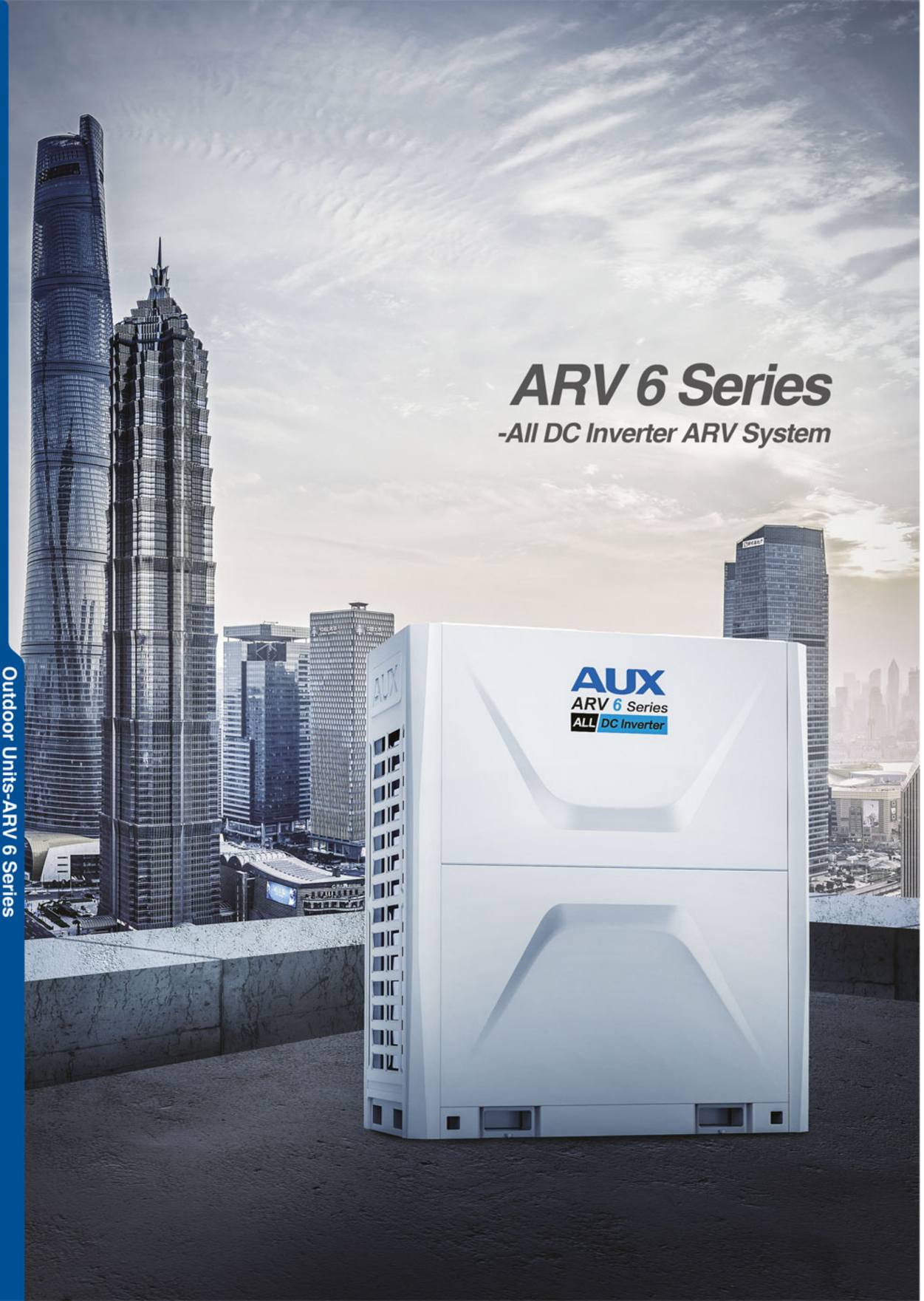


Outdoor Units

ARV 6 Series

VER Technology

Variable Energy-efficiency Regulation

Evaporating and condensing temperature makes strong effect to the cooling and heating performance and energy-efficiency ratio of AC system.

