



Worldwide Air Conditioner Partner

# **TMV6<sup>+</sup>Super** Series Intelligent VRF

Enhance Vapor Injection DC Inverter Air Conditioning System



Strong cooling  
and heating



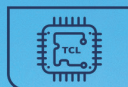
High efficiency  
energy saving



Stable reliable  
performance



Comfortable  
healthy environment



Intelligent  
operation control



Convenient installation  
Maintenance





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- 30 °C -56 °C Ultra wide operating temperature range
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## 42 Convenient Installation and Maintenance

- 13 basic modules, satisfy all kind of requirement
- Big-capacity module design
- Super long refrigerant pipeline design
- 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

## 48 ODU/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
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- Fresh air processing
- Energy recovery ventilation

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# COMPANY PROFILE

## The Creative Life

TCL is the initials of The Creative Life, which means that creativity touches Life.



## Introduction Of TCL

TCL Corporation LTD, founded in 1981, is one of the largest consumer electronics conglomerates and operates on a global scale in China. At present, TCL has formed four industrial groups including multimedia, communication, China Star Optoelectronics Technology and TCL Home Appliances, and six business segments including System Science and Technology Business Headquarters, Tikeli Group, emerging Business Group, Investment Business Group, Hanlinhui Company and real estate. Its revenue exceeded 100 billion yuan for 5 consecutive years. The group's main industries establish R&D headquarters and 26 R & D institutions where in China, the United States, France, Singapore and other countries. It has nearly 22 manufacturing and processing bases in China, Poland, Mexico, Thailand, Vietnam and other countries.

TCL Corporation is committed to becoming a high-tech industrial group. In January 2004, TCL was listed in Shenzhen Stock Exchange (SZ000100). On April 16, 2019, the restructuring was officially completed. After the restructuring, TCL owns two listed companies: Hua Xian Optoelectronics (00334.HK) and Hanlinhui (835281). TCL Owns two listed companies: TCL Electronics (01070.HK) and Tonly Electronics Holdings Limited (01249.HK).

After nearly 40 years of development, TCL has become a leader in the internationalization process of Chinese enterprises by virtue of China's reform and opening-up and adhering to the enterprise spirit of dedication and innovation.

When COVID-19 broke out In January 2020, TCL immediately rushed to Hubei, donating cash, materials and Internet services that accumulative worth over 20 million yuan, and went to Leishenshan and other designated hospitals to install electrical equipment. In July, TCL Technology announced that it would become the final transferee of 100% equity of Tianjin Zhonghuan Group. TCL also carried out strategic layout in the three industrial sectors of semiconductor display, intelligent terminal, semiconductor and new energy. In August, TCL Technology announced the acquisition of 60 percent of Suzhou Samsung LCD Technology Co., LTD and 100 percent of Suzhou Samsung Display Co., LTD.

In 2021, TCL Corporation annual revenue was exceed 39.4 billion dollar, significant increase in net profit. In the same year TCL start up 'Xuri Plan' which invest more than 3.15 billion dollar to promote ecological leadership and help industrial upgrading.

In the future, TCL will establish a perfect insight system that is close to consumers and run through the overall process of corporate activities, forming the driving force of TCL brand with product force, marketing force and experience force as the core, improving the overall brand image to the direction of "young, fashionable and international", and further strengthening innovation and consumption experience.

## Introduction Of TCL CAC

GD TCL Intelligent Heating&Ventilating Equipment CO.,LTD. is a developmental company integrating R & D, manufacturing, sales and service of HVAC equipment. It has achieved the full coverage of unit type light commercial, small multi connected household central air conditioning, multi connected central air conditioning, air-cooled modular machine series, household dual supply series, air source heat pump hot air machine series, ultra-low temperature modular machine series, household air energy water heater series, commercial air energy hot water series and other products. It has 4 R & D departments and 20 laboratory groups. This year, TCL -HVAC's new base will be put into use. By then, the new and old bases will have 27 world-class production lines with an annual capacity of more than 2 million sets.

The test center of TCL -HVAC has been recognized by China National Accreditation Service for Conformity Assessment (CNAS), which lays a solid foundation for the improvement of independent R & D ability and laboratory management ability, as well as the establishment of a customer-centered, quality-oriented, product performance and product innovation improvement system.

With professional technology and service ability, and nearly 20 years of historical precipitation and market accumulation, TCL -HVAC has been fully verified in the market and gained a good reputation in the market.

TCL intelligent HVAC's future can be expected!





## POWERFUL COOLING AND HEATING

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



DC inverter  
compressor



Double C  
high efficiency condenser



DC inverter  
fan motor



High efficiency axial fan



36°C Three-stage  
supercooling technology



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



Intelligent inverter technology







## 1.1 High-efficiency scroll DC inverter compressor with EVI

- Using new asymmetric scroll profile, reduce leakage loss, reduce ineffective suction overheating, improving compressor efficiency.

### 1 Enhanced vapor injection technology

injecting part of the gaseous refrigerant into the compression chamber can greatly improve the low-temperature heating capacity and effectively reduce the exhaust temperature.

### 2 Axial flexible design

through the back pressure adjustment to achieve the axial floating of the moving disc, improve the overall reliability and performance of the compressor;

### 3 High-reliability two-stage oil supply

combined with centrifugal oil supply and differential pressure oil supply, to ensure the full lubrication of each friction under different speeds and different controls;

### 4 Asymmetric vortex line

select asymmetric line to effectively reduce overheating losses and leakage losses, and improve the efficiency of the unit;

### 5 High efficiency centralized coil motor

excellent groove design, to ensure the energy efficiency of each frequency;

### 6 exhaust anti-reverse design

exhaust valve adopts check valve to effectively prevent liquid compression and improve the reliability of working conditions with liquid;

### 7 Multi-stage pressure relief pump

dynamically adjust the intermediate pressure according to the operating conditions to prevent over-compression under low compression ratio and improve the operating efficiency of low load;

### 13 Foreign body prevention technology

oil pool filter, suction filter, enthalpy increase filter, all-round protection compressor, improve reliability.

### 12 low fuel discharge and reduction design

internal optimization of oil circuit circulation, local oil blocking design, to achieve low oil discharge rate;

### 11 Select the material of the high-strength pump body

combined with the product design and use range, the strongest material is QT400 to ensure the reliability of the monomer;

### 10 efficient oil film sealing design

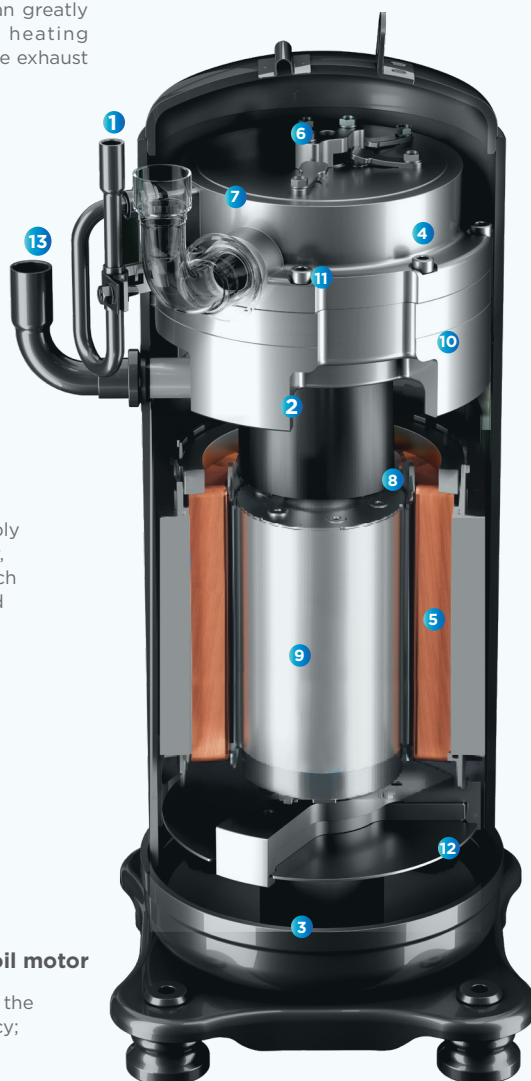
hydrodynamic lubrication, oil film sealing of the compression chamber, effectively reduce friction, improve performance and reliability;

### 9 Large displacement combined with wide frequency range

speed range 14-160rps, displacement up to 96cc, strong power, expand the scope of usage.

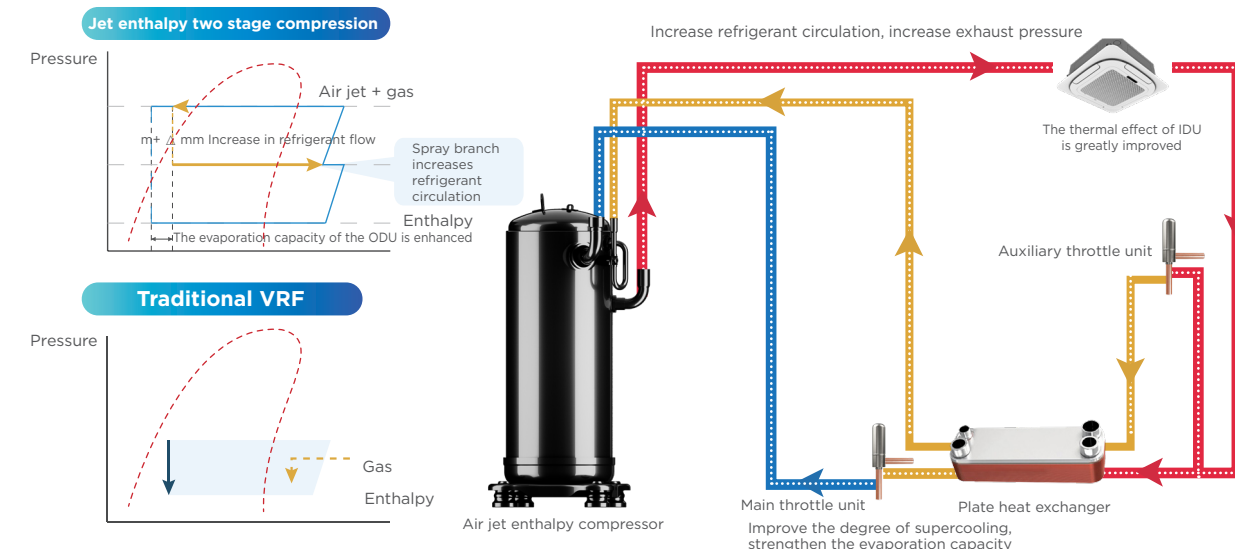
### 8 High reliability bearing design

all three bearings are PTFE coated plain bearings with low noise and vibration to ensure long-term reliability;



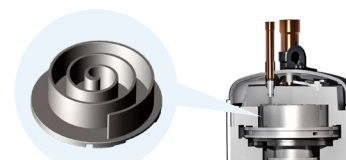
## >> Double enthalpy of cooling and heating

- Through the double enthalpy increasing technology of refrigeration and heating, 56°C high temperature strong cooling and -30°C low temperature strong heating are effectively realized. During refrigeration, when refrigerant enters indoor unit after long piping, the undercooling degree is low, and it is easy to produce refrigerant noise through the electronic expansion valve throttling. By opening the auxiliary valve and the plate to change the branch road, the refrigerant circulation quantity is increased, the system undercooling degree is improved, and the refrigerant flow sound is effectively suppressed. During heating, the outdoor environment temperature is lower, refrigerant low density, gas compressor suction side back to reduce, reduce the refrigerant circulation and heating performance. By spraying branch added gaseous refrigerant compressor middle pressure, thus increasing overall system refrigerant circulation, effectively improve the low temperature heating ability, realize stable run to 30 °C, 15 °C low temperature heat up 30%.



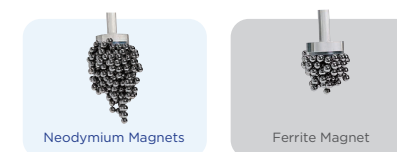
## >> Asymmetric vortices

- 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 96cc, far more than ordinary compressors (displacement <96cc), operating frequency 14rps-160rps, far higher than ordinary compressors 20rps-130rps, powerful, to achieve rapid cooling and heating.

\* Note: Applicable to some models

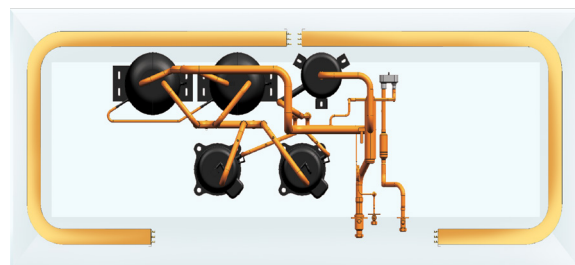




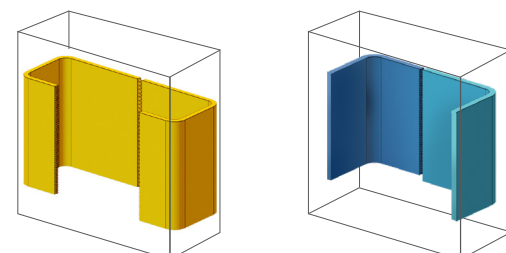


## 1.2 Double 'C' type heat exchanger

- 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.



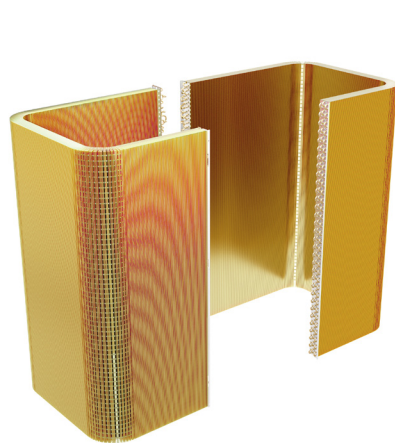
Double C Compact Large Area Heat Exchanger Ordinary Heat Exchanger

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

**32HP occupies only 1.6055 m<sup>2</sup>, which is 21.4% less than the previous generation**

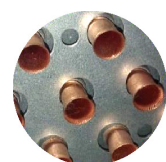


- Heat exchanger adopts the perfect combination of multi-coated hydrophilic aluminum foil heat exchange fins and high-efficiency internally threaded heat exchange copper tubes, which greatly improves the heat exchange efficiency and enhances the corrosion resistance and oxidation resistance of the heat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



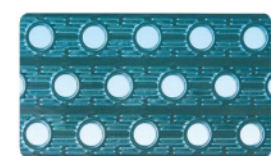
### Φ7 Heat Exchange Copper Tube

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

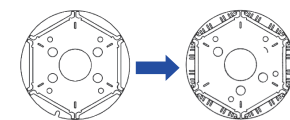
### fins

## 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.



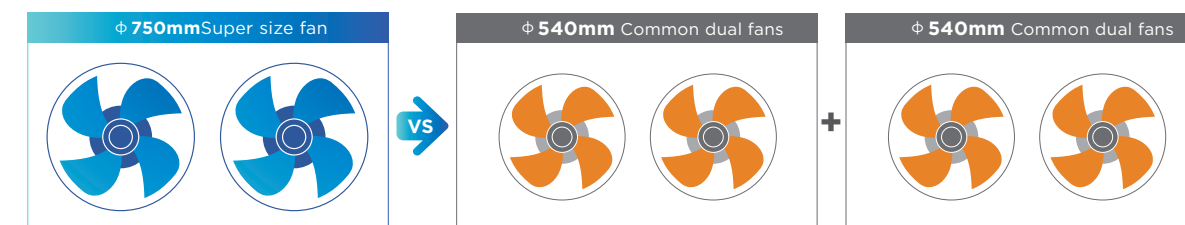
The original rotor The new rotor

Neodymium magneto rotor  
Improve motor efficiency  
And reduce motor noise

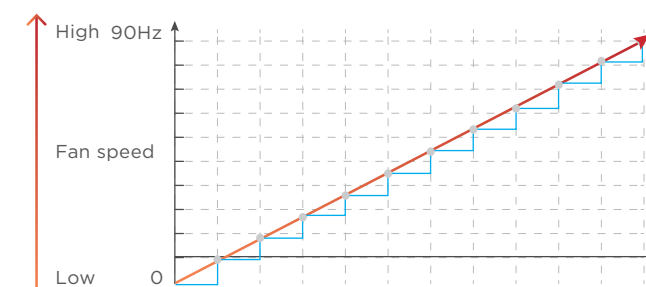


## 1.4 750mm Large size axial flow fan

- The outdoor unit fan adopts Φ750mm super-size wind wheel, compared with ordinary air conditioner Φ540mm 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

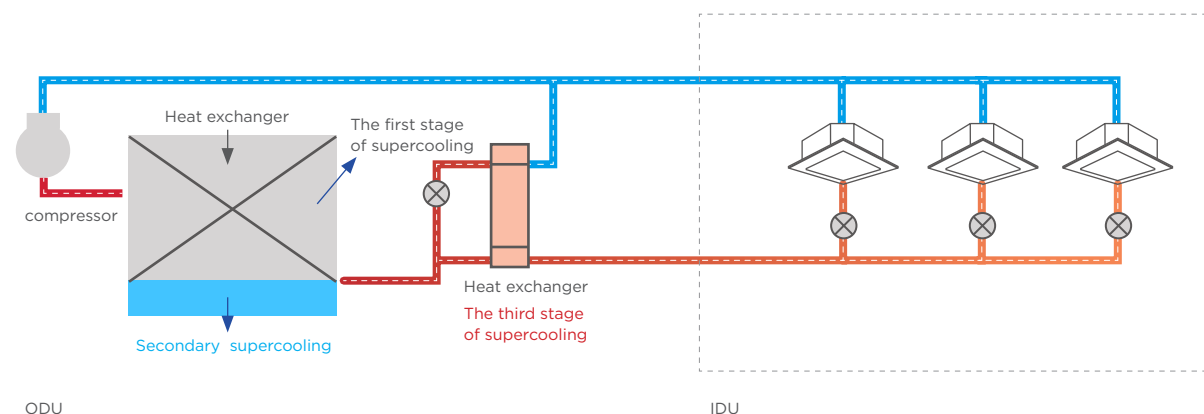
1. Accurately adjust the refrigerant pressure to improve the reliability of the unit;
2. The motor speed is adjusted quickly to better adapt to the rapid changes in air-conditioning load.



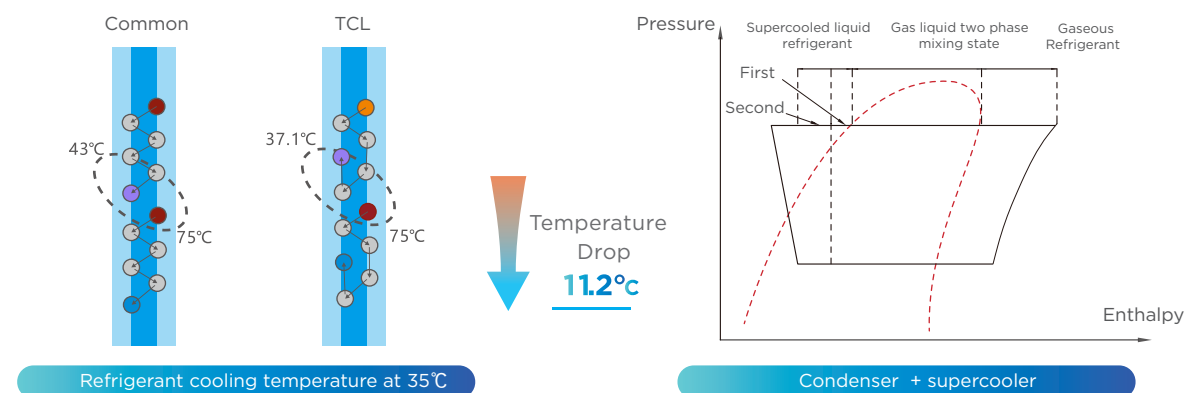


## 1.5 3-Stage sub-cooling technology to achieve 36°C sub-cooling

- Optimize the design of heat exchanger and flow path to improve heat exchange effect. The 3-stage sub-cooling cycle increases the refrigeration capacity of the unit mass refrigerant, reduces the flow resistance of the refrigerant in the pipe; the electronic expansion valve has more precise control and more stable operation.

