Technology leads Intelligent life

Technical Data Manual

ARV Outdoor Unit

ARV 6 All DC Inverter T1

ARV-H250/SR1MV

ARV-H280/SR1MV

ARV-H330/SR1MV

ARV-H400/SR1MV

ARV-H450/SR1MV

ARV-H500/SR1MV

ARV-H560/SR1MV

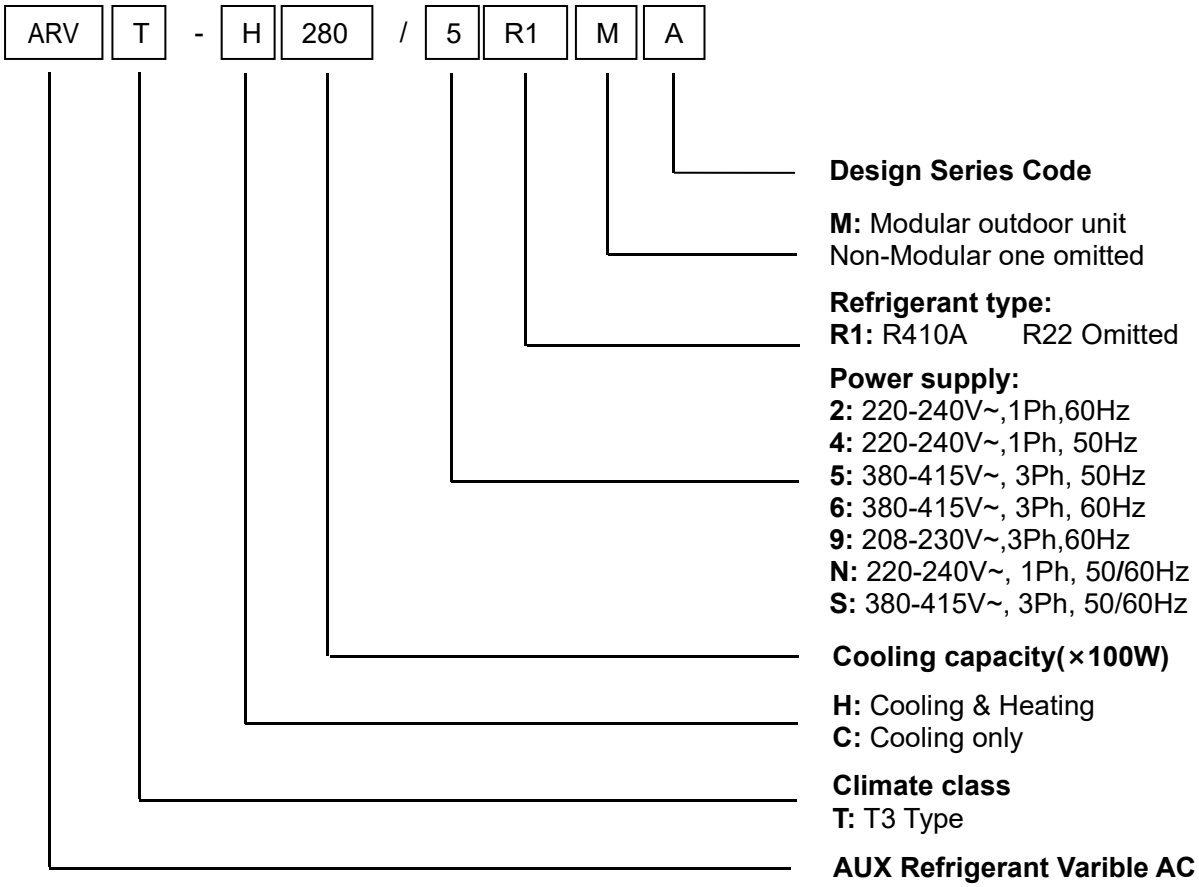
ARV-H610/SR1MV

2018.8

CONTENT

Part1 General Information

1. Nomenclatures

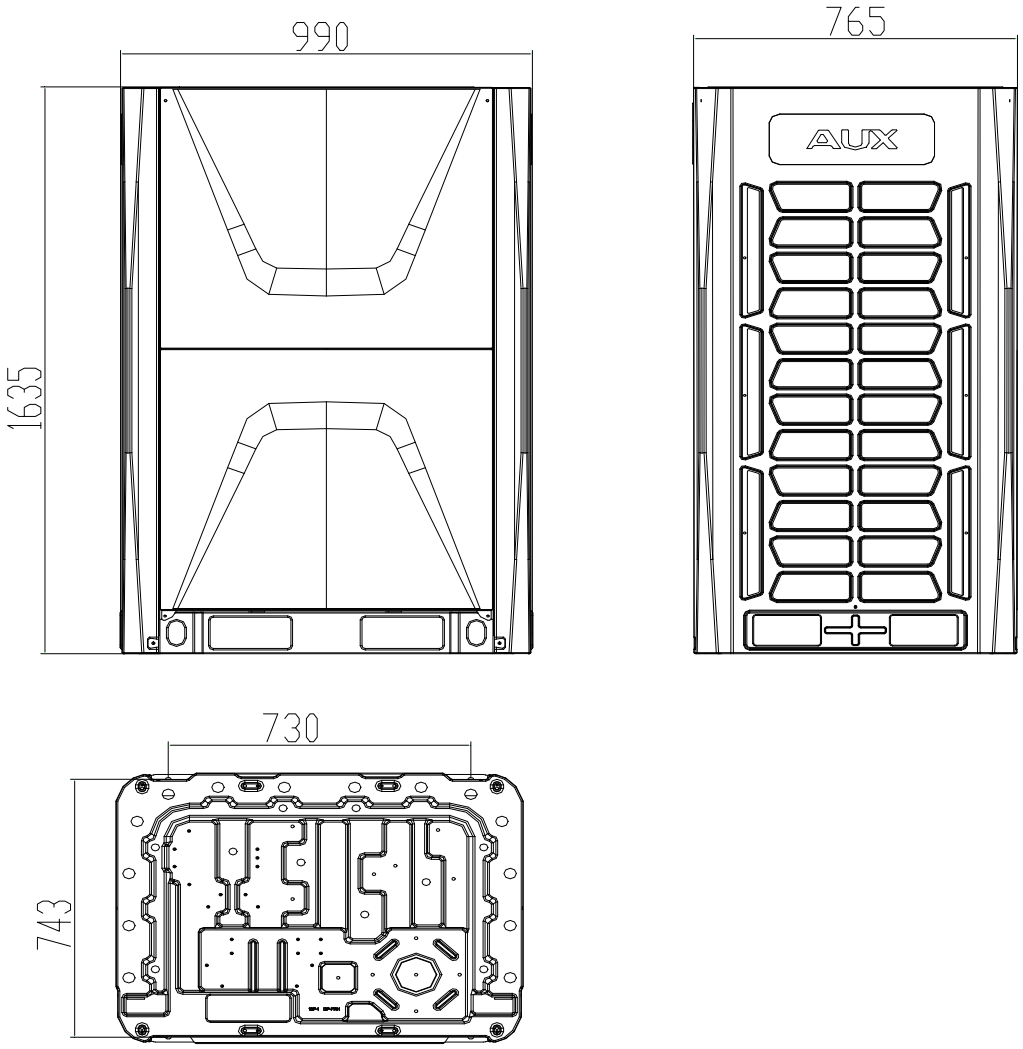


2. Product Line-up (ODU)

Appearance	Capacity（HP / kW）	Model
	8 / 25.2	ARV-H250/SR1MV
	10 / 28.0	ARV-H280/SR1MV
	12 / 33.5	ARV-H330/SR1MV
	14 / 40.0	ARV-H400/SR1MV
	16 / 45.0	ARV-H450/SR1MV
	18 / 50.4	ARV-H500/SR1MV
	20 / 56.0	ARV-H560/SR1MV
	22 / 61.5	ARV-H610/SR1MV

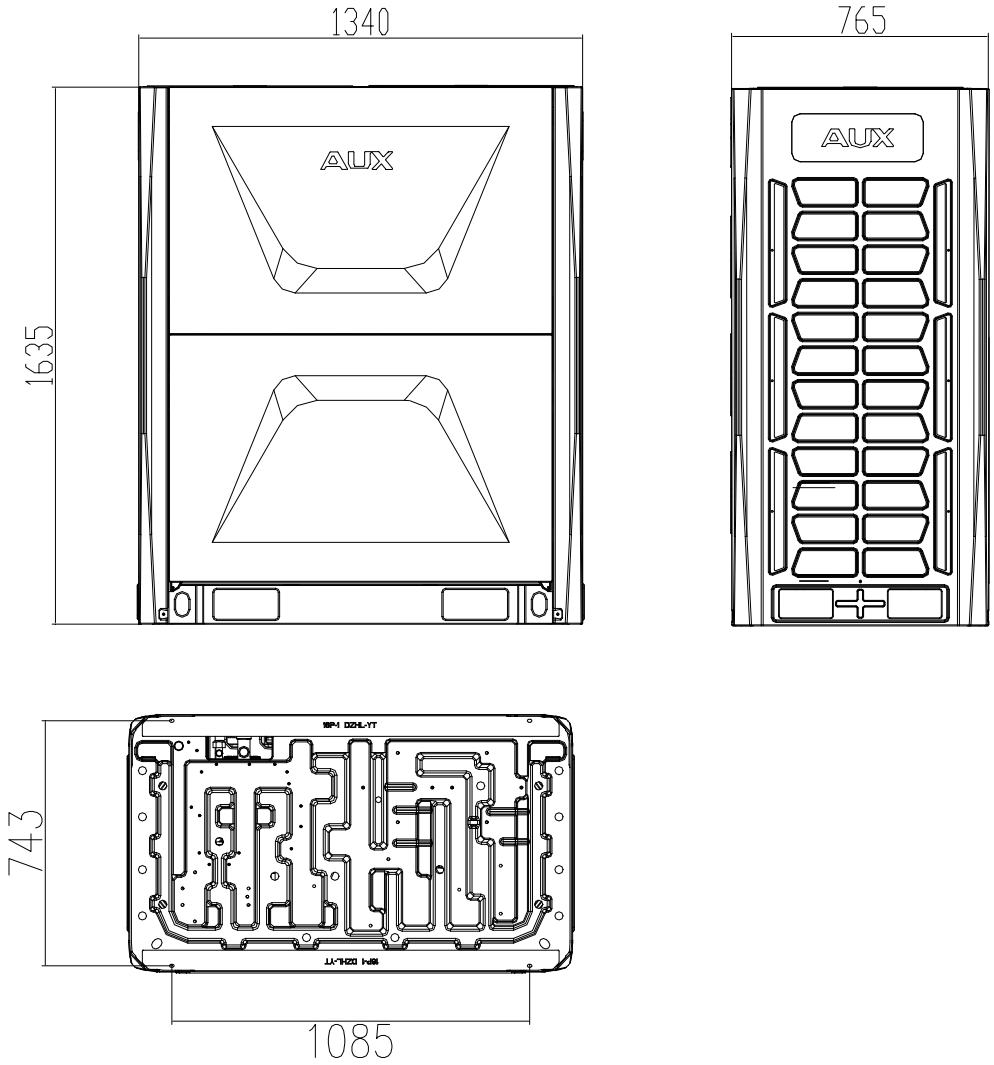
3. Dimensions

ARV-H250/SR1MV, ARV-H280/SR1MV, ARV-H330/SR1MV (Unit: mm)



ARV-H400/SR1MV, ARV-H450/SR1MV

ARV-H500/SR1MV, ARV-H560/SR1MV, ARV-H610/SR1MV (Unit: mm)



4. Combination

kW	HP	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP
25.2	8	●							
28	10		●						
33.5	12			●					
40	14				●				
45	16					●			
50.4	18						●		
56	20							●	
61.5	22								●
67	24			●●					
73	26		●			●			
78.5	28			●		●			
84	30		●					●	
89.5	32		●						●
95	34			●					●
101.5	36				●				●
106.5	38					●			●
111.9	40						●		●
117.5	42							●	●
123	44								●●
128.5	46			●●					●
134.5	48		●			●			●
140	50			●		●			●
145.5	52		●					●	●
151	54		●						●●
156.5	56			●					●●
163	58				●				●●
168	60					●			●●
173.4	62						●		●●
179	64							●	●●
184.5	66								●●●
190	68			●●					●●
196	70		●			●			●●
201.5	72			●		●			●●
207	74		●					●	●●
212.5	76		●						●●●
218	78			●					●●●

224.5	80				●				●●●
229.5	82					●			●●●
234.9	84						●		●●●
240.5	86							●	●●●
246	88								●●●●

5. Connection ratio

$$\frac{\sum \text{Total capacity of indoor units (one system)}}{\sum \text{Total capacity of outdoor units(one system)}} = \text{Connection ration}$$

Connection ratio is 50~200%

Note

1) 50%~130% is standard for factory setting.

2) Max connection ratio can up to 200%, if the project is needed over 130%, parameter should be set on outdoor unit's PCB, please contact with technical engineer at first.

3) When Fresh air processor units are connected, the connection ratio must be within 50% to 100%.

4) When Fresh air processor units are connected, the total indoor unit’s capacity must not exceed 30% of the outdoor unit.

6. Certification

7. Product features and benefits

7.1 VER Technology

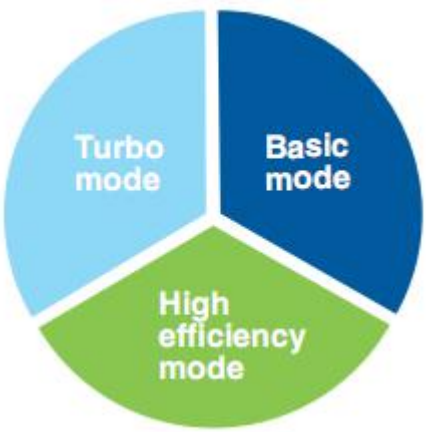
Variable Energy-efficiency Regulation

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: There are3 modes with different evaporating temperature.

Heating: There are 3 modes with different condensing temperature.



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

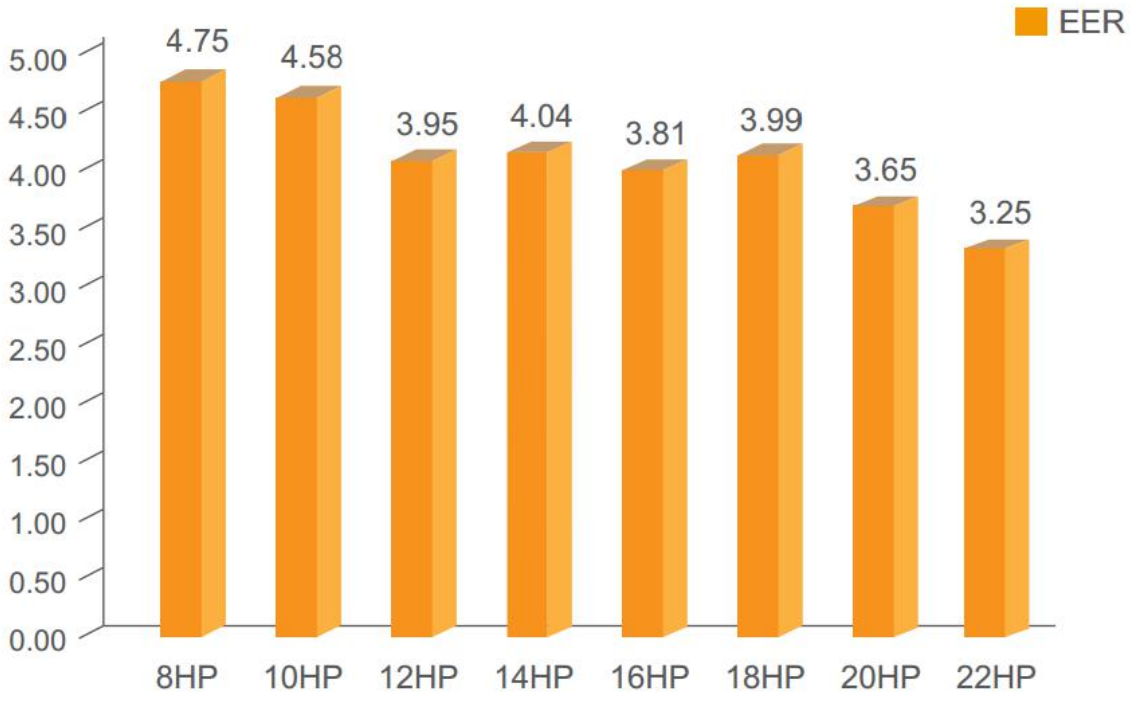
Basic mode: Default mode, balance the reaction speed and efficiency.

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.

7.2 High Efficiency and Energy Saving

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

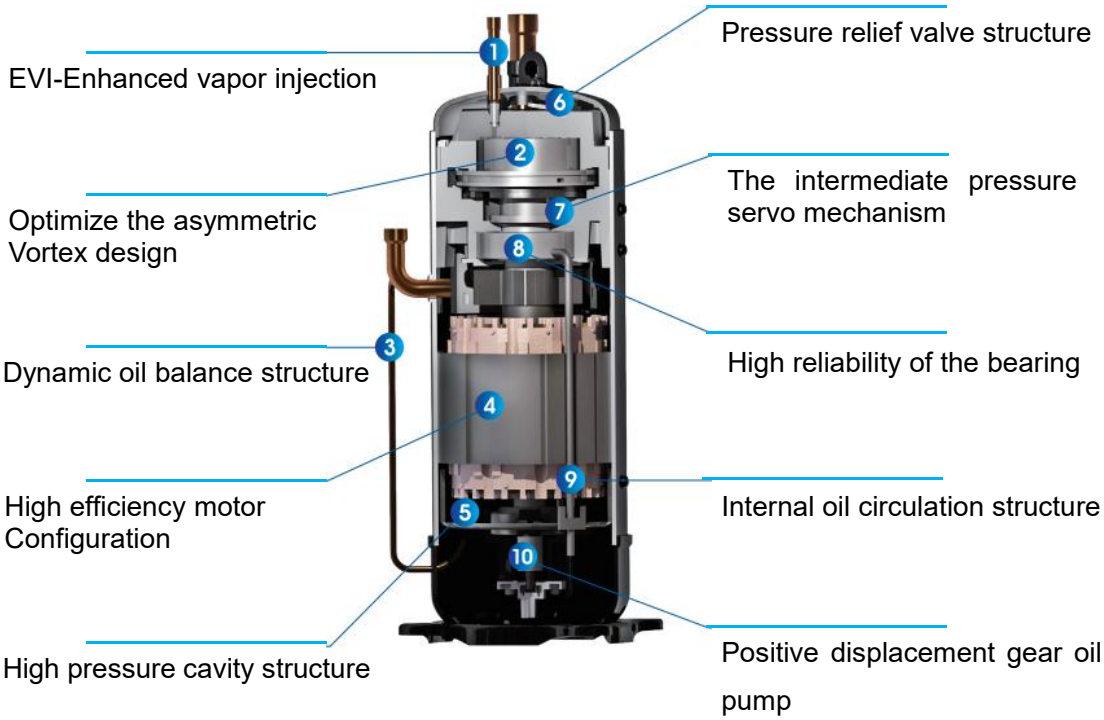


All DC Inverter

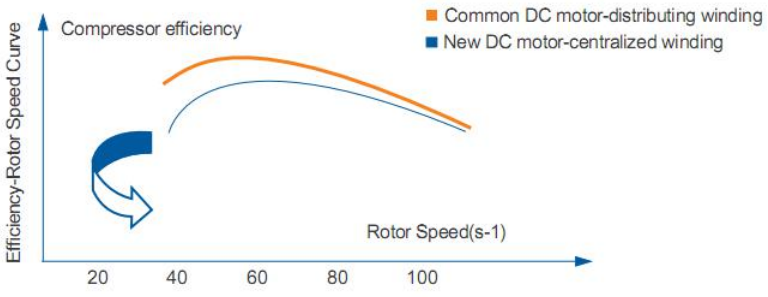
New generation DC inverter compressor, high efficiency, large capacity and wide operation range.

