POWERFUL COOLING AND HEATING

ZTVT6 full DC Inverter VRF system, use international famous compressor, DC motor, high-precision EXV and so on, thanks to all these high-technology, ZTVT6 has the best cooling and heating performance.

- DC inverter compressor*
- DC inverter fan motor
- 36°C Three-stage supercooling technology*
- Intelligent inverter technology
- Double C high efficiency condenser
- High efficiency axial fan
- Air-cooled & refrigenant-cooled technology for main control board

* Note: Applicable to partial models

1.1 High-efficiency scroll DC inverter compressor with EVI*

Using new asymmetric scroll profile, reduce leakage loss, reduce ineffective suction overheating, more suitable for APF conditions, improving compressor efficiency.

1 Optimized asymmetric vortex line

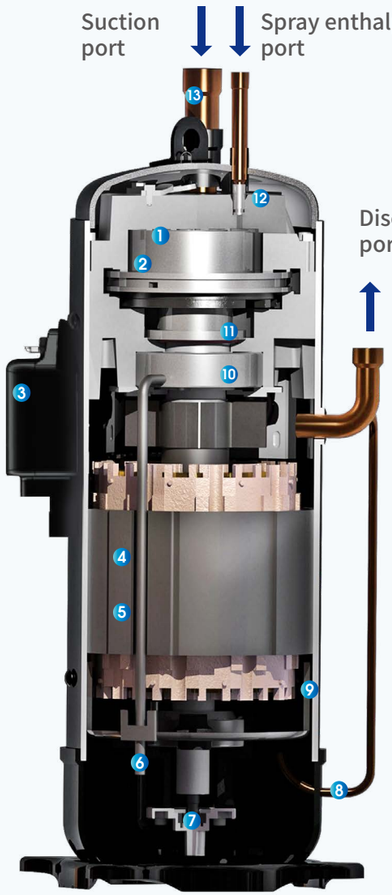
Using new asymmetric scroll profile, reduce leakage loss, reduce ineffective suction overheating, more suitable for APF conditions, improving compressor efficiency.

2 Non-contact oil film seal

Axial and radial compression chamber adopts non-contact seal, relying on lubricating oil to form oil film seal, reduce friction, improving efficiency and reliability.

3 Power terminal cover design

More stable installation, higher security, higher protection level.



4 Centralized winding motor

The coil height of the concentrated coil motor is reduced, the copper loss is reduced, and the middle and low speed zone is more efficient, which is more suitable for APF conditions.

5 High speed characteristics

Speed range of 10-140Rps, wider capacity range.

6 Internal oil circulation structure

Internal circulation of lubricating oil, reduce overheating loss, reduce oil injection rate, improving efficiency and reliability.

7 Positive displacement gear pump

Positive displacement gear oil pump to ensure high and low frequency can meet the necessary oil supply, improve the reliability of the compressor.

8 Dynamic oil equilibrium structure

The oil balance tube realizes the dynamic balance of the oil quantity of the parallel compressor to ensure the reliability of the parallel operation of multiple compressors.

9 High pressure cavity structure

Large exhaust buffer volume can reduce airflow noise and vibration during operation.

10 High reliability bearings

The bearing group with cylindrical bearing and self-aligning ball bearing, improving the reliability of compressor.

11 Intermediate pressure servo mechanism

Adjust the intermediate pressure dynamically according to the operating pressure, realizing the axial flexibility, optimizing the dynamic fixed scroll gear, improving the product performance.

12 Pressure relief valve structure

Improving energy efficiency of part load, adapt to variable pressure ratio working conditions, improving compressor performance.

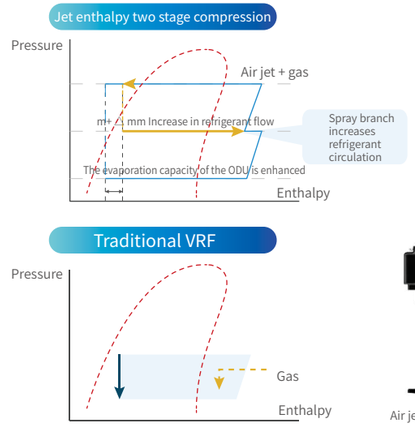
13 Direct suction

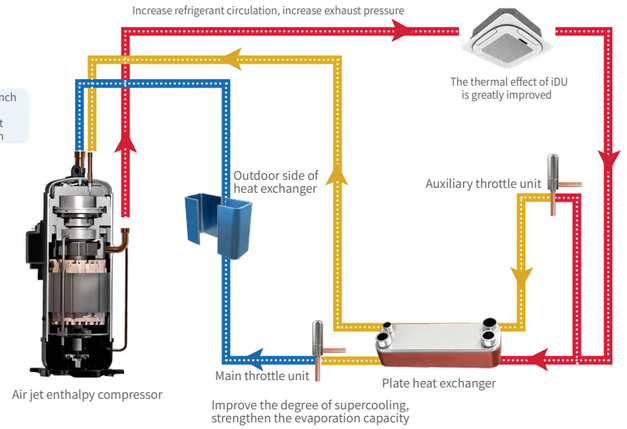
Small suction preheating, high volume efficiency.

* Note: Applicable to some models

>> 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%.

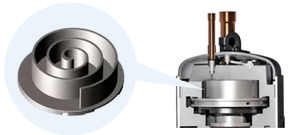




>> Asymmetric vortices

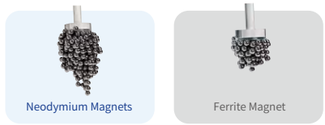
In view of the high pressure characteristics of R410A refrigerant, the compressor strengthens the bearing structure and adopts the design of asymmetric scroll disk, which has the following advantages over the symmetrical scroll disk:

- ✓ 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.



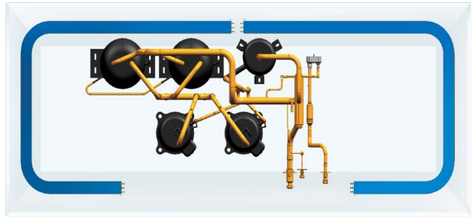
>> Large-displacement and ultra-wideband operation technology

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

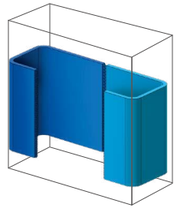
* Note: Applicable to some models

1.2 Double 'C' type heat exchanger

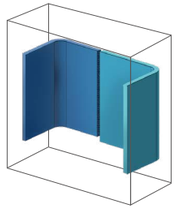
Double C-type compact super-large area heat exchanger, makes the heat exchange area larger, reduces the pressure loss of the heat exchanger, improves the efficiency of heat exchanger, and has higher efficiency when running under heavy load.



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



Double C Compact Large Area Heat Exchanger Ordinary Heat Exchanger

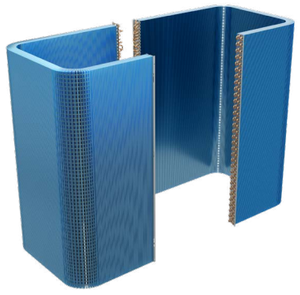


Common heat exchanger

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

36HP occupies only 1.6055 ㎡ , 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.

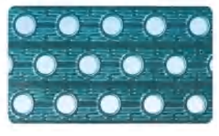


Φ7 Heat Exchange Copper Tube

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

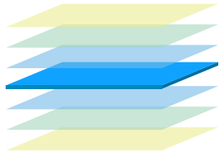
Internally threaded copper tubes

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



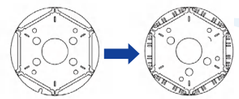
- **Lubricating layer**
  Destroy the surface tension of water droplets, accelerate the downstream speed of condensed water or defrosting water, and improve the air conditioning capacity
- **Hydrophilic coating**
  Ensure that the air conditioner is not easy to form frost when heating
- **Corrosion resistant 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, and higher APF energy efficiency.



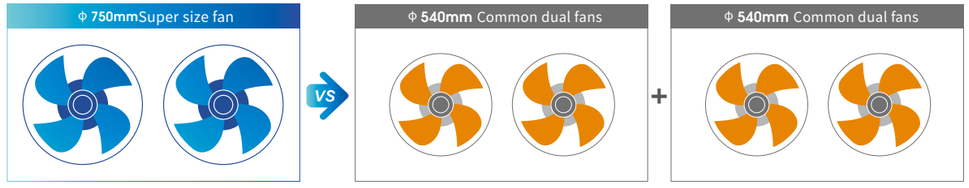
The original rotor The new rotor

Neodymium magneto rotor

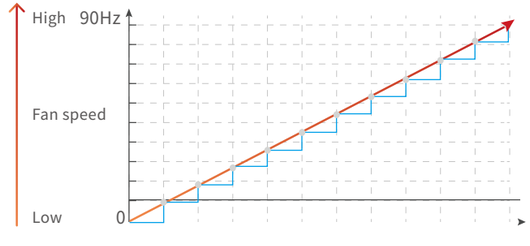
Improve motor efficiency
And reduce motor noise

1.4 750mm Large size axial fow 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.



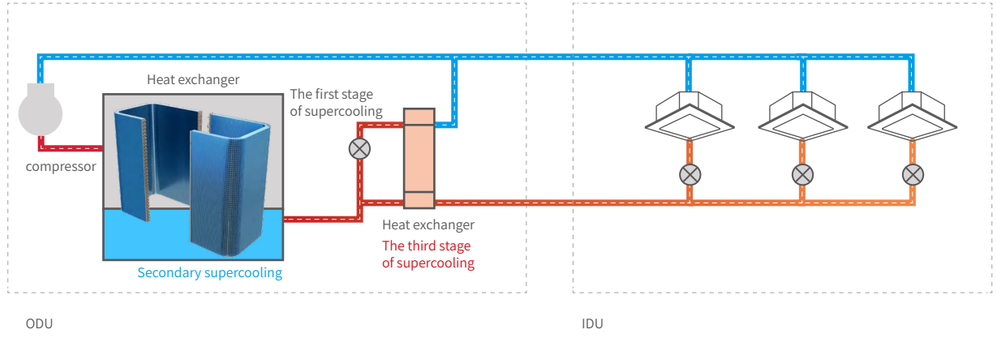
Stepless speed regulation Average speed

1.Accurately adjust the refrigerant pressure to improve the reliability of the unit;

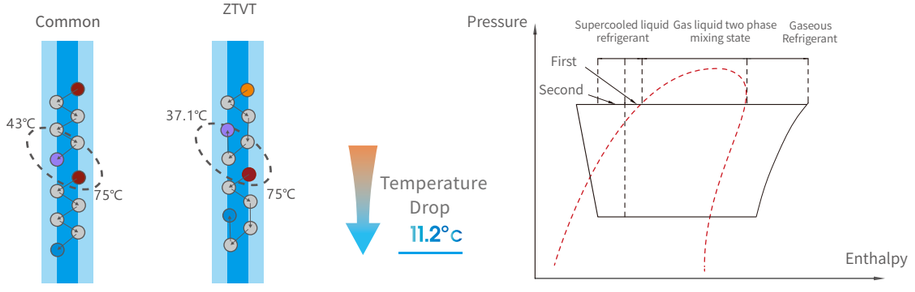
2. The motor speed is adjusted quickly to better adapt to the rapid changes in air-conditioning load.

1.5 3-Stage sub-cooling technology to achieve 36℃ 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 refrigerant is cooled to 37.1 ° C, and the high-efficiency heat exchange with a temperature difference of only 2.1° C can achieve 11.2° C subcooled after one or two stage of subcooling.



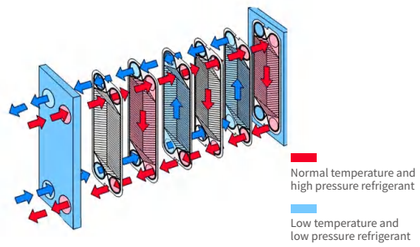
Refrigerant cooling temperature at 35℃

Condenser + supercooler

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 26 ° 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

Plate heat exchanger



Schematic diagram of plate heat exchangercirculation

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;

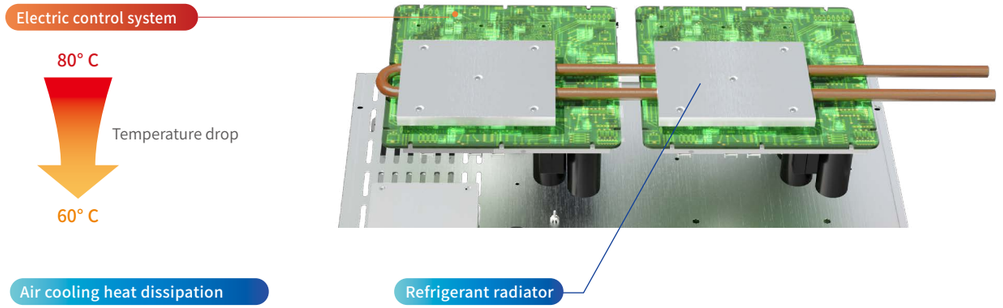
2) It can ensure the smooth start of the compressor, reduce the starting current of the compressor, and reduce the impact on the power grid; increase the operating frequency range of the compressor;

3) Ultra-wide voltage operating range, stable operation within the three-phase 243V-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.

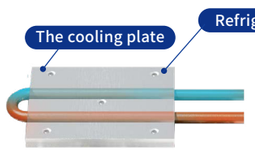


Air cooling heat dissipation

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. ZTVT 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.

- APF up to 5.5
- IPLV 10.0
- ODU standby mode
- "2-1" loop design
- Stepless inverter technology
- RoHS certification
- High energy-efficient compressor
- R410A refrigerant
- Variable evaporating/condensing temperature adjustment technology

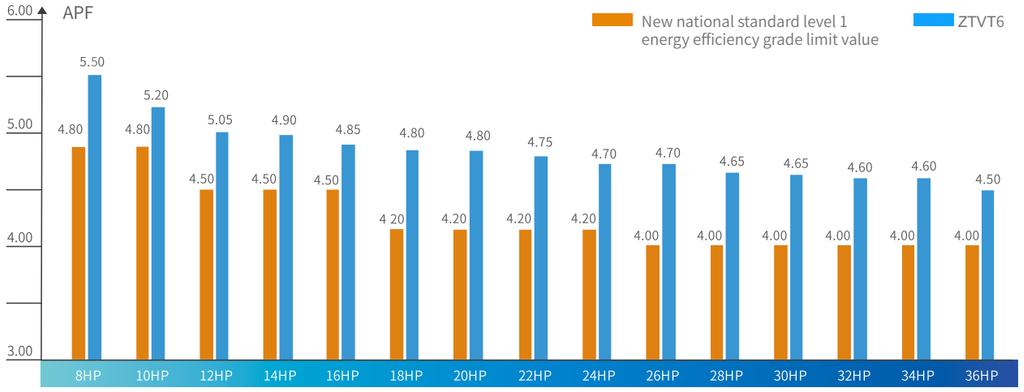
2.1 APF up to 5.5

Far exceeding the national first-level energy efficiency standard

ZTVT6 full DC inverter intelligent VRF product, its annual comprehensive energy efficiency ratio APF is up to 5.5, and all series exceed the new national standard first-level energy efficiency standard.

APF calculation formula

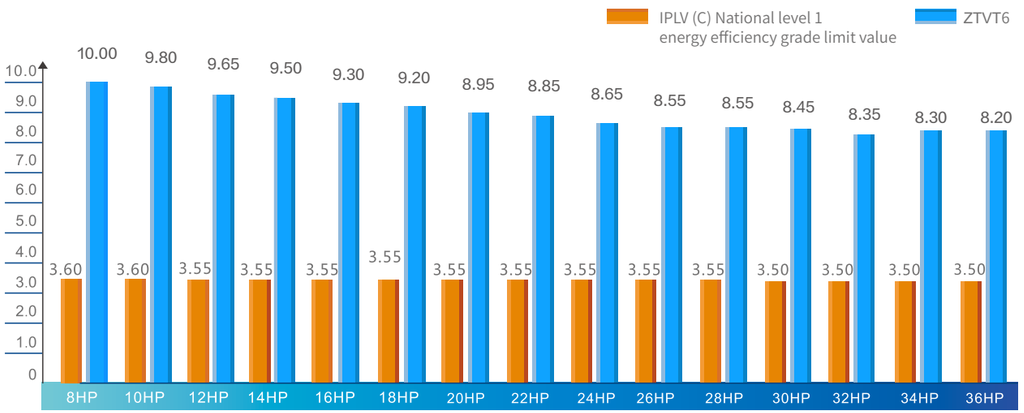
$$APF = \frac{\text{Total cooling season load + Total heating season load}}{\text{Total power consumption in cooling season + Total power consumption in heating season}}$$



2.2 IPLV(C) up to 10.0

IPLV(C) up to 10.0, excellent energy saving effect.

IPLV(C) is the refrigerating comprehensive coefficient of performance , which is used to measure the part-load efficiency of VRF air conditioners in the cooling season. Since most of the time, only part of the air conditioner can be used in commercial places , IPLV(C) can reflect the energy-saving performance of central air conditioners in actual operation more accurately.



2.3 Authoritative attestation

The ZTVT6 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 national first-level energy efficiency standard certification.

CB — Certification Bodies' Scheme

CE — Conformite Europeenne

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 is more suitable for APF conditions and 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, and it is more suitable for APF conditions.

Suction directly

Small suction preheating, high volume efficiency

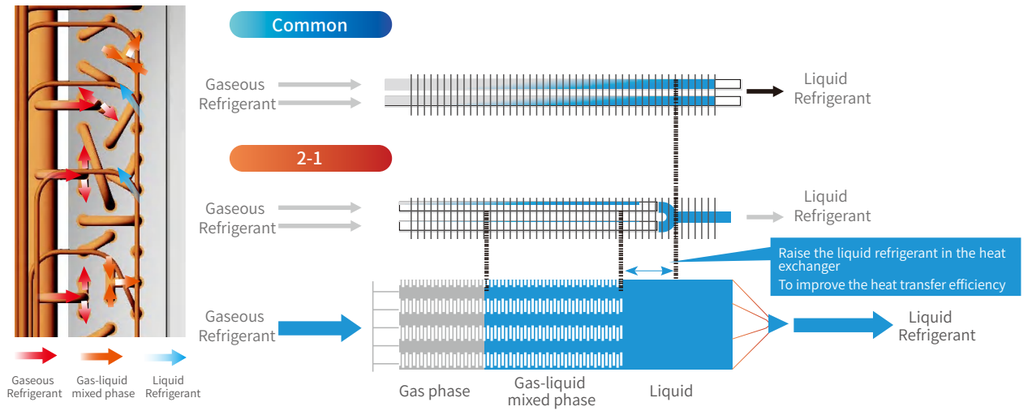
Intermediate pressure servo mechanism

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.