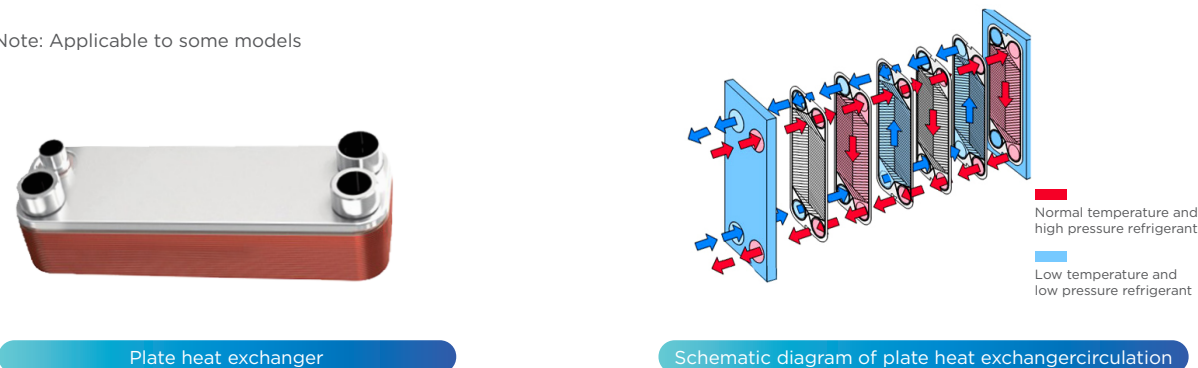


- When the outdoor environment is 35°C, the outlet refrigerant of the heat exchanger is cooled to 37.1°C, and the primary and secondary supercooling can achieve degree of 11.2°C.



- The high-efficiency plate heat exchanger is selected as the secondary subcooler to further cool the refrigerant at 37.1°C to achieve subcooling at 36°C, further reducing the flow resistance of the refrigerant, which is conducive to improving the energy efficiency of the system and increasing the length of piping, while improving the cooling and heating effects And system reliability.

\* Note: Applicable to some models



## 1.6 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

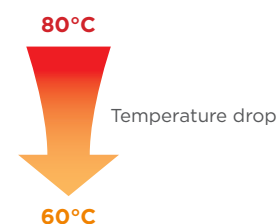
- 1) It can effectively reduce high-order harmonic components, motor vibration, torque fluctuation and noise;
- 2) It can ensure the smooth start of the compressor, reduce the starting current of the compressor, and reduce the impact on the power grid; increase the operating frequency range of the compressor;
- 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.



## 1.7 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.

### Electric control system



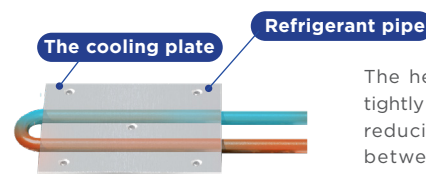
### Air cooling heat dissipation

Through the fan (fan) to strengthen the ventilation, strengthen the cooling effect, to maintain stable and reliable system operation.



### Refrigerant radiator

The wraparound refrigerant radiator can stably and efficiently take away the heat in the frequency conversion module of outdoor unit, improve the electrical reliability of the unit when working in high temperature environment, and ensure stable and safe operation.



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. TCL 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



"DISO" loop design



Stepless inverter technology



RoHS certification



High energy-efficient compressor



R410A refrigerant



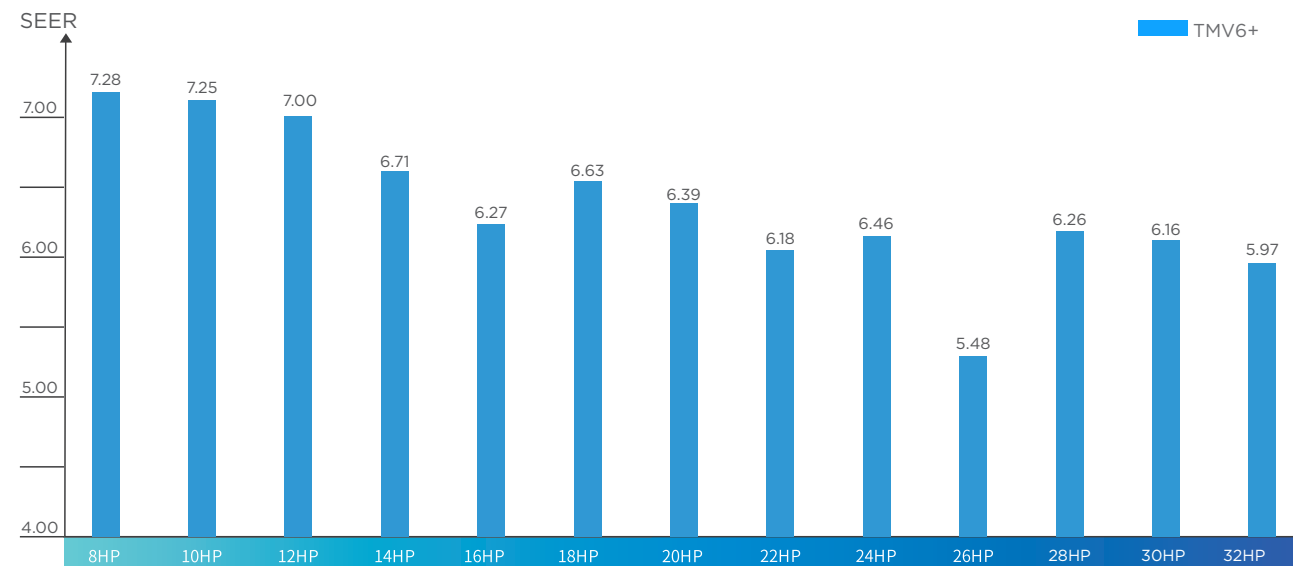
Variable evaporating/condensing temperature adjustment technology



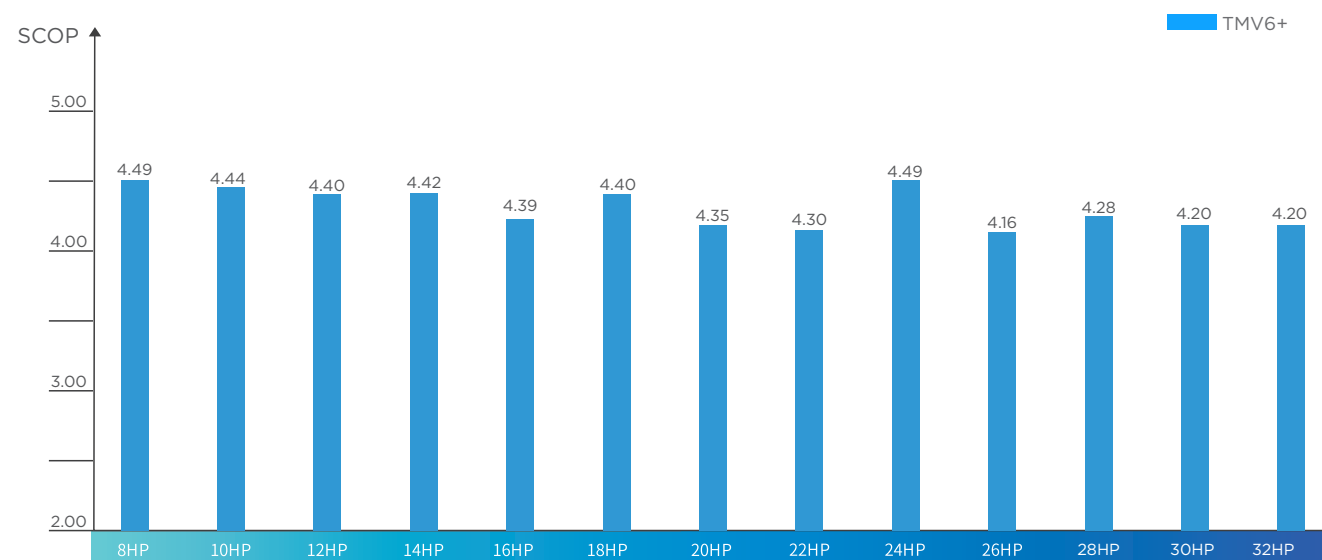


## 2.1 SEER

- TMV6+ full DC inverter intelligent VRF product, its seasonal energy efficiency ratio is up to 7.28, seasonal coefficient of energy is up to 4.49



## 2.2 SCOP



## 2.3 Authoritative attestation

- The 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 has passed the Eurovent and CE standard certification.



## 2.4 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, which improves compressor efficiency.

### 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

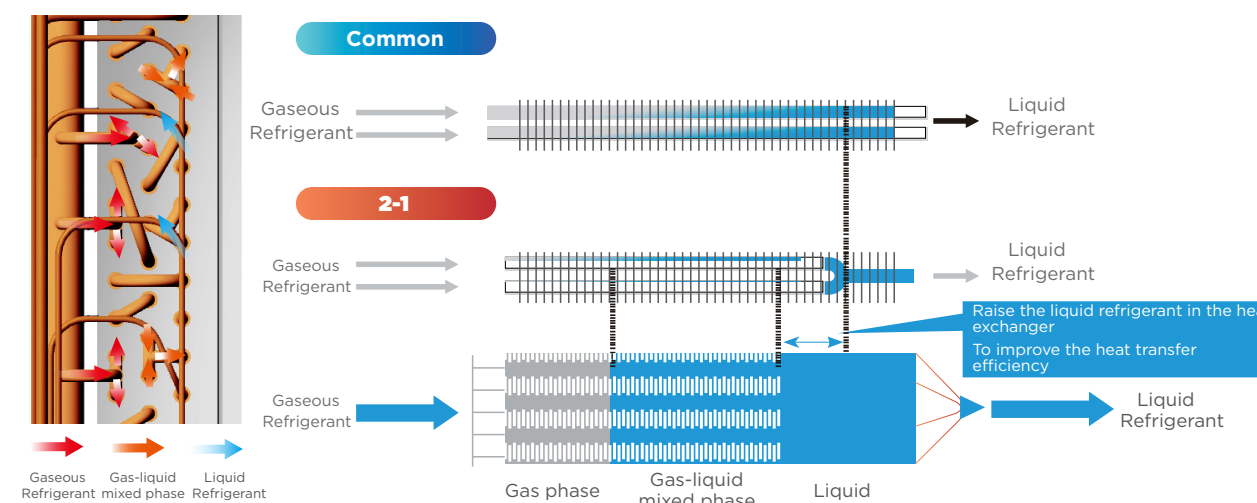
Small suction preheating, high volume efficiency

### 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.

## 2.5 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.

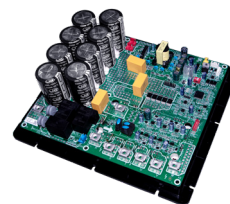
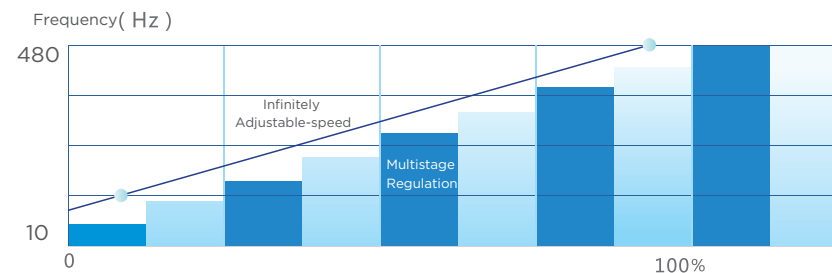




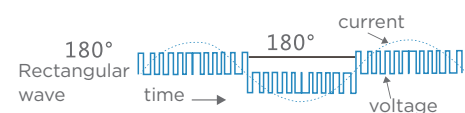
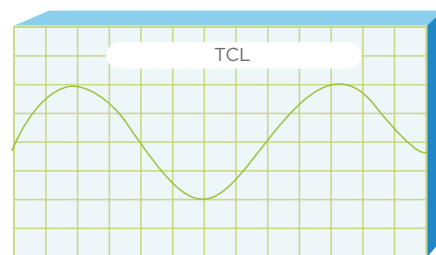
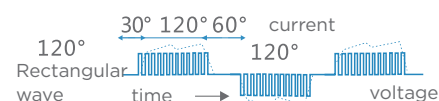
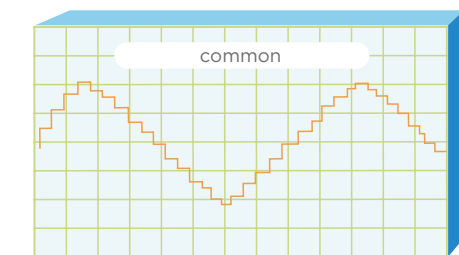


## 2.6 0 ~ 480Hz stepless frequency adjustment

- 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. TCL's 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 unit has industry-leading EER and Integrated Part Load Value IPLV (C)

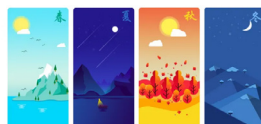


- The compressor adopts 180° sine wave vector drive technology, which can obtain an ideal smooth sine wave curve, so that the motor runs smoothly, the electric energy efficiency is higher, and the harsh sound is reduced.
- Vector control technology effectively suppresses high magnetic harmonic current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



## 2.7 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.



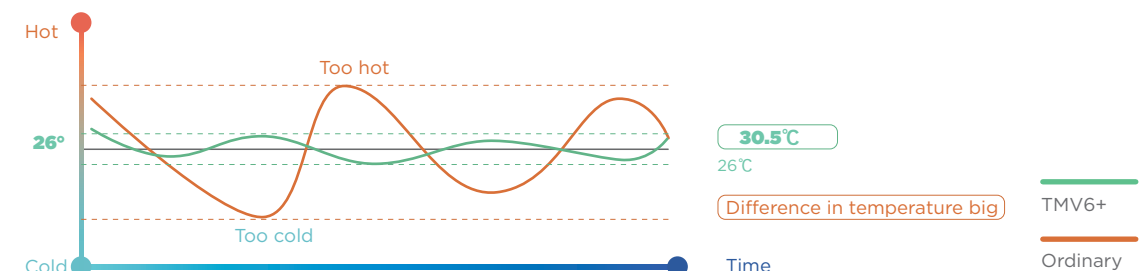
## 2.8 ODU standby mode

- 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.



## 2.9 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.



## 2.10 Multi-priority modes, VIP priority service

- The 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

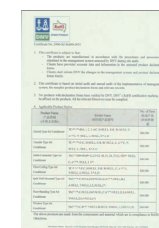
## 2.11 R410A High-efficiency environmentally friendly refrigerant

- 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".



## 2.12 RoHS Certification

- 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. TCL 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

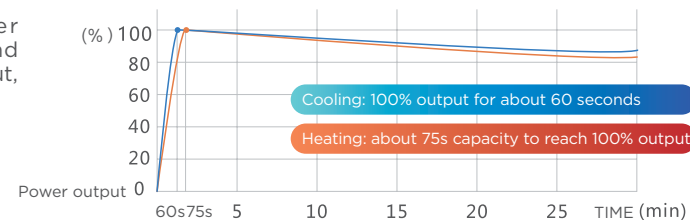






### 3.1 Fast cooling and heating

- TCL 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  $\pm 0.5^{\circ}\text{C}$ .

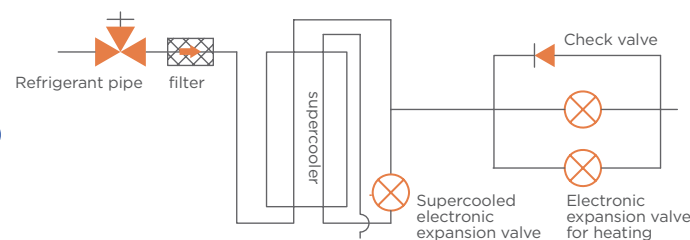
#### Multi-electronic expansion valves

- 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  $\pm 0.5^{\circ}\text{C}$



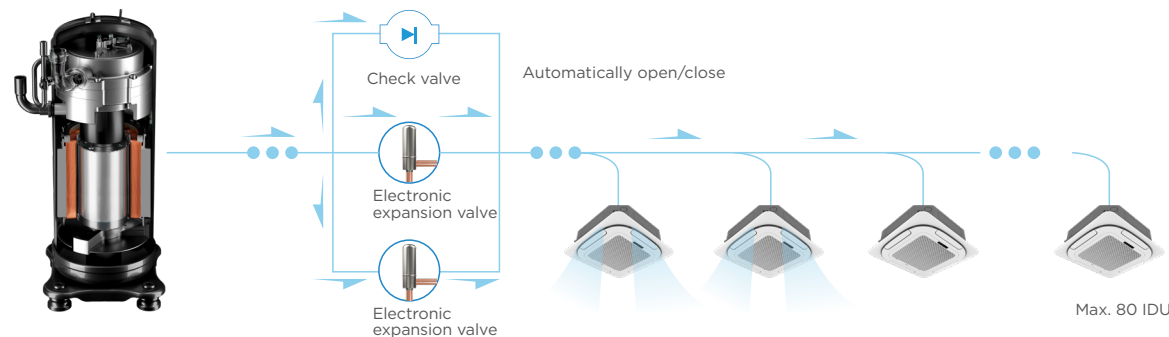
#### Dual pressure sensors

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



#### Refrigerant liquid by-pass technology

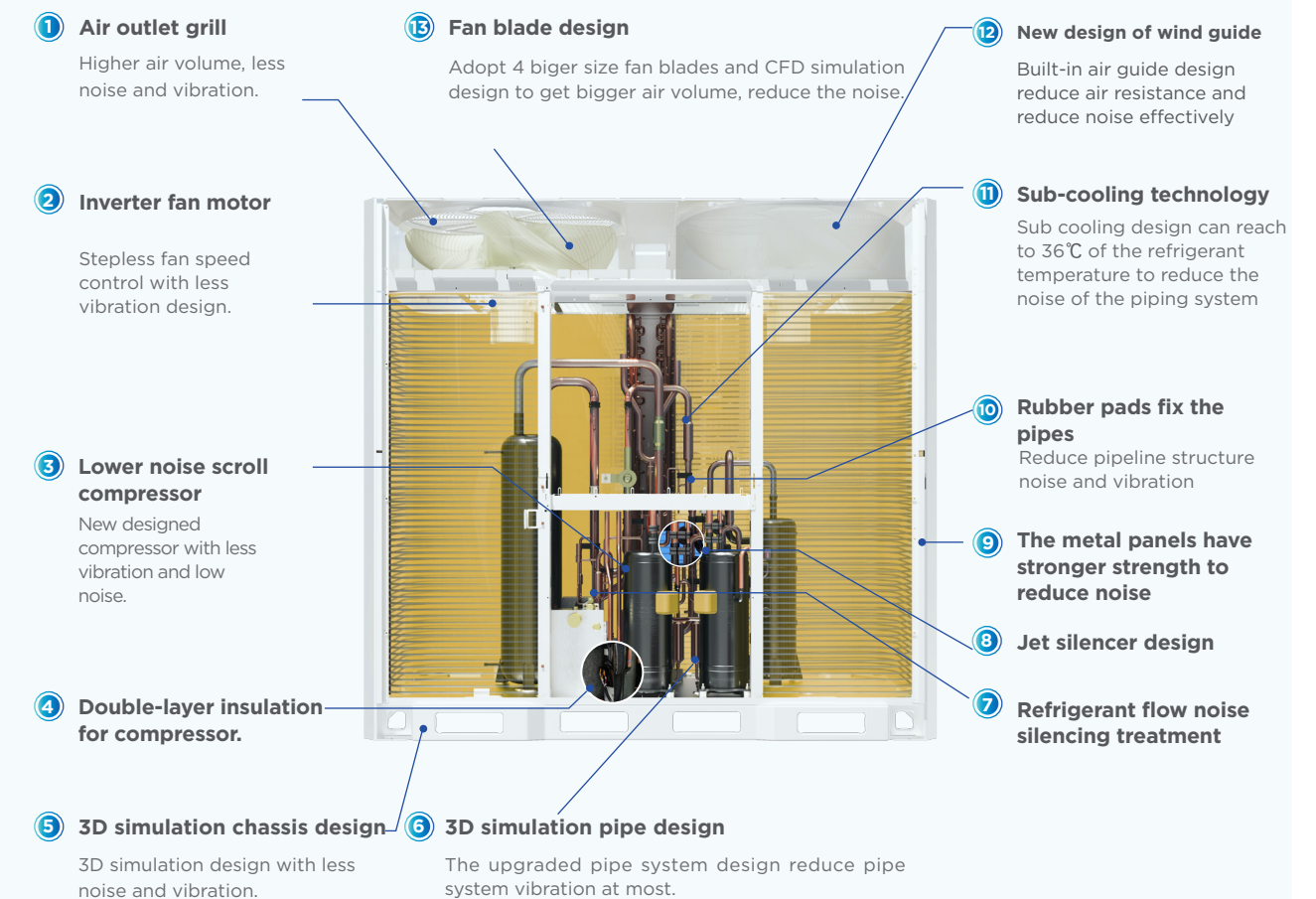
- This technology is mainly used to increase the refrigerant flow and improve the cooling effect when the indoor side refrigerant flow is insufficient.