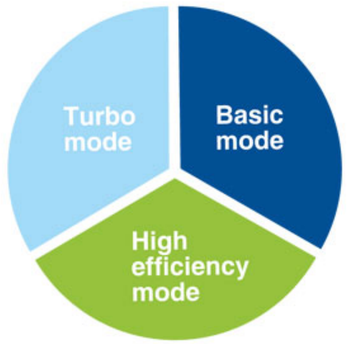
Thanks to VER technology, ARV6 series has various modes with different refrigerant temperature which lead the system to different performance and energy-efficiency ratio.

Cooling: 3 modes with different evaporating temperature.
Heating: 3 modes with different condensing temperature.

Turbo mode
High cooling and heating performance, cool down or warm up the room rapidly.

Basic mode
Default mode, balance the reaction speed and efficiency.

High efficiency mode
Satisfy the lowest capacity requirement and low the energy consumption.



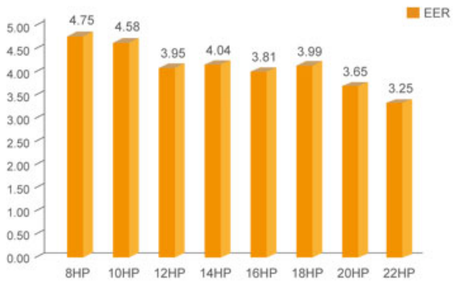
Users can choose a certain mode according to the actual need in different area and climate, so that the system can satisfy various requirement, and the seasonal efficiency can be optimized.

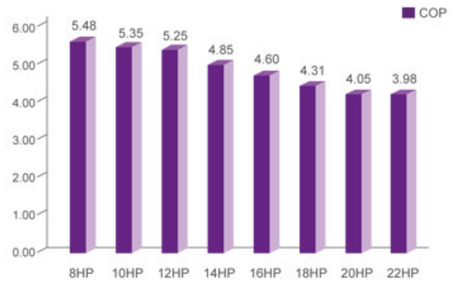
High Efficiency and Energy Saving

High EER And COP

ARV 6 Series achieves the industry's top class energy efficiency in cooling and heating by utilizing all DC inverter compressors, and Enhanced vapor injection.

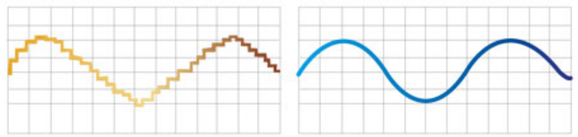
The cooling EER is up to 4.75 and the heating COP is up to 5.48 in the 8HP category.





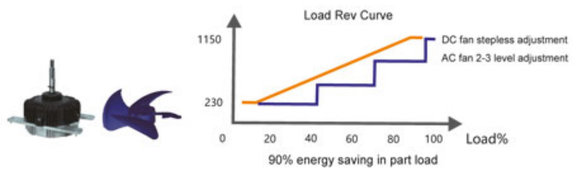
180° Sine Wave Control

DC inverter compressor users 180° sine wave vector control technique makes motor operate smooth and increases the efficiency. significantly compared with traditional sawtooth wave. It also can lower the noise level.



DC Brushless Fan Motor

DC brushless motor adjusts the fan speed according to the system pressure,and running load to enhance the efficiency by 45%. The super aero fan provides a larger air volume and higher static pressure.



Enhanced Vapor Injection DC Inverter Compressor

EVI-Enhanced vapor injection

Heating condition, reducing the outlet temperature, increasing the compressor capacity, improving the heating performance.

Optimize the asymmetric vortex design

Heating condition, reducing the outlet temperature, increasing the compressor capacity, improving the heating performance.

Dynamic oil balance structure

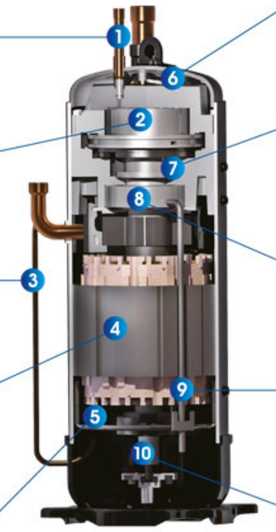
Oil balance tube implementation parallel compressor and oil quantity dynamic equilibrium, ensuring the reliability of several parallel compressors.