***Note: EVI compressor is optional**

2.5 High efficiency "2-1" refrigerant flow

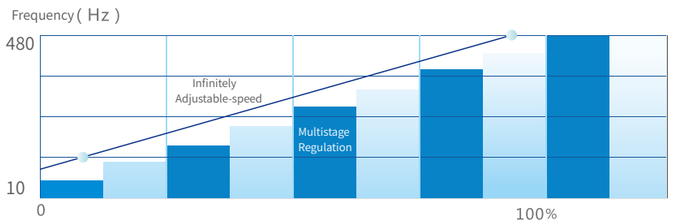
Compared with gaseous refrigerant and liquid refrigerant, gas-liquid mixed phase refrigerant has higher heat exchange efficiency. This circuit can not only increase the amount of liquid refrigerant but also increase the flow rate of the refrigerant and increase the heat exchange efficiency.



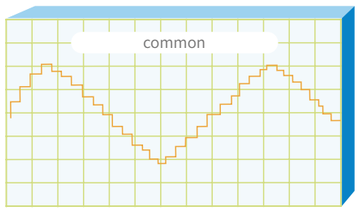
2.6 0 ~ 480Hz stepless frequency adjustment

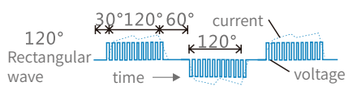
The operating speed of the DC inverter compressor can be adjusted continuously and freely according to the change of the system capacity. The accuracy is higher, the stepless frequency conversion is realized, and the sub-adaptive control technology is combined, and the capacity output is automatically adjusted according to the actual control load to ensure a higher level of accuracy. Smooth change curve to meet higher demands for comfort. ZTVT6 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)

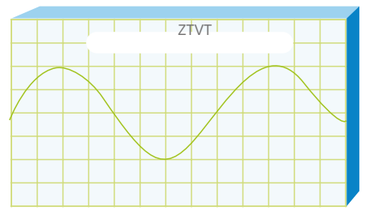


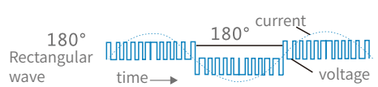
The compressor adopts 180 ° sine wave vector drive technology, which can obtain an ideal smooth sine wave curve, so that the motor runs smoothly, the electric energy efficiency is higher, and the harsh sound is reduced.





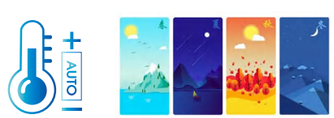
Vector control technology effectively suppresses high magnetic harmonic current and electromagnetic noise, and has passed the national EMC electromagnetic interference test





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.

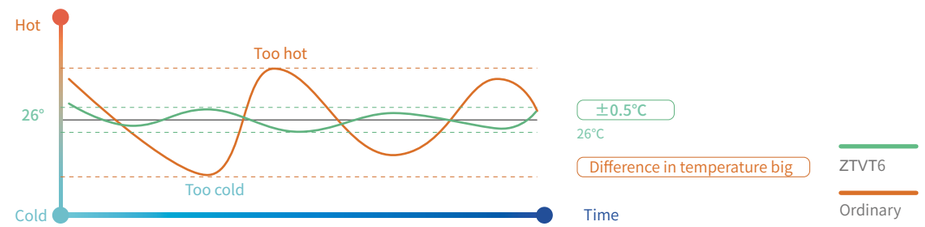


2.8 ODU standby mode

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 ZTVT6 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

ZTVT6 full inverter VRF unit is highly efficient and environmentally friendly. Seiko builds global quality and has passed EU RoHS certification.

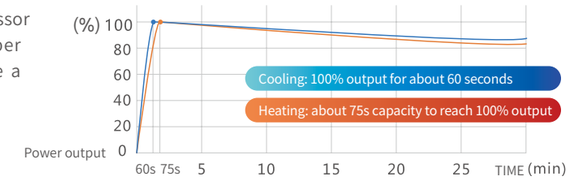
COMFORTABLE AND HEALTHY ENVIRONMENT

People's demand for a healthy air environment is constantly escalating. The improvement of air quality in buildings is more and more important. ZTVT 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
- Silent-mode
- Fresh air
- Intelligent defrost technology
- Constant temperature
- Comfortable soft wind
- Auto restart function

3.1 Fast cooling and heating

ZTVT 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 ±0.5° C.

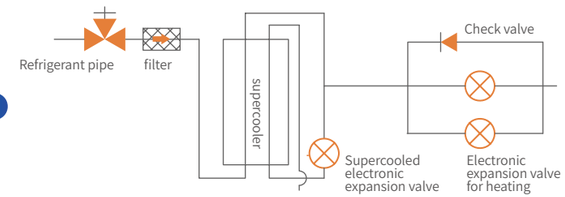
Multi-electronic expansion valves

The outdoor unit has multiple electronic expansion valves with a control accuracy up to 3000 level, 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



High-precision temperature sensor

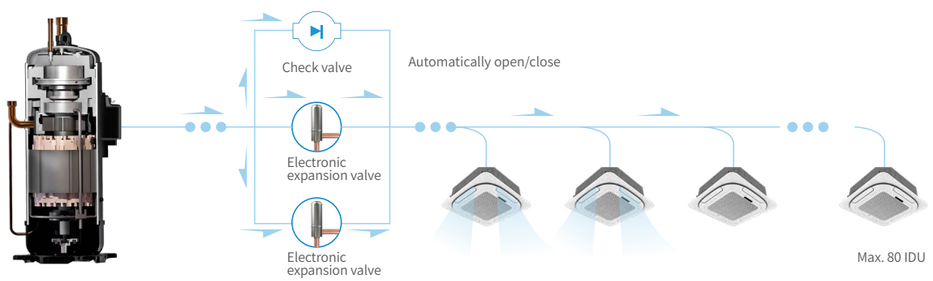
Can detect accurate temperature with precision 0.5° C

Dual pressure sensors

High precision and sensitivity can detect the temperature fluctuation quickly and accurately.

Refrigerant liquid by-pass technology

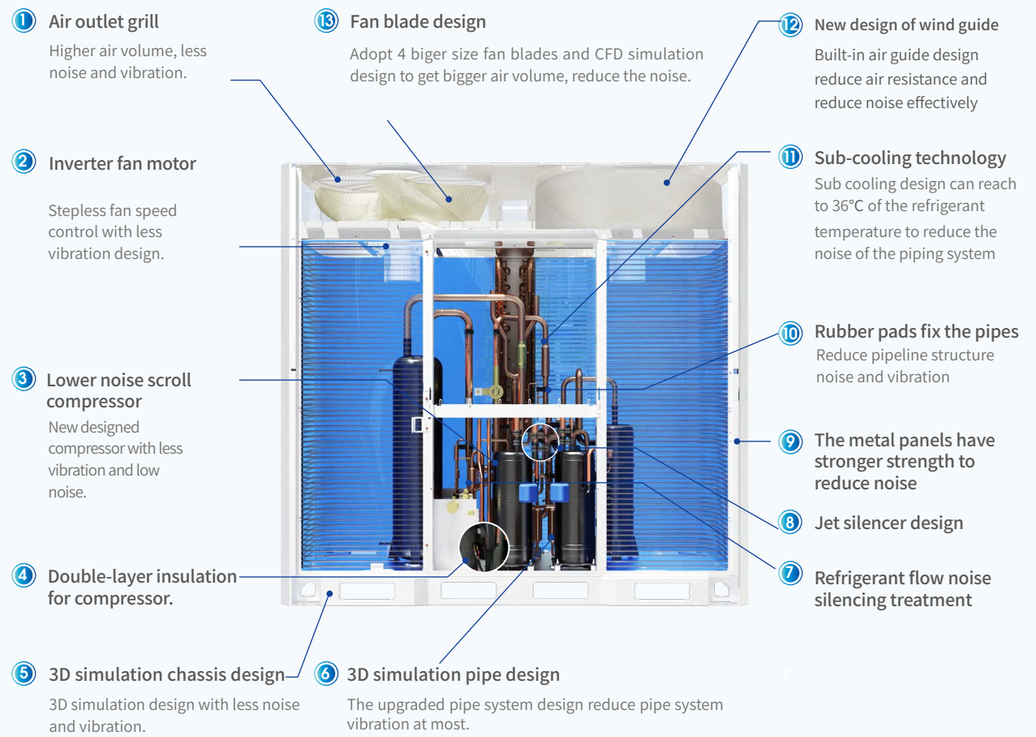
This technology is mainly used to increase the refrigerant flow and improve the cooling effect when the indoor side refrigerant flow is insufficient.



3.3 Multiple silence technology

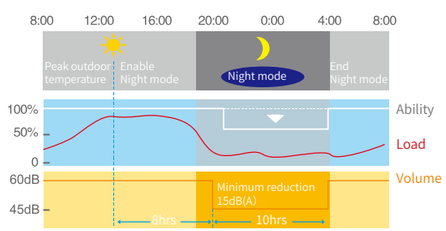
13 items of silent improvments

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.



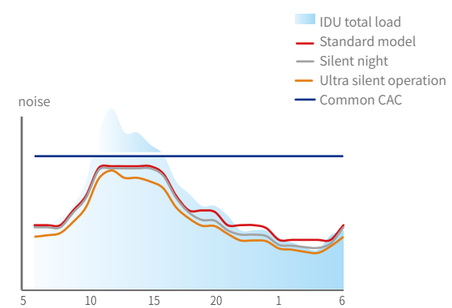
Night silent mode

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

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

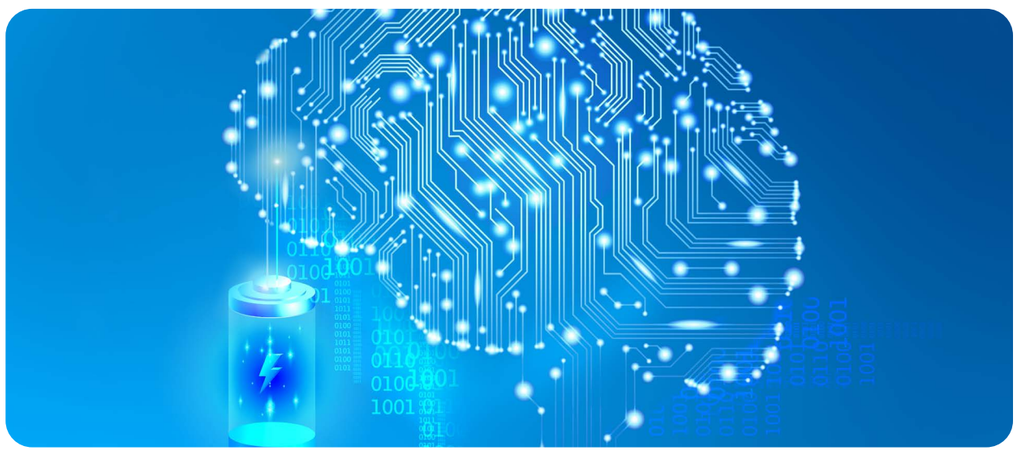
3.5 Comfortable soft wind panel

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

3.6 Intelligent auto-restart function

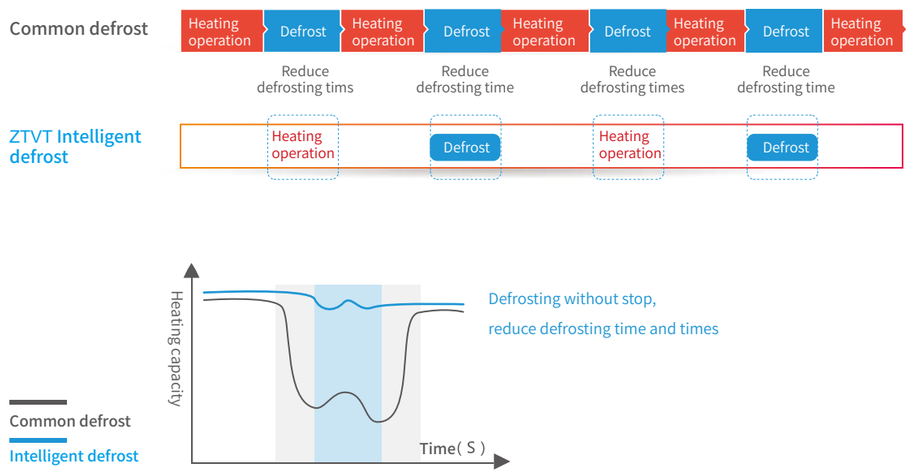
- When a sudden power failure occurs, system will automatically store the state of the machine before the power failure. When the machine is restarted, the system will automatically restart with the settings before the power failure (operation mode, set temperature, fan speed, etc.

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

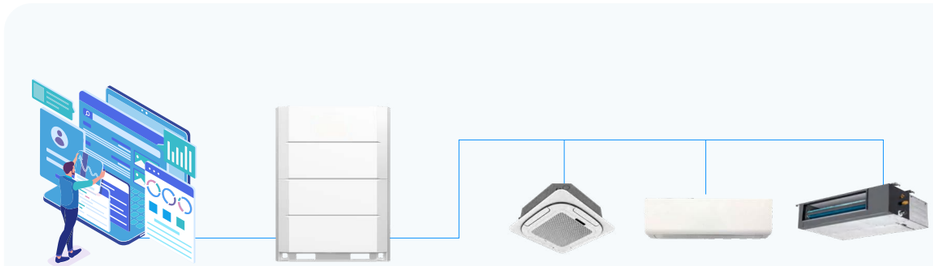
ZTVT full DC inverter VRF systems can provide the intelligent operation and maintenance functions, which provides an efficient solution for the intelligent operation and maintenance of buildings, It ensures energy-saving and high-efficient operation and intelligent management.

- Non-polar CAN bus communication technology
- Multiple control solutions
- ZTVT remote intelligent service center
- ZTVT CAC management system
- BMS gateways
- AHU connection kit

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

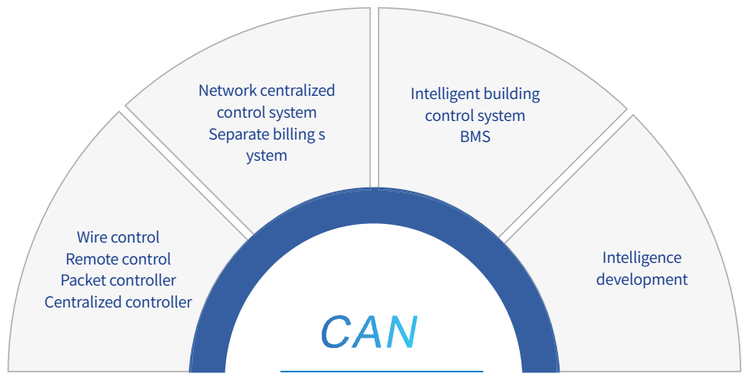
When the equipment is running, the system record the best running status intelligently . And it will adjust the compressor frequency and the step of the EXV for next time automatically .

Smart detection

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

4.2 Non-polar CAN bus communication technology

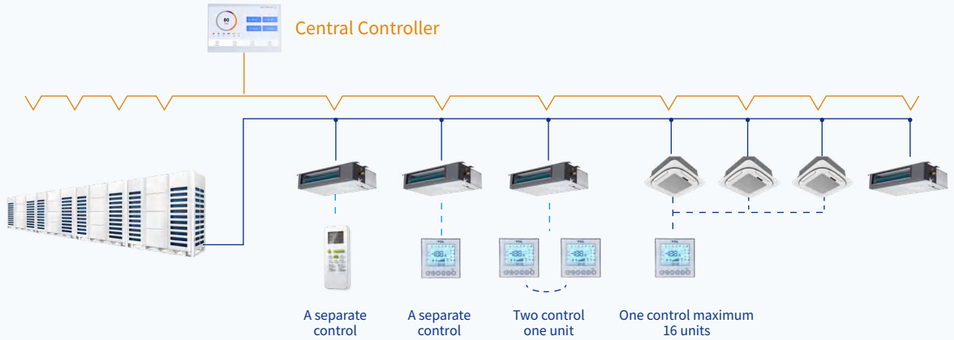
ZTVT6 adopts CAN bus communication technology, which is a communication technology applied in the field of automobile and military industry.



	ZTVT6 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

ZTVT6 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

CTVT-52e

Wired Controller

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

CTVT-86J1

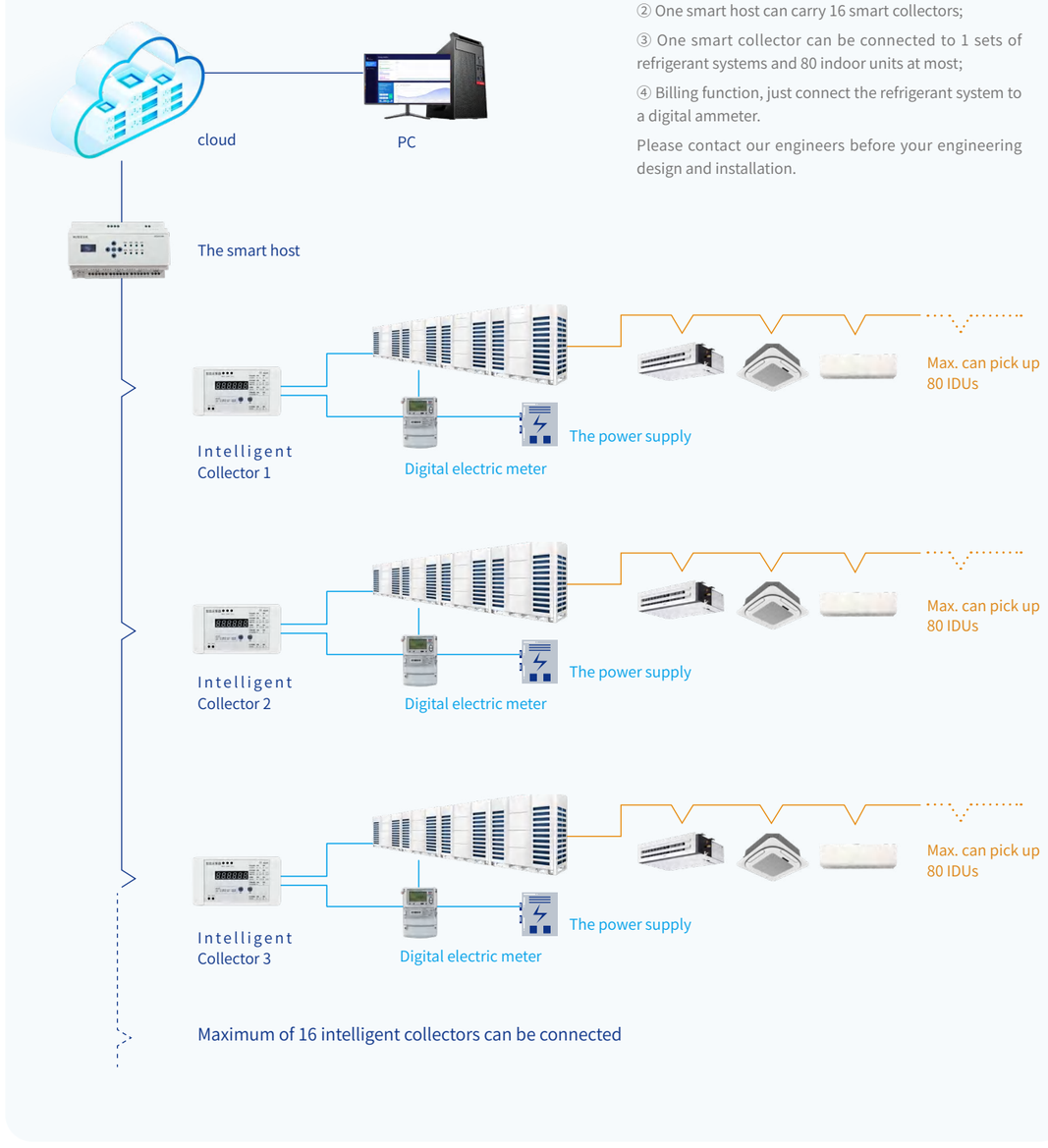
Central Controller

· 7 inches and colorful screen display, beautiful appearance, touch screem, easy operation.
· A variety of combinations, single or multiple machines can be operated simultaneously.
· Up to 16 systems and 180 indoor units can be connected, easy to set indoor units parameters.
· It also has the schedule setting and historical fault query function.

