

TECHNICAL & SERVICE MANUAL V1.4

—DC-INVERTER AIR CONDITIONERS

MODEL:

Duct

ADT-09UX4SRNL3
ADT-12UX4SSNL3
ADT-18UX4SFKL3
AUD-09UX4SRNL3
AUD-12UX4SSNL3
AUD-18UX4SFKL3
AUD-24UX4SFLL3
AUD-36UX4SAHH3
AUD-42UX6STHH3
AUD-48UX6SPHH3
AUD-60UX6SPHH3

Ceiling & Floor

AVT-18UR4SFA3
AUV-18UR4SFA3
AUV-24UR4SFA3
AUV-36UR4SAB3
AUV-42UR6STC3
AUV-48UR6SPC3
AUV-60UR6SPC3

Cassette

ACT-12UR4SSAA3
ACT-18UR4SFAA3
AUC-12UR4SSAA3
AUC-18UR4SFAA3
AUC-24UR4SFGB3
AUC-36UR4SAGB3
AUC-42UR6STHB3
AUC-48UR6SPHB3
AUC-60UR6SPHB3

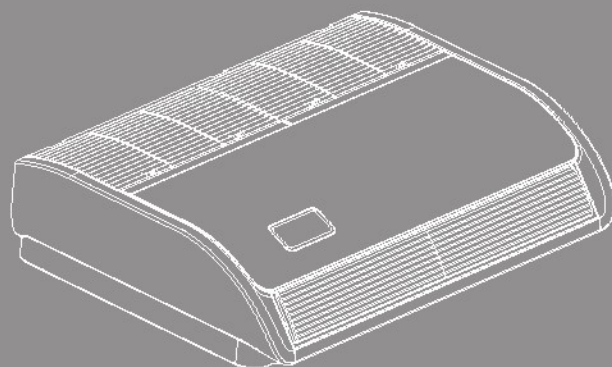
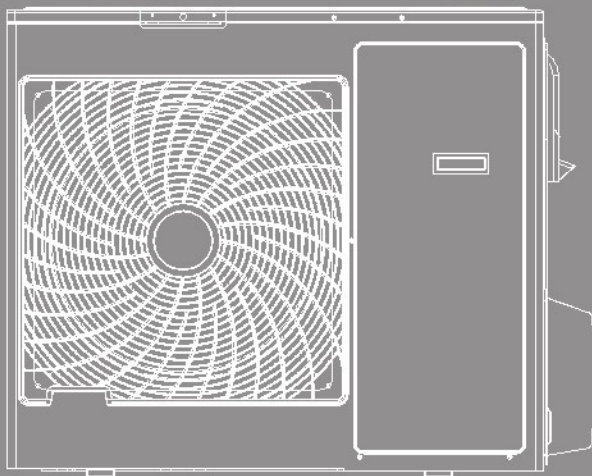
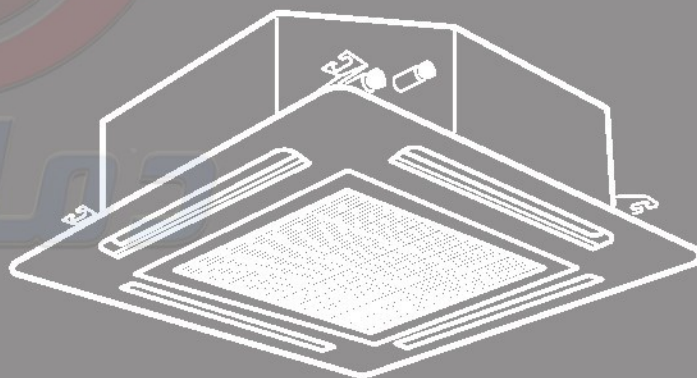
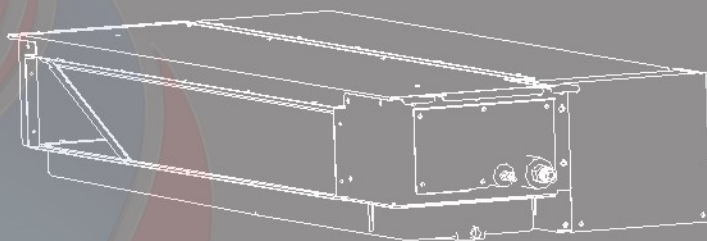


Table of Contents

1. General.....	1
1.1 Features	1
1.2 Product lineup	4
1.3 Model identification.....	5
1.4 Unit construction.....	5
1.5 Working range	6
1.6 Product picture	7
2. Specifications	14
2.1 Duct type	14
2.2 Cassette type	18
2.3 Ceiling&Floor type	22
3. Outlines and dimensions	26
3.1 Indoor units	26
3.2 Outdoor units.....	31
4. Electrical data	37
5. Capacities and selection data.....	38
5.1 Capacity characteristic charts	38
5.2 Piping length correction factor	53
5.3 Correction factors according to defrosting operation	55
6. Sound pressure data	56
7. Air flow distribution(Cassette type).....	64
8. ESP (External static pressure) chart (Duct type)	66
9. Refrigerant cycle.....	74
10. Fresh air intake function	79
11. Wiring diagram	80
11.1 Electrical wiring diagrams.....	80
11.2 Control board picture	91
11.3 Field setting	96
11.4 Instructions for the function setting of access control, fire protection, ON/OFF	104
11.5 Common wiring.....	106
11.6 Sensor parameter.....	108
12. Piping work and refrigerant charge.....	115
12.1 MAX. length allowed	115
12.2 Oil trap	115
12.3 Additional refrigerant charge.....	116
13. Control mode	117
13.1 Indoor unit mode control.....	117
13.2 Outdoor unit mode control	120
14. Troubleshooting.....	121
14.1 Trouble guide.....	121
14.2 Fault codes.....	126
15. Checking components	136
15.1 Check refrigerant system.....	136
15.2 Check parts unit	138

1. GENERAL

1. General

1.1 Features

Duct Type Air Conditioner



Features

➤ Save Installation Space

The indoor unit can be installed inside the ceiling conveniently.

➤ Optional Static Pressure

Optional ESP, a variety of optional installation methods.

➤ High Efficiency and Environment Friendly New Refrigerant-R410A

R410A can protect the environment and do not harm to the ozone layer.

➤ 24-hour Timer ON and OFF

This Timer can be set to automatically turn the unit on or off within a 24-hour period.

➤ Mute Operation

The excellent fan design enable the airflow to be quiet and smooth with minimum noise.

➤ Meeting Various Installation Requirements

The back-air-inlet type is usually to be adopted according to the actual installation space. The unit is also installed with down-air-inlet type and the noise will increase about 5-6dB.

➤ Self Recovery of Power Break

When the power supply is recovered after break, all preset are still effective and the air-conditioner can run according to the original setting.

➤ Fault Self-diagnose Function

When there is something wrong with the air-conditioner , the micro computer could diagnose the faults, which can be read from the display and is convenient for maintenance.

1. GENERAL

Cassette Type Air Conditioner



Features

➤ **Save Installation Space**

The indoor unit can be installed inside the ceiling conveniently.

➤ **High Efficiency and Environment Friendly New Refrigerant-R410A**

R410A can protect the environment and do not harm to the ozone layer.

➤ **24-hour Timer ON and OFF**

This Timer can be set to automatically turn the unit on or off within a 24-hour period.

➤ **Mute Operation**

The excellent fan design enable the airflow to be quiet and smooth with minimum noise.

➤ **Self Recovery of Power Break**

When the power supply is recovered after break, all preset are still effective and the air-conditioner can run according to the original setting.

➤ **Fault Self-diagnose Function**

When there is something wrong with the air-conditioner, the micro computer could diagnose the faults, which can be read from the display and is convenient for maintenance.



1. GENERAL

Ceiling & Floor Air Conditioner



Features

➤ **Save Installation Space**

The indoor unit's thickness is only 230mm, can be installed inside the ceiling conveniently.

➤ **Flexible Installation Options**

According to the actual installation space, The indoor unit can be installed in the ceiling or on the floor. One unit, Two installation method.

➤ **High Efficiency and Environment Friendly**

New Refrigerant-R410A

R410A can protect the environment and do not harm to the ozone layer.

➤ **24-hour Timer ON and OFF**

This Timer can be set to automatically turn the unit on or off within a 24-hour period.

➤ **Mute Operation**

The excellent fan design enable the airflow to be quiet and smooth with minimum noise.

➤ **Various Refrigerant Pipe Connect Methods**

The refrigerant pipe can be connect from 3 different directions(rear, right or top) .More methods, more conveniently.

➤ **Self Recovery of Power Break**

When the power supply is recovered after break, all preset are still effective and the air-conditioner can run according to the original setting.

➤ **Fault Self-diagnose Function**

When there is something wrong with the air-conditioner, the micro computer could diagnose the faults, which can be read from the display and is convenient for maintenance.

1. GENERAL

1.2 Product lineup

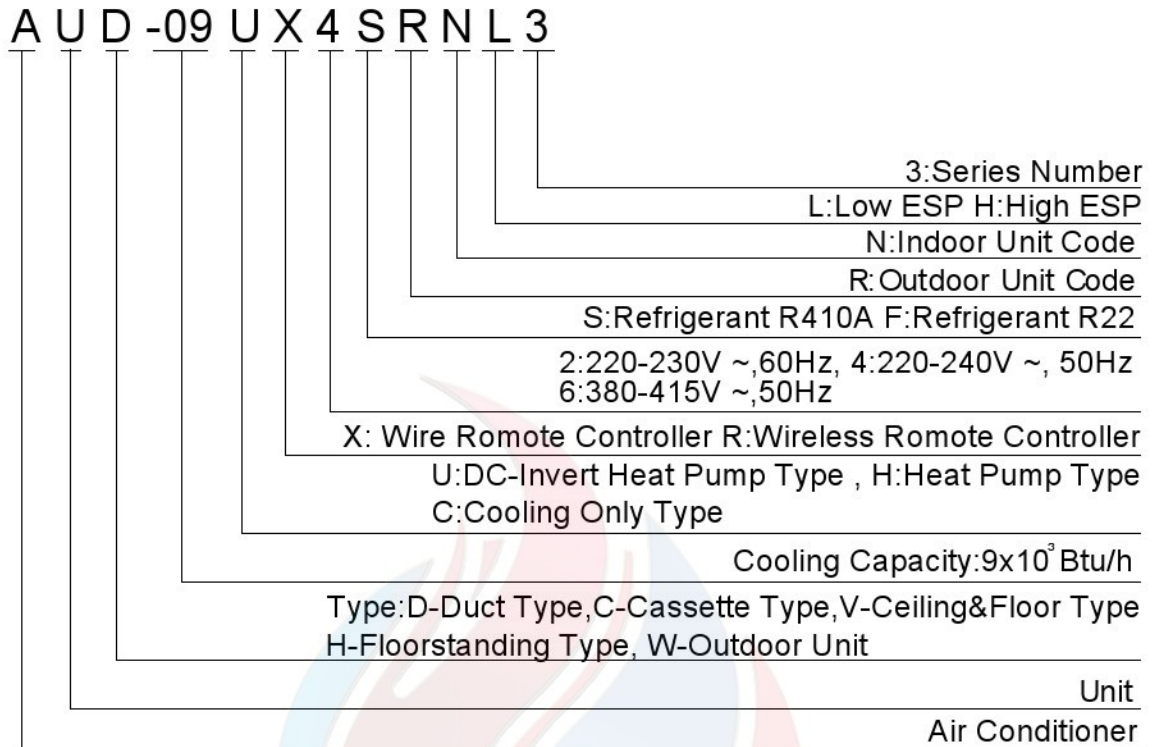
Type	Model Cooling Capacity (×1000Btu/h)	9K	12K	18K	24K	36K	42K	48K	60K
Duct Type	AUD-	●	●	●	●	●	●	●	●
Cassette Type	AUC-		●	●	●	●	●	●	●
Ceiling& Floor type	AUV-			●	●	●	●	●	●

● --- available model

دما پویا

1. GENERAL

1.3 Model identification



1.4 Unit construction

1:1 system is the only combination compatible.

(1 indoor unit only can be connected with 1 outdoor unit.)

1. GENERAL

1.5 Working range

Power Supply

Working Voltage	176V ~ 264V(9K~36K),342V ~ 438V(42K~60K)
Voltage Imbalance	Within a 3% deviation from each voltage at the main terminal of outdoor unit
Starting Voltage	Higher than 85% of the Rated Voltage

Operating temperature range

This heat pump air conditioner has been designed for the following outdoor operating temperatures.

Type	Mode	Outdoor operating temperature range(°C)	
		maximum	minimum
DC-Inverter Split Air Conditioner (Heat pump type)	Cooling Operation	48	-15
	Heating Operation	24	-15

Storage condition:

Temperature -20~65°C

Humidity 30%~80%



1. GENERAL

1.6 Product picture

Duct Type

Model (Cooling capacity)	9K	12K
Indoor Unit		
Outdoor Unit		
Model (Cooling capacity)	18K	24K
Indoor Unit		
Outdoor Unit		

1. GENERAL

<p>Model (capacity)</p>	<p>36K</p>	<p>42K</p>
<p>Indoor Unit</p>		
<p>Outdoor Unit</p>		
<p>Model (capacity)</p>	<p>48K/60K</p>	
<p>Indoor Unit</p>		
<p>Outdoor Unit</p>		

1. GENERAL

Cassette Type

Model (capacity)	12K	18K
Indoor Unit		
Outdoor Unit		
Model (capacity)	24K	36K
Indoor Unit		
Outdoor Unit		

1. GENERAL

<p>Model (capacity)</p>	<p>42K</p>	<p>48K/60K</p>
<p>Indoor Unit</p>		
<p>Outdoor Unit</p>		

دما پویا

1. GENERAL

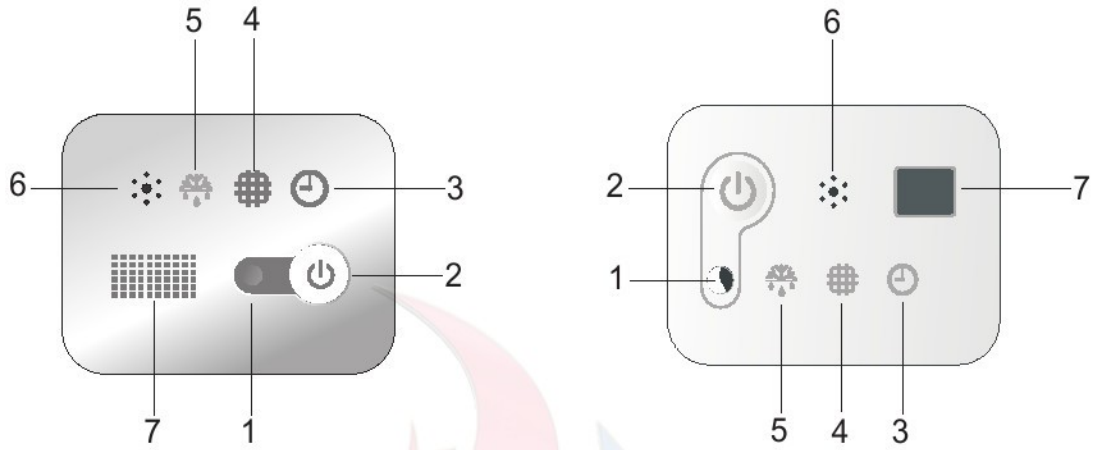
Ceiling & Floor Type

Model (capacity)	18K/24K	36K/42K
Indoor Unit		
Outdoor Unit		
Model (capacity)	48K/60K	
Indoor Unit		
Outdoor Unit		

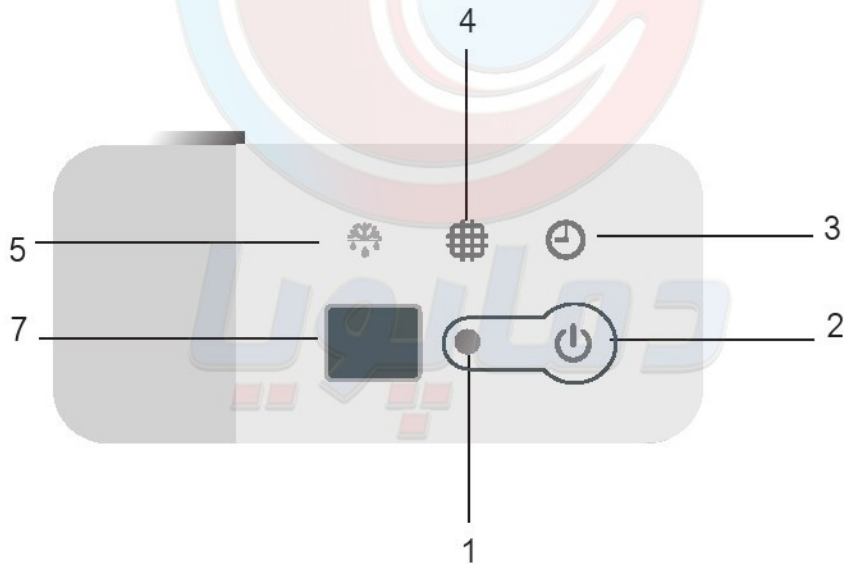
1. GENERAL

Display panel

Cassette Type



Ceiling & Floor type



1. GENERAL

Description

- 1 Run indicator (Red)
It lights on during operation. It lights off during SLEEP mode.
- 2 Emergency switch
The filter clean indicator will be off when the switch is pressed. The unit will stop operation if pressing the button. When the unit is off, it will start auto operation if pressing the button, if pressing for more than 5s, the unit will operate in cooling mode.
- 3 Timer indicator (Green)
It lights on when timer is in use. It lights off when timer finishes.
- 4 Filter clean (Yellow)
It lights on when the filter should be cleaned.
- 5 Defrost indicator (Green)
It lights on during defrosting. It lights off when defrosting is finished.
- 6 Buzzer
It beeps when the signal from remote controller is received.
- 7 Infrared receiver
Receives signal from the remote controller.



- ☑ • *The figures in this manual are based on the external view of a standard model. Consequently, the shape may differ from that of the air conditioner you have selected.*
- * *It can be set or canceled by professional after-sale staff*

2. SPECIFICATIONS

2. Specifications

2.1 Duct type

MODEL			9K	12K	18K	24K	36K	42K	48K	60K
Power supply	(Indoor)	V-ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50
Power supply	(Outdoor)	V-ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	380~415-3-50	380~415-3-50	380~415-3-50
Max. input consumption		W	1140	1800	2460	4100	5100	6400	7000	7800
Max. input current		A	7.8	8.1	11.1	18.1	22.5	11.6	12.0	13.1
Average	Pdesignc	kW	2.7	3.52	5.34	7.05	10.5	11.6	14.0	17.00
	SEER	W/W	6.15	6.45	6.11	6.23	6.21	6.11	6.11	6.11
	Energy Efficiency Class		A++	A++	A++	A++	A++	A++	A++	A++
	Pdesignh	kW	2.20	3.52	4.80	6.000	9.000	10.000	12.200	15.000
	SCOP	W/W	4.01	4.10	4.02	4.08	4.03	4.01	4.02	4.01
	Energy Efficiency Class		A+	A+	A+	A+	A+	A+	A+	A+
	Tbiv	°C	-7	-7	-7	-7	-7	-7	-7	-7
Tol		°C	-10	-10	-10	-10	-10	-10	-10	-10
Cooling	Capacity	kW	2.70	3.55	5.340	7.05	10.500	12.300	14.000	17.000
	Input	W	782	1030	1650	2200	3700	4300	4280	5230
	Current	A	3.6	4.6	7.6	9.7	16.5	7.9	7.8	8.5
	EER	W/W	3.45	3.55	3.23	3.23	2.84	2.86	3.27	3.25
Heating	Capacity	kW	2.740	3.700	6.010	8.05	11.5	14.0	16.0	20.00
	Input	W	700	945	1720	2370	3400	4100	4240	5360
	Current	A	3.0	4.2	7.9	10.5	15.2	7.5	7.7	8.7
	COP	W/W	3.91	3.91	3.49	3.39	3.38	3.41	3.77	3.73
Indoor fan motor	Model		SIC-68CVL-F140-1	SIC-68CVL-F140-1	YSK110-40-4-A	SIC-70CW-F195-1	SIC-101CW-F125-0-4	SIC-101CW-F125-0-4	SIC-101CW-F125-0-4	SIC-101CW-F125-0-4
	Qty		1	1	1	1	1	1	1	1
	Output	W	40	40	40	95	250	250	250	250
	Capacitor	uF	NA	NA	2	NA	NA	NA	NA	NA

2. SPECIFICATIONS

MODEL		9K	12K	18K	24K	36K	42K	48K	60K	
Indoor fan motor	Speed(Hi/Med/Lo)	r/min	770/640/540	880/740/610	1130/950/850	890/790/690	800/700/600	910/810/710	1100/1000/900	1100/1000/900
Indoor coil	Number of rows		3	3	3	3	3	3	3	3
	Tube pitch(a)xrow pitch(b)	mm	21x13.6	21x13.6	21x13.6	21x13.6	21x18.19	21x18.19	21x18.19	21x18.19
	Fin spacing	mm	1.6	1.6	1.6	1.6	1.4	1.4	1.5	1.5
	Fin type		Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia and type	mm	Φ7,innergroove tube	Φ7,innergroove tube	Φ7,innergroove tube	Φ7,innergroove tube	Φ7, innergroove tube	Φ7, innergroove tube	Φ7.0, innergroove tube	Φ7.0, innergroove tube
	Coil length x height x width	mm	768x189x40.8	515x252x40.11	1038x189x40.8	700x294x40.8	1100x378x54.57	1100x378x54.57	1100x378x54.6	1100x378x54.6
	Number of circuits		4	4	4	4	9	9	9	9
Indoor air flow Rated(Hi/Med/Lo)	m ³ /h	500/400/320	575/484/400	900/840/730	1100/976/852	1450/1250/1050	1750/1500/1300	2400/2200/1900	2400/2200/1900	
Indoor air flow Rated(Hi/Med/Lo)	CFM	294/235/188	338/285/235	529/494/429	647/574/501	853/735/618	1029/882/765	1415/1300/1124	1415/1300/1124	
ESP	Rated (test)	Pa	35	35	35	35	47	60	60	60
	Rated (Factory default)	Pa	0	0	10	25	47	60	60	60
	Range	Pa	0~50	0~50	10/30	0~80	0~120	0~120	0~120	0~120
Indoor noise level (Hi/Med/Lo)	dB(A)	32/28/25	36/34/29	43/41/38	44/41/38	46/42/39	51/47/44	55/52/50	56/53/50	
Indoor noise level (sound power)	dB(A)	44	49	56	57	62	67	68	70	
Throttle type		NA	NA	NA	NA	NA	NA	NA	NA	
Indoor unit	Dimension (WxHxD)	mm	900x190x447	900x190x447	1170x190x447	900x270x720	1300x350x800	1300x350x800	1300x350x800	1300x350x800
	Packing(WxHxD)	mm	1070x236x580	1070x236x580	1340x236x580	1170x870x340	1550x410x940	1550x410x940	1550x410x940	1550x410x940
	Net/Gross weight	kg	19/23.5	19/23.5	24/29	32/37	51/60	51/60	51/60	51/60
Design pressure	H/L	MPa	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	
Drainage water pipe diameter	mm	DΦ32	DΦ32	DΦ32	DΦ32	DΦ32	DΦ32	DΦ32	DΦ32	
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ6.35/Φ9.52 (1/4"/3/8')	Φ6.35/Φ9.52 (1/4"/3/8')	Φ6.35/Φ12.7 (1/4"/1/2')	Φ9.52/Φ15.88 (3/8"/5/8')	Φ9.52/Φ19.05 (3/8"/3/4')	Φ9.52/Φ19.05 (3/8"/3/4')	Φ9.52/Φ19.05 (3/8"/3/4')	Φ9.52/Φ19.05 (3/8"/3/4')
Controller			Wired control	Wired control	Wired control	Wired control	Wired control	Wired control	Wired control	
Operation temperature	℃	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	
Room temperature	Cooling	℃	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	
	Heating	℃	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	
Qty'per 20' /40' /40'HQ	Indoor		200/440/484	200/440/484	160/340/374	84/182/182	35/75/90	35/75/90	35/75/90	35/75/90

2. SPECIFICATIONS

MODEL		9K	12K	18K	24K	36K	42K	48K	60K	
Compressor	Model	ASD088SKNA8JT	ASN108D43UFZA	ATM150D23UFZ	ATF235D43UMT	ATF310D43UMT	ATF310D43UMT	ATH356SDPC9FL	LN842FSAMC	
	Type	ROTARY	ROTARY	ROTARY	ROTARY	ROTARY	ROTARY	ROTARY	ROTARY	
	Brand	Highly	GMCC	GMCC	GMCC	GMCC	GMCC	Highly	MITSUBISHI	
	Capacity	Btu/h	8549	11123	15427	24361	32380	32380	34470	47699
	Input	W	575	810	1165	1940	2600	2600	3155	4270
	Rated current(RLA)	A	3	5.7	8	8.9	5.1	5.1	13.2	12.0
	Refrigerant oil	ml	α68HES-H/320	ESTER OIL VG74/370	ESTEL OIL VG74/500	POE(VG74)/670	PQE(VG74)/1000	PQE(VG74)/1000	α 68HES-H or equivalent /1650	FV50S or PVE/1400
Outdoor fan motor	Model	SIC-52FV-F130-3	ZWA138D08A	SIC-61FW-F161-1	SIC-61FW-F161-1	SIC-71FW-F8121-1	SIC-81FW-F1138-1	YDK65-6-9061& YDK65-6-9024	YDK65-6-9061& YDK65-6-9024	
	Old Model	NA	NA	NA	NA	NA	NA	NA	NA	
	Qty	1	1	1	1	1	1	2	2	
	Output	W	30	30	61	61	121	138	121	121
	Capacitor	μF	NA	NA	NA	NA	NA	NA	NA	NA
	Speed	r/min	820	880	840	880	830	850	810	810
Outdoor coil	Number of rows	1.5	2	2	2	2	2	2	2	
	Tube pitch(a)x row pitch(b)	mm	21x18.19	21x18.19	21x21.65	21x18.19	21x21.65	21x21.65	21x21.65	21x21.65
	Fin spacing	mm	1.3	1.4	1.4	1.4	1.3	1.6	1.4	1.4
	Fin type		Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia. and type	mm	Φ7, innergroove tube	Φ7, innergroove tube	Φ7, innergroove tube	Φ7, innergroove tube	Φ7.94, innergroove tube	Φ7.94, innergroove tube	Φ7.94, innergroove tube	Φ7.94, innergroove tube
	Coil length x height x width	mm	761x504x36.38	840x546x36.38	962x630x43.3	900x630x43.3	970x798x43.5	970x1008x43.5	970x1344x43.3	970x1344x43.3
	Number of circuits		4	4	7	4	5	6	12	12
Outdoor noise level (sound pressure) Hi	dB(A)	52	48	53	53	55	58	53	58	
Outdoor noise level (sound power)	dB(A)	64	60	65	67	70	73	67	72	
Throttle type		EEV	EEV	EEV	EEV	EEV	EEV	EEV	EEV	
Outdoor unit	Dimension (WxHxD)	mm	730x536x260	810x585x280	860x670x310	860x670x310	950x840x340	950x1050x340	950x1386x340	950x1386x340
	Packing(WxHxD)	mm	860x600x400	940x640x420	990x730x450	990x730x450	1110x980x460	1110x1200x460	1110x1527x460	1110x1527x460

2. SPECIFICATIONS

MODEL		9K	12K	18K	24K	36K	42K	48K	60K	
	Net/Gross weight	kg	31/34	34/38.5	45/49	51/57	70/80	85/95	113/125	117/129
Refrigerant type/Quantity	Type		R410a	R410a	R410a	R410a	R410	R410	R410A	R410A
	Charged volume	kg	0.83	1.05	1.30	1.70	2.80	3.20	3.78	3.95
Design pressure	H/L	MPa	4.15/1.60	4.15/1.60	4.15/1.60	4.15/1.60	4.15/1.60	4.15/1.60	4.15/1.60	4.15/1.60
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ6.35/Φ9.52 (1/4"/3/8")	Φ6.35/Φ9.52 (1/4"/3/8")	Φ6.35/Φ12.7 (1/4"/1/2")	Φ9.52/Φ15.88 (3/8"/5/8")	Φ9.52/Φ19.05 (3/8"/3/4")	Φ9.52/Φ19.05 (3/8"/3/4")	Φ9.52/Φ19.05 (3/8"/3/4")	Φ9.52/Φ19.05 (3/8"/3/4")
	Max. pipe length	m	25	25	30	50	50	50	50	50
	Max. difference in level	m	10	15	15	30	30	30	30	30
Annual energy consumption(cooling)		kWh/a	154	191	306	396	563	665	802	974
Annual energy consumption(heating average)		kWh/a	769	1203	1676	2059	3124	3491	4259	5232
Ambient temperature	Cooling	°C	-15- 48	-15- 48	-15- 48	-15- 48	-15- 48	-15- 48	-15- 48	-15- 48
	Heating	°C	-15 - 24	-15 - 24	-15 - 24	-15 - 24	-15 - 24	-15 - 24	-15 - 24	-15 - 24
Qty/per 20' /40' /40'HQ		Outdoor unit	102/213/292	102/204/272	90/186/186	90/186/186	52/106/106	26/53/106	26/53/53	26/53/53
Qty/per 20' /40' /40'HQ		Indoor+ Outdoor	80/160/190	66/135/174	55/112/133	40/80/88	22/49/56	20/39/51	19/39/42	19/39/42

NOTE:

1. Test conditions:

Cooling : Indoor: DB27°C / WB19°C Outdoor: DB35°C / WB24°C

Heating: Indoor: DB20°C / WB15°C Outdoor: DB7°C / WB 6°C

2. The Sound Pressure Level is based on the following conditions:

Outdoor unit:

Measure the noise value of 3 points, the points are 1 meter in front of the three sides (front/left/right) of the unit surface and height =1/2(unit height +1) meter from floor level, and calculate the weighted average of the noise.

Indoor unit:

Ducted: Measure the noise value of the point 1.4m below the unit, and 1.0m high from the floor.

The above data was measured in an anechoic chamber. Please take into consideration reflected sound of your specific application environment.