High efficiency motor configuration

Using high quality material concentrated stator, cooperate with neodymium magnet rotor, having outstanding efficiency.

High pressure cavity structure

Large exhaust buffer volume,reducing the air flow noise and vibration of the runtime.



Pressure relief valve structure

Improving the partial load efficiency, adapt to thetransformer ratio working condition, improving the compressor performance.

The intermediate pressure servo mechanism

According to the operation pressure among dynamic adjusting middle pressure, has realized the axial flexible, optimization of dynamic vortex disk meshing, improve product performance.

High reliability of the bearing

Adopt cylinder bearing and self-aligning ball bearing bearing group, improving the reliability of the compressor.

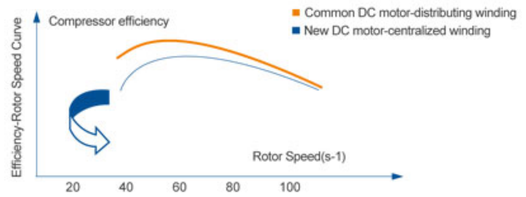
Internal oil circulation structure

Lubricating oil to achieve internal circulation, reducing heat loss, decreasing the rate of spitting oil, improve the efficiency and reliability.

Positive displacement gear oil pump

Positive displacement gear oil pump to ensure the high and low frequency can satisfy the oil supply, improving the reliability of the compressor.

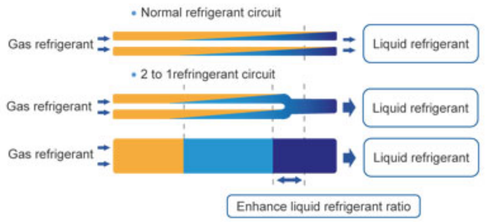
High-efficient permanent magnetic motors are installed, giving better performance than traditional DC inverter compressors.



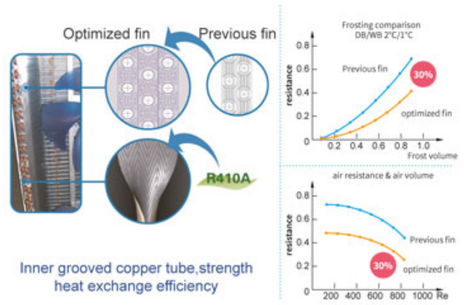
Powerful magnets provide high torque and efficiency and achieve 70% reduction in volume.

High Efficient Heat Exchanger

Optimized 2 to 1 refrigerant circuit design，increase the heat exchanging efficiency and enhance the ratio of liquid which flow to the evaporator.



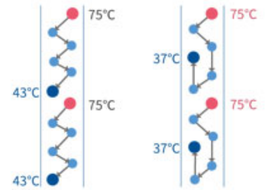
Optimized fin design, reduces the water resistance and the wind resistance.



Inner grooved copper tube,strength heat exchange efficiency

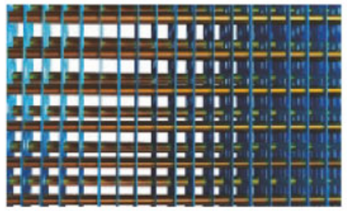
2-stage Sub-cooling Technology

The first stage sub-cooling process due to optimized refrigerant circuit and "Inverse fin type" window fin design.



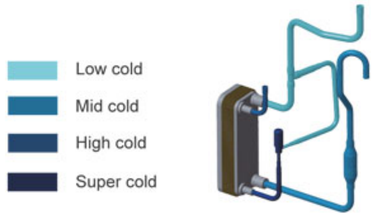
Normal condenser ambient 35°C

e-pass condenser ambient 35°C



"Inverse fin type" window fin design

The second stage sub-cooling process by a high efficiency plate heat exchanger with a sub-cooling EXV.



4-times Anticipation Energy-saving Control Technology

Module anticipation energy-saving control technology

In partial load, intelligent judgment single operation and the efficiency of the module keep the minimum power consumption.