CTVT-KJ-08A1.00

4.4 ZTVT Management System

ZTVT VRF system adopts the CAN bus communication technology. It connects indoor units with the computer through a network converter, to provide centralized and smart control of the whole systems.

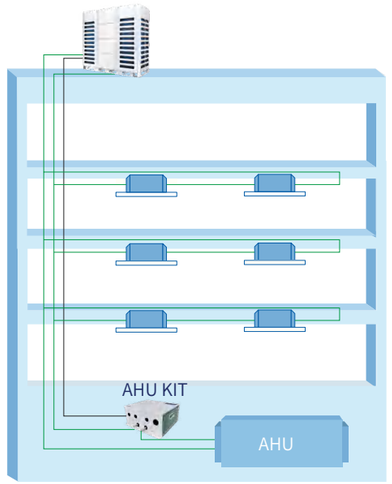


① One software can connect up to 1280 indoor units;
② One smart host can carry 16 smart collectors;
③ One smart collector can be connected to 1 sets of refrigerant systems and 80 indoor units at most;
④ Billing function, just connect the refrigerant system to a digital ammeter.
Please contact our engineers before your engineering design and installation.

4.5 AHU Connection KIT

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

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

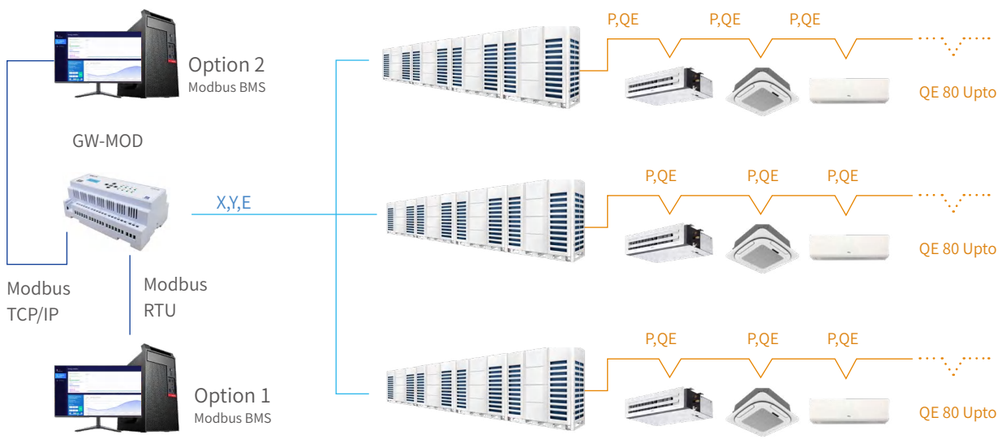


Communication wire

Refrigerant pipe

Type	Model Name	Capacity	Pipe dimension	Combination				Description
				ODU	Motor	Pump	Warning signal	
Communication Kit	CTVT-TMV-AK1	8-20Kw	Φ7.94	ZTVT6	√	√	√	Room air supply by remote controller or wiring controller
	CTVT-TMV-AK2	20-40Kw	Φ12.7		√	√	√	
	CTCT-TMV-AK2	40-65Kw	Φ15.88		√	√	√	

4.6 BMS Gateways



Separate billing and Arrear lock function

① It can store six-month household billing datas, electricity bill query and other functions, users can check and print the bills of each indoor unit.

② Maximum 16 refrigerant systems, 32 ammeters, 1280 indoor units can be connected.

③ Auto searching indoor and outdoor units in the system.

④ Users can set billing parameters for different time periods according to the peaks and valleys.

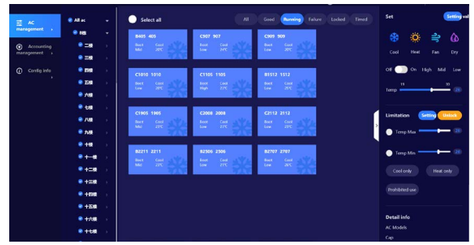
⑤ The air-conditioning system of the arrear user can be locked.

Remote and centralized control function

① Real-time monitor the operating conditions of indoor and outdoor units.

② It can monitor and control up to 1280 indoor units, with single, group, and central control.

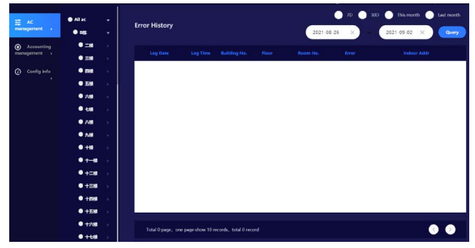
③ The indoor and outdoor units can be configured according to the actual requirement.



Powerful schedule management function

① With monthly/weekly/daily timer and exception date (specified by the user) , the user can control the indoor unit according to personal plans.

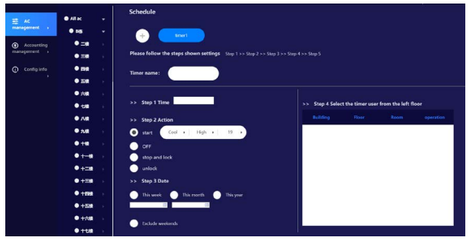
② Single or group IDUs can be controlled according to the final user requirement.



Data analysis function

① System operation data and system failure can be recorded and analized;

② Operation log will record the user operations.



Key card function

Connected and controlled with hotel key card，the air conditioner can be automatically powered on/off when guests inserts or pulls out the key card.

When insert the key card, air conditioner will start automatically.

When power off, the air conditioners in other rooms can continue to work, even under same system.

STABLE AND RELIABLE PERFORMANCE

ZTVT has always insisted on making high-quality products relying on advanced manufacturing equipments and deep technical accumulation. Excellent performance guarantees the stability operation.
ZTVT VRF can make sure stable and high-efficient operation facing the complex and changeable working conditions.

- Inverter module cooling protection technology
- Six levels oil return technology
- High precision refrigerant control technology
- - 25 ° C ~ 56 ° C Ultra wide operating temperature range
- Pressure self-regulating technology
- Triple backup function
- Rotation function
- Multiple protections

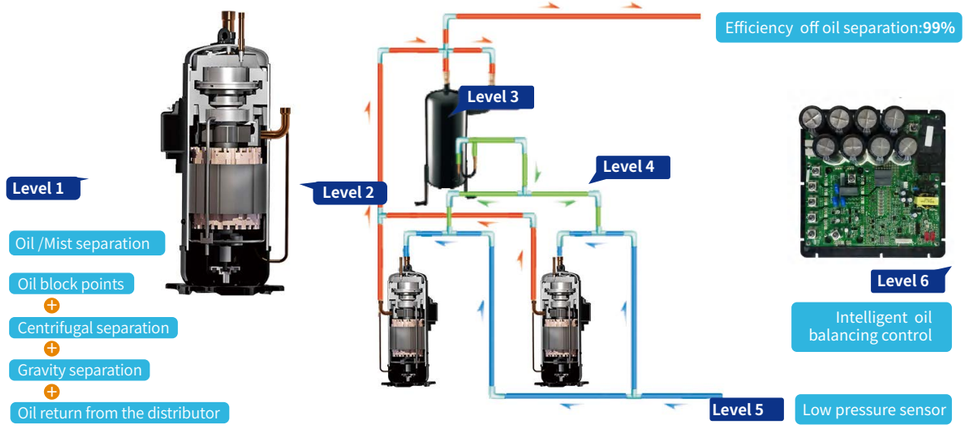
5.1 6– Stage oil return technology

ZTVT6 is at the leading position on the oil separate, oil return, oil balance and storage technology. The oil system equippe dwith precise 6 grade management to make sure compressor safety, stability and reliability.

Multistage Oil Control Technology

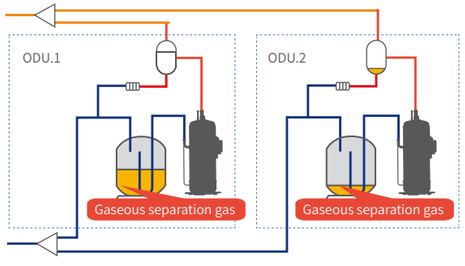
The VRF system have sufficient and balanced oil in working condition to ensure safety and avoid potential oil shortages.

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



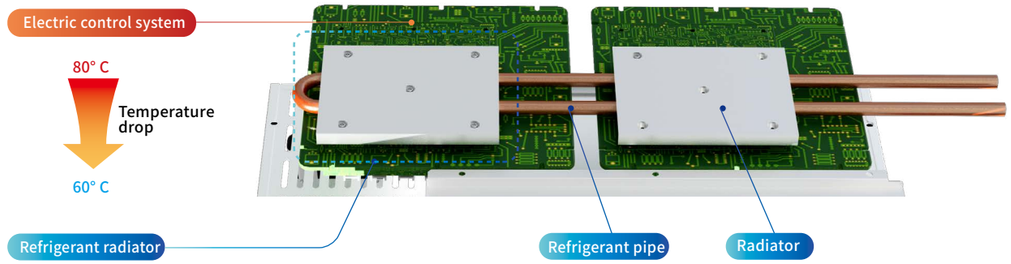
Automatic oil balancing

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



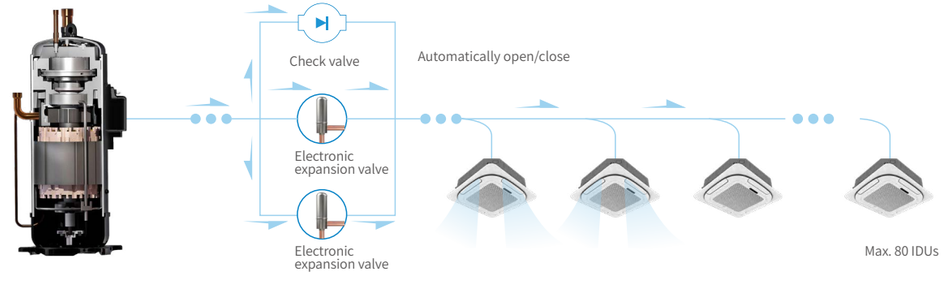
It can help take away the heat of the electric control box, improve the electrical component’ s reliability when working in a high-temperature environment, and ensure the system stable and safe.

Good structure design between radiator and refrigerant tube, help to reduce the heat resistance very well, to ensure better cooling for PCB.

5.3 High precision refrigerant control function

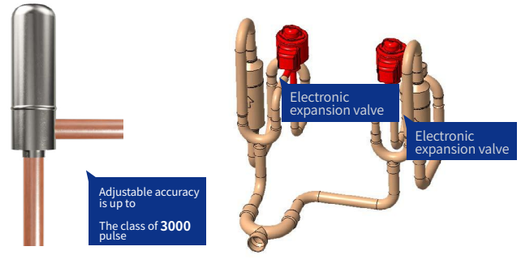
The upgraded technology allows the system to manage the volume of refrigerant,and also reduct the refrigerant in entire system and increase efficiency.

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.

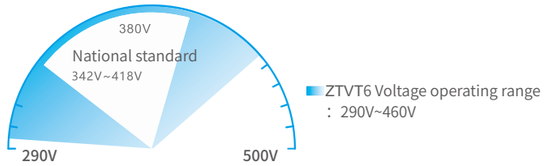
Silent electronic expansion valve used for indoor unit, precisely control refrigerant flow, improve the comfort and reliability.



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

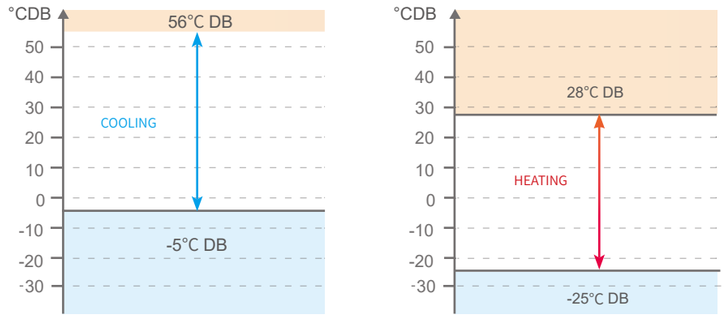
5.4 Wide voltage range

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



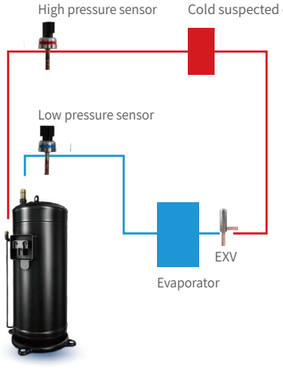
5.5 Wide operation temperature range –25℃ ~56℃

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



5.6 Pressure self-adjustment technology

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



High pressure sensor

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

Low pressure sensor

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

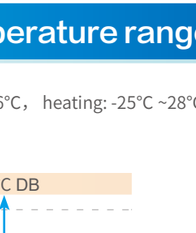
Adjust motor speed

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

5.7 Triple back-up operation technology

Compressor backup operation

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

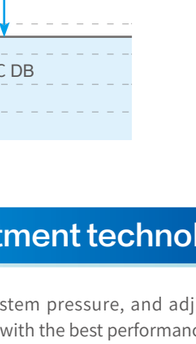


Running state

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.

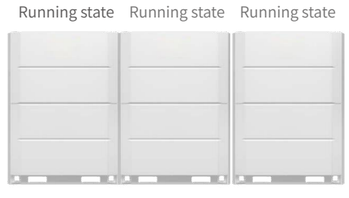


The normal operation

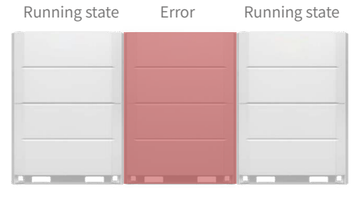
Emergency

ODU backup operation

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



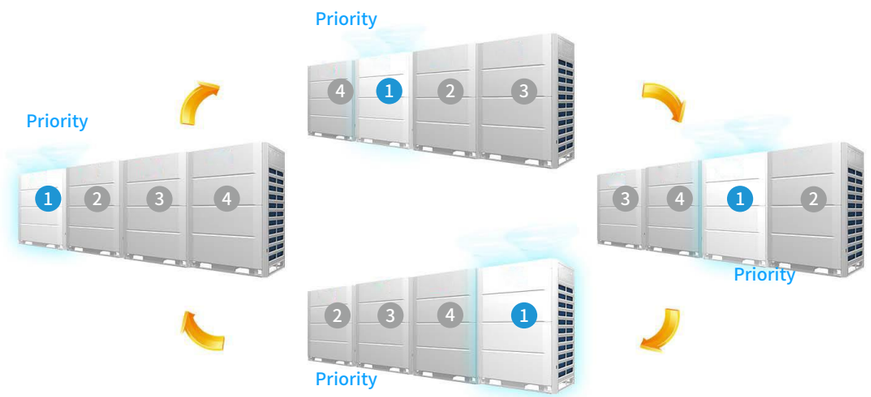
Running state



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.

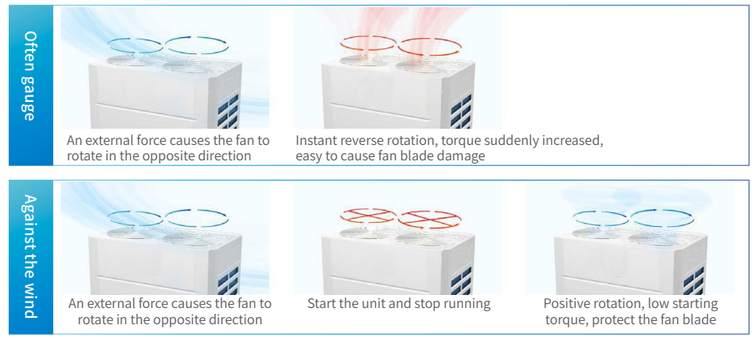


5.9 Multiple protection functions

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

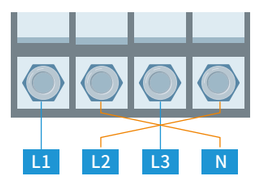
Anti-adversity function

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 blades 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

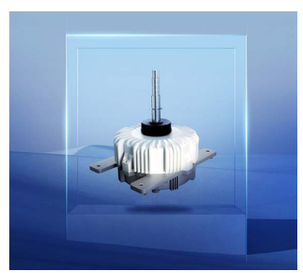
The outdoor unit has a built-in anti-seismic module, which has anti-seismic and anti-interference functions to ensure the safe and stable operation of the system in bad weather.

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

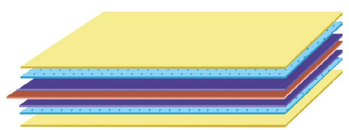
When the current exceeds the set value, the temperature will rise, and the motor will be cut off in time during overcurrent operation to protect the motor from burning due to overload.



5.10 Anticorrosion desigh

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

Thick sheet metal design

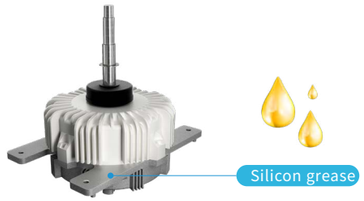
The surface of the sheet metal parts is phosphated and coated with special anti-corrosion materials. It improves the salt spray resistance and heat and humidity resistance, and greatly improves the anti-corrosion ability of the sheet metal.

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.

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.



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.

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.

Pressure vessel

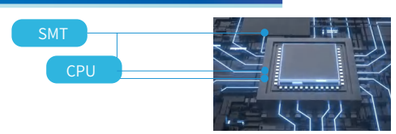
It adopts surface phosphating treatment with good anti-corrosion performance.