DC fan motor, optimized designed fan blade and winds cooper, enhance the air flow volume and reduce the noise.

Enhanced Vapor Injection DC Inverter Compressor

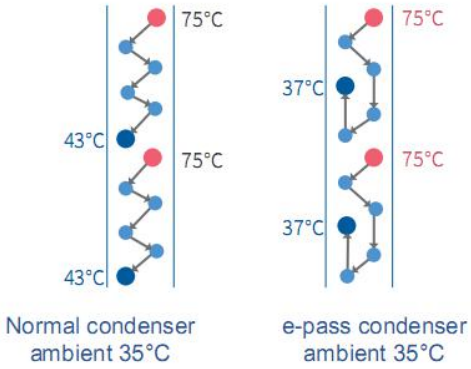


High-efficient permanent magnetic motors are installed, giving better performance than traditional DC inverter compressors.



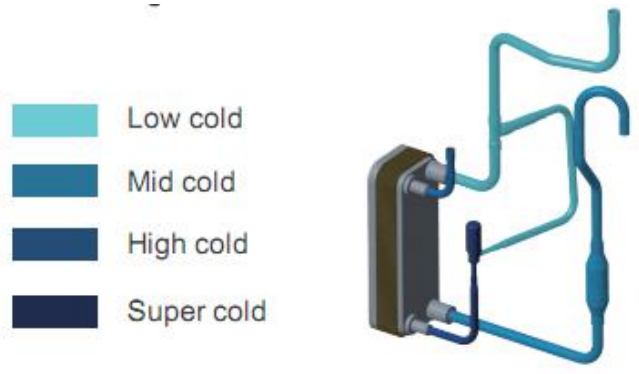
Powerful magnets provide high torque and efficiency and achieve 70% reduction in volume.

7.3 2-step Sub-cooling Technology



1-step: Optimize the design of the condenser 12°C sub-cooling by optimized refrigerant circuit and "Inverse fin type" window fin design.

2-step: sub-cooling by dual EXV with a special and effective plate-heat exchanger.



7.4 Wide Application Range

Large Capacity & Free Combination

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

Wide Operation Range (-25℃~52℃)

-15~52℃ for cooling operation and -25~24℃for heating operation

Wide Voltage Design (380V ± 15%)

Changeable ESP

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

7.5 Comfortable And Healthy Environment

Outdoor Unit Quiet Mode

By using optimized fan blades and the CFD (computational 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

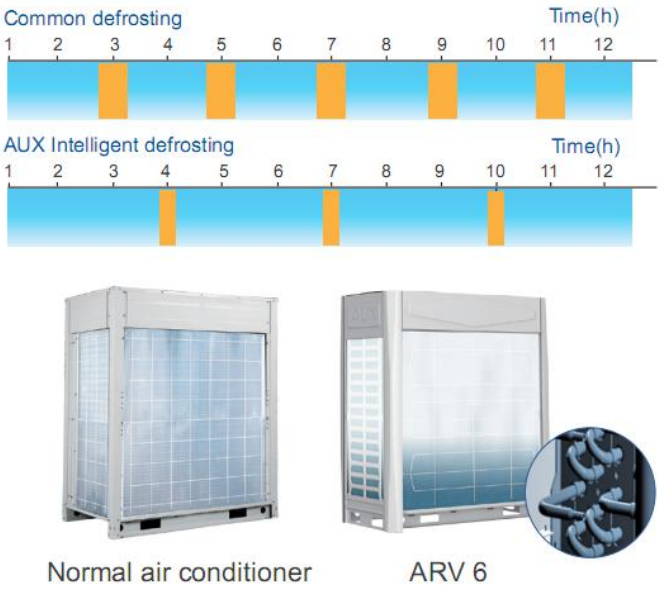
Innovative centrifugal fan for large diameter and a new design of the spiral duct system equipped with high-quality motor at the same time, making the air supply more quietly and smoothly. The lowest noise is 18db(A)

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.



Precise Temperature Control

Double EXVs in one system ,each EXV part achieves 480Plus rate to precisely adjust refrigerant flow.

Humanization Design

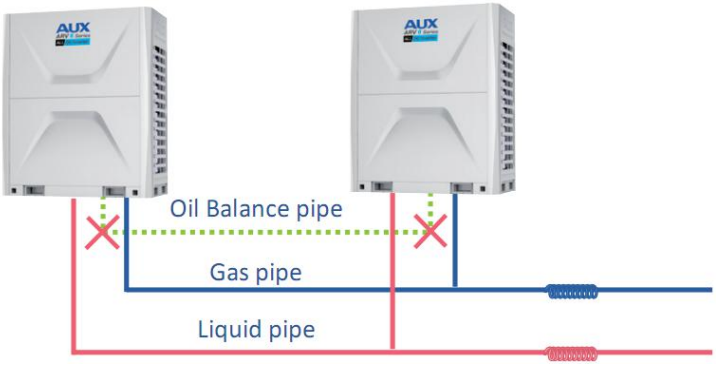
VIP Function、Auto Restart Function、Economic Locking Function

7.6 Easy Installation & Maintenance

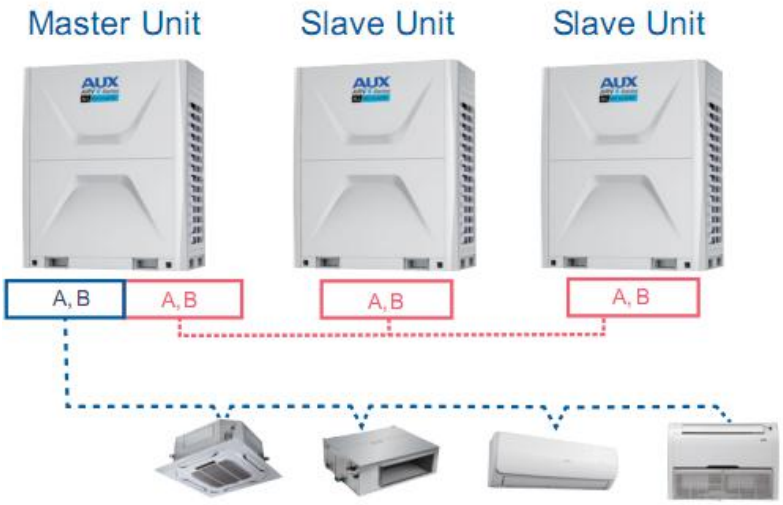
Saving Installation Space

22HP: Required Space Reduced by 44%

No Oil Balance Pipe Between ODUS



Non-Polar Communication



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 or indoor 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 motherboard outdoor, 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.

7.7 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. So 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.

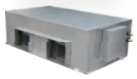
Back-Up Operation Technology

Module Back-Up Technology、Compressor Back-Up Technology、Fan Motor Back-Up Technology

Oil Return Control Technology

Compressor with oil mist separation、Oil self balancing control design、High efficient oil separator、Gas-liquid separator oil return、Oil return procedure control、Cross oil return control

8. Product Line-up (IDU)

Type	Appearance	Capacity :kW										
1-way cassette (AC)		2.8	3.6	4.5	5.6	7.1						
2-way cassette (AC)		2.8	3.6	4.5	5.6	7.1						
4-way cassette compact (DC)		2.8	3.6	4.5	5.6							
4-way cassette (AC&DC)						7.1	8.0	9.0	10.0	11.2	12.5	14.0
Ceiling & Floor (AC)		2.8	3.6	4.5	5.6	7.1	8.0	9.0	10.0	11.2	12.5	14.0
Wall mounted (AC&DC)		2.2	2.8	3.6	4.5	5.6	7.1					
Slim Duct (AC&DC)		2.2	2.8	3.6	4.5	5.6	7.1					
Mid ESP Duct (50/80 Pa,AC&DC)		4.5	5.6	7.1	8.0	9.0	10.0	11.2	12.5	14.0	15.0	
High ESP Duct (196Pa,AC))		11.2	12.5	14	15	22	28	45	56			
Fresh Air Unit(AC)		22	28	45	56							
Heat Recovery Ventilator(AC)		Air Volume (m^3/h) : 200~5000										

Part2 Performance Parameter

1. Specifications

HP			8	10	12
Model			**ARV-H250/SR1MV**	**ARV-H280/SR1MV**	**ARV-H330/SR1MV**
Code			16105022000057	16105022000056	16105022000055
Power Supply			380～415V, 3Ph～50/60Hz		
Cooling	Capacity	kW	25.2	28	33.5
	Power Input	kW	5.31	6.11	8.48
	EER	kW/kW	4.75	4.58	3.95
Heating	Capacity	kW	25.2	28	33.5
	Power Input	kW	4.6	5.23	6.38
	COP	kW/kW	5.48	5.35	5.25
Maximum input power		kW	11.0	11.7	13.2
Compressor	Type		DC inverter compressor		
	Brand		Hitachi		
	Oil type		FVC68D		
	Oil volume	L	1.1	1.1	1.1
Fan	Type		Axial flow fan		
	Output power	kW	950	950	950
	Airflow volume	m^3/h	12000	12000	12000
Sound pressure level		dB(A)	43-58	43-58	43-58
Dimension W×D×H	Net	mm	990×765×1635	990×765×1635	990×765×1635
	Packing	mm	1030×825×1865	1030×825×1865	1030×825×1865
Weight	Net	kg	215	215	230
	Gross	kg	225	225	240
Refrigerant	Type		R410A		
	Factory charge	kg	10.0	10.0	14.0
Maximum pressure		MPa	4.2	4.2	4.2
Pipe size	Liquid side	mm	φ12.7	φ12.7	φ12.7
	Gas side	mm	φ22.2	φ22.2	φ22.2

HP			14	16	18
Model			ARV-H400/SR1MV	ARV-H450/SR1MV	ARV-H500/SR1MV
Combination type			16105022000054	16105022000053	16105022000052
Power Supply			380～415V, 3Ph～50/60Hz		
Cooling	Capacity	kW	40	45	50.4
	Power Input	kW	9.9	11.82	12.63
	EER	kW/kW	4.04	3.81	3.99
Heating	Capacity	kW	40	45	50.4
	Power Input	kW	8.25	9.78	11.69
	COP	kW/kW	4.85	4.60	4.31
Maximum consumed power		kW	18.5	19.2	26.1
Compressor	Type		DC inverter compressor		
	Brand		Hitachi		
	Oil type		FVC68D		
	Oil volume	L	1.1	1.1	1.1
Fan	Type		Axial flow fan		
	Outputpower	kW	550×2	550×2	550×2
	Airflow volume	m3/h	14000	14000	16000
Sound pressure level		dB(A)	43-61	43-61	43-63
Dimension W×D×H	Net	mm	1340×765×1635	1340×765×1635	1340×765×1635
	Packing	mm	1395×815×1865	1395×815×1865	1395×815×1865
Weight	Net	kg	265	265	330
	Gross	kg	280	280	345
Refrigerant	Type		R410A		
	Factory charge	kg	14.00	14.00	16.00
Maximum pressure		MPa	4.2	4.2	4.2
Pipe size	Liquid side	mm	φ15.88	φ15.88	φ15.88
	Gas side	mm	φ28.6	φ28.6	φ28.6

HP			20	22
Model			ARV-H560/SR1MV	ARV-H610/SR1MV
Combination type			16105022000051	16105022000050
Power Supply			380～415V, 3Ph～50/60Hz	
Cooling	Capacity	kW	56	61.5
	Power Input	kW	15.34	18.9
	EER	kW/kW	3.65	3.25
Heating	Capacity	kW	56	61.5
	Power Input	kW	13.83	15.44
	COP	kW/kW	4.05	3.98
Maximum consumed power		kW	26.6	27.4
Compressor	Type		DC inverter compressor	
	Brand		Hitachi	
	Oil type		FVC68D	
	Oil volume	L	1.1	1.1
Fan	Type		Axial flow fan	
	Output power	kW	550×2	550×2
	Airflow volume	m3/h	16000	16000
Sound pressure level		dB(A)	43-63	43-63
Dimension W×D×H	Net	mm	1340×765×1635	1340×765×1635
	Packing	mm	1395×815×1865	1395×815×1865
Weight	Net	kg	330	330
	Gross	kg	345	345
Refrigerant	Type		R410A	
	Factory charge	kg	16.00	16.00
Maximum pressure		M Pa	4.2	4.2
Pipe size	Liquid side	mm	φ15.88	φ15.88
	Gas side	mm	φ28.6	φ28.6

Notes:

1. Cooling (T1):Indoor temperature 27℃DB / 19℃WB; Outdoor temperature:35℃DB / 24℃WB;

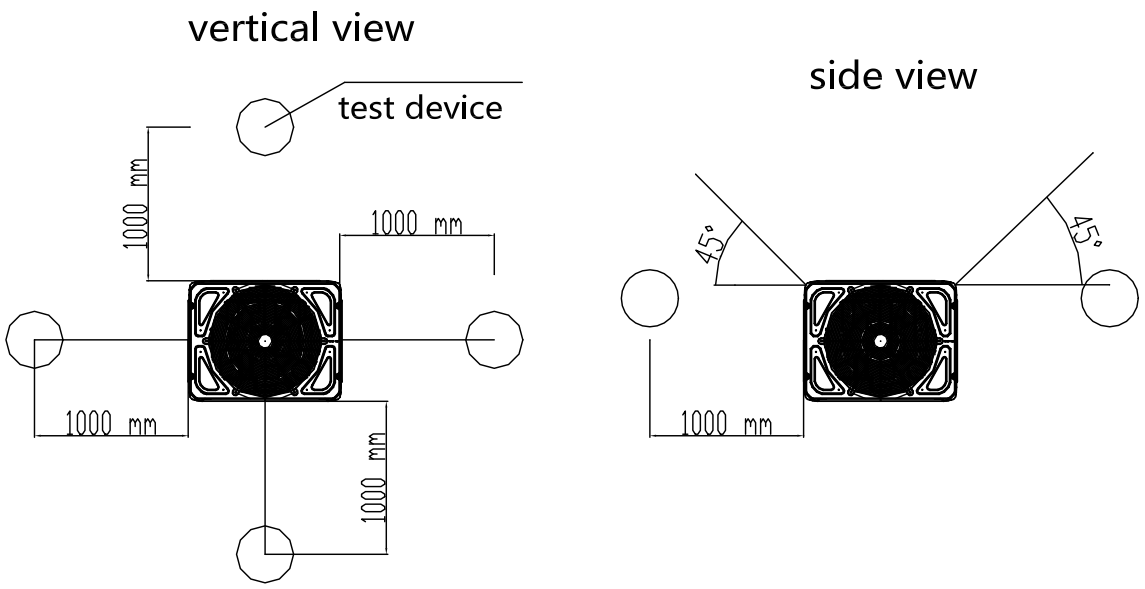
2. Heating Capacity: Indoor temperature 20℃DB; Outdoor temperature:7℃DB / 6℃WB;

3. Piping Length: Equivalent piping length: 5m, level difference: 0m;

4. Anechoic chamber conversion value, measured in test room. During actual operation. These values are normally somewhat higher as a result of ambient conditions;

5. The above designs and specifications are subject to change of product improvement without prior notice.

2. Sound level



Model	Sound (dB)
ARV-H250/SR1MV	43-58
ARV-H280/SR1MV	43-58
ARV-H330/SR1MV	43-58
ARV-H400/SR1MV	43-61
ARV-H450/SR1MV	43-61
ARV-H500/SR1MV	43-63
ARV-H560/SR1MV	43-63
ARV-H610/SR1MV	43-63

Note:

1. The operating condition are assumed to be standard(JIS Condition).
2. These operating values were obtained in a dead room (conversion values).
   Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of the particular room in which the equipment installed.
3. The result is the biggest one of four testing device.
4. Test height (Unit height +1)/2m,horizontal distance: 1m.

3. Capacity table

ARV-H250/SR1MV

ARV-H280/SR1MV

ARV-H330/SR1MV

ARV-H400/SR1MV

ARV-H450/SR1MV

ARV-H500/SR1MV

ARV-H560/SR1MV

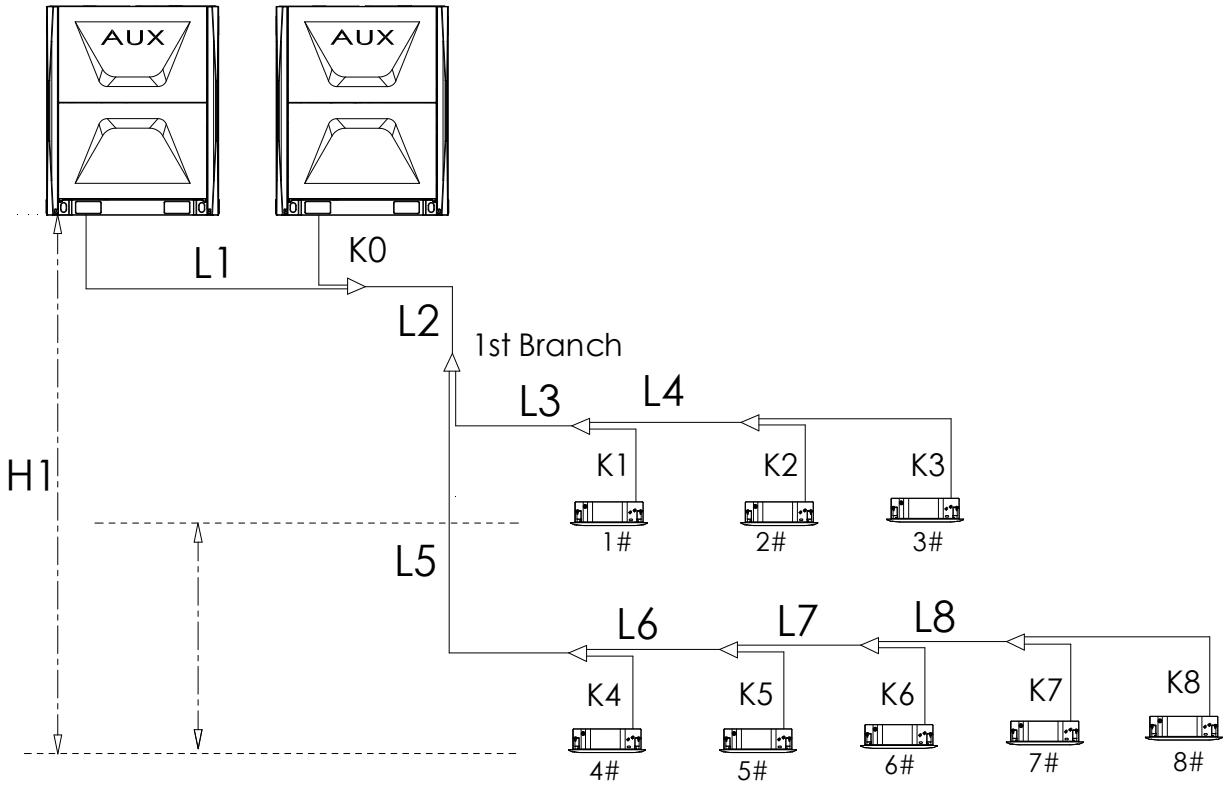
ARV-H610/SR1MV

※ Cooling and Heating capacity table see another handbook in detail

※ The specifications are subject to change without prior notice. Final specifications please refer to technical specification provided by sales representative

Part3 Refrigerant Piping Design

1. Long Piping Length



		Allowable value	Part of pipe
Piping Length	Max. Total piping length	1000m	L1+L2+L3+L4+L5+L6+L7+L8+k0+ k1+ k2+ k3+ k4+ k5+ k6+ k7+ k8≤1000m
	Length between ODU and farthest indoor unit	200m	L1+L2+L5+L6+L7+L8+ k8≤ 200m
	Max. Equivalent length between outdoor unit and farthest indoor unit	/	For each branch pipe, the equivalent length of elbow to 0.5m
	Max. piping length from 1st indoor unit branch to the farthest indoor unit	40m	L5+L6+L7+L8+ k8≤40m
		90m	L5+L6+L7+L8+ k8≤90m & (L5+L6+L7+L8+ k8) - (L3+K1) ≤40m
	Max. piping length between 1st ODU branch and the farthest outdoor unit	10m	

	Max. piping length between IDU Branch and Indoor unit		40m	
Level difference	Level difference Between ODU & IDU	ODU is up	110m	H1≤110m
		ODU is down	110m	H1≤110m
	Level difference among indoor units		30m	H2≤30m

Note:

✧ It is necessary to increase the pipes size of the liquid and gas piping if the equivalent length between indoor unit and the first Y branch pipe is over 40m.