Compressor anticipation energy-saving adjustment technology

Control compressors quantity and operating frequency, to get higher energy efficiency ratio in partial load.

Fan anticipation energy-saving adjustment technology

Control running quantity and operating frequency, obtain higher energy efficiency ratio under partial load.

Refrigerant anticipation energy-saving technology adjustment

Adjust the opening of the electronic expansion valve, to improve the effect of condenser heat transfer, to get higher energy efficiency ratio under partial load.

Wide Application Range

Large Capacity&Free Combination

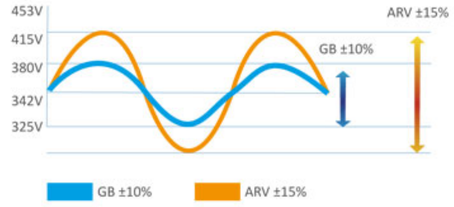
8 basic models from 8HP to 22HP.
Maximum combination: 88HP(246kW), top level in industry.
Less quantity of system, space saving, easy installation and low cost.

Wide Operation Range

No matter in hot summer or cold winter, ARV6 can supply comfortable environment for users.

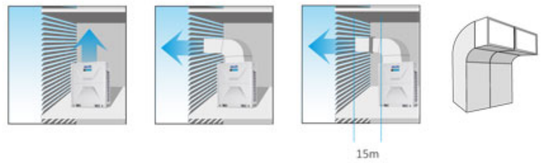
Wide Voltage Design

In Country with unstable voltage, ARV system still could run stably.



Changeable ESP

Optimized fan provide outdoor unit up to 80Pa static pressure. Outdoor units can be installed in the service floor or facility room.

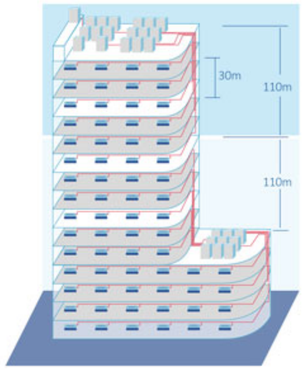


Long Piping Length

Thanks to the DC inverter control technology and sub-cooling circuit technology ,it is possible to design a system with longer piping and elevation difference which make it easier to design and installation.

Max. Total piping length — 1000m
Max.piping length between ODU and farthest IDU — 200m
Max. piping length from 1st indoor branch to the farthest indoor unit — 40m/90m*
Max. Level difference between indoor units — 30m
Max. Level difference between ODU and IDU units — 110m

*The longest length after first branch is 40m as standard can be extended to up to 90m under certain conditions.Please contact your local dealer for further information.

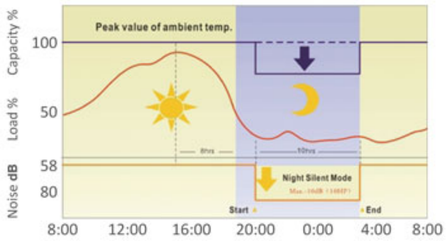


Comfortable And Healthy Environment

Silence Operation

Outdoor Unit Quiet Mode

By using optimized fan blades and the CFD(computation-al Fluid Dynamics) technology, the product is equipped with the night low-noise operation function. Provide more quiet operation during the night. Minimum operation noise only 45dB(A)



Indoor Unit Quiet Mode

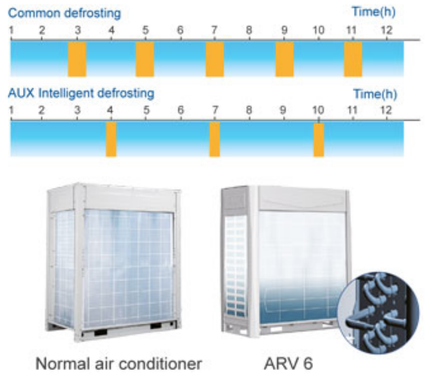
Innovative centrifugal fan for large diameter and a new design of the spiral duct system equipped with high-quality motor at the same time, making the air supply more quietly and smoothly.