Copper pipe weld

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

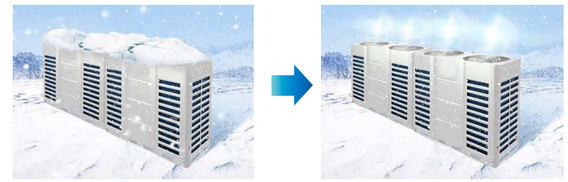
5.11 Electronic control board SMT placement technology

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



5.12 Automatic 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, the unit will automatically turn on the fan to clear the snow to ensure the normal operation of the unit.



5.13 Fan reverse dust removal function

The DC fan reverse operation technology can effectively automatically remove dust and clean the inside of the heat exchanger, improve the cleanliness of the heat exchanger, increase the heat exchange efficiency, and prolong the service life of the product.

5.14 High-altitude adaptive technology

In high-altitude areas where the air is thin, the unit is prone to insufficient capacity. The ZTVT6 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.

5.15 Circuit auto-repair function

The ZTVT6 has the automatic repair function of the electronic control circuit, which can promptly alarm and realize the automatic repair of the circuit in the event of an accident, improve system reliability, and ensure stable system operation.

5.16 Black box function

The unit is equipped with a "black box" data storage device, which records operating parameters before failure, quickly finds failure information, provides effective information for maintenance, and improves maintenance efficiency.

* Note: This function needs to be customized

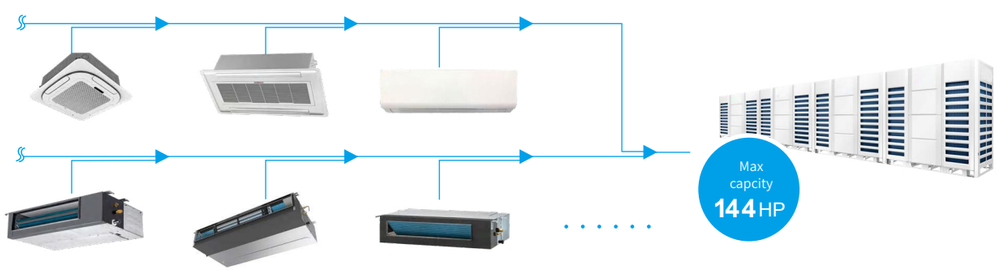
CONVENIENT INSTALLATION AND MAINTENANCE

For different application scenarios, different installation environments should be taken into consideration. The ZTVT6 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.

- 15 basic modules, satisfy all kind of requirement
- Big-capacity module design, easy installation and space saving
- 1100 Super long refrigerant pipeline design, flexible structure
- AUTO Auto-refrigerant detecting and autoharging function
- PA 130Pa The highest static pressure for outdoor unit
- Convenient for the transportation, installation and commissioning
- Auto-addressing function
- ODU without oil balance pipe, compact design
- Emergency power-off function for indoor unit maintenance
- Commissioning software

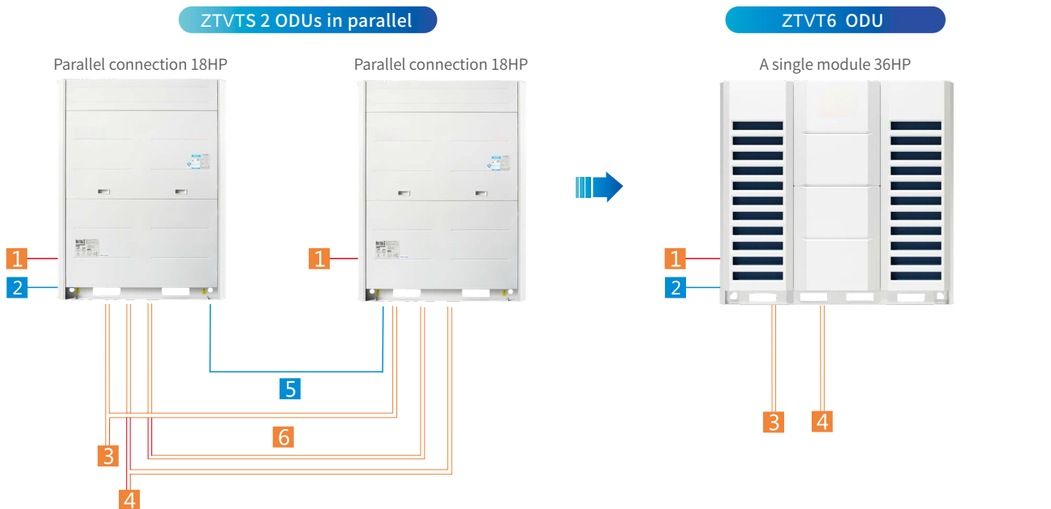
6.1 Intelligent multi-connection, easy to cope with the spatial layout

- In order to meet the needs of different building types for air conditioning equipment, 15 basic outdoor unit modules are provided. The modules of 8-36HP can be combined freely, and the maximum combination can reach 144HP. There are 9 categories of indoor units, with more than 100 models to choose . The maximum internal unit capacity is 56kW. Outdoor units and indoor units can be freely matched and multi-connected.A system can connect up to 80 indoor units to meet the needs of different buildings.



6.2 Large-capacity module design, convenient installation and space saving

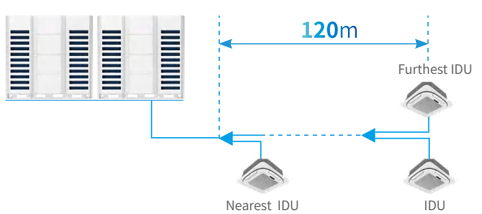
- The maximum capacity of a single machine is 36HP.
- Smaller body size saves installation space.
- Reduce the workload of wiring, save labor cost and construction period.
- Less installation materials, saving purchase costs.

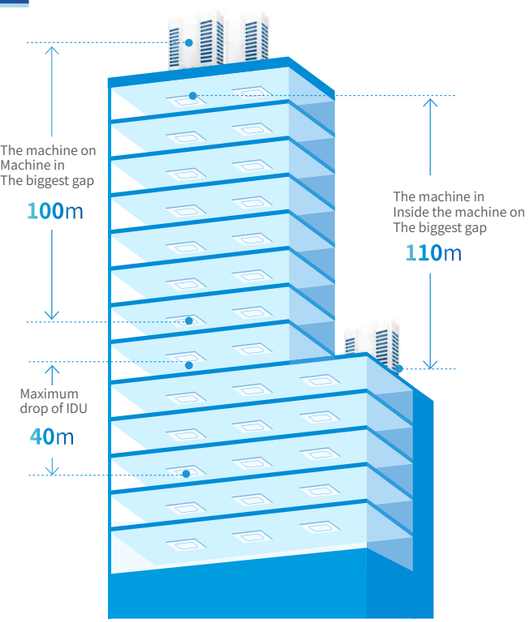


1···· Power cord and ground
2···· ODU&IDU communication line
3···· Refrigerant gas side head tube
4···· Liquid refrigerant side
5···· Communication line between ODU
6···· Oil balance between outdoor pipe

6.3 1100m Super long piping design

- The industry-leading piping length, with a total length of 1100m, makes floor design more flexible.
- The max distance between the IDU and the ODU (the higher ODU) is 100m.
  The max distance between the IDU and the ODU (the lower ODU) is 110m.
- The maximum distance between indoor units is 40m.
- The maximum actual single pipe length is 220m.
  The maximum equivalent single tube length is 240m.
- The equivalent length from first indoor distributor to last indoor uni120m.



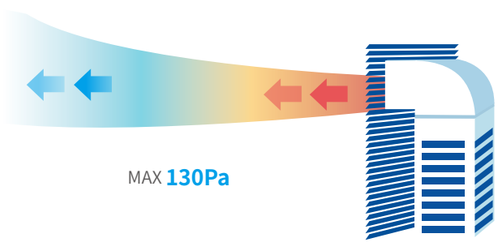


6.4 Single system can connect 80 IDUs

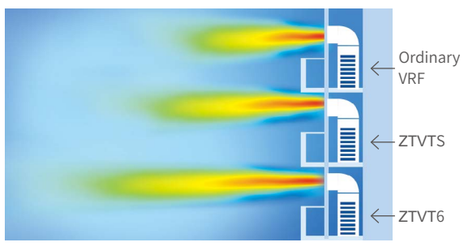
- ZTVT6 adopts the international advanced CAN bus communication technology, and one system can connect up to 80 indoor units, ensure stable and reliable in operation, realizes a large-capacity configuration of a single system, and is more flexible in engineering applications.

6.5 130Pa external static pressure

- The system achieves a higher external static pressure, up to 130Pa* (factory default external static pressure) blades through the joint action of new fan blades and fans with larger air volume. Inverter fan motor. 85Pa) to ensure the layered or concentrated heat dissipation effect of the outdoor unit.



Better heat dissipation, better refrigeration effect



VRF static pressure contrast diagram

* Note: 130Pa static pressure needs to be customized

6.6 Automatic refrigerant judgment and charging

Automatic refrigerant judgment

- According to the operating status of the system, it will ensure real-time monitor of the amount of refrigerant, intelligent judgment, stable operation of the system.

Refrigerant automatic judgment | Refrigerant is automatically charged | Refrigerant intelligent recovery

Automatic refrigerant charging

- During the installation and maintenance process, the refrigerant can be charged automatically according to the system status.

Smart refrigerant recovery function*

- When the system is maintained, the refrigerant is recovered intelligently, which is convenient and quick.

6.7 Compact design and convenient transport

- The outdoor unit module has only 4 basic structures with the same height, which simplifies the design process and improves the flexibility of the system.
- Elevator transportation is convenient, no need large equipment such as hoisting, which effectively simplifies the transportation work and saves construction time and manpower.

Parallel 8 to 12HP

Parallel 14 to 24HP

Parallel 26 to 32HP

Parallel 34 to 36HP

6.8 One-button commissioning function

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

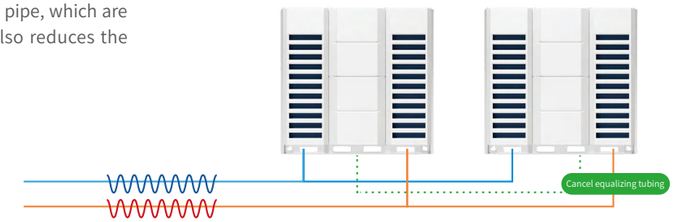
6.9 Non-polarity communication connection

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

6.10 No oil balance pipe for ODU

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

Liquid refrigerant tube
Refrigerant trachea
Equalizing tubing



6.11 360° pipe connection design

- The units can connect the pipes in multiple directions freely, such as the front side, the left side, and the right side, to make the installation more convenient.

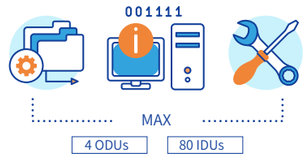
6.12 Emergency power-off function for IDU maintenance

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

Separate power off for maintenance

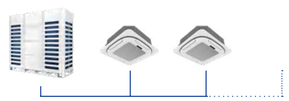
6.13 Commissioning software

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



6.14 Auto-addressing function

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



ODU lineup

8 to 12 HP

14 to 24 HP

26-32 HP

34-36 HP

Note: 34HP/36HP are the models of enhanced vapor injection, which can enhance the heating performance under low ambient condition, others are regular models.

T1 Series ODU parameters(8-36HP)

HP			8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP	26HP	28HP	30HP	32HP	34HP	36HP
Model: CTVT-CHT( )DX			252	280	335	400	450	504	560	615	680	730	785	850	900	950	1000
Cooling capacity	Capacity	Btu/h	86000	95500	114000	136000	153500	172000	191000	210000	232000	250000	268000	290000	307000	324000	341200
	Capacity	KW	25.2	28	33.5	40	45	50.4	56	61.5	68	73	78.5	85	90	95	100
	Input	KW	5.38	6.78	8.09	10.20	12.07	13.48	15.67	17.67	18.46	18.50	20.55	22.76	24.53	25.68	27.68
	EER	W/W	4.68	4.13	4.14	3.92	3.73	3.74	3.57	3.48	3.68	3.95	3.82	3.73	3.67	3.70	3.61
Heating capacity	Capacity	Btu/h	92000	107000	128000	153500	170600	191000	215000	235000	256000	278000	300000	324000	341200	362000	382000
	Capacity	KW	27	31.5	37.5	45	50	56	63	69	75	81.5	87.5	95	100	106	112
	Input	KW	5.48	6.68	8.20	10.30	11.78	13.51	15.33	16.91	17.58	19.18	20.77	22.88	23.79	25.30	27.20
	COP	W/W	4.93	4.72	4.57	4.37	4.24	4.15	4.11	4.08	4.27	4.25	4.21	4.15	4.20	4.19	4.12
Outdoor noise level(sound power levle)		dB(A)	56	57	58	59	60	61	61	62	63	63	64	65	65	66	67
Refrigerant type/ Quantity	Type		R410A														
	Charged volume	kg	9	9	9	12	12	13	14	14	16	18	18	25	25	28	28
Design pressure		MPa	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5
Power supply			380V ~ 3N/50Hz/60Hz														
Voltage Range		V	27	31.5	37.5	45	50	56	63	69	187~253	187~253	187~253	187~253	323~437	323~437	323~437
Max. Power		W	5.48	6.68	8.20	10.30	11.78	13.51	15.33	16.91	6000	6000	6900	7200	11000	11500	12000
Max. Current		A	4.93	4.72	4.57	4.37	4.24	4.15	4.11	4.08	27.8	27.8	31.4	33	17.6	18.5	19.2
Connecting Pipe	Liquid	mm	ϕ12.7	ϕ12.7	ϕ12.7	ϕ12.7	ϕ12.7	ϕ12.7	ϕ15.88	ϕ15.88	ϕ15.88	19.05	19.05	19.05	19.05	19.05	19.05
	Gas	mm	ϕ25.4	ϕ25.4	ϕ25.4	ϕ28.6	ϕ28.6	ϕ28.6	ϕ28.6	ϕ28.6	ϕ28.6	ϕ31.8	ϕ31.8	ϕ31.8	ϕ31.8	34.9	34.9
Max. height drop (high head)		m	110(100)														
Max. length of connecting indoor unit		m	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220
Max. length of connecting pipe		m	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
Net dimensions	Outdoor (W x H x D)	mm	925×845×1780			1340×845×1780						1760×845×1780				1900×845×1780	
Net weight	Outdoor	kg	215	215	215	270	270	280	315	315	330	380	380	420	420	480	480
Packing dimensions	Outdoor (W x H x D)	mm	1000×1940×920			1420×1940×920						1840×1940×920				2000×1940×920	
Gross weight	Outdoor	kg	225	225	225	290	290	300	335	335	350	405	405	445	445	505	505
Cooling operating range	Outdoor side	℃	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55
	Indoor side	℃	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32
Heating operating range	Outdoor side	℃	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28
	Indoor side	℃	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31

Note:
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.

T3 Series ODU parameters(8-36HP)

HP			8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP	26HP	28HP	30HP	32HP	34HP	36HP
CTVT-CHT( )DXT			252	280	335	400	450	504	560	615	680	730	785	850	900	950	1000
Cooling capacity (T1)	Capacity	Btu/h	86000	95500	114000	136000	153500	172000	191000	210000	232000	250000	268000	290000	307000	324000	341200
	Capacity	kW	25.2	28	33.5	40	45	50.4	56	61.5	68	73	78.5	85	90	95	100
	Input	kW	5.38	6.78	8.09	10.20	12.07	13.48	15.67	17.67	18.46	18.50	20.55	22.76	24.53	25.68	27.68
	Current	A	8.58	10.81	12.90	16.27	19.25	21.50	24.99	28.18	29.44	29.51	32.78	36.30	39.12	40.96	44.15
	EER	W/W	4.68	4.13	4.14	3.92	3.73	3.74	3.57	3.48	3.68	3.95	3.82	3.73	3.67	3.70	3.61
Cooling capacity (T3)	Capacity	Btu/h	76500	85000	101000	122000	136000	153000	170000	187000	206000	222000	240000	258000	273000	290000	303000
	Capacity	kW	22.4	24.9	29.8	35.5	40.0	44.8	49.7	54.6	60.4	64.8	69.7	75.5	79.9	84.4	88.8
	Input	kW	5.98	7.53	8.99	11.33	13.41	14.98	17.41	19.63	20.51	20.55	22.83	25.29	27.25	28.53	30.75
	Current	A	9.12	11.49	13.71	17.28	20.46	22.85	26.56	29.95	31.29	31.35	34.83	38.58	41.57	43.52	46.91
	EER	Btu/W·h	12.79	11.29	11.23	10.77	10.14	10.21	9.76	9.53	10.04	10.80	10.51	10.20	10.02	10.16	9.85
	EER	W/W	3.74	3.30	3.31	3.14	2.98	2.99	2.86	2.78	2.94	3.15	3.05	2.98	2.93	2.96	2.89
Heating capacity (T1)	Capacity	Btu/h	92000	107000	128000	153500	170600	191000	215000	235000	256000	278000	300000	324000	341200	362000	382000
	Capacity	kW	27	31.5	37.5	45	50	56	63	69	75	81.5	87.5	95	100	106	112
	Input	kW	5.48	6.68	8.20	10.30	11.78	13.51	15.33	16.91	17.58	19.18	20.77	22.88	23.79	25.30	27.20
	Current	A	8.74	10.65	13.08	16.43	18.79	21.55	24.45	26.97	28.04	30.59	33.13	36.49	37.94	40.35	43.38
	COP	W/W	4.93	4.72	4.57	4.37	4.24	4.15	4.11	4.08	4.27	4.25	4.21	4.15	4.20	4.19	4.12
Outdoor noise level (sound power levle)		dB(A)	56	57	58	59	60	61	61	62	63	63	64	65	65	66	67
Refrigerant type /Quantity	Type		R410A														
	Charged volume	kg	9	9	9	11	11	12	14	14	15	18	18	23	23	28	28
Design pressure		MPa	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5	4.3/1.5
Power supply			380V ~ 3N/50Hz														
Max. Power		kW	11.30	12.43	13.73	16.25	18.40	21.39	23.70	26.07	29.68	31.49	33.27	33.47	34.59	39.44	41.25
Max. Current		A	20.0	22.0	24.3	28.8	32.6	37.9	42.0	46.2	52.6	55.8	59.0	59.31	61.29	69.9	73.1
Voltage Range		V	323~456														
Connecting Pipe	Liquid	mm	ϕ12.7	ϕ12.7	ϕ12.7	ϕ12.7	ϕ12.7	ϕ12.7	ϕ15.88	ϕ15.88	ϕ15.88	ϕ19.05	ϕ19.05	ϕ19.05	ϕ19.05	ϕ19.05	ϕ19.05
	Gas	mm	ϕ25.4	ϕ25.4	ϕ25.4	ϕ28.6	ϕ28.6	ϕ28.6	ϕ28.6	ϕ28.6	ϕ28.6	ϕ31.8	ϕ31.8	ϕ31.8	ϕ31.8	ϕ34.9	ϕ34.9
Max. height drop (high head)		m	110(100)														
Max. length of connecting indoor unit		m	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220
Max. length of connecting pipe		m	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
Net dimensions	Outdoor (W x H x D)	mm	925×1780×845			1340×1780×845						1760×1780×845				1900×1780×845	
Net weight	Outdoor	kg	215	215	215	270	270	280	315	315	330	380	380	420	420	480	480
Packing dimensions	Outdoor (W x H x D)	mm	1000×1940×920			1420×1940×920						1840×1940×920				2000×1980×950	
Gross weight	Outdoor	kg	225	225	225	290	290	300	335	335	350	405	405	445	445	505	505
Cooling operating range	Outdoor side	℃	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55	-5~55
	Indoor side	℃	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32	16~32
Heating operating range	Outdoor side	℃	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28	-25~28
	Indoor side	℃	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31	15~31

Note:
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. Cooling(T3): Indoor Air Inlet Temperature 29.0° DB/ 19.0° WB, Outdoor Ambient Temperature 46° DB.
4. Heating: Indoor temperature 20°C DB/15°C WB,and outdoor temperature 7°C DB/6°C WB.
5. Equivalent piping length:5m; Level difference:0m; Voltage:230V.
6. Sound Level: Indoor unit sound pressure level,measured at a point 1.5m downward from the unit center.
7. Outdoor unit sound pressure level,measured at a point 1.0m in front of the unit.
8. Optional simple wired controller; Universal remote controller; auto-restart(optional); Timer:only one circle.
9. 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, ZTVT provides four basic outdoor unit modules, which can be freely combined in 2HP increments, and the maximum combination can reach 144HP, which can meet the high level design capacity differentiation, installation and transportation requirements of large and medium-sized air-conditioning projects .