✧ Equivalent length refers to conversion length of parts such as elbow after considering pressure loss.

✧ Equivalent length: actual length of pipe + quantity of elbow equivalent length of each elbow + quantity of oil trap equivalent length of each oil trap.

Elbow and oil trap recommend dimension list

Type Diameter of pipe(mm)	90° elbow(m)	Oil trap(m)
9.52	0.18	1.3
12.7	0.20	1.5
15.88	0.25	2.0
19.05	0.35	2.4
22.2	0.40	3.0
25.4	0.45	3.4
28.6	0.50	3.7
31.8	0.55	4.0
34.93	0.58	4.2
41.3	0.63	4.6
44.5	0.66	5.0

Example:

When actual length of 22HP outdoor unit is 80m, diameter of pipe is 34.93mm and 12 elbows & 2 oil traps are used, the equivalent length should be calculated:

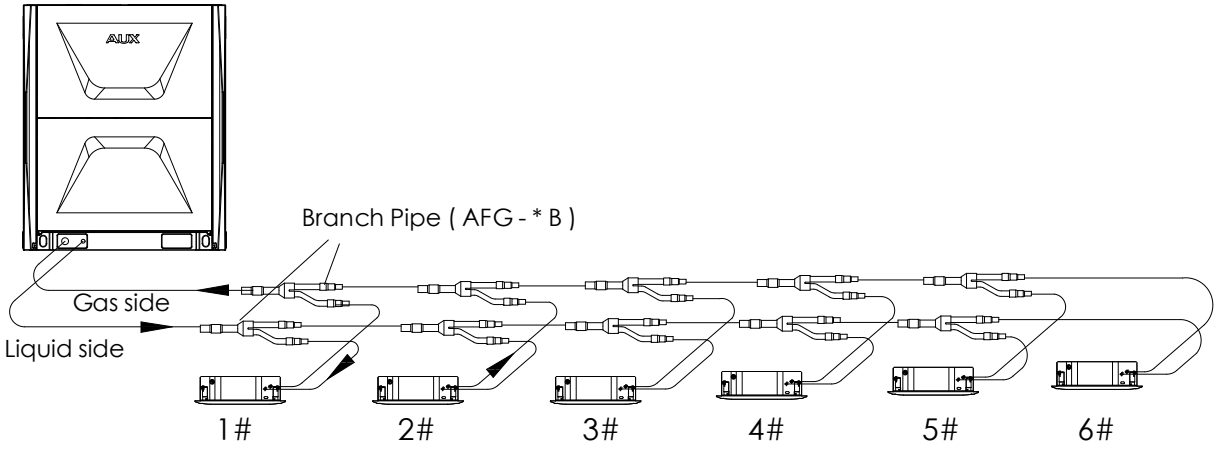
80+0.58×12+4.2×2=95.36m

Note:

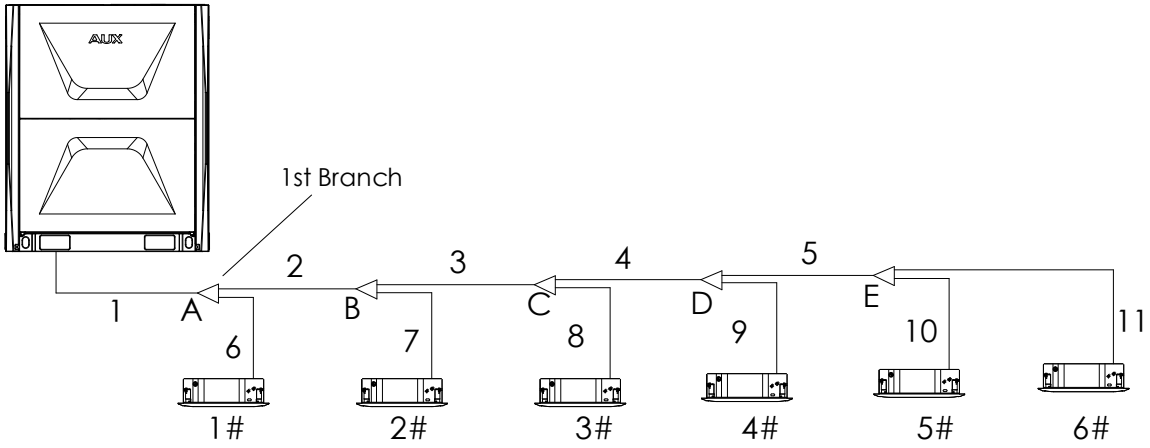
If there is relatively level difference of indoor and outdoor unit, S-shaped **oil trap** must be installed **every 8~10m for vertical pipe**.

2. Refrigerant Piping Design

2.1 Schematic diagram



2.2 Pipe Definition



Type of pipe	Connecting parts	No.
Main pipe	between outdoor unit and the 1st. branch pipe	1
	between branch pipe and branch pipe	2,3,4,5

Branch pipe	between pipes	A,B,C,D,E

1. Diameter of pipe “1” depends on pipe specification of outdoor unit.

Length between 1st branch and Farthest Outdoor unit ＜90m

Model	Gas side(mm)	liquid side(mm)	The 1st ODU Branch pipe
8HP	φ22.2	φ12.7	/
10HP	φ22.2	φ12.7	/
12HP T1	φ22.2	φ12.7	/
14HP	φ28.6	φ15.88	/
16HP	φ28.6	φ15.88	AFG-24B
18~22HP	φ28.6	φ15.88	AFG-24B
24~34HP	φ34.9	φ19.05	AFG-34B
36~48HP	φ38.1	φ19.05	AFG-50B
50~66HP	φ41.3	φ19.05	AFG-50B
68~88HP	φ44.5	φ22.2	AFG-64B

Length between 1st IDU branch and Farthest Outdoor unit ≥90m

Model	Gas side(mm)	liquid side(mm)	The 1st ODU Branch pipe
8HP	φ25.4	φ12.7	/
10HP	φ25.4	φ12.7	/
12HP T1	φ28.6	φ15.88	/
14HP	φ31.8	φ15.88	/
16HP	φ31.8	φ19.05	AFG-34B
18~22HP	φ31.8	φ19.05	AFG-34B
24~34HP	φ38.1	φ19.05	AFG-50B
36~48HP	φ41.3	φ19.05	AFG-50B
50~66HP	φ44.5	φ22.2	AFG-64B
68~88HP	φ47.9	φ22.2	AFG-64B

2. Diameter of pipe “2” depends on the total capacity of indoor unit connected below.

Total capacity of indoor unit (kW)	Gas side(mm)	liquid side(mm)	selection of Branch pipe

0≤Q≤11.2	φ15.88	φ9.52	AFG-00B
11.2≤Q＜18	φ19.05	φ9.52	AFG-00B
18≤Q＜36	φ22.2	φ12.7	AFG-12B
36≤Q＜65	φ28.6	φ15.88	AFG-24B
65≤Q＜99	φ34.9	φ19.05	AFG-34B
99≤Q＜138	φ38.1	φ19.05	AFG-50B
138≤Q＜187	φ41.3	φ19.05	AFG-50B
187≤Q＜258	φ44.5	φ22.2	AFG-64B
258≤Q＜999	φ47.9	φ22.2	AFG-64B

Note:

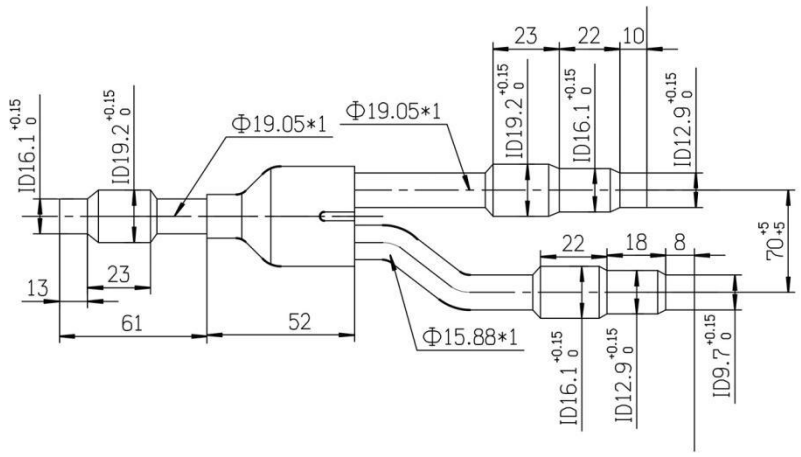
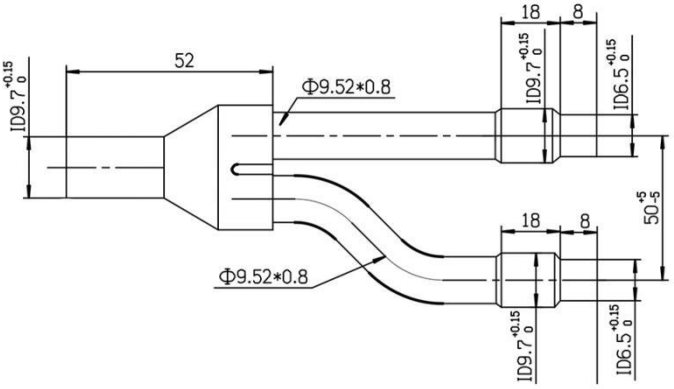
✧ The 1st. Branch pipe should be based on the capacity of outdoor unit.
✧ Other branch pipes should not larger than the 1st Branch pipe.

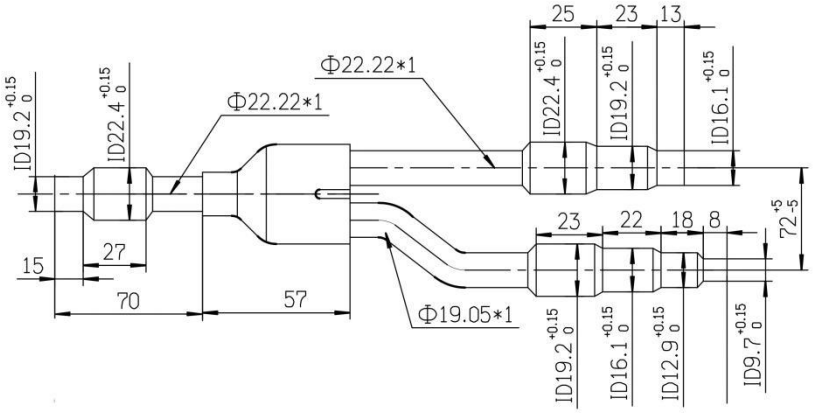
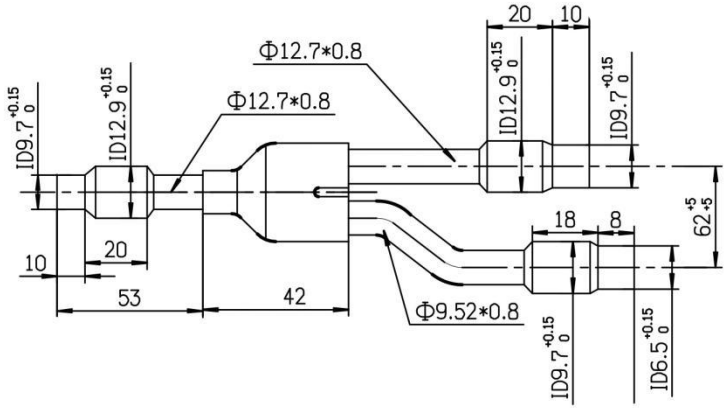
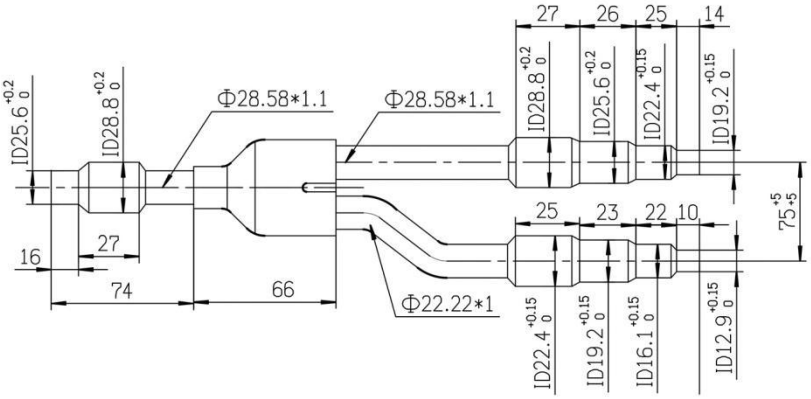
3. Diameter of pipe “6” depends on connected indoor unit capacity.

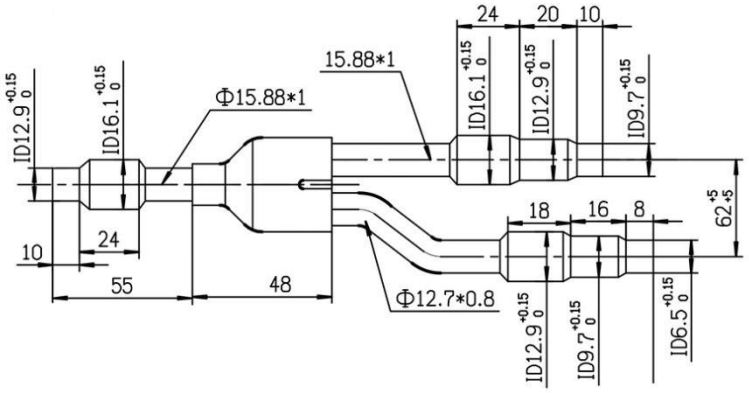
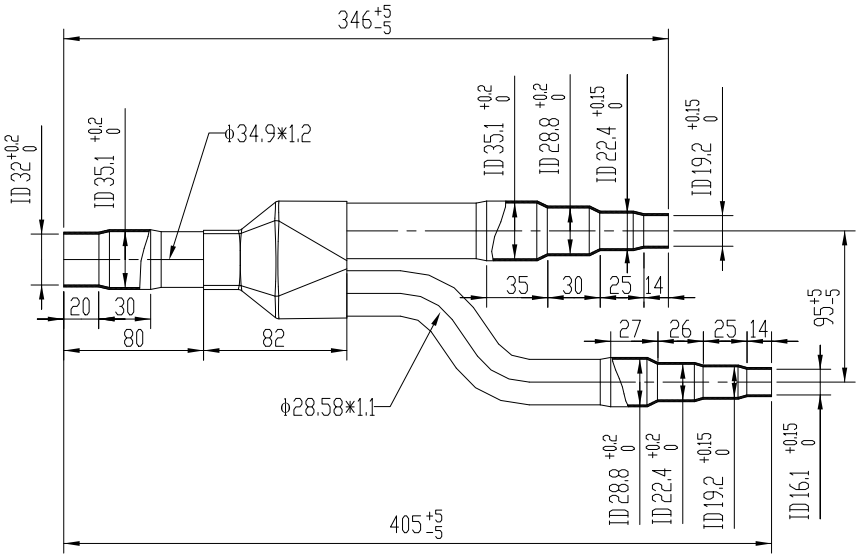
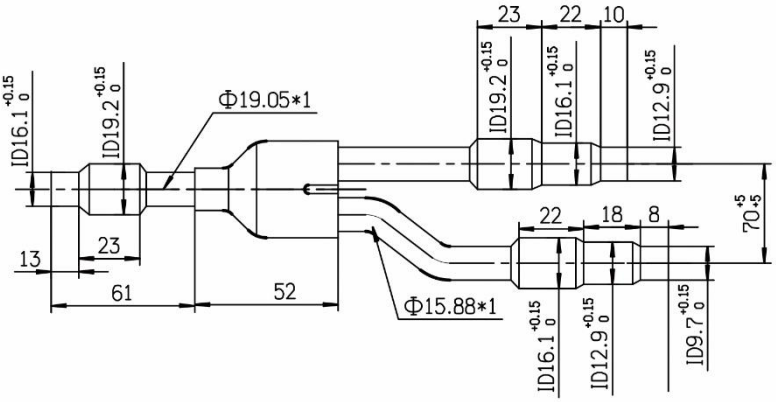
Cooling capacity of indoor unit(kW)	Gas pipe(mm)	Liquid pipe(mm)	Remark
2.2	φ9.52	φ6.35	
2.8	φ9.52	φ6.35	Cassette and Ceiling & Floor unit: 12.7/6.35
3.6	φ12.7	φ6.35	
4.5	φ12.7	φ6.35	
5.6	φ12.7	φ6.35	
7.1	φ15.88	φ9.52	
8.0	φ15.88	φ9.52	
9.0	φ15.88	φ9.52	
10.0	φ15.88	φ9.52	
11.2	φ19.05	φ9.52	
12.5	φ19.05	φ9.52	
14.0	φ19.05	φ9.52	
15.0	φ19.05	φ9.52	
22.0	φ22.2	φ12.7	
28.0	φ22.2	φ12.7	
45.0	φ22.2×2	φ12.7×2	
56.0	φ22.2×2	φ12.7×2	