Intelligent Defrosting

Variable parameters defrost through temperature and pressure sensors, to grasp time accurately which can defrost or heat normally.

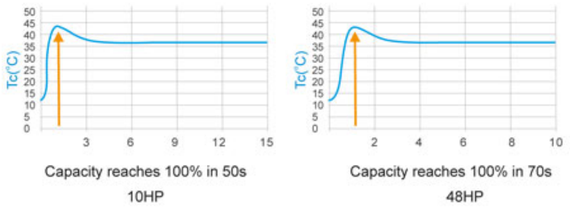
Base on the main unit and at the end of the EXV control the output, fast bolt in liquid refrigerant system, unit operation is more stable; Through the dry run, defrosting exhaust temperature higher, more complete, more conventional. The defrosting time less 3 min than others at least.

Refrigerant pipeline design to ensure outdoor heat exchanger bottom no frost during heating and ice water mixture discharge smoothly when defrosting.



Fast Warm Up And Cool Down

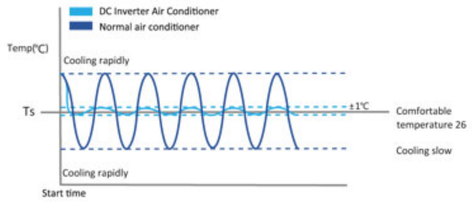
The DC Inverter Compressor system reaches full load rapidly providing less temperature fluctuation and an improved living environment, bring great user experience.

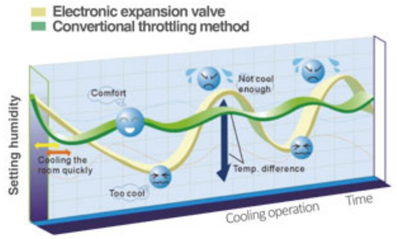


Precise Temperature Control

AUX composite temperature control technology, through the indoor/outdoor operation condition detection, adjust outdoor power output, optimize the indoor air distribution, achieve the high precision adjustment of 1°C.

The unit uses PI calculation principle to calculate the percentage of indoor capacity demand according to indoor temperature fluctuations, to perform real-time control to the compressor operating frequency and through the double EXV adjustment, precision up to level 1000, accurately control the refrigerant flow, assure indoor comfort.

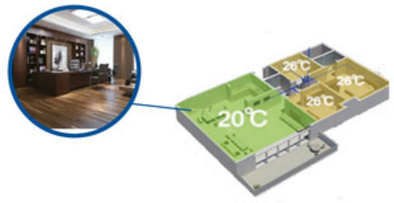




Humanization Design

VIP Function

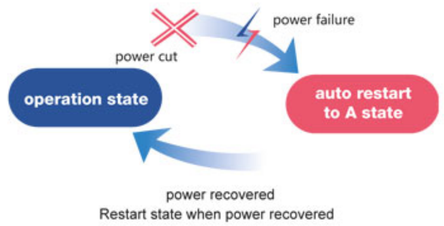
Special VIP control function, the VIP room will decide the whole system operation mode, prior to other mode or economic locking function, ensure the priority of the important room.



Auto Restart Function

The AC can automatically memorize the operation setting when power is cut off accidently. It can return to previous setting when power resumes.

Recover the former operation state when power is restored , no need restart the unit manually



Economic Locking Function

Special design economic locking function, through outdoor PCB switch setting. If work in economic lock, AC lowest work cooling temperature will keep in 26°C and highest heating temperature keep 20°C.

Easy Installation & Maintenance

Saving Installation Space

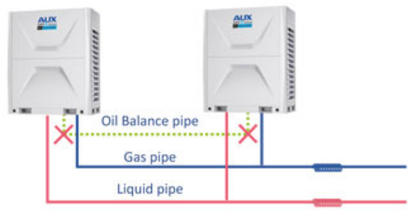
Less quantity of system, space saving, easy installation and low cost.

22HP: Required Space Reduced by 44%

88HP: Required Space Reduced by 36%

No Oil Balance Pipe Between ODUS

High efficient oil/gas separating tech,make the system oil balance between compressors without oil balance pipe.