Recommended combination table

HP	Combination1 (Space saving)	Combination2 (High efficiency)	Connected indoor unit qty.	HP	Combination1 (Space saving)	Combination2 (High efficiency)	Connected indoor unit qty.
8	8	8	13	78	28+28+22	20+20+20+18	80
10	10	10	16	80	28+28+24	20+20+20+20	80
12	12	12	19	82	28+28+26	22+20+20+20	80
14	14	14	23	84	28+28+28	22+22+20+20	80
16	16	16	26	86	32+28+26	22+22+22+20	80
18	18	18	29	88	32+28+28	22+22+22+22	80
20	20	20	33	90	32+32+26		80
22	22	22	36	92	32+32+28		80
24	24	12+12	39	94	32+32+30		80
26	26	14+12	43	96	32+32+32		80
28	28	16+12	46	98	36+32+30		80
30	30	16+14	50	100	36+32+32		80
32	32	18+14	53	102	36+36+30		80
34	34	18+16	56	104	36+36+32		80
36	36	18+18	59	106	36+36+34		80
38	22+16	14+12+12	63	108	36+36+36		80
40	22+18	14+14+12	66	110	28+28+28+26		80
42	24+18	14+14+14	69	112	28+28+28+28		80
44	24+20	16+14+14	72	114	32+28+28+26		80
46	24+22	16+16+14	75	116	32+28+28+28		80
48	24+24	16+16+16	78	118	32+32+28+26		80
50	28+22	18+16+16	80	120	32+32+28+28		80
52	28+24	18+18+16	80	122	32+32+32+26		80
54	28+26	18+18+18	80	124	32+32+32+28		80
56	28+28	14+14+14+14	80	126	32+32+32+30		80
58	32+26	16+14+14+14	80	128	32+32+32+32		80
60	32+28	16+16+14+14	80	130	36+32+32+30		80
62	32+30	16+16+16+14	80	132	36+32+32+32		80
64	32+32	16+16+16+16	80	134	36+36+32+30		80
66	36+30	18+16+16+16	80	136	36+36+32+32		80
68	36+32	18+18+16+16	80	138	36+36+36+30		80
70	36+34	18+18+18+16	80	140	36+36+36+32		80
72	36+36	18+18+18+18	80	142	36+36+36+34		80
74	28+24+22	20+18+18+18	80	144	36+36+36+36		80
76	28+24+24	20+20+18+18	80				

Space Saving Combination

2 ODUs

HP		38	40	42	44	46	48	50	52	54
Recommended combination		22+16	22+18	24+18	24+20	24+22	24+24	28+22	28+24	28+26
Model (CTVT-CHT***DX)		1065	1119	1184	1240	1295	1360	1400	1465	1515
Naminal cooling *1	(kW)	106.5	111.9	118.4	124	129.5	136	140	146.5	151.5
Naminal heating*2	(kW)	119	125	131	138	144	150	156.5	162.5	169
Rated cooling power input	(kW)	29.74	31.15	31.94	34.13	36.13	36.92	38.22	39.01	39.05
Rated heating power input	(kW)	28.69	30.42	31.09	32.91	34.49	35.16	37.68	38.35	39.95
Power supply	/	380V ～ 3N 50Hz/60Hz								
Compressor type	-	DV Inverter Scroll								
Dimension (W×D×H)	(mm)	(1340×845×1780) ×2						1760×845×1780 +1340×845×1780		(1760×845 ×1780) ×2
Motor Type		DC Inverter								
Motor Air volume	m³/h	33000	34500	35500	39000	39000	40000	45000	46000	52000
Motor Drive type		Direct								
Net weight	kg	585	595	610	645	645	660	695	710	760
Operation noise *3	dB(A)	64	65	65	65	65	66	66	66	66
Min. Amps *4	A	46.2+32.6	46.2+37.9	52.6+37.9	52.6+42.0	52.6+46.2	52.6+52.6	59+46.2	59.0+52.6	59.0+55.8
MFC *4	A	63+50	63+50	63+50	63+63	63+63	63+63	80+63	80+63	80+63

HP		56	58	60	62	64	66	68	70	72
Recommended combination		28+28	32+26	32+28	32+30	32+32	36+30	36+32	36+34	36+36
Model (CTVT-CHT***DX)		1570	1630	1685	1750	1800	1850	1900	1950	2000
Nominal cooling *1	(kW)	157	163	168.5	175	180	185	190	195	200
Nominal heating*2	(kW)	175	181.5	187.5	195	200	206	212	218	224
Rated cooling power input	(kW)	41.10	43.03	45.08	47.29	49.06	50.44	52.21	53.36	55.36
Rated heating power input	(kW)	41.54	42.97	44.56	46.67	47.58	50.08	50.99	52.50	54.40
Power supply	/	380V ～ 3N 50Hz/60Hz								
Compressor type	-	DV Inverter Scroll								
Dimension (W×D×H)	(mm)	(1760×845×1780) ×2					1900×845×1780+ 1760×845×1780		(1900×845×1780) ×2	
Motor Type		DC Inverter								
Motor Air volume	m³/h	52000	53000	53000	54000	54000	56000	56000	58000	58000
Motor Drive type		Direct								
Net weight	kg	760	800	800	840	840	900	900	960	960
Operation noise *3	dB(A)	67	67	67	68	68	69	69	69	69
Min. current *4	A	59.0+59.0	61.3+55.8	61.3+59.0	61.3+59.3	61.3+61.3	73.1+59.3	73.1+61.3	73.1+69.9	73.1+73.1
MFC *4	A	80+80	80+63	80+80	80+80	80+80	100+80	100+80	100+80	100+100

*1.Rated cooling capacity test conditions: indoor 27°C DB/19°C WB，outdoor 35°C DB/24°C WB
*2. Rated heating capacity test conditions: indoor 20°C DB/15°C WB，outdoor 7°C DB/6°C WB, The performance parameters of the equipment are supposed to change due to product improvements, please note it would be not notice for this. Please refer to the product nameplate for specific parameters
*3. The noise is in accordance with the value tested under GB/T 18837-2015
*4. The air switch is selected according to the maximum fuse current, the electrical wiring specification is selected according to the minimum wire current.

Space Saving Combination

3 ODUs

HP		74	76	78	80	82	84	86	88	90
Recommended combination		28+24+22	28+24+24	28+28+22	28+28+24	28+28+26	28+28+28	32+28+26	32+28+28	32+32+26
Model (CTVT-CHT***DX)		2080	2145	2185	2250	2300	2355	2415	2470	2530
Nominal cooling capacity *1	(kW)	208	214.5	218.5	225	230	235.5	241.5	247	253
Nominal heating capacity *2	(kW)	231.5	237.5	244	250	256.5	262.5	269	275	281.5
Reted cooling power input	(kW)	56.68	57.47	58.77	59.56	59.60	61.65	63.58	65.63	67.56
Rated heating power input	(kW)	55.26	55.93	58.45	59.12	60.72	62.31	63.74	65.33	66.76
Power supply	/	380V ～ 3N 50Hz/60Hz								
Compressor type	-	DC inverter Scroll								
Dimension (W×D×H)	(mm)	1760×845×1780+ (1340×845×1780)×2		(1760×845×1780)×2+ 1340×845×1780		(1760×845×1780)×3				
Motor Type		DC Inverter								
Motor Air volume	m³/h	65000	66000	71000	72000	78000	78000	79000	79000	80000
Motor Drive type		Direct								
Net	kg	1025	1040	1075	1090	1140	1140	1180	1180	1220
Operation level *3	dB(A)	68	68	68	68	68	68	69	69	69
Min. current *4	A	59.0+52.6+46.2	59.0+52.6+52.6	59.0+59.0+46.2	59.0+59.0+52.6	59.0+59.0+55.8	59.0+59.0+59.0	61.3+59.0+55.8	61.3+59.0+59.0	61.3+61.3+55.8
MFC *4	A	80+63+63	80+63+63	80+80+63	80+80+63	80+80+63	80+80+80	80+80+63	80+80+63	80+80+63

HP		92	94	96	98	100	102	104	106	108
Recommended combination		32+32+28	32+32+30	32+32+32	36+32+30	36+32+32	36+36+30	36+36+32	36+36+34	36+36+36
Model (CTVT-CHT***DX)		2585	2650	2700	2750	2800	2850	2900	2950	3000
Nominal cooling *1	(kW)	258.5	265	270	275	280	285	290	295	300
Nominal heating *2	(kW)	287.5	295	300	307	312	319	324	330	336
Rated cooling power input	(kW)	69.61	71.82	73.59	74.97	76.74	78.12	79.89	81.04	83.04
Rated heating power input	(kW)	68.35	70.46	71.37	73.87	74.78	77.28	78.19	79.70	81.60
Power supply	/	380V ～ 3N 50Hz/60Hz								
Compressor type	-	DC inverter scroll								
Dimension (W×D×H)	(mm)	(1760×845×1780)×3			(1900×845×1780) +(1760×845×1780)×2		(1900×845×1780)×2 +(1760×845×1780)		(1900×845×1780)×3	
Motor Type		DC inverter								
Motor Air volume	m³/h	80000	81000	81000	83000	83000	85000	85000	87000	87000
Motor Drive way		Direct								
Net weight	kg	1220	1260	1260	1320	1320	1380	1380	1440	1440
Operation noise*3	dB(A)	69	69	70	70	70	71	71	71	71
Min. current*4	A	61.3+61.3+59.0	61.3+61.3+59.3	61.3+61.3+61.3	73.1+61.3+59.3	73.1+61.3+61.3	73.1+73.1+59.3	73.1+73.1+61.3	73.1+73.1+69.9	73.1+73.1+73.1
MFC *4	A	80+80+80	80+80+80	80+80+80	100+80+80	100+80+80	100+100+80	100+100+80	100+100+80	100+100+100

*1.Rated cooling capacity test conditions: indoor 27°C DB/19°C WB，outdoor 35°C DB/24°C WB
*2. Rated heating capacity test conditions: indoor 20°C DB/15°C WB，outdoor 7°C DB/6°C WB, The performance parameters of the equipment are supposed to change due to product improvements. Please refer to the product nameplate for specific parameters
*3. The noise is in accordance with the value tested under GB/T 18837-2015
*4. The air switch is selected according to the maximum fuse current, the electrical wiring specification is selected according to the minimum wire current.

Space Saving Combination

4 ODUs

HP		110	112	114	116	118	120	122	124	126
Recommended combination		28+28+28+26	28+28+28+28	32+28+28+26	32+28+28+28	32+32+28+26	32+32+28+28	32+32+32+26	32+32+32+28	32+32+32+30
Model (CTVT-CHT***DX)		3085	3140	3200	3255	3315	3370	3430	3485	3550
Nominal cooling capacity *1	(kW)	308.5	314	320	325.5	331.5	337	343	348.5	355
Nominal heating capacity *2	(kW)	344	350	356.5	362.5	369	375	381.5	387.5	395
Reted cooling power input	(kW)	80.20	82.20	84.13	86.18	88.11	90.16	92.09	94.14	96.35
Rated heating power input	(kW)	81.50	83.08	84.51	86.10	87.53	89.12	90.55	92.14	94.25
Power supply	/	380V ～ 3N 50Hz/60Hz								
Compressor type	-	DC inverter Scroll								
Dimension (W×D×H)	(mm)	(1760×845×1780)×4								
Motor Type		DC inverter								
Motor Air volume	m^3/h	104000	104000	105000	105000	106000	106000	107000	107000	108000
Motor Drive type		Direct								
Net weight	kg	1520	1520	1560	1560	1600	1600	1640	1640	1680
Operation noise*3	dB(A)	69	69	70	70	70	70	70	70	70
Min. current*4	A	59.0+59.0+59.0+55.8	59.0+59.0+59.0+59.0	61.3+59.0+59.0+55.8	61.3+59.0+59.0+59.0	61.3+61.3+59.0+55.8	61.3+61.3+59.0+59.0	61.3+61.3+61.3+55.8	61.3+61.3+61.3+59.0	61.3+61.3+61.3+59.3
MFC *4	A	80+80+80+63	80+80+80+80	80+80+80+63	80+80+80+80	80+80+80+80	80+80+80+80	80+80+80+80	80+80+80+80	80+80+80+80

HP		128	130	132	134	136	138	140	142	144
Recommended combination		32+32+32+32	36+32+32+30	36+32+32+32	36+36+32+30	36+36+32+32	36+36+36+30	36+36+36+32	36+36+36+34	36+36+36+36
Model (CTVT-CHT***DX)		3600	3650	3700	3750	3800	3850	3900	3950	4000
Nominal cooling*1	(kW)	360	365	370	375	380	385	390	395	400
Nominal heating*2	(kW)	400	407	412	419	424	431	436	442	448
Rated cooling power input	(kW)	98.12	99.50	101.27	102.65	104.42	105.80	107.57	108.72	110.72
Rated heating power input	(kW)	95.16	97.66	98.57	101.07	101.98	104.48	105.39	106.90	108.80
Power supply	/	380V ～ 3N 50Hz/60Hz								
Compressor type	-	DC inverter scroll								
Dimension (W×D×H)	(mm)	(1760×845×1780)×4	(1900×845×1780)+(1760×845×1780)×3		(1900×845×1780)×2+(1760×845×1780)×2		(1900×845×1780)×3+(1760×845×1780)		(1900×845×1780)×4	
Motor Type		DC inverter								
Motor Air volume	m^3/h	108000	110000	110000	112000	112000	114000	114000	116000	116000
Motor Drive type		Direct								
Net weight	kg	1680	1740	1740	1800	1800	1860	1860	1920	1920
Operation noise*3	dB(A)	70	71	71	71	71	71	71	71	71
Min. current*4	A	61.3+61.3+61.3+61.3	73.1+61.3+61.3+59.3	73.1+61.3+61.3+61.3	73.1+73.1+61.3+59.3	73.1+73.1+61.3+61.3	73.1+73.1+73.1+59.3	73.1+73.1+73.1+61.3	73.1+73.1+73.1+69.9	73.1+73.1+73.1
MFC *4	A	80+80+80+80	100+80+80+80	100+80+80+80	100+100+80+80	100+100+80+80	100+100+100+80	100+100+100+80	100+100+100+80	100+100+100+100

*1.Rated cooling capacity test conditions: indoor 27°C DB/19°C WB，outdoor 35°C DB/24°C WB
*2. Rated heating capacity test conditions: indoor 20°C DB/15°C WB，outdoor 7°C DB/6°C WB, The performance parameters of the equipment are supposed to change due to product improvements. Please refer to the product nameplate for specific parameters
*3. The noise is in accordance with the value tested under GB/T 18837-2015
*4. The air switch is selected according to the maximum fuse current, the electrical wiring specification is selected according to the minimum wire current.

High Efficiency Combination

2 ODUs

HP		24	26	28	30	32	34	36
Recommended combination		12+12	14+12	16+12	16+14	18+14	18+16	18+18
Model (CTVT-CHT***DX)		670	735	785	850	904	954	1008
Nominal cooling *1	(kW)	67	73.5	78.5	85	90.4	95.4	100.8
Nominal heating *2	(kW)	75	82.5	87.5	95	101	106	112
Rated cooling power input	(kW)	16.18	18.29	20.16	22.27	23.68	25.55	26.96
Rated heating power input	(kW)	16.40	18.50	19.98	22.08	23.81	25.29	27.02
Power supply	/	380V ～ 3N 50Hz/60Hz						
Compressor type	-	DC inverter Scroll						
Dimension （W×D×H）	(mm)	（925×845×1780）×2	（1340×845×1780）+（925×845×1780）		（1340×845×1780）×2			
Motor Type		DC Inverter						
Motor Air volume	m^3/h	23000	25000	25500	27500	29000	29500	31000
Motor Drive way		Direct						
Net weight	kg	430	485	485	540	550	550	560
Operation noise *3	dB(A)	61	61	62	62	63	63	64
Min. current *4	A	24.3+24.3	28.8+24.3	32.6+24.3	32.6+28.8	37.9+28.8	37.9+32.6	37.9+37.9
MFC *4	A	32+32	40+32	50+32	50+40	50+40	50+50	50+50

3 ODUs

HP		38	40	42	44	46	48	50	52	54
Recommended combination		14+12+12	14+14+12	14+14+14	16+14+14	16+16+14	16+16+16	18+16+16	18+18+16	18+18+18
Model (CTVT-CHT***DX)		1070	1135	1200	1250	1300	1350	1404	1458	1512
Nominal cooling *1	(kW)	107	113.5	120	125	130	135	140.4	145.8	151.2
Nominal heating *2	(kW)	120	127.5	135	140	145	150	156	162	168
Rated cooling power input	(kW)	26.38	28.49	30.60	32.47	34.34	36.21	37.62	39.03	40.44
Rated heating power input	(kW)	26.70	28.80	30.90	32.38	33.86	35.34	37.07	38.80	40.53
Power supply	/	380V ～ 3N 50Hz/60Hz								
Compressor type	-	DC inverter scroll								
Dimension (W×D×H)	(mm)	(1340×845×1780)+(925×845×1780)X2	(1340×845×1780)×2+(925×845×1780)	(1340×845×1780)×3						
Motor Type		DC inverter								
Motor Air volume	m^3/h	36500	38500	40500	41000	41500	42000	43500	45000	46500
Motor Drive type		Direct								
Net weight	kg	700	755	810	810	810	810	820	830	840
Operation noise *3	dB(A)	63	63	63	64	64	64	65	65	65
Min. current*4	A	28.8+24.3+24.3	28.8+28.8+24.3	28.8+28.8+28.8	32.6+28.8+28.8	32.6+32.6+28.8	32.6+32.6+32.6	37.9+32.6+32.6	37.9+37.9 32.6	37.9+37.9+37.9
MFC *4	A	40+32+32	40+40+32	40+40+40	50+40+40	50+50+40	50+50+50	50+50+50	50+50+50	50+50+50

*1.Rated cooling capacity test conditions: indoor 27°C DB/19°C WB，outdoor 35°C DB/24°C WB
*2. Rated heating capacity test conditions: indoor 20°C DB/15°C WB，outdoor 7°C DB/6°C WB, The performance parameters of the equipment are supposed to change due to product improvements. Please refer to the product nameplate for specific parameters
*3. The noise is in accordance with the value tested under GB/T 18837-2015
*4. The air switch is selected according to the maximum fuse current, the electrical wiring specification is selected according to the minimum wire current.

