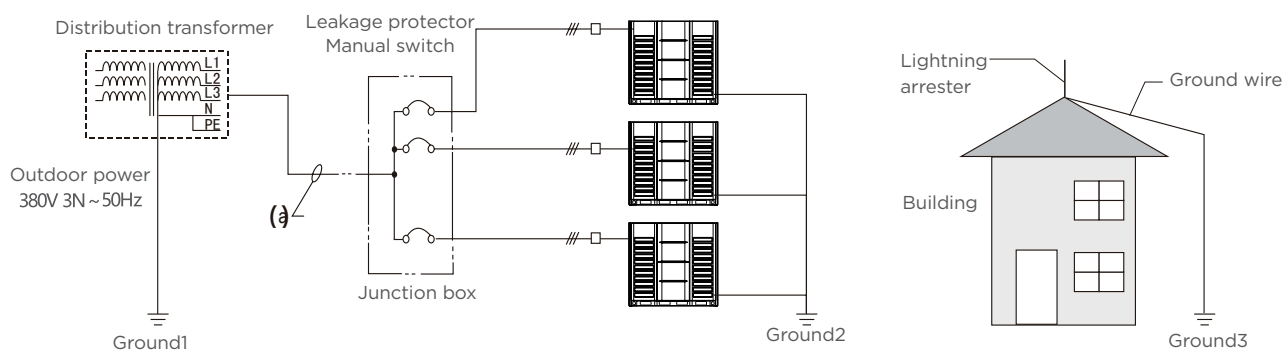
- Please design the dedicated power supply for IDU and ODU separately.
- The power supply should be equipped with a leakage protector and a manual switch.
- The power supply, leakage protector and manual switch of the IDU connected to the same ODU are required to be universal. (Please use the same circuit for the IDU power supply of the same system. And it must be turned on and off at the same time, otherwise it will seriously affect the service life of the system, and unpredictable situations may occur.)
- Please integrate the IDU and ODU connection wiring system and refrigerant piping system into the same system.
- In order to reduce interference, it is recommended to use two-core shielded cables for the signal cables of the IDU and ODU. Please do not use multi-core cables without shielding.
- During installation, the communication line and the power line must not be intertwined, and must be routed separately, and the minimum distance should be greater than 20CM, otherwise the communication of the unit may be abnormal.
- Power wiring must be entrusted to professional electricians.

ODU power wiring

Model	Power supply	Minimum wire diameter current (A)	Copper core PVC insulated wire BVV (mm ²)	Copper core XLPE insulated wire YJV (mm ²)	Manual switch (A) capacity	Leakage protector
HY-TMV-Vd+252W/NIS-C(E3)	380V 3N ~ 50Hz	19.5	4.0X5	4.0X5	32	< 100mA 0.1sec
HY-TMV-Vd+280W/NIS-C(E3)	380V 3N ~ 50Hz	21.6	4.0X5	4.0X5	32	
HY-TMV-Vd+335W/NIS-C(E3)	380V 3N ~ 50Hz	24.9	6.0X5	4.0X5	32	
HY-TMV-Vd+400W/NIS-C(E3)	380V 3N ~ 50Hz	26.5	6.0X5	4.0X5	32	
HY-TMV-Vd+450W/NIS-C(E3)	380V 3N ~ 50Hz	32.2	10.0X5	6.0X5	40	
HY-TMV-Vd+504W/NIS-C(E3)	380V 3N ~ 50Hz	34	10.0X5	6.0X5	40	
HY-TMV-Vd+560W/NIS-C(E3)	380V 3N ~ 50Hz	41.8	16.0X5	10.0X5	50	
HY-TMV-Vd+615W/NIS-C(E3)	380V 3N ~ 50Hz	42.9	16.0X5	10.0X5	50	
HY-TMV-Vd+680W/NIS-C(E3)	380V 3N ~ 50Hz	45.5	16.0X5	10.0X5	50	
HY-TMV-Vd+730W/NIS-C(E3)	380V 3N ~ 50Hz	46	16.0X5	10.0X5	50	
HY-TMV-Vd+785W/NIS-C(E3)	380V 3N ~ 50Hz	48	16.0X5	10.0X5	50	
HY-TMV-Vd+850W/NIS-C(E3)	380V 3N ~ 50Hz	56.8	25.0X3+16.0X2	16.0X5	63	

Remark : 1.The wire diameter and continuous length in the table are applicable to a maximum distance of 20 meters. If the power wiring exceeds 20 meters and the voltage drop exceeds the range of 2%, please choose a wire diameter with a larger cross-sectional area.
 2.The selection of the power cord is based on the ambient temperature of 40°C.
 3.The wire current carrying capacity in the attached table is only for the user's reference. The actual interception capacity of the wire varies depending on the type and length of the cable, the way of pipe penetration, and the actual laying environment, and the correction factor is different.