3. The values given in the table for noise level reflect the levels in anechoic chamber.

2. SPECIFICATIONS

2.2 Cassette type

MODEL			12K	18K	24K	36K	42K	48K	60K
Power supply	(Indoor)	V-ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50
Power supply	(Outdoor)	V-ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	380~415-3-50	380~415-3-50	380~415-3-50
Max. input consumption		W	1800	2710	4100	5150	6400	6300	7800
Max. input current		A	8.1	12.3	18.1	22.5	11.6	11	13.1
Average	Pdesignc	kW	3.52	5.30	7.10	10.50	11.20	14.00	17.00
	SEER	W/W	6.61	6.11	6.45	6.11	6.11	6.11	6.11
	Energy Efficiency Class		A++	A++	A++	A++	A++	A++	A++
	Pdesignh	kW	3.520	4.80	6.000	9.000	10.000	12.200	15.300
	SCOP	W/W	4.25	4.02	4.15	4.08	4.01	4.03	4.01
	Energy Efficiency Class		A+	A+	A+	A+	A+	A+	A+
	Tbiv	°C	-7	-7	-7	-7	-7	-7	-7
Toi		°C	-10	-10	-10	-10	-10	-10	-10
Cooling	Capacity	kW	3.650	5.3	7.100	10.5	12.3	14.0	17.0
	Input	W	1000	1680	2200	3700	4100	4180	5030
	Current	A	4.4	7.6	9.7	16.5	7.5	7.6	8.3
	EER	W/W	3.65	3.15	3.23	2.84	3.0	3.35	3.38
Heating	Capacity	kW	3.85	6.21	8.20	11.5	14	16	20.0
	Input	W	970	1900	2370	3600	3900	4230	5320
	Current	A	4.2	8.3	10.5	16	7.3	7.6	8.6
	COP	W/W	3.97	3.26	3.46	3.19	3.59	3.78	3.76
Indoor fan motor	Model		ARW8901QH	YDK95-28-4-B(HS2 1)	ARW5901QH	EHDS50AQH	SIC-72FW-D8124-2 8	SIC-72FW-D8124-2 B	SIC-72FW-D8124-2 B
	Qty		1	1	1	1	1	1	1
	Output	W	30	28	35	80	124	124	124
	Capacitor	uF	NA	2	NA	NA	NA	NA	NA
	Speed(Hi/Med/Lo)	r/min	700/590/520	980/840/720	450/390/270	600/480/390	630/600/570	700/540/460	700/540/460
Indoor coil	Number of rows		2	2	2	3	3	3	3
	Tube pitch(a)xrow pitch(b)	mm	21x13.6	21x13.6	21x13.6	21x13.6	21x13.6	21x13.6	21x13.6

2. SPECIFICATIONS

MODEL			12K	18K	24K	36K	42K	48K	60K
Indoor coil	Fin spacing	mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	Fin type		Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia and type	mm	Φ7, innergroove tube	Φ7, innergroove tube	Φ7, innergroove tube	Φ7, innergroove tube	Φ7, innergroove tube	Φ7.0, innergroove tube	Φ7.0, innergroove tube
	Coil length x height x width	mm	1248x210x27.2	1248x210x27.2	1870x189x27.2	1940x189x40.8	1940x252x40.8	1940x252x40.8	1940x252x40.8
	Number of circuits		3	3	4	6	6	6	6
Indoor air flow Rated(Hi/Med/Lo)		m ³ /h	575/484/400	820/730/620	1100/976/852	1600/1300/1000	1850/1700/1550	2000/1900/1700	2000/1900/1700
Indoor air flow Rated(Hi/Med/Lo)		CFM	338/285/235	482/429/365	647/574/501	941/765/588	1088/1000/912	1180/1120/1000	1180/1120/1000
ESP	Rated	Pa	NA	NA	NA	NA	NA	NA	NA
	Range	Pa	NA	NA	NA	NA	NA	NA	NA
Indoor noise level (Hi/Med/Lo)		dB(A)	39/37/36	45/41/39	41/38/36	45/40/37	46/43/41	50/48/46	47/45/43
Indoor noise level (sound power)		dB(A)	53	58	55	60	61	63	61
Throttle type			NA	NA	NA	NA	NA	NA	NA
Indoor unit	Dimension (WxHxD)	mm	650x270x570	650x270x570	840x248x840	840x248x840	840x298x840	840x298x840	840x298x840
	Packing(WxHxD)	mm	770x310x750	770x310x750	996x370x956	996x370x956	996x420x956	996x420x956	996x420x956
	Net/Gross weight	kg	19/24	21 /26	25/34	27/36	32/41	32/41	32/41
Panel	Dimension (WxHxD)	mm	650x30x650	650x30x650	950x37x950	950x37x950	950x37x950	950x37x950	950x37x950
	Packing(WxHxD)	mm	730x130x730	730x130x730	990x115x1010	1025x120x1015	1025x120x1015	1025x120x1015	1025x120x1015
	Net/Gross weight	kg	2.4/ 5	2.4/ 5	6.5/9.5	6.5/9.5	6.5/9.5	6.5/9.5	6.5/9.5
Design pressure	H/L	MPa	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6
Drainage water pipe diameter		mm	dΦ21	dΦ21	dΦ32	dΦ32	dΦ32	dΦ32	dΦ32
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ9.52 (1/4"/3/8")	Φ6.35/Φ12.7 (1/4"/1/2")	Φ9.52/Φ15.88 (3/8"/5/8")	Φ9.52/Φ19.05 (3/8"/3/4")	Φ9.52/Φ19.05 (3/8"/3/4")	Φ9.52/Φ19.05 (3/8"/3/4")	Φ9.52/Φ19.05 (3/8"/3/4")
Controller			Remote control	Remote control	Remote control	Remote control	Remote control	Remote control	Remote control
Operation temperature		°C	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30
Room temperature	Cooling	°C	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30
	Heating	°C	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30	16 - 30
Qty/per 20' /40' /40'HQ		Indoor	147/315/384	147/315/384	72/144/168	72/144/168	60/120/144	60/120/144	60/120/144
Compressor	Model		ASN108D43UFZA	ATM150D23UFZ	ATF235D43UMT	ATF310D43UMT	ATF310D43UMT	ATH356SDPC9FL	LNB42FSAMC
	Type		ROTARY	ROTARY	ROTARY	ROTARY	ROTARY	ROTARY	ROTARY

2. SPECIFICATIONS

MODEL			12K	18K	24K	36K	42K	48K	60K	
Compressor	Brand		GMCC	GMCC	GMCC	GMCC	GMCC	GMCC	Highly	MITSUBISHI
	Capacity	Btu/h	11123	15427	24361	32380	32380	34470	47699	
	Input	W	810	1165	1940	2600	2600	3155	4270	
	Rated current(RLA)	A	5.7	8.1	8.9	5.1	5.1	13.2	12	
	Refrigerant oil	ml	ESTER OIL VG74/370	ESTEL OIL VG74/500	POE(VG74)/670	PQE(VG74)/1000	PQE(VG74)/1000	α 68HES-H or equivalent /1650	FV50S or PVE/1400	
Outdoor fan motor	Model		ZWA138D08A	SIC-61FW-F161-1	SIC-61FW-F161-1	SIC-71FW-F8121-1	SIC-81FW-F1138-1	YDK65-6-9061& YDK65-6-9024	YDK65-6-9061& YDK65-6-9024	
	Old Model		NA	NA	NA	NA	NA	NA	NA	
	Qty		1	1	1	1	1	2	2	
	Input	W	30	61	61	121	138	121	121	
	Capacitor	μF	NA	NA	NA	NA	NA	NA	NA	
	Speed	r/min	880	840	880	830	850	810	810	
Outdoor coil	Number of rows		2	2	2	2	2	2	2	
	Tube pitch(a)x row pitch(b)	mm	21x18.19	21x21.65	21x18.19	21x21.65	21x21.65	21x21.65	21x21.65	
	Fin spacing	mm	1.4	1.4	1.4	1.3	1.6	1.4	1.4	
	Fin type		Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	
	Tube outside dia.and type	mm	Φ7,innergroove tube	Φ7,innergroove tube	Φ7,innergroove tube	Φ7.94, innergroove tube	Φ7.94, innergroove tube	Φ7.94,innergroove tube	Φ7.94,innergroove tube	
	Coil length xheight xwidth	mm	840x546x36.38	962x630x43.3	900x630x43.3	970x798x43.5	970x1008x43.5	970x1344x43.3	970x1344x43.3	
	Number of circuits		2	7	4	5	6	12	12	
Outdoor noise level (sound pressure) Hi	dB(A)	48	53	53	55	58	53	58		
Outdoor noise level (sound power)	dB(A)	60	65	67	70	73	67	72		
Throttle type		EEV	EEV	EEV	EEV	EEV	EEV	EEV		
Outdoor unit	Dimension(WxHxD)	mm	810x585x280	860x670x310	860x670x310	950x840x340	950x1050x340	950x1386x340	950x1386x340	
	Packing(WxHxD)	mm	940x420x640	990x730x450	990x730x450	1110x980x460	1110x1200x460	1110x1527x460	1110x1527x460	
	Net/Gross weight	kg	34/38.5	45/49	51/57	70/80	85/95	113/125	117/129	
Refrigerant type/Quantity	Type		R410a	R410a	R410a	R410	R410	R410A	R410A	
	Charged volume	kg	1.05	1.3	1.70	2.80	3.20	3.78	3.95	
Design pressure	H/L	MPa	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	

2. SPECIFICATIONS

MODEL			12K	18K	24K	36K	42K	48K	60K
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ6.35/Φ9.52 (1/4"/3/8")	Φ6.35/Φ12.7 (1/4"/1/2")	Φ9.52/Φ15.88 (3/8"/5/8")	Φ9.52/Φ19.05 (3/8"/3/4")	Φ9.52/Φ19.05 (3/8"/3/4")	Φ9.52/Φ19.05 (3/8"/3/4")	Φ9.52/Φ19.05 (3/8"/3/4")
	Max. pipe length	m	25	30	50	50	50	50	50
	Max. difference in level	m	15	15	30	30	30	30	30
Annual energy consumption (cooling)		kWh/a	186	303	382	601	642	802	974
Annual energy consumption (heating average)		kWh/a	1160	1676	2025	3088	3491	4241	5336
Ambient temperature	Cooling	°C	-15- 48	-15- 48	-15- 48	-15- 48	-15- 48	-15- 48	-15- 48
	Heating	°C	-15 - 24	-15 - 24	-15 - 24	-15 - 24	-15 - 24	-15 - 24	-15 - 24
Qty/per 20' /40' /40'HQ		Outdoor unit	102/204/272	90/186/186	90/186/186	52/106/106	26/53/106	26/53/53	26/53/53
Qty/per 20' /40' /40'HQ		Indoor+ Outdoor	54/112/125	48/102/120	40/82/92	30/60/72	24/52/62	24/47/47	24/47/47

NOTE:

1. Test conditions:

Cooling : Indoor: DB27°C/ WB19°C Outdoor: DB35°C/ WB24°C

Heating: Indoor: DB20°C/ WB15°C Outdoor: DB7°C/ WB 6°C

2. The Sound Pressure Level is based on the following conditions:

Outdoor unit:

Measure the noise value of 3 points, the points are 1 meter in front of the three sides (front/left/right) of the unit surface and height =1/2(unit height +1) meter from floor level, and calculate the weighted average of the noise.

Indoor unit:

Cassette: Measure the noise value of the point 1.4m below the unit, and 1.0m high from the floor.

The above data was measured in an anechoic chamber. Please take into consideration reflected sound of your specific application environment.

3. The values given in the table for noise level reflect the levels in anechoic chamber.

2. SPECIFICATIONS

2.3 Ceiling&Floor type

Model		18K	24K	36K	42K	48K	60K	
Power supply (Indoor)	V-ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	220~240-1-50	
Power supply (Outdoor)	V-ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50	380~415-3-50	380~415-3-50	380~415-3-50	
Max. input consumption	W	2600	4100	5100	6400	6300	8200	
Max. input current	A	11	18.1	22.5	11.6	11.0	13.5	
Average	Pdesignc	kW	5.28	7.0	10.5	11.0	14.0	17.0
	SEER	W/W	6.80	6.11	6.11	6.11	6.11	6.11
	Energy Efficiency Class		A++	A++	A++	A++	A++	A++
	Pdesignh	kW	4.8	6.0	9.0	10.0	12.2	15
	SCOP	W/W	4.30	4.08	4.11	4.01	4.02	4.01
	Energy Efficiency Class		A+	A+	A+	A+	A+	A+
	Tbiv	℃	-7	-7	-7	-7	-7	-7
Toi	℃	-10	-10	-10	-10	-10	-10	
Cooling	Capacity	kW	5.28	7.000	10.5	12.3	14.0	17.0
	Input	W	1750	2200	4000	4250	4410	5180
	Current	A	7.3	9.7	17.6	7.8	8.1	8.6
	EER	W/W	3.02	3.23	2.625	2.89	3.17	3.28
Heating	Capacity	kW	6.0	8.200	11.3	14.0	15.8	20.0
	Input	W	1850	2370	3750	4500	4350	5360
	Current	A	7.8	10.5	16.3	8.2	8.1	9.2
	COP	W/W	3.24	3.46	3.00	3.11	3.63	3.73
Indoor fan motor	Model		SIC-70CW-F1100-6	SIC-70CW-F1100-6	SIC-70CW-F1140-3	SIC-101CW-F1181-2	SIC-101CW-F1181-1	SIC-101CW-F1181-1
	Qty		1	1	1	1	1	1
	Output	W	100	100	140	181	181	181
	Capacitor	uF	NA	NA	NA	NA	NA	NA
	Speed(Hi/Med/Lo)	r/min	800/700/610	1280/1100/920	1220/1160/1080	1200/1100/1000	1250/1000/800	1250/1100/950
Indoor coil	Number of rows		2	3	3	3	3	3.5
	Tube pitch(a)xrow pitch(b)	mm	21x13.6	21x13.6	21x13.6	21x13.6	21x13.6	21x13.6
	Fin spacing	mm	1.4	1.5	1.5	1.5	1.5	1.5

2. SPECIFICATIONS

Model			18K	24K	36K	42K	48K	60K
Indoor coil	Fin type		Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia and type	mm	Φ7, innergroove tube	Φ7, innergroove tube	Φ7, innergroove tube	Φ7, innergroove tube	Φ7.0, innergroove tube	Φ7.0, innergroove tube
	Coil length x height x width	mm	691x336x27.2	660x336x40.8	930x336x40.8	1200x336x40.8	1200x336x40.8	1200x336x54.4
	Number of circuits		4	3	7	7	7	7
Indoor air flow Rated(Hi/Med/Lo)		m ³ /h	800/690/590	1100/950/800	1700/1500/1300	2000/1800/1600	2000/1600/1200	2000/1700/1500
Indoor air flow Rated(Hi/Med/Lo)		CFM	470/400/340	650/570/500	1000/882/765	1176/1059/941	1180/940/710	1180/1000/880
ESP	Rated	Pa	NA	NA	NA	NA	NA	NA
	Range	Pa	NA	NA	NA	NA	NA	NA
Indoor noise level (Hi/Med/Lo)		dB(A)	43/39/36	48/46/42	50/49/48	50/48/45	51/45/41	51/46/43
Indoor noise level (sound power)		dB(A)	56	62	63	66	65	65
Throttle type			NA	NA	NA	NA	NA	NA
Indoor unit	Dimension (WxHxD)	mm	990x680x230	990x680x230	1285x680x230	1580x680x230	1580x680x230	1580x680x230
	Packing(WxHxD)	mm	1100x820x350	1100x820x350	1400x820x350	1690x820x350	1690x820x350	1690x820x350
	Net/Gross weight	kg	29/34	30/35	37/44	48/56	48/56	50/58
Design pressure		MPa	4.15/1.6	4.15/1.6	4.2/1.5	4.2/1.5	4.15/1.6	4.15/1.6
Drainage water pipe diameter		mm	DΦ25	DΦ25	DΦ25	DΦ25	DΦ25	DΦ25
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7 (1/4"/1/2')	Φ9.52/Φ15.88 (3/8"/5/8')	Φ9.52/Φ19.05 (3/8"/3/4')	Φ9.52/Φ19.05 (3/8"/3/4')	Φ9.52/Φ19.05 (3/8"/3/4')	Φ9.52/Φ19.05 (3/8"/3/4')
Controller			Remote control	Remote control	Remote control	Remote control	Remote control	Remote control
Operation temperature		°C	16 - 30	16 - 30	16 - 30	16 - 30	16-30	16-30
Room temperature	Cooling	°C	16 - 30	16 - 30	16 - 30	16 - 30	16-30	16-30
	Heating	°C	16 - 30	16 - 30	16 - 30	16 - 30	16-30	16-30
Qty/per 20' /40' /40'HQ		Indoor	84/168/196	84/168/196	42/84/98	42/84/98	42/84/98	42/84/98
Compressor	Model		ATM150D23UFZ	ATF235D43UMT	ATF310D43UMT	ATF310D43UMT	ATH356SDPC9FL	LNB42FSAMC
	Type		ROTARY	ROTARY	ROTARY	ROTARY	ROTARY	ROTARY
	Brand		GMCC	GMCC	GMCC	GMCC	Hitachi	mitsubishi
	Capacity	Btu/h	15427	24361	32380	32380	34470	47699
	Input	W	1165	1940	2600	2600	3155	4270
	Rated current(RLA)	A	8.1	8.9	5.1	5.1	13.2	12
	Refrigerant oil	ml	ESTEL OIL VG74/500	POE(VG74)/670	PQE(VG74)/1000	PQE(VG74)/1000	α 68HES-H or equivalent /1650	FV50S or PVE/1400

2. SPECIFICATIONS

Model			18K	24K	36K	42K	48K	60K
Outdoor fan motor	Model		SIC-61FW-F161-1	SIC-61FW-F161-1	SIC-71FW-F8121-1	SIC-81FW-F1138-1	YDK65-6-9061& YDK65-6-9024	YDK65-6-9061& YDK65-6-9024
	Old Model		NA	NA	NA	NA	NA	NA
	Qty		1	1	1	1	2	2
	Input	W	61	61	121	138	121	121
	Capacitor	μF	NA	NA	NA	NA	NA	NA
	Speed	r/min	840	880	830	850	810	810
Outdoor coil	Number of rows		2	2	2	2	2	2
	Tube pitch(a)x row pitch(b)	mm	21x21.65	21x18.19	21x21.65	21x21.65	21x21.65	21x21.65
	Fin spacing	mm	1.4	1.4	1.3	1.6	1.5	1.4
	Fin type		Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ7,innergroove tube	Φ7,innergroove tube	Φ7.94, innergroove tube	Φ7.94, innergroove tube	Φ7.94,innergroove tube	Φ7.94,innergroove tube
	Coil length xheight xwidth	mm	962x630x43.3	900x630x43.3	970x798x43.5	970x1008x43.5	970x1008x43.5	970x1344x43.3
	Number of circuits		7	4	5	6	12	12
Outdoor noise level (sound pressure) Hi	dB(A)	53	53	55	58	53	58	
Outdoor noise level (sound power)	dB(A)	65	67	70	73	67	72	
Throttle type		EEV	EEV	EEV	EEV	EEV	EEV	
Outdoor unit	Dimension(WxHxD)	mm	860x670x310	860x670x310	950x840x340	950x1050x340	950x1386x340	950x1386x340
	Packing(WxHxD)	mm	990x730x450	990x730x450	1110x980x460	1110x1200x460	1110x1527x460	1110x1527x460
	Net/Gross weight	kg	45/49	51/57	70/80	85/95	113/125	117/129
Refrigerant type/Quantity	Type		R410a	R410a	R410	R410	R410A	R410A
	Charged volume	kg	1.3	1.70	2.80	3.20	3.78	3.95
Design pressure	Hi/Lo	MPa	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6	4.15/1.6
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ6.35/Φ12.7 (1/4'/1/2')	Φ9.52/Φ15.88 (3/8'/5/8')	Φ9.52/Φ19.05 (3/8'/3/4')	Φ9.52/Φ19.05 (3/8'/3/4')	Φ9.52/Φ19.05 (3/8'/3/4')	Φ9.52/Φ19.05 (3/8'/3/4')
	Max. pipe length	m	30	50	50	50	50	50
	Max. difference in level	m	15	30	30	30	30	30
Annual energy consumption(cooling)		kWh/a	271	404	601	630	802	974

2. SPECIFICATIONS

Model			18K	24K	36K	42K	48K	60K
Annual energy consumption(heating average)		kWh/a	1564	2059	3064	3491	4252	5232
Ambient temperature	Cooling	°C	-15- 48	-15- 48	-15- 48	-15- 48	-15- 48	-15- 48
	Heating	°C	-15 - 24	-15 - 24	-15 - 24	-15 - 24	-15 - 24	-15 - 24
Qty'per 20' /40' /40'HQ		Outdoor unit	90/186/186	90/186/186	52/106/106	26/53/106	26/53/53	26/53/53
Qty'per 20' /40' /40'HQ		Indoor+Outdoor	42/85/98	42/85/98	32/67/72	24/48/60	20/40/53	20/40/53

NOTE:

1. Test conditions:

Cooling : Indoor: DB27°C/ WB19°C Outdoor: DB35°C/ WB24°C

Heating: Indoor: DB20°C/ WB15°C Outdoor: DB7°C/ WB 6°C

2. The Sound Pressure Level is based on the following conditions:

Outdoor unit:

Measure the noise value of 3 points, the points are 1 meter in front of the three sides (front/left/right) of the unit surface and height =1/2(unit height +1) meter from floor level, and calculate the weighted average of the noise.

Indoor unit:

Floor Ceiling : Test the noise value of the point 1.4m below the unit, 1.0m front the unit and 1.0m high from the floor.

The above data was measured in an anechoic chamber. Please take into consideration reflected sound of your specific application environment.

3. The values given in the table for noise level reflect the levels in anechoic chamber.

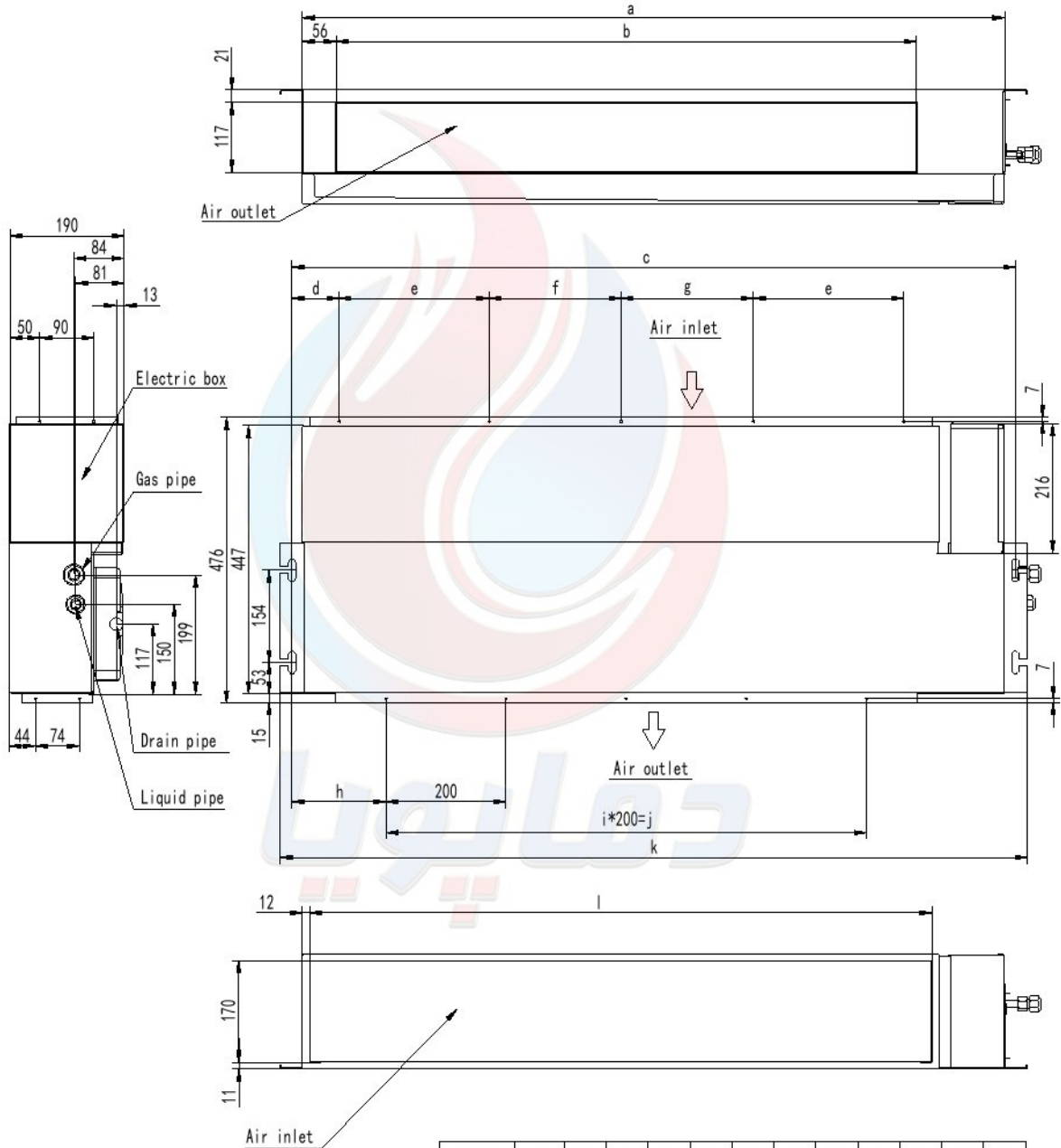
3. OUTLINES AND DIMENSIONS

3. Outlines and dimensions

3.1 Indoor units

Duct type

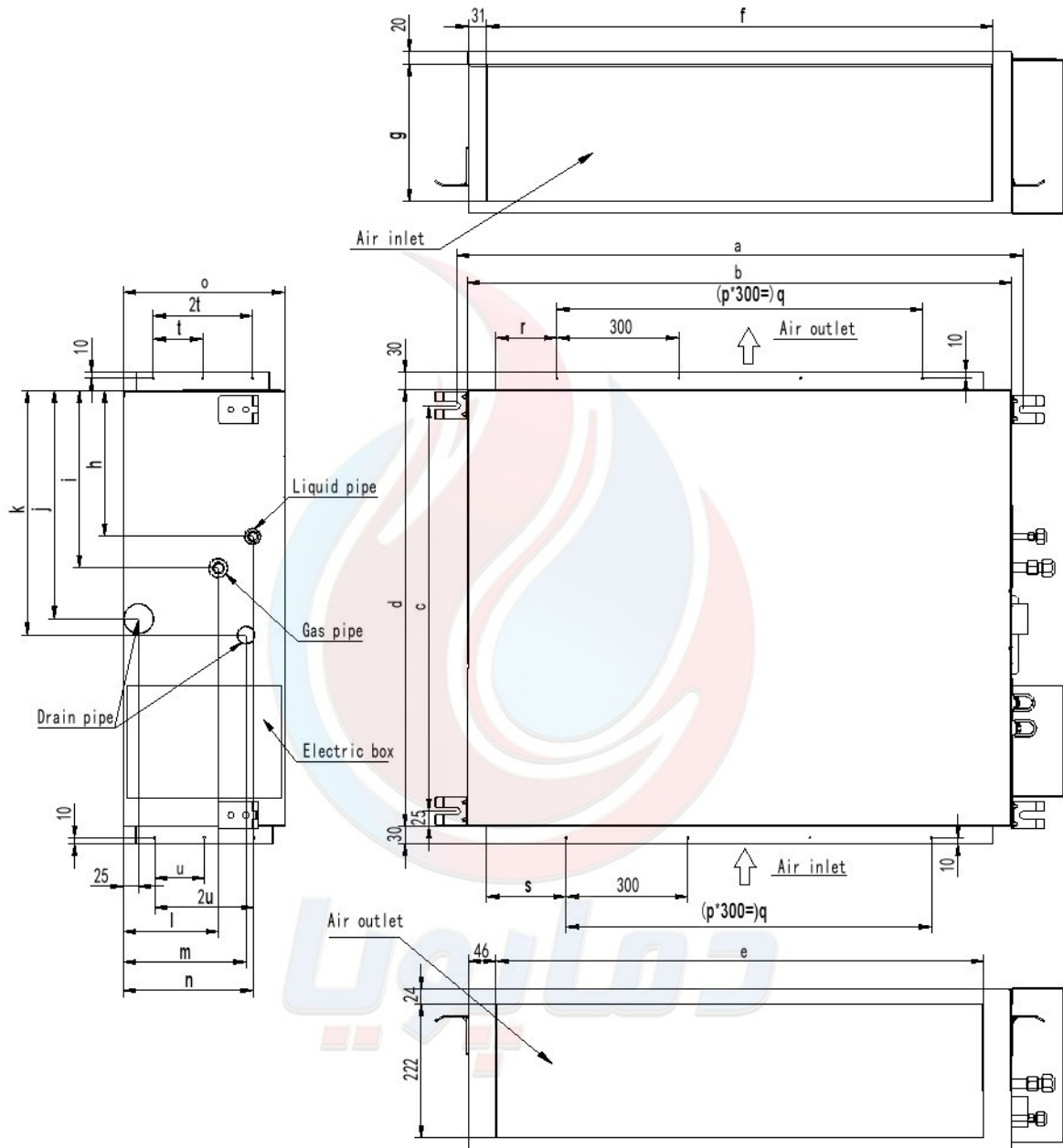
Unit: mm



Model	a	b	c	d	e	f	g	h	i	j	k	l
18K	1170	971	1207	78	250	220	220	157	4	800	1246	1039
9K/12K	900	701	937	73	240	200	0	122	3	600	976	769

3. OUTLINES AND DIMENSIONS

Unit: mm



Model	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u
24K	934	900	669	720	805	835	228	242	294	378	405	156	202	214	270	2	600	102	117	82	82
36K/42K/ 48K/60K	1334	1300	756	800	1205	1235	308	237	312	375	400	204	186	242	350	3	900	153	168	90	140

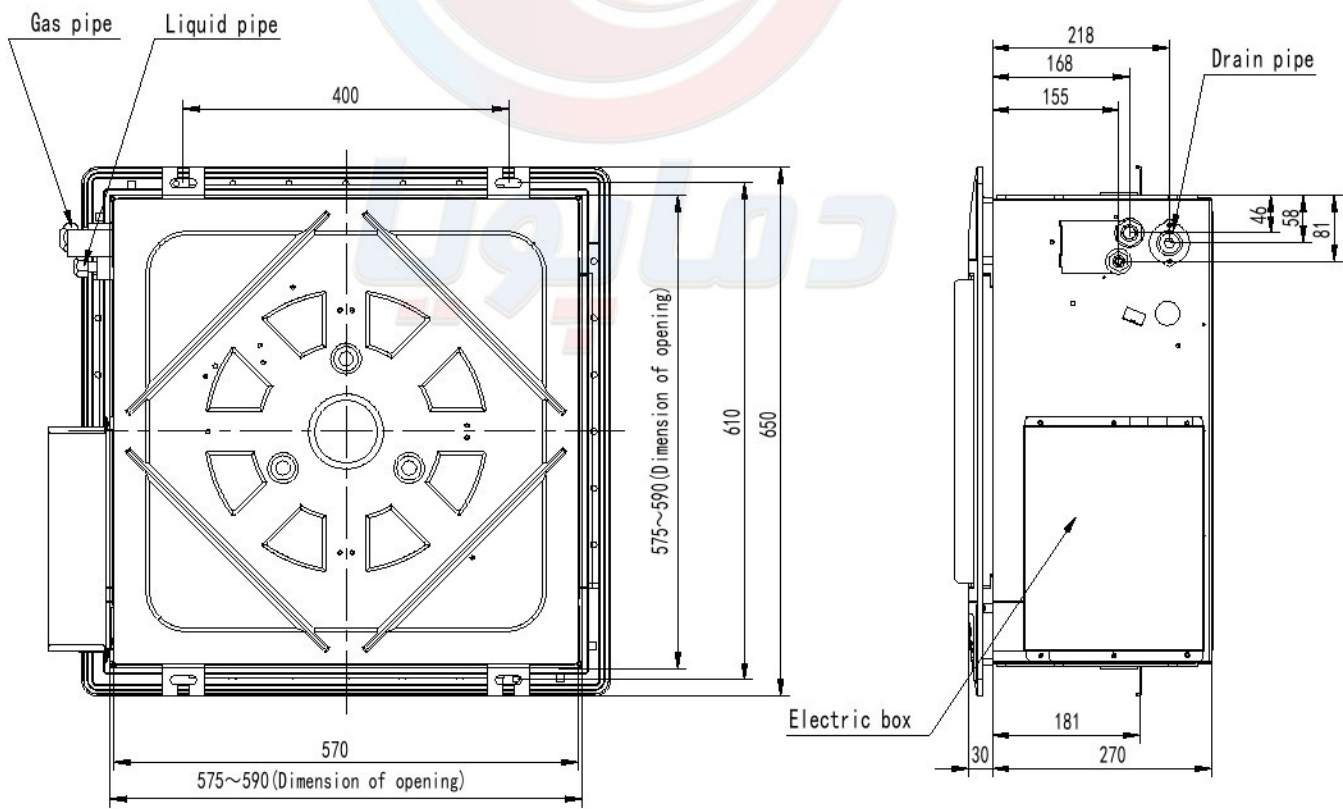
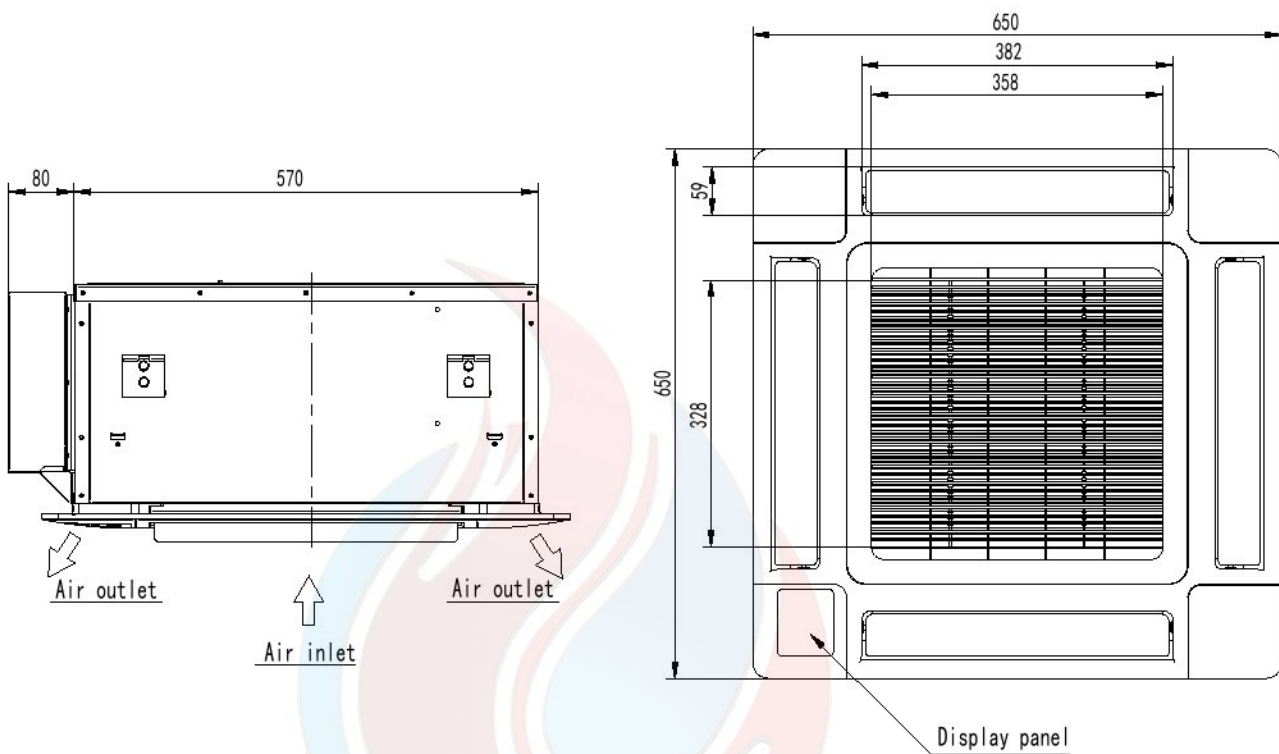
3. OUTLINES AND DIMENSIONS