High Efficiency Combination

4 ODUs

HP			56	58	60	62	64	66	68	70	72
Recommended combination			14+14+14+14	16+14+14+14	16+16+14+14	16+16+16+14	16+16+16+16	18+16+16+16	18+18+16+16	18+18+18+16	18+18+18+18
Model (CTVT-CHT***DX)			1600	1650	1700	1750	1800	1854	1908	1962	2016
Nominal cooling *1		(kW)	160	165	170	175	180	185.4	190.8	196.2	201.6
Nominal heating capacity *2		(kW)	180	185	190	195	200	206	212	218	224
Reted cooling power input		(kW)	40.80	42.67	44.54	46.41	48.28	49.69	51.10	52.51	53.92
Rated heating power input		(kW)	41.20	42.68	44.16	45.64	47.12	48.85	50.58	52.31	54.04
Power supply		/	380V ～ 3N 50Hz/60Hz								
Compressor type		-	DC inverter Scroll								
Dimension (W×D×H)		(mm)	(1340×845×1780)×4								
Motor	Type		DC inverter								
	Air volume	m^3/h	54000	54500	55000	55500	56000	57500	59000	60500	62000
	Driver type		Direct								
Net weight		kg	1080	1080	1080	1080	1080	1090	1100	1100	1120
Operation noise *3		dB(A)	65	65	65	65	66	66	66	66	67
Min. current*4		A	28.8+28.8 +28.8+28.8	32.6+28.8 +28.8+28.8	32.6+32.6 +28.8+28.8	32.6+32.6 +32.6+28.8	32.6+32.6 +32.6+32.6	37.9+32.6 +32.6+32.6	37.9+37.9 +32.6+32.6	37.9+37.9 +37.9+32.6	37.9+37.9 +37.9+37.9
MFC *4		A	40+40+ 40+40	50+40+ 40+40	50+50+ 40+40	50+50+ 50+40	50+50+ 50+50	50+50+ 50+50	50+50+ 50+50	50+50+ 50+50	50+50+ 50+50

HP			74	76	78	80	82	84	86	88
Recommended combination			20+18 +18+18	20+20+ 18+18	20+20 +20+18	20+20 +20+20	22+20 +20+20	22+22 +20+20	22+22 +22+20	22+22 +22+22
Model (CTVT-CHT***DX)			2072	2128	2184	2240	2295	2350	2405	2460
Nominal cooling *1		(kW)	207.2	212.8	218.4	224	229.5	235	240.5	246
Nominal heating capacity *2		(kW)	231	238	245	252	258	264	270	276
Reted cooling power input		(kW)	56.11	58.30	60.49	62.68	64.68	66.68	68.68	70.68
Rated heating power input		(kW)	55.86	57.68	59.50	61.32	62.90	64.48	66.06	67.64
Power supply		/	380V ～ 3N 50Hz/60Hz							
Compressor type		-	DC inverter Scroll							
Dimension (W×D×H)		(mm)	(1760×845×1780)×4							
Motor	Type		DC inverter							
	Air volume	m^3/h	65500	69000	72500	76000	76000	76000	76000	76000
	Drive type		Drrict							
Net weight		kg	1155	1190	1225	1260	1260	1260	1260	1260
Operation noise *3		dB(A)	67	67	67	67	67	67	67	68
Min. current*4		A	42.0+37.9 +37.9+37.9	42.0+42.0 +37.9+37.9	42.0+42.0 +42.0+37.9	42.0+42.0 +42.0+42.0	46.2+42.0+ 42.0+42.0	46.2+46.2 +42.0+42.0	46.2+46.2 +46.2+42.0	46.2+46.2 +46.2+46.2
MFC *4		A	63+50+ 50+50	63+63+ 50+50	63+63+ 63+50	63+63+ 63+63	63+63+ 63+63	63+63+ 63+63	63+63+ 63+63	63+63+ 63+63

*1: Cooling capacity test working condition: indoor temperature 27°C DB/19°C WB, outdoor temperature 35°C DB/24°C WB
*2: Heat production test conditions: indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB/6°C WB
*3: Noise according to GB/T 18837-2015 test value
*4: Select air switch according to the maximum fuse current, select electrical wiring specifications according to the minimum line current.
Unit performance parameters are subject to modification without notice. For details, see the product nameplate.

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.

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

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.

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

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

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

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.

IDU parameters

HP			CTVT-ECSE18BX	CTVT-ECSE22BX	CTVT-ECSE28BX	CTVT-ECSE36BX	CTVT-ECSE45BX	CTVT-ECSE50BX	CTVT-ECSE56BX
Capacity	Cooling	kW	1.8	2.2	2.8	3.6	4.5	5	5.6
	Heating	kW	2.2	2.8	3.2	4	5	5.6	6.3
Power input	Cooling	kW	0.05	0.05	0.05	0.06	0.07	0.07	0.07
	Heating	kW	0.05	0.05	0.05	0.06	0.07	0.07	0.07
Power supply			220V ~ 1N 50Hz						
Current	Cooling	A	0.24	0.24	0.24	0.28	0.31	0.31	0.31
	Heating	A	0.24	0.24	0.24	0.28	0.31	0.31	0.31
Air volume		m^3/h	510	510	510	680	800	800	800
Noise	H/M/L	dB(A)	39/34/31	39/34/31	39/34/31	40/34/31	42/36/33	42/36/33	42/36/33
Dimension	panel	mm	580×1055	580×1055	580×1055	580×1055	580×1055	580×1055	580×1055
	unit	mm	850×480×235	850×480×235	850×480×235	850×480×235	850×480×235	850×480×235	850×480×235
	packing	mm	1105×645×305	1105×645×305	1105×645×305	1105×645×305	1105×645×305	1105×645×305	1105×645×305
Weight	net	kg	23	23	23	23	23	23	23
	gross	kg	28	28	28	28	28	28	28
Connection pipe	Gas	mm	9.52	9.52	9.52	12.7	12.7	12.7	12.7
	Liquid	mm	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	Connectiong way		Screw thread	Screw thread	Screw thread	Screw thread	Screw thread	Screw thread	Screw thread
Water pipe dimension(mm)			ϕ25						
Controller			Remote/Wired/Central controller						

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.

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.

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.

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.

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.

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.

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		CTVT-ECDE22BX	CTVT-ECDE28BX	CTVT-ECDE36BX	CTVT-ECDE45BX	CTVT-ECDE50BX	CTVT-ECDE56BX	CTVT-ECDE63BX	CTVT-ECDE71BX
Capaicyt	Cooling(kW)	2.2	2.8	3.6	4.5	5	5.6	6.3	7.1
	Heating(kW)	2.8	3.2	4	5	5.6	6.3	7.1	8
Power input	Cooling(kW)	0.064	0.064	0.064	0.064	0.07	0.07	0.11	0.11
	heating(kW)	0.064	0.064	0.064	0.064	0.07	0.07	0.11	0.11
Power supply		220V ~ 1N 50Hz							
Current	Cooling(A)	0.27	0.27	0.27	0.27	0.31	0.31	0.49	0.49
	heating(A)	0.27	0.27	0.27	0.27	0.31	0.31	0.49	0.49
Air volume	(m^3/h)	580	580	680	680	850	850	1360	1360
Noise	H/M/L dB(A)	40/35/32	42/36/33	42/36/33	42/36/33	42/38/35	43/38/35	46/39/36	46/39/36
Dimension	Panel(mm)	680×1240	680×1240	680×1240	680×1240	680×1240	680×1240	680×1240	680×1240
	Body (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
	Packing(mm)	1305×755×370	1305×755×370	1305×755×370	1305×755×370	1305×755×370	1305×755×370	1305×755×370	1305×755×370
Weight	Net(kg)	32	32	32	32	33	33	34	34
	Gross(kg)	38	38	38	38	39	39	40	40
connection pipe	gas (mm)	12.7	12.7	12.7	12.7	12.7	12.7	15.88	15.88
	liquid(mm)	6.35	6.35	6.35	6.35	6.35	6.35	9.52	9.52
	connection way	Screw thread							
Drainage pipe(mm)		ϕ25							
Controller		Remote/Wired/Central controller							

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.

Four-way Cassette

Recommended places

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

Technical characteristics

New panel design

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

360° wide-angle air supply

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

LED digital display

Real-time operating temperature and operation fault clearly display, the operating status of the unit in one hand.

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.

Four gears, wider air volume adjustment

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

High efficiency energy saving motor

Adopt high efficiency energy saving motor, motor efficiency can reach 80%, air conditioning energy saving can be increased by more than 20%.

Thin fuselage, saving space

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

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 condensate pump, easy to install

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

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.

Four-way Cassette

Model			CTVT-ECFE 28BX	CTVT-ECFE 36BX	CTVT-ECFE 45BX	CTVT-ECFE 50BX	CTVT-ECFE 56BX	CTVT-ECFE 63BX	CTVT-ECFE 71BX
Cooling capacity	Capacity	Btu/h(W)	10000(2800)	12000(3600)	15000(4500)	17000(5000)	19000(5600)	21000(6300)	24000(7100)
	Input	W	80	80	80	80	80	100	100
Heating capacity	Capacity	Btu/h(W)	11000(3200)	14000(4000)	17000(5000)	19000(5600)	21000(6300)	24000(7100)	27000(8000)
	Input	W	80	80	80	80	80	100	100
Noise	H/M/L	dB(A)	36/33/32	36/33/32	37/35/33	37/35/33	37/35/33	37/35/33	37/35/33
Design pressure		MPa	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Power supply			220-240V~/50Hz/60Hz/						
Indoor air circulation (Cooling/Heating)		L/S	208	208	236	236	236	333	333
		m^3/h	750	750	850	850	850	1200	1200
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	32(ID25,OD32)	32(ID25,OD32)	32(ID25,OD32)	32(ID25,OD32)	32(ID25,OD32)	32(ID25,OD32)	32(ID25,OD32)
Net dimensions	W x H x D	mm	840×230×840	840×230×840	840×230×840	840×230×840	840×230×840	840×230×840	840×230×840
Net weight		kg	27	27	27	27	27	27	27
Packing dimensions	W x H x D	mm	945×285×945	945×285×945	945×285×945	945×285×945	945×285×945	945×285×945	945×285×945
Gross weight		kg	32	32	32	32	32	32	32
Loading Capacity			1.0HP	1.2HP	1.5HP	1.8HP	2.0HP	2.2HP	2.5HP
Controller			Remote Controller & Wired controller						

Model			CTVT-ECFE 80BX	CTVT-ECFE 90BX	CTVT-ECFE 100BX	CTVT-ECFE 112BX	CTVT-ECFE 125BX	CTVT-ECFE 140BX	CTVT-ECFE 160BX
Cooling capacity	Capacity	Btu/h(W)	27000(8000)	30000(9000)	34000(10000)	38000(11200)	42000(12500)	48000(14000)	55000(16000)
	Input	W	100	150	150	150	150	150	150
Heating capacity	Capacity	Btu/h(W)	30000(9000)	34000(10000)	38000(11200)	42000(12500)	48000(14000)	55000(16000)	62000(18000)
	Input	W	100	150	150	150	150	150	150
Noise	H/M/L	dB(A)	37/35/33	40/38/35	40/38/35	40/38/35	40/38/35	40/38/35	40/38/35
Design pressure		MPa	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Power supply			220-240V~/50Hz/60Hz/						
Indoor air circulation (Cooling/Heating)		L/S	333	500	500	500	500	500	500
		m^3/h	1200	1800	1800	1800	1800	1800	1800
Connecting Pipe	Liquid	Inches	3/8''	3/8''	3/8''	3/8''	3/8''	3/8''	3/8''
	Gas	Inches	5/8''	5/8''	5/8''	5/8''	5/8''	5/8''	5/8''
Drainage Pipe		mm	32(ID25,OD32)	32(ID25,OD32)	32(ID25,OD32)	32(ID25,OD32)	32(ID25,OD32)	32(ID25,OD32)	32(ID25,OD32)
Net dimensions	W x H x D	mm	840×230×840	840×300×840	840×300×840	840×300×840	840×300×840	840×300×840	840×300×840
Net weight		kg	27	35	35	35	35	35	35
Packing dimensions	W x H x D	mm	945×285×945	945×355×945	945×355×945	945×355×945	945×355×945	945×355×945	945×355×945
Gross weight		kg	32	41	41	41	41	41	41
Loading Capacity			3.0HP	3.2HP	3.6HP	4.0HP	4.5HP	5.0HP	5.5HP
Controller			Remote Controller & Wired controller						

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.

Ultra-thin low static pressure Duct

Recommended places

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

Technical characteristics

Wide range Static Pressure , strong air supply
Static pressure can reach 80pa, duct can be connected for providing comfortable environment suitable air flow to multiple area.

Slim body, concealed installation
Super slim body 200mm high, easy for concealed installation, greatly save installation area and capable of matching multiple decoration style.

High efficient indoor motor
Using high efficient indoor motor, motor can reach 60% efficiency and save more than 20% energy.

Ultra low noise
3D indoor fan technology can reduce the resistance of air flow, maximally lower down the noise level, providing a comfortable environment.

Multiple upgrades
Comes with PCB, air outlet, noise control and outlook upgrades.

Health
Equipped with healthy filter which can effectively kill bacteria viruses and odors of indoor air to provide a healthy and safe indoor environment.

High-lift Drain Pump
A drain pump with a 1200mm 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.

Specification

Model			CTVT-EDL 18BX	CTVT-EDL 22BX	CTVT-EDL 28BX	CTVT-EDL 36BX	CTVT-EDL 45BX	CTVT-EDL 50BX	CTVT-EDL 56BX	CTVT-EDL 80BX
Static pressure	Standard	Pa	12	12	12	12	12	12	12	30
	Range	Pa	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30
Cooling capacity	Capacity	Btu/h(W)	6000(1800)	7500(2200)	10000(2800)	12000(3600)	15000(4500)	17000(5000)	19000(5600)	27000(8000)
	Input	W	36	36	36	60	82	82	82	136
Heating capacity	Capacity	Btu/h(W)	7500(2200)	9000(2500)	11000(3200)	14000(4000)	17000(5000)	19000(5600)	21000(6300)	30000(9000)
	Input	W	36	36	36	60	82	82	82	136
Noise	H/M/L	dB(A)	32/27/24	32/27/24	32/27/24	35/29/26	39/32/29	39/32/29	39/32/29	41/37/32
Design pressure		MPa	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Power supply			220-240V~/50Hz/							
Indoor air circulation (Cooling/Heating)		L/S	144	144	144	167	236	236	236	347
		m^3/h	520	520	520	600	850	850	850	1250
Connecting Pipe	Liquid	Inches	1/4''	1/4''	1/4''	1/4''	1/4''	1/4''	1/4''	3/8''
	Gas	Inches	3/8''	3/8''	3/8''	1/2''	1/2''	1/2''	1/2''	5/8''
Drainage Pipe		mm	25(ID20,OD25)	25(ID20,OD25)	25(ID20,OD25)	25(ID20,OD25)	25(ID20,OD25)	25(ID20,OD25)	25(ID20,OD25)	25(ID20,OD25)
Net dimensions	W x H x D	mm	700×200×450	700×200×450	700×200×450	700×200×450	920×200×450	920×200×450	920×200×450	1300×200×450
Net weight		kg	14	14	14	15	19	19	19	33
Packing dimensions	W x H x D	mm	865×272×578	865×272×578	865×272×578	865×272×578	1085×272×578	1085×272×578	1085×272×578	1455×272×578
Gross weight		kg	18	18	18	19	24	24	24	38
Loading Capacity			0.6HP	0.8HP	1.0HP	1.2HP	1.5HP	1.8HP	2.0HP	3.0HP
Controller			Remote Controller & Wired controller							

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

Dc seven speed wind speed Energy-saving silent operation
DC motor, 7-speed air volume, energy-saving and silent operation. The lowest noise is 22 d B(A).

Health filter (optional)
The duct can be equipped with silver ion and activated carbon health filter.

Humanized return air mode selection, flexible installation
It is optional to have air inlet form back or bottom with the same size of plate ,which will be very flexible and convenient for installation.

Built-in drain pump(optional).
The drain pump can lift the condensing water up to 1200mm.

Ultra-thin body design, fashion and beautiful
The minimum height of the body is only 200mm, saving space.

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.