### 3.3 Multiple silence technology

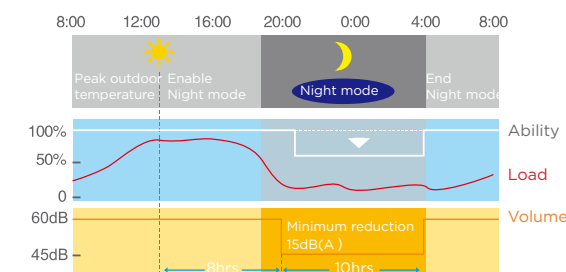
#### 13 items of silent improvements

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.



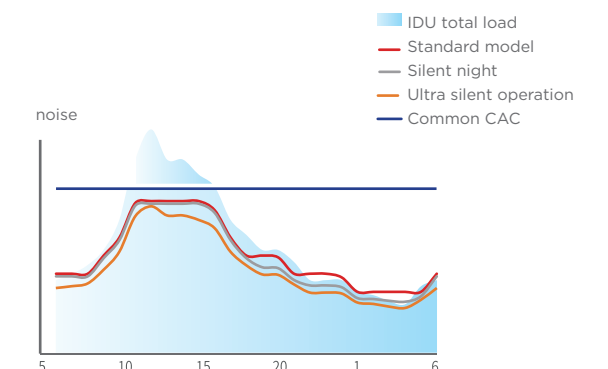
#### Night silent mode

- 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

- TCL 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)

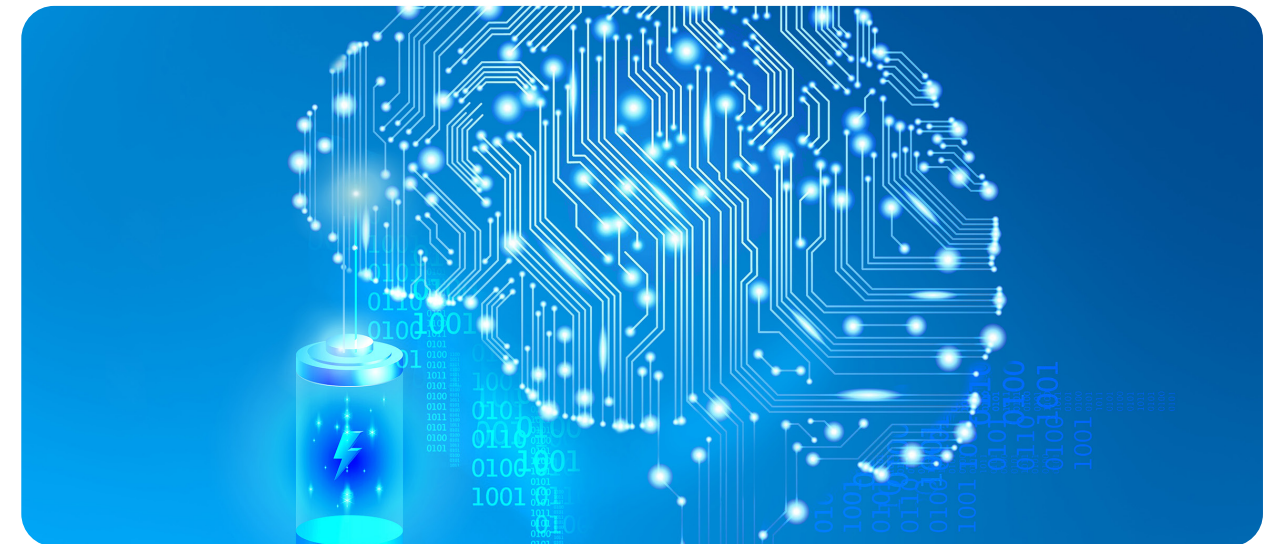
- The upgraded panels have a beautiful apperance and provide comfortable air supply .



### 3.6 Intelligent auto-restart function

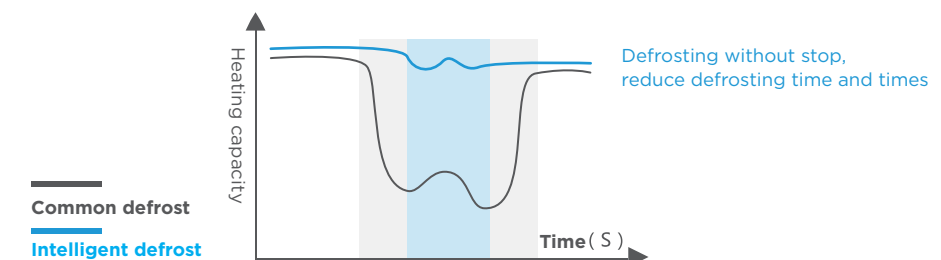
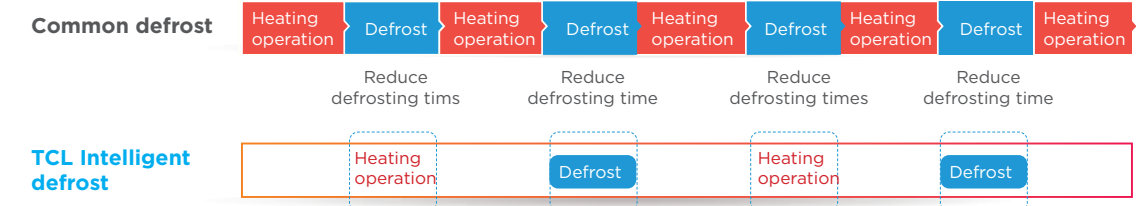
- When a sudden power failure occurs, system will automatically store the state of the machine before the power failure. When the machine is restarted, the system will automatically restart with the settings before the power failure (operation mode, set temperature, fan speed, etc).

**Note: This function can also start manually**

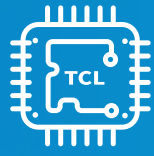


### 3.7 Intelligent defrost technology

- 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

TCL 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.

**CAN**

Non-polar CAN bus communication technology



Multiple control solutions

**APP**

VRF WiFi & APP control solution

**AHU**

AHU connection kit

**BMS**

BMS gateways



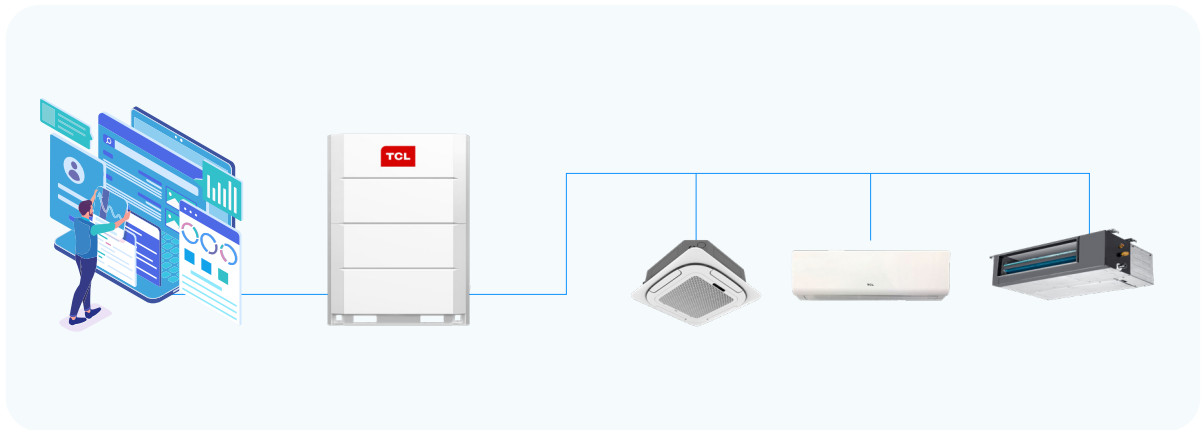




4.1 Intelligent Control

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.



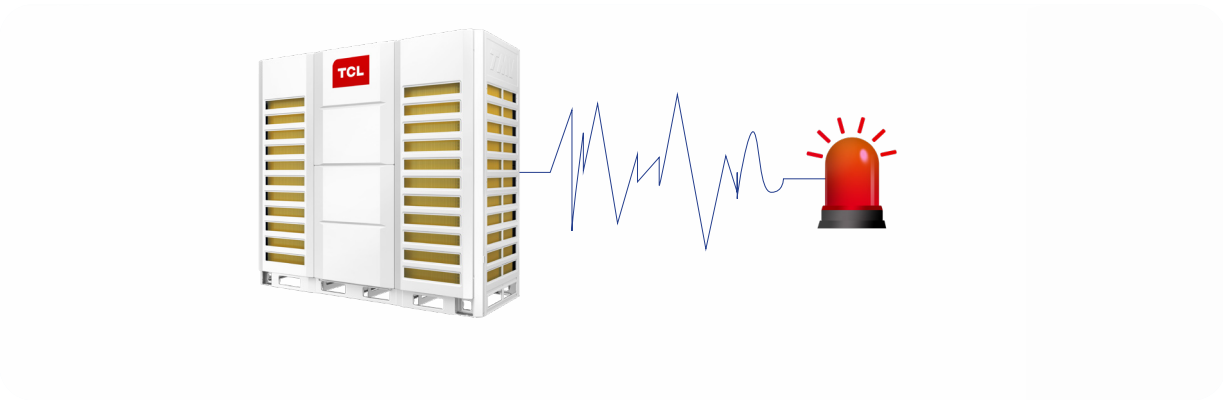
Intelligent detection

- 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 .



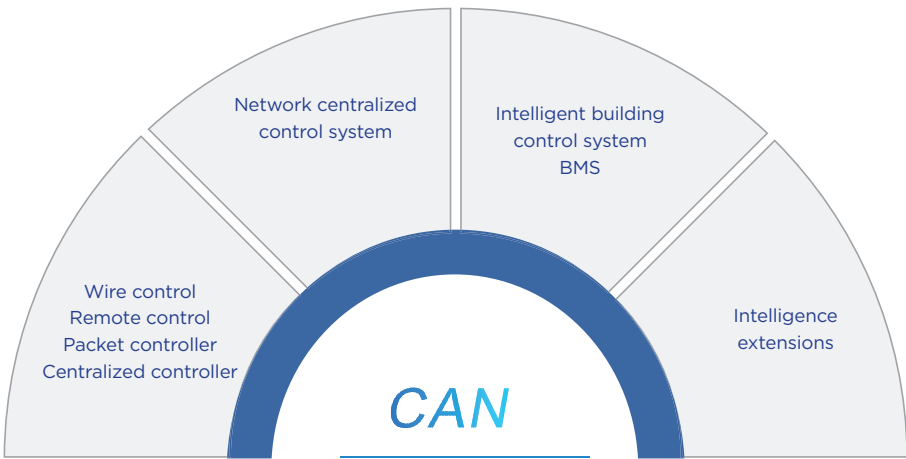
Smart detection

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



4.2 Non-polar CAN bus communication technology

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



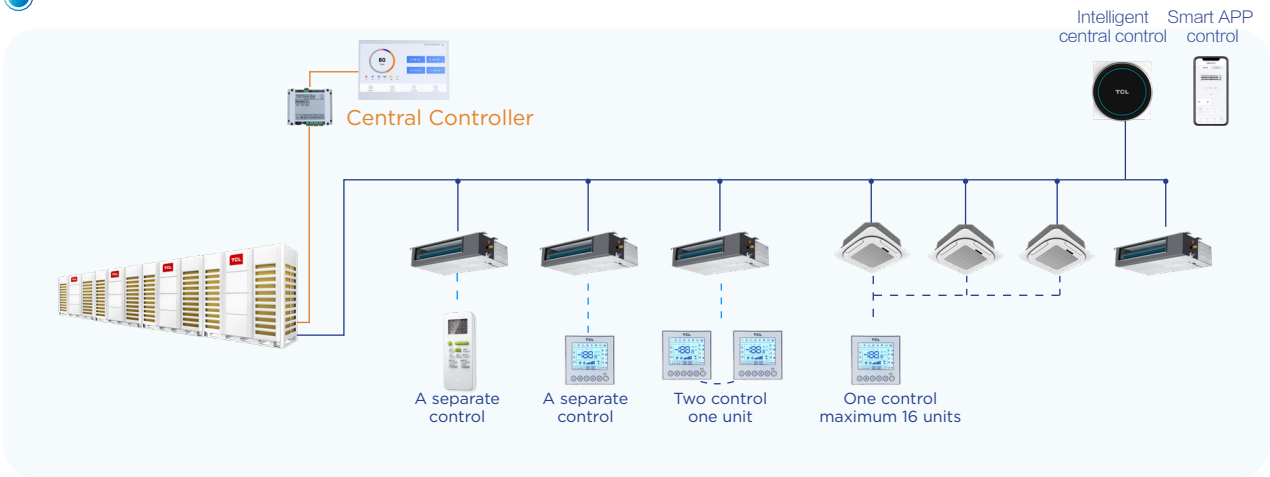
	TMV6 VRF(CAN communication)	Other similar products in the industry(RS 485 communication)
Reliability	High reliability and stable network	The reliability is unstable and easy to be paralyzed
Communication efficiency	Up to 100kbs	About 10kbs
Communication distance	About 2000m	About 1000m
Communication 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

TMV6+ provides a variety control solutions for customers to choose .



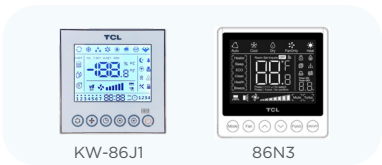
#### Remote Controller

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



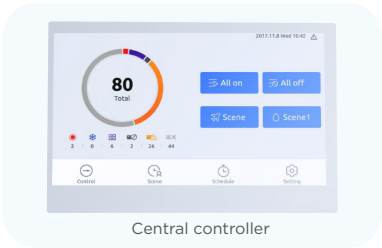
#### Wired Controller

- 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



#### 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.



### 4.4 VRF WiFi & APP control solution

#### WiFi module

Connect the WiFi module with the air-conditioning system, and then match the WiFi module with the wireless router through the mobile phone APP, and the air-conditioning equipment is networked, so that the cell phone APP can realize remote control of the air-conditioning system from a different place and enjoy the convenience interconnection;



### 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;

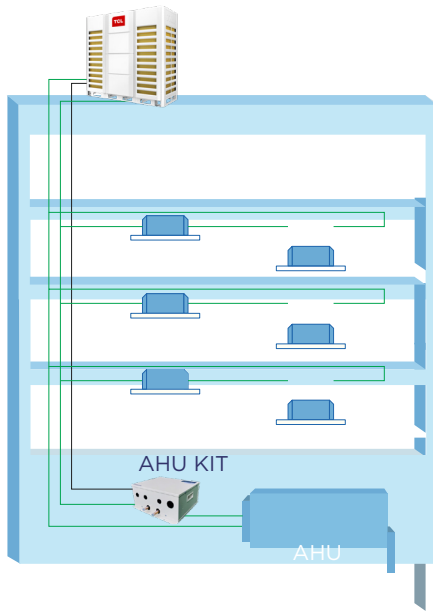


### 4.5 AHU Connection KIT

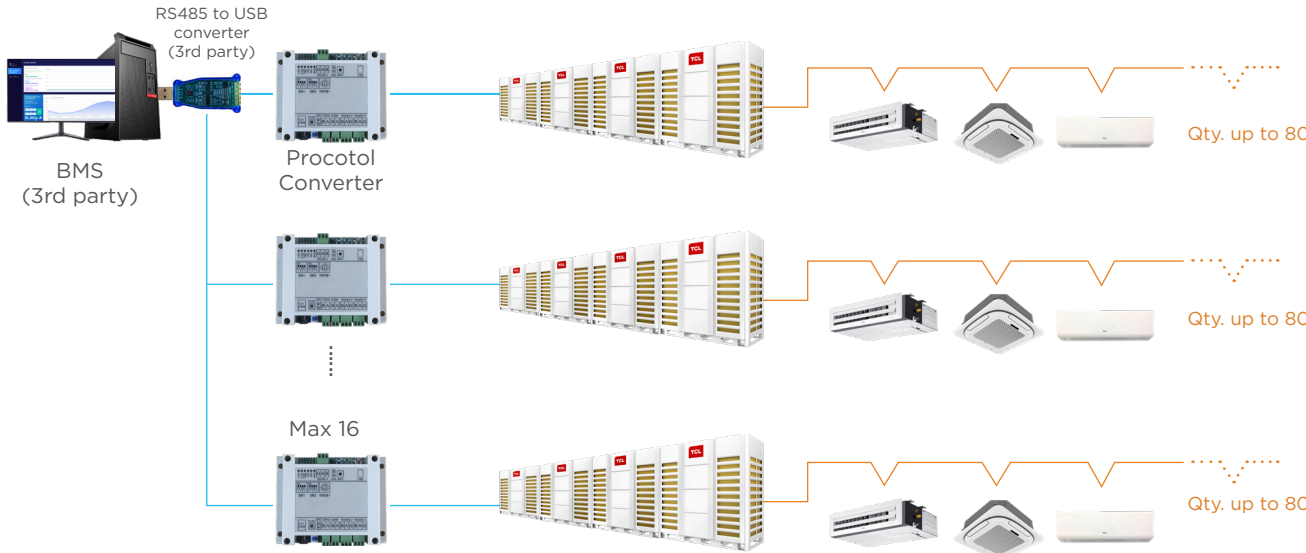
Solution to extend TCL VRF technology to third party Air Handling Units.

- ✓ 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

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



### 4.6 BMS Gateways







# STABLE AND RELIABLE PERFORMANCE

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

TCL 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



-30°C ~ 56°C  
Ultra wide operating temperature range



Pressure self-regulating technology



Triple backup function



Rotation function



Multiple protections







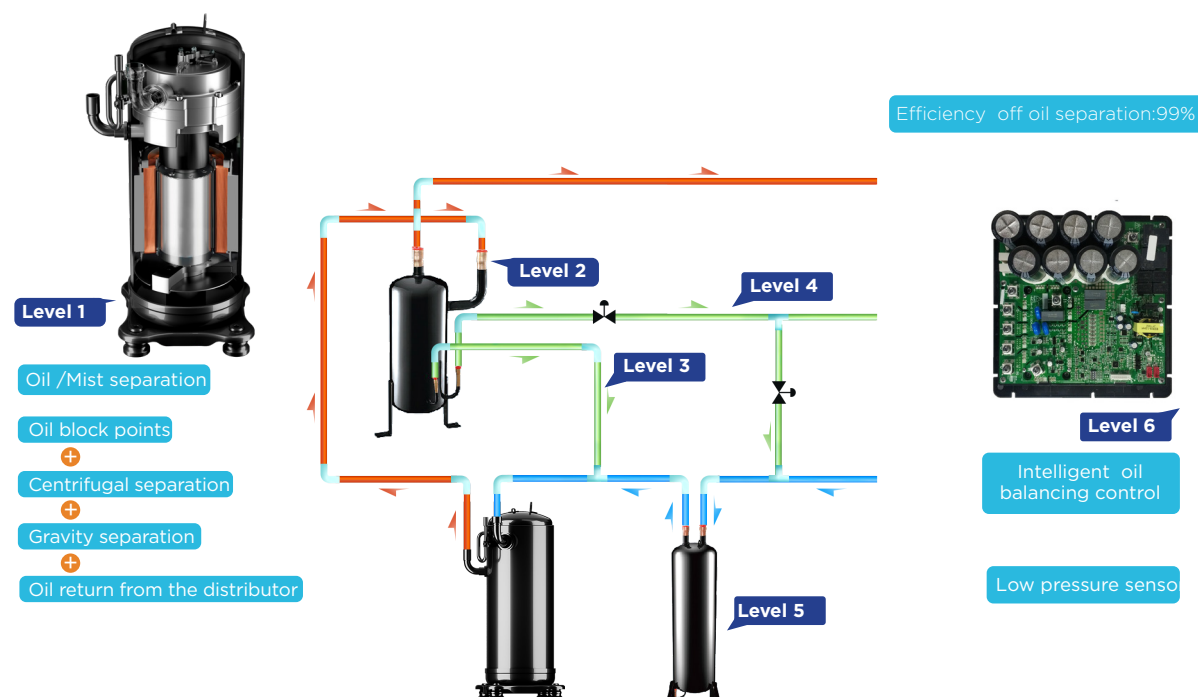
## 5.1 6- Stage oil return technology

- 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

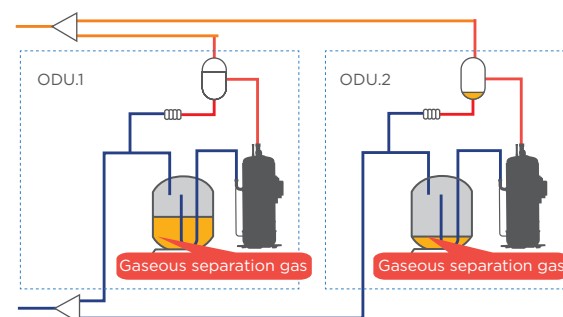
- The VRF system have sufficient and balanced oil in working condition to ensure safety and avoid potential oil shortages.