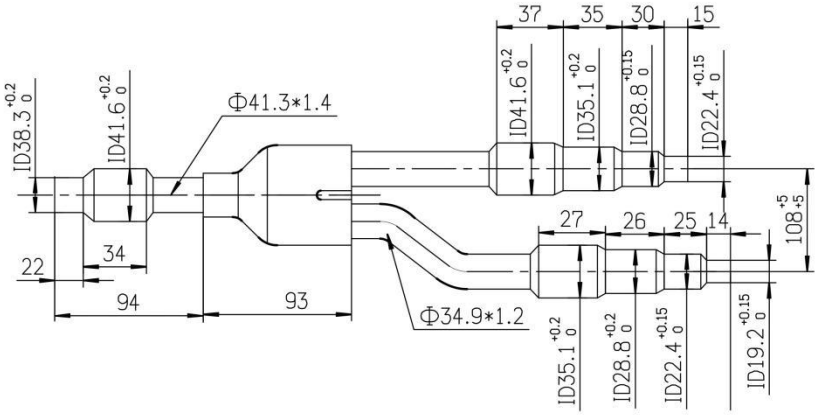
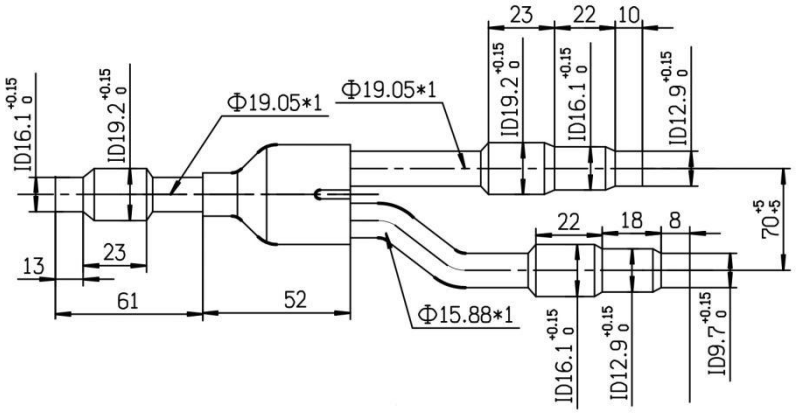
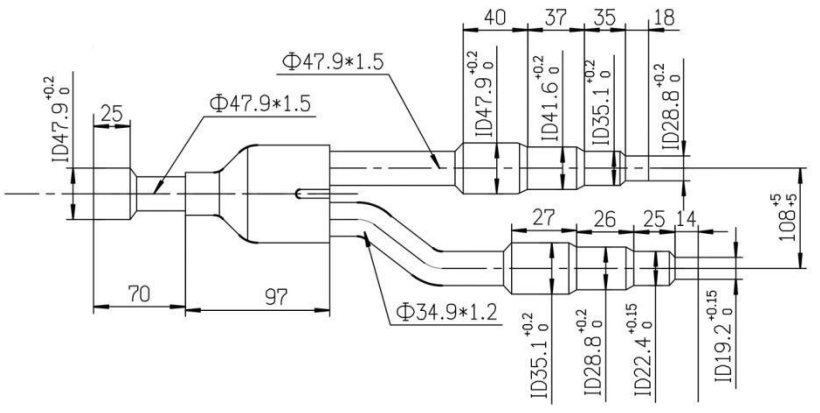
3. Selection of Separation Tube (branch pipe)

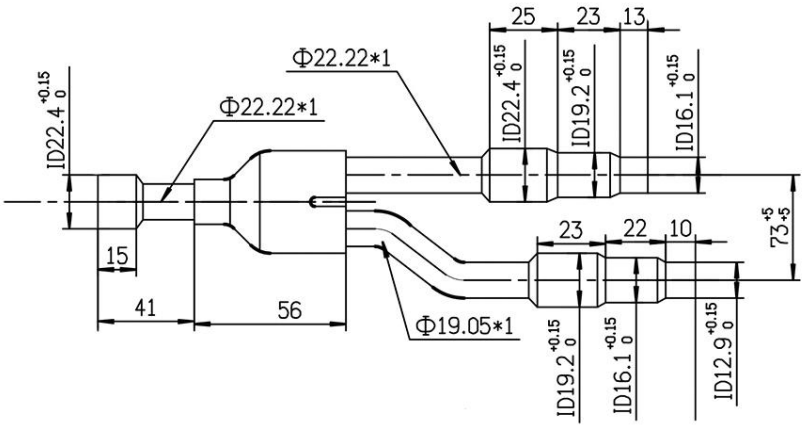
It's allowable to select branch pipe with similar specification as long as it meets pressure-proof requirement. It's required that no leakage at gas pressure of 4.5MPa and no distortion and leakage at hydraulic pressure of 6.3MPa.

Model	Appearance	Dimension
AFG-00B	 Gas side joints	
	 Liquid side joints	

AFG-12B	 Gas side joints	
	 Liquid side joints	
AFG-24B	 Gas side joints	

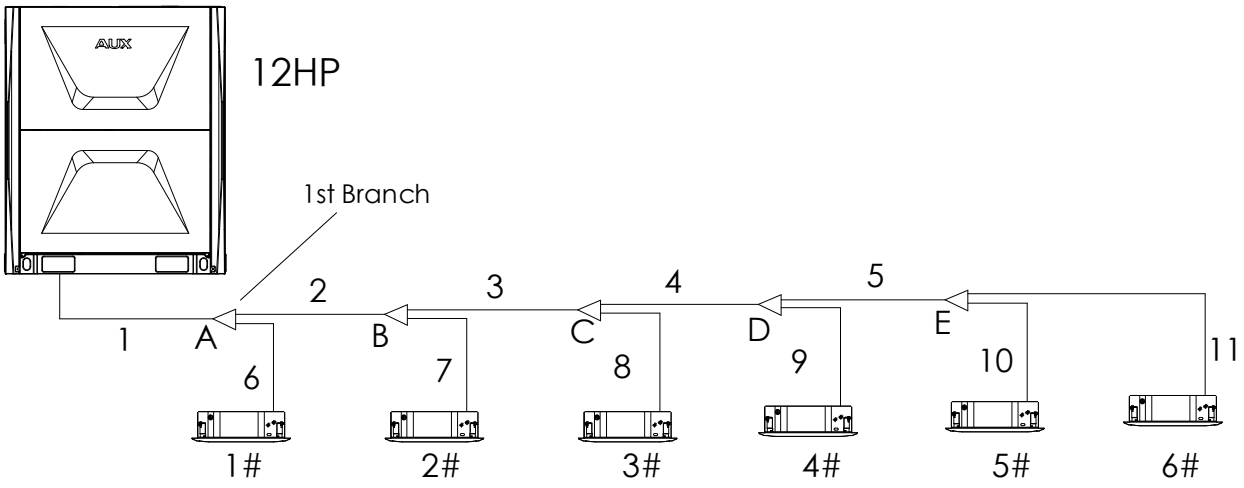
	 Liquid side joints	
AFG-34B	 Gas side joints	
	 Liquid side joints	

AFG-50B	 Gas side joints	
	 Liquid side joints	
AFG-64B	 Gas side joints	

	 Liquid side joints	

4. Example of Piping Design

12HP is taken as the example to explain pipe selection.



No. of indoor unit	Indoor Unit Capacity（kW / HP）
1#	5.6 / 2
2#	5.6 / 2
3#	5.6 / 2
4#	5.6 / 2
5#	5.6 / 2
6#	5.6 / 2

For outdoor unit:

Pipe diameter of "**1**" depends onoutdoor unit capacity, which is **Φ12.7/Φ22.2**, Y-type branch pipe should be **AFG-12B**.

For indoor side:

1. Downstream indoor units of main pipe "5" include 5#、6#. Its HP sum is "5.6×2=11.2kW". Dimension of pipe "**5**" is **Φ19.05/Φ9.52**. Branch pipe "**E**" should use **AFG-00B**.
2. Downstream indoor units of main pipe "4" include 4#~6#. Its HP sum is "5.6×3=16.8 kW". Dimension of pipe "**4**" is**Φ12.7/Φ22.2**. Branch pipe "**D**" should use **AFG-12B**.
3. Downstream indoor units of main pipe "3" include 3#~6#. Its HP sum is "5.6×4=22.4 kW". Dimension of pipe "**3**" is**Φ12.7/Φ22.2**. Branch pipe "**C**" should use **AFG-12B**.
4. Downstream indoor units of main pipe "2" include 2#~6#. Its HP sum is "5.6×5=28 kW". Dimension of pipe "**2**" is**Φ12.7/Φ22.2**. Branch pipe "**B**" should use **AFG-12B**.
5. Downstream indoor units of main pipe "1" include 1#~6#. Its HP sum is "5.6×6=33.6 kW". Dimension of pipe "**1**" is **Φ12.7/Φ22.2**. Branch pipe "**A**" should use **AFG-12B**.

Note:

Branch pipes must be placed horizontally, otherwise there will be distribution of refrigerant will be caused.

5. AUX Selection Software

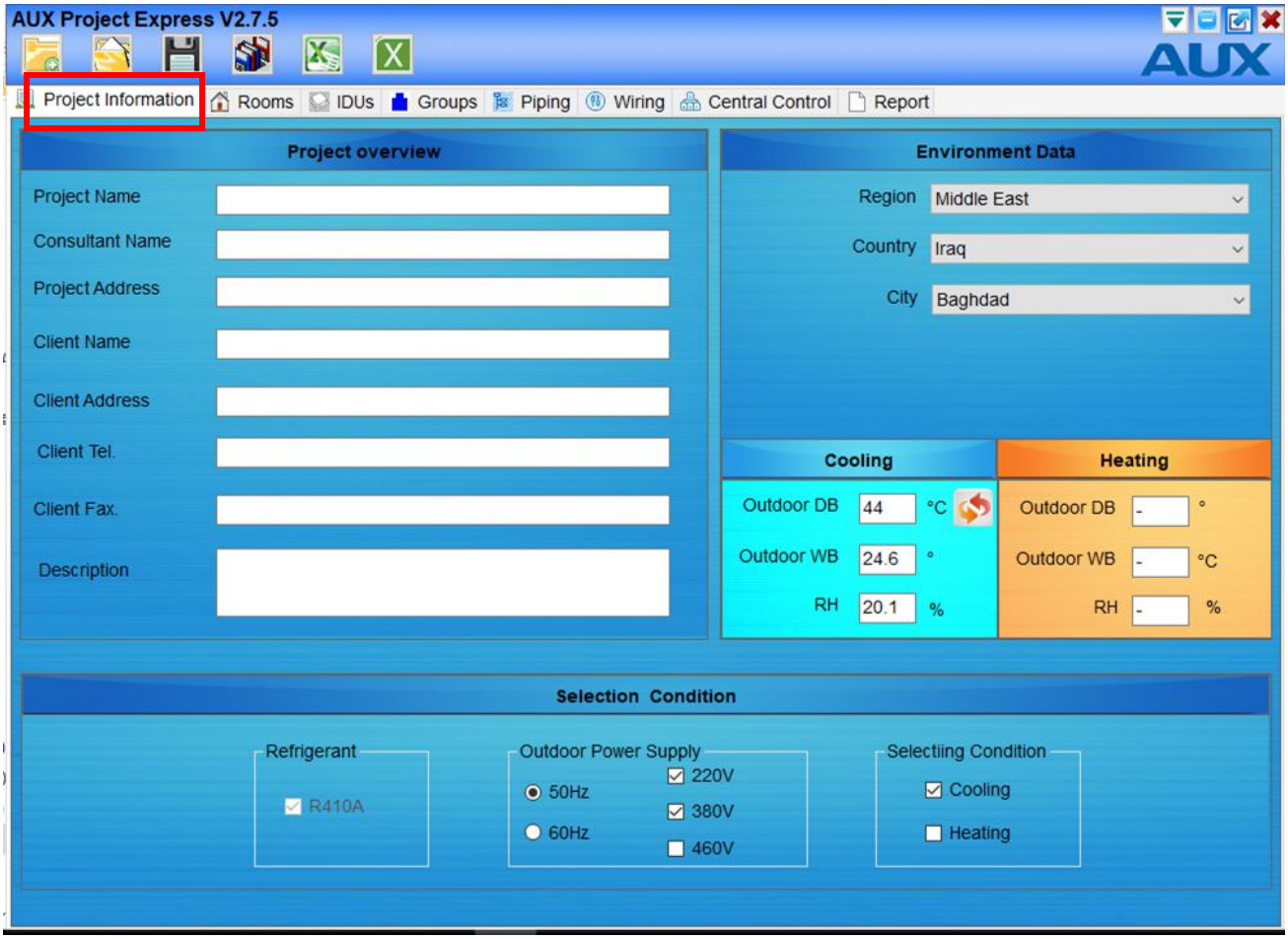
To meet the customers' requirements, AUX has developed the advanced selection software. The software provides quick and convenient selectable options for users, supports multiple languages, improve the selection and installation process.**Can be an OEM brand.**

8 Parts of ARV Selection:

Project Information / ***Rooms*** / ***IDUs*** / ***Groups*** / ***Piping*** / ***Wiring*** / ***Central Control*** / ***Report***

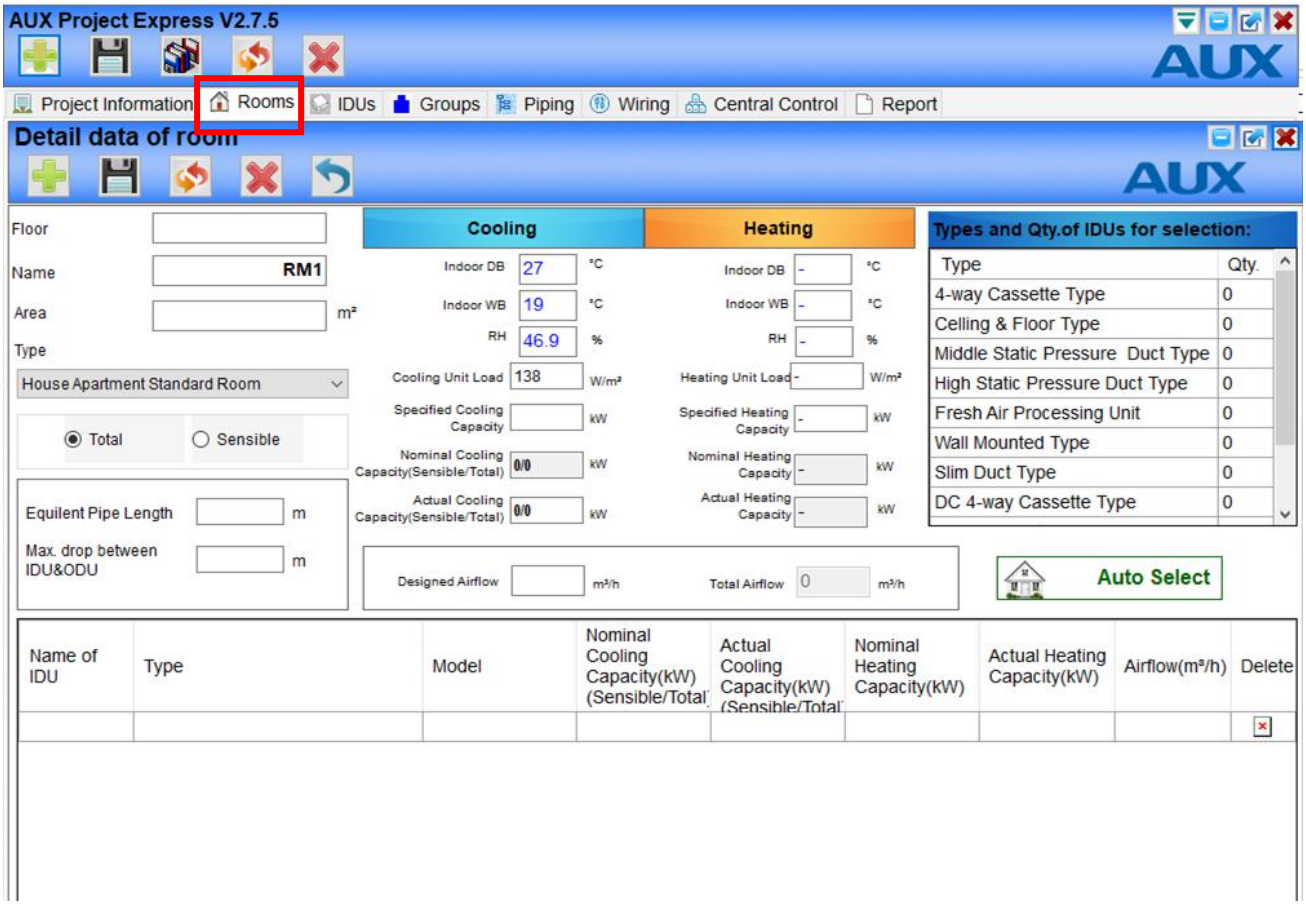
Part 1

Project Information Fill In as Below:

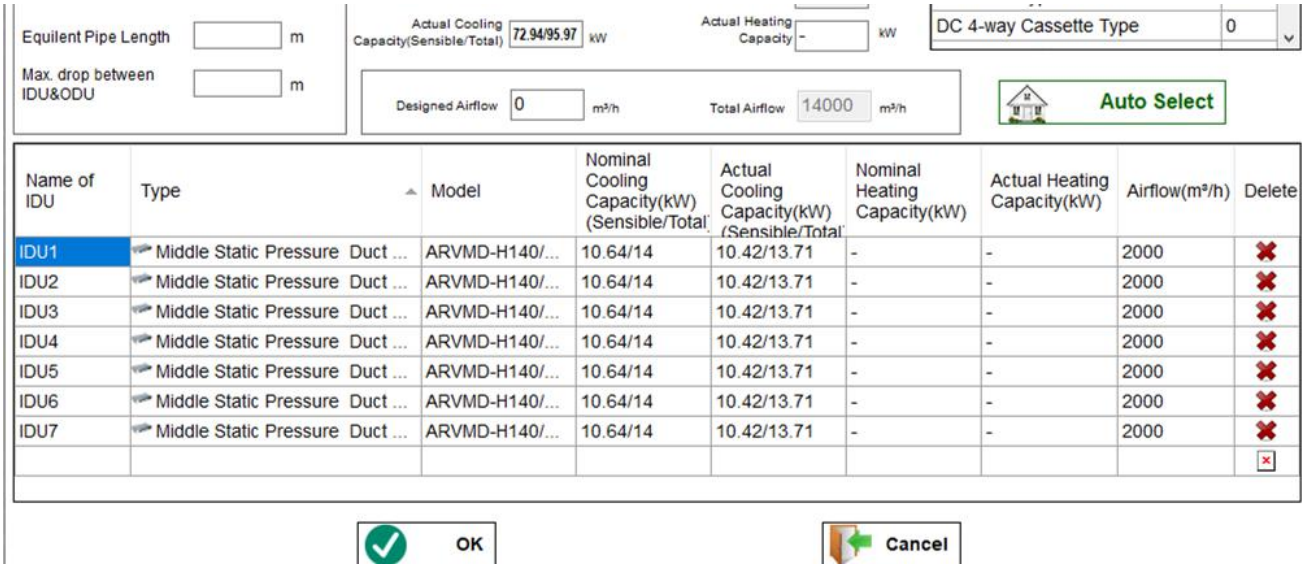


Part 2

Selecting Indoor Units by Fill In Room Informationas Below:

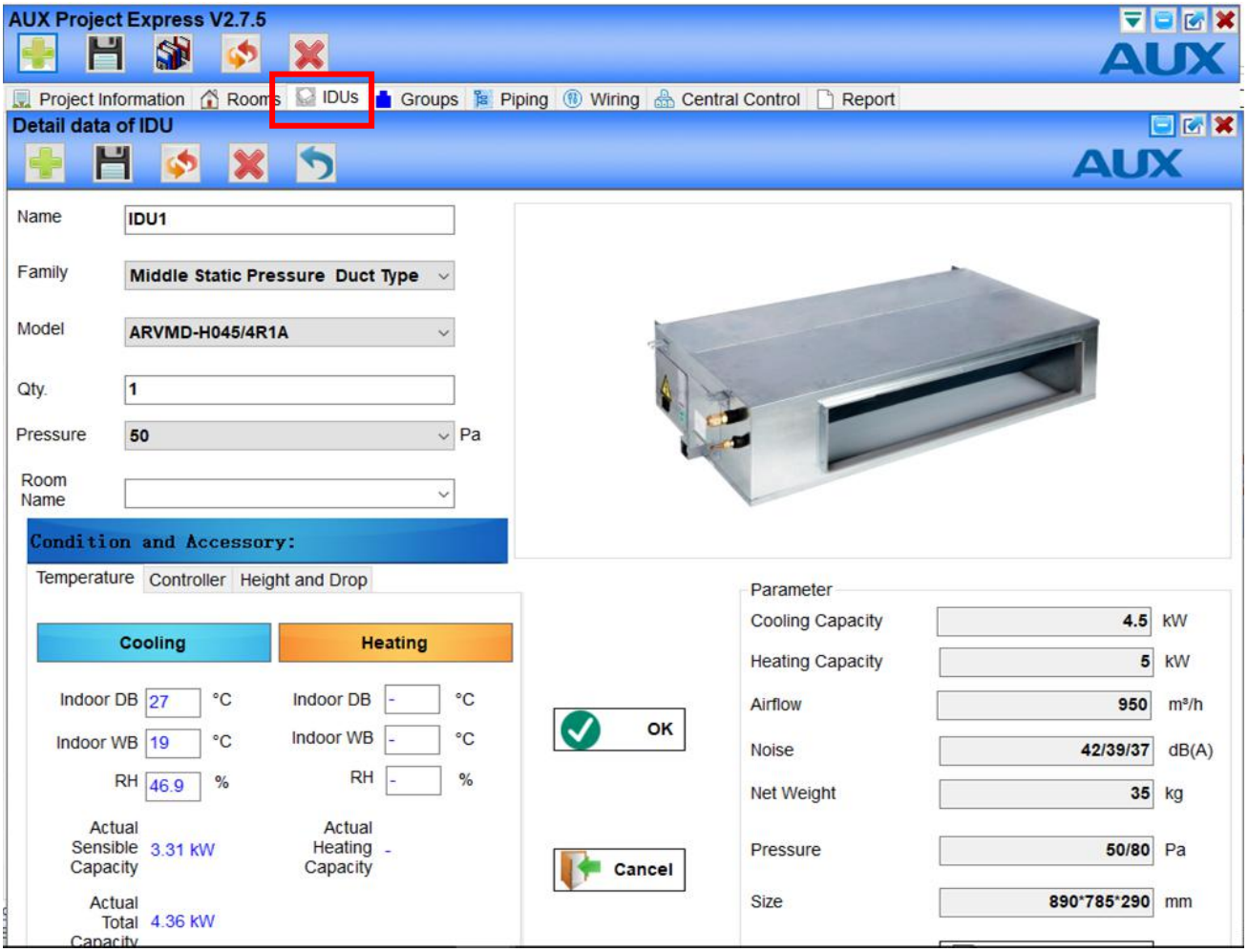


Indoor Units List as Below:

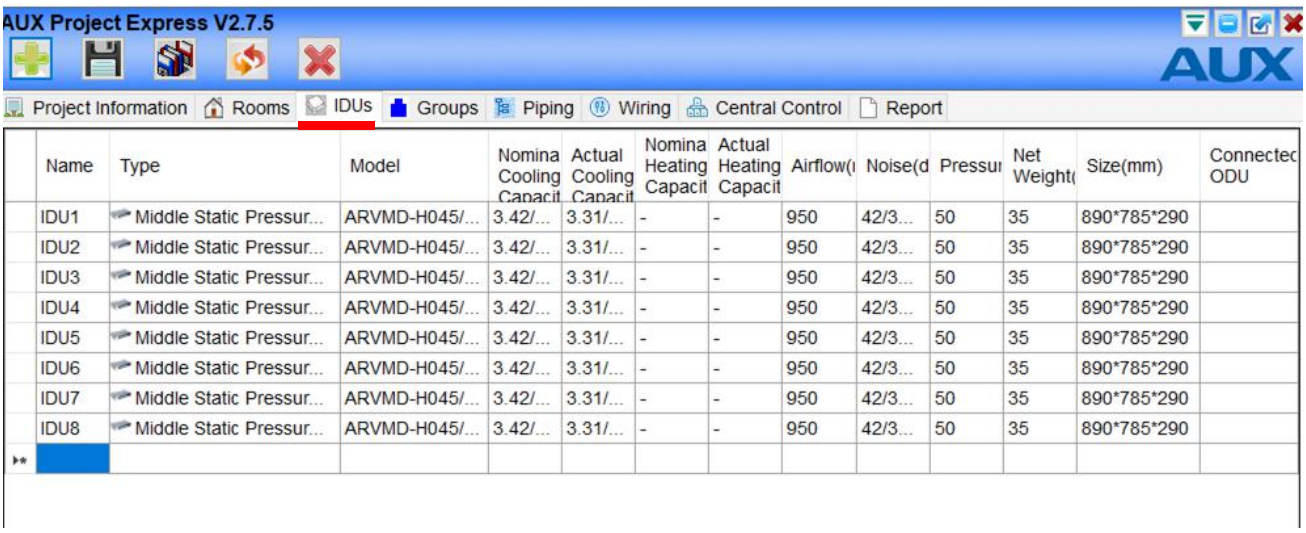


Part 3

Selecting Indoor Units by Model Listas Below:



After selecting Indoor Units as Below:

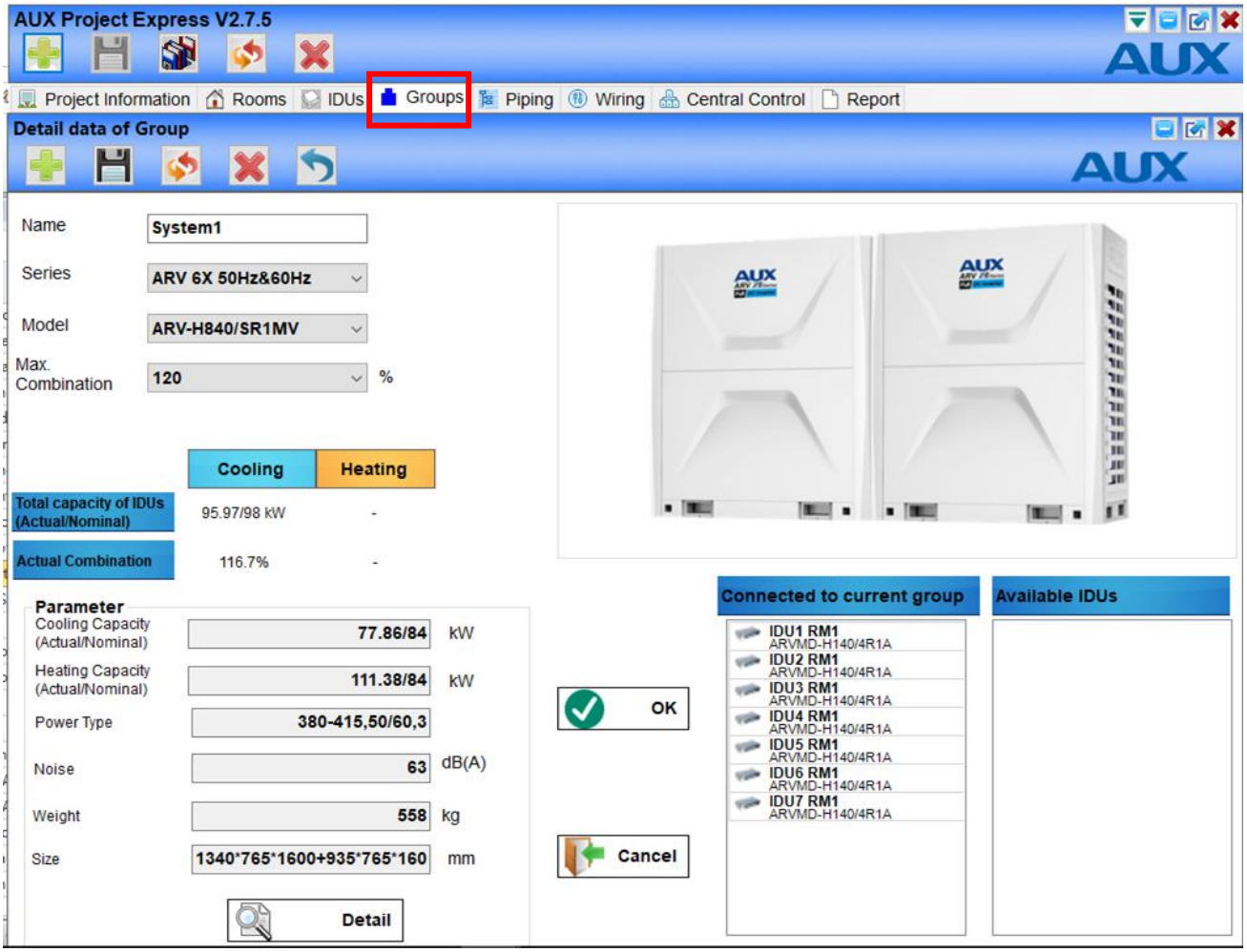


	Name	Type	Model	Nomina Cooling Capacit	Actual Cooling Capacit	Nomina Heating Capacit	Actual Heating Capacit	Airflow(r	Noise(d	Pressur	Net Weight(	Size(mm)	Connectec ODU
	IDU1	Middle Static Pressur...	ARVMD-H045/...	3.42/...	3.31/...	-	-	950	42/3...	50	35	890*785*290	
	IDU2	Middle Static Pressur...	ARVMD-H045/...	3.42/...	3.31/...	-	-	950	42/3...	50	35	890*785*290	
	IDU3	Middle Static Pressur...	ARVMD-H045/...	3.42/...	3.31/...	-	-	950	42/3...	50	35	890*785*290	
	IDU4	Middle Static Pressur...	ARVMD-H045/...	3.42/...	3.31/...	-	-	950	42/3...	50	35	890*785*290	
	IDU5	Middle Static Pressur...	ARVMD-H045/...	3.42/...	3.31/...	-	-	950	42/3...	50	35	890*785*290	
	IDU6	Middle Static Pressur...	ARVMD-H045/...	3.42/...	3.31/...	-	-	950	42/3...	50	35	890*785*290	
	IDU7	Middle Static Pressur...	ARVMD-H045/...	3.42/...	3.31/...	-	-	950	42/3...	50	35	890*785*290	
	IDU8	Middle Static Pressur...	ARVMD-H045/...	3.42/...	3.31/...	-	-	950	42/3...	50	35	890*785*290	
▸*													

Part 4

Selecting Outdoor Units as Below:

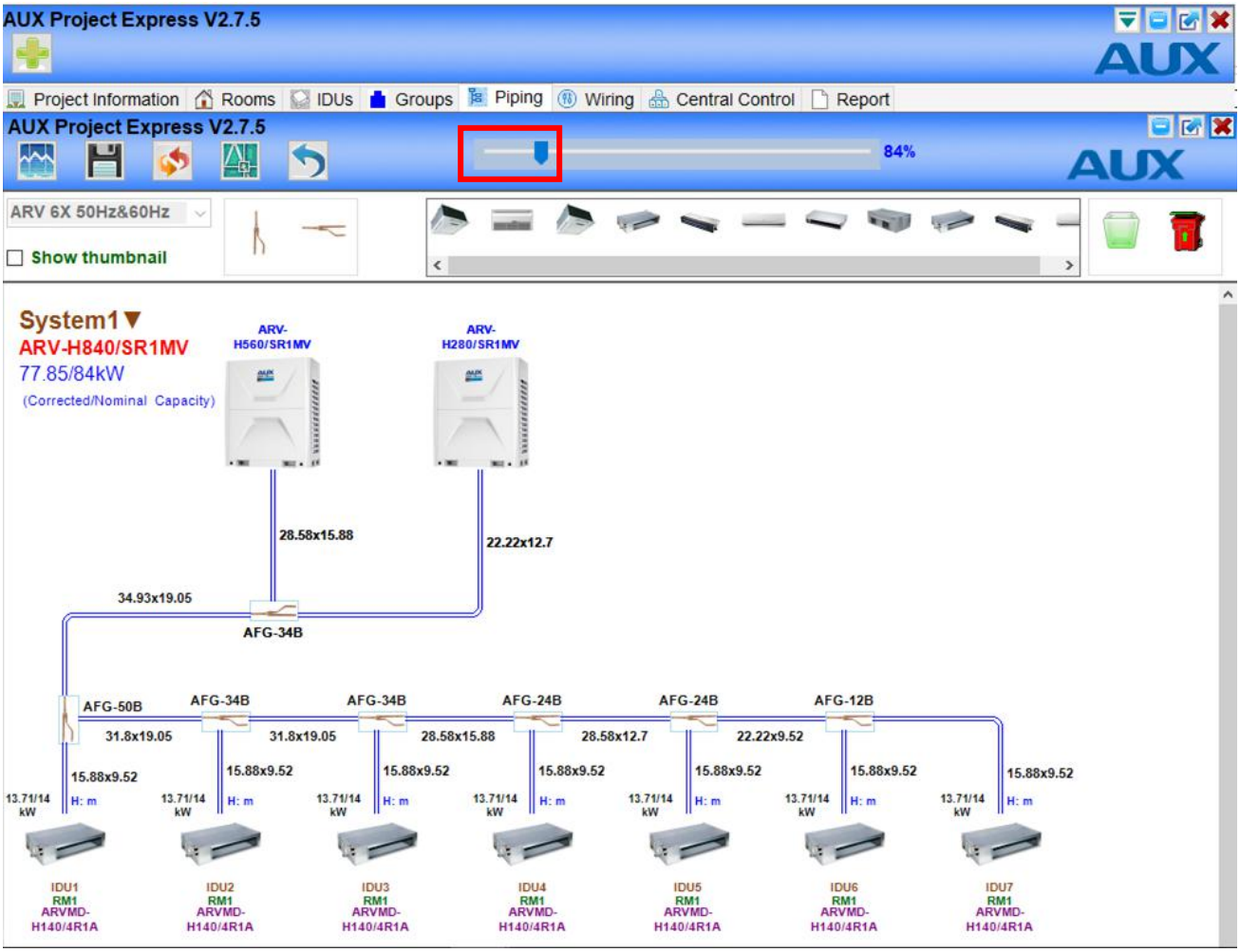
Automatic selection suitable outdoor unit for project according to the capacity of indoor units, the capacity ratio between indoor and outdoor unit



Part 5

Drawing Piping Diagram as Below:

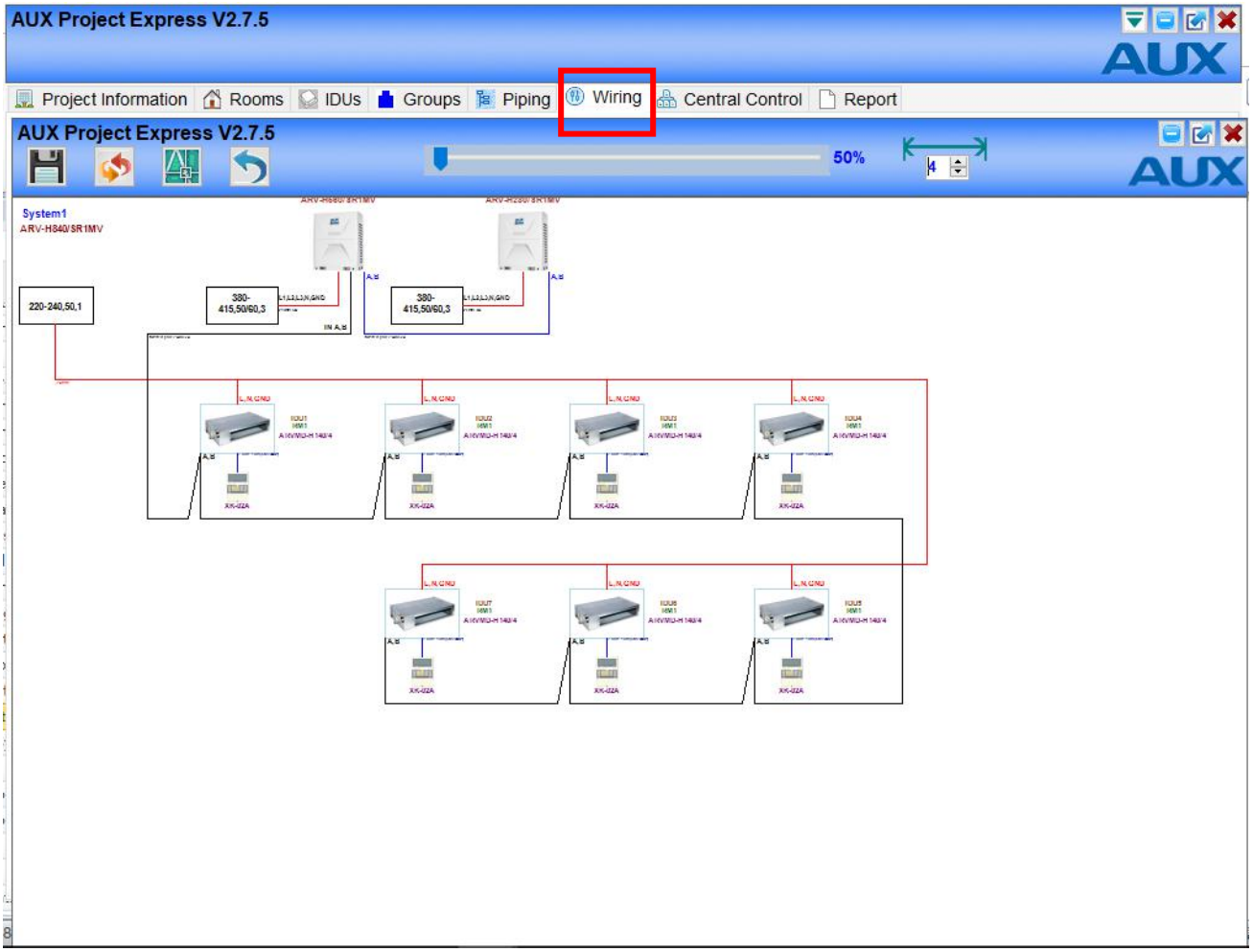
Every outdoor system can draw corresponding piping diagram. The system will auto select branch pipe, gas pipe and liquid pipe according to selected indoor and outdoor unit. The pipe length can be input according to the project diagram if the project need. Ability compensation also can be displayed for the software



Part 6

Drawing Wiring Diagram as Below:

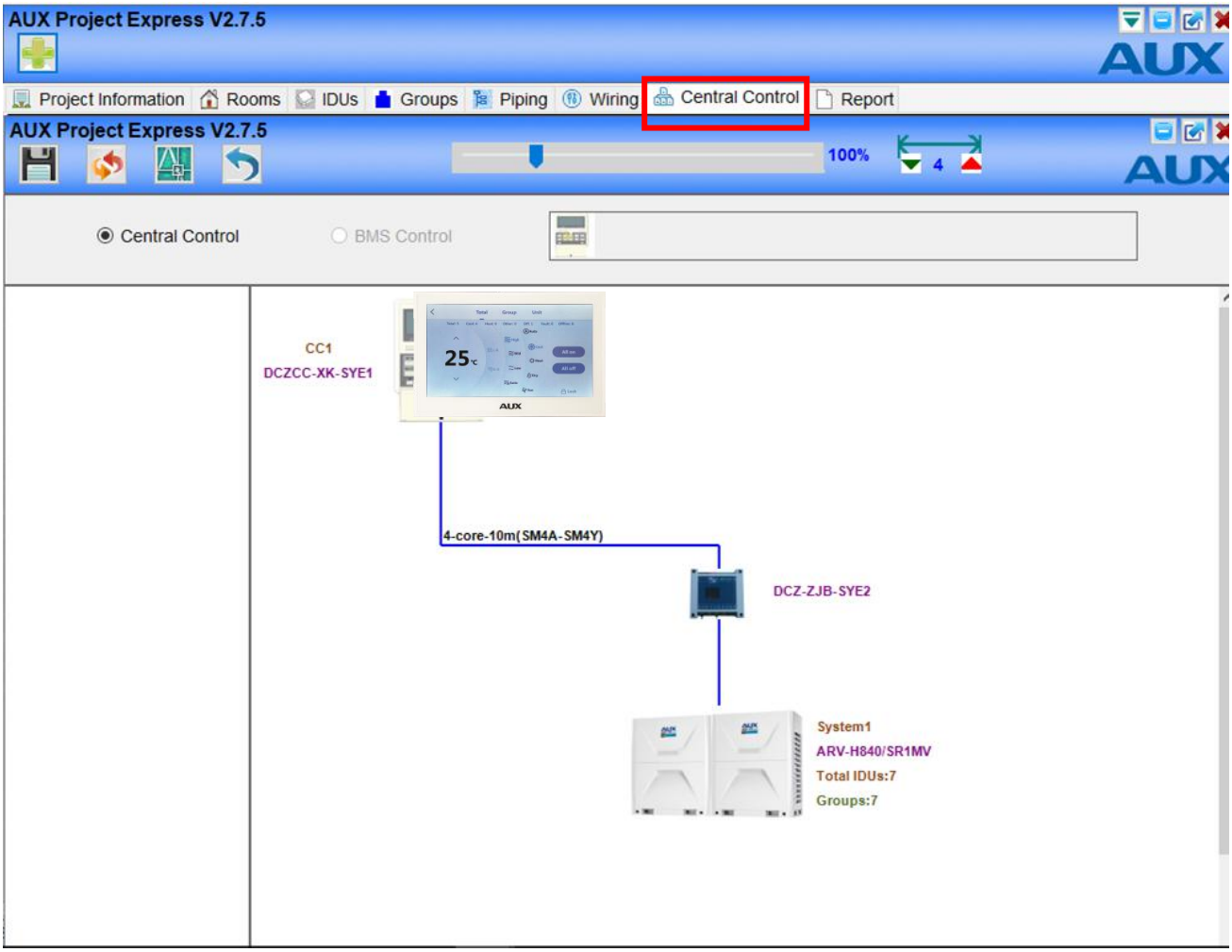
Every outdoor system can draw wiring diagram. The wiring length can be input according to the project diagram if the project need. Wiring includes: power cable, single cable and so on. Remote controller and wired controller can be chosen according to the customer's demands



Part 7

Selecting Centralized Controlleras Below:

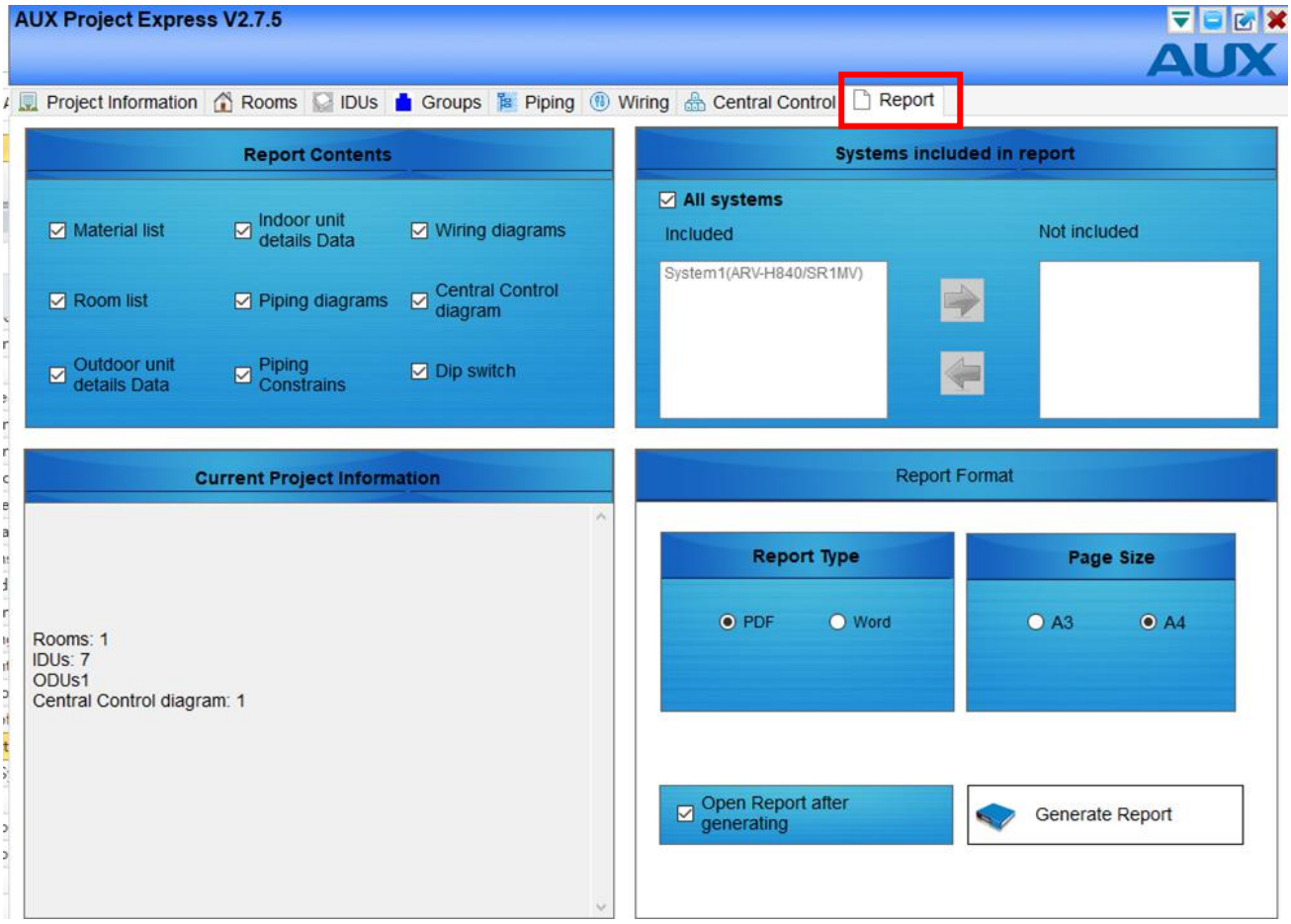
The software can be used to select centralized controller and draw connecting wiring diagram



Part 8

Output the report as Below:

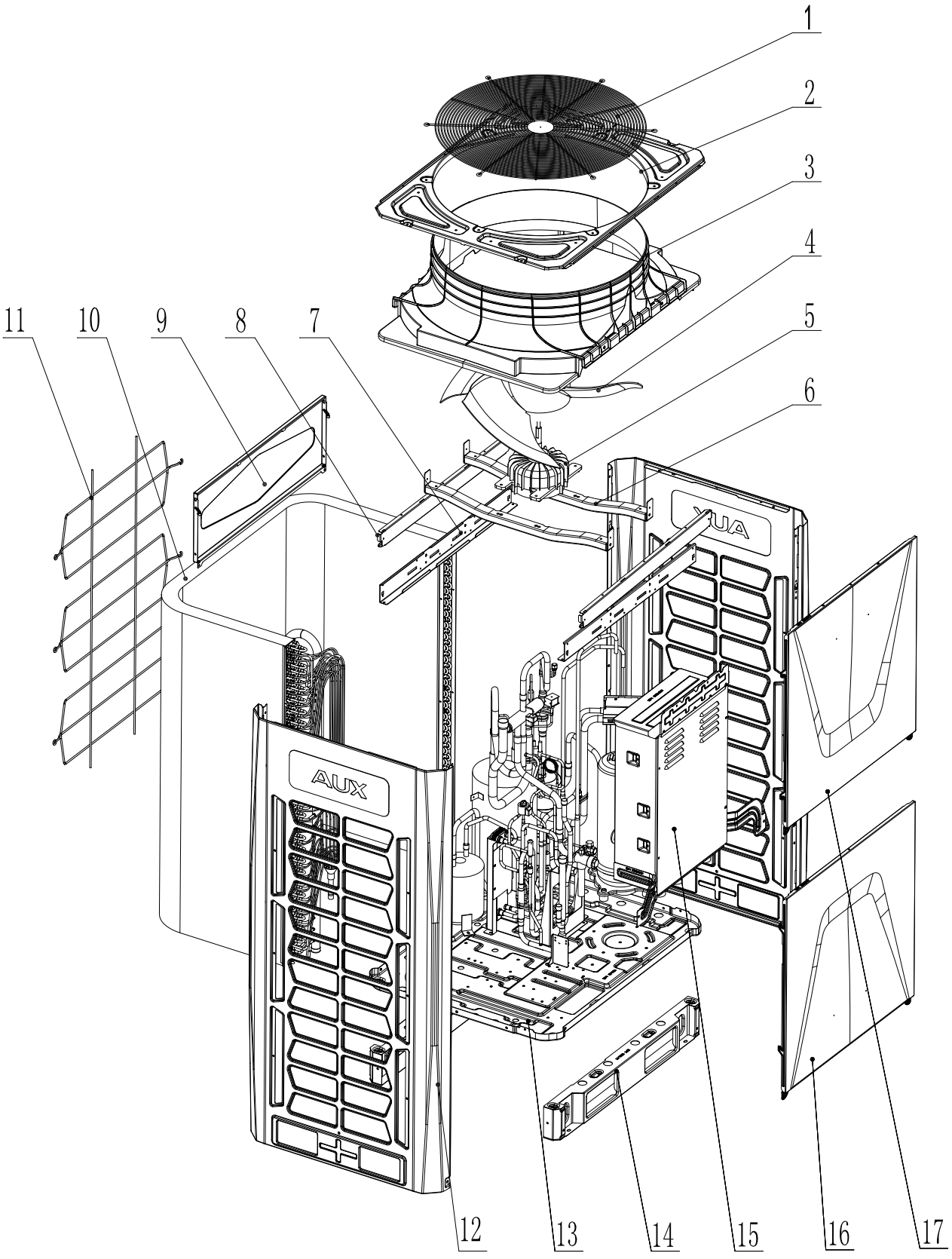
The report can be output in kinds of forms: PDF, word



Part4 Explode View and Spare Parts

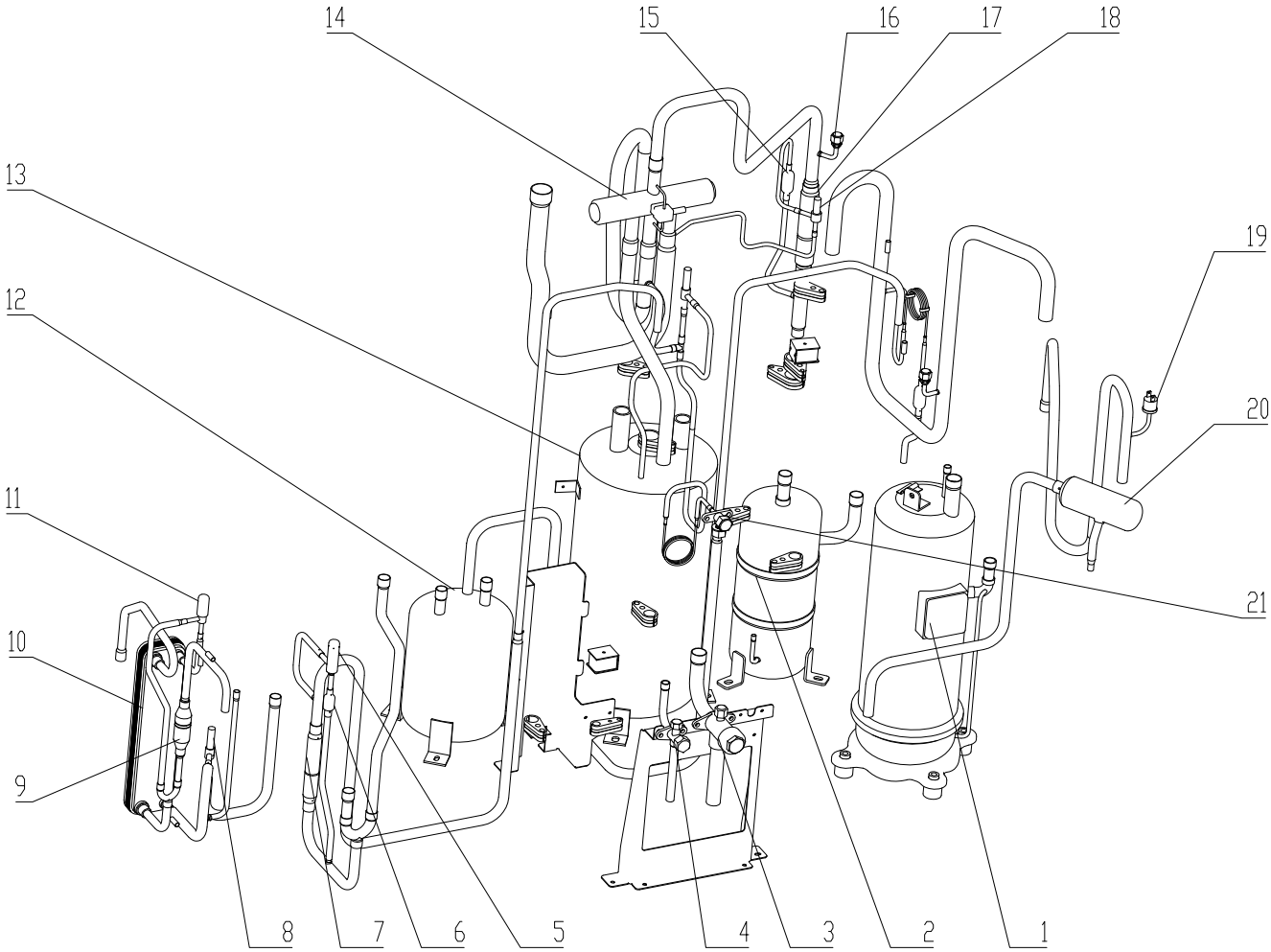
1. ARV-H*/SR1MV (* ~ 250.280.330)

Overall structure



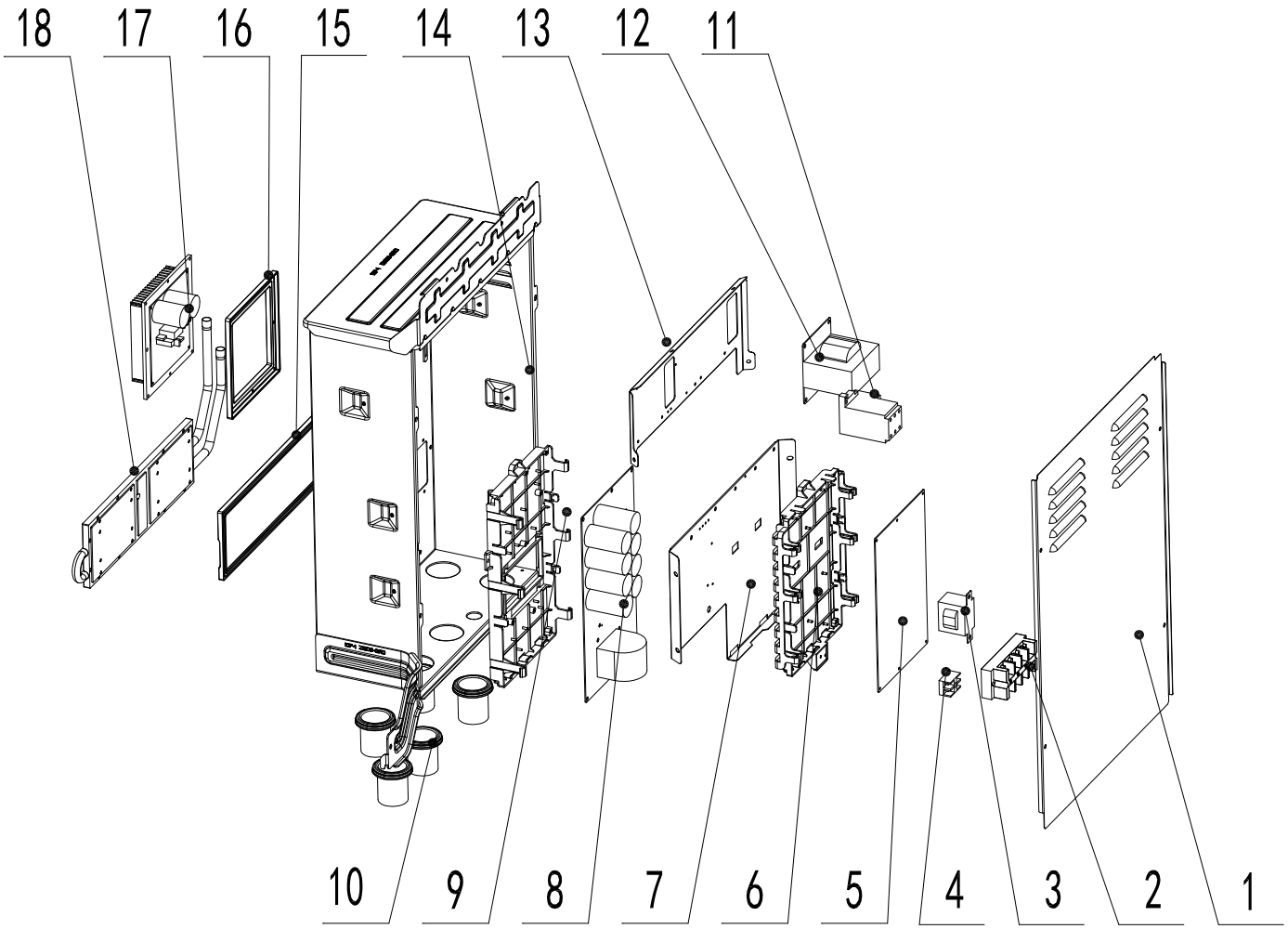
N0.	Part Name (Chinese)	Part Name	Quantity	Unit
1	DLR-280W5/DCM-ARV5(新外观)网罩	Fan blade cover	1	
2	DLR-280W5/DCM-ARVX7 顶盖板(喷涂)	Top cover plate (spray)	1	
3	DLR-280W5/DCM-ARVX7 导风圈(耐候 PP)	Guide ring	1	
4	轴流风叶φ700×206.6	Axial fan blade	1	
5	室外电机 DMSB-750W-8P	Fan motor	1	
6	DLR-615W5/DCM-ARVX7 电机支架组件(喷涂)	Motor bracket assembly (spray)	2	
7	DLR-280W5/DCM-ARVX7 电机横梁(喷涂)	Motor beam (spray)	2	
8	DLR-280W5/DCM-ARVX7 上横梁	Upper beam (spraying)	2	
9	DLR-615W5/DCM-ARVX7 后上面板(喷涂)	Rear panel (spray)	1	
10	DLR-280W5/DCM-ARVX7 冷凝器总成(2 排 7 宽)1.5 蓝	Condenser assembly	1	
11	DLR-280W5/DCM-ARVX7 后网罩(喷涂)	Rear net cover	1	
12	DLR-615W5/DCM-ARVX7 侧板(喷涂)	Side panel (spray)	2	
13	顶出风 X7 底盘组件(M6*51)10P(喷涂)	Chassis assembly	1	
14	DLR-280W5/DCM-ARVX7 底座横梁组件(喷涂)	Base beam assembly (spray)	2	
15	DLR-335W5/DCM-ARVX7 电气总成	Electrical assembly	2	
16	DLR-280W5/DCM-ARVX7 前下面板(喷涂)	Front panel (spray)	1	
17	DLR-280W5/DCM-ARVX7 前上面板(喷涂)	Front lower panel (sprayed)	1	
18				
19				