Cassette Type

12K,18K

Unit: mm

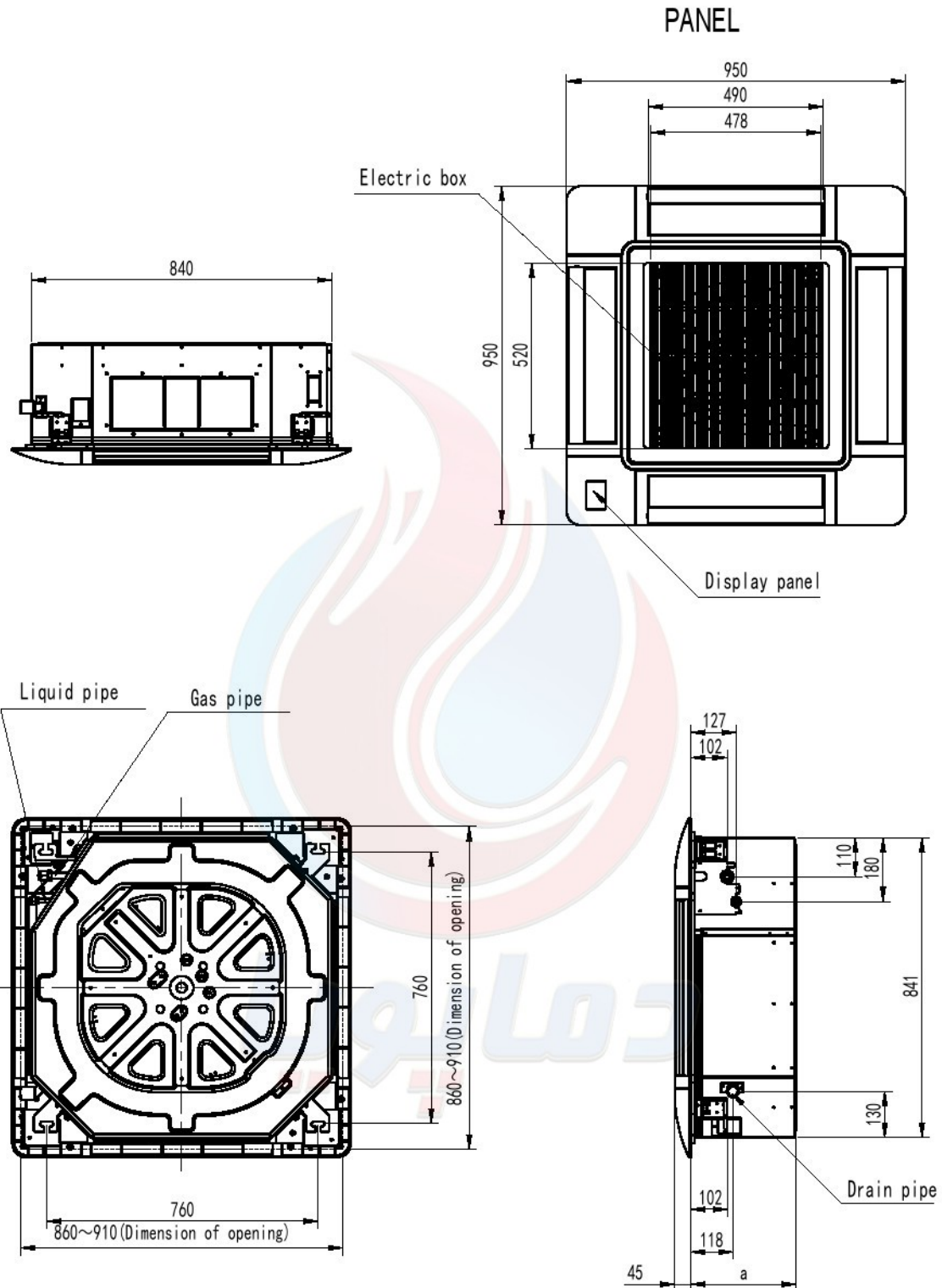
PANEL



3. OUTLINES AND DIMENSIONS

24K,36K,42K,48K,60K

Unit: mm

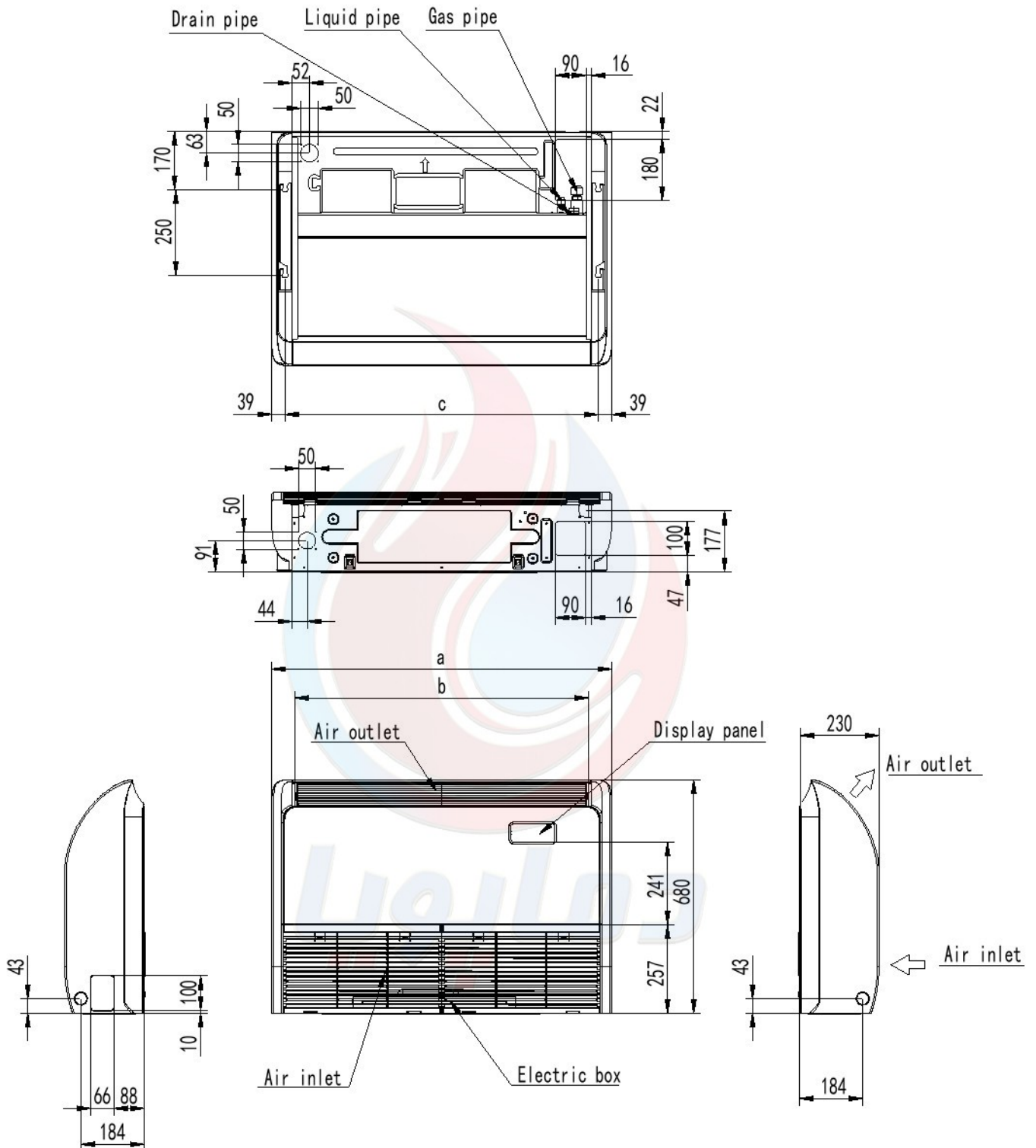


Model	a
24K/36K	248
42K/48K/60K	298

3. OUTLINES AND DIMENSIONS

Ceiling&Floor Type

Unit: mm



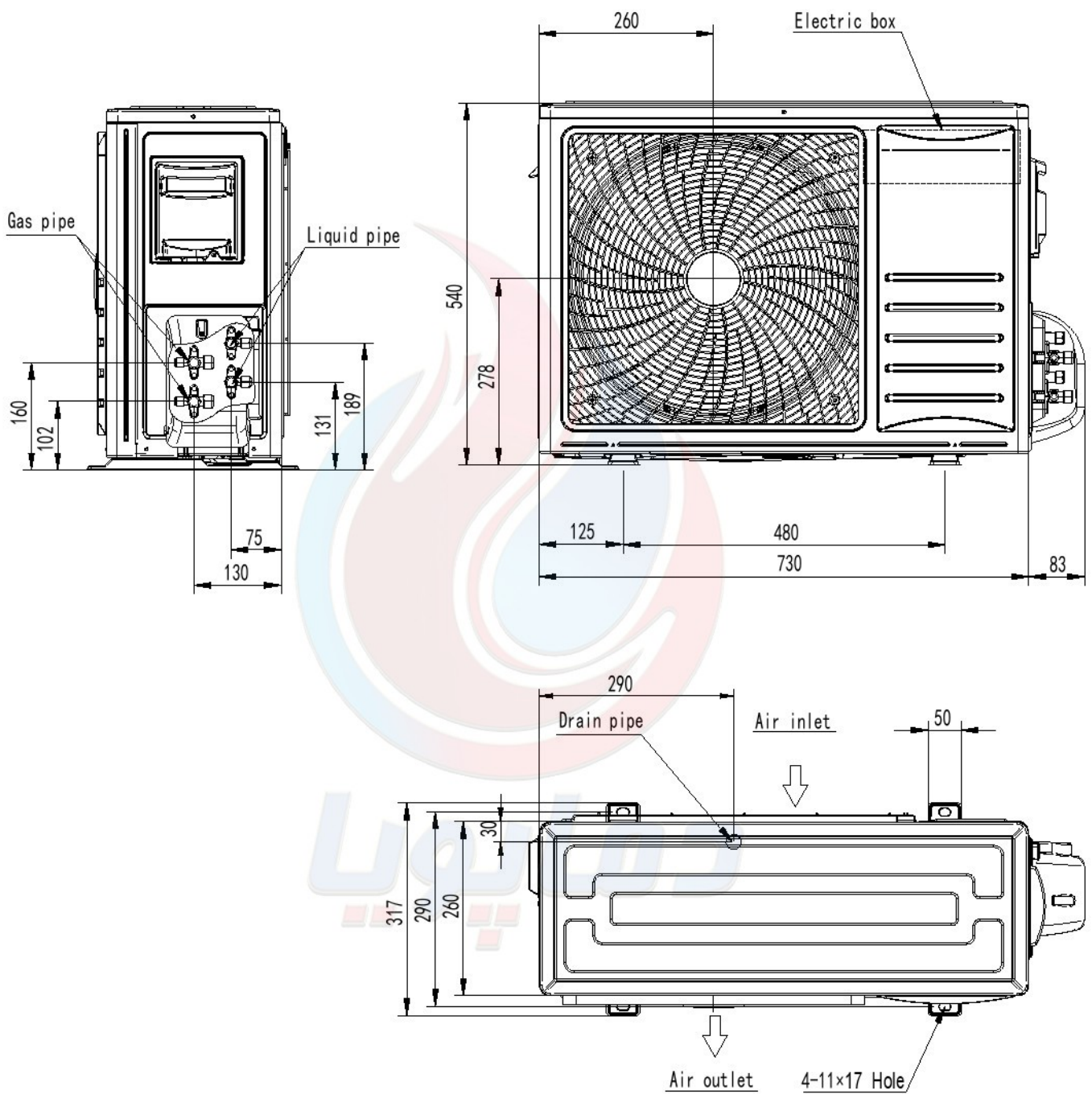
Model	a	b	c
18K/24K	990	855	912
36K	1285	1150	1207
42K/48K/60K	1580	1445	1502

3. OUTLINES AND DIMENSIONS

3.2 Outdoor units

9K

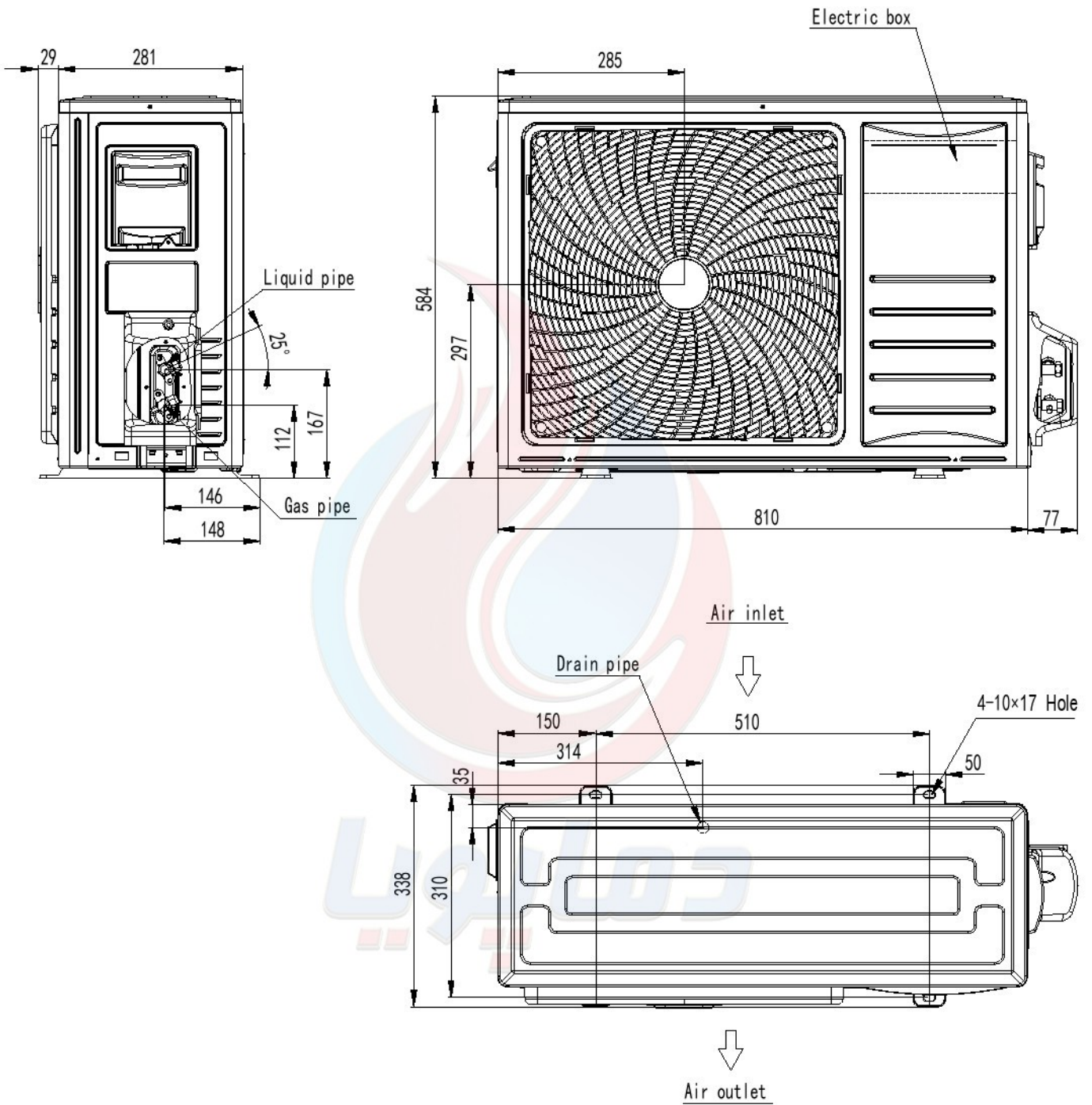
Unit: mm



3. OUTLINES AND DIMENSIONS

12K

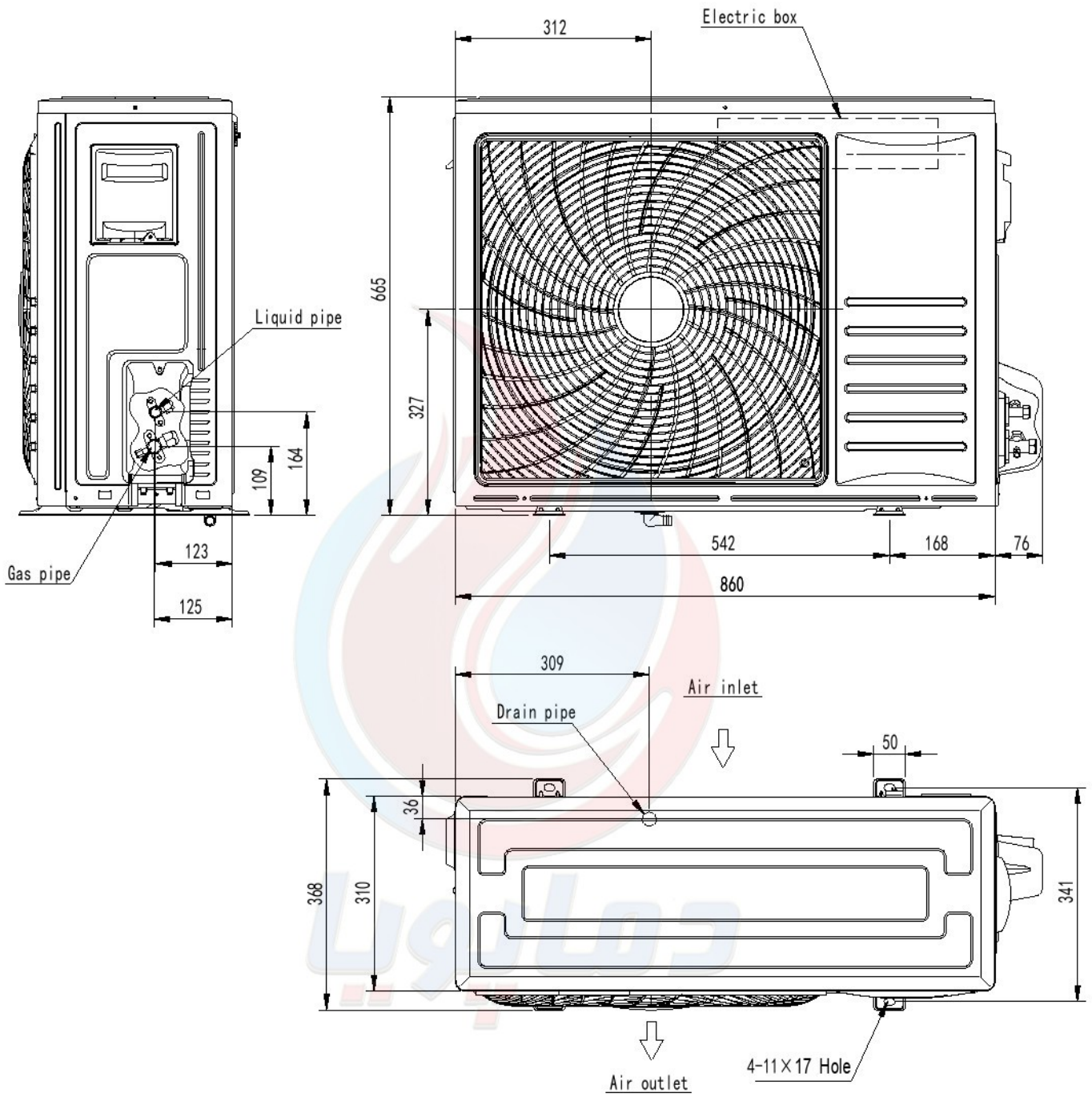
Unit: mm



3. OUTLINES AND DIMENSIONS

18K/24K

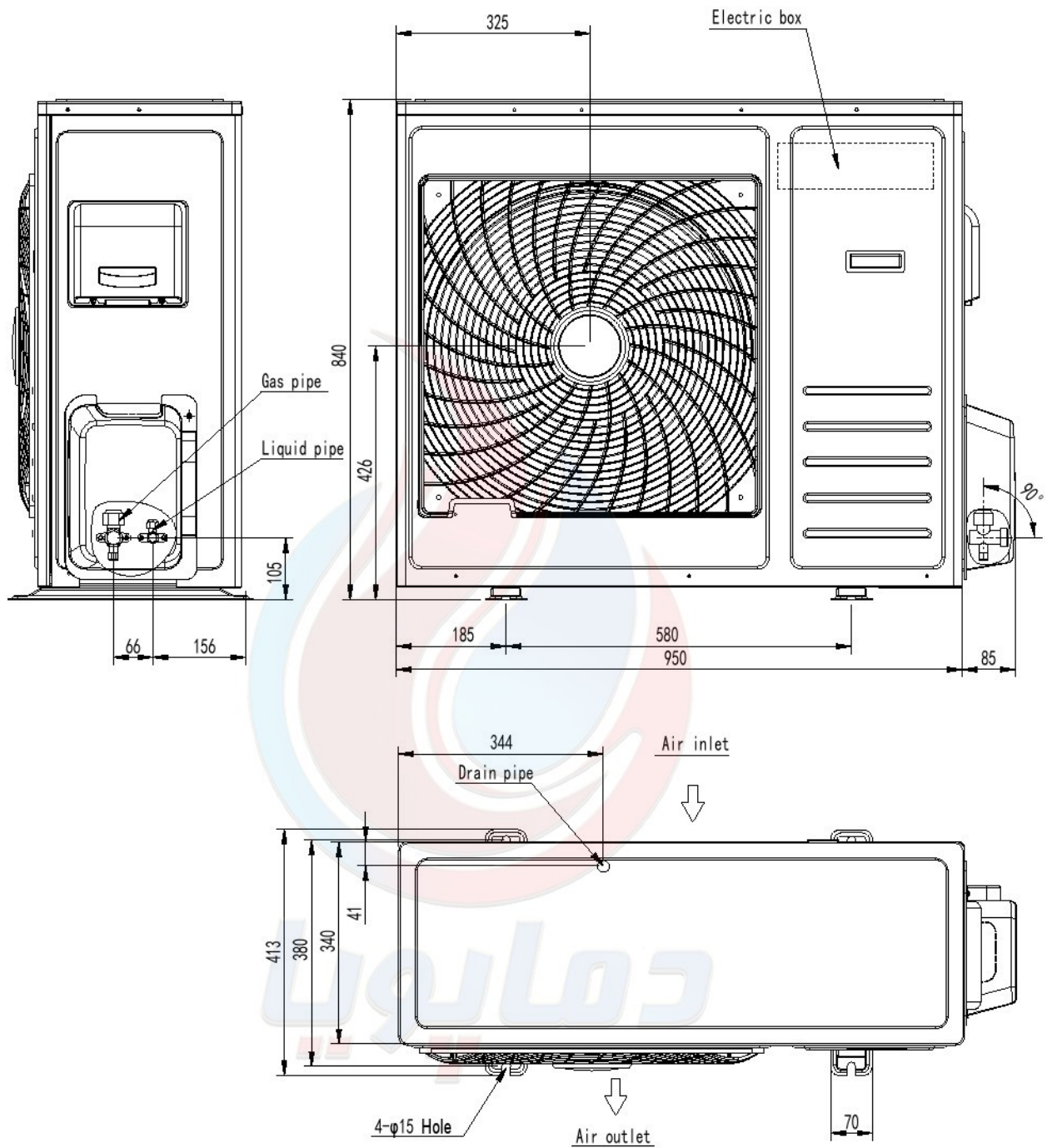
Unit: mm



3. OUTLINES AND DIMENSIONS

36K

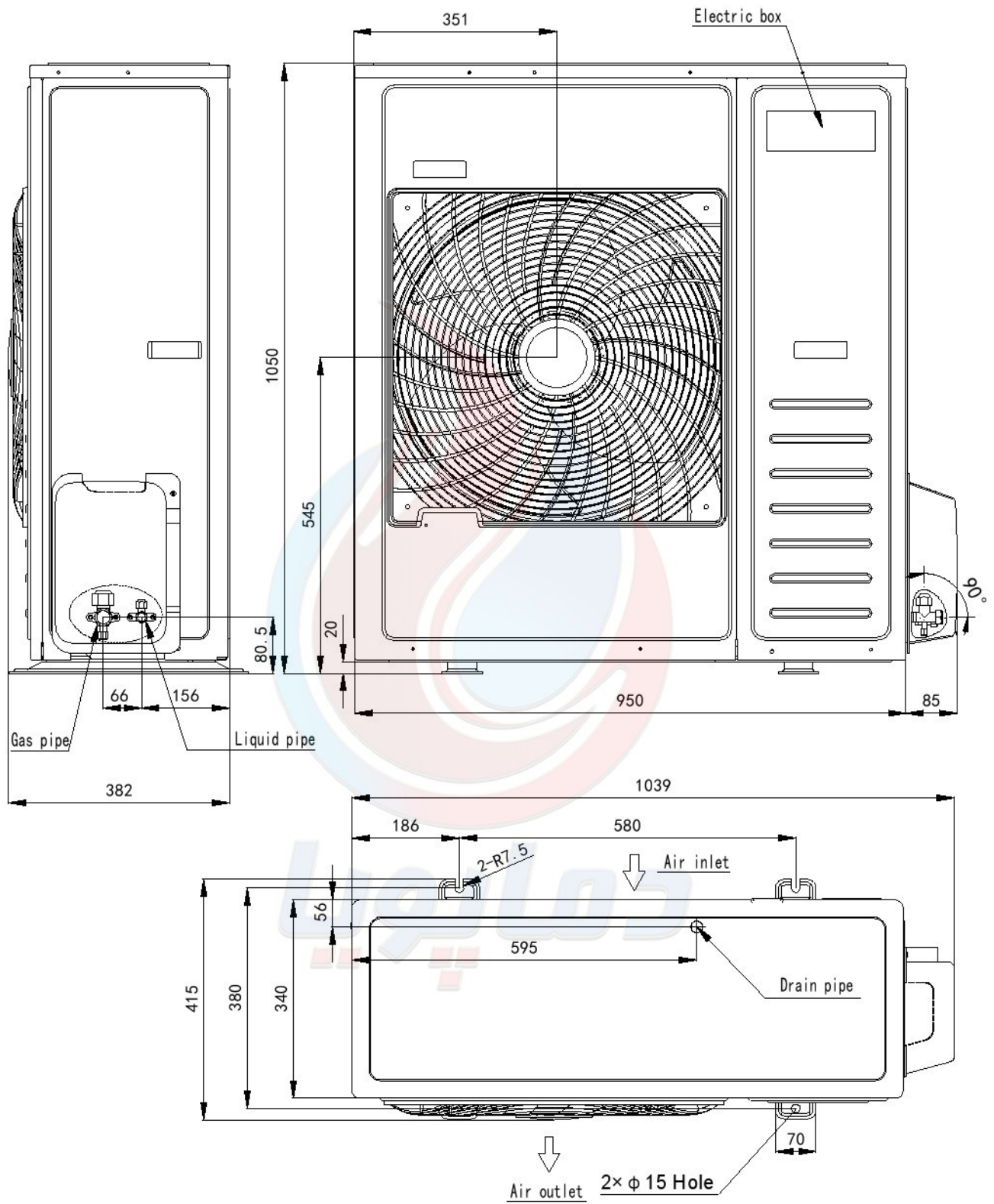
Unit: mm



3. OUTLINES AND DIMENSIONS

42K

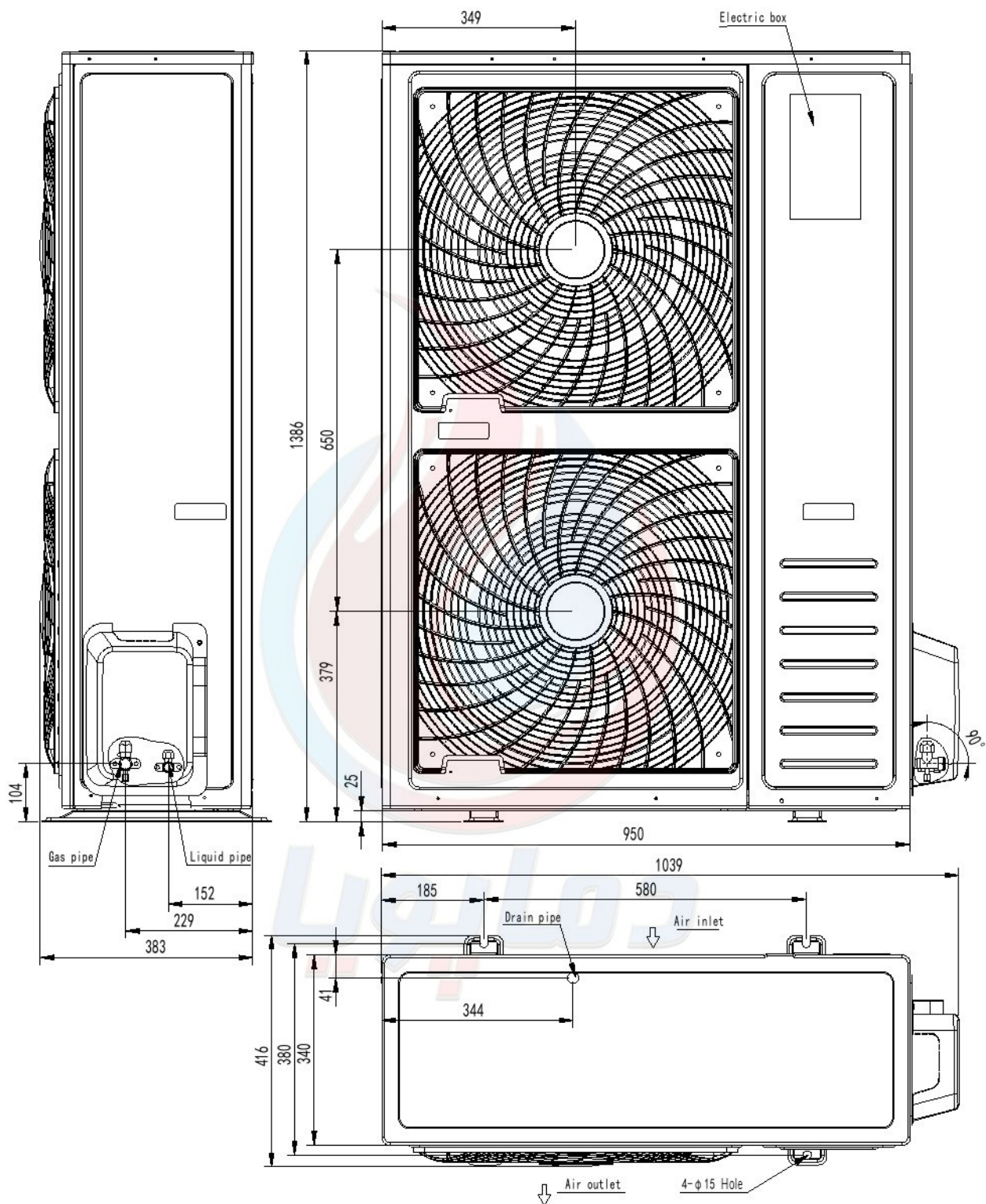
Unit: mm



3. OUTLINES AND DIMENSIONS

48K&60K

Unit: mm



5. CAPACITIES AND SELECTION DATA

4. Electrical data

Outdoor unit	Power supply			Applicable voltage		ELB	
	Voltage(V)	PH	Frequency	Umin(V)	Umax(V)	Nominal Current(A)	Nominal Sensitive Current(mA)
9K	220-240	1	50	176	264	20	30
12K	220-240	1	50	176	264	20	30
18K	220-240	1	50	176	264	20	30
24K	220-240	1	50	176	264	32	30
36K	220-240	1	50	176	264	40	30
42K/48K/60K	380-415	3	50	342	438	32	30

NOTE:

1. The above compressor data is based on 100% capacity combination of indoor units at the rated operating frequency
2. This data is based on the same conditions as the nominal heating and cooling capacities.
3. The compressor started by an inverter, resulting in extremely low starting current.



5. CAPACITIES AND SELECTION DATA

5. Capacities and selection data

5.1 Capacity Characteristic charts

The following charts show the characteristics of outdoor unit capacity, which corresponds with the operating ambient temperature of outdoor unit.

Conditions:

- ① Pipe length / height difference : 5m / 0m
- ② Compressor at rated inverter frequency
- ③ Indoor fan speed at high fan speed
- ④ Capacity loss due to white frost and defrost operation is not included.