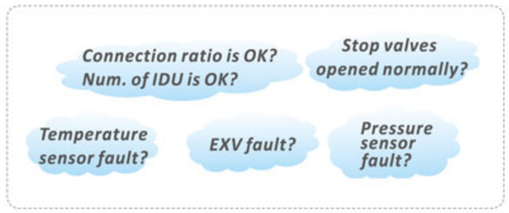


Non-Polar Communication

Non-polar communication between IDUs ,easy installation and commissioning.

Auto Commissioning

When commissioning, the outdoor mainboard can check the operation state and show the corresponding error code in engineering mode.
Find out the faults when commissioning, enhance the reliability of the system.



Auto Refrigerant Recycling &Auto Refrigerant Charging

Refrigerant can be recycled to the outdoor units when maintenance is need.
The outdoor unit can adjust the refrigerant amount according to the operation parameters such as pressure and temperature, and remind the installation personnel to stop charging.

One Button Test Run

Press the button lightly once in the main PCB board of the master ODU, to realize the cooling and heating test run, don't need to open indoor machine one by one.

Auto Dust Removal &Auto Snow-Blowing

The outdoor fan can rotate in reverse direction to remove dust on heat exchanger to ensure the heat exchange performance.

Black BOX Function

Using aviation grade Black BOX technique, memorizing operation parameters before the failure, finding fault information quickly, as an accurate, efficient maintenance services to provide valuable information, maintenance more convenient.

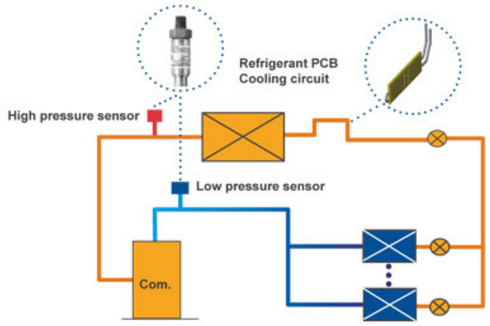
360° Pipe-connecting Mode

ARV- 6 series can be on the front, left side, right side to choose pipe-connecting direction freely, it's easy to install.

Reliable & Stable

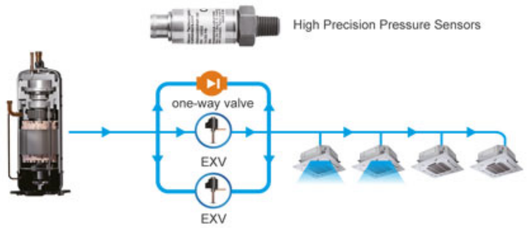
Refrigerant PCB Cooling System

The PCB is well cooled by the refrigerant, ensuring the system operate steadily even in tropical area.
Frequency limit of inverter compressor can be relaxed, so that the output capacity of ODU can be higher than conventional products.



Precise Refrigerant Control

Real-time monitoring the discharge and suction pressure of the system.
The output of compressors and the EXV open degree can be regulated precisely to optimize the compression ratio.
Ensuring the compression ratio always in safety zone.



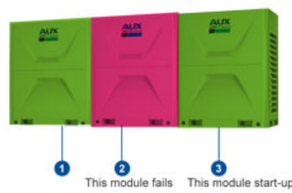
Module Alternate Operation

In one combination system,any module could run as the master unit according to the running time.Balance the life of the outdoor units in one system.

Back-Up Operation Technology

Module Emergency

As one module breaks down, module emergency can be set, then the rest modules in same combination can run normally.



Compressor Emergency

As one compressor breaks down, compressor emergency can be set, then another compressor in this unit can run normally.

All-round Protection

- High pressure protection
- Low pressure protection
- High compression ratio protection
- Low compression ratio protection
- High discharge temp. protection
- Low discharge temp. protection
- Voltage protection
- Current protection
- Fan motor protection
- Inverter module protection
- Compressor overload protection
- Phase sequence protection

Ground protection

Oil Return Control Technology

Dynamic Oil Return Control Technology

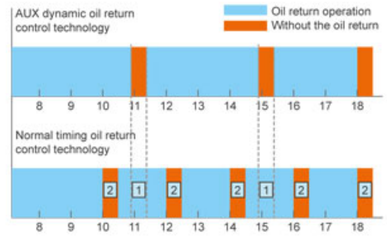
Monitor compressor running state and running time, computing system reasonable oil return time.