- 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



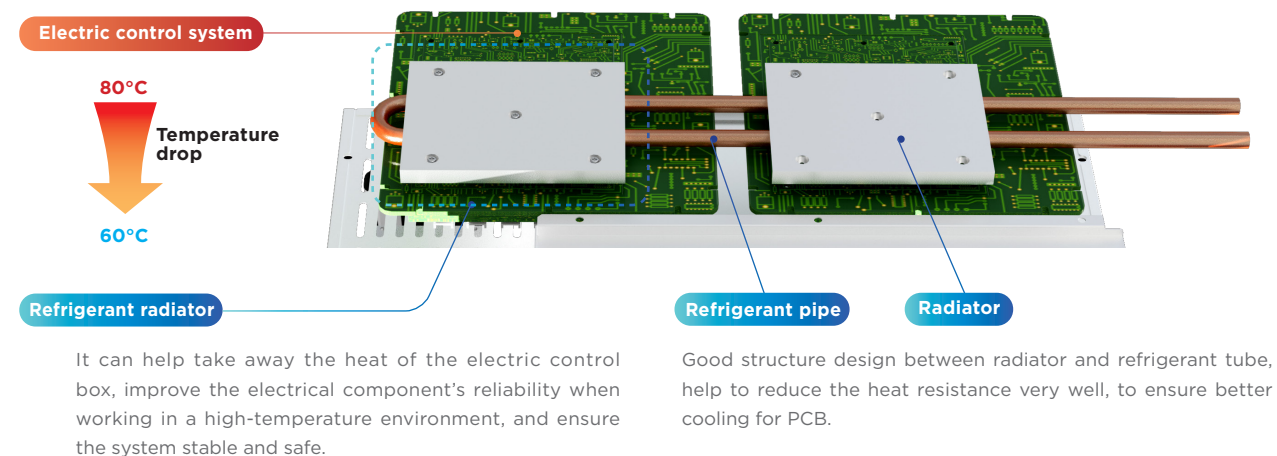
### Automatic oil balancing

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



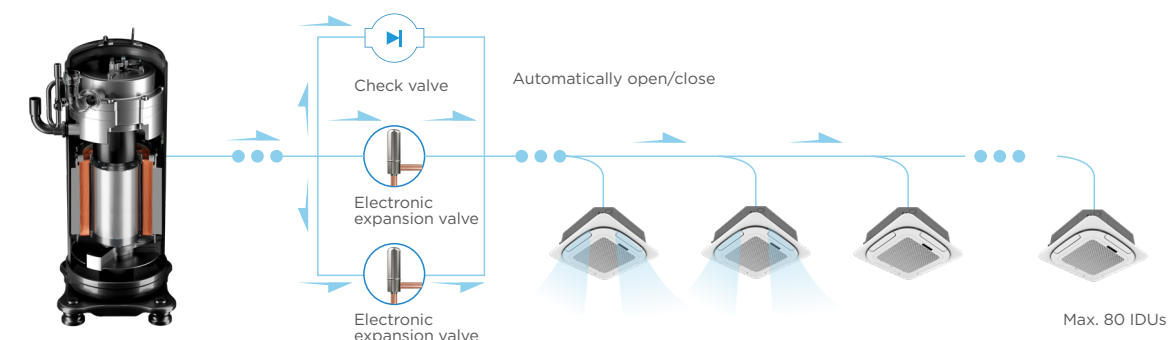
## 5.2 Inverter module cooling protection

- 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 TCL module cooling technology can eliminate the heat of PCB, reduce the working temperature of inverter module and improve the PCB system reliability.

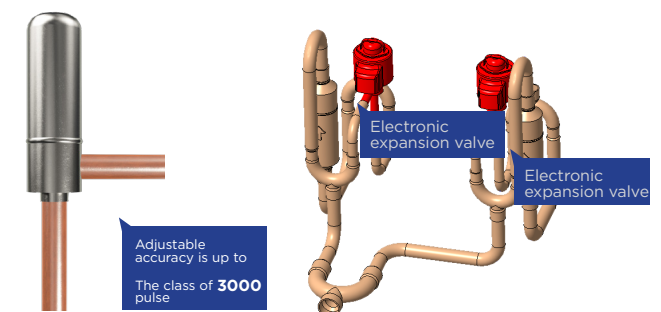


## 5.3 High precision refrigerant control function

- 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 use 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.

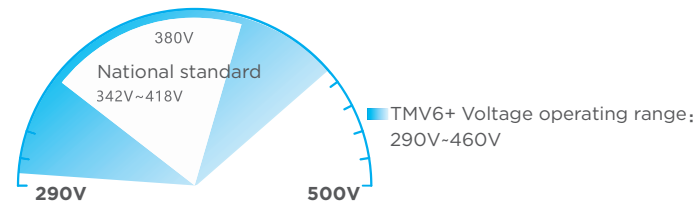


\* Note: General adjustment is 480 level, can be customized to 3000 level adjustment



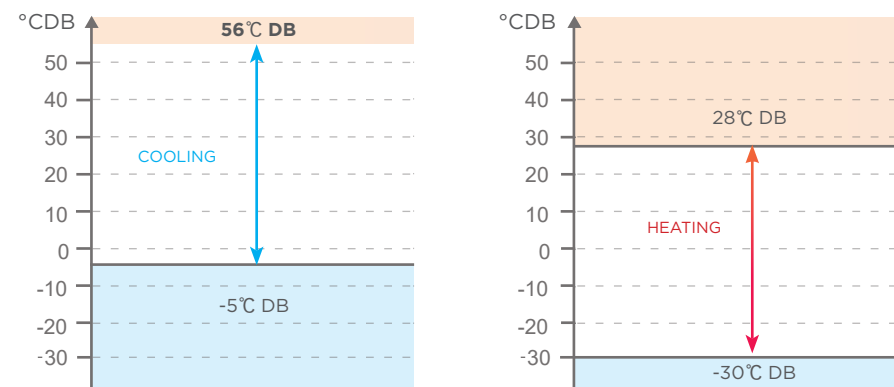
## 5.4 Wide voltage range

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



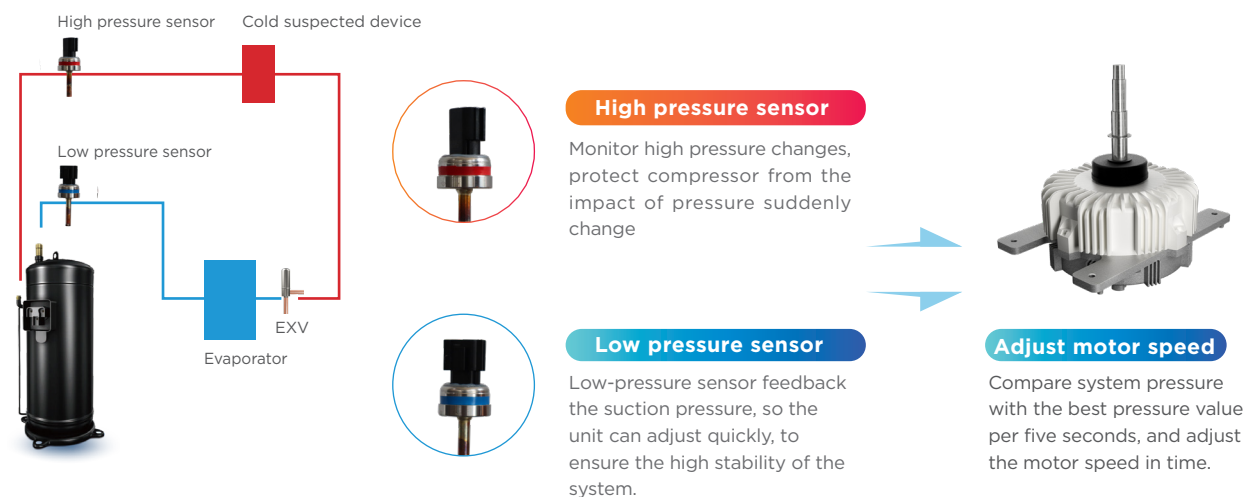
## 5.5 Wide operation temperature range -30°C ~56°C

- Wide operation range, cooling: -5°C ~56°C, heating: -30°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

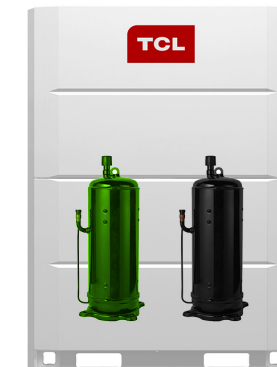


## 5.7 Triple back-up operation technology

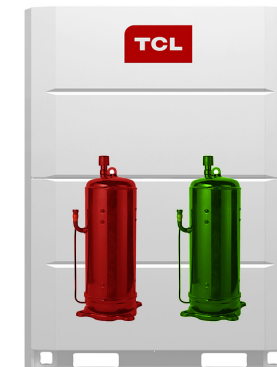
### Compressor backup operation

- 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

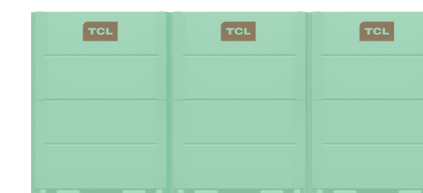


Emergency operation

### ODU backup operation

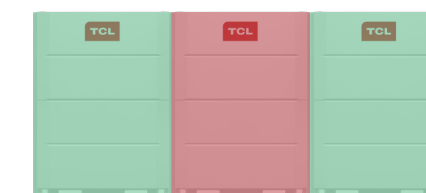
- In a multi-unit system, if one outdoor unit fails, the other modules provide backup so that the system can continue operating.

Running state Running state Running state



Running state

Running state Error Running state



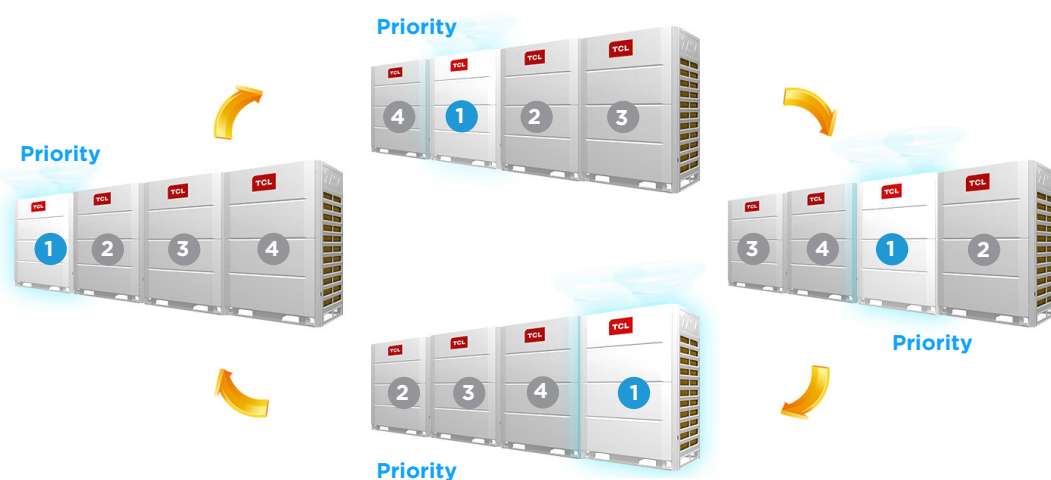
Emergency operation





## 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.



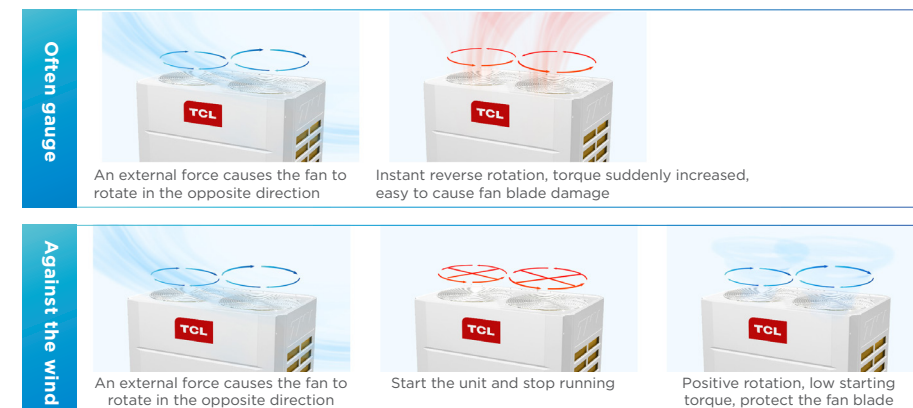
## 5.9 Multiple protection functions

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



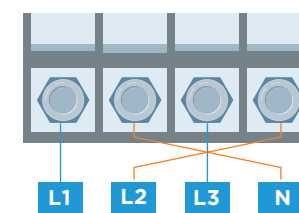
### Anti-adversity function

- 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.



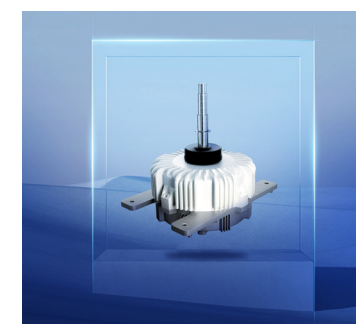
### Compressor overload protection

- 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 protection

- 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.



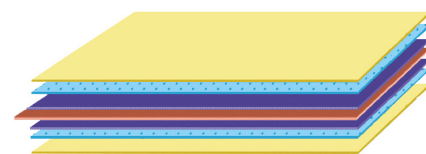




## 5.10 Anticorrosion design

### 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

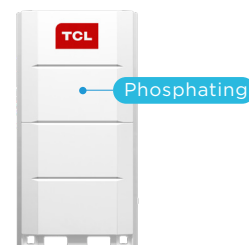
- The main board is equipped with moisture-proof glue, the sheet metal surface of the electric control box is treated with anti-corrosion spray, and the top of the metal casing fan capacitor is sprayed with anti-corrosion paint separately.

### Pressure vessel

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

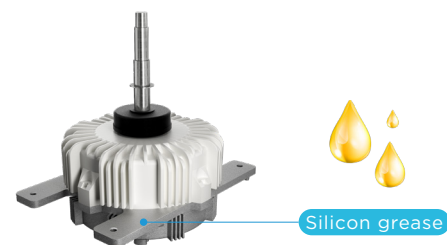
### Thick sheet metal design

- 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.

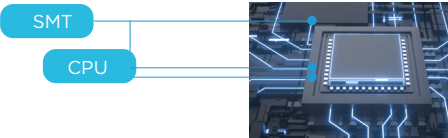


### Fastener

- 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.

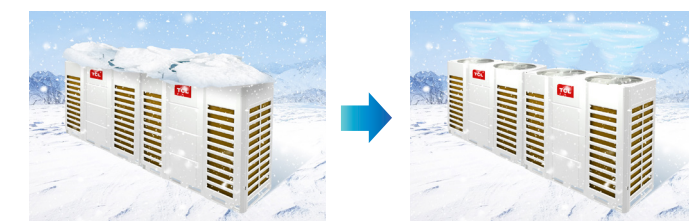
## 5.11 Electronic control board SMT placement technology

- 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.



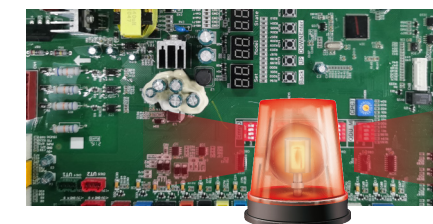
## 5.13 High-altitude adaptive technology \*

- In high-altitude areas where the air is thin, the unit is prone to insufficient capacity. The 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

- 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 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.



13 basic modules, satisfy all kind of requirement



Big-capacity module design, easy installation and space saving



Super long refrigerant pipeline design, flexible structure



Convenient for the transportation, installation and commissioning



130Pa The highest static pressure for outdoor unit



ODU without oil balance pipe, compact design



Auto-addressing function



Commissioning software



Emergency power-off function for indoor unit maintenance

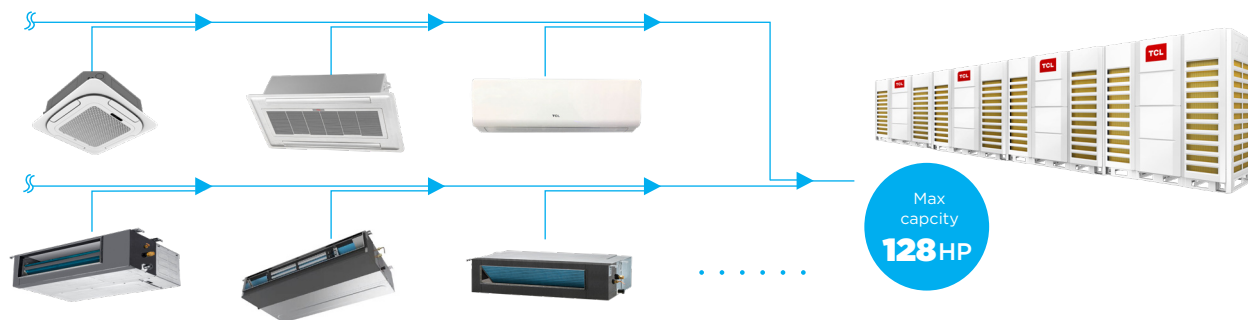






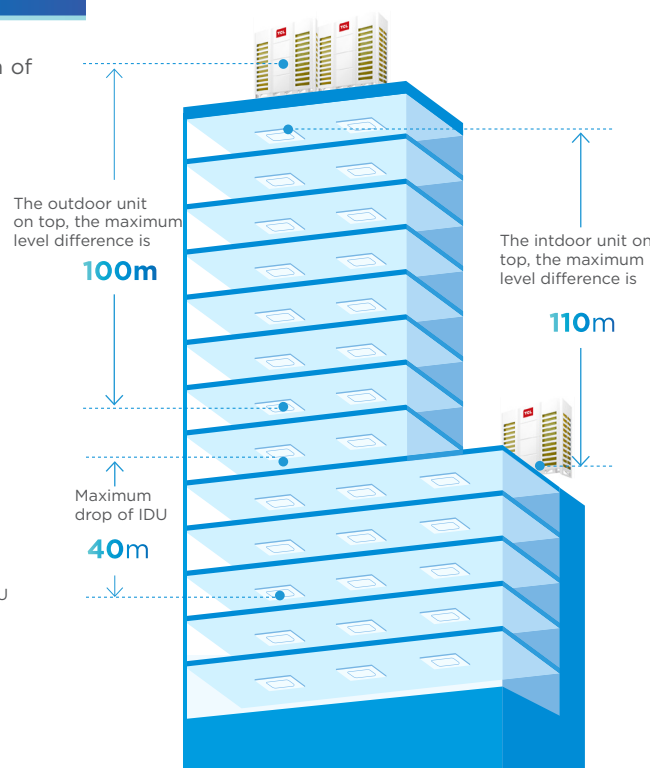
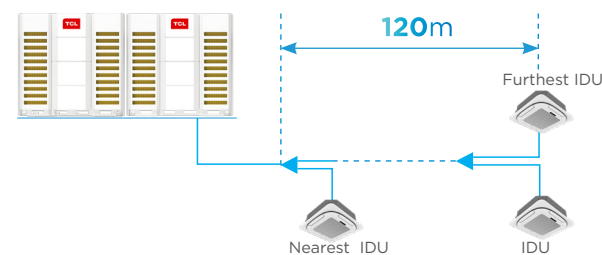
## 6.1 Intelligent multi-connection, easy to cope with the spatial layout

- In order to meet the needs of different building types for air conditioning equipment, 13 basic outdoor unit modules are provided. The modules of 8-32HP can be combined freely, and the maximum combination can reach 128HP. 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 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.