9K

Duct

COOLING CAPACITY(kW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14	20	2.4	2.3	2.2	2.1	1.9	1.8
16	22	2.6	2.5	2.4	2.3	2.1	2.0
18	25	2.7	2.6	2.6	2.5	2.4	2.3
19	27	2.9	2.8	2.8	2.7	2.6	2.5
19.5	27	3.0	2.9	2.8	2.8	2.6	2.6
22	30	3.4	3.2	3.1	3.0	2.9	2.7
24	32	3.7	3.6	3.5	3.4	3.2	2.9

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(kW)

INDOOR TEMPERATURE	OUTDOOR TEMPERATURE(°C DB)						
(°C WB)	-15	-10	-5	0	6	10	15
16	1.7	1.8	2.2	2.5	2.8	2.8	2.9
18	1.7	1.8	2.2	2.5	2.7	2.8	2.8
20	1.6	1.8	2.1	2.3	2.7	2.8	2.8
21	1.6	1.8	2.1	2.3	2.7	2.8	2.8
22	1.5	1.7	2.1	2.2	2.7	2.8	2.8
24	1.5	1.7	2.0	2.2	2.7	2.8	2.8
26	1.5	1.7	2.0	2.2	2.7	2.7	2.8

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

12K

COOLING CAPACITY(kW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14	20	3.1	3.0	2.8	2.7	2.5	2.4
16	22	3.4	3.2	3.2	2.9	2.7	2.6
18	25	3.5	3.4	3.4	3.2	3.1	2.9
19	27	3.8	3.6	3.6	3.5	3.4	3.3
19.5	27	3.9	3.7	3.6	3.6	3.4	3.4
22	30	4.4	4.1	4.0	3.9	3.7	3.5
24	32	4.8	4.6	4.5	4.4	4.1	3.8

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(kW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)						
(°C WB)	(°C DB)	-15	-10	-5	0	6	10	15
16		2.3	2.6	3.0	3.4	3.9	3.9	4.0
18		2.3	2.6	3.0	3.4	3.8	3.9	3.9
20		2.2	2.4	2.9	3.2	3.8	3.9	3.9
21		2.2	2.4	2.9	3.2	3.8	3.9	3.9
22		2.1	2.3	2.9	3.1	3.8	3.9	3.9
24		2.1	2.3	2.7	3.1	3.8	3.9	3.9
26		2.1	2.3	2.7	3.1	3.7	3.8	3.9

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

18K

COOLING CAPACITY(kW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14	20	4.7	4.6	4.3	4.2	3.8	3.6
16	22	5.1	4.9	4.8	4.5	4.2	4.0
18	25	5.3	5.1	5.2	4.9	4.7	4.5
19	27	5.8	5.6	5.4	5.3	5.1	5.0
19.5	27	5.9	5.7	5.6	5.4	5.2	5.1
22	30	6.7	6.3	6.1	5.9	5.7	5.3
24	32	7.3	7.0	6.8	6.7	6.3	5.8

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

HEATING CAPACITY(kW)

INDOOR TEMPERATURE (°C WB)	OUTDOOR TEMPERATURE(°C DB)						
	-15	-10	-5	0	6	10	15
16	3.6	4.0	4.7	5.4	6.1	6.2	6.4
18	3.6	4.0	4.7	5.4	6.0	6.1	6.2
20	3.4	3.8	4.5	5.1	6.0	6.1	6.2
21	3.4	3.8	4.5	5.1	6.0	6.1	6.2
22	3.3	3.6	4.5	4.9	6.0	6.1	6.2
24	3.3	3.6	4.3	4.9	6.0	6.1	6.2
26	3.3	3.6	4.3	4.9	5.8	6.0	6.1

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

24K

COOLING CAPACITY(kW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14	20	6.2	6.1	5.7	5.5	5.1	4.8
16	22	6.8	6.5	6.4	6.0	5.5	5.3
18	25	7.1	6.8	7.0	6.5	6.2	6.0
19	27	7.7	7.4	7.2	7.1	6.8	6.7
19.5	27	7.8	7.5	7.4	7.2	7.0	6.8
22	30	8.9	8.4	8.1	7.8	7.5	7.1
24	32	9.7	9.4	9.1	8.9	8.4	7.7

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(kW)

INDOOR TEMPERATURE (°C WB)	OUTDOOR TEMPERATURE(°C DB)						
	-15	-10	-5	0	6	10	15
16	5.0	5.5	6.5	7.4	8.3	8.5	8.7
18	5.0	5.5	6.5	7.4	8.2	8.3	8.5
20	4.7	5.2	6.2	7.0	8.2	8.3	8.5
21	4.7	5.2	6.2	7.0	8.2	8.3	8.5
22	4.4	5.0	6.2	6.7	8.2	8.3	8.5
24	4.4	5.0	5.9	6.7	8.2	8.3	8.5
26	4.4	5.0	5.9	6.7	7.9	8.2	8.3

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

36K

COOLING CAPACITY(kW)

Indoor inlet temperature (°C)		Outdoor temperature (°C DB)					
(°C WB)	(°C DB)		25	32	35	40	45
14.0	20	10.2	10	9.8	9.5	9.0	8.0
16.0	22	10.6	10.5	10	10	9.4	8.4
18.0	25	11	10.8	10.6	10.2	9.8	8.8
19.0	27	11.5	11.2	10.8	10.5	10	9.0
19.5	27	11.6	11.4	11	10.7	10.2	9.4
22.0	30	11.8	11.6	11.2	10.9	10.6	9.8
24.0	32	12	11.8	11.4	11.2	10.8	10.1

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(kW)

Indoor inlet temperature (°C)	Outdoor temperature (°C DB)							
	(°C DB)	-15.0	-10.0	-5.0	0.0	6.0	10.0	15.0
16.0	(°C DB)	6.2	7.6	8.3	9.8	11.8	12.6	13
18.0	(°C DB)	6.0	7.4	8.2	9.5	11.7	12.3	12.8
20.0	(°C DB)	6.0	7.4	8.0	9.3	11.3	12	12.6
21.0	(°C DB)	6.0	7.3	8.0	9.3	11.5	12	12.6
22.0	(°C DB)	6.0	7.3	8.0	9.3	11.5	12	12.6
24.0	(°C DB)	6.0	7.0	8.0	9.1	11.4	11.8	12.2
26.0	(°C DB)	5.8	7.0	7.8	8.9	11	11.6	12

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

42K

COOLING CAPACITY(kW)

Indoor inlet temperature (°C)		Outdoor temperature (°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14.0	20	12.0	11.6	11.2	11.0	10.6	9.5
16.0	22	12.4	11.8	11.7	11.6	11.3	10.5
18.0	25	12.6	12.2	12	11.9	11.5	11
19.0	27	12.8	12.5	12.4	12.3	11.3	10.8
19.5	27	13.0	12.6	12.5	12.3	11.5	11
22.0	30	13.2	12.9	12.6	12.5	12	11.5
24.0	32	13.3	13.2	13	12.8	12.5	12

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

HEATING CAPACITY(kW)

Indoor inlet temperature (°C)	Outdoor temperature (°C DB)							
	(°C DB)	-15.0	-10.0	-5.0	0.0	6.0	10.0	15.0
16.0		8.8	9.0	10.5	11.9	13.8	14.2	14.6
18.0		8.7	8.8	10.2	11.9	13.8	14.2	14.6
20.0		8.5	8.7	10	11.8	13.8	14.2	14.6
21.0		8.4	8.7	10	11.8	13.6	14	14.2
22.0		8.4	8.7	10	11.8	13.5	13.8	14
24.0		8.3	8.5	9.6	11.4	13	13.5	13.7
26.0		8.3	8.5	9.6	11.2	12.6	13	13.3

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

48K

COOLING CAPACITY(kW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14	20	12.3	12.0	11.2	10.9	10.1	9.5
16	22	13.4	12.9	12.6	11.8	10.9	10.4
18	25	14.0	13.4	13.7	12.9	12.3	11.8
19	27	15.1	14.6	14.3	14.0	13.4	13.2
19.5	27	15.4	14.8	14.6	14.3	13.7	13.4
22	30	17.6	16.5	16.0	15.4	14.8	14.0
24	32	19.0	18.5	17.9	17.6	16.5	15.1

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(kW)

INDOOR TEMPERATURE	OUTDOOR TEMPERATURE(°C DB)						
(°C WB)	-15	-10	-5	0	6	10	15
16	9.7	10.8	12.6	14.4	16.3	16.5	17.0
18	9.7	10.8	12.6	14.4	16.0	16.3	16.5
20	9.2	10.2	12.1	13.6	16.0	16.3	16.5
21	9.2	10.2	12.1	13.6	16.0	16.3	16.5
22	8.7	9.7	12.1	13.1	16.0	16.3	16.5
24	8.7	9.7	11.5	13.1	16.0	16.3	16.5
26	8.7	9.7	11.5	13.1	15.5	16.0	16.3

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

60K

COOLING CAPACITY(kW)

Indoor inlet temperature (°C)		Outdoor temperature (°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14.0	20	16.6	16.3	15.7	15.5	15.0	14.8
16.0	22	17.0	16.6	16.1	15.8	15.5	15.1
18.0	25	17.7	17.4	16.6	16.5	16.1	15.8
19.0	27	18.5	17.9	17.5	17.0	16.5	16.3
19.5	27	18.7	18.0	17.8	17.2	16.8	16.5
22.0	30	19.1	18.5	18.0	17.7	17.5	16.7
24.0	32	19.4	19.1	18.5	18.3	17.8	16.8

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(kW)

Indoor inlet temperature (°C)	Outdoor temperature (°C DB)						
(°C DB)	-15.0	-10.0	-5.0	0.0	6.0	10.0	15.0
16.0	14.0	15.4	16.8	20.0	20.8	21.5	21.9
18.0	13.5	14.8	16.2	19.3	20.1	20.9	21.5
20.0	13.0	16.2	17.4	18.5	19.5	20.4	20.9
21.0	12.4	15.8	17.0	18.0	18.6	19.2	19.7
22.0	11.8	15.0	16.9	17.8	18.3	19.0	19.4
24.0	11.0	14.2	15.2	16.5	17.4	18.6	19.0
26.0	10.7	13.8	14.7	15.7	16.7	18.1	18.5

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

Cassette

12K

COOLING CAPACITY(kW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14	20	3.1	3.0	2.8	2.7	2.5	2.4
16	22	3.4	3.2	3.2	2.9	2.7	2.6
18	25	3.5	3.4	3.4	3.2	3.1	2.9
19	27	3.8	3.6	3.6	3.5	3.4	3.3
19.5	27	3.9	3.7	3.6	3.6	3.4	3.4
22	30	4.4	4.1	4.0	3.9	3.7	3.5
24	32	4.8	4.6	4.5	4.4	4.1	3.8

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

HEATING CAPACITY(KW)

INDOOR TEMPERATURE (°C WB)	OUTDOOR TEMPERATURE(°C DB)						
	-15	-10	-5	0	6	10	15
16	2.3	2.6	3.0	3.4	3.9	3.9	4.0
18	2.3	2.6	3.0	3.4	3.8	3.9	3.9
20	2.2	2.4	2.9	3.2	3.8	3.9	3.9
21	2.2	2.4	2.9	3.2	3.8	3.9	3.9
22	2.1	2.3	2.9	3.1	3.8	3.9	3.9
24	2.1	2.3	2.7	3.1	3.8	3.9	3.9
26	2.1	2.3	2.7	3.1	3.7	3.8	3.9

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

18K

COOLING CAPACITY(KW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14	20	4.7	4.6	4.2	4.1	3.8	3.6
16	22	5.1	4.9	4.8	4.5	4.1	3.9
18	25	5.3	5.1	5.2	4.9	4.7	4.5
19	27	5.7	5.5	5.4	5.3	5.1	5.0
19.5	27	5.8	5.6	5.5	5.4	5.2	5.1
22	30	6.7	6.3	6.0	5.8	5.6	5.3
24	32	7.2	7.0	6.8	6.7	6.3	5.7

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(KW)

INDOOR TEMPERATURE (°C WB)	OUTDOOR TEMPERATURE(°C DB)						
	-15	-10	-5	0	6	10	15
16	3.8	4.2	4.9	5.6	6.3	6.4	6.6
18	3.8	4.2	4.9	5.6	6.2	6.3	6.4
20	3.6	4.0	4.7	5.3	6.2	6.3	6.4
21	3.6	4.0	4.7	5.3	6.2	6.3	6.4
22	3.4	3.8	4.7	5.1	6.2	6.3	6.4
24	3.4	3.8	4.5	5.1	6.2	6.3	6.4
26	3.4	3.8	4.5	5.1	6.0	6.2	6.3

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

24K

COOLING CAPACITY(KW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14	20	6.2	6.1	5.7	5.5	5.1	4.8
16	22	6.8	6.5	6.4	6.0	5.5	5.3
18	25	7.1	6.8	7.0	6.5	6.2	6.0
19	27	7.7	7.4	7.2	7.1	6.8	6.7
19.5	27	7.8	7.5	7.4	7.2	7.0	6.8
22	30	8.9	8.4	8.1	7.8	7.5	7.1
24	32	9.7	9.4	9.1	8.9	8.4	7.7

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(KW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)						
(°C WB)	(°C DB)	-15	-10	-5	0	6	10	15
16	16	5.0	5.5	6.5	7.4	8.3	8.5	8.7
18	18	5.0	5.5	6.5	7.4	8.2	8.3	8.5
20	20	4.7	5.2	6.2	7.0	8.2	8.3	8.5
21	21	4.7	5.2	6.2	7.0	8.2	8.3	8.5
22	22	4.4	5.0	6.2	6.7	8.2	8.3	8.5
24	24	4.4	5.0	5.9	6.7	8.2	8.3	8.5
26	26	4.4	5.0	5.9	6.7	7.9	8.2	8.3

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

36K

COOLING CAPACITY(KW)

Indoor inlet temperature (°C)		Outdoor temperature (°C DB)					
(°C WB)	(°C DB)		25	32	35	40	45
14.0	20	10.2	10	9.8	9.5	9.0	8.0
16.0	22	10.6	10.5	10	10	9.4	8.4
18.0	25	11	10.8	10.6	10.2	9.8	8.8
19.0	27	11.5	11.2	10.8	10.5	10	9.0
19.5	27	11.6	11.4	11	10.7	10.2	9.4
22.0	30	11.8	11.6	11.2	10.9	10.6	9.8
24.0	32	12	11.8	11.4	11.2	10.8	10.1

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

HEATING CAPACITY(kW)

Indoor inlet temperature (°C)	Outdoor temperature (°C DB)							
	(°C DB)	-1	-10.0	-5.0	0.0	6.0	10.0	15.0
16.0		6.2	7.6	8.3	9.8	11.8	12.6	13
18.0		6.0	7.4	8.2	9.5	11.7	12.3	12.8
20.0		6.0	7.4	8.0	9.3	11.4	12	12.6
21.0		6.0	7.3	8.0	9.3	11.5	12	12.6
22.0		6.0	7.3	8.0	9.3	11.5	12	12.6
24.0		6.0	7.0	8.0	9.1	11.4	11.8	12.2
26.0		5.8	7.0	7.8	8.9	11	11.6	12

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

42K

COOLING CAPACITY(kW)

Indoor inlet temperature (°C)		Outdoor temperature (°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14.0	20	12.0	11.6	11.2	11.0	10.6	9.5
16.0	22	12.4	11.8	11.7	11.6	11.3	10.5
18.0	25	12.6	12.2	12	11.9	11.5	11
19.0	27	12.8	12.5	12.4	12.3	11.3	10.8
19.5	27	13.0	12.6	12.5	12.3	11.5	11
22.0	30	13.2	12.9	12.6	12.5	12	11.5
24.0	32	13.3	13.2	13	12.8	12.5	12

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(. W)

Indoor inlet temperature (°C)	Outdoor temperature (°C DB)							
	(°C DB)	-15.0	-10.0	-5.0	0.0	6.0	10.0	15.0
16.0		8.8	9.0	10.5	11.9	13.8	14.2	14.6
18.0		8.7	8.8	10.2	11.9	13.8	14.2	14.6
20.0		8.5	8.7	10	11.8	13.8	14.2	14.6
21.0		8.4	8.7	10	11.8	13.6	14	14.2
22.0		8.4	8.7	10	11.8	13.5	13.8	14
24.0		8.3	8.5	9.6	11.4	13	13.5	13.7
26.0		8.3	8.5	9.6	11.2	12.6	13	13.3

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

48K

COOLING CAPACITY(KW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14	20	12.3	12.0	11.2	10.9	10.1	9.5
16	22	13.4	12.9	12.6	11.8	10.9	10.4
18	25	14.0	13.4	13.7	12.9	12.3	11.8
19	27	15.1	14.6	14.3	14.0	13.4	13.2
19.5	27	15.4	14.8	14.6	14.3	13.7	13.4
22	30	17.6	16.5	16.0	15.4	14.8	14.0
24	32	19.0	18.5	17.9	17.6	16.5	15.1

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(KW)

INDOOR TEMPERATURE	OUTDOOR TEMPERATURE(°C DB)						
(°C WB)	-15	-10	-5	0	6	10	15
16	9.7	10.8	12.6	14.4	16.3	16.5	17.0
18	9.7	10.8	12.6	14.4	16.0	16.3	16.5
20	9.2	10.2	12.1	13.6	16.0	16.3	16.5
21	9.2	10.2	12.1	13.6	16.0	16.3	16.5
22	8.7	9.7	12.1	13.1	16.0	16.3	16.5
24	8.7	9.7	11.5	13.1	16.0	16.3	16.5
26	8.7	9.7	11.5	13.1	15.5	16.0	16.3

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

60K

COOLING CAPACITY(KW)

Indoor inlet temperature (°C)		Outdoor temperature (°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14.0	20	16.6	16.3	15.7	15.5	15.0	14.8
16.0	22	17.0	16.6	16.1	15.8	15.5	15.1
18.0	25	17.7	17.4	16.6	16.5	16.1	15.8
19.0	27	18.5	17.9	17.5	17.0	16.5	16.3
19.5	27	18.7	18.0	17.8	17.2	16.8	16.5
22.0	30	19.1	18.5	18.0	17.7	17.5	16.7
24.0	32	19.4	19.1	18.5	18.3	17.8	16.8

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

HEATING CAPACITY(kW)

Indoor inlet temperature (°C)	Outdoor temperature (°C DB)							
	(°C DB)	-15.0	-10.0	-5.0	0.0	6.0	10.0	15.0
16.0		14.0	15.4	16.8	20.0	20.8	21.5	21.9
18.0		13.5	14.8	16.2	19.3	20.1	20.9	21.5
20.0		13.0	16.2	17.4	18.5	19.5	20.4	20.9
21.0		12.4	15.8	17.0	18.0	18.6	19.2	19.7
22.0		11.8	15.0	16.9	17.8	18.3	19.0	19.4
24.0		11.0	14.2	15.2	16.5	17.4	18.6	19.0
26.0		10.7	13.8	14.7	15.7	16.7	18.1	18.5

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(kW)

Indoor inlet temperature (°C)	Outdoor temperature (°C DB)							
	(°C DB)	-15.0	-10.0	-5.0	0.0	6.0	10.0	15.0
16.0		14.0	15.4	16.8	20.0	20.8	21.5	21.9
18.0		13.5	14.8	16.2	19.3	20.1	20.9	21.5
20.0		13.0	16.2	17.4	18.5	19.5	20.4	20.9
21.0		12.4	15.8	17.0	18.0	18.6	19.2	19.7
22.0		11.8	15.0	16.9	17.8	18.3	19.0	19.4
24.0		11.0	14.2	15.2	16.5	17.4	18.6	19.0
26.0		10.7	13.8	14.7	15.7	16.7	18.1	18.5

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

Ceiling&Floor type

18K

COOLING CAPACITY(kW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14	20	4.6	4.5	4.2	4.1	3.8	3.6
16	22	5.1	4.9	4.8	4.4	4.1	3.9
18	25	5.3	5.1	5.2	4.9	4.6	4.4
19	27	5.7	5.5	5.4	5.3	5.1	5.0
19.5	27	5.8	5.6	5.5	5.4	5.2	5.1
22	30	6.7	6.2	6.0	5.8	5.6	5.3
24	32	7.2	7.0	6.8	6.7	6.2	5.7

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

HEATING CAPACITY(KW)

INDOOR TEMPERATURE (°C WB)	OUTDOOR TEMPERATURE(°C DB)						
	-15	-10	-5	0	6	10	15
16	3.6	4.0	4.7	5.4	6.1	6.2	6.4
18	3.6	4.0	4.7	5.4	6.0	6.1	6.2
20	3.4	3.8	4.5	5.1	6.0	6.1	6.2
21	3.4	3.8	4.5	5.1	6.0	6.1	6.2
22	3.2	3.6	4.5	4.9	6.0	6.1	6.2
24	3.2	3.6	4.3	4.9	6.0	6.1	6.2
26	3.2	3.6	4.3	4.9	5.8	6.0	6.1

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

24K

COOLING CAPACITY(KW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14	20	6.2	6.1	5.7	5.5	5.1	4.8
16	22	6.8	6.5	6.4	6.0	5.5	5.3
18	25	7.1	6.8	7.0	6.5	6.2	6.0
19	27	7.7	7.4	7.2	7.1	6.8	6.7
19.5	27	7.8	7.5	7.4	7.2	7.0	6.8
22	30	8.9	8.4	8.1	7.8	7.5	7.1
24	32	9.7	9.4	9.1	8.9	8.4	7.7

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(KW)

INDOOR TEMPERATURE (°C WB)	OUTDOOR TEMPERATURE(°C DB)						
	-15	-10	-5	0	6	10	15
16	5.0	5.5	6.5	7.4	8.3	8.5	8.7
18	5.0	5.5	6.5	7.4	8.2	8.3	8.5
20	4.7	5.2	6.2	7.0	8.2	8.3	8.5
21	4.7	5.2	6.2	7.0	8.2	8.3	8.5
22	4.4	5.0	6.2	6.7	8.2	8.3	8.5
24	4.4	5.0	5.9	6.7	8.2	8.3	8.5
26	4.4	5.0	5.9	6.7	7.9	8.2	8.3

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

36K

COOLING CAPACITY(KW)

Indoor inlet temperature (°C)		Outdoor temperature (°C DB)					
(°C WB)	(°C DB)		25	32	35	40	45
14.0	20	10.2	10	9.8	9.5	9.0	8.0
16.0	22	10.6	10.5	10	10	9.4	8.4
18.0	25	11	10.8	10.6	10.2	9.8	8.8
19.0	27	11.5	11.2	10.23	10.5	10	9.0
19.5	27	11.6	11.4	11	10.7	10.2	9.4
22.0	30	11.8	11.6	11.2	10.9	10.6	9.8
24.0	32	12	11.8	11.4	11.2	10.8	10.1

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(KW)

Indoor inlet temperature (°C)	Outdoor temperature (°C DB)							
	(°C DB)	-1	-10.0	-5.0	0.0	6.0	10.0	15.0
16.0	16.0	6.2	7.6	8.3	9.8	11.8	12.6	13
18.0	18.0	6.0	7.4	8.2	9.5	11.7	12.3	12.8
20.0	20.0	6.0	7.4	8.0	9.3	11.2	12	12.6
21.0	21.0	6.0	7.3	8.0	9.3	11.5	12	12.6
22.0	22.0	6.0	7.3	8.0	9.3	11.5	12	12.6
24.0	24.0	6.0	7.0	8.0	9.1	11.4	11.8	12.2
26.0	26.0	5.8	7.0	7.8	8.9	11	11.6	12

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

42K

COOLING CAPACITY(KW)

Indoor inlet temperature (°C)		Outdoor temperature (°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14.0	20	12.0	11.6	11.2	11.0	10.6	9.5
16.0	22	12.4	11.8	11.7	11.6	11.3	10.5
18.0	25	12.6	12.2	12	11.9	11.5	11
19.0	27	12.8	12.5	12.4	12.3	11.3	10.8
19.5	27	13.0	12.6	12.5	12.3	11.5	11
22.0	30	13.2	12.9	12.6	12.5	12	11.5
24.0	32	13.3	13.2	13	12.8	12.5	12

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

HEATING CAPACITY(KW)

Indoor inlet temperature (°C)	Outdoor temperature (°C DB)							
	(°C DB)	-15.0	-10.0	-5.0	0.0	6.0	10.0	15.0
16.0		8.8	9.0	10.5	11.9	13.8	14.2	14.6
18.0		8.7	8.8	10.2	11.9	13.8	14.2	14.6
20.0		8.5	8.7	10	11.8	13.8	14.2	14.6
21.0		8.4	8.7	10	11.8	13.6	14	14.2
22.0		8.4	8.7	10	11.8	13.5	13.8	14
24.0		8.3	8.5	9.6	11.4	13	13.5	13.7
26.0		8.3	8.5	9.6	11.2	12.6	13	13.3

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

48K

COOLING CAPACITY(KW)

INDOOR TEMPERATURE		OUTDOOR TEMPERATURE(°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14	20	12.3	12.0	11.2	10.9	10.1	9.5
16	22	13.4	12.9	12.6	11.8	10.9	10.4
18	25	14.0	13.4	13.7	12.9	12.3	11.8
19	27	15.1	14.6	14.3	14.0	13.4	13.2
19.5	27	15.4	14.8	14.6	14.3	13.7	13.4
22	30	17.6	16.5	16.0	15.4	14.8	14.0
24	32	19.0	18.5	17.9	17.6	16.5	15.1

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(KW)

INDOOR TEMPERATURE	OUTDOOR TEMPERATURE(°C DB)							
	(°C WB)	-15	-10	-5	0	6	10	15
16		9.6	10.6	12.4	14.2	16.1	16.3	16.8
18		9.6	10.6	12.4	14.2	15.8	16.1	16.3
20		9.1	10.1	11.9	13.5	15.8	16.1	16.3
21		9.1	10.1	11.9	13.5	15.8	16.1	16.3
22		8.5	9.6	11.9	13.0	15.8	16.1	16.3
24		8.5	9.6	11.4	13.0	15.8	16.1	16.3
26		8.5	9.6	11.4	13.0	15.3	15.8	16.1

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

60K

COOLING CAPACITY(KW)

Indoor inlet temperature (°C)		Outdoor temperature (°C DB)					
(°C WB)	(°C DB)	20	25	32	35	40	45
14.0	20	16.6	16.3	15.7	15.5	15.0	14.8
16.0	22	17.0	16.6	16.1	15.8	15.5	15.1
18.0	25	17.7	17.4	16.6	16.5	16.1	15.8
19.0	27	18.5	17.9	17.5	17.0	16.5	16.3
19.5	27	18.7	18.0	17.8	17.2	16.8	16.5
22.0	30	19.1	18.5	18.0	17.7	17.5	16.7
24.0	32	19.4	19.1	18.5	18.3	17.8	16.8

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

HEATING CAPACITY(KW)

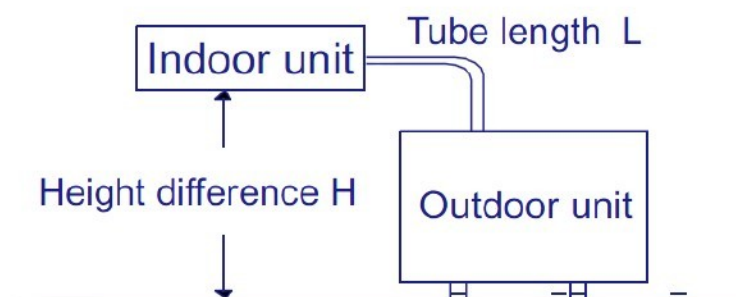
Indoor inlet temperature (°C)	Outdoor temperature (°C DB)						
(°C DB)	-15.0	-10.0	-5.0	0.0	6.0	10.0	15.0
16.0	14.0	15.4	16.8	20.0	20.8	21.5	21.9
18.0	13.5	14.8	16.2	19.3	20.1	20.9	21.5
20.0	13.0	16.2	17.4	18.5	19.5	20.4	20.9
21.0	12.4	15.8	17.0	18.0	18.6	19.2	19.7
22.0	11.8	15.0	16.9	17.8	18.3	19.0	19.4
24.0	11.0	14.2	15.2	16.5	17.4	18.6	19.0
26.0	10.7	13.8	14.7	15.7	16.7	18.1	18.5

(°C DB) : Dry Bulb Temperature (°C)

(°C WB) : Wet Bulb Temperature (°C)

5. CAPACITIES AND SELECTION DATA

5.2 Piping length correction factor



The correction factor is based on the equivalent piping length in meters (EL) and the height between outdoor and indoor units in meters (H).

H:

Height between indoor unit and outdoor unit (m).

• $H > 0$: Position of outdoor unit is higher than position of indoor unit (m).

• $H < 0$: Position of outdoor unit is lower than position of indoor unit (m).

L:

Actual one-way piping length between indoor unit and outdoor unit (m).

EL:

Equivalent one-way piping length between indoor unit and outdoor unit (m).

Gas Diameter (mm/inch)	9.52 (3/8')	12.7 (1/2')	15.88 (5/8')	19.05 (3/4')
90° Elbow	0.15	0.2	0.25	0.35

Cooling :

EL	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m
9K	1.0	0.99	0.99	0.98	0.98	—	—	—	—	—
12K	1.0	0.98	0.96	0.95	0.94	0.93	—	—	—	—
18K	1.0	0.98	0.97	0.96	0.95	0.95	—	—	—	—
24K	1.0	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.92
36K	1.0	0.95	0.93	0.90	0.88	0.85	0.83	0.80	0.78	0.75
42K	1.0	0.95	0.92	0.88	0.87	0.85	0.83	0.80	0.78	0.75
48K	1.0	0.98	0.96	0.94	0.92	0.89	0.86	0.83	0.79	0.75
60K	1.0	0.98	0.96	0.94	0.92	0.89	0.86	0.83	0.79	0.75

5. CAPACITIES AND SELECTION DATA

EL	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m
9K	1.0	0.99	0.99	0.98	0.98	—	—	—	—	—
12K	1.0	0.99	0.97	0.95	0.93	0.92	—	—	—	—
18K	1.0	0.99	0.97	0.95	0.93	0.92	—	—	—	—
24K	1.0	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.91
36K	1.0	0.94	0.91	0.88	0.85	0.82	0.79	0.76	0.73	0.70
42K	1.0	0.94	0.91	0.88	0.85	0.82	0.79	0.76	0.73	0.70
48K	1.0	0.99	0.98	0.97	0.95	0.93	0.90	0.87	0.84	0.80
60K	1.0	0.99	0.98	0.97	0.95	0.93	0.90	0.87	0.84	0.80

The correction factor of height between indoor unit and outdoor unit

Height difference	5m	10m	30m
Factor	0.01	0.02	0.025

In order to ensure correct unit selection, consider the farthest indoor unit.

NOTE

1. Data above is assuming a height difference between indoor and outdoor of 0m.
2. Be sure to minimize length of connection pipes in order to optimize performance. In the case that the outdoor unit is installed higher or lower than the indoor unit, it is necessary to apply height correction factor additionally to length correction factor to calculate cooling/heating. If outdoor unit is higher, correction should be applied to cooling capacity, if outdoor unit is lower, correction should be applied to heating capacity.

5. CAPACITIES AND SELECTION DATA

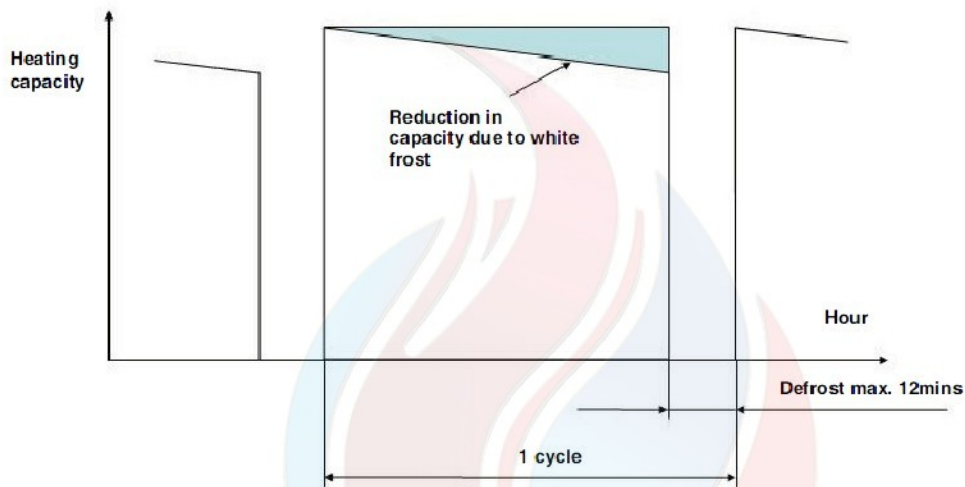
5.3 Correction factors according to defrosting operation

The heating capacity in the preceding paragraph, excludes the condition of defrosting operation period. In consideration of defrosting operation, the heating capacity is corrected by the equation below. Corrected heating capacity = Defrost

Correction factor x unit capacity

OUTDOOR TEMPERATURE (°CDB)	-15	-10	-5	0	7	10	15
Correction factor (humidity rate 85% RH)	0.95	0.95	0.91	0.81	1.0	1.0	1.0

Correction Factor



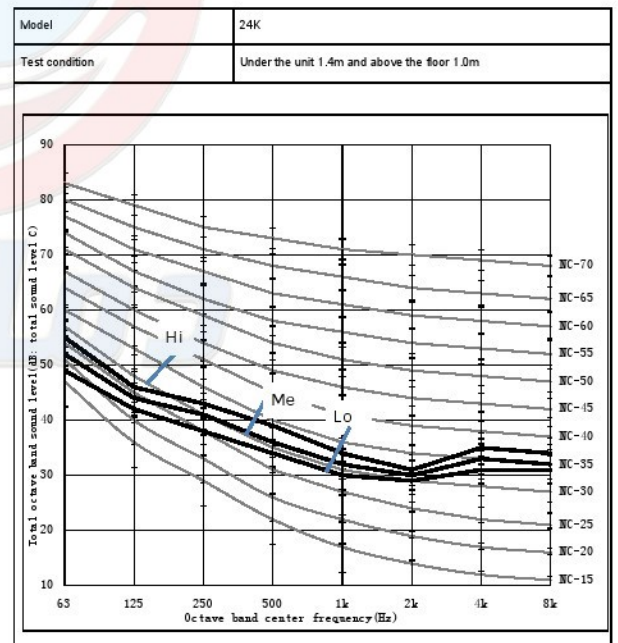
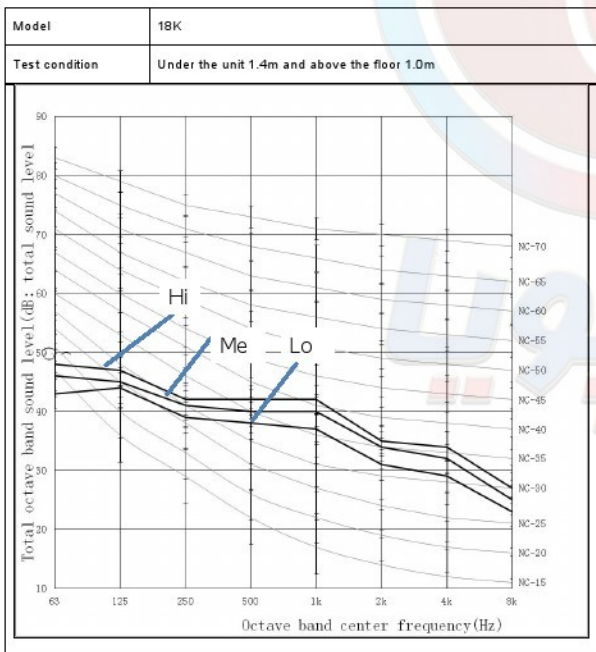
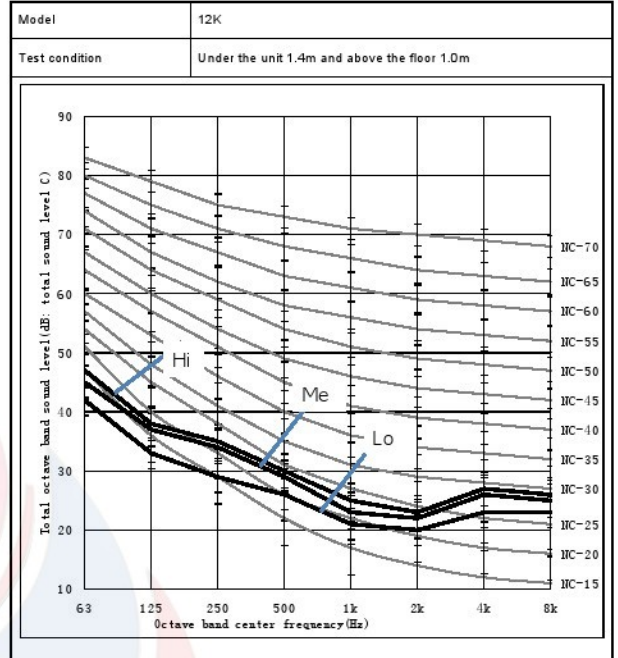
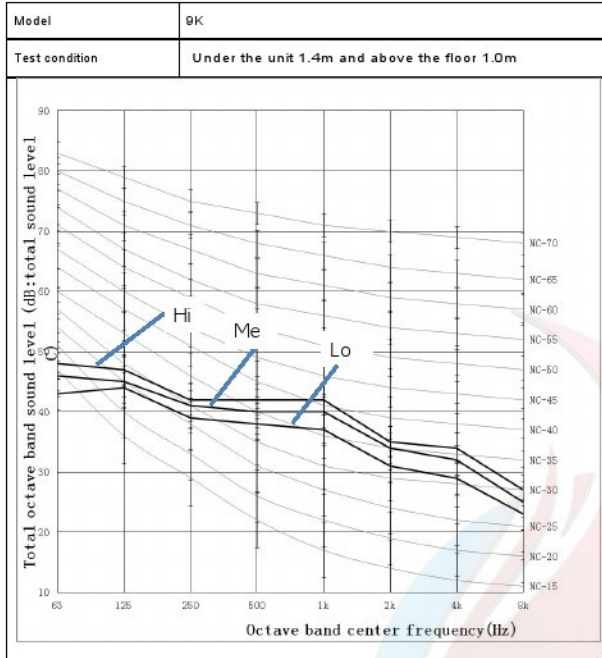
NOTE:

The correction factor is not valid for special conditions such as snowfall or operation in a transitional period.