6-Step Oil Separating Technology

Completely solve the problem of oil, the system more stable and reliable

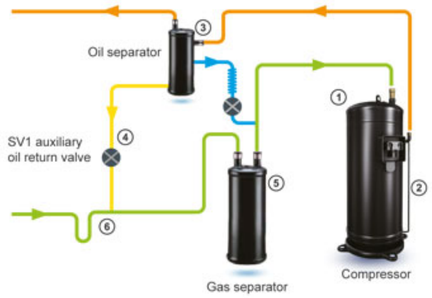
Compressor Throwing Oil Technology

When the compressor oil level higher than the warning line, system through tubing eliminate redundant frozen oil, keep the oil balance between compressor.

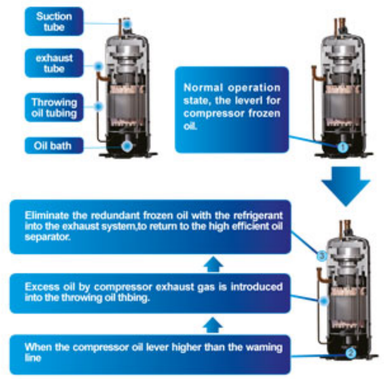


1 Need oil return but there was no oil return operation, which can't guarantee the system stability and reliability.

2 Without oil return operation is to carry on the oil return operation, which cause unnecessary waste.



① Compressor with oil mist separation
② Oil self balancing control design
③ High efficient oil separator
④ Emergency oil circuit design
⑤ Gas-liquid separator oil return
⑥ System with oil return design



ARV 6 Series

Flexible Outdoor Unit Combination									
kW	HP	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP
25.2	8	★							
28.0	10		★						
33.5	12			★					
40.0	14				★				
45.0	16					★			
50.4	18						★		
56.0	20							★	
61.5	22								★
67.0	24			★★					
73.0	26		★			★			
78.5	28			★		★			
84.0	30		★					★	
89.5	32		★						★
95.0	34			★					★
101.5	36				★				★
106.5	38					★			★
111.9	40						★		★
117.5	42							★	★
123.0	44								★★
128.5	46			★★					★
134.5	48		★			★			★
140.0	50			★		★			★
145.5	52		★					★	★
151.0	54		★						★★
156.5	56			★					★★
163.0	58				★				★★
168.0	60					★			★★
173.4	62						★		★★
179.0	64							★	★★
184.5	66								★★★
190.0	68			★★					★★
196.0	70		★			★			★★
201.5	72			★		★			★★
207.0	74		★					★	★★
212.5	76		★						★★★
218.0	78			★					★★★
224.5	80				★				★★★
229.5	82					★			★★★
234.9	84						★		★★★
240.5	86							★	★★★
246.0	88								★★★★

*The above combination types are factory-recommended type. The combined type also can be combined at will.