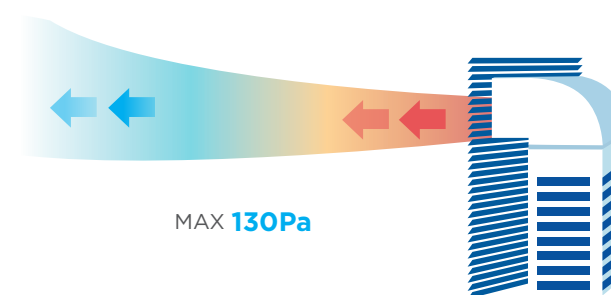


## 6.3 Single system can connect 80 IDUs

- 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.

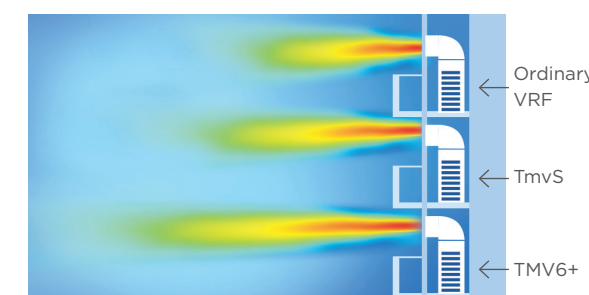
## 6.4 130Pa external static pressure \*

- 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

## 6.5 Automatic refrigerant judgment

### 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

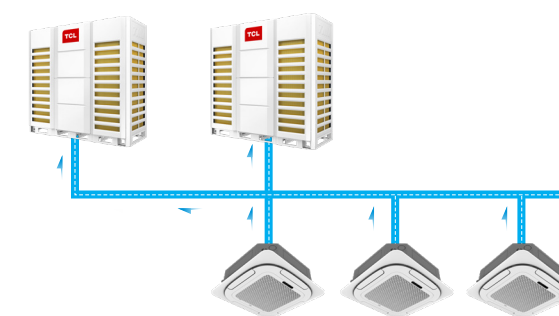


Refrigerant automatic judgment

### 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

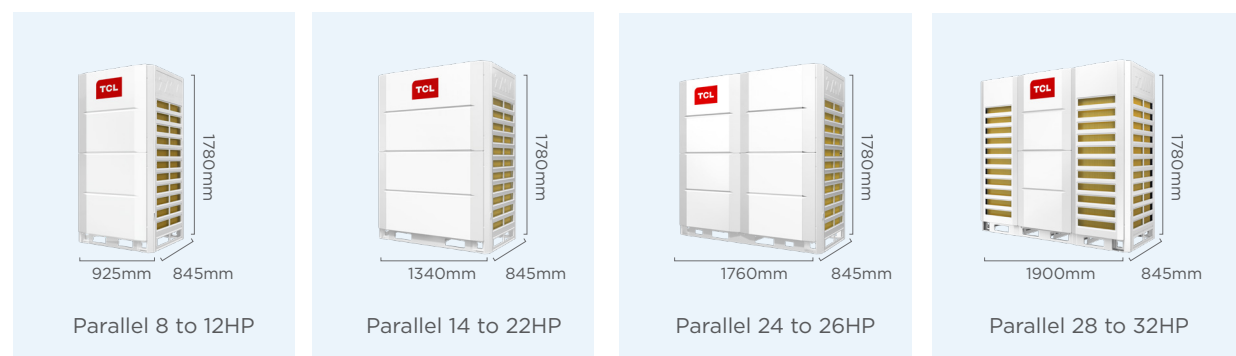






## 6.6 Compact design and convenient transport

- 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.



## 6.7 One-touch commissioning function

- You can choose to debug on the outdoor unit side or remotely through the monitoring software to realize the cooling and heating trial operation, no need opening the indoor units one by one, which is convenient for on-site debugging and improves the quality of construction at the project site.

## 6.8 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.

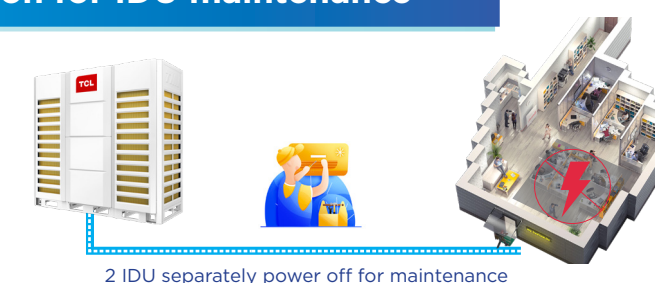
## 6.9 360°pipe connection design

- 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.



## 6.10 Emergency power-off function for IDU maintenance

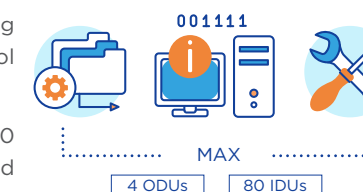
- If an indoor unit needs to be powered off for maintenance due to failure, in order not to affect the operation of the entire system, the indoor unit can be powered off separately for maintenance, and other indoor units in the system can operate normally.



2 IDU separately power off for maintenance

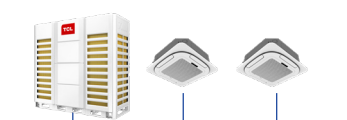
## 6.11 Commissioning software

- The commissioning software is specially developed for TCL 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.



## 6.12 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 12 HP



14 to 22 HP



24 to 26 HP



28 to 32 HP

Notes: 1. Specifications are based on the following conditions:  
2. Cooling: Indoor temperature 27℃ DB/19℃ WB, and outdoor temperature 35℃ DB/24℃ WB.  
3. Heating: Indoor temperature 20℃ DB/15℃ WB, and outdoor temperature 7℃ DB/6℃ 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.

ODU parameters(8-32HP)

Loading Capacity			25200	28000	33500	40000	45000	50400	56000	61500	68000	73000	78500	85000	90000
Model			TMV- VED+252W/ AS-D(E)	TMV- VED+280W/ AS-D(E)	TMV- VED+335W/ AS-D(E)	TMV- VED+400W/ AS-D(E)	TMV- VED+450W/ AS-D(E)	TMV- VED+504W/ AS-D(E)	TMV- VED+560W/ AS-D(E)	TMV- VED+615W/ AS-D(E)	TMV- VED+680W/ AS-D(E)	TMV- VED+730W/ AS-D(E)	TMV- VED+785W/ AS-D(E)	TMV- VED+850W/ AS-D(E)	TMV- VED+900W/ AS-D(E)
Cooling capacity	Capacity	W	25200	28000	33,500	40,000	45,000	50,400	56,000	61,500	68000	73000	78500	85000	90000
	Input	W	7850	8890	12500	14550	18000	19530	24240	30000	31480	39460	34450	39950	45000
	Current	A	12.52	14.18	19.94	23.21	28.71	31.15	38.66	47.85	50.21	61.00	54.95	63.72	71.77
Heating capacity	Capacity	W	25200	28000	33,500	40,000	45,000	50,400	56,000	61,500	68000	73000	78500	85000	90000
	Input	W	6000	7180	9100	11430	15000	13810	16100	18700	18630	24750	23760	26130	28125
	Current	A	9.57	11.45	14.51	18.21	23.92	22.03	25.68	29.82	29.71	39.47	37.91	41.67	44.86
SEER		WW	7.35	7.26	7.05	6.75	6.25	6.61	6.41	6.20	6.50	5.50	6.26	6.16	5.97
SCOP		WW	4.50	4.45	4.40	4.42	4.39	4.40	4.35	4.30	4.50	4.16	4.28	4.20	4.20
Power supply			380~415V 3N ~ 50Hz												
Outdoor noise level (sound power level)		dB(A)	83	84	86	90	93	93	93	93	93	93	93	93	93
Max. Power		W	11300	12430	13730	18400	21390	23700	26070	31490	33270	41250	39440	41250	48700
Max. Current		A	20.03	22.03	24.33	32.6	37.9	42.00	46.2	55.80	58.95	66.90	69.90	73.10	79.06
Outdoor fan motor	Qty		1	1	1	1	1	2	2	2	2	2	2	2	2
	Output	W	560	560	560	920	920	560	560	560	920	920	920	920	920
Air volume		m³/h	11000	11000	11500	13500	14000	19000	19000	20000	26000	26000	29000	29000	29000
Connecting Pipe	Liquid	Inches	3/8"	3/8"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	3/4"	3/4"	3/4"	3/4"	3/4"
	Gas	Inches	3/4"	7/8"	1"	1"	9/8"	9/8"	9/8"	9/8"	5/4"	5/4"	11/8"	3/2"	3/2"
	connection method		Welding												
Net dimensions (L x W x H)		mm	925*845*1780			1340*845*1780					1760*845*1780		1900*845*1780		
Packing dimensions (L x W x H)		mm	1000 × 925 × 1940			1415 × 925 × 1940					1835*925*1940		1975*925*1940		
Weight	Net weight	kg	215	215	215	270	270	315	315	320	380	380	455	455	455
	Gross weight	kg	225	225	225	290	290	335	335	340	405	405	480	480	480
Refrigerant	Type		R410A												
	Charged volume	kg	9	9	9	11	11	14	14	16	18	18	28	28	28
CO2 equivalent		tonnes	18.792	18.792	18.792	22.968	22.968	29.232	29.232	33.408	37.584	37.584	58.464	58.464	58.464
Design pressure		MPa	4.3												
Cooling operating range	Outdoor side	℃	-5~56												
	Indoor side	℃	16~32												
Heating operating range	Outdoor side	℃	-30~28												
	Indoor side	℃	15~31												

Notes: 1. Specifications are based on the following conditions:  
2. Cooling: Indoor temperature 27℃ DB/19℃ WB, and outdoor temperature 35℃ DB/24℃ WB.  
3. Heating: Indoor temperature 20℃ DB/15℃ WB, and outdoor temperature 7℃ DB/6℃ 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.



# Mini VRF

Full DC Inverter MINI VRF Unit



Powerful



High Efficiency



Comfortable



Stable







## 7.1 Strong Power, Stable Operation

### High efficiency full DC inverter and twin rotary compressor

- The TCL 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.



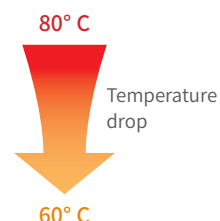
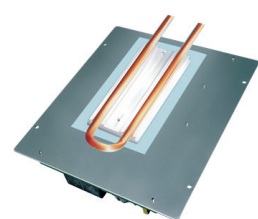
### High efficiency DC fan motor

- 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 -20°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

### 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 TCL mini VRF unit meets the RoHS environmental certification, which is environmental friendly.



## 7.3 Authoritative attestation

- The 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 has passed the Eurovent and CE standard certification.



## 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

#### 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





7.5 Mini VRF Parameters



8 -10kW



12 -16kW

Model			TMV-Vd80W/N1-D(EU)	TMV-Vd100W/N1-D(EU)	TMV-Vd120W/N1-D(EU)	TMV-Vd140W/N1-D(EU)	TMV-Vd160W/N1-D(EU)
Cooling capacity	Capacity	W	8,000	9,000	12,100	14,000	15,500
	Input	W	2700	2900	3900	5250	5930
	Current	A	12.17	13.73	19.45	23.75	28.38
Heating capacity	Capacity	W	8,000	9,000	12,100	14,000	16,000
	Input	W	2100	2900	3100	3800	4520
	Current	A	9.41	13	13.9	16.6	19.86
SEER	Duct		5.4	5.4	7	6.9	6.8
SCOP	Duct		3.8	3.8	4.3	4.2	4.2
Power supply			220~240V~/50Hz				
Outdoor noise level(sound power level)		dB (A)	69/71	69/72	70/72	70/73	71/74
Max. Power		kW	6.2	6.2	7.26	7.26	7.26
Max. Current		A	28.2	28.2	33.0	33.0	33.0
Air volume		m <sup>3</sup> /h	4300	4300	5700	5700	5700
Size	Net dimensions (L x W x H)	mm	910 × 359 × 803	910 × 359 × 803	1010*410*850	1010*410*850	1010*410*850
	Packing dimensions (L x W x H)	mm	1022 × 480 × 835	1022 × 480 × 835	1145*535*970	1145*535*970	1145*535*970
Weight	Net weight	kg	52	52	75	75	78
	Gross weight	kg	55	55	87	87	90
Cooling operating range	Outdoor side	℃	-5~55	-5~55	-5~55	-5~55	-5~55
	Indoor side	℃	16~32	16~32	16~32	16~32	16~32
Heating operating range	Outdoor side	℃	-20~28	-20~28	-20~28	-20~28	-20~28
	Indoor side	℃	15~31	15~31	15~31	15~31	15~31

Notes:

1. Specifications are based on the following conditions:  
2. Cooling: Indoor temperature 27℃ DB/19℃ WB,and outdoor temperature 35℃ DB/24℃ WB.  
3. Heating: Indoor temperature 20℃ DB/15℃ WB,and outdoor temperature 7℃ DB/6℃ 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.



18-28 KW

Model			TMV-Vd180W/N1S-C(EU)	TMV-Vd224W/N1S-C(EU)	TMV-Vd252W/N1S-C(EU)	TMV-Vd280W/N1S-C(EU)
Cooling capacity	Capacity	W	18,000	22,400	25,200	28,000
	Input	W	6900	9220	8600	11280
	Current	A	10.40	14.23	14.51	17.80
Heating capacity	Capacity	W	18,000	22,400	25,200	28,000
	Input	W	4900	6220	7030	8070
	Current	A	7.63	9.34	10.9	12.46
SEER	Duct		7	6.8	6.6	6.4
SCOP	Duct		4.4	4.2	4.3	4.3
Power supply			380~415V 3N ~ 50Hz			
Outdoor noise level(sound power level)		dB (A)	78/79	78/79	80/82	80/82
Max. Power		kW	11.00	11.0	12.0	12.0
Max. Current		A	17.6	17.6	19.2	19.2
Air volume		m <sup>3</sup> /h	10500	10500	10500	10500
Size	Net dimensions (L x W x H)	mm	1120 × 400 × 1560	1120 × 400 × 1560	1120 × 400 × 1560	1120 × 400 × 1560
	Packing dimensions (L x W x H)	mm	1250 × 560 × 1721	1250 × 560 × 1721	1250 × 560 × 1721	1250 × 560 × 1721
Weight	Net weight	kg	130	130	140	140
	Gross weight	kg	145	145	163	163
Cooling operating range	Outdoor side	℃	-5~55	-5~55	-5~55	-5~55
	Indoor side	℃	16~32	16~32	16~32	16~32
Heating operating range	Outdoor side	℃	-20~28	-20~28	-20~28	-20~28
	Indoor side	℃	15~31	15~31	15~31	15~31

Notes:

1. Specifications are based on the following conditions:  
2. Cooling: Indoor temperature 27℃ DB/19℃ WB,and outdoor temperature 35℃ DB/24℃ WB.  
3. Heating: Indoor temperature 20℃ DB/15℃ WB,and outdoor temperature 7℃ DB/6℃ 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.



## VRF systems, Various combinations


In response to the different needs of building types for air-conditioning equipment, TCL provides four basic outdoor unit modules, which can be freely combined in 2HP increments, and the maximum combination can reach 128HP, 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	Combination	Connected indoor unit qty	HP	Combination1 (Space saving)	Connected indoor unit qty.
8	8	13	66	22+22+22	80
10	10	16	68	22+22+24	80
12	12	19	70	22+24+24	80
14	14	23	72	24+24+24	80
16	16	26	74	22+24+28	80
18	18	29	76	24+24+28	80
20	20	33	78	22+28+28	80
22	22	36	80	24+28+28	80
24	24	39	82	26+28+28	80
26	26	43	84	28+28+28	80
28	28	46	86	26+28+32	80
30	30	50	88	28+28+32	80
32	32	53	90	26+32+32	80
34	16+18	56	92	28+32+32	80
36	18+18	59	94	30+32+32	80
38	16+22	63	96	32+32+32	80
40	18+22	66	98	24+24+24+26	80
42	20+22	69	100	24+24+26+26	80
44	22+22	72	102	24+26+26+26	80
46	22+24	75	104	24+26+26+28	80
48	24+24	78	106	26+26+26+28	80
50	22+28	80	108	26+26+28+28	80
52	24+28	80	110	26+28+28+28	80
54	26+28	80	112	28+28+28+28	80
56	28+28	80	114	26+28+28+32	80
58	26+32	80	116	28+28+28+32	80
60	28+32	80	118	26+28+32+32	80
62	30+32	80	120	28+28+32+32	80
64	32+32	80	122	26+32+32+32	80
			124	28+32+32+32	80
			126	30+32+32+32	80
			128	32+32+32+32	80

## IDU lineup

Series	Type	Model	Capacity range(x100w)																							
			18	22	28	32	36	45	50	56	63	71	80	90	100	112	125	140	160	220	224	280	335	450	560	
 360° air outlet cassette	Cooling & Heating	TMV-V(**) Q8/N1Y(E)			●		●	●	●	●	●	●	●	●	●	●	●	●								
 DC inverter duct	Cooling & Heating	TMV-V(**) F5/N1DY(E)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
 High static pressure	Cooling & Heating	TMV-V(**) F1/N1Y(E)										●					●	●		●	●	●				
 Wall-mounted	Cooling & Heating	TMV-V(**) G/N1Y-B(E)		●	●			●	●	●		●	●	●												
 Ceiling & Floor	Cooling & Heating	TMV-V(**) ZD/N1Y(E)						●	●	●	●	●	●	●	●	●	●	●								
 One-way cassette	Cooling & Heating	TMV-V(**) Q1/N1Y(E)	●	●	●		●	●	●	●																
 Two-way cassette	Cooling & Heating	TMV6-V(**) Q2/N1Y(E)		●	●		●	●	●	●	●	●														
 360° compact cassette	Cooling & Heating	TMV-V(**) Q4R/ N1DY(E)	●	●	●	●	●	●	●	●	●															
 Fresh air duct	Cooling & Heating	TMV-V(**) F1/ XFN1Y(E)															●			●		●	●			

Air Volume (m³/h)																	
 ERV	Cooling & Heating	XFQR-**Q -D/-DS	200	400	600	1000	1500	2000	2500	3000	4000	5000	6000	8000	10000	12000	16000





## 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.



#### Large Air Outlet Volume

Through the new DC inverter fan motor, achieve 2100m<sup>3</sup>/h air outlet volume, and improve the air Exchange efficiency by 30%



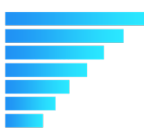
#### 50Pa Static Pressure Adjustment

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.