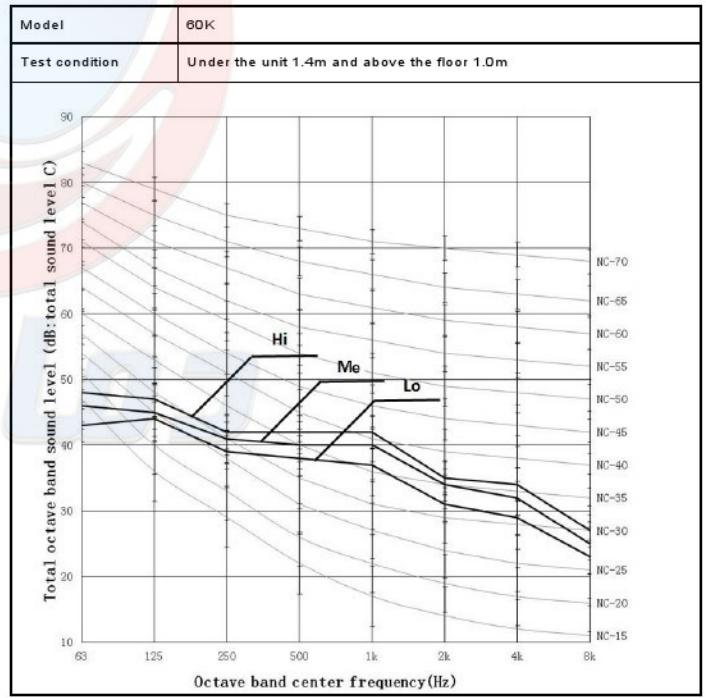
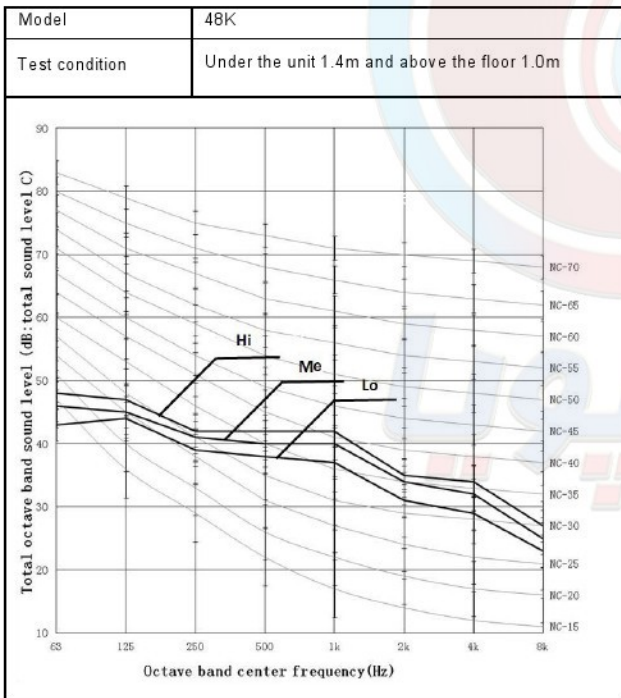
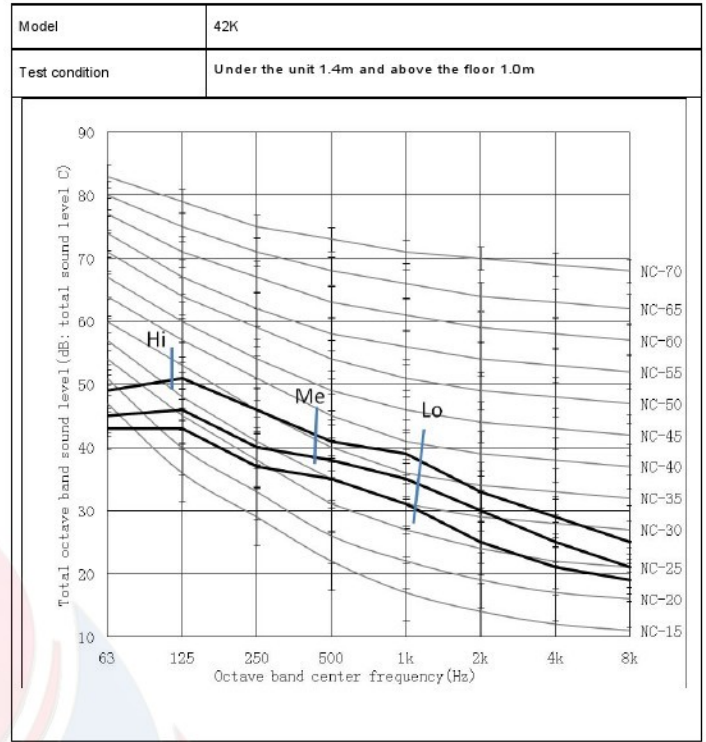
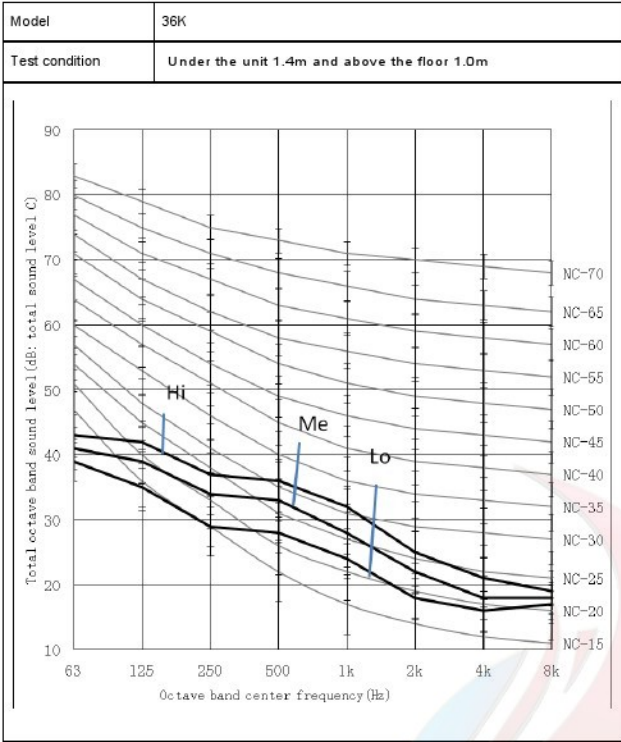
6. SOUND PRESSURE DATA

6. Sound pressure data

Duct type

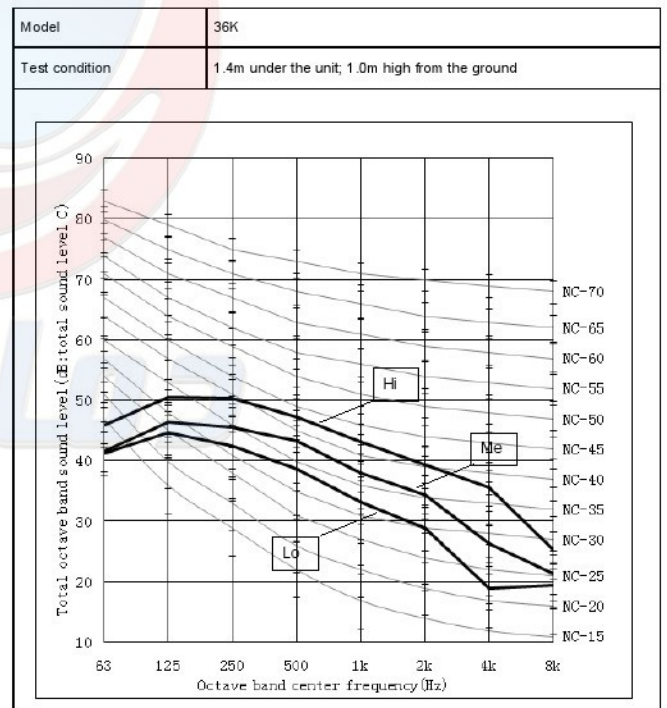
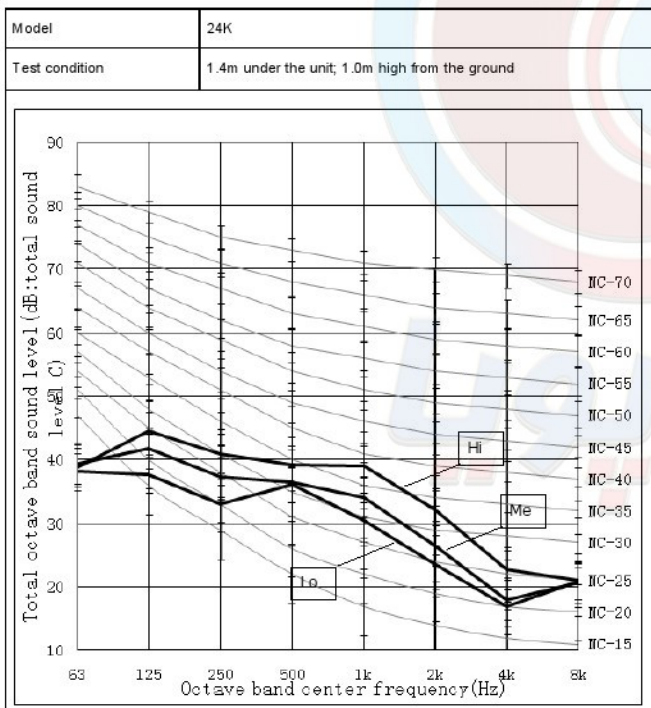
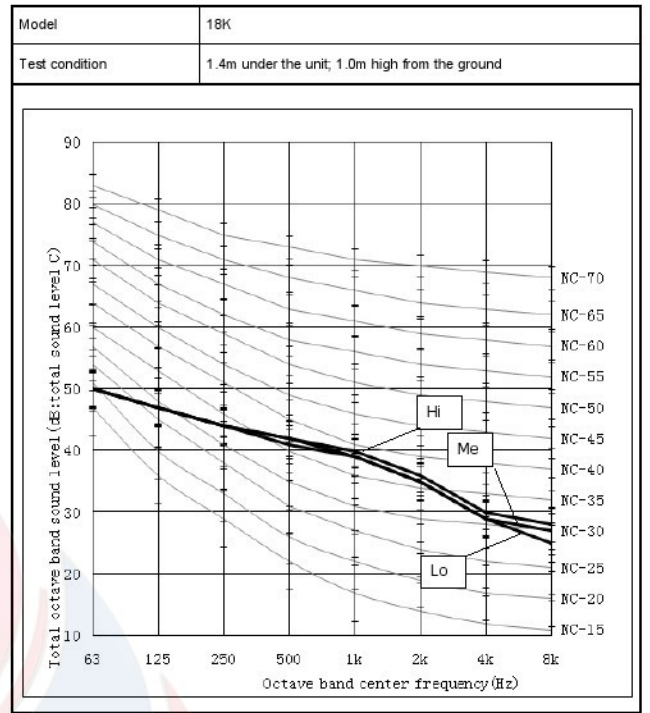
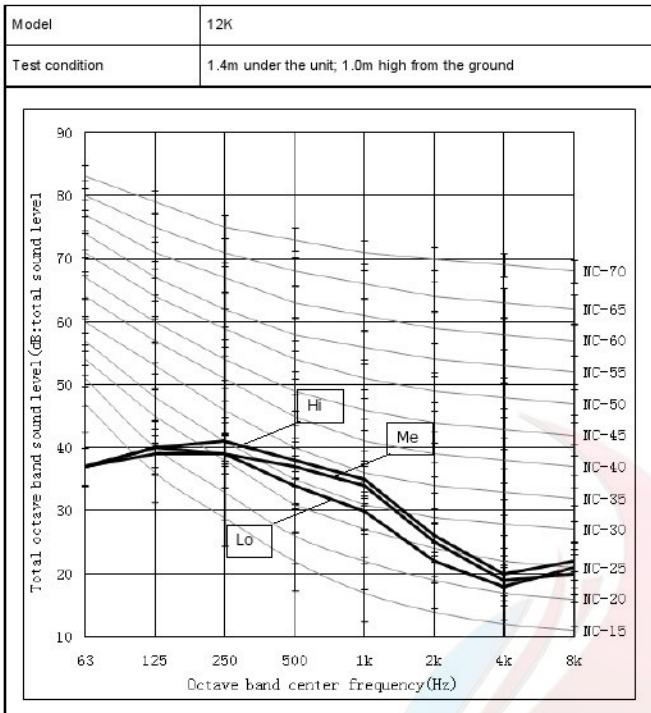


6. SOUND PRESSURE DATA

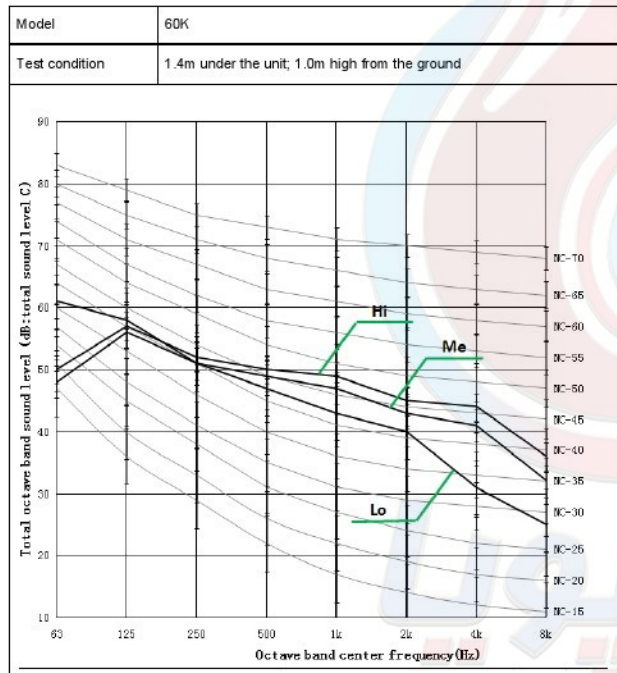
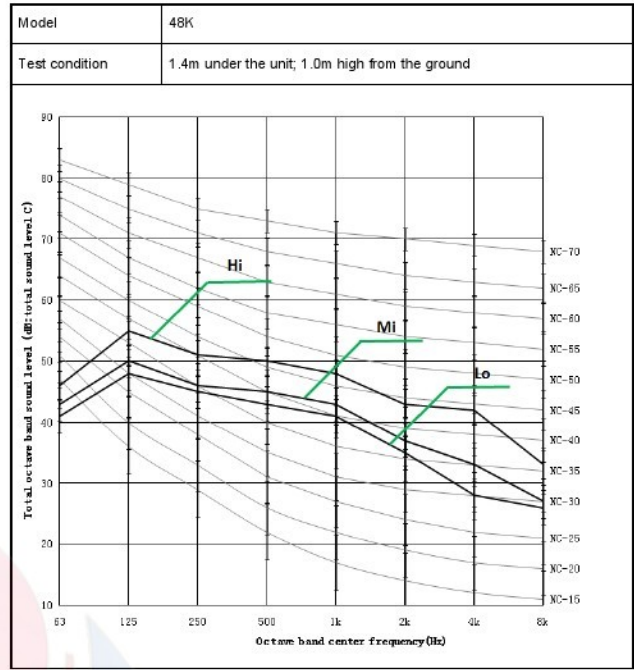
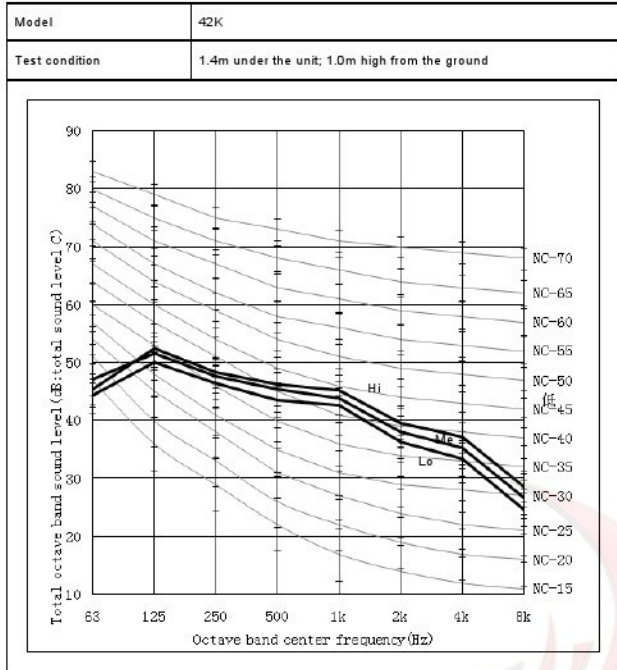


6. SOUND PRESSURE DATA

Cassette type



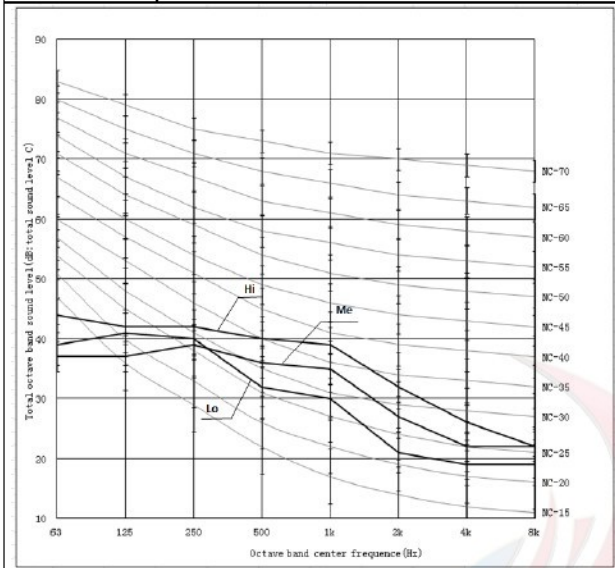
6. SOUND PRESSURE DATA



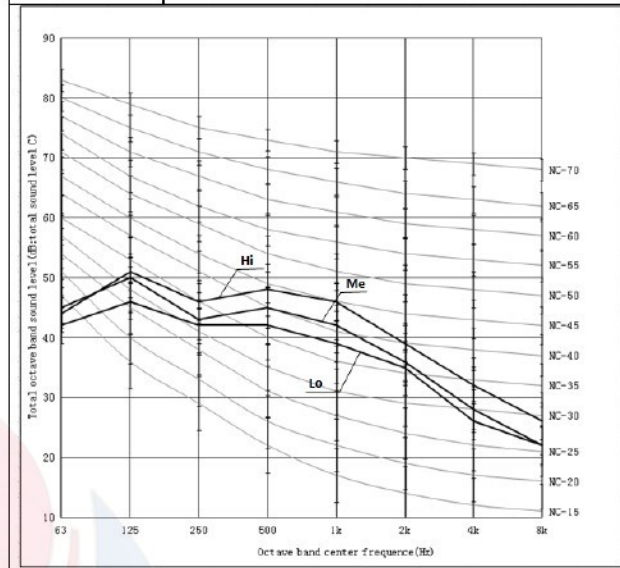
6. SOUND PRESSURE DATA

Ceiling&Floor type

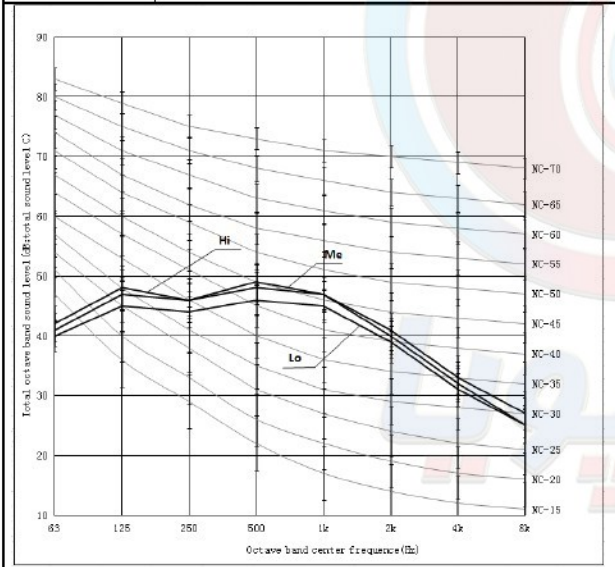
Model	18K
Test condition	1.0m ahead of the unit; 1.0m under the unit; 1.0m high from the ground



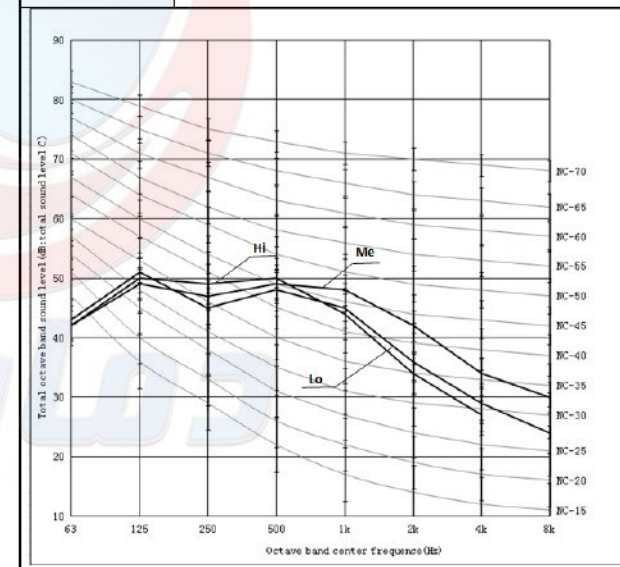
Model	24K
Test condition	1.0m ahead of the unit; 1.0m under the unit; 1.0m high from the ground



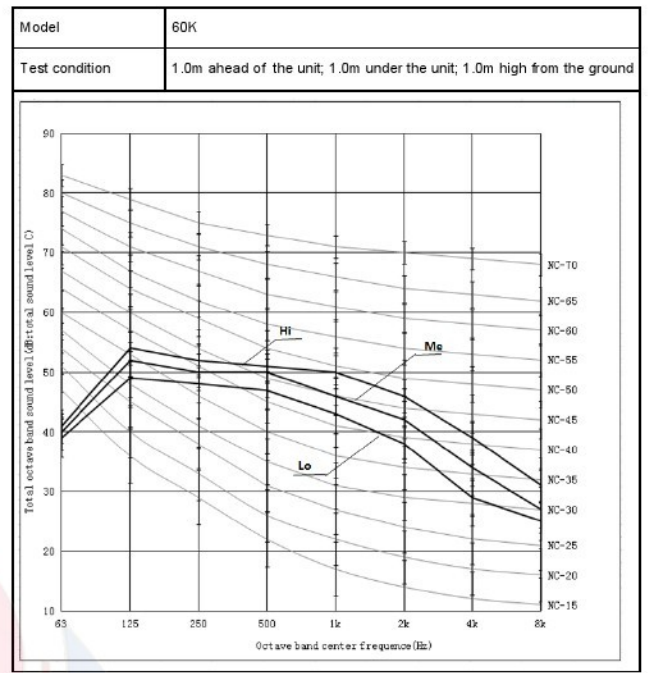
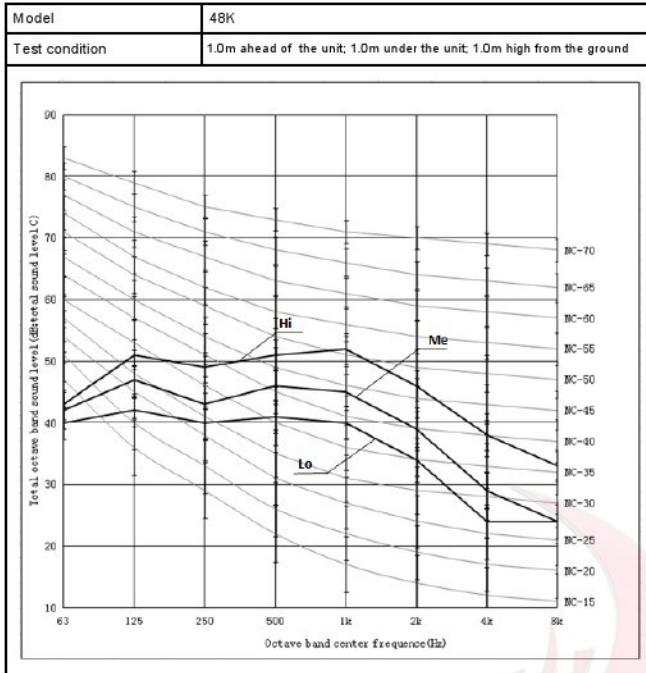
Model	36K
Test condition	1.0m ahead of the unit; 1.0m under the unit; 1.0m high from the ground



Model	42K
Test condition	1.0m ahead of the unit; 1.0m under the unit; 1.0m high from the ground



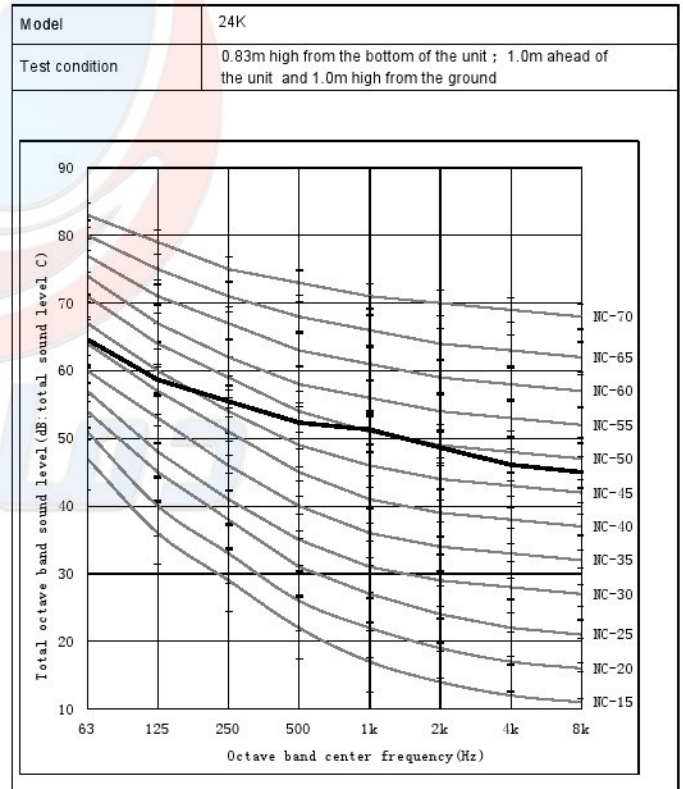
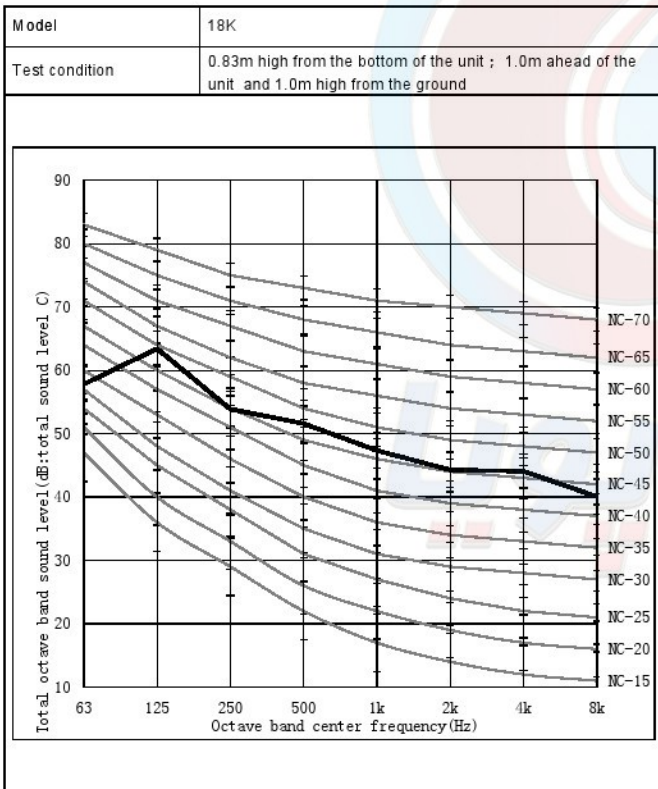
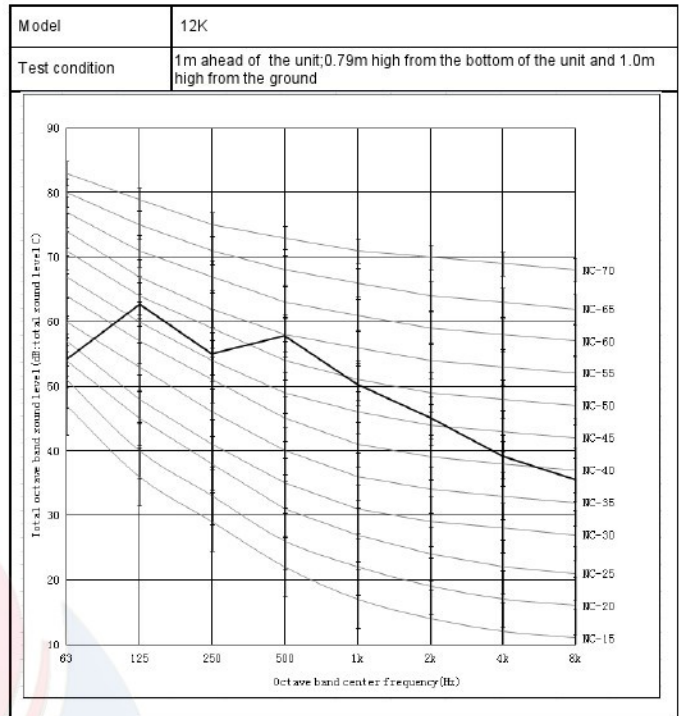
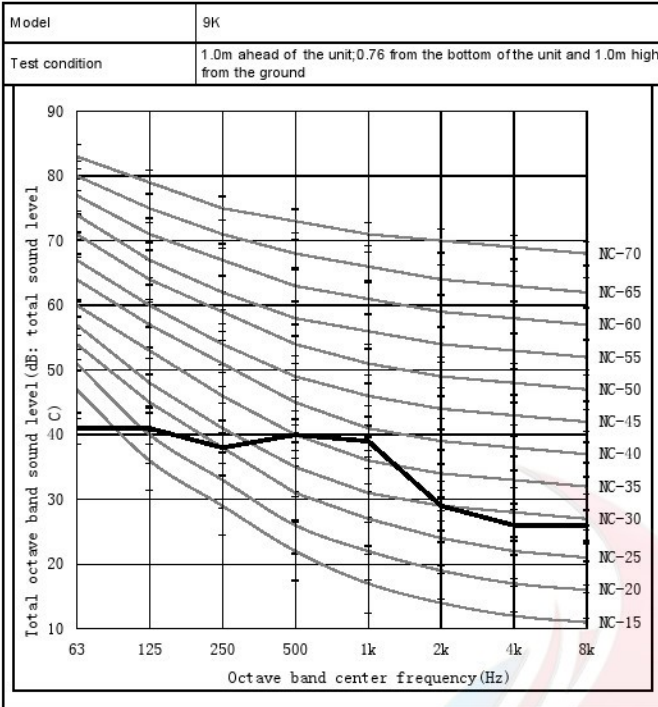
6. SOUND PRESSURE DATA