ARV 6 Series 380~415V-50/60Hz

HP			8	10	12	14
Model			ARV-H250/SR1MV	ARV-H280/SR1MV	ARV-H330/SR1MV	ARV-H400/SR1MV
Combination		HP	8	10	12	14
Capacity	Cooling	kW	25.2	28	33.5	40
	Heating	kW	25.2	28	33.5	40
Electric Data	Power supply	V~,Hz,Ph	380~415,3,50/60	380~415, 3, 50/60	380~415, 3, 50/60	380~415, 3, 50/60
	Cooling input	kW	5.31	6.11	8.48	9.90
	EER	W/W	4.75	4.58	3.95	4.04
	Heating input	kW	4.6	5.23	6.38	8.25
	COP	W/W	5.48	5.35	5.25	4.85
	SEER		6.7	6.5	7.2	6.5
	SCOP		4.2	4.0	4.2	4.3
Performance	Air Flow Volume	m^3/h	12000	12000	12000	14000
	Sound Pressure level	dB(A)	≤58	≤58	≤58	≤61
Compressor	Type		DC inverter	DC inverter	DC inverter	DC inverter
	Quantity		1	1	1	1
Fan motor	Type		DC motor	DC motor	DC motor	DC motor
	Quantity		1	1	1	2
Max. No. of Indoor Units		unit	13	16	20	23
Connection Ratio		%	50~200	50~200	50~200	50~200
Dimension (WxDxH)	Net	mm	990×765×1635	990×765×1635	990×765×1635	1340×765×1635
	Packing	mm	1030×825×1865	1030×825×1865	1030×825×1865	1395×815×1865
Weight	Net	kg	215	215	230	265
	Gross	kg	225	225	240	280
Pipe Diameter	Liquid Side	mm	12.7	12.7	12.7	15.88
	Gas Side	mm	22.2	22.2	22.2	28.6
Operation Range	Cooling	°C	-15~52	-15~52	-15~52	-15~52
	Heating	°C	-25~24	-25~24	-25~24	-25~24
Stuffing Quantity	20/40/40H	unit	14/28/28	14/28/28	14/28/28	11/22/22

ARV 6 Series 380~415V-50/60Hz

HP			16	18	20	22
Model			ARV-H450/SR1MV	ARV-H500/SR1MV	ARV-H560/SR1MV	ARV-H610/SR1MV
Combination		HP	16	18	20	22
Capacity	Cooling	kW	45	50.4	56	61.5
	Heating	kW	45	50.4	56	61.5
Electric Data	Power supply	V~,Hz,Ph	380~415, 3, 50/60	380~415, 3, 50/60	380~415, 3, 50/60	380~415, 3, 50/60
	Cooling input	kW	11.82	12.63	15.34	18.90
	EER	W/W	3.81	3.99	3.65	3.25
	Heating input	kW	9.78	11.69	13.83	15.44
	COP	W/W	4.60	4.31	4.05	3.98
	SEER		6.3	6.0	5.6	5.2
	SCOP		4.2	4.0	3.6	3.5
Performance	Air Flow Volume	m3/h	14000	16000	16000	16000
	Sound Pressure level	dB(A)	≤61	≤63	≤63	≤63
Compressor	Type		DC inverter	DC inverter	DC inverter	DC inverter
	Quantity		1	2	2	2
Fan motor	Type		DC motor	DC motor	DC motor	DC motor
	Quantity		2	2	2	2
Max. No. of Indoor Units		unit	26	30	33	36
Connection Ratio		%	50~200	50~200	50~200	50~200
Dimension (WxDxH)	Net	mm	1340×765×1635	1340×765×1635	1340×765×1635	1340×765×1635
	Packing	mm	1395×815×1865	1395×815×1865	1395×815×1865	1395×815×1865
Weight	Net	kg	265	330	330	330
	Gross	kg	280	345	345	345
Pipe Diameter	Liquid Side	mm	15.88	15.88	15.88	15.88
	Gas Side	mm	28.6	28.6	28.6	28.6
Operation Range	Cooling	℃	-15~52	-15~52	-15~52	-15~52
	Heating	℃	-25~24	-25~24	-25~24	-25~24
Stuffing Quantity	20/40/40H	unit	11/22/22	11/22/22	11/22/22	11/22/22

Notes:
1.Cooling Capacity: Indoor temperature 27°C DB/19°C WB; Outdoor temperature:35°C DB/ 24°C WB.
2.Heating Capacity: Indoor temperature 20°C DB; Outdoor temperature: 7°C DB/ 6°C WB.
3.Piping Length: Equivalent piping length: 7.5m, level difference: 0m.
4.We can guarantee the operation only within 130% Combination. If you want to connect more than 130% combination, please contact us and discuss the requirement.
5.Anechoic chamber conversion value, measured in test room. During actual operation.These values are normally somewhat higher as a result of ambient conditions.
6.The above designs and specifications are subject to change without prior notice. Final specifications please refer to technical specification provided by sales representative.
7.Sound values are measured in a semi-anechoic room, at a position 1m in front of the unit and 1.3m above the floor.
8.The above combined types are factory-recommended type. The combined type also can be combined at will.