Specification

Model			CTVT-EDD 18BX	CTVT-EDD 22BX	CTVT-EDD 28BX	CTVT-EDD 36BX	CTVT-EDD 45BX	CTVT-EDD 50BX	CTVT-EDD 56BX	CTVT-EDD 63BX	CTVT-EDD 71BX
Static pressure	Standard	Pa	12	12	12	12	12	12	12	20	30
	Range	Pa	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30	0 ~ 30
Cooling capacity	Capacity	Btu/h(W)	6000(1800)	7500(2200)	10000(2800)	12000(3600)	15000(4500)	17000(5000)	19000(5600)	21000(6300)	24000(7100)
	Input	W	24	24	24	40	55	55	55	58	60
Heating capacity	Capacity	Btu/h(W)	7500(2200)	9000(2500)	11000(3200)	14000(4000)	17000(5000)	19000(5600)	21000(6300)	24000(7100)	27000(8000)
	Input	W	24	24	24	40	55	55	55	58	60
Noise	H/M/L	dB(A)	30/27/22	30/27/22	30/27/22	32/28/25	35/32/27	35/32/27	36/33/28	36/33/29	37/34/29
Design pressure		MPa	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Power supply			220-240V~/50Hz 208-230V~/60Hz								
Indoor air circulation (Cooling/Heating)		L/S	131	131	131	147	208	208	236	333	347
		m^3/h	470	470	470	530	750	750	850	950	1100
Connecting Pipe	Liquid	Inches	1/4''	1/4''	1/4''	1/4''	1/4''	1/4''	1/4''	3/8''	3/8''
	Gas	Inches	3/8''	3/8''	3/8''	1/2''	1/2''	1/2''	1/2''	5/8''	5/8''
Drainage Pipe		mm	25(ID20,OD25)								
Net dimensions	W x H x D	mm	700×200×450				920×200×450			1300×200×450	
Net weight		kg	17	17	17	17	20	20	20	31	31
Packing dimensions	W x H x D	mm	865×272×578				1085×272×578			1467×272×578	
Gross weight		kg	21	21	21	21	25	25	25	36	36
Loading Capacity			0.6HP	0.8HP	1.0HP	1.2HP	1.5HP	1.8HP	2.0HP	2.2HP	2.5HP
Controller			Remote Controller & Wired controller								

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.

Medium static pressure Duct

Recommended places

Office, conference room, exhibition hall, restaurant, etc

Technical characteristics

Flexible to adapt to a variety of room structure
It is optional to have air inlet form back or bottom with the same size of plate ,which will be very flexible and convenient for installation.

Built−in drain pump(optional).
The drain pump can lift the condensing water up to 1200mm.

Ultra−thin body design, fashion and beautiful
The minimum height of the body is only 200mm, saving space.

Personalized tuyere
Suitable tuyere can be assembled to make the air conditioning decoration style perfect integration, highlighting the taste of the room.

Flexible installation
The factory standard bellows, according to the installation needs, can be adjusted on site under or after the return air, to meet the needs of different installation sites.

Specification

Model			CTVT-EDM 45BX	CTVT-EDM 50BX	CTVT-EDM 56BX	CTVT-EDM 63BX	CTVT-EDM 71BX	CTVT-EDM 80BX	CTVT-EDM 90BX	CTVT-EDM 100BX	CTVT-EDM 112BX	CTVT-EDM 125BX	CTVT-EDM 140BX	CTVT-EDM160 BX
Static pressure	Standard	Pa	15	15	15	30	30	30	50	50	50	50	50	50
	Range	Pa	0 ～ 30	0 ～ 30	0 ～ 30	20 ～ 50	20 ～ 50	20 ～ 50	30 ～ 80	30 ～ 80	30 ～ 80	30 ～ 100	30 ～ 100	30~100
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)	55000 (16000)
	Input	W	110	110	110	160	160	160	330	330	330	390	390	390
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)	62000 (18000)
	Input	W	110	110	110	160	160	160	330	330	330	390	390	390
Noise	H/M/L	dB(A)	43/33/30	43/33/30	43/33/30	46/37/35	46/37/35	46/37/35	50/44/41	50/44/41	50/44/41	54/46/43	54/46/43	54/46/43
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	4.1
Power supply			220-240V~/50Hz/60Hz											
Indoor air circulation (Cooling/Heating)		L/S	250	250	250	306	306	306	472	472	472	611	611	611
		m^3/h	900	900	900	1100	1100	1100	1700	1700	1700	2200	2200	2200
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''	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''	5/8''
Drainage Pipe		mm	25(ID20,OD25)											
Net dimensions	W x H x D	mm	920×210×570						1140×270×710			1200×300×800		
Net weight		kg	23	23	23	26	26	26	36	36	36	46	46	46
Packing dimensions	W x H x D	mm	1115×280×690						1345×360×830			1405×390×925		
Gross weight		kg	27	27	27	31	31	31	41	41	41	51	51	51
Loading Capacity			1.5HP	1.8HP	2.0HP	2.2HP	2.5HP	3.0HP	3.2HP	3.6HP	4.0HP	4.5HP	5.0HP	5.5HP
Controller			Remote Controller & Wired controller											

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.

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 hoiden installation mode, which can be equipped with appropriate air outlets to perfectly combine the air conditioning.

Specification

Model			CTVT-EDH 71BX	CTVT-EDH 80BX	CTVT-EDH 90BX	CTVT-EDH 100BX	CTVT-EDH 112BX	CTVT-EDH 140BX	CTVT-EDH 220BX	CTVT-EDH 280BX	CTVT-EDH 450BX	CTVT-EDH 560BX
Static pressure	Standard	Pa	100	100	100	100	100	130	200	200	200	200
	Range	Pa	50 ～ 130	50~130	50~130	50~130	50 ～ 130	50 ～ 130	100~300	100~300	100~300	100~300
Cooling capacity	Capacity	Btu/h (W)	24000 (7100)	27000 (8000)	30000 (9000)	34000 (10000)	38000 (11200)	48000 (14000)	75000 (22000)	95500 (28000)	153500 (45000)	191100 (56000)
	Input	W	280	280	420	420	420	420	1750	1750	2250	2250
Heating capacity	Capacity	Btu/h(W)	27000(8000)	30000(9000)	34000(10000)	38000(11200)	42000(12500)	55000(16000)	85300 (25000)	105772 (31000)	170600 (50000)	208132 (61000)
	Input	W	280	280	420	420	420	420	1750	1750	2250	2250
Noise	H/M/L	dB(A)	50/48/46	50/48/46	53/51/49	53/51/49	53/51/49	53/51/49	55/53/51	55/53/51	61/58/56	61/58/56
Design pressure		MPa	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/60Hz									
Indoor air circulation (Cooling/Heating)		L/S	350	350	517	517	561	639	1250	1250	2083	2083
		m^3/h	1260	1260	1860	1860	2020	2300	4500	4500	7500	7500
Connecting Pipe	Liquid	Inches	3/8''	3/8''	3/8''	3/8''	3/8''	3/8''	12.7mm	12.7mm	12.7mm	12.7mm
	Gas	Inches	5/8''	5/8''	5/8''	5/8''	5/8''	5/8''	22.2mm	22.2mm	28.6mm	28.6mm
Drainage Pipe		mm	25(ID20,OD25)						DN25			
Net dimensions	W x H x D	mm	850×380×590		1200×380×590				1366×758×470		1770×758×650	
Net weight		kg	49	49	58	58	58	58	120		220	
Packing dimensions	W x H x D	mm	1060×425×695		1410×435×695				1620×975×700		2010×975×910	
Gross weight		kg	55	55	64	64	64	64	145		245	
Loading Capacity			2.5HP	3.0HP	3.2HP	3.6HP	4.0HP	5.0HP	8.0HP	10.0HP	16.0HP	20.0HP
Controller			Remote Controller & Wired controller									

Notes: 1. Specifications are based on the following conditions:
2. Cooling: Indoor temperature 27°C DB/19°C WB,and outdoor temperature 35°C DB/24°C WB.
3. Heating: Indoor temperature 20°C DB/15°C WB,and outdoor temperature 7°C DB/6°C WB.
4. Equivalent piping length:5m; Level difference:0m; Voltage:230V.
5. Sound Level: Indoor unit sound pressure level,measured at a point 1.5m downward from the unit center.
6. Outdoor unit sound pressure level,measured at a point 1.0m in front of the unit.
7. Optional simple wired controller; Universal remote controller; auto-restart(optional); Timer:only one circle.
8. Due to ongoing product development, specifications are subject to change without notice.

Wall mounted

Recommended places

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

Technical characteristics

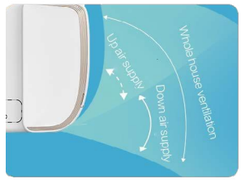
Ultra-low silent operation
Adopt large-diameter blade, high-quality plastic-encapsulated motor, and the noise is as low as 27dB(A).

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 heathy, reduces the difficulty of maintenance.

Wide-angle air supply, more comfortable
The upper and lower wind guide vanes make the airflow comfortable.

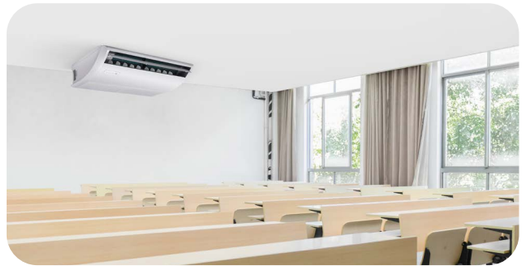


Specification

Model			CTVT-EHW 22BX	CTVT-EHW 28BX	CTVT-EHW 36BX	CTVT-EHW 45BX	CTVT-EHW 50BX	CTVT-EHW 56BX	CTVT-EHW 71BX	CTVT-EHW 80BX
Cooling capacity	Capacity	Btu/h(W)	7500(2200)	10000(2800)	12000(3600)	15000(4500)	17000(5000)	19000(5600)	24000(7100)	27000(8000)
	Input	W	40	40	40	45	45	70	70	70
Heating capacity	Capacity	Btu/h(W)	9000(2500)	11000(3200)	14000(4000)	17000(5000)	19000(5600)	21000(6300)	27000(8000)	30000(9000)
	Input	W	40	40	40	45	45	70	70	70
Noise	H/M/L	dB(A)	38/33/27	38/33/27	38/33/27	42/37/33	42/37/33	44/39/35	44/39/35	44/39/35
Design pressure		MPa	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Power supply			220-240V~/50Hz 208-230V~/60Hz	220-240V~/50Hz 208-230V~/60Hz	220-240V~/50Hz 208-230V~/60Hz	220-240V~/50Hz 208-230V~/60Hz	220-240V~/50Hz 208-230V~/60Hz	220-240V~/50Hz 208-230V~/60Hz	220-240V~/50Hz 208-230V~/60Hz	220-240V~/50Hz 208-230V~/60Hz
Indoor air circulation(Cooling/Heating)		L/S	153	153	153	181	181	222	222	222
		m^3/h	550	550	550	650	650	800	800	800
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	16
Net dimensions	(W x H x D)	mm	910×294×206	910×294×206	910×294×206	910×294×206	910×294×206	1010×315×220	1010×315×220	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	977×367×276	977×367×276	977×367×276	977×367×276	1094×386×300	1094×386×300	1094×386×300
Gross weight		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
Controller			Remote Controller & Wired controller							

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.

Celilling & 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.

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

Dual Direction of Drainage
Condensing water can be drained both from left and right side.

Detachable Plastic Blowers
Universal desig ned parts and assemblies applied,which is easy for maintenance.

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

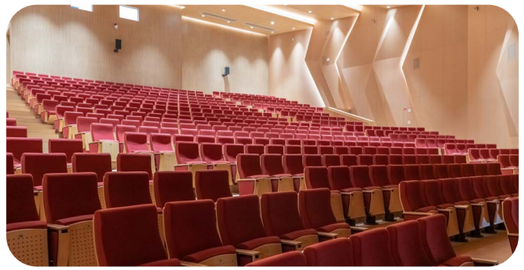
Wire Control （optional）
Wire control is available,especially for hotel rooms, offices,etc.

Specification

Model			CTVT -EFC 45BX	CTVT -EFC 50BX	CTVT -EFC 56BX	CTVT -EFC 63BX	CTVT -EFC 71BX	CTVT -EFC 80BX	CTVT -EFC 90BX	CTVT-EFC100 BX	CTVT-EFC112 BX	CTVT-EFC125 BX	CTVT-EFC140 BX
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 (Cooling/Heating)		L/S	267	267	267	333	333	333	444	444	556	556	556
		m^3/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	
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°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.

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 indoorsshould be 50%~100% of the ODU capacity， and the capacity of the fresh air units does not exceed 30%.

Specification

Model			CTVT-EFA155BX	CTVT-EFA280BX	CTVT-EFA450BX	CTVT-EFA560BX
Static pressure	Standard	Pa	196	200	300	300
Cooling capacity	Capacity	Btu/h(W)	48000(14000)	95500(28000)	153000(45000)	191000(56000)
	Input	W	420	1100	1550	2250
Heating capacity	Capacity	Btu/h(W)	34000(10000)	68000(20000)	95500(28000)	133000(39000)
	Input	W	420	1100	1550	2250
Noise	H/M/L	dB(A)	45	53	56	60
Design pressure		MPa	4.1	4.1	4.1	4.1
Power supply			220-240V~/50Hz/60Hz			
Indoor air circulation (Cooling/Heating)		L/S	569	833	1111	1667
		m^3/h	2050	3000	4000	6000
Connecting Pipe	Liquid	Inches	3/8''	1/2''	1/2''	1/2''
	Gas	Inches	5/8''	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	1770×650×758	1770×650×758
Net weight		kg	58	120	220	220
Packing dimensions	W x H x D	mm	1410×435×695	1620×930×975	2035×1170×975	2035×1170×975
Gross weight		kg	60	145	245	245
Loading Capacity			5HP	10HP	15HP	20HP
Controller			Remote Controller & Wired controller			

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

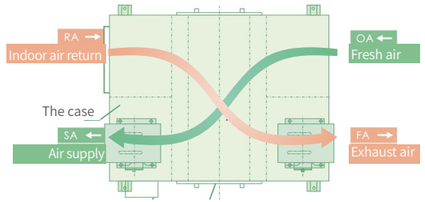
Recommended places

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

Technical characteristics

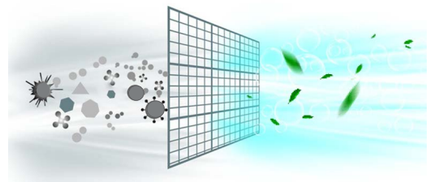
Healthy Fresh Air

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



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.



Big air volume and low energy consumption

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

Easy Maintenance

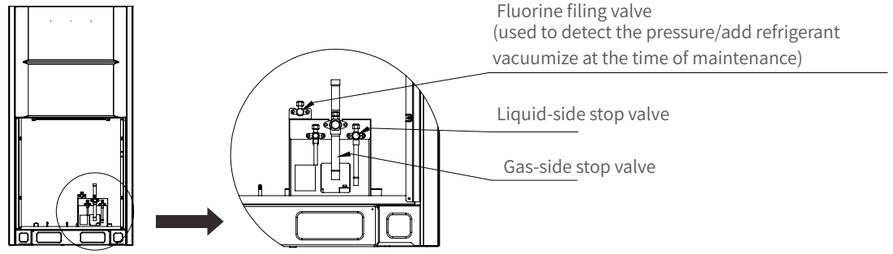
The filter chip can be repaired by opening the access door, which is simple and efficient.

Specification

Model	Air volume (m^3/h)	ESP(Pa)	Power supply	Motor power input		Summer		Winter		Air volume range (m^3/h)	Noise dB(A)	Dimension WXDXH(mm)
				input(KW)	Qty.(Pers)	T.E.(%)	E.E.(%)	T.E.(%)	E.E.(%)			
CTVT-2Q-D	200	75	220V ~1N 50Hz	0.05	2	70	60	70	63	150~200	42	850×900×400
CTVT-3Q-D	300	75		0.065	2	70	62	70	65	200~300	42	850×900×400
CTVT-4Q-D	400	75		0.1	2	70	62	70	65	350~400	44	850×900×400
CTVT-5Q-D	500	75		0.12	2	70	62	70	65	450~500	46	850×900×400
CTVT-6Q-D	600	75		0.15	2	70	63	70	67	500~600	46	850×900×400
CTVT-8Q-D	800	80	380V ~3N 50Hz	0.18	2	70	60	70	63	700~800	52	1040×1200×500
CTVT-10Q-D	1000	80		0.18	2	70	60	70	64	900~1000	52	1040×1200×500
CTVT-15Q-D	1500	120		0.25	2	70	62	70	67	1000~1500	55	1200×1200×500
CTVT-20Q-D	2000	220		0.32	2	70	62	70	69	1600~2000	57	1200×1200×500
CTVT-25Q-D	2500	200		0.45	2	70	62	70	67	2100~2500	57	1300×1500×600
CTVT-30Q-D	3000	200		0.55	2	70	61	70	65	2600~3000	57	1400×1600×620
CTVT-40Q-D/S	4000	200		0.8	2	70	62	70	69	3100~4000	58	1600×1700×700
CTVT-50Q-D/S	5000	210		1.1	2	70	61	70	64	4100~5000	60	1600×1700×700
CTVT-60Q-D/S	6000	320		1.8	2	70	60	70	62	5100~6000	61	1700×1400×1600
CTVT-80Q-D/S	8000	500		2.2	2	70	64	70	69	7100~8000	64	2000×1600×1800
CTVT-100Q-D/S	10000	480		3.0	2	70	63	70	69	9100~10000	66	2200×1600×1800
CTVT-120Q-D/S	12000	580		4.0	2	70	64	70	67	11000~12000	68	2500×1600×1900
CTVT-160Q-D/S	16000	500		5.5	2	70	64	70	67	15000~16000	68	2800×1800×2000

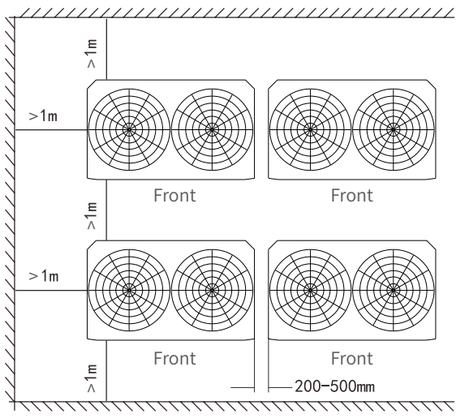
Note: The above data is the test value of standard refrigeration condition, and the inlet and outlet air value is 1:1.

Location of refrigerant pipes

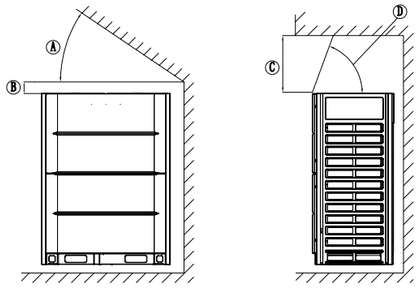


Installation space for ODU

- 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.