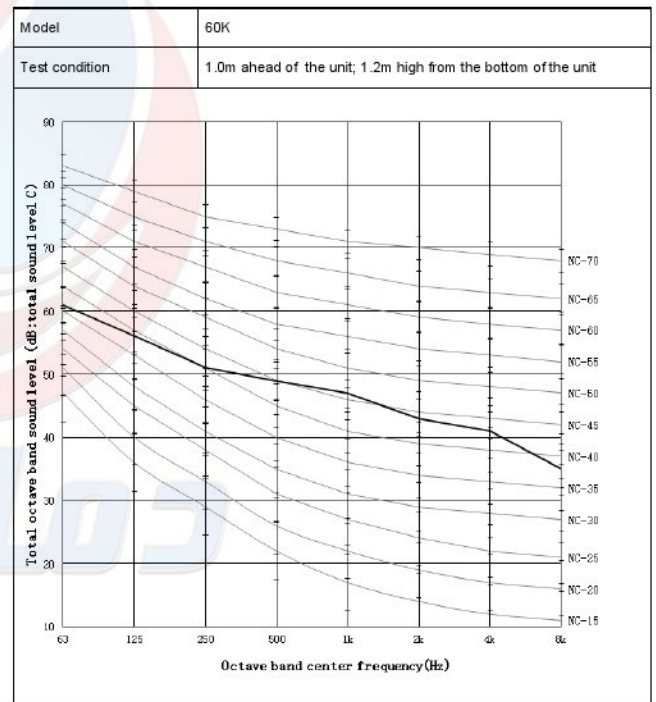
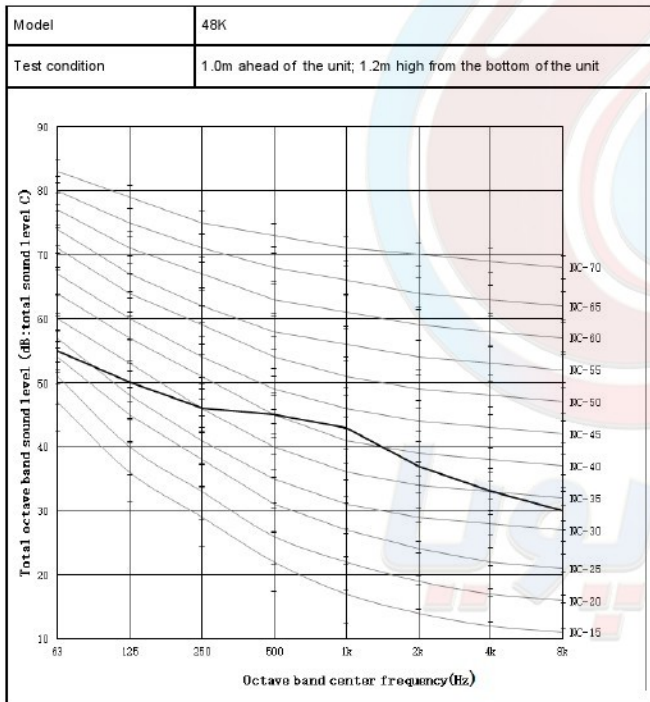
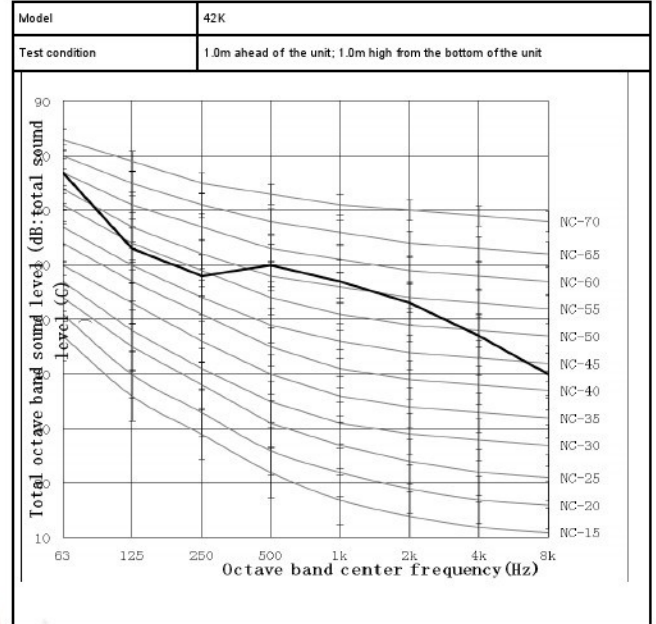
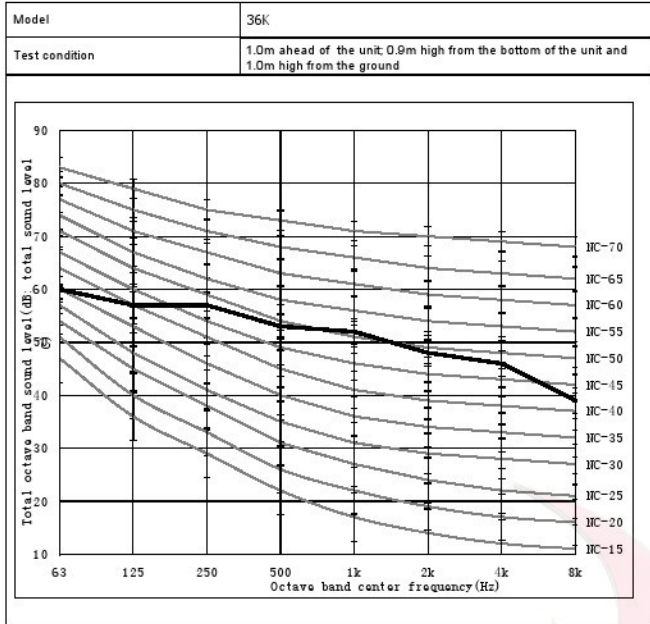
دما پویا

6. SOUND PRESSURE DATA

Outdoor unit



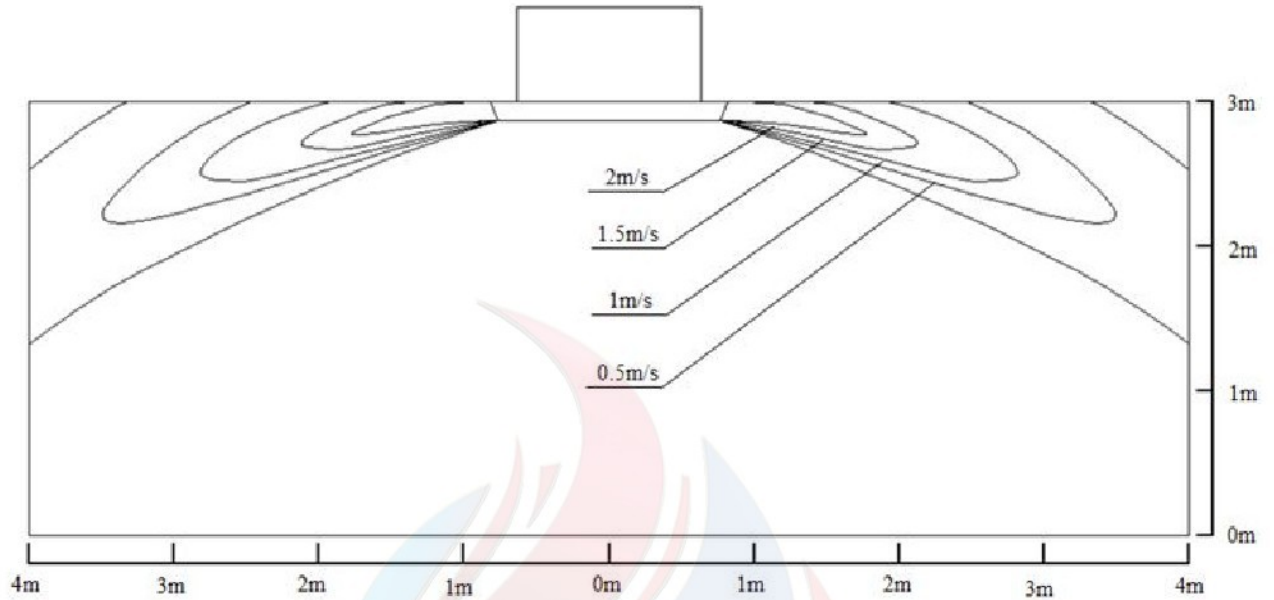
6. SOUND PRESSURE DATA



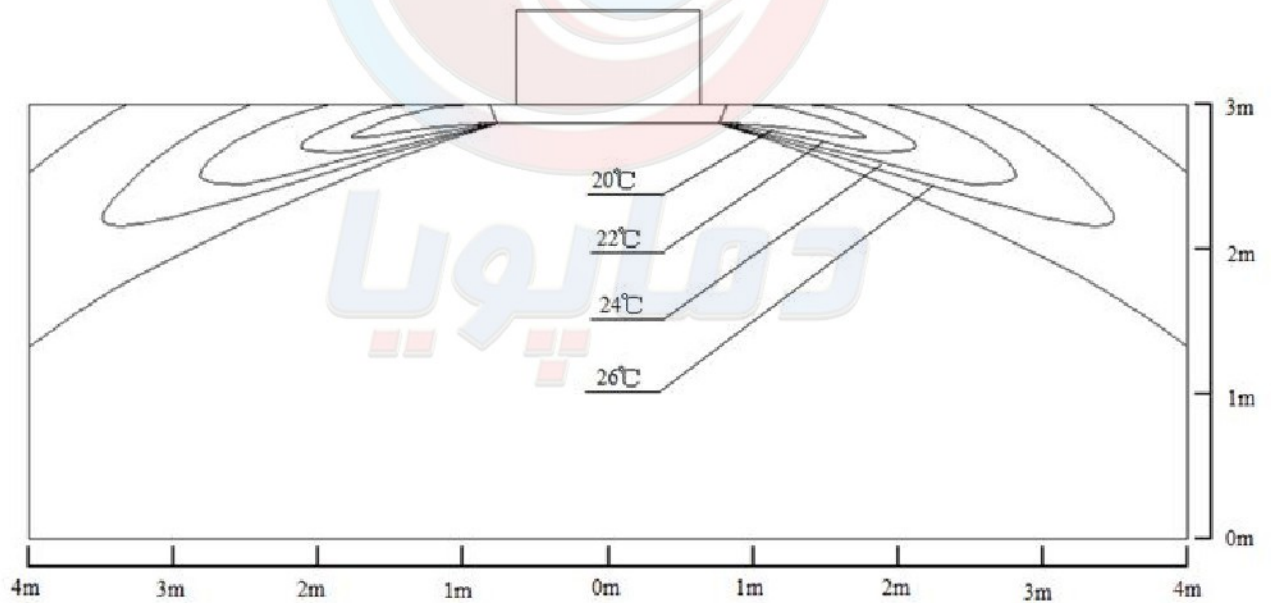
7. AIR FLOW DISTRIBUTION

7. Air flow distribution(Cassette type)

Cooling-Velocity

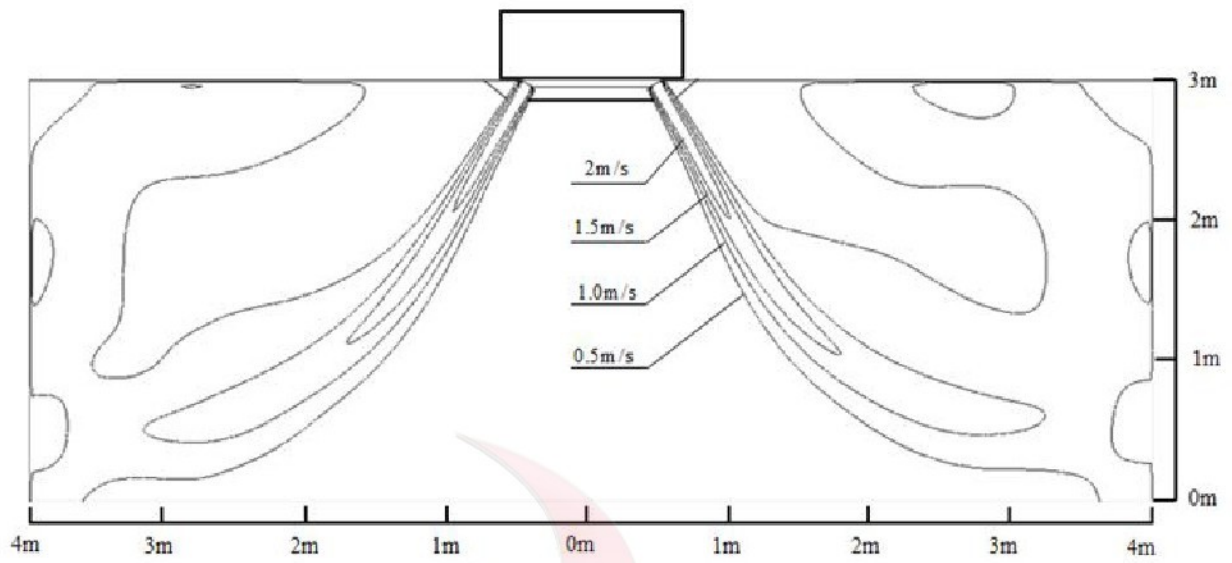


Cooling-Temperature

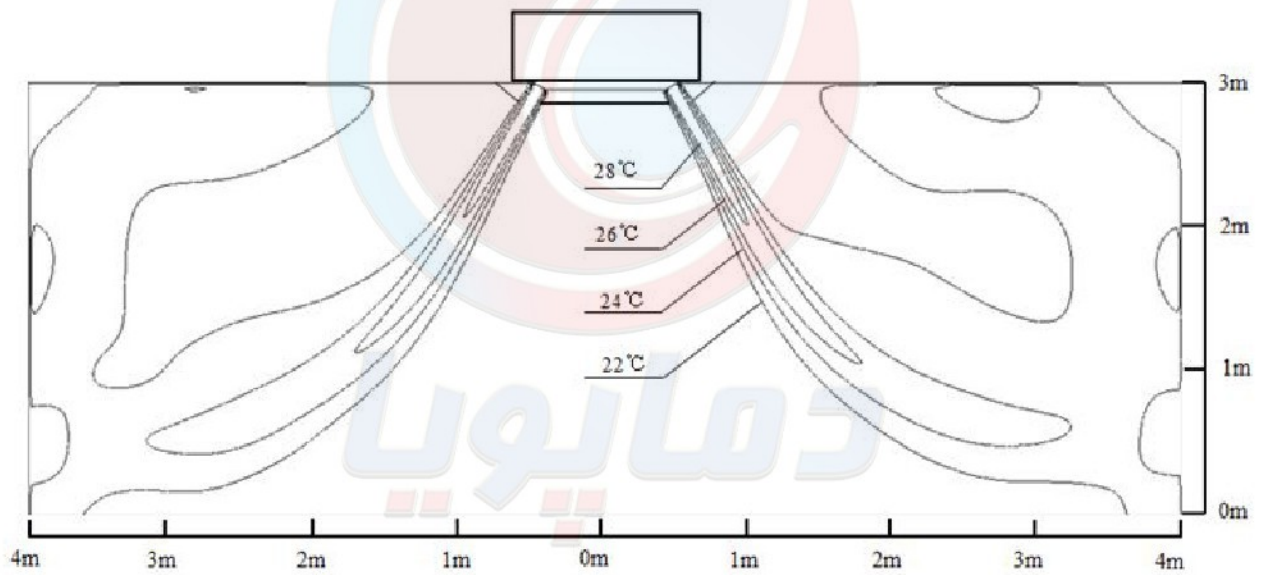


7. AIR FLOW DISTRIBUTION

Heating-Velocity



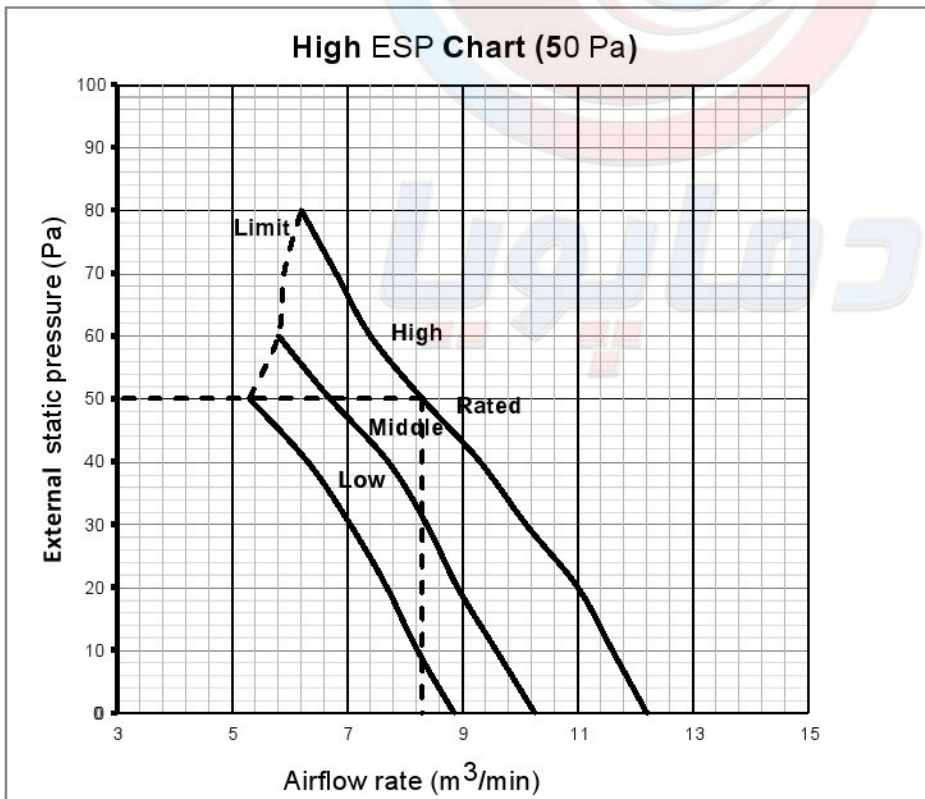
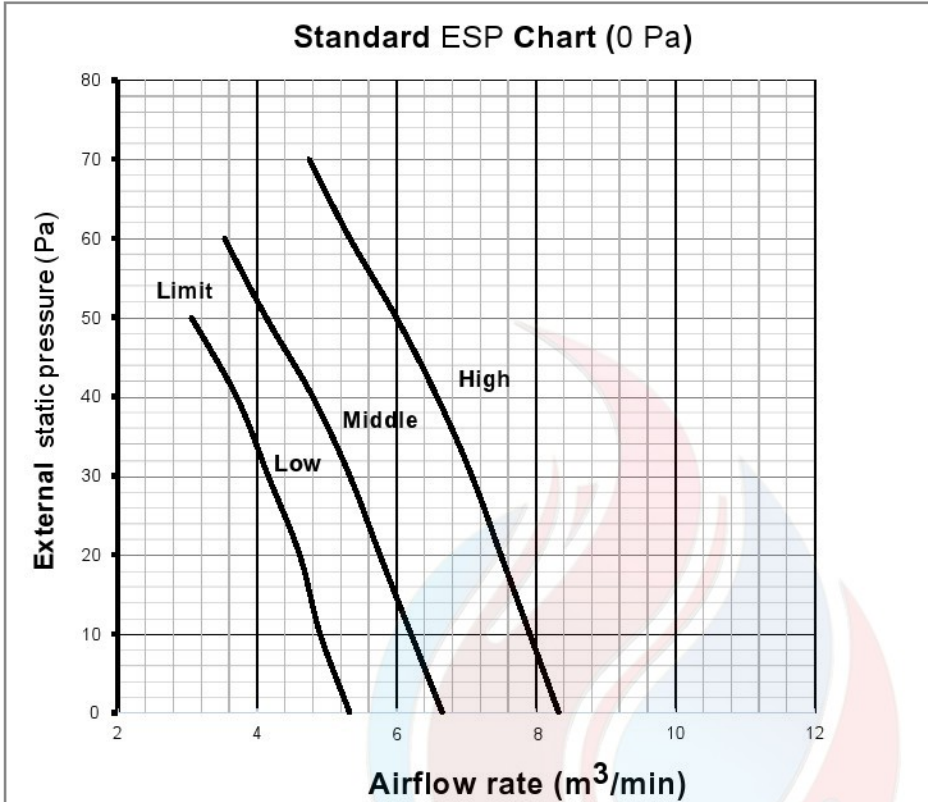
Heating-Temperature



8. ESP CHART(duct type)

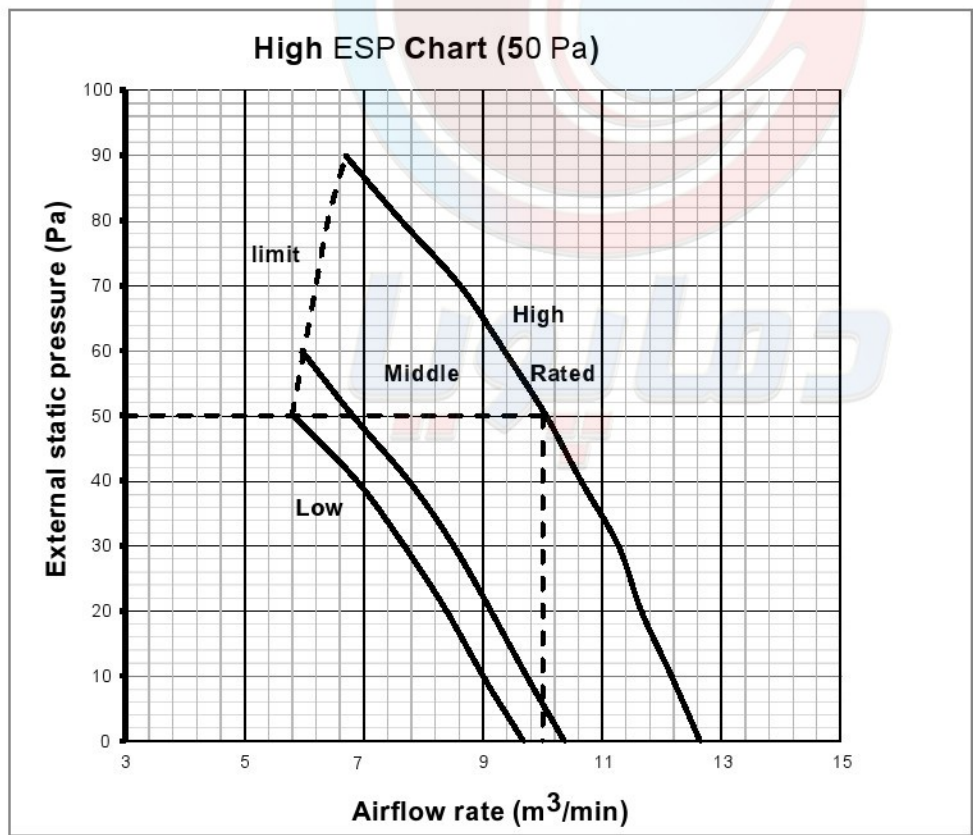
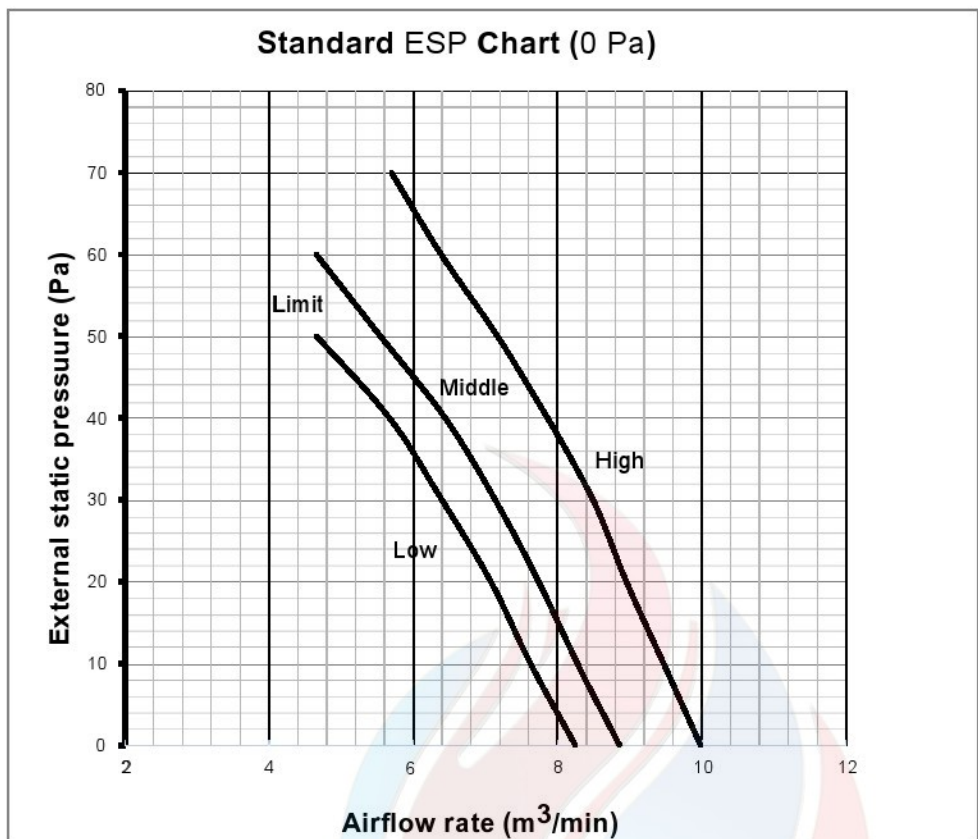
8. ESP (External static pressure) chart (Duct type)

9K



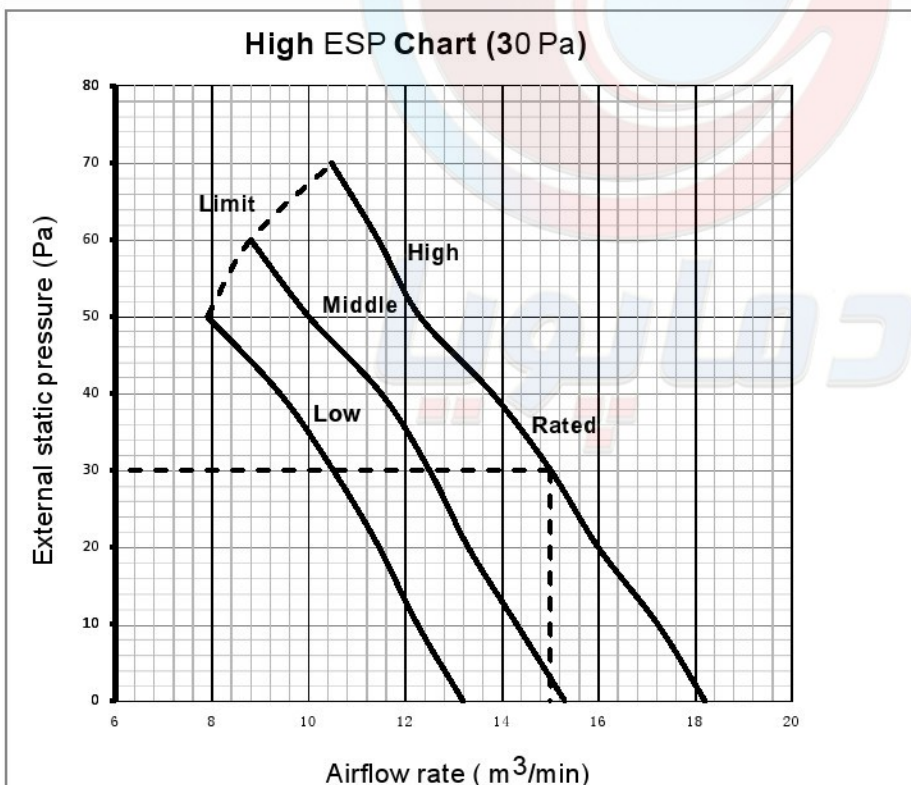
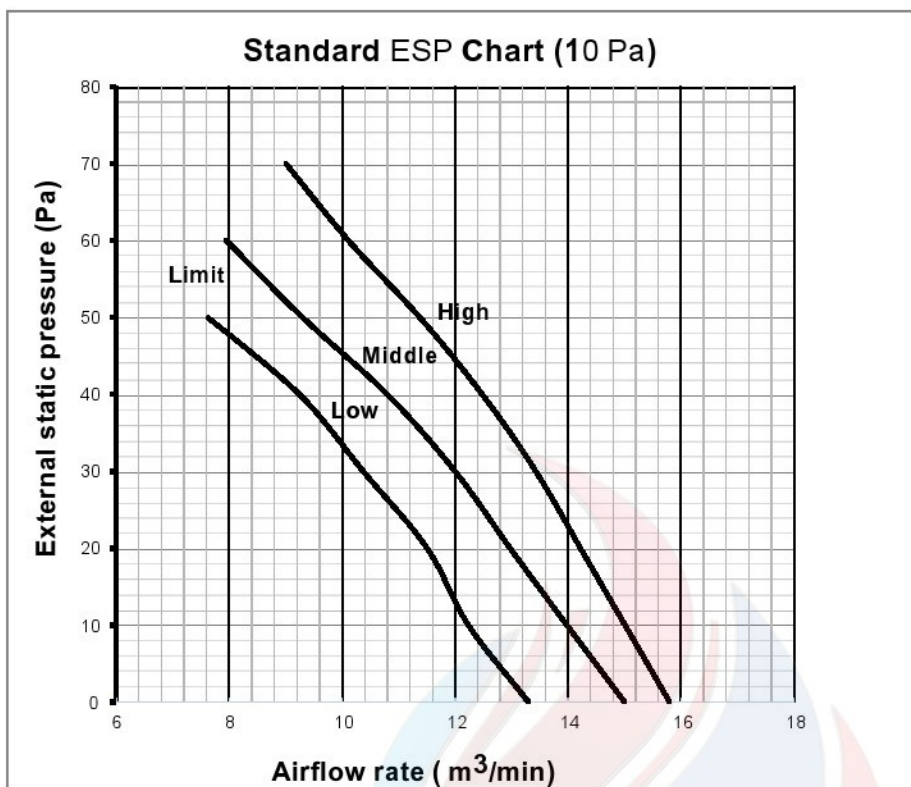
8. ESP CHART(duct type)

12K



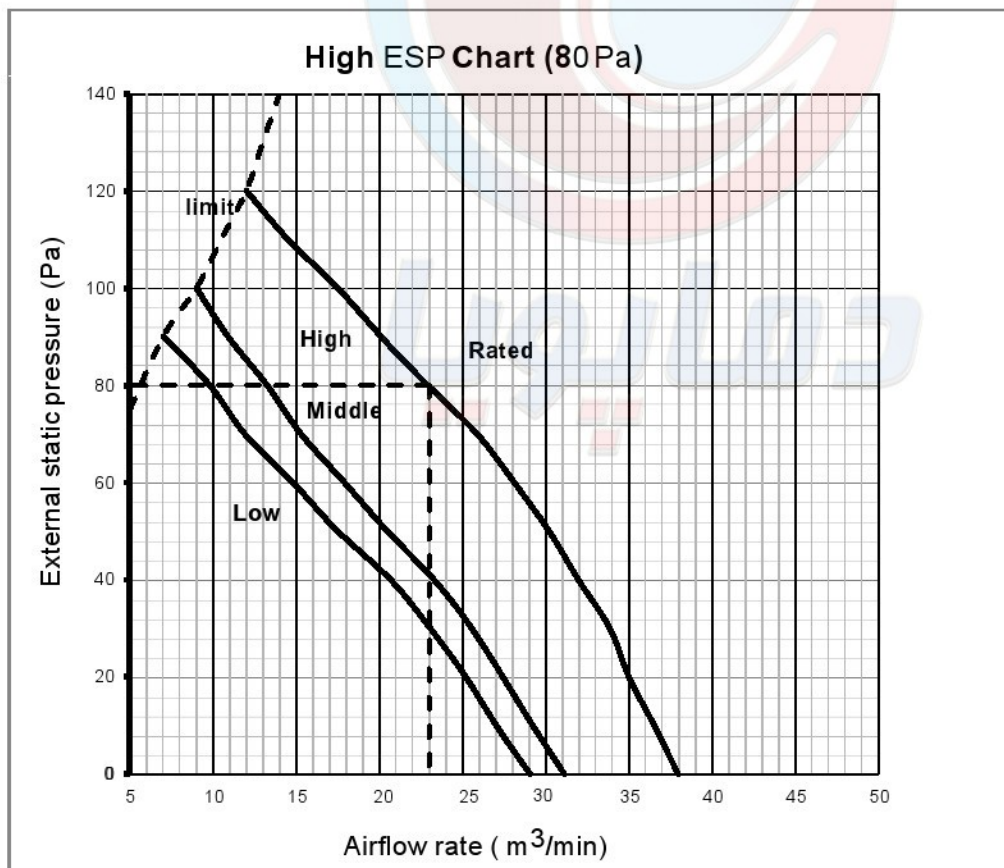
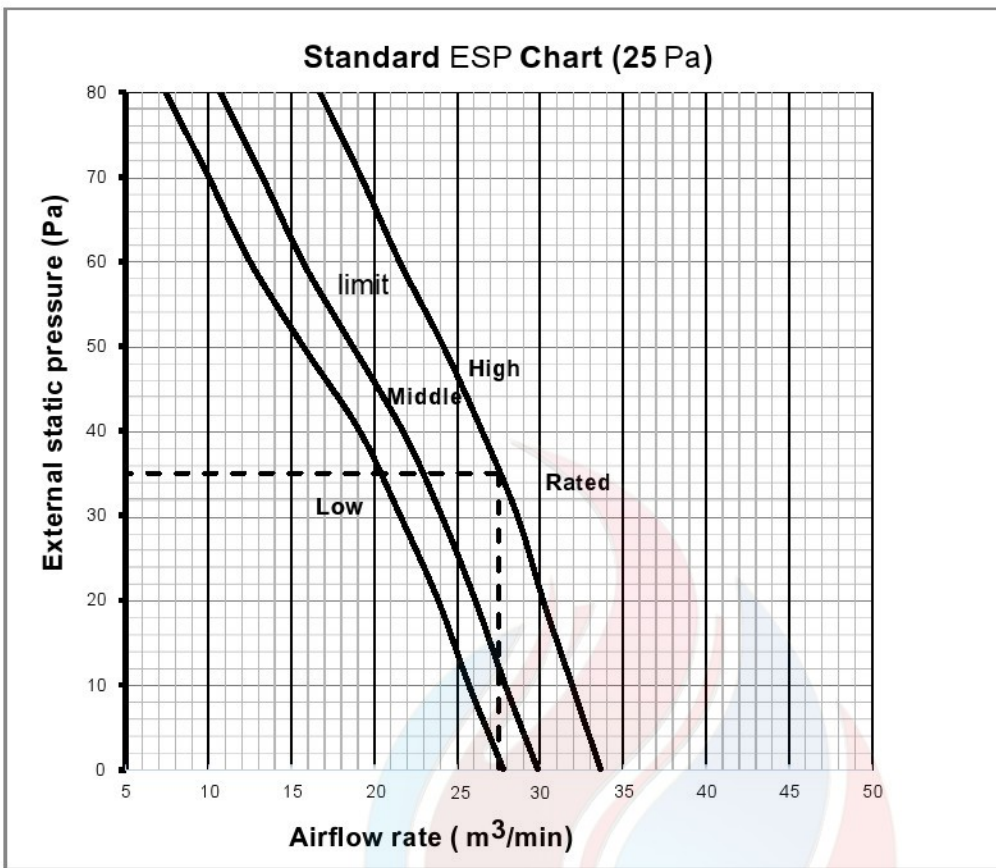
8. ESP CHART(duct type)