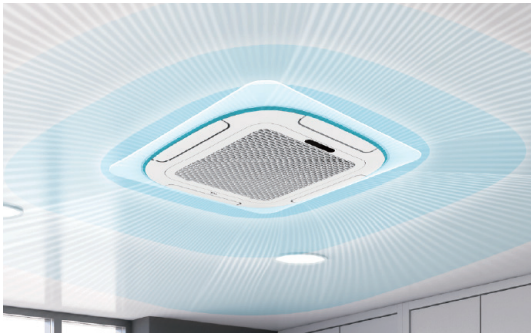
#### Standard condensate pump, easy to install

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



#### 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.



#### 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

### Specification

Model			TMV-V28Q8/ N1DY(E)	TMV-V36Q8/ N1DY(E)	TMV-V45Q8/ N1DY(E)	TMV-V50Q8/ N1DY(E)	TMV-V56Q8/ N1DY(E)	TMV-V63Q8/ N1DY(E)	TMV-V71Q8/ N1DY(E)
Control type			Remote Controller & Wired controller						
Cooling capacity	Capacity	W	2,800	3,600	4500	5000	5600	6300	7100
	Input	W	20	20	25	25	25	35	35
	Current	A	0.09	0.09	0.11	0.11	0.11	0.16	0.16
Heating capacity	Capacity	W	3,200	4000	5000	5600	6300	7100	8000
	Input	W	20	20	25	25	25	35	35
	Current	A	0.09	0.09	0.11	0.11	0.11	0.16	0.16
Indoor noise level at cooling (sound pressure level)		dB(A)	31	31	33	33	33	35	37
Refrigerant type/Quantity		Type	R410A						
Design pressure		MPa	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Power supply			220-240V 50Hz						
Indoor air circulation (Cooling/Heating)	L/S		222	222	250	250	250	306	306
	m³/h		800	800	900	900	900	1100	1100
Indoor fan type			Centrifugal fan						
Connecting Pipe	Liquid	Inches	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"
	Gas	Inches	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"
Drainage Pipe		mm	25(ID21,OD25)						
Net dimensions(W x H x D)		mm	840*245*840						
Net weight	Indoor	kg	21.5	21.5	21.5	21.5	21.5	22	22
Packing dimensions (W x H x D)			920*270*920						
Gross weight	Indoor	kg	25	25	25	25	25	25.5	25.5
Loading Capacity			1.0HP	1.2HP	1.5HP	1.8HP	2.0HP	2.2HP	2.5HP

Model			TMV-V80Q8/ N1DY(E)	TMV-V90Q8/ N1DY(E)	TMV-V100Q8/ N1DY(E)	TMV-V112Q8/ N1DY(E)	TMV-V125Q8/ N1DY(E)	TMV-V140Q8/ N1DY(E)	TMV-V160Q8/ N1DY(E)
Control type			Remote Controller & Wired controller						
Cooling capacity	Capacity	W	8000	9000	10000	11200	12500	14000	16000
	Input	W	40	60	60	60	70	85	132
	Current	A	0.18	0.27	0.27	0.27	0.32	0.39	0.6
Heating capacity	Capacity	W	9000	10000	11200	12500	14000	16000	18000
	Input	W	40	60	60	60	70	85	132
	Current	A	0.18	0.27	0.27	0.27	0.32	0.39	0.6
Indoor noise level at cooling (sound pressure level)		dB(A)	38	39	40	41	43	43	47
Refrigerant type/Quantity		Type	R410A						
Design pressure		MPa	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Power supply			220-240V 50Hz						
Indoor air circulation (Cooling/Heating)		L/S	361	417	444	444	500	500	583
		m³/h	1300	1500	1600	1600	1800	1800	2100
Indoor fan type			Centrifugal fan						
Connecting Pipe	Liquid	Inches	3/8"						
	Gas	Inches	5/8"						
Drainage Pipe		mm	25(ID21,OD25)						
Net dimensions(W x H x D)		mm	840*290*840						
Net weight	Indoor	kg	22	22.5	25	25	25	27.5	27.5
Packing dimensions (W x H x D)		mm	920*315*920						
Gross weight	Indoor	kg	25.5	26	28.5	28.5	28.5	31	31
Loading Capacity			3.0HP	3.2HP	3.6HP	4.0HP	4.5HP	5.0HP	6HP

#### 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.





### 360° 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.



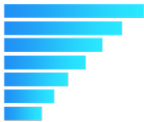
#### Clean sterilization, healthy life

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



#### 7-level Fan Speed Volume

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



#### 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

Model			TMV-V18Q4R/NID1Y(E)	TMV-V22Q4R/NID1Y(E)	TMV-V25Q4R/NID1Y(E)	TMV-V28Q4R/NID1Y(E)	TMV-V32Q4R/NID1Y(E)	TMV-V36Q4R/NID1Y(E)	TMV-V40Q4R/NID1Y(E)	TMV-V45Q4R/NID1Y(E)	TMV-V50Q4R/NID1Y(E)	TMV-V56Q4R/NID1Y(E)	TMV-V63Q4R/NID1Y(E)	
Control type			remote control & wired control											
cooling capacity	Capacity	W	1800	2200	2500	2800	3600	3600	4000	4500	5000	5600	6300	
heating capacity	Capacity	W	2200	2500	2800	3200	4000	4000	4500	5000	5600	6300	7100	
Refrigerant type			R410A											
Power supply			220-240V 50Hz											
Airflow	hi/med/lo	m³/h	520/410/260				560/440/280		620/490/300		700/540/340		780/600/400	
connection pipe	Gas side	Inches	1/2"								5/8"			
	Liquid side	Inches	1/4"								3/8"			
Dimension	Net	mm	570*570*245											
	Packing	mm	718*657*301											
Panel	Model		MBQRm-FA											
	Net	mm	650×650×57											
	Packing	mm	734×734×95											
	Net	kg	2.7											
	Gross	kg	4											
Drainage pipe(mm)			25(ID21,OD25)											

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.

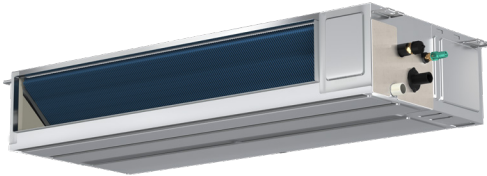
5. Sound Level: Indoor unit sound pressure level, measured at a point 1.5m downward from the unit center.

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.

### DC Series Slim Duct



#### Recommended places

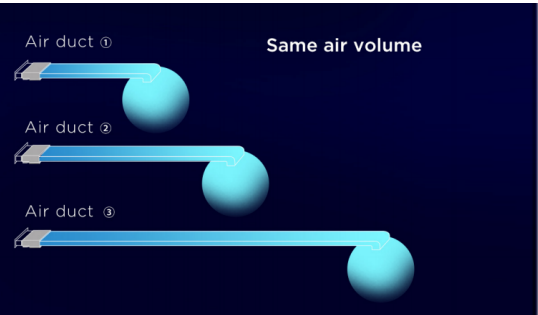
Office, conference room, hotel room, restaurant, living room, etc

#### Technical characteristics



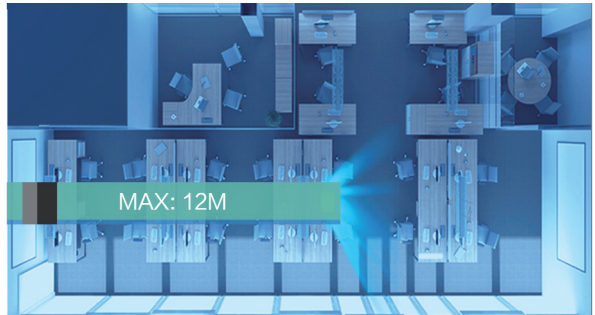
#### Constant air volume

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



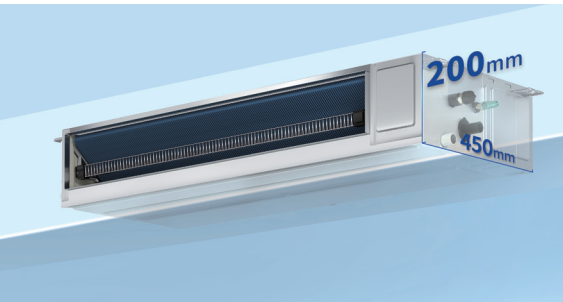
#### High ESP

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.



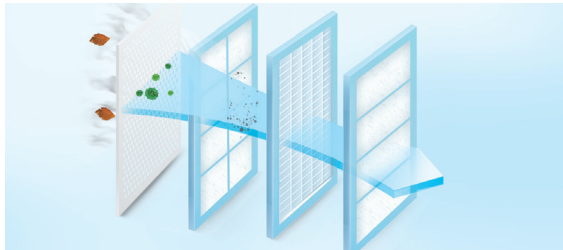
#### Dc seven speed wind speed Energy-saving silent operation

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.



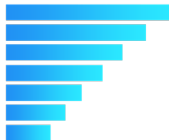
#### Standard float switch, timely warning

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.







DC Series Slim Duct

Specification

Model			TMV-V18F5/ NIDY(E)	TMV-V22F5/ NIDY(E)	TMV-V28F5/ NIDY(E)	TMV-V32F5/ NIDY(E)	TMV-V36F5/ NIDY(E)	TMV-V45F5/ NIDY(E)	TMV-V50F5/ NIDY(E)	TMV-V56F5/ NIDY(E)
Control type			Remote Controller & Wired controller							
Static pressure	Standard	Pa	20	20	20	20	20	20	20	20
	Range		0 ~ 50	0 ~ 50	0 ~ 50	0 ~ 50	0 ~ 50	0 ~ 50	0 ~ 50	0 ~ 50
Cooling capacity	Capacity	W	1800	2200	2800	3200	3600	4500	5000	5600
	Input	W	20	20	20	30	30	50	50	50
	Current	A	0.09	0.09	0.09	0.14	0.14	0.23	0.23	0.23
Heating capacity	Capacity	W	2200	2500	3200	3600	4000	5000	5600	6300
	Input	W	20	20	20	30	30	50	50	50
	Current	A	0.09	0.09	0.09	0.14	0.14	0.23	0.23	0.23
Indoor noise level at cooling(sound pressure level)	High	dB(A)	30	30	30	30	30	34	34	34
	Med.	dB(A)	26	26	26	26	26	29	29	29
	Low	dB(A)	20	20	20	20	20	24	24	24
Refrigerant type/Quantity		Type	R410A							
Design pressure		MPa	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Power supply			220-240V~/50Hz							
Outlet size of indoor airflow		mm	510×140					730×140		
Returning vent size of indoor airflow		mm	570×172					790×172		
Indoor air circulation (Cooling/Heating)		L/S	139	139	139	153	153	236	236	236
		m³/h	500	500	500	550	550	850	850	850
Indoor fan type			Centrifugal fan							
Connecting Pipe	Liquid	Inches	1/4''	1/4''	1/4''	1/4''	1/4''	1/4''	1/4''	1/4''
	Gas	Inches	3/8''	3/8''	3/8''	1/2''	1/2''	1/2''	1/2''	1/2''
Drainage Pipe		mm	25(ID20,OD25)							
Net dimensions (W x H x D)		mm	700×200×450					920×200×450		
Net weight	Indoor	kg	15.5	15.5	15.5	15.5	15.5	18	18	18
Packing dimensions(W x H x D)		mm	900x250x555					1120x250x555		
Gross weight	Indoor	kg	18	18	18	18	18	21	21	21
Loading Capacity			0.6HP	0.8HP	1.0HP	1.1HP	1.2HP	1.5HP	1.8HP	2.0HP

Model			TMV-V63F5/ NIDY(E)	TMV-V71F5/ NIDY(E)	TMV-V80F5/ NIDY(E)	TMV-V90F5/ NIDY(E)	TMV-V100F5/ NIDY(E)	TMV-V112F5/ NIDY(E)	TMV-V125F5/ NIDY(E)	TMV-V140F5/ NIDY(E)
Control type			Remote Controller & Wired controller							
Static pressure	Standard	Pa	20	20	20	60	60	60	60	60
	Range		0 ~ 80	0 ~ 80	0 ~ 80	30 ~ 80	30 ~ 80	30 ~ 80	30 ~ 80	30 ~ 80
Cooling capacity	Capacity	W	6300	7100	8000	9000	10000	11200	12500	14000
	Input	W	54	54	54	180	180	180	250	250
	Current	A	0.25	0.25	0.25	0.9	0.9	0.9	1.2	1.2
Heating capacity	Capacity	W	7100	8000	9000	10000	11200	12500	14000	16000
	Input	W	54	54	54	180	180	180	250	250
	Current	A	0.25	0.25	0.25	0.9	0.9	0.9	1.2	1.2
Indoor noise level at cooling(sound pressure level)	High	dB(A)	37	37	37	43	43	43	44	44
	Med.	dB(A)	31	31	31	37	37	37	41	41
	Low	dB(A)	27	27	27	33	33	33	37	37
Refrigerant type/Quantity		Type	R410A							
Design pressure		MPa	4.5							
Power supply			220-240V~/50Hz							
Outlet size of indoor airflow		mm	930×140				1365×175			
Returning vent size of indoor airflow		mm	1004×165				1365×220			
Indoor air circulation (Cooling/Heating)		L/S	306				500		556	
		m³/h	1100				1800		2000	
Indoor fan type			Centrifugal fan							
Connecting Pipe	Liquid	Inches	3/8"							
	Gas	Inches	5/8"							
Drainage Pipe		mm	25(ID20,OD25)							
Net dimensions (W x H x D)		mm	1100×200×450				1400×250×700			
Net weight	Indoor	kg	22.5	22.5	22.5	36	36	36	38	38
Packingdimensions(W x H x D)		mm	1290x245x565				1632x298x827			
Gross weight	Indoor	kg	26	26	26	42	42	42	44	44
Loading Capacity			2.2HP	2.5HP	2.8HP	3.2HP	3.6HP	4HP	4.5HP	5HP

Notes:

1. Specifications are based on the following conditions:  
2. Cooling: Indoor temperature 27℃ DB/19℃ WB,and outdoor temperature 35℃ DB/24℃ WB.  
3. Heating: Indoor temperature 20℃ DB/15℃ WB,and outdoor temperature 7℃ DB/6℃ 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.

High static pressure Duct



Recommended places

Workshop, hotel, restaurant, shopping mall, ballroom, bar and other large space places

Technical characteristics



Healthy new wind, forest breathing

Easy introduction of outdoor fresh air heating refrigeration and indoor air exchange, keep indoor air fresh, bring you comfortable fresh air.



Ultra-thin body design, fashion and beautiful

The minimum thickness of the fuselage is only 380mm, which does not occupy indoor space.



Ultra-high static pressure design to meet various space requirements

Maximum static pressure 300Pa, can be long distance multi-point air supply, fully meet the air conditioning needs of different Spaces.



Clean sterilization, healthy life

Built-in coarse filter, PP filter screen, optional silver ion purification module, effectively remove large particles in the air, absorb formaldehyde and odor, eliminate germs.



Various forms of air outlets,matching with decoration

The indoor unit adopts a hidden installation mode, which can be equipped with appropriate air outlets to perfectly combine the air conditioning.



Specification

Model			TMV-V71F1 /NIY(E)	TMV-V112F1/ NIY(E)	TMV-V140F1/ NIY(E)	TMV-V220F1/ NIY(E)	TMV-V280F1/ NIY(E)	TMV-V450F1/ NIY(E)	TMV-V560F1/ NIY(E)
Control type			Remote Controller & Wired controller						
Static pressure	Standard	Pa	100	100	130	200	200	200	200
	Range		50 ~ 130	50 ~ 130	50 ~ 130	100-300	100-300	100-300	100-300
Cooling capacity	Capacity	W	7100	11200	14000	22000	28000	45000	56000
	Input	W	280	420	420	1750	1750	2250	2250
	Current	A	1.4	2	2	8.85	8.85	11.36	11.36
Heating capacity	Capacity	W	8000	12500	16000	25000	31000	50000	61000
	Input	W	280	420	420	1750	1750	2250	2250
	Current	A	1.4	2	2	8.85	8.85	11.36	11.36
Indoor noise level at cooling High/Med/Low			50/48/46	53/51/49	53/51/49	55/53/51	55/53/51	61/58/56	61/58/56
Refrigerant type/Quantity		Type	R410A						
Design pressure		MPa	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Power supply			220-240V~/50Hz/						
Outlet size of indoor airflow		mm	430×220	850×220	850×220	1025×300		1470×330	
Returning vent size of indoor airflow		mm	710×310	1100×310	1100×310	1240×460		1645×638	
Indoor air circulation		L/S	350	561	639	1250	1250	2083	2083
		m³/h	1260	2020	2300	4500	4500	7500	7500
Indoor fan type			Centrifugal fan						
Connecting Pipe	Liquid	Inches	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
	Gas	Inches	5/8"	5/8"	5/8"	7/8"	7/8"	9/8"	9/8"
Drainage Pipe		mm	25(ID20,OD25)						
Net dimensions(W x H x D)		mm	850×380×590	1200×380×590	1200×380×590	1366×758×470		1770×758×650	
Net weight	Indoor	kg	49	58	58	120		220	
Packing dimensions (W x H x D)		mm	1060×425×695	1410×435×695	1410×435×695	1620×975×700		2010×975×910	
Gross weight	Indoor	kg	55	64	64	145		245	
Loading Capacity			2.5HP	4.0HP	5.0HP	8.0HP	10.0HP	16.0HP	20.0HP

Notes:

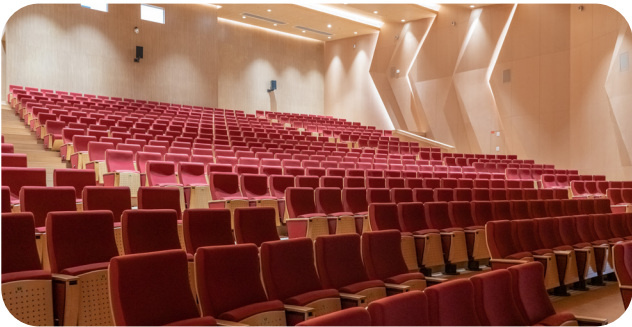
1. Specifications are based on the following conditions:  
2. Cooling: Indoor temperature 27℃ DB/19℃ WB,and outdoor temperature 35℃ DB/24℃ WB.  
3. Heating: Indoor temperature 20℃ DB/15℃ WB,and outdoor temperature 7℃ DB/6℃ WB.  
4. Equivalent piping length:5m; Level difference:0m; Voltage:230V.

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.





## Fresh Air Processing Unit



### Recommended places

Cinemas, hotels, lobbies, dance halls, bars and other places

### Technical characteristics



#### Healthy Fresh Air

Through the fresh air unit, the outdoor healthy air can be introduced into the room to keep the indoor healthy.



#### Ultra-high static pressure design

The maximum static pressure is 300pa, which can meet long-distance air supply and different space requirements.



#### Control Smart and Lower Cost

The fresh air unit can be controlled independently or connected to the same outdoor unit system with the AC indoor unit, reducing costs and installation space.



#### Simplify air exhaust system

Simplified air supply and exhaust system, stable and reliable.

Note: The sum of the capacity of the processing unit and the indoors should be 50%-100% of the ODU capacity, and the capacity of the fresh air units does not exceed 30%.

### Specification

Model			Tmv -V140F1/ XFNIY(E)	Tmv -V224F1/ XFNIY(E)	Tmv -V280F1/ XFNIY(E)	Tmv -V450F1/ XFNIY(E)	Tmv -V560F1/ XFNIY(E)
Static pressure	Standard	Pa	196	200	200	300	300
Cooling capacity	Capacity	Btu/h(W)	48000(14000)	75000 (22400)	95500(28000)	153000(45000)	191000(56000)
	Input	W	420	1100	1100	1550	2250
Heating capacity	Capacity	Btu/h(W)	34000(10000)	54000 (16000)	68000(20000)	95500(28000)	133000(39000)
	Input	W	420	1100	1100	1550	2250
Noise	H/M/L	dB(A)	45	53	53	56	60
Design pressure		MPa	4.1	4.1	4.1	4.1	4.1
Power supply			220-240V~/50Hz/60Hz				
Indoor air circulation (Cooling/Heating)		L/S	569	833	833	1111	1667
		m³/h	2050	3000	3000	4000	6000
Connecting Pipe	Liquid	Inches	3/8"	1/2"	1/2"	1/2"	1/2"
	Gas	Inches	5/8"	1"	1"	9/8"	9/8"
Drainage Pipe		mm	25(ID20,OD25)				
Net dimensions	W x H x D	mm	1200×380×590	1366×470×758	1366×470×758	1770×650×758	1770×650×758
Net weight		kg	58	120	120	220	220
Packing dimensions	W x H x D	mm	1410×435×695	1620×930×975	1620×930×975	2035×1170×975	2035×1170×975
Gross weight		kg	60	145	145	245	245
Loading Capacity			5HP	8HP	10HP	15HP	20HP
Controller			Remote Controller & Wired controller				

Notes: 1. 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.

5. 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.