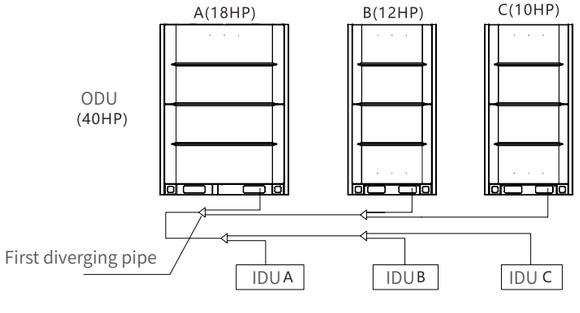


Ⓐ More than 45°
Ⓑ More than 300mm
Ⓒ More than 1000mm
Ⓓ Guide plate

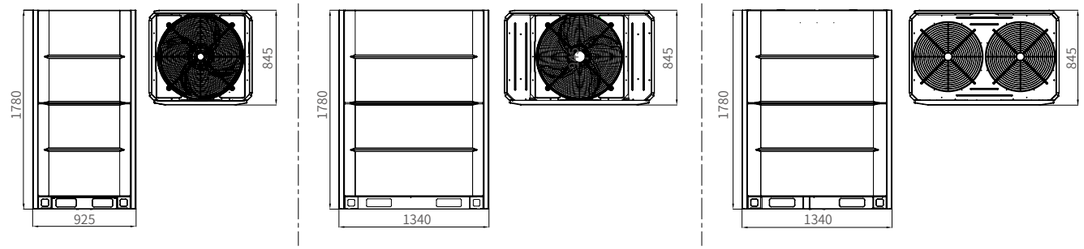
- If there are stacks around the outdoor unit, the height should be less than 800mm from the top of the outdoor unit. If it is less than the size,a mechanical exhaust device must be installed.

Arrangement sequence of ODU

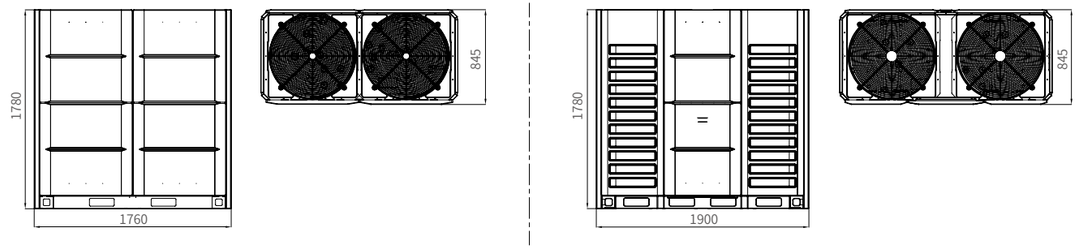
- When a system has more than two outdoor units, it is necessary to install the units as the followings:
The outdoor units are arranged in descending order(for example, in the right picture, ODU capacity A ⩾ ODU capacity B ⩾ ODU capacity C) and the ODU A should install at the brance pipe.



Dimension of ODU



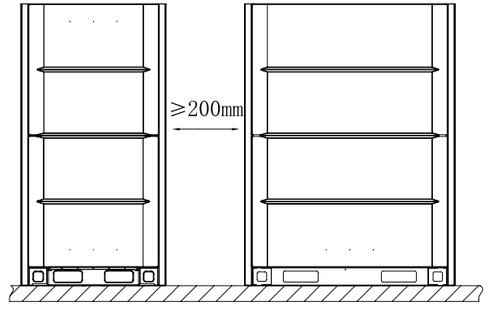
CTVT-CHT252(280/335)DX
CTVT-CHT400(450/504)DX
CTVT-CHT560(615/680)DX

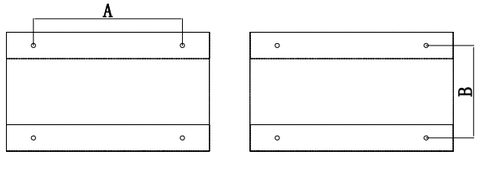


CTVT-CHT730(785/850/900)DX
CTVT-CHT950(1000)DX

Requirements for ODU installation

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





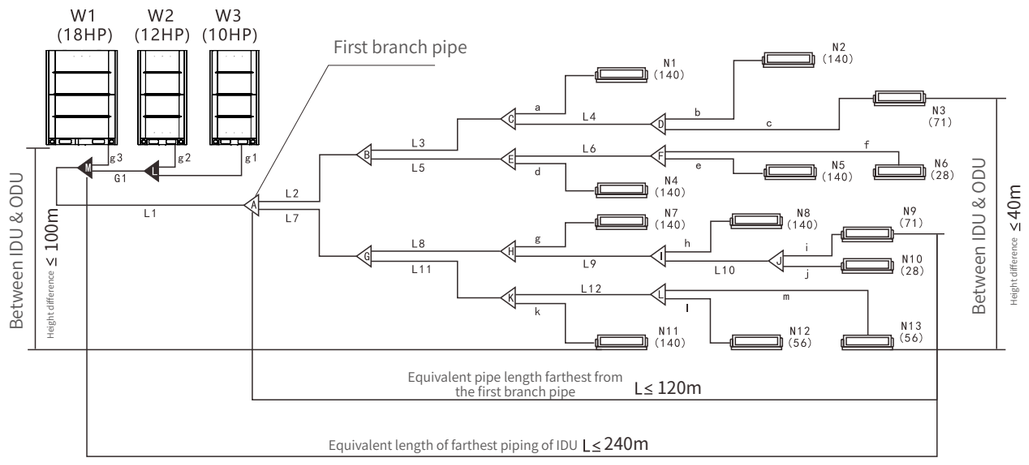
Model	A	B
CTVT-CHT252(280/335)DX	724	725
CTVT-CHT400(450/504)DX	1141	725
CTVT-CHT560(615/680)DX	1141	725
CTVT-CHT730(785/850/900)DX	1561	725
CTVT-CHT950(1000)DX	1700	725

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)×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

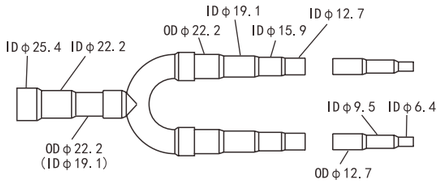


Branch pipe specifications

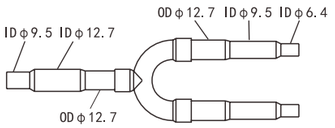
Assembly	Include parts	Assembly	Include parts
CTVT-BY01 Branch pipe parts	G01、L01	CTVT-BY05 Branch pipe parts	G04、L03
CTVT-BY02 Branch pipe parts	G02、L01	CTVT-BY06 Branch pipe parts	L01、L01
CTVT-BY03 Branch pipe parts	G02、L02	CTVT-BY07 Branch pipe parts	L01、L02
CTVT-BY04 Branch pipe parts	G03、L02	CTVT-BY08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

Branch pipe specifications

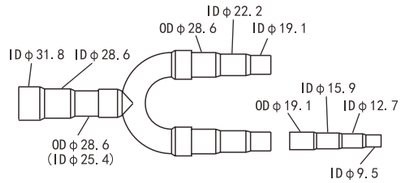
G01：（φ25.4−φ19.1）——2×（φ22.2−φ6.4）



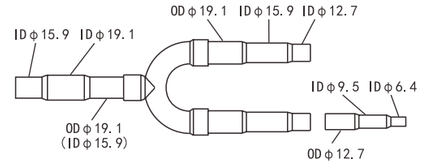
L01：（φ9.5−φ12.7）——2×（φ12.7−φ6.4）



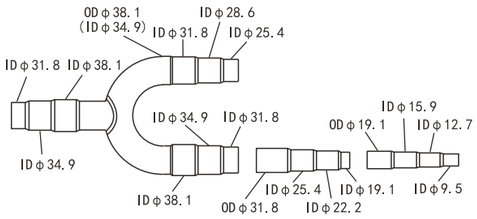
G02：（φ31.8−φ25.4）——
（φ28.6−φ19.1）+（φ28.6−φ9.5）



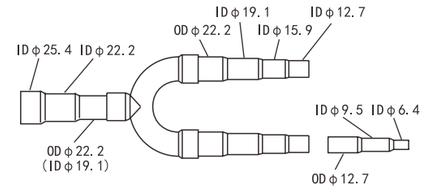
L02：（φ15.9−φ19.1）——
（φ19.1−φ12.7）+（φ19.1−φ6.4）



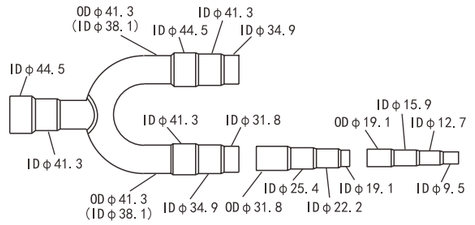
G03：（φ31.8−φ38.1）——
（φ34.9−φ25.4）+（φ38.1−φ9.5）



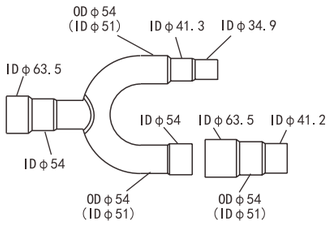
L03：（φ19.1−φ25.4）——
（φ22.2−φ12.7）+（φ22.2−φ6.4）



G04：（φ41.3−φ44.5）——
（φ44.5−φ34.9）+（φ41.3−φ9.5）



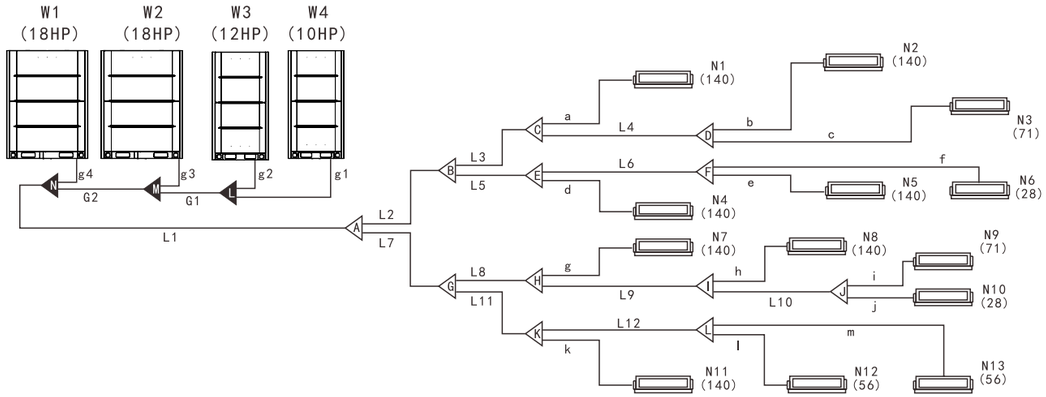
G05：（φ54−φ63.5）——
（φ41.3−φ34.9）+（φ63.5−φ41.3）



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	CTVT-BY06(L01/L01)	63 ⩽ A ＜ 168	ϕ15.9/ϕ9.52	BY07(L02/L01)
168 ⩽ A ＜ 224	ϕ19.1/ϕ9.5	CTVT-BY07(L02/L01)	224 ⩽ A ＜ 330	ϕ22.2/ϕ12.7	BY01(G01/L01)
330 ⩽ A ＜ 470	ϕ25.4/ϕ12.7	CTVT-BY01(G01/L01)	470 ⩽ A ＜ 710	ϕ28.6/ϕ15.9	BY03(G02/L02)
710 ⩽ A ＜ 1040	ϕ31.8/ϕ19.1	CTVT-BY03(G02/L02)	1040 ⩽ A ＜ 1540	ϕ38.1/ϕ19.1	BY04(G03/L02)
1540 ⩽ A ＜ 1800	ϕ41.2/ϕ22.2	CTVT-BY05(G04/L02)	1800 ⩽ A ＜ 2500	ϕ44.5/ϕ25.4	BY05(G04/L03)
2500 ⩽ A	ϕ54.0/ϕ28.6	CTVT-BY08(G05/G02)			

Diameter of outer connecting pipe

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

Model	Gas	Liquid
CTVT-CHT252(280/335/400)DX	ϕ25.4（welding）	ϕ12.7（welding）
CTVT-CHT450(504/560/615/680)DX	ϕ28.6（welding）	ϕ15.8（welding）
CTVT-CHT730(785/850/900/)DX	ϕ31.8（welding）	ϕ19.1（welding）
CTVT-CHT950(1000)DX	ϕ34.9（welding）	ϕ19.1（welding）

ODU Main pipe and branch pipes

Capacity of Outdoor unit	Main equivalent length of all piping less than 90m		Main equivalent pipe length more than 90m	
	Gas pipe/Liquid pipe	First branch of indoor unit (Gas side/liquid side)	Gas pipe/liquide pipe	First branch of indoor unit (Gas side/Liquid side)
8 ～ 12HP	ϕ25.4/ϕ12.7	CTVT-BY01 Prats (G01/L01)	ϕ28.6/ϕ12.7	CTCT-BY02 Prats (G02/L01)
14 ～ 16HP	ϕ28.6/ϕ12.7	CTVT-BY02 Prats (G02/L01)	ϕ28.6/ϕ15.9	CTVT-BY03 Prats (G02/L02)
18 ～ 24HP	ϕ28.6/ϕ15.9	CTVT-BY03 Prats (G02/L02)	ϕ31.8/ϕ19.1	CTVT-BY03 Prats (G02/L02)
26 ～ 32HP	ϕ31.8/ϕ19.1	CTVT-BY03 Prats (G02/L02)	ϕ34.9/ϕ19.1	CTVT-BY04 Prats (G03/L02)
34 ～ 36HP	ϕ34.9/ϕ19.1	CTVT-BY04 Prats (G03/L02)	ϕ38.1/ϕ22.2	CTVT-BY04 Prats (G03/L02)
38 ～ 42HP	ϕ34.9/ϕ19.1	CTVT-BY04 Prats (G03/L02)	ϕ38.1/ϕ22.2	CTVT-BY04 Prats (G03/L02)
44 ～ 48HP	ϕ38.1/ϕ19.1	CTVT-BY04 Prats (G03/L02)	ϕ41.2/ϕ22.2	CTVT-BY05 Prats (G04/L03)
50 ～ 54HP	ϕ38.1/ϕ19.1	CTVT-BY04 Prats (G03/L02)	ϕ41.2/ϕ22.2	CTVT-BY05 Prats (G04/L03)
56 ～ 66HP	ϕ41.2/ϕ22.2	CTVT-BY05 Prats (G04/L03)	ϕ44.5/ϕ22.2	CTVT-BY05 Prats (G04/L03)
68 ～ 72HP	ϕ41.2/ϕ22.2	CTVT-BY05 Prats (G04/L03)	ϕ44.5/ϕ25.4	CTVT-BY05 Prats (G04/L03)
74 ～ 84HP	ϕ44.5/ϕ22.2	CTVT-BY05 Prats (G04/L03)	ϕ50.8/ϕ25.4	CTVT-BY08 Prats (G05/G02)
86 ～ 96HP	ϕ50.8/ϕ25.4	CTVT-BY08 Prats (G05/G02)	ϕ54.0/ϕ28.6	CTVT-BY08 Prats (G05/G02)
98 ～ 108HP	ϕ54.0/ϕ28.6	CTVT-BY08 Prats (G05/G02)	ϕ63.0/ϕ28.6	CTVT-BY08 Prats (G05/G02)

Remark:

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

Electrical system and installation

Electrical wiring precautions

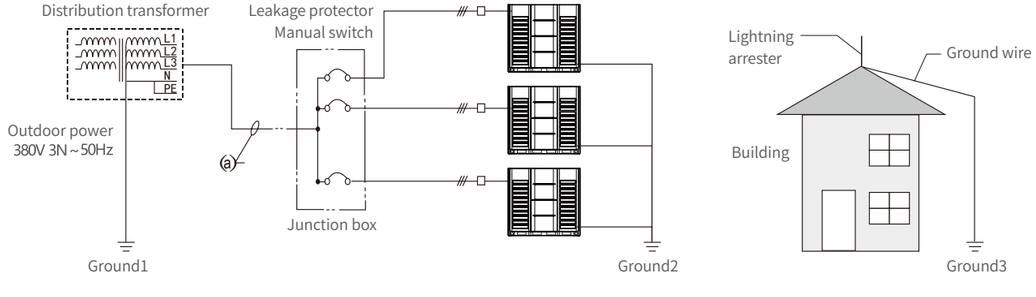
- Please design the dedicated power supply for IDU and ODU separately.
- The power supply should be equipped with a leakage protector and a manual switch.
- The power supply, leakage protector and manual switch of the IDU connected to the same ODU are required to be universal. (Please use the same circuit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

ODU power wiring

Model	Power supply	Minimum wire diameter current (A)	Copper core PVC insulated wire BVV(mm^2)	Copper core XLPE insulated wire YJV(mm^2)	Manual switch (A) capacity	Leakage protector
CTVT-CHT250DX	380V 3N ～ 50Hz	19.5	4.0X5	4.0X5	32	
CTVT-CHT280DX	380V 3N ～ 50Hz	21.6	4.0X5	4.0X5	32	
CTVT-CHT330DX	380V 3N ～ 50Hz	24.9	6.0X5	4.0X5	32	
CTVT-CHT400DX	380V 3N ～ 50Hz	26.5	6.0X5	4.0X5	32	
CTVT-CHT450DX	380V 3N ～ 50Hz	32.2	10.0X5	6.0X5	40	
CTVT-CHT500DX	380V 3N ～ 50Hz	34.0	10.0X5	6.0X5	40	
CTVT-CHT560DX	380V 3N ～ 50Hz	41.8	16.0X5	10.0X5	50	
CTVT-CHT615DX	380V 3N ～ 50Hz	42.9	16.0X5	10.0X5	50	< 100mA 0.1sec
CTVT-CHT680DX	380V 3N ～ 50Hz	45.5	16.0X5	10.0X5	50	
CTVT-CHT730DX	380V 3N ～ 50Hz	46.0	16.0X5	10.0X5	50	
CTVT-CHT785DX	380V 3N ～ 50Hz	48.0	16.0X5	10.0X5	50	
CTVT-CHT850DX	380V 3N ～ 50Hz	56.8	25.0X3+16.0X2	16.0X5	63	
CTVT-CHT900DX	380V 3N ～ 50Hz	57.0	25.0X3+16.0X2	16.0X5	63	
CTVT-CHT950DX	380V 3N ～ 50Hz	63.8	25.0X3+16.0X2	16.0X5	80	
CTVT-CHT1000DX	380V 3N ～ 50Hz	64.0	25.0X3+16.0X2	16.0X5	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.

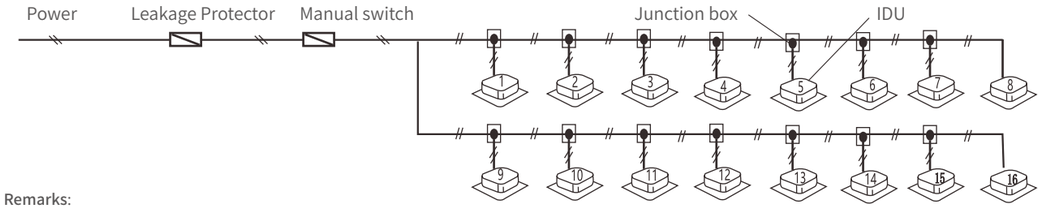
ODU power connection



IDU power wiring

Model		Power supply	Minimum wire diameter(mm^2)			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.v

IDU and ODU signal line wiring

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