18K



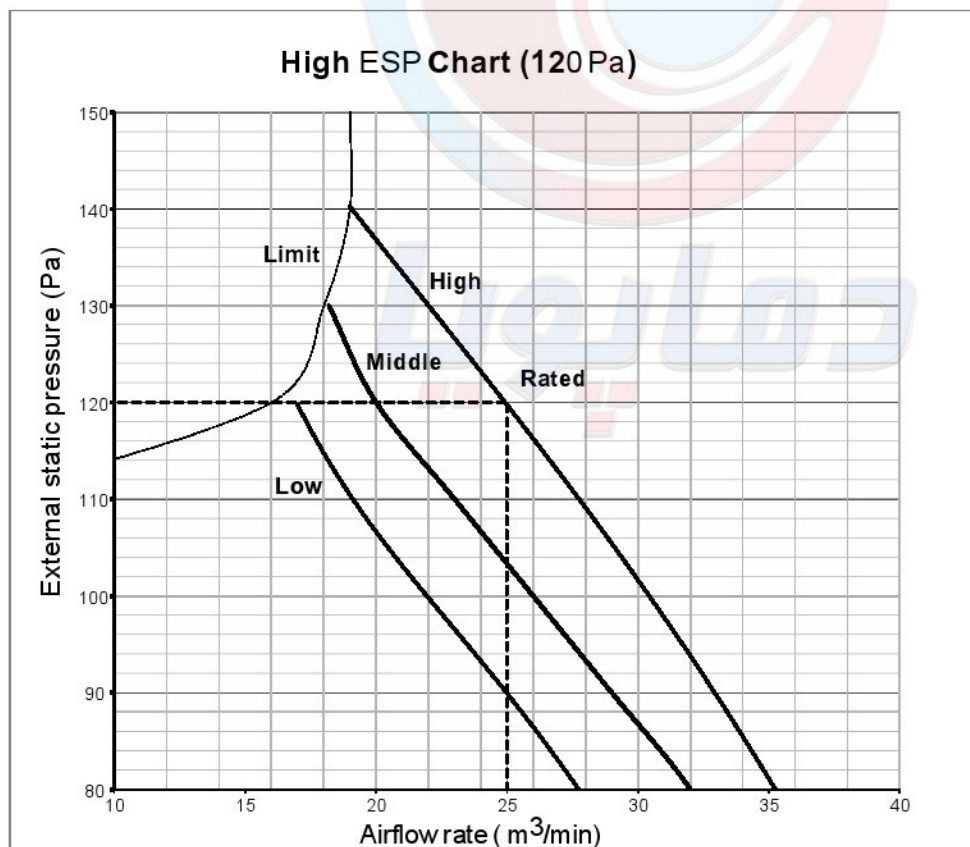
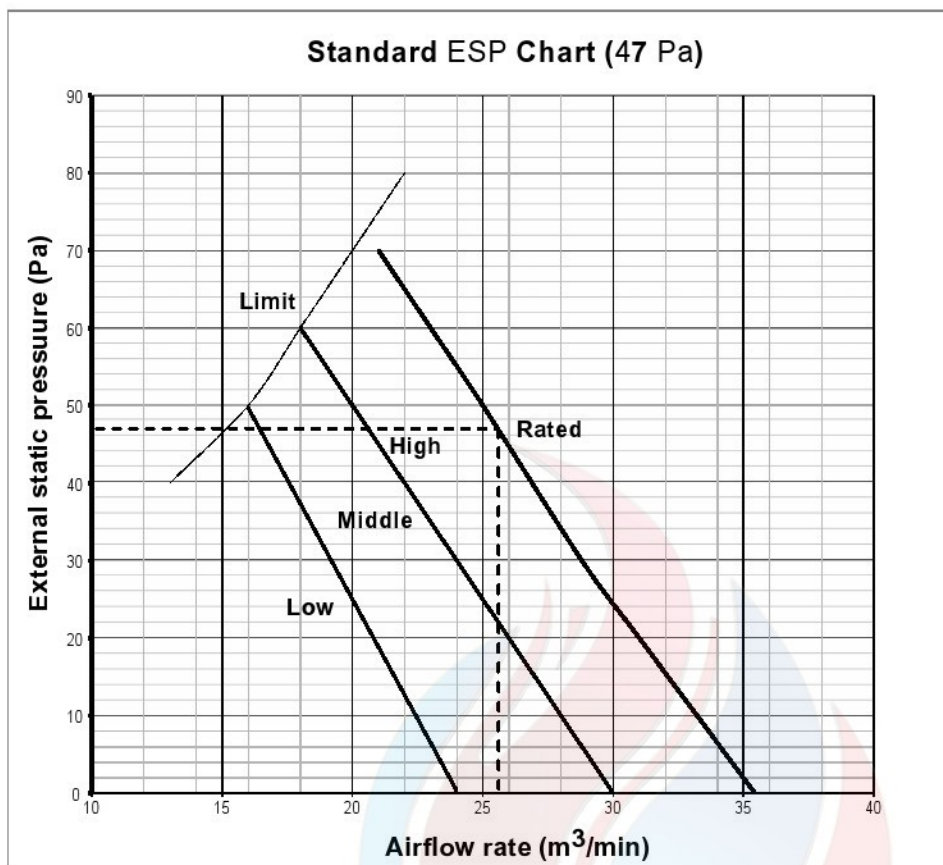
8. ESP CHART(duct type)

24K



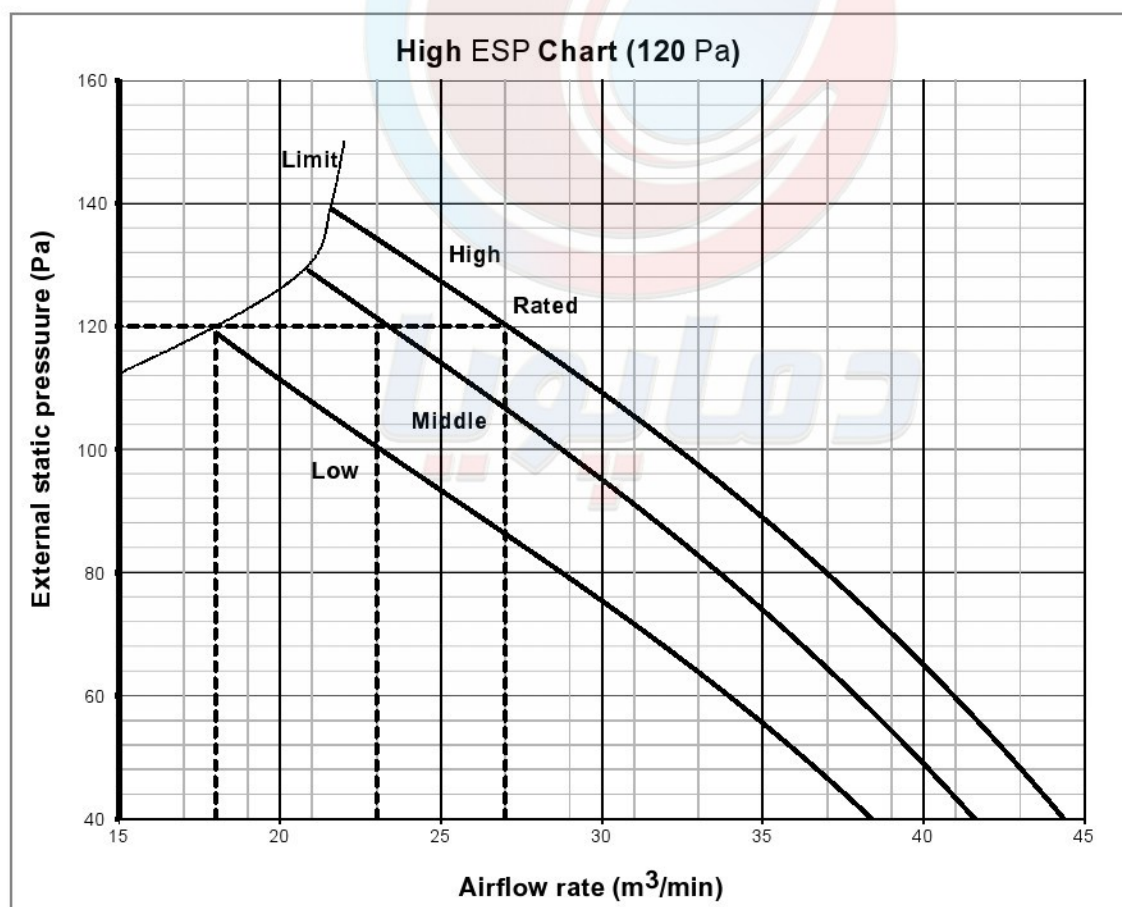
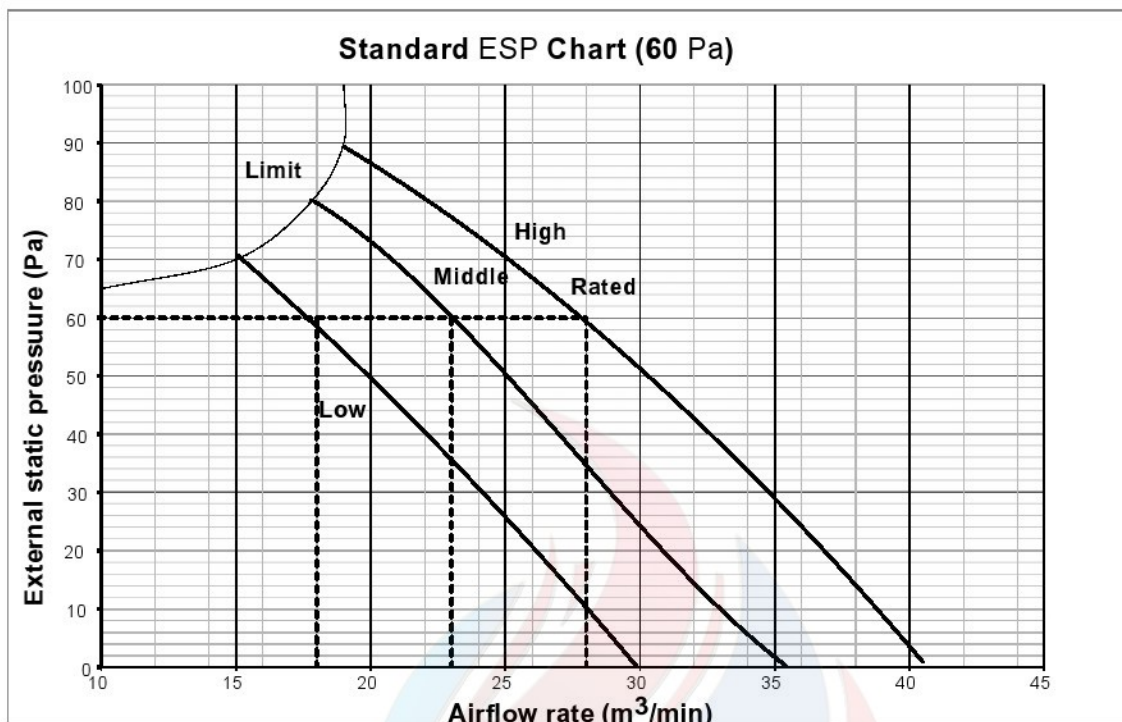
8. ESP CHART(duct type)

36K



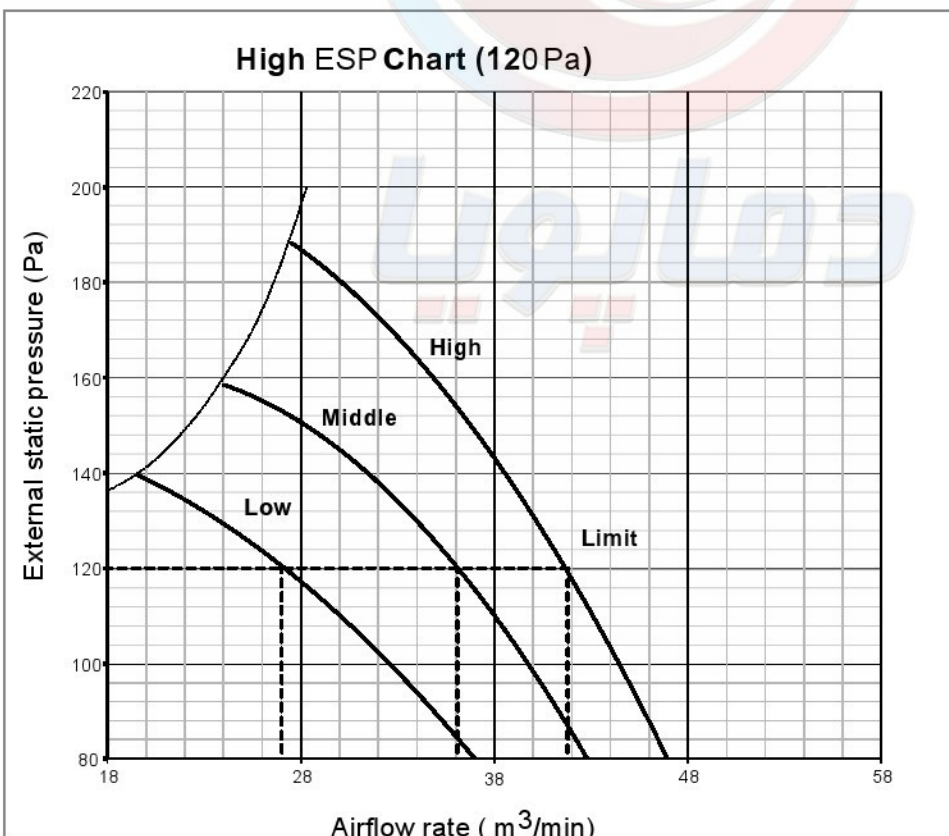
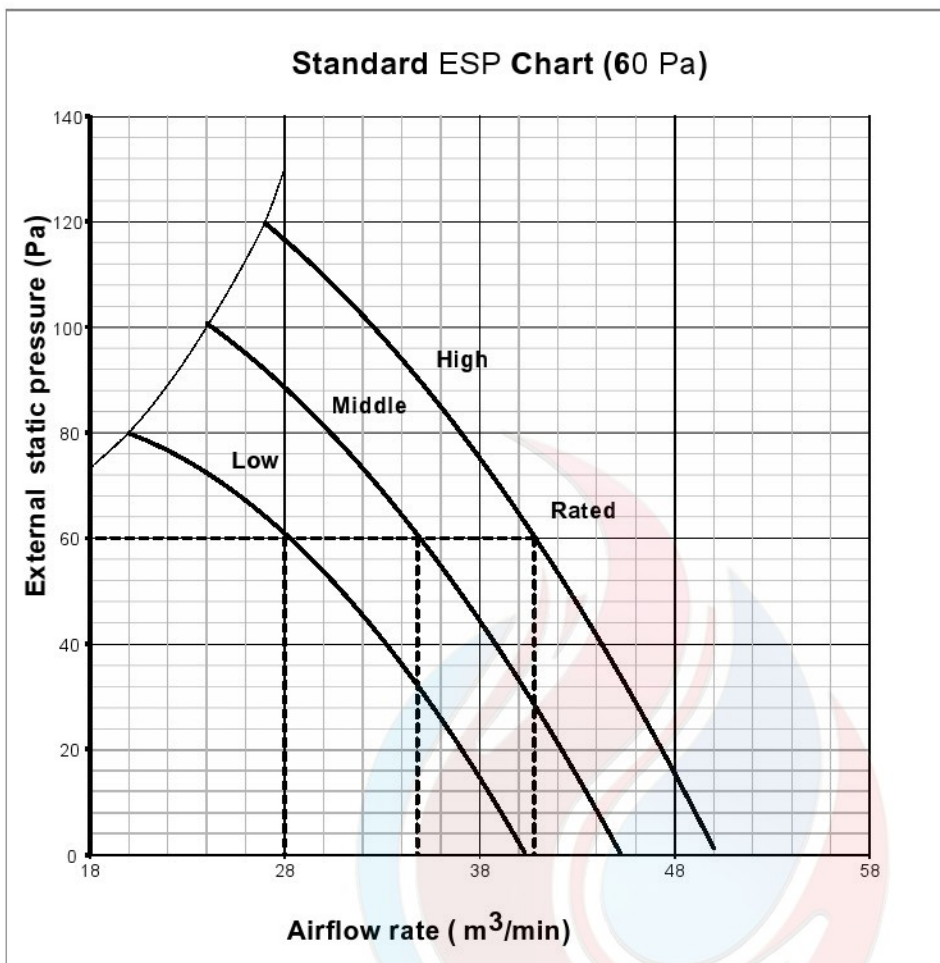
8. ESP CHART(duct type)

42K



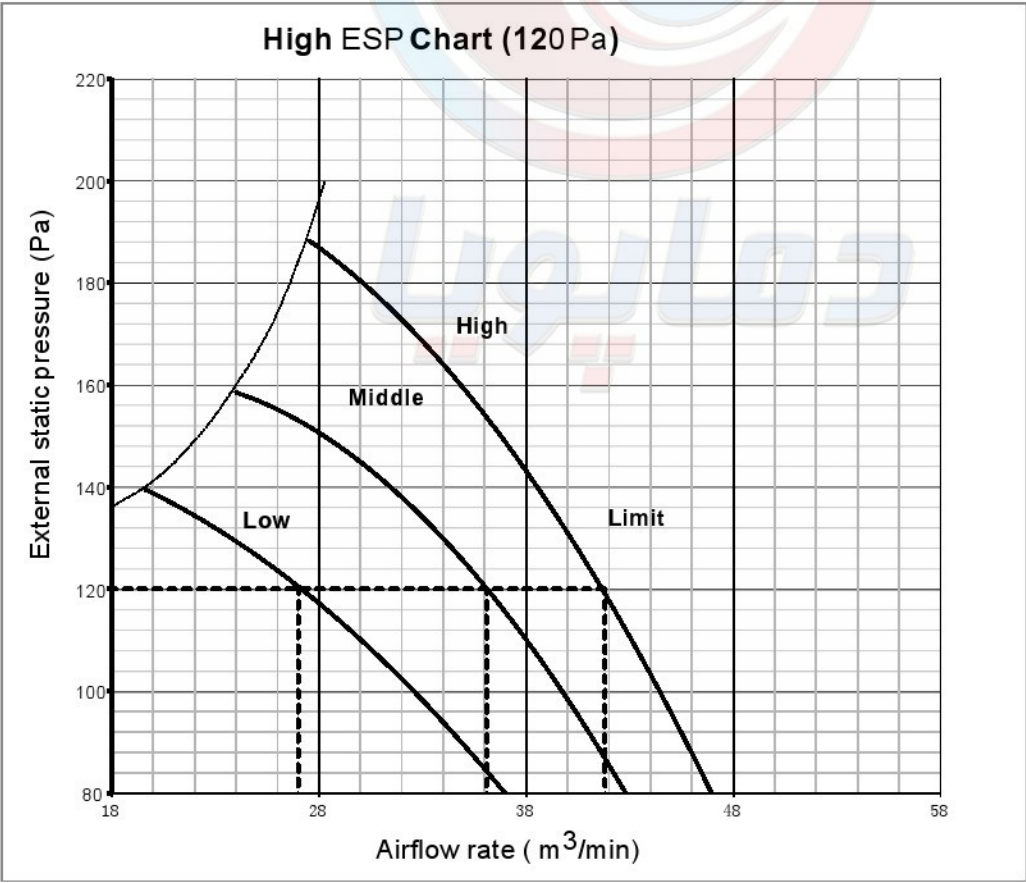
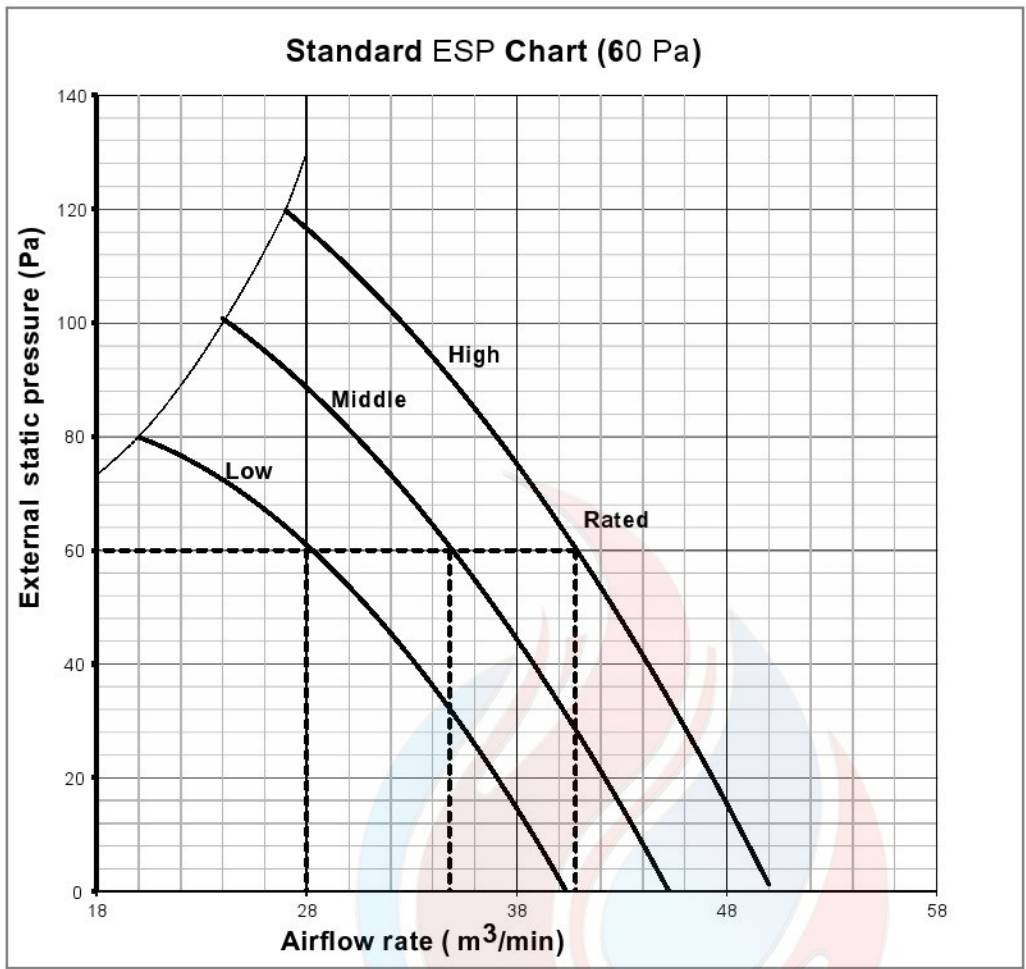
8. ESP CHART(duct type)

48K



8. ESP CHART(duct type)

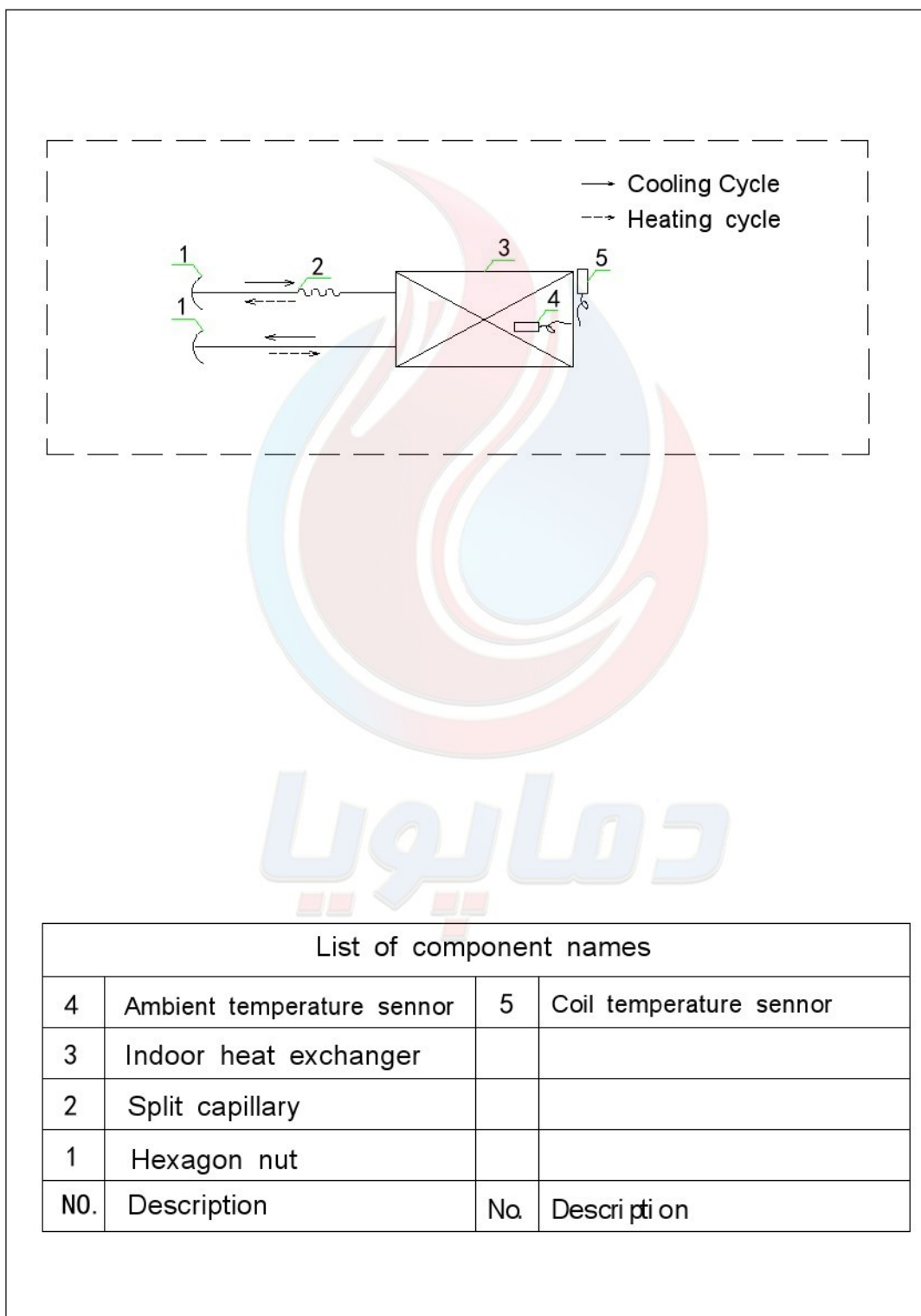
60K



9. REFRIGERANT CYCLE

9. Refrigerant cycle

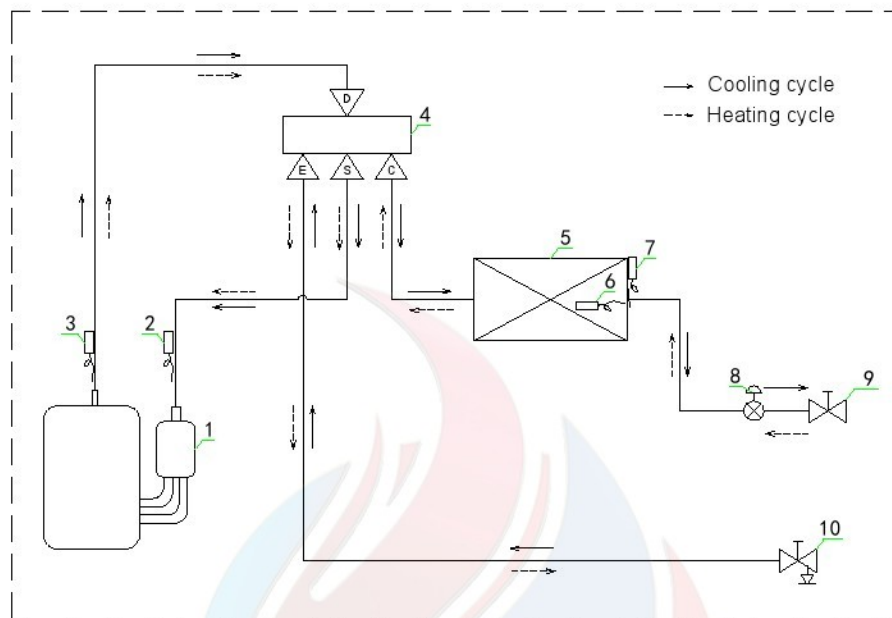
Indoor Unit



9. REFRIGERANT CYCLE

Outdoor Unit

9K/12K/18K/24K

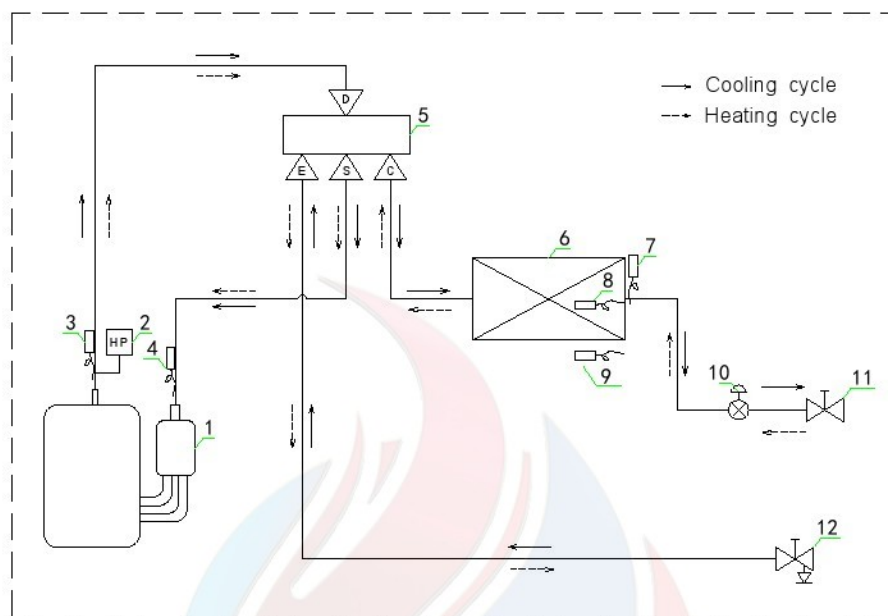


List of component names

10	Stop valve (Gas)
9	Stop valve (Liquid)
8	Electronic expansion valve
7	Coil temperature sensor
6	Ambient temperature sensor
5	Outdoor heat exchanger
4	4-Way valve
3	Discharge temperature sensor
2	Suction temperature sensor
1	Compressor
No.	Description

9. REFRIGERANT CYCLE

36K

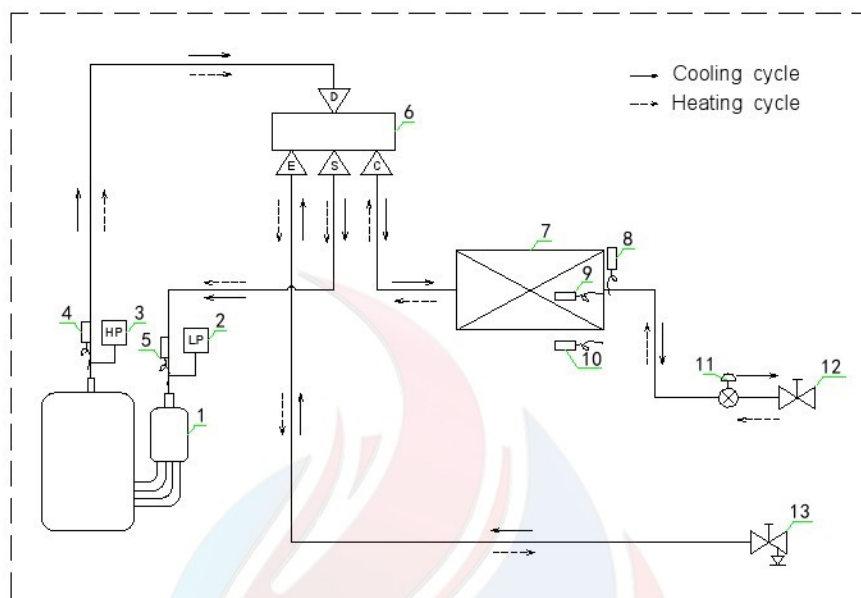


List of component names

7	Coil temperature sensor	8	Defrost temperature sensor
6	Outdoor heat exchanger	9	Ambient temperature sensor
5	4-Way valve	10	Electronic expansion valve
4	Suction temperature sensor	11	Stop valve (Liquid)
3	Discharge temperature sensor	12	Stop valve (Gas)
2	High pressure switch		
1	Compressor		
No.	Description	No.	Description

9. REFRIGERANT CYCLE

42K

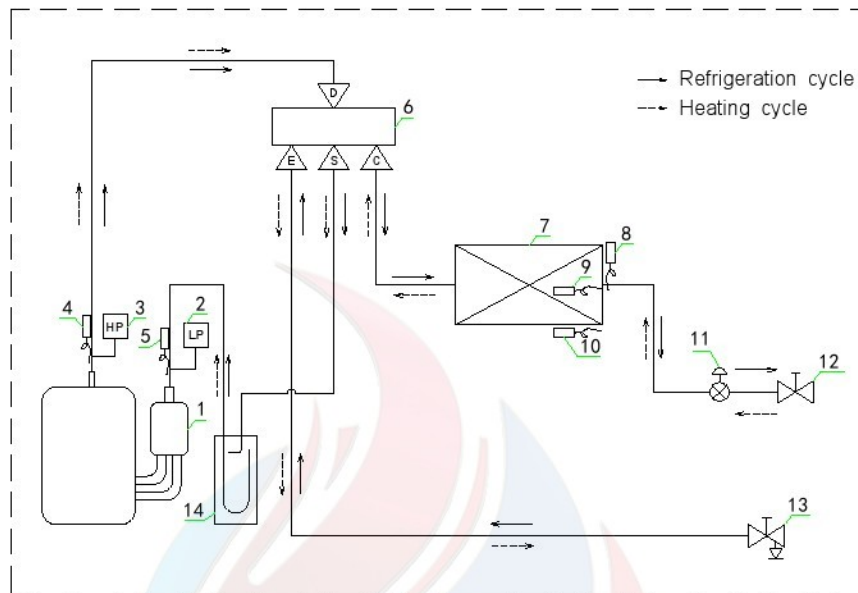


List of component names

7	Outdoor heat exchanger	8	Defrost temperature sensor
6	4-Way valve	9	Coil temperature sensor
5	Suction temperature sensor	10	Ambient temperature sensor
4	Discharge temperature sensor	11	Electronic expansion valve
3	High pressure switch	12	Stop valve
2	Low pressure switch	13	Stop valve
1	Compressor		
No.	Description	No.	Description

9. REFRIGERANT CYCLE

48K/60K



List of component names

7	Outdoor heat exchanger	8	Coil temperature sensor
6	4-Way valve	9	Ambient temperature sensor
5	Suction temperature sensor	10	Defrost temperature sensor
4	Discharge temperature sensor	11	Electronic expansion valve
3	High pressure switch	12	Stop valve
2	Low pressure switch	13	Stop valve
1	Compressor	14	Gas-liquid separator
No.	Description	No.	Description

10. FRESH AIR INTAKE FUNCTION

10. Fresh air intake function

Cassette (24K/36K/42K/48K/60K)

It is possible to inhale fresh air to indoor unit from the reserved fresh air intake, the size of the fresh air intake is 75×53 (mm) .