## Wall mounted



### 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.



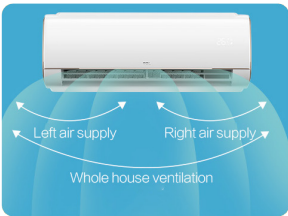
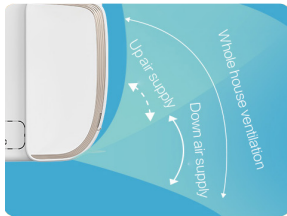
#### Long-lasting filter design

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

Model			TMV-V22G/ NIY-B(E)	TMV-V28G/ NIY-B(E)	TMV-V36G/ NIY-B(E)	TMV-V45G/ NIY-B(E)	TMV-V50G/ NIY-B(E)	TMV-V56G/ NIY-B(E)	TMV-V71G/ NIY-B(E)	TMV-V80G/ NIY-B(E)
Control type			Remote Controller & Wired controller							
Cooling capacity	Capacity	W	2,200	2,800	3,600	4500	5000	5600	7100	8000
	Input	W	40	40	40	45	45	70	70	70
	Current	A	0.19	0.19	0.19	0.2	0.2	0.32	0.32	0.32
Heating capacity	Capacity	W	2500	3200	4000	5000	5600	6300	8000	9000
	Input	W	40	40	40	45	45	70	70	70
	Current	A	0.19	0.19	0.19	0.2	0.2	0.32	0.32	0.32
Indoor noise level at cooling (sound pressure level) High/Med/Low			38/33/27	38/33/27	38/33/27	42/37/33	42/37/33	44/39/35	44/39/35	44/39/35
Refrigerant type/Quantity			R410A							
Design pressure			MPa	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Power supply			220-240V 1N ~ 50HZ							
Indoor air circulation (Cooling/Heating)		L/S	153	153	153	181	181	222	222	222
		m³/h	550	550	550	650	650	800	800	800
Indoor fan type			Centrifugal fan							
Connecting Pipe	Liquid	Inches	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"
	Gas	Inches	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"
Drainage Pipe			mm	16	16	16	16	16	16	16
Net dimensions (W x H x D)			mm	910×294×206				1010×315×220		
Net weight	Indoor	kg	10	10	10	10	10	13	13	13
Packing dimensions (W x H x D)			mm	977×367×276				1094×386×300		
Gross weight	Indoor	kg	12.5	12.5	12.5	12.5	12.5	16	16	16
Loading Capacity			0.9HP	1.0HP	1.2HP	1.5HP	1.8HP	2.0HP	2.0HP	2.0HP

Notes: 1. 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.

5. 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.





Ceiling & floor



Recommended places

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

Technical characteristics



Ultra-thin Design

Compact design which fits for various room styles.



Detachable Plastic Blowers

Universal design ed parts and assemblies applied,which is easy for maintenance.



Wide Range of Air Flow

The air supply angle is from 0 to 110°, making the indoor temperature more uniform and more comfortable.



Flexible Installation

Two ways of installation available, ceiling suspended and floor standing.



Dual Direction of Drainage

Condensing water can be drained both from left and right side.



Wire Control ( optional )

Wire control is available,especially for hotel rooms, offices,etc.

One-way Cassette



Recommended places

Living room, dining room, office, lobby, etc

Technical characteristics



High-lift Drain Pump

The drain pump with a 700mm lifting head which is as standard, simplifying installation of the drain pipes.



Standard float switch, real-time monitor water level

Equipped with float switch, which will automatically monitor the water level and send alarm when malfunction of drain pump or stuck of drain pipe occurs.



Wide-angle air flow

Adopting new type of swing motor, which largely increases the angle of air flow.



High ceiling design

Reserves a super high fan speed for high ceiling installation, unit can provide powerful cooling and heating under a more than 3 meters floor height.



Slim body

Super slim body with 235mm thickness, less installation area required, capable to match multiple decoration styles.



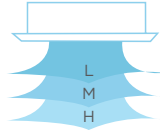
Suitable for corner installation, comfortable air flow

Well-designed shape, suitable for corner installation, make sure the air flow and temperature distribution well.



Three level fan speeds

High,Mid,Low three fan speed options, can meet the needs of different indoor condition.



Specification

Model			TMV6-V45ZD/NIY(E)	TMV6-V50ZD/NIY(E)	TMV6-V56ZD/NIY(E)	TMV6-V63ZD/NIY(E)	TMV6-V71ZD/NIY(E)	TMV6-V80ZD/NIY(E)	TMV6-V90ZD/NIY(E)	TMV6-V100ZD/NIY(E)	TMV6-V1125ZD/NIY(E)	TMV6-V125ZD/NIY(E)	TMV6-V140ZD/NIY(E)
Cooling capacity	Capacity	Btu/h (W)	15000 (4500)	17000 (5000)	19000 (5600)	21000 (6300)	24000 (7100)	27000 (8000)	30000 (9000)	34000 (10000)	38000(11200)	42000 (12500)	48000 (14000)
	Input	W	102	102	102	149	149	149	158	158	235	235	235
Heating capacity	Capacity	Btu/h (W)	17000 (5000)	19000 (5600)	21000 (6300)	24000 (7100)	27000 (8000)	30000 (9000)	34000 (10000)	38000 (11200)	42000 (12500)	48000 (14000)	55000 (16000)
	Input	W	102	102	102	149	149	149	158	158	235	235	235
Noise	H/M/L	dB(A)	44/42/39	44/42/39	44/42/39	46/44/41	46/44/41	46/44/41	50/48/45	50/48/45	52/50/47	52/50/47	52/50/47
Design pressure		MPa	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Power supply		220-240V-/50Hz/											
Indoor air circulation	L/S		267	267	267	333	333	333	444	444	556	556	556
	(Cooling/Heating)	m³/h	960	960	960	1200	1200	1200	1600	1600	2000	2000	2000
Connecting Pipe	Liquid	Inches	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
	Gas	Inches	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
Drainage Pipe		mm	25(ID20,OD25)										
Net dimensions	W x H x D	mm	1055×675×235						1275×675×235			1635×675×235	
	Net weight	kg	24	24	24	25	25	25	29	29	38	38	38
Packing dimensions	W x H x D	mm	1131×753×313						1351×753×313			1711×753×313	
	Gross weight	kg	27	27	27	28	28	28	35	35	46	46	46
Loading Capacity			1.5HP	1.8HP	2.0HP	2.2HP	2.5HP	3.0HP	3.2HP	3.6HP	4.0HP	4.5HP	5.0HP
Controller		Remote Controller & Wired controller											

Notes: 1. Specifications are based on the following conditions:  
2. Cooling: Indoor temperature 27℃ DB/19℃ WB, and outdoor temperature 35℃ DB/24℃ WB.  
3. Heating: Indoor temperature 20℃ DB/15℃ WB, and outdoor temperature 7℃ DB/6℃ 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.

IDU parameters

Model			TMV-V18Q1/NIY(E)	TMV-V22Q1/NIY(E)	TMV-V28Q1/NIY(E)	TMV-V36Q1/NIY(E)	TMV-V45Q1/NIY(E)	TMV-V50Q1/NIY(E)	TMV-V56Q1/NIY(E)
Control type			Remote Controller & Wired controller						
Cooling capacity	Capacity	W	1,800	2,200	2,800	3,600	4,500	5,000	5,600
	Input	W	50	50	50	60	70	70	70
	Current	A	0.24	0.24	0.24	0.28	0.31	0.31	0.31
Heating capacity	Capacity	W	2,200	2,500	3,200	4,000	5,000	5,600	6,300
	Input	W	50	50	50	60	70	70	70
	Current	A	0.24	0.24	0.24	0.28	0.31	0.31	0.31
Indoor noise level at cooling(sound pressure level) High/Med/Low		dB(A)	39/34/31	39/34/31	39/34/31	40/34/31	42/36/33	42/36/33	42/36/33
Refrigerant type/Quantity		Type	R410A						
Design pressure		MPa	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Power supply			220-240V-/50Hz						
Indoor air circulation (Cooling/Heating)	L/S		142	142	142	189	222	222	222
	m³/h		510	510	510	680	800	800	800
Indoor fan type			Centrifugal fan						
Connecting Pipe	Liquid	Inches	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
	Gas	Inches	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
Drainage Pipe		mm	25(ID25,OD32)						
Net dimensions (W x H x D)		mm	850×480×235						
Net weight		kg	23						
Packing dimensions (W x H x D)		mm	1105×645×305						
Gross weight		kg	28						
Loading Capacity			0.7HP	0.9HP	1.0HP	1.2HP	1.5HP	1.8HP	2.0HP

Notes: 1. Specifications are based on the following conditions:  
2. Cooling: Indoor temperature 27℃ DB/19℃ WB, and outdoor temperature 35℃ DB/24℃ WB.  
3. Heating: Indoor temperature 20℃ DB/15℃ WB, and outdoor temperature 7℃ DB/6℃ 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.





## Two-way Cassette



### Recommended places

Sitting room, study, dining room, small meeting room, etc

### Technical characteristics



#### High-lift Drain Pump

A drain pump with a 700mm raise height is fitted as standard, simplifying installation of the drain piping.



#### Standard float switch, water level monitor

Equipped with float switch, which will automatically send alarm when malfunction of drain pump or stuck of drain pipe occur.



#### Three - speed adjustment

New winding motor, with scroll fan technology, wider air volume regulation, quieter operation, unique intimate wind gear design. High, medium and low three speed adjustment, strong refrigeration and heating, to create a quiet and comfortable temperature.



#### Ultra-thin body, lightweight design

Ultra-thin body (290mm), requires less installation space, even in the narrow low ceiling, still can be easily installed, more flexible collocation decoration style.



#### Super wide Angle air supply

Panel swing motor system adopts high-precision stepper motor, panel up and down risk control system is more intelligent, to achieve ultra-wide Angle and large range of air supply.



#### Quiet design, quiet and comfortable

Centrifugal wind wheel, axial air inlet, through rotation to form a certain wind pressure, small blade area, large number, uniform air, noise greatly reduced, for you to create a quiet and comfortable environment.



#### High ceiling design, direct air flow to the ground

High ceiling design, suitable for ceiling height up to 3m space.

### IDU parameters

Model			TMV-V22Q2/ NIY(E)	TMV-V28Q2/ NIY(E)	TMV-V36Q2/ NIY(E)	TMV-V45Q2/ NIY(E)	TMV-V50Q2/ NIY(E)	TMV-V56Q2/ NIY(E)	TMV-V63Q2/ NIY(E)	TMV-V71Q2/ NIY(E)
Control type			Remote Controller & Wired controller							
Cooling capacity	Capacity	W	2,200	2,800	3,600	4,500	5,000	5,600	6,300	7,100
	Input	W	64	64	70	70	70	70	110	110
	Current	A	0.27	0.27	0.31	0.31	0.31	0.31	0.49	0.49
Heating capacity	Capacity	W	2500	3200	4000	5000	5600	6300	7100	8000
	Input	W	64	64	70	70	70	70	110	110
	Current	A	0.27	0.27	0.31	0.31	0.31	0.31	0.49	0.49
Indoor noise level at cooling(sound pressure level)		High/Med/Low	40/35/32	42/36/33	43/38/35	43/38/35	43/38/35	43/38/35	46/39/36	46/39/36
Refrigerant type/Quantity		Type	R410A							
Design pressure		MPa	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Power supply			220-240V-/50Hz							
Indoor air circulation (Cooling/Heating)		L/S	161	161	189	189	236	236	378	378
		m <sup>3</sup> /h	580	580	680	680	850	850	1360	1360
Indoor fan type			Centrifugal fan							
Connecting Pipe	Liquid	Inches	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"
	Gas	Inches	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"
Drainage Pipe		mm	25(ID25,OD32)	25(ID25,OD32)	25(ID25,OD32)	25(ID25,OD32)	25(ID25,OD32)	25(ID25,OD32)	25(ID25,OD32)	25(ID25,OD32)
Net dimensions (W x H x D)		mm	1140×575×290	1140×575×290	1140×575×290	1140×575×290	1140×575×290	1140×575×290	1140×575×290	1140×575×290
Net weight	Indoor	kg	32	32	33	33	33	33	34	34
Packing dimensions (W x H x D)		mm	1305×755×370							
Gross weight	Indoor	kg	38	38	39	39	39	39	40	40
Loading Capacity			0.9HP	1.0HP	1.2HP	1.5HP	1.8HP	2.0HP	2.2HP	2.5HP

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.

## Energy Recovery Ventilation



### Recommended places

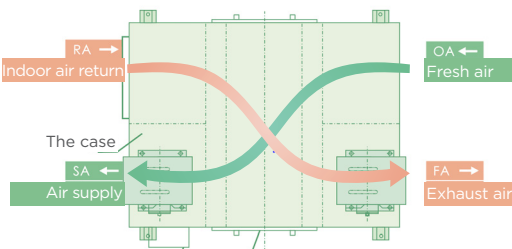
Cinemas, hotels, lobbies, dance halls, bars and other places

### Technical characteristics



#### Healthy Fresh Air

Two-way heat exchange technology solves the problem of indoor exhaust air, independent circulation, without any pollution.



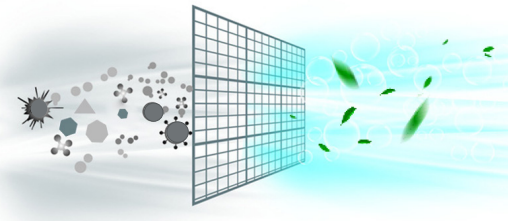
#### Big air volume and low energy consumption

Using high-efficiency heat exchangers, the energy exchange recovery rate is more than 70%.



#### Health

The unit is equipped with a professional fresh air filter to ensure that the air is dust-free, and customers can choose a high-efficiency filter.



#### Easy Maintenance

The filter chip can be repaired by opening the access door, which is simple and efficient.

### Specification

Model	Air volume (m <sup>3</sup> /h)	ESP(Pa)	Power supply	Motor power input		Summer		Winter		Air volume range (m <sup>3</sup> /h)	Noise dB(A)	Dimension W×D×H(mm)
				input (kW)	Qty. (Pers)	T.E.(%)	E.E.(%)	T.E.(%)	E.E.(%)			
XFQR-2Q-D	200	75	220V -1N 50Hz	0.05	2	70	60	70	63	150-200	42	850×900×400
XFQR-4Q-D	400	75		0.1	2	70	62	70	65	350-400	44	850×900×400
XFQR-6Q-D	600	75		0.15	2	70	63	70	67	500-600	46	850×900×400
XFQR-10Q-D	1000	80		0.18	2	70	60	70	64	900-1000	52	1040×1200×500
XFQR-15Q-D	1500	120		0.25	2	70	62	70	67	1000-1500	55	1200×1200×500
XFQR-20Q-D	2000	220	380V -3N 50Hz	0.32	2	70	62	70	69	1600-2000	57	1200×1200×500
XFQR-25Q-D	2500	200		0.45	2	70	62	70	67	2100-2500	57	1300×1500×600
XFQR-30Q-D	3000	200		0.55	2	70	61	70	65	2600-3000	57	1400×1600×620
XFQR-40Q-D/S	4000	200		0.8	2	70	62	70	69	3100-4000	58	1600×1700×700
XFQR-50Q-D/S	5000	210		1.1	2	70	61	70	64	4100-5000	60	1600×1700×700
XFQR-60Q-D/S	6000	320		1.8	2	70	60	70	62	5100-6000	61	1700×1400×1600
XFQR-80Q-D/S	8000	500		2.2	2	70	64	70	69	7100-8000	64	2000×1600×1800
XFQR-100Q-D/S	10000	480		3.0	2	70	63	70	69	9100-10000	66	2200×1600×1800
XFQR-120Q-D/S	12000	580		4.0	2	70	64	70	67	11000-12000	68	2500×1600×1900
XFQR-160Q-D/S	16000	500		5.5	2	70	64	70	67	15000-16000	68	2800×1800×2000

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.

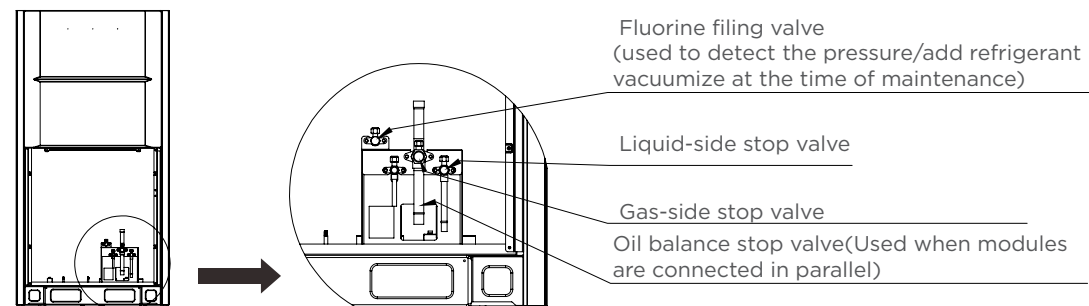
7. Optional simple wired controller; Universal remote controller; auto-restart(optional); Timer: only one circle.

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



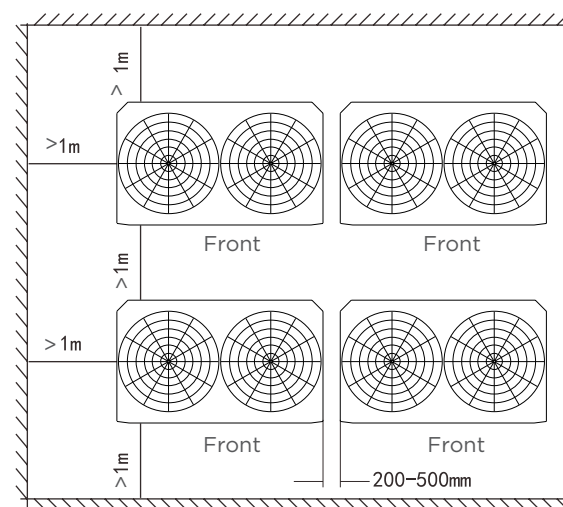


## Location of refrigerant pipes

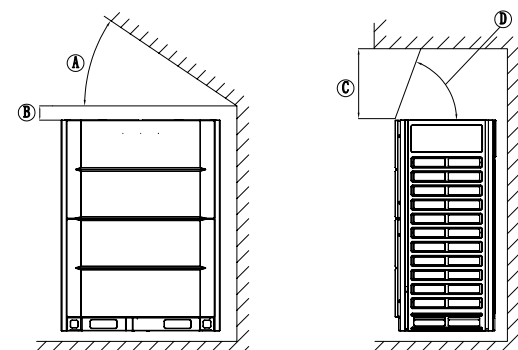


## Installation space for ODU

- 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.



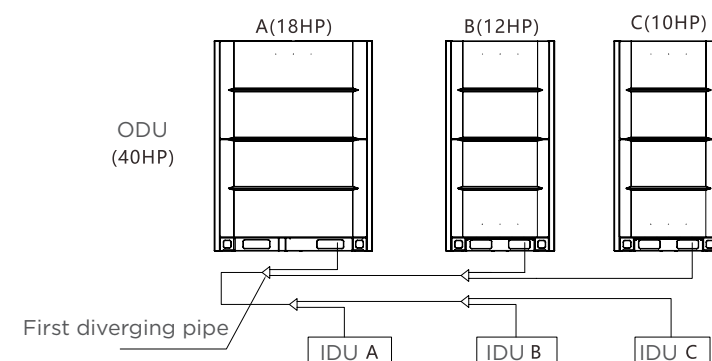
- To ensure the heat dissipation of the outdoor unit, there should be no obstacles above the outdoor unit. If it cannot be avoided, a deflector should be installed.