Piping



N0.	Part Name (Chinese)	Part Name	Quantity	Unit
1	压缩机 AA55PHDG-D1Y2(日立)	Compressor	1	
2	油分离器φ127*300(R410a)	Oil separator	1	
3	(ROHS)截止阀组件 7/8in(双焊接)	stop valve 7/8in	2	
4	(ROHS)截止阀组件 1/2in(双焊接)	stop valve 1/2in	1	
5	(ROHS)电子膨胀阀阀体 UKV-32D61	EXV	1	
6	过滤器φ8×φ9.52-50	Filter	1	
7	单向阀 16.0×16.0-160	Globe valve 1/4in	1	
8	电磁阀阀体 FDF6A	Solenoid valve body	1	
9	过滤器φ12.7×φ12.7-100	Four-way valve body	1	
10	板式换热器 D22L-16-2*1/2in+2*3/8in	Plate heat exchanger	1	
11	电子膨胀阀阀体 CAM-BD18FKS-1	EXV	1	
12	储液器 4L(双向)	storage	1	
13	气液分离器 QFQ-15L(22)(立)	Gas-liquid separator	1	
14	四通换向阀阀体 SHF-H35672-003	4-WAY VALVE	1	
15	过滤器φ6×φ8-66	Filter	2	
16	针阀 1/4in(弯管)(R410a)	Needle valve 1 / 4in	2	
17	单向阀 22.2×24.6-160	One way valve	1	
18	电磁阀阀体 FDF2A	Solenoid valve body	1	
19	高压开关 H2OPS D 4.2/3.3(弯管)	High pressure switch	1	
20	消音器 16/9.52-50.8×155(L 型)	Silencer	1	
21	(ROHS)截止阀 1/4in(直管)(R410a)	Check valve	1	
22				
23				
24				

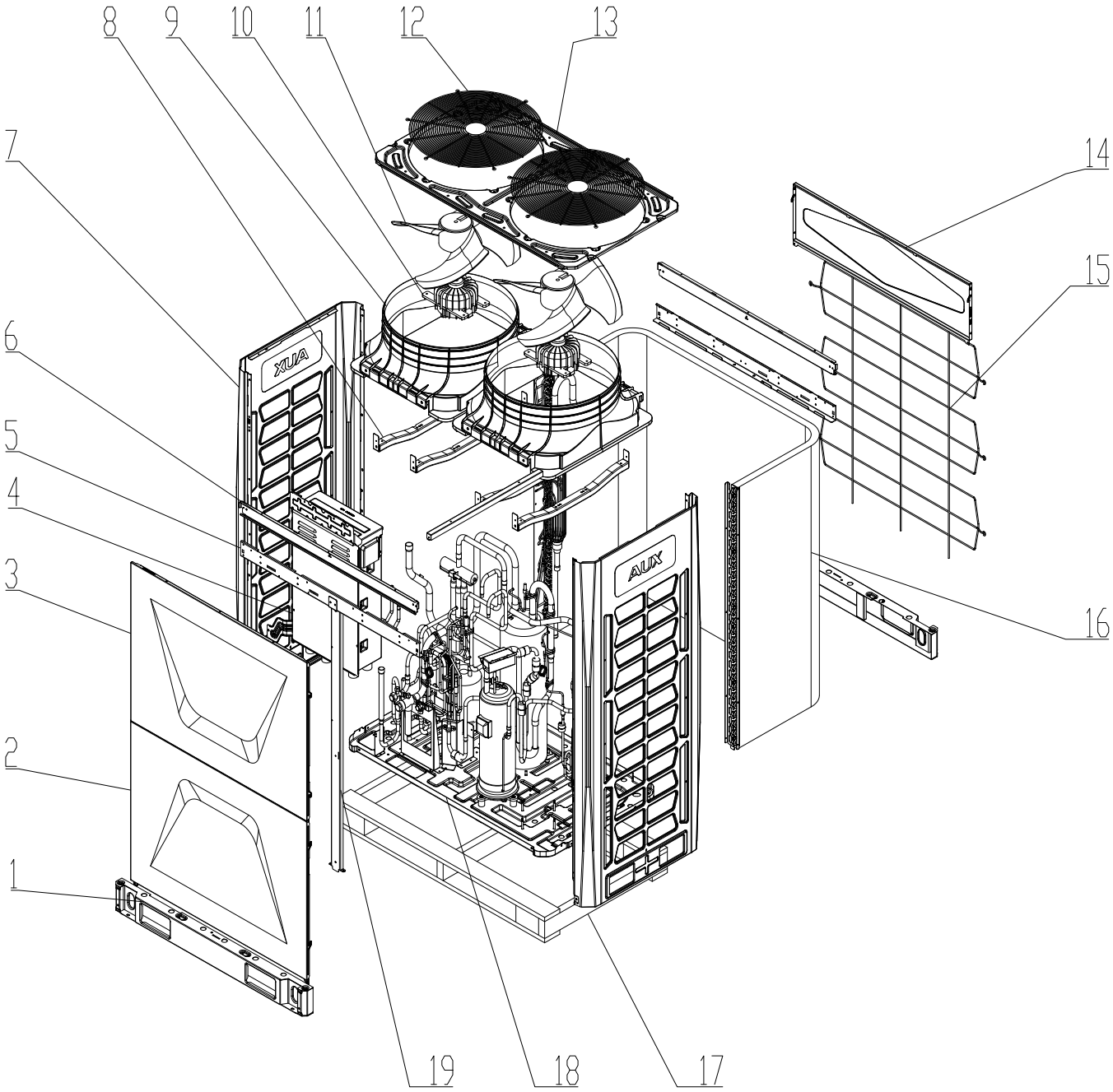
Electrical box



N0.	Part Name (Chinese)	Part Name	Quantity	Unit
1	DLR-615W5/DCM-ARVX7 电控盒盖	Master mounting plate	1	
2	端子板 4 位(600V 35mm2)	Terminal board	1	
3	(ROHS)变压器 TDB-16-B2B	Transformer	1	
4	端子板 2 位(600V 4mm2)AB	Terminal board	1	
5	CJ 控制板 DLW-BP-3F5(X7)-E2(SY)	PCB	1	
6	主控安装板 270*172(ABS+PC)	Module board	1	
7	DLR-615W5/DCM-ARVX7 电控上层固定板	Electric control upper fixed plate	1	
8	模块板 QD-1205-1F(750W)-1(HT)	Drive modular plate	1	
9	驱动安装板 325*180(ABS+PC)	Drive modular installation plate	1	
10	过线胶圈φ43*60(阻燃型)	Through apron	5	
11	交流接触器 GC3-18/01 KKG	AC contactor	1	
12	电抗器 DK-2mH-40A	Reactor	1	
13	DLR-615W5/DCM-ARVX7 电抗固定板	Reactor fix plate	1	
14	DLR-615W5/DCM-ARVX7 电控盒组件	Terminal board	1	
15	橡胶密封垫 176*170*2.5	Rubber gasket	1	
16	橡胶密封垫 374*120*3	Rubber gasket	1	
17	散热器模块组件 QD-3330(日立 AA55)-C1(SY)	Radiator module assembly	1	
18	散热器组件(2-110*50)	Radiator module assembly	1	

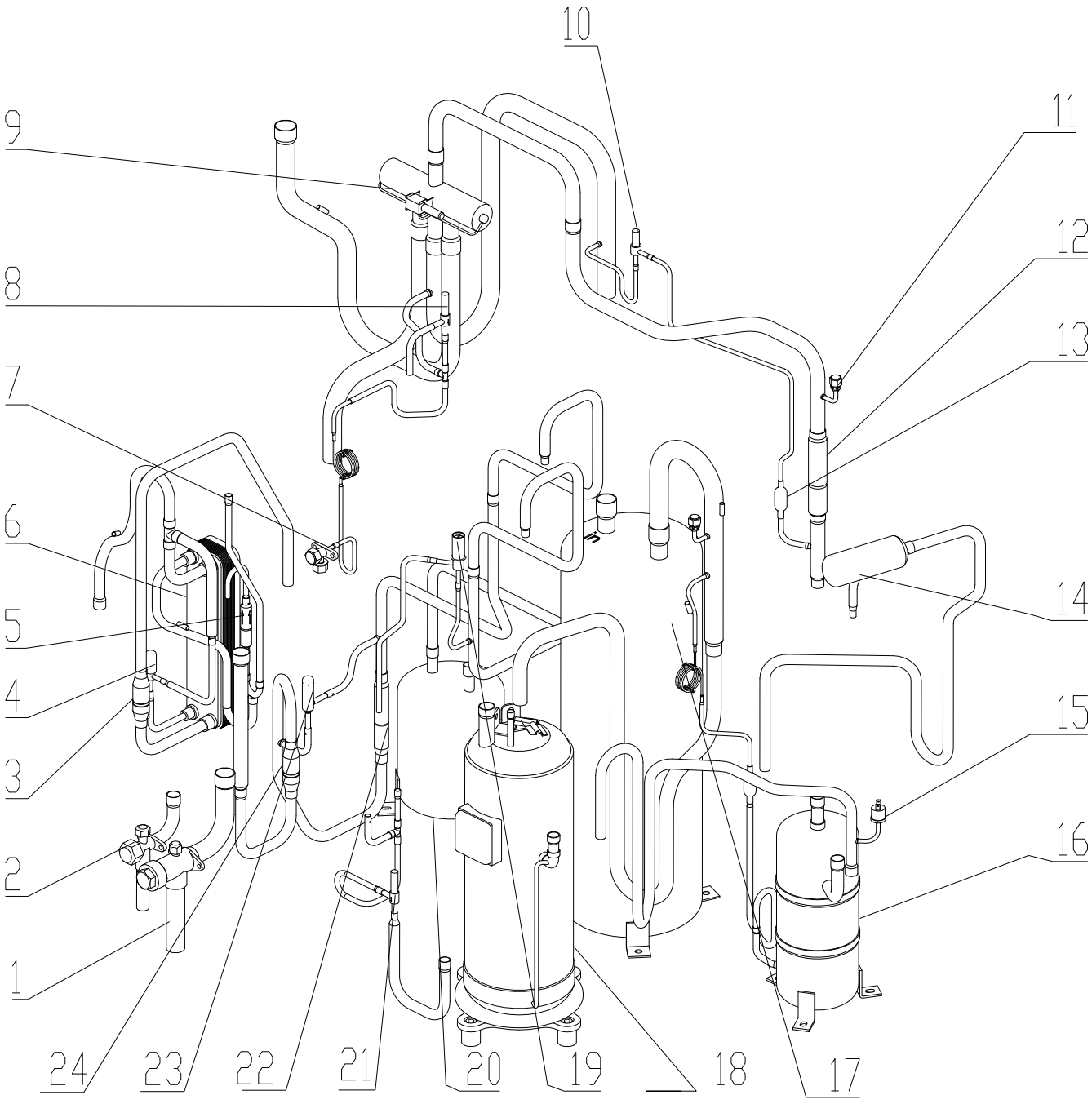
2. ARV-H*/SR1MV (* ~ 400.450)

Overall structure



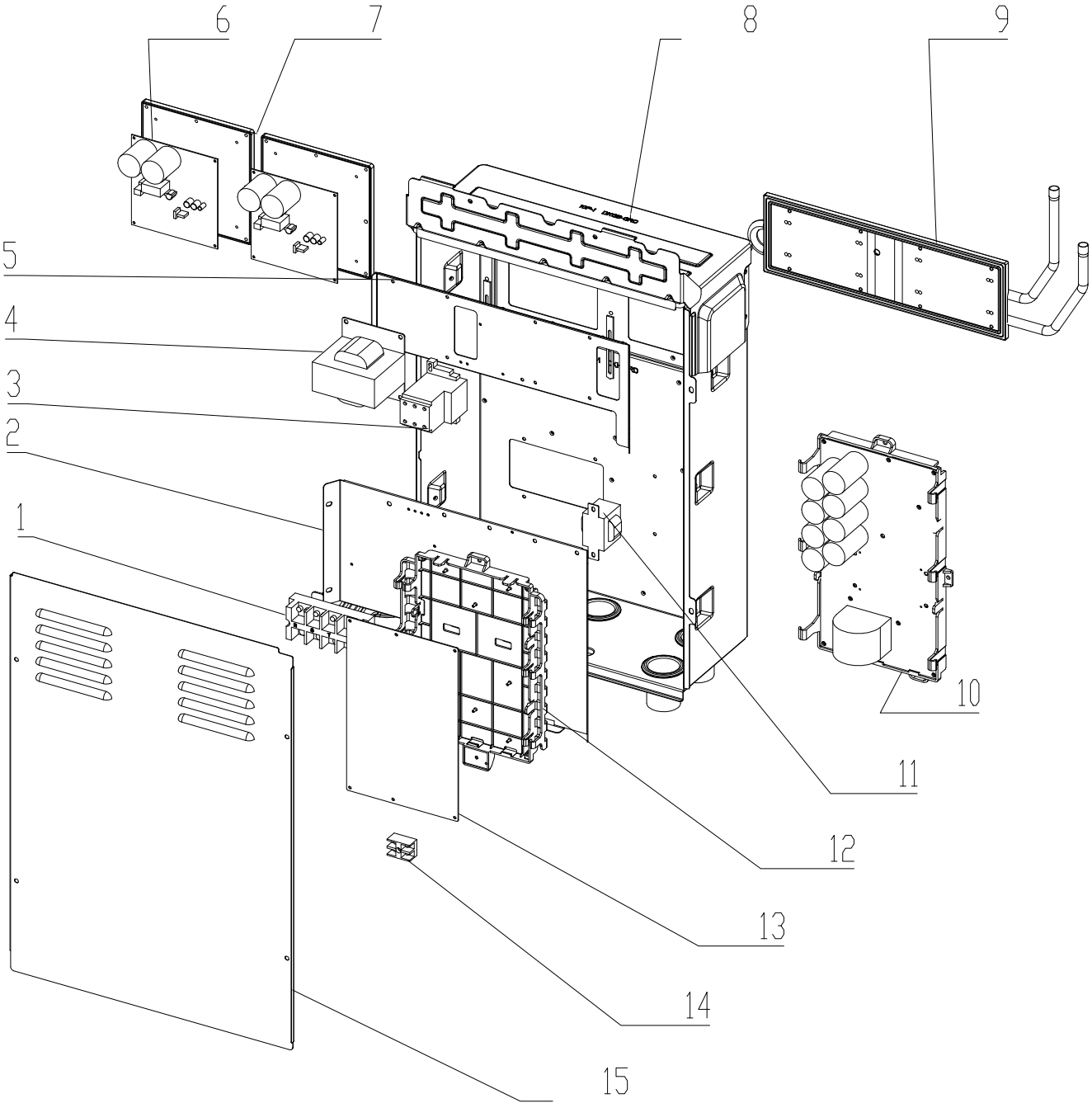
N0.	Part Name (Chinese)	Part Name	Quantity	Unit
1	DLR-615W5/DCM-ARVX7 底座横梁组件(喷涂)	Base beam assembly (spray)	1	
2	DLR-615W5/DCM-ARVX7 前上面板(喷涂)	Front panel (spray)	1	
3	DLR-615W5/DCM-ARVX7 前下面板(喷涂)	Front lower panel (sprayed)	1	
4	DLR-450W5/DCM-ARVX7 电气总成	Electrical assembly	1	
5	DLR-615W5/DCM-ARVX7 电机横梁(喷涂)	Motor beam (spray)	2	
6	DLR-615W5/DCM-ARVX7 上横梁(喷涂)	Upper beam (spraying)	2	
7	DLR-615W5/DCM-ARVX7 侧板(喷涂)	Side panel (spray)	2	
8	DLR-615W5/DCM-ARVX7 电机支架组件(喷涂)	Motor bracket assembly (spray)	4	
9	DLR-615W5/DCM-ARVX7 导风圈(耐候 PP)	Air guide ring	2	
10	室外电机 DMSB-450W-8P	Motor	2	
11	轴流风叶 φ600×178	Axial blades	2	
12	DLR-560W5/DCM-ARV3 风叶网罩	Leaf net cover	2	
13	DLR-615W5/DCM-ARVX7 顶盖板(喷涂)	Top cover (spray)	1	
14	DLR-615W5/DCM-ARVX7 后上面板(喷涂)	Rear panel (spray)	1	
15	DLR-615W5/DCM-ARVX7 后网罩(喷涂)	Rear net cover	1	
16	DLR-450W5/DCM-ARVX7 冷凝器总成(2 排 7 宽)1.5 蓝	Condenser assembly	1	
17	包装木底架 DLR-450W5/DCM3	Wooden frame for packing	1	
18	顶出风 X7 底盘组件(M6*51)16P(喷涂)	Chassis assembly	1	
19	DLR-615W5/DCM-ARVX7 中立柱	Center column	1	