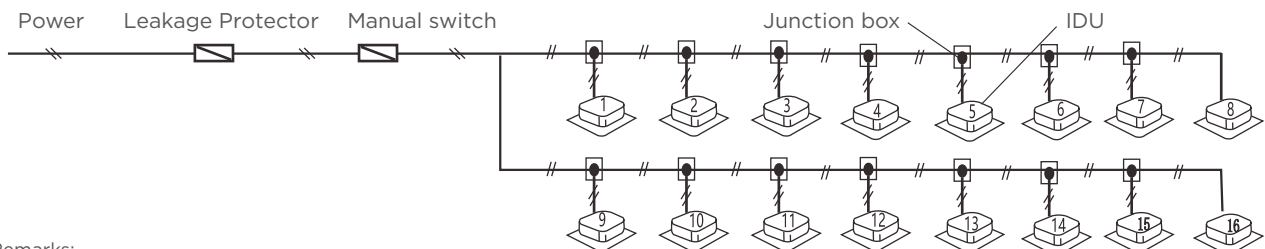
ODU power connection



IDU power wiring

Model	Power supply	Minimum wire diameter(mm ²)			Manual switch		Leakage protector
		Dimensions (Continuous Length)	Dimensions (Continuous Length)	Ground wire	Capacity	Fuse	
All IDU Model	220V -1N 50Hz	2.5 (30m)	4.0 (50m)	φ1.6mm	30	15	20A、30mA < 0.1sec

Remarks: The wiring diameter and continuous length in the table indicate that the voltage drop is within 2%. When the continuous wiring length exceeds the value in the table, please follow the relevant regulations to select the wire diameter.



Remarks:

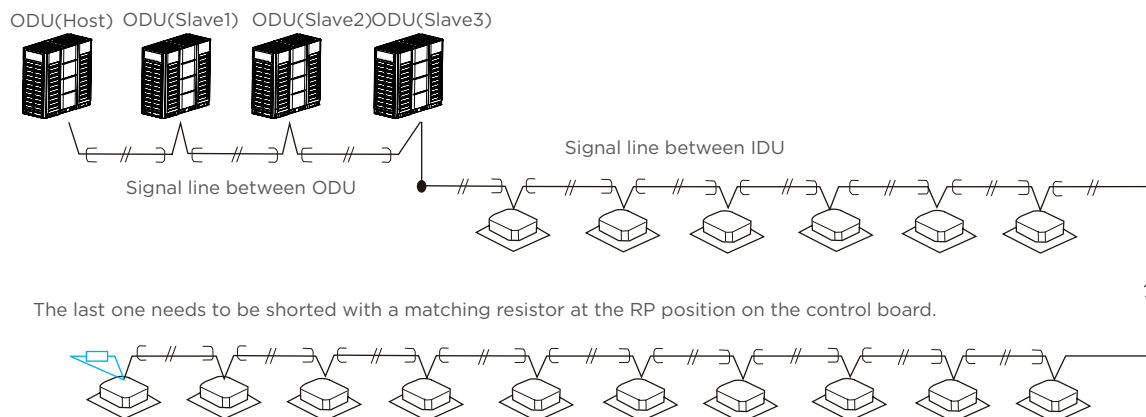
1. Please use the refrigerant piping system, the indoor unit-indoor unit room, and the indoor unit-outdoor unit connection signal line as the same system.
2. All the internal units in the same system must be powered in a unified manner, and some internal units cannot be cut off, otherwise the unit will fail.
3. When the power cable and the signal cable are parallel, please put the wires into their respective wire ducts, and leave a suitable distance between the wires. (Distance between power cables: 300mm below 10A, 500mm below 50A)
4. When multiple outdoor units are connected in parallel, the main outdoor unit must be set. (Refer to the settings of the DIP switch)

Control system and installation

- Signal lines must be shielded. Using other wires may cause signal interference and cause malfunction.
- The shielding nets of all shielded wires are connected to each other and finally connected to the sheet metal ground at one point.
- It is forbidden to bundle signal wires, refrigerant pipes, power wires, etc. together. When the power line and the signal line are laid in parallel, they should be kept at a distance of more than 300mm to prevent the signal source from being disturbed.
- Signal lines cannot form a closed loop.
- The signal line has no polarity, and there is no need to distinguish it when wiring.

IDU and ODU signal line wiring

- Please use two-core shielded wire ($\geq 0.75\text{mm}^2$) for the signal cable of indoor and outdoor units, without polarity. The signal cable of indoor and outdoor units should be connected as far as possible from the end of the outdoor unit.



HYUNDAI

AIR CONDITIONER