Please follow the steps below when need.

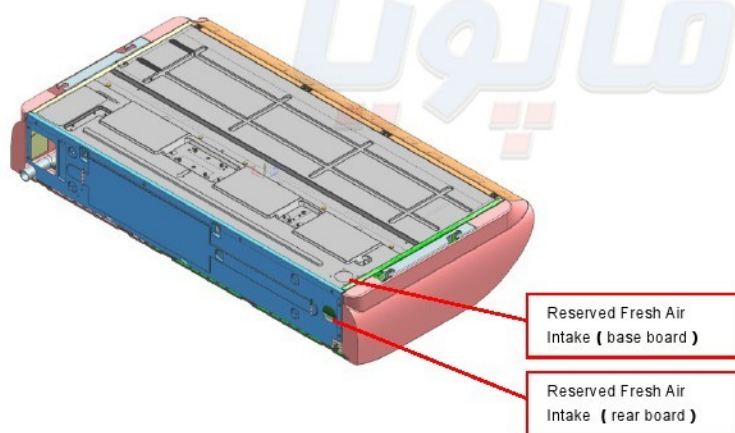
- 1) Cut off the reserved metal rectangular hole on the base board .
- 2) Cut off the foam material on the a rectangular hole , and the final hole size is 75×53 (mm) .
- 3) Connect air duct with the fresh air intake.



Ceiling&Floor

All of the floor & ceiling indoor units are provided with fresh air function. It is possible to inhale fresh air to indoor unit from the reserved fresh air intake, the size of the fresh air intake is $\Phi 50$ (mm) . Please follow the steps below when need.

- 1) Cut off the reserved metal rectangular hole on the base board or rear board according to installation location .
- 2) Connect air duct with the fresh air intake.



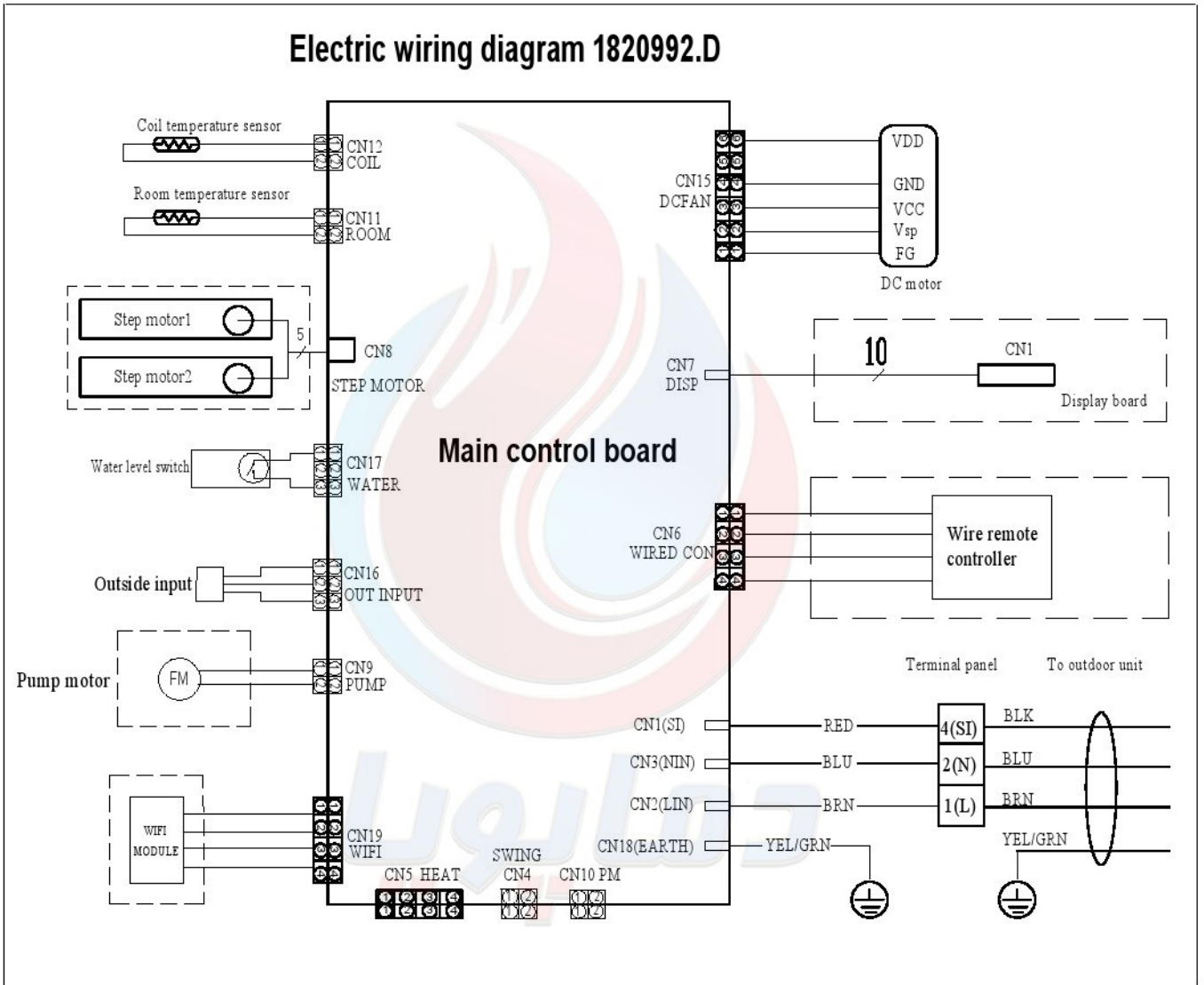
11. WIRING DIAGRAM

11. Wiring diagram

11.1 Electrical wiring diagrams

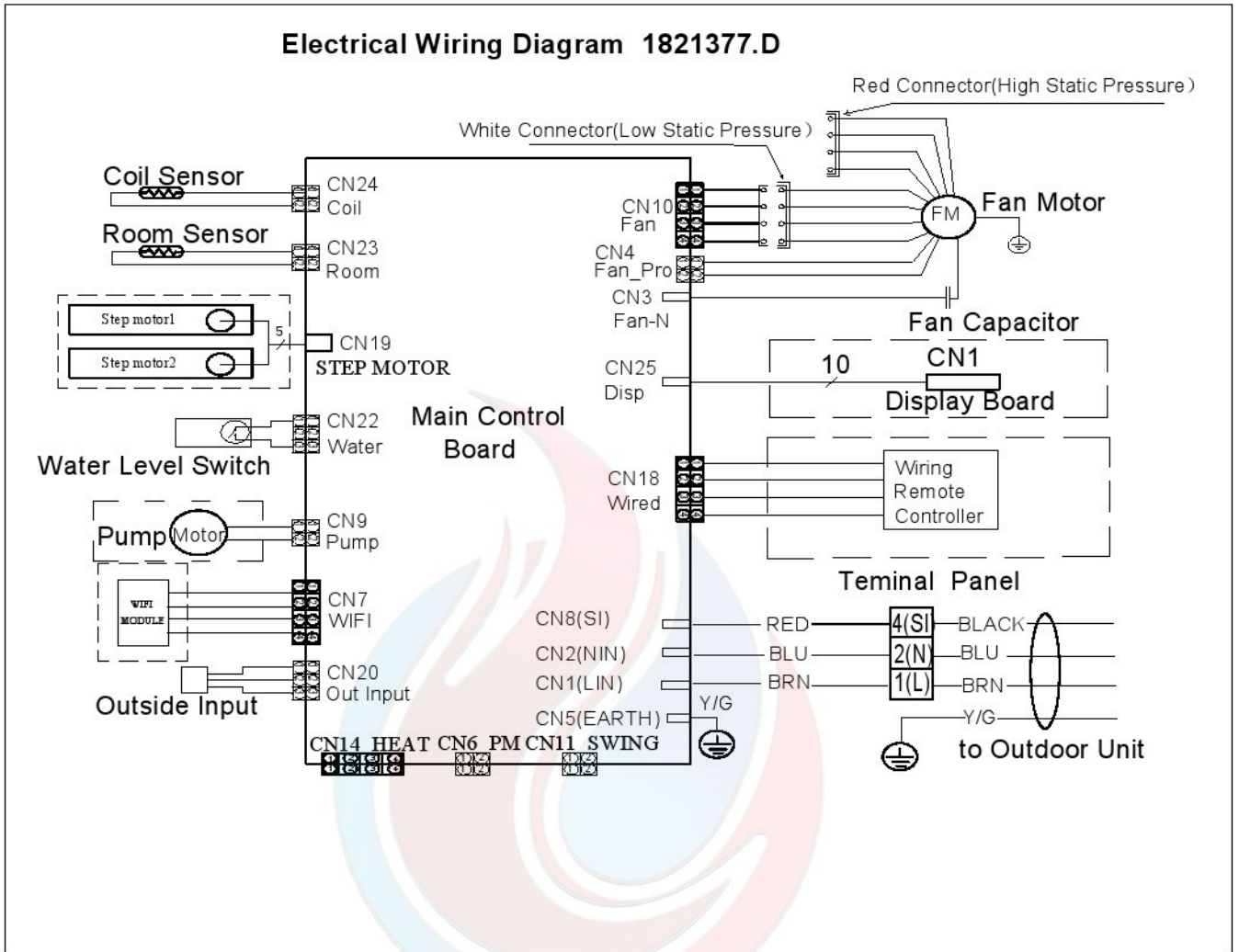
Indoor Unit

Duct type(9K/12K/24K/36K/42K/48K/60K)



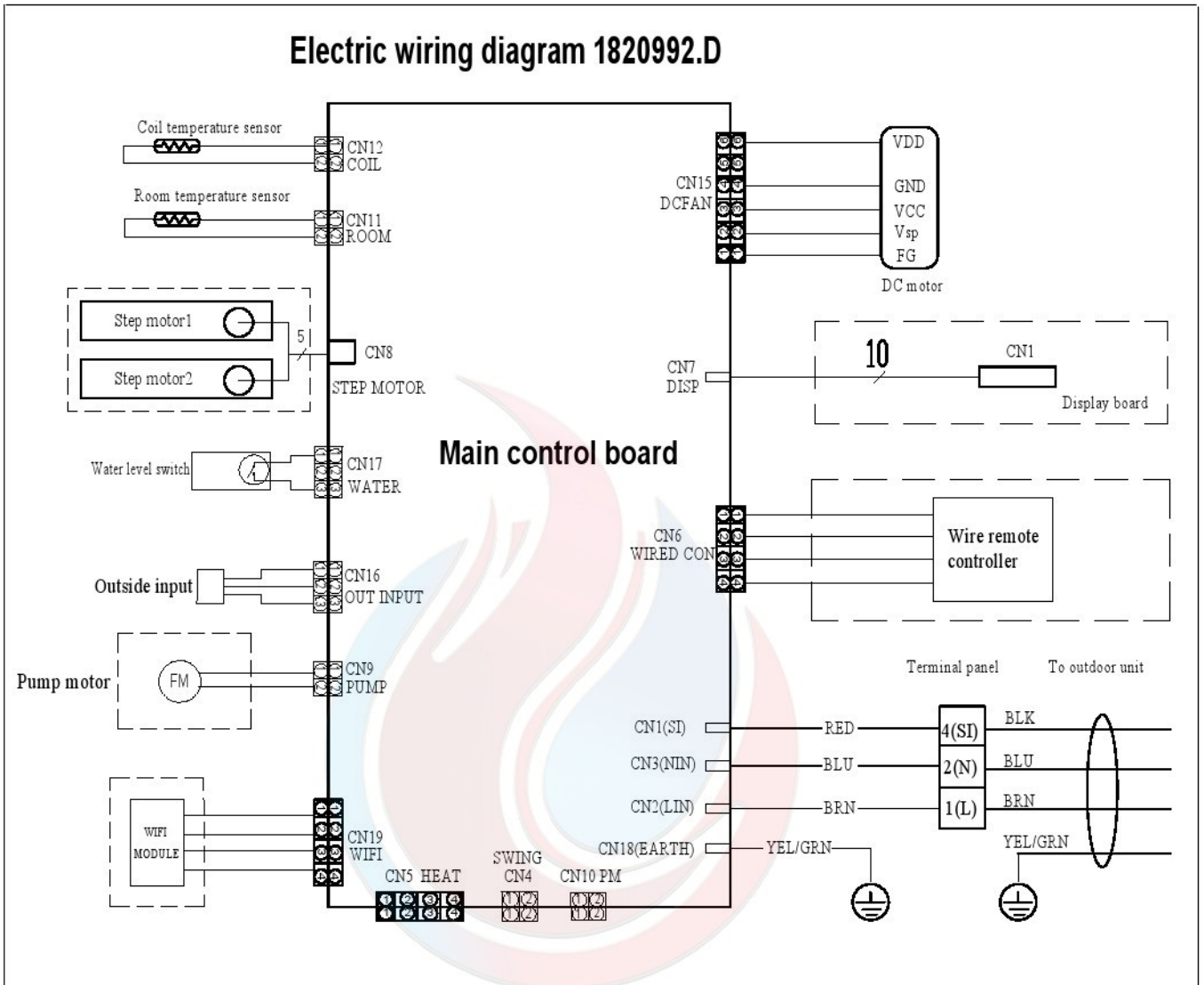
11. WIRING DIAGRAM

Duct type(18K)



11. WIRING DIAGRAM

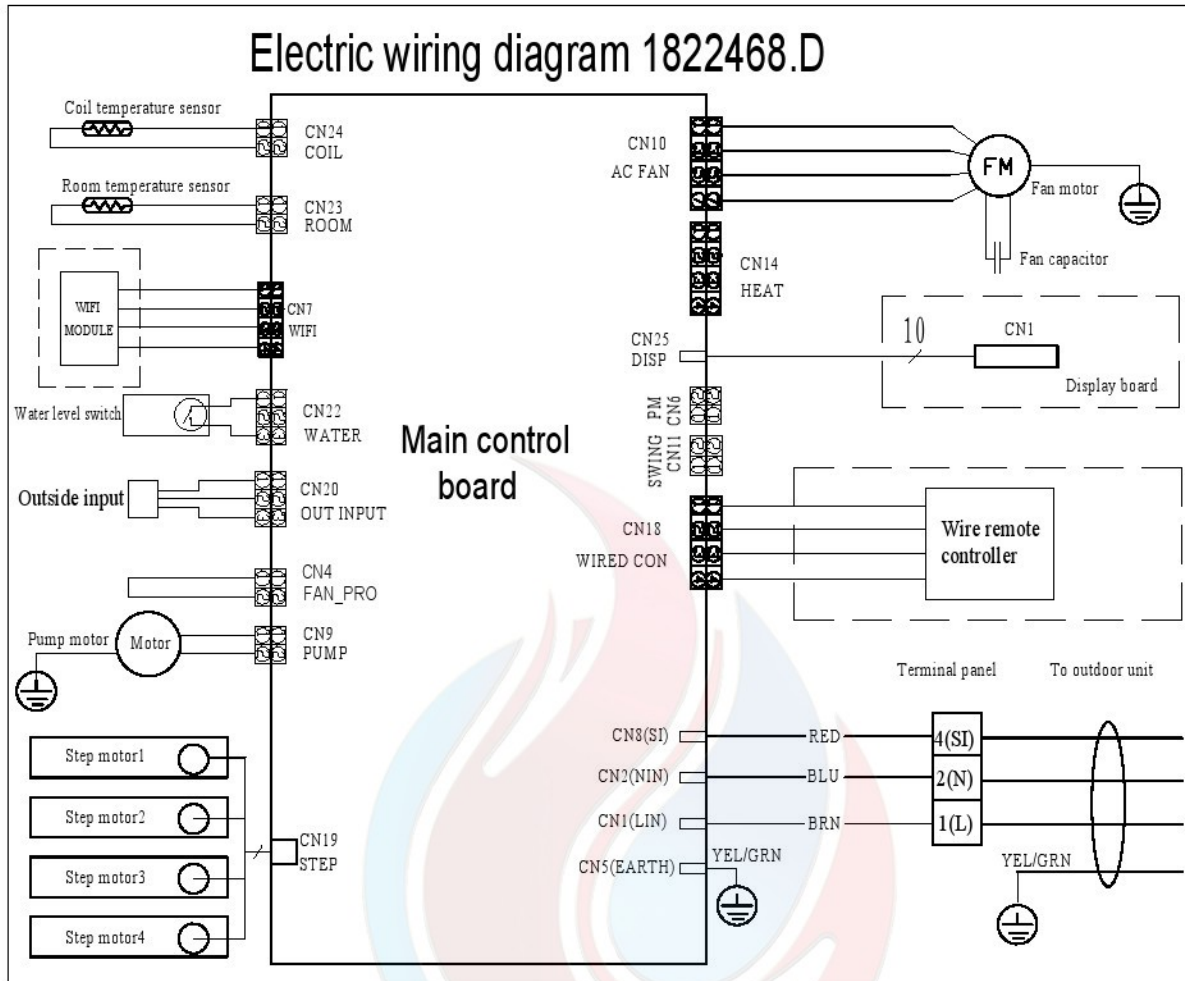
Cassette type(12K/24K/36K/42K/18K/60K)



دما پویا

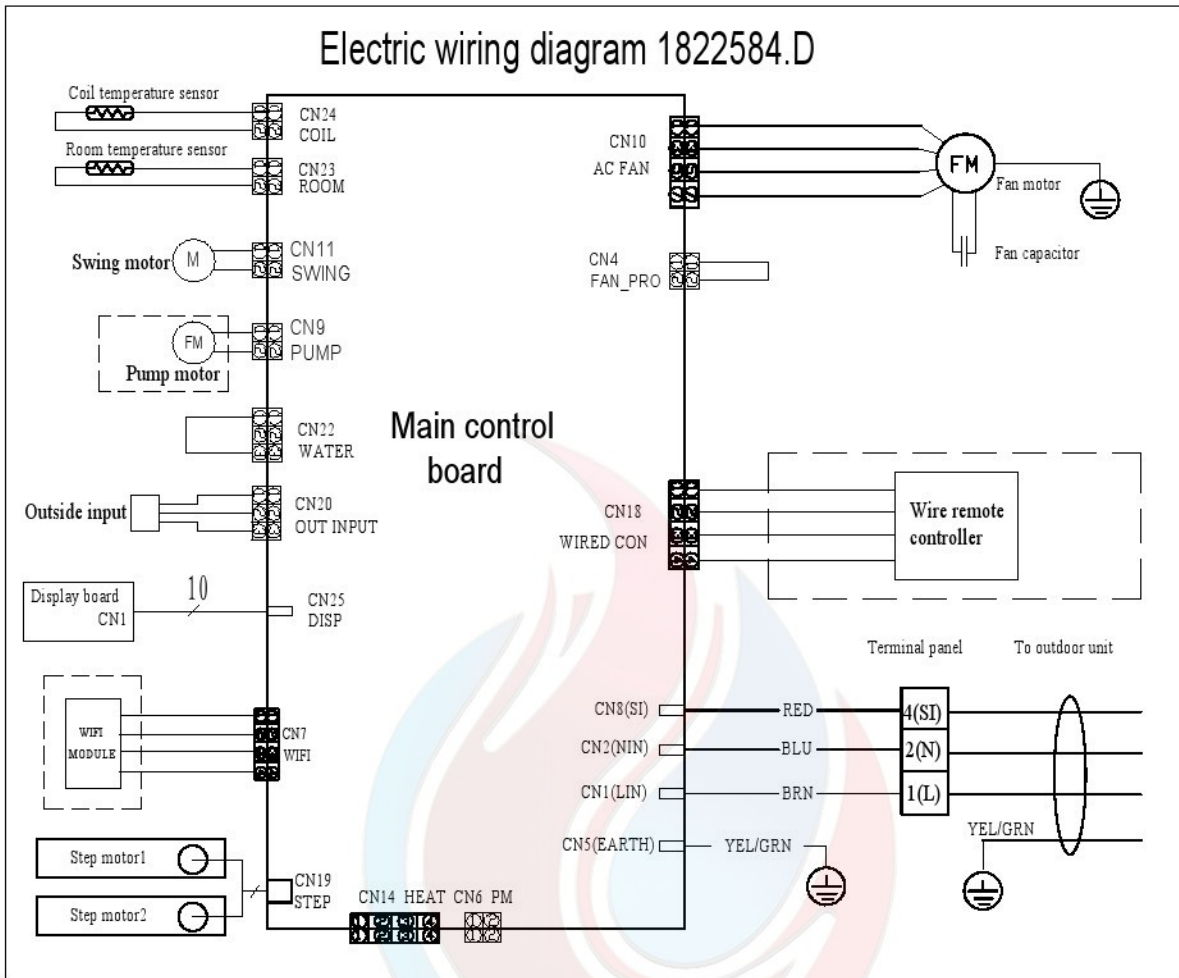
11. WIRING DIAGRAM

Cassette type(18K)



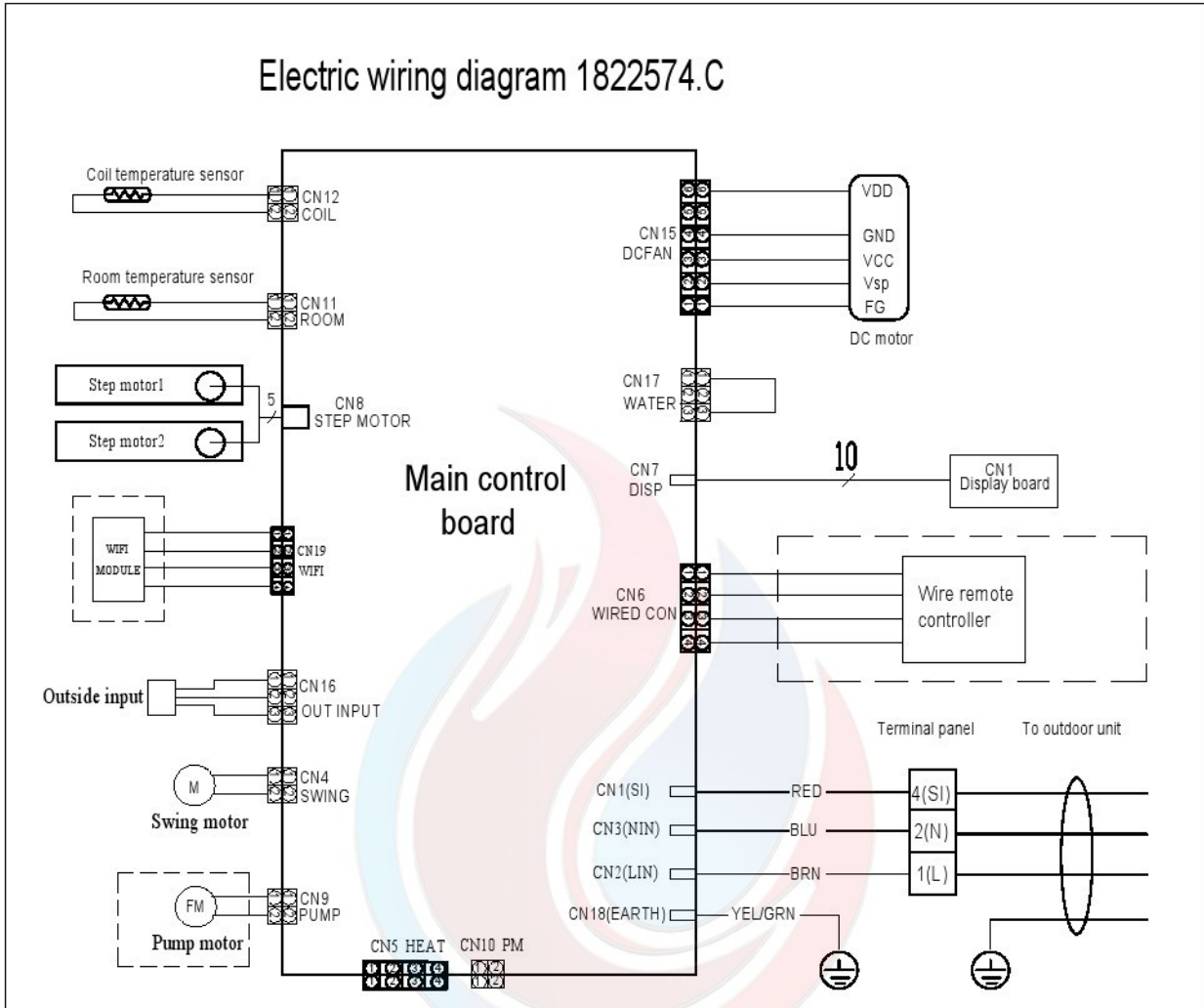
11. WIRING DIAGRAM

Ceiling & Floor type (18K/24K/36K)



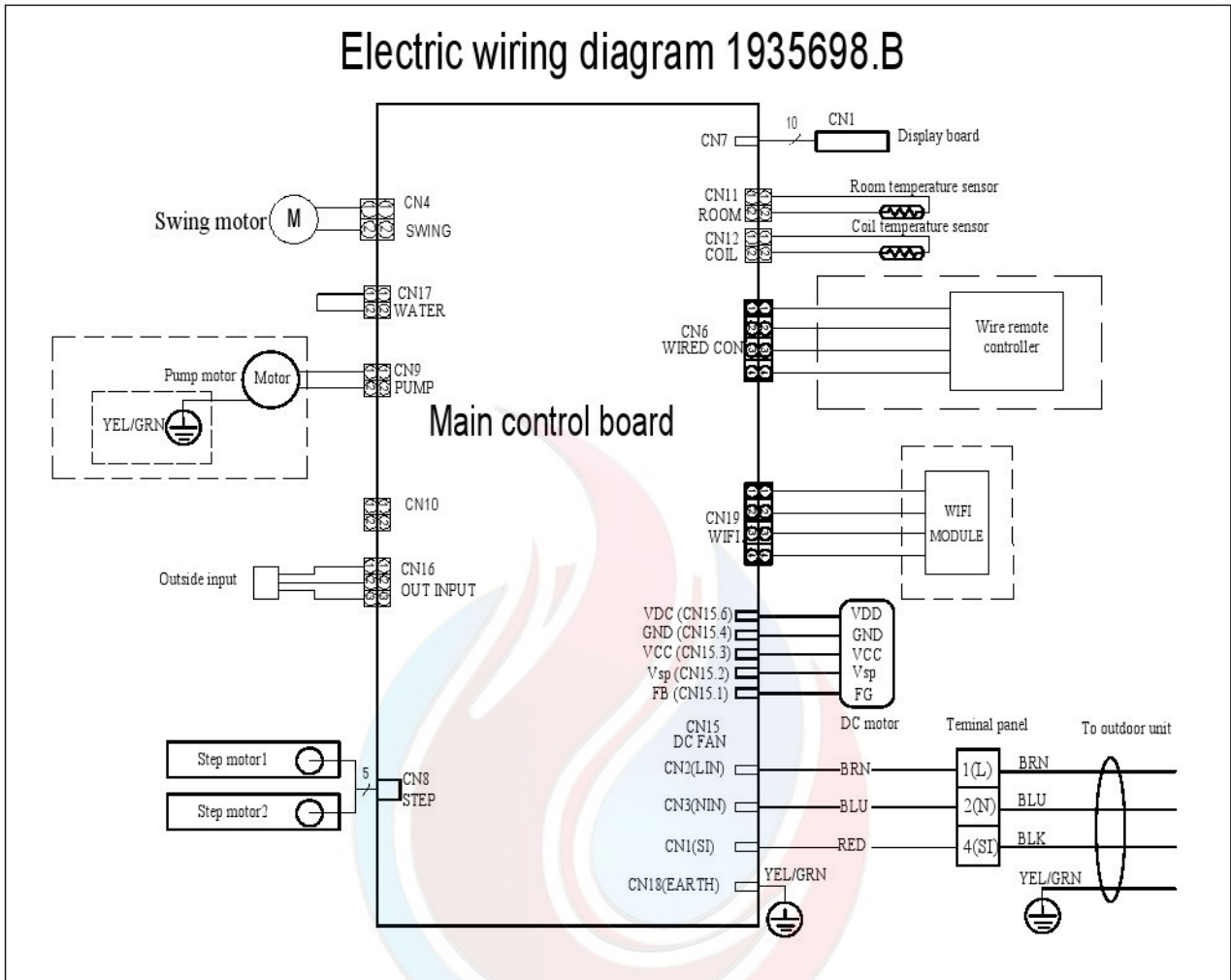
11. WIRING DIAGRAM

Ceiling & Floor type(42K)



11. WIRING DIAGRAM

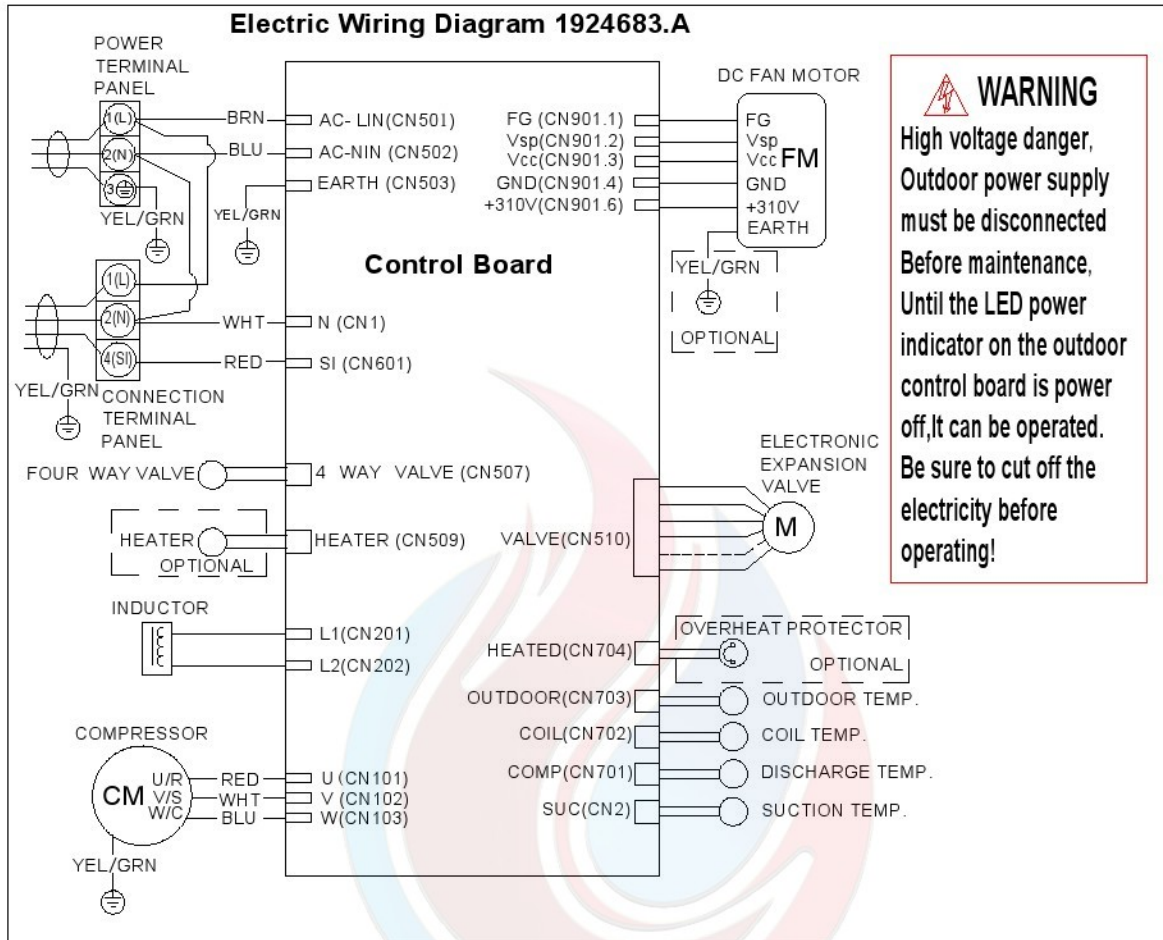
Ceiling & Floor type(48K/60K)



11. WIRING DIAGRAM