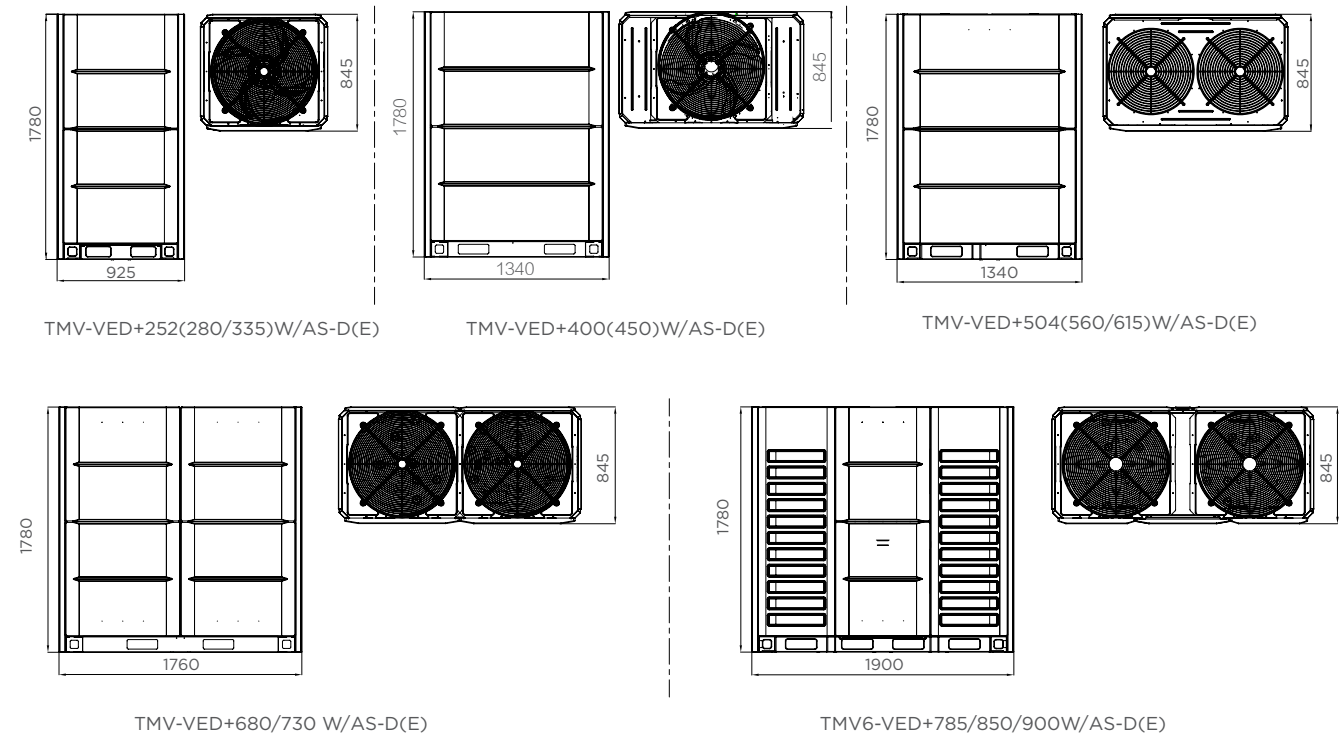
- If there are stacks around the outdoor unit, the height should be less than 800mm from the top of the outdoor unit. If it is less than the size, a mechanical exhaust device must be installed.

## 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.

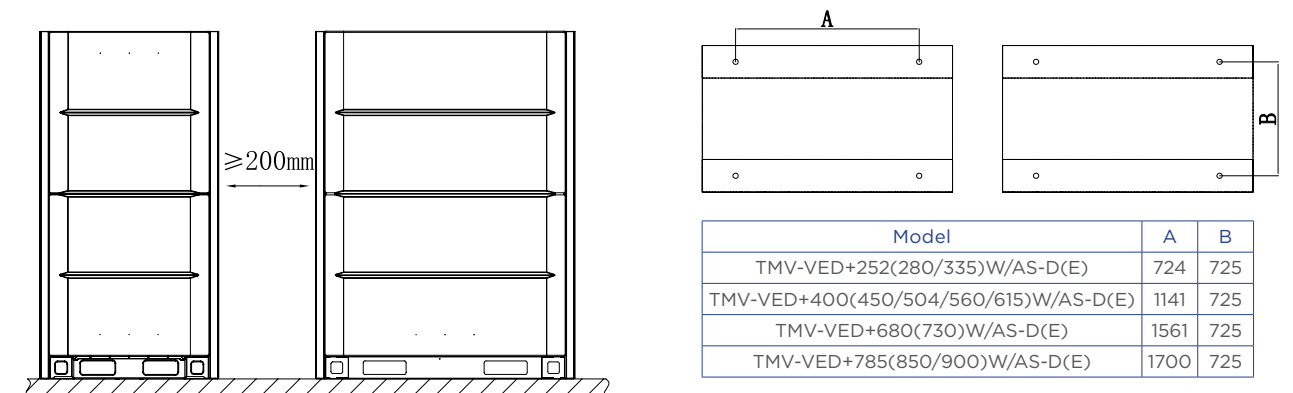


## Dimension of ODU



## 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.





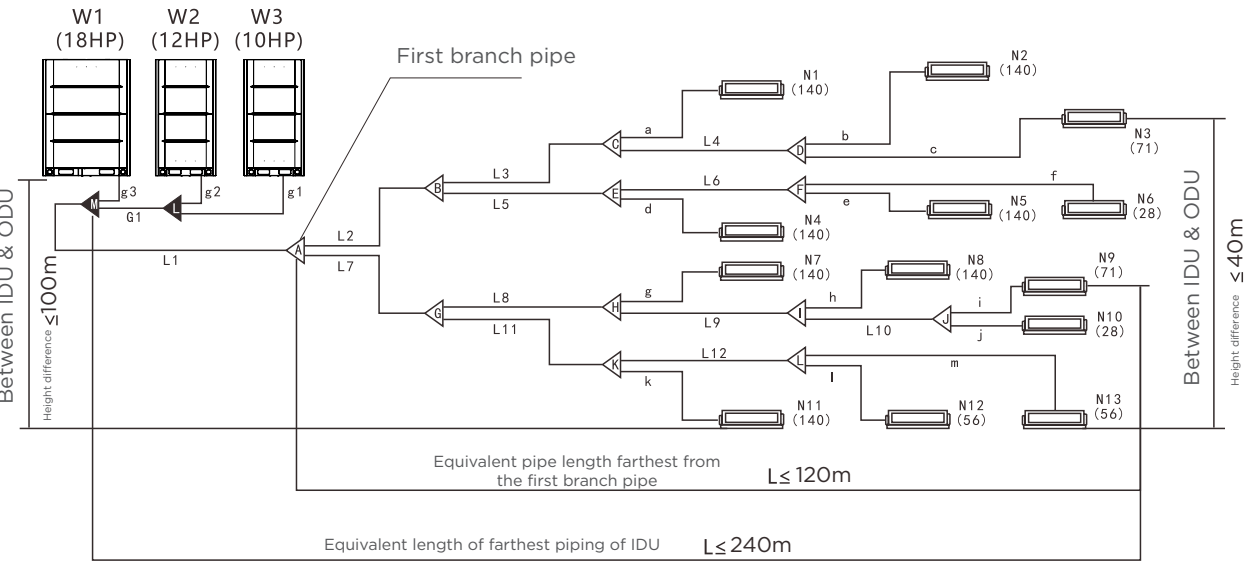


Design of refrigerant piping

Refrigerant pipe length and height

			Admissible value	Pipes
Length of supporting pipe	Total length of Refrigerant pipes (Total extended length)		1100m	$L1+(L2+L3+L4+L5+L6+L7+L8+L9+L10+L11+L12) \times 2 + a + b + c + d + e + f + g + h + i + j + k + l + m$
	Length of the farthest supporting pipe(L)	True length	220m	$L1+L7+L8+L9+L10+i$
		Equivalent length	240m	
	Length of the supporting pipe furthest from the first branch pipe(L)*		120m	$L7+L8+L9+L10+i$
Height	Height difference between indoor and outdoor units (H)	ODU up	100m	
		ODU down	110m	
	Height between indoor units (h)		40m	

\* Note: Refer to relevant technical documents or consult technical person

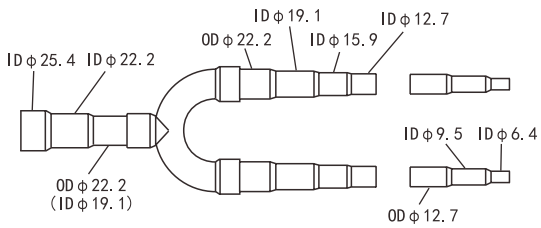


Branch pipe specifications

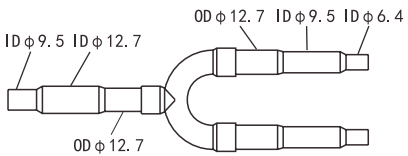
Assembly	Include parts	Assembly	Include parts
BY01 Branch pipe parts	G01、L01	BY05 Branch pipe parts	G04、L03
BY02 Branch pipe parts	G02、L01	BY06 Branch pipe parts	L01、L01
BY03 Branch pipe parts	G02、L02	BY07 Branch pipe parts	L01、L02
BY04 Branch pipe parts	G03、L02	BY08 Branch pipe parts	G05、G02

Branch pipe specifications

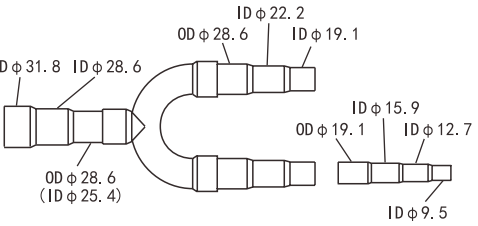
G01: (φ 25.4-φ 19.1) — 2 × (φ 22.2-φ 6.4)



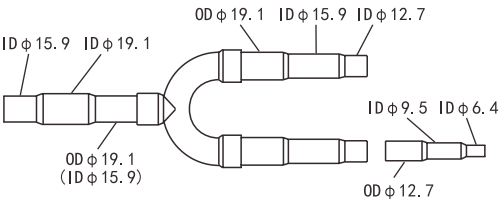
L01: (φ 9.5-φ 12.7) — 2 × (φ 12.7-φ 6.4)



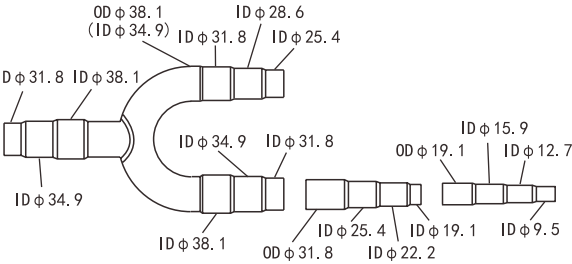
G02: (φ 31.8-φ 25.4) — (φ 28.6-φ 19.1) + (φ 28.6-φ 9.5)



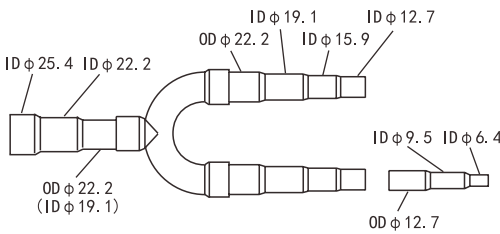
L02: (φ 15.9-φ 19.1) — (φ 19.1-φ 12.7) + (φ 19.1-φ 6.4)



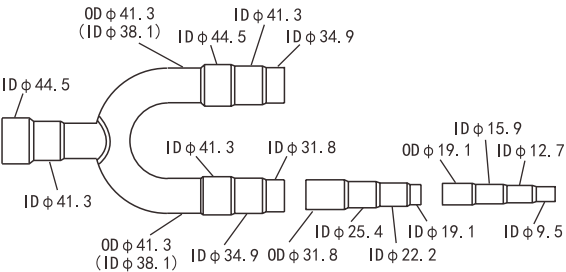
G03: (φ 31.8-φ 38.1) — (φ 34.9-φ 25.4) + (φ 38.1-φ 9.5)



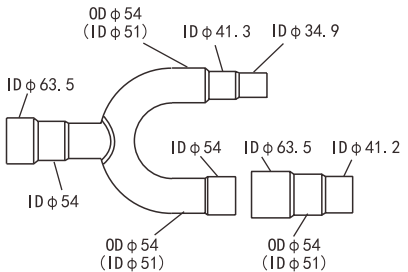
L03: (φ 19.1-φ 25.4) — (φ 22.2-φ 12.7) + (φ 22.2-φ 6.4)



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)



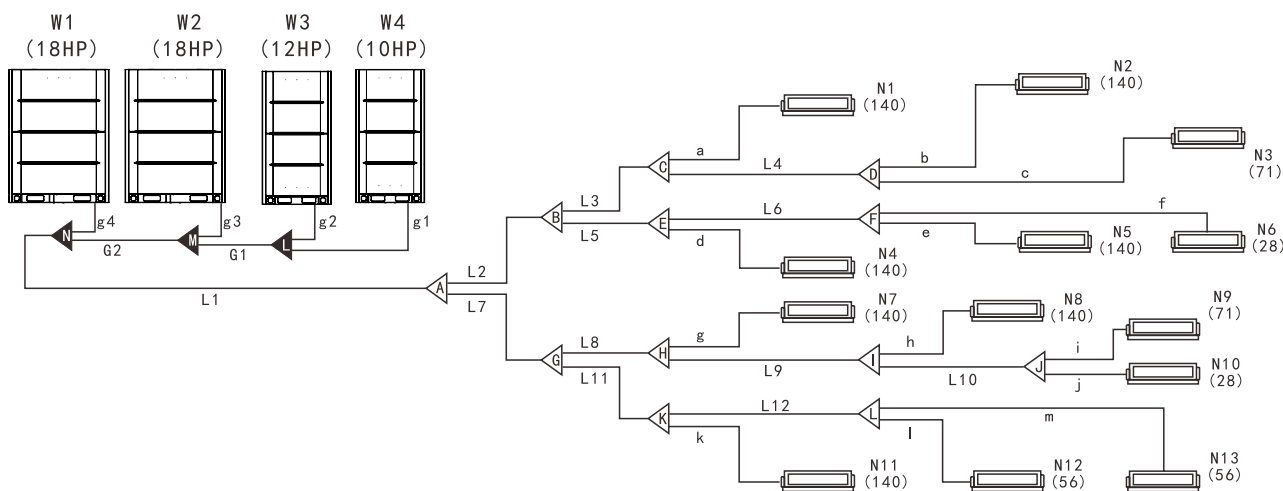




## Piping classification

- 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
TMV6*-Vd+252(280/335/400)W/AS-D(E)	φ25.4 ( welding )	φ12.7 ( welding )
TMV6*-Vd+450(504/560/615/680)W/AS-D(E)	φ28.6 ( welding )	φ15.8 ( welding )
TMV6*-Vd+730(785/850/900/)W/AS-D(E)	φ31.8 ( welding )	φ19.1 ( welding )
TMV6*-Vd+950(1000)W/AS-D(E)	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:

- 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.
- If the system is more than 108HP, please consult technical personnel.



## Electrical system and installation

### Electrical wiring precautions

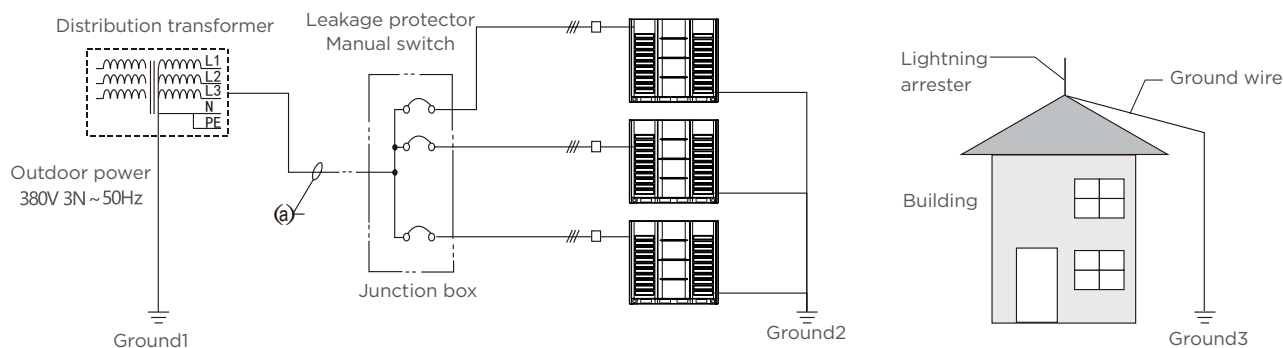
- Please design the dedicated power supply for IDU and ODU separately.
- The power supply should be equipped with a leakage protector and a manual switch.
- The power supply, leakage protector and manual switch of the IDU connected to the same ODU are required to be universal. (Please use the same circuit 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

Outdoor unit of Model	Power Supply	Minimum Wire Diameter Current (A)	Copper Core PVC Insulated Wire BVV(mm <sup>2</sup> )	Copper Core XLPE Insulated Wire YJV(mm <sup>2</sup> )	Manual Switch Capacity (A)	Electric Leakage Protector
Capacity:25200W)	380~415V 3N~50Hz	20.03	4.05	2.55	25	No more than 100mA 0.1sec
Capacity:28000W)		22.03	4.05	2.55	25	
Capacity:33500W)		24.33	6.05	4.05	32	
Capacity:40000W)		28.8	6.05	4.05	32	
Capacity:45000W)		32.6	10.05	6.05	40	
Capacity:50400W)		42	16.05	10.05	50	
Capacity:56000W)		46.2	16.05	10.05	63	
Capacity:61500W)		52.6	16.05	10.05	63	
Capacity:68000W)		55.8	16.05	10.05	63	
Capacity:73000W)		58.95	16.05	10.05	63	
Capacity:78500W)		61.29	25.03+16.02	16.05	80	
Capacity:85000W)		69.9	25.03+16.02	16.05	80	
Capacity:90000W)		73.1	25.03+16.02	16.05	80	

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.

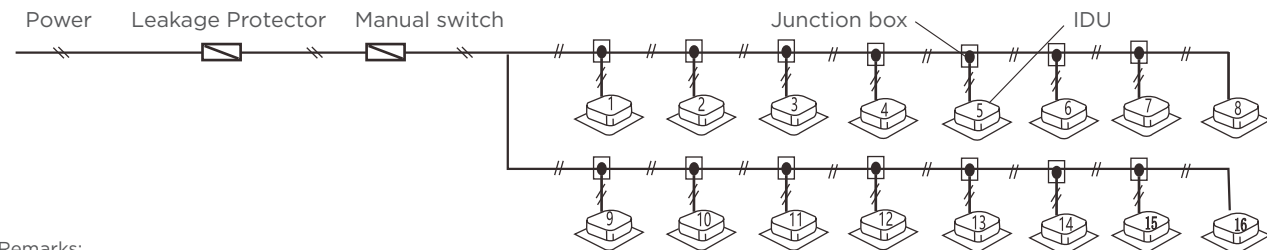
### ODU power connection



### IDU power wiring

Model		Power supply	Minimum wire diameter(mm <sup>2</sup> )			Manual switch		Leakage protector
			Dimensions (Continuous Length)	Dimensions (Continuous Length)	Ground wire	Capacity	Fuse	
All IDU Model	90-140Q8 125-140F2 125-140F5	380V ~ 3N50Hz	2.5 (30m)	4.0 (50m)	φ1.6mm	30	15	20A、30mA < 0.1sec
	Other model	220V ~1N 50Hz						

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:

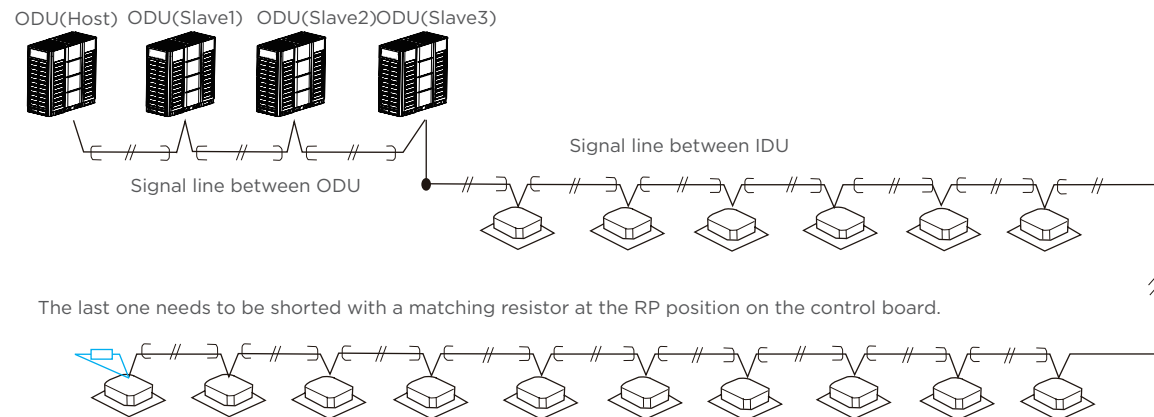
1. Please use the refrigerant piping system, the indoor unit-indoor unit room, and the indoor unit-outdoor unit connection signal line as the same system.
2. All the internal units in the same system must be powered in a unified manner, and some internal units cannot be cut off, otherwise the unit will 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 (≥ 0.75mm<sup>2</sup>) 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.





Certificates



ISO 9001:2015

ISO 14001:2015

ISO 45001:2018



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GD TCL INTELLIGENT HEATING & VENTILATING EQUIPMENT CO.,LTD.  
Address: No.7 Yuanlin Road, Nantou, Zhongshan, Guangdong, PR China  
Web : cac.tcl.com E- mail : hvac@tcl.com

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