Piping



N0.	Part Name (Chinese)	Part Name	Quantity	Unit
1	(ROHS)截止阀组件 9/8in(双焊接)	Stop valve assembly	1	
2	截止阀 3/4in(R410a) 双焊接	Globe valve 3/4in	1	
3	过滤器φ16×φ16-100	Filter	2	
4	电子膨胀阀阀体 CAM-BD22FKS-1	Valve body of electronic expansion valve	1	
5	单向阀 9.52×9.52-100	Check valve	1	
6	板式换热器 D22L-30-2*1/2in+3/8in+5/8in	Plate heat exchanger	1	
7	(ROHS)截止阀 1/4in(直管)(R410a)	Globe valve 1/4in	1	
8	电磁阀阀体 FDF6A	Electronic valve body	1	
9	四通换向阀阀体 SHF-H35792-007	Four-way valve body	1	
10	电磁阀阀体 FDF2A	Solenoid valve body	1	
11	针阀 1/4in(弯管)(R410a)	Needle valve 1 / 4in	2	
12	单向阀 22.2×24.6-160	One way valve	1	
13	过滤器φ6×φ8-66	Filter	2	
14	消音器 16/9.52-50.8×155(L 型)	Silencer	1	
15	高压开关 H2OPS D 4.2/3.3(弯管)	High pressure switch	1	
16	油分离器φ127*300(R410a)	Oil separator	1	
17	气液分离器 QFQ-23L(28.7)(立)	Gas-liquid separator	1	
18	压缩机 DC80PHDG-D1Y2(日立)	Compressor	1	
19	卸荷阀 6.35×6.35(4.0)Mpa	Unloading valve	1	
20	储液器 4L(双向)	Reservoir	1	
21	电磁阀阀体 FDF6A	Solenoid valve body	1	
22	单向阀 16.0×16.0-160	One way valve	1	
23	(ROHS)电子膨胀阀阀体华鹭 UKV4.0D(R410a)	Electronic expansion valve body	1	
24	过滤器φ16×φ16-100	Filter	1	

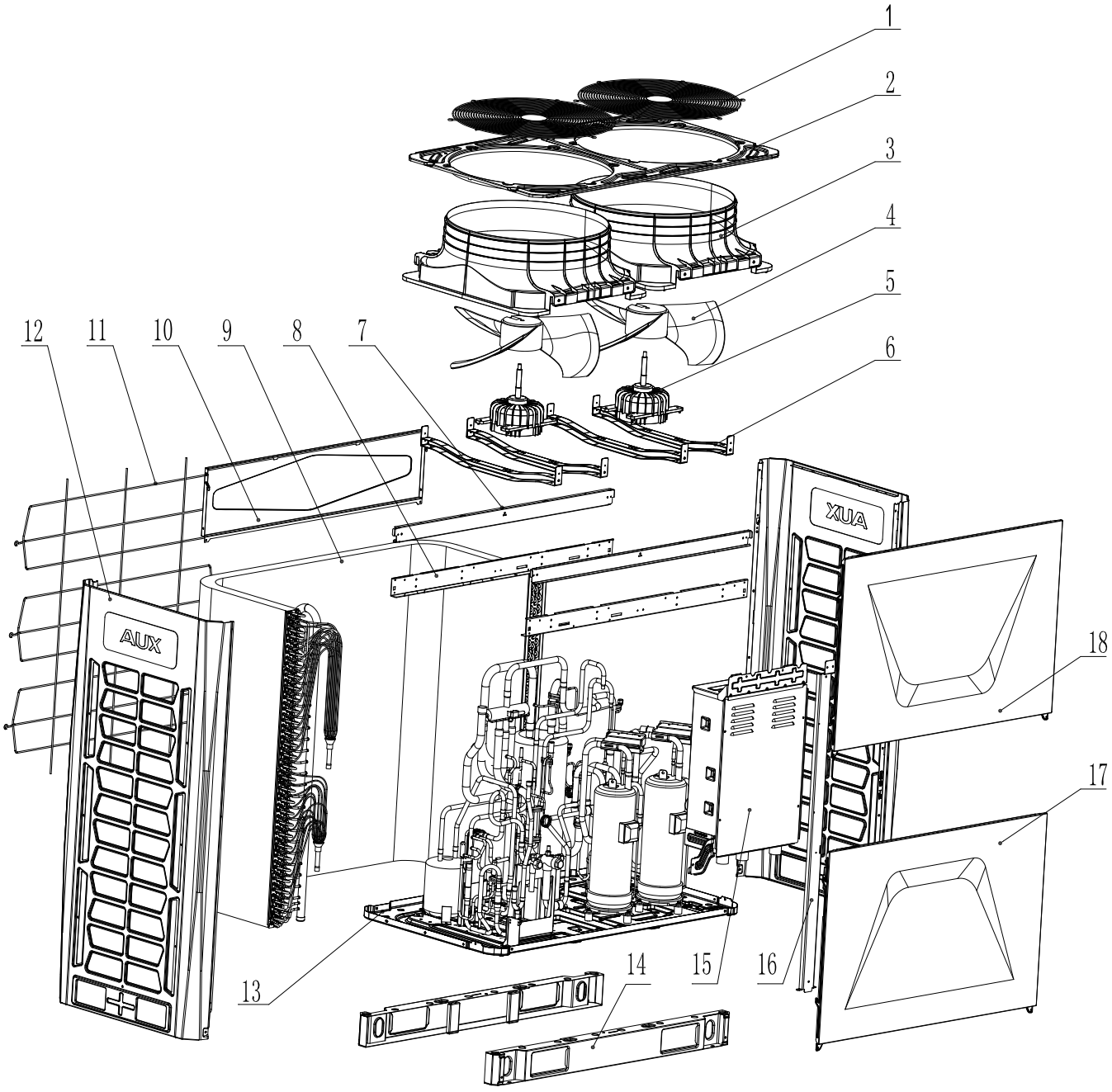
Electrical box



N0.	Part Name (Chinese)	Part Name	Quantity	Unit
1	端子板 4 位(600V 35mm2)	Terminal board	1	
2	DLR-615W5/DCM-ARVX7 电控上层固定板	Electric control upper fixed plate	1	
3	交流接触器 GC3-18/01 KKG	AC contactor	1	
4	电抗器 DK-2mH-40A	Reactor	1	
5	DLR-615W5/DCM-ARVX7 电抗固定板	Reactance plate	1	
6	模块板 QD-1205-1F(750W)-1(HT)	Module board	2	
7	橡胶密封垫 176*170*2.5	Rubber gasket	2	
8	DLR-450W5/DCM-ARVX7 电控盒组件	Electrical control box assembly	1	
9	散热器组件(2-110*50)	Radiator assembly	1	
10	散热器模块组件 QD-3335(日立 DC80)-C1(SY)	Radiator module assembly	1	
11	(ROHS)变压器 TDB-16-B2B	Transformer	1	
12	主控安装板 270*172(ABS+PC)	Master mounting plate	1	
13	CJ 控制板 DLW-BP-3F5(X7)-E2(SY)	CJ control panel	1	
14	端子板 2 位(600V 4mm2)AB	Terminal board	1	
15	DLR-615W5/DCM-ARVX7 电控盒盖	Cover of electric control box	1	

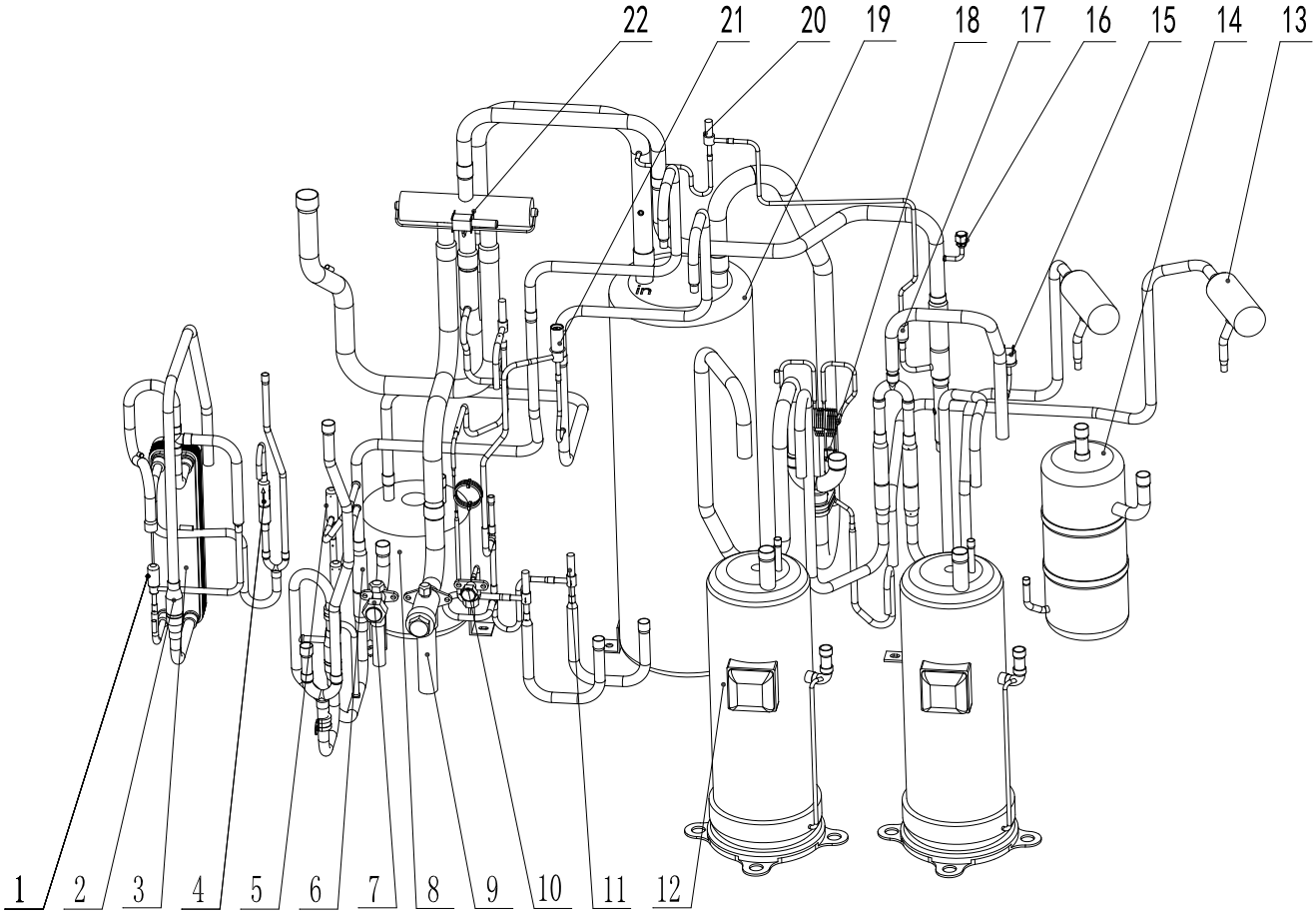
3. ARV-H*/SR1MV (* ~ 500.560.610)

Overall structure



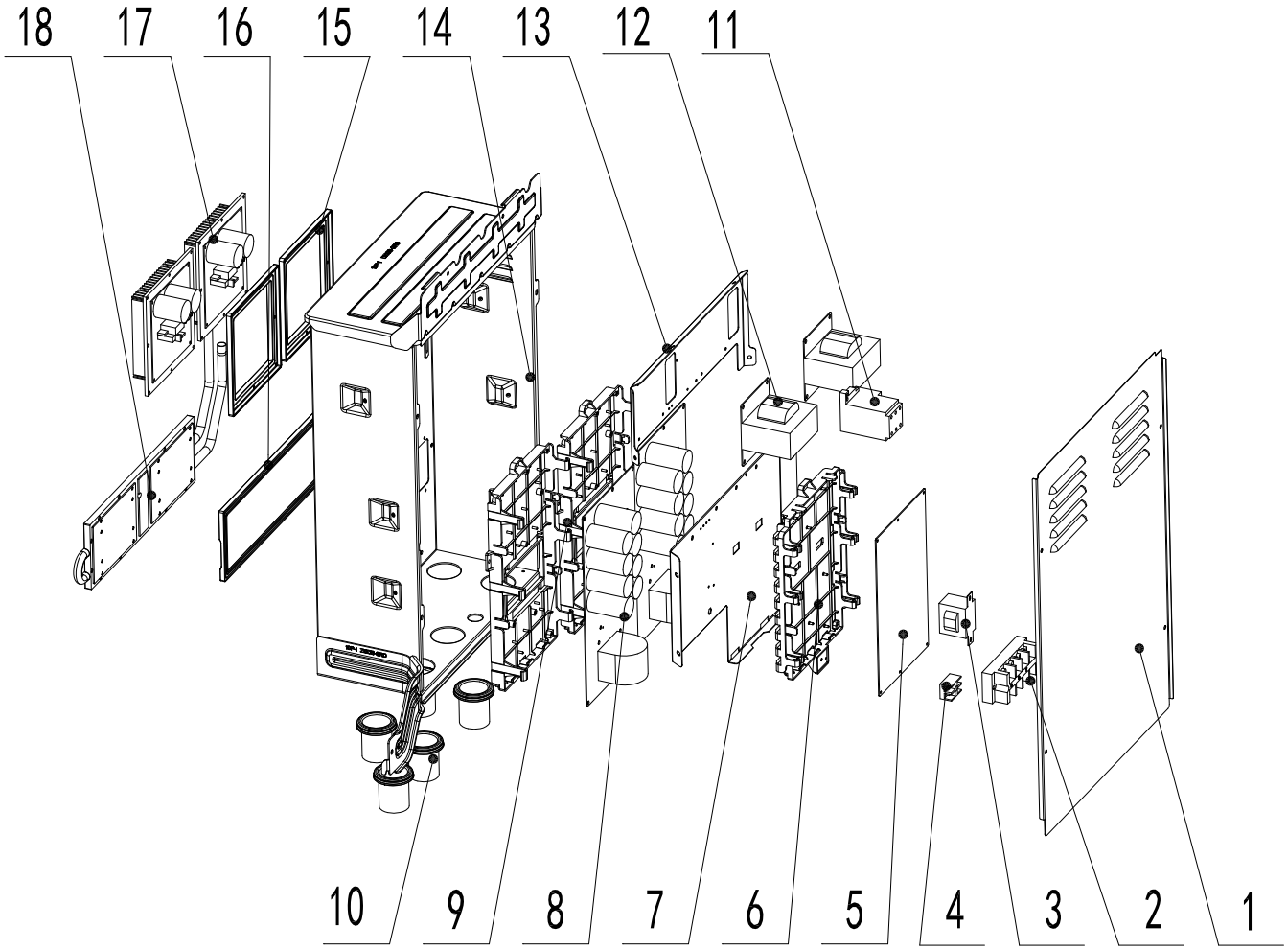
N0.	Part Name (Chinese)	Part Name	Quantity	Unit
1	DLR-560W5/DCM-ARV3 风叶网罩	Fan blade cover	2	
2	DLR-615W5/DCM-ARVX7 顶盖板(喷涂)	Top cover plate (spray)	1	
3	DLR-615W5/DCM-ARVX7 导风圈(耐候 PP)	Guide ring	2	
4	轴流风叶φ600×178	Axial fan blade	2	
5	室外电机 DMSB-450W-8P	Fan motor	4	
6	DLR-615W5/DCM-ARVX7 电机支架组件(喷涂)	Motor bracket assembly (spray)	2	
7	DLR-615W5/DCM-ARVX7 上横梁(喷涂)	Upper beam(spray)	2	
8	DLR-615W5/DCM-ARVX7 电机横梁(喷涂)	Motor beam (spray)	1	
9	DLR-615W5/DCM-ARVX7 冷凝器总成(3 排 7 宽)1.5 蓝	Condenser assembly	1	
10	DLR-615W5/DCM-ARVX7 后上面板(喷涂)	Rear panel (spray)	1	
11	DLR-615W5/DCM-ARVX7 后网罩(喷涂)	Rear net cover	1	
12	DLR-615W5/DCM-ARVX7 侧板(喷涂)	Side panel (spray)	2	
13	顶出风 X7 底盘组件(M6*51)16P(喷涂)	Chassis assembly	1	
14	DLR-615W5/DCM-ARVX7 底座横梁组件(喷涂)	Base beam assembly (spray)	2	
15	DLR-615W5/DCM-ARVX7 电气总成	Electrical assembly	2	
16	DLR-615W5/DCM-ARVX7 中立柱	Front panel (spray)	1	
17	DLR-615W5/DCM-ARVX7 前下面板(喷涂)	Front lower panel (sprayed)	1	
18	DLR-615W5/DCM-ARVX7 前上面板(喷涂)	front panel (spray)	1	
19				

Piping



N0.	Part Name (Chinese)	Part Name	Quantity	Unit
1	电子膨胀阀阀体 CAM-BD22FKS-1	Valve body of electronic expansion valve	1	
2	过滤器φ16×φ16-100	Filter	1	
3	板式换热器 D22L-30-2*1/2in+3/8in+5/8in	Plate heat exchanger	1	
4	单向阀 9.52×9.52-100	One way valve	1	
5	(ROHS)电子膨胀阀阀体 UKV-32D61	Valve body of electronic expansion valve	2	
6	单向阀 16.0×16.0-160	One way valve	3	
7	截止阀 3/4in(R410a) 双焊接	Globe valve 3/4in	1	
8	储液器 4L(双向)	Electronic valve body	1	
9	(ROHS)截止阀组件 9/8in(双焊接)	Globe valve 9/8in	1	
10	(ROHS)截止阀 1/4in(直管)(R410a)	Globe valve 1/4in	1	
11	电磁阀阀体 FDF6A	Solenoid valve body	3	
12	压缩机 AA55PHDG-D1Y2(日立)	Compressor	2	
13	消音器 16/9.52-50.8×155(L 型)	Silencer	2	
14	油分离器φ127*300(R410a)	Oil separator	1	
15	高压开关 H2OPS D 4.2/3.3(弯管)	High pressure switch	1	
16	针阀 1/4in(弯管)(R410a)	Needle valve 1 / 4in	2	
17	过滤器φ6×φ8-66	Filter	1	
18	DLR-160W/DCZ6 过滤器组件(φ6×φ2.6×φ2.6)	Filter	1	
19	气液分离器 QFQ-23L(28.7)(立)	Gas-liquid separator	1	
20	电磁阀阀体 FDF2A	Reservoir	1	
21	卸荷阀 6.35×6.35(4.0)Mpa	Unloading valve	1	
22	四通换向阀阀体 SHF-H35792-007	Four-way valve body	1	
23				
24				

Electrical box



N0.	Part Name (Chinese)	Part Name	Quantity	Unit
1	DLR-615W5/DCM-ARVX7 电控盒盖	board Electrical control box assembly	1	
2	端子板 4 位(600V 35mm2)	Terminal board	1	
3	(ROHS)变压器 TDB-16-B2B	Transformer	1	
4	端子板 2 位(600V 4mm2)AB	Terminal board	1	
5	CJ 控制板 DLW-BP-3F5(X7)-E2(SY)	PCB	1	
6	主控安装板 270*172(ABS+PC)	Master mounting plate	1	
7	DLR-615W5/DCM-ARVX7 电控上层固定板	Electric control upper fixed plate	1	
8	模块板 QD-1205-1F(750W)-1(HT)	Module board	2	
9	驱动安装板 325*180(ABS+PC)	Module board installation	2	
10	过线胶圈φ43*60(阻燃型)	Through apron	5	
11	交流接触器 GC3-18/01 KKG	AC contactor	1	
12	电抗器 DK-2mH-40A	Reactor	2	
13	DLR-615W5/DCM-ARVX7 电抗固定板	CJ control panel	1	
14	DLR-615W5/DCM-ARVX7 电控盒组件	Cover of electric control box	1	
15	橡胶密封垫 176*170*2.5	Rubber gasket	2	
16	橡胶密封垫 374*120*3	Rubber gasket	1	
17	散热器模块组件 QD-3330(日立 AA55)-C1(SY)	Radiator module assembly	2	
18	散热器组件(2-110*50)	Radiator module assembly	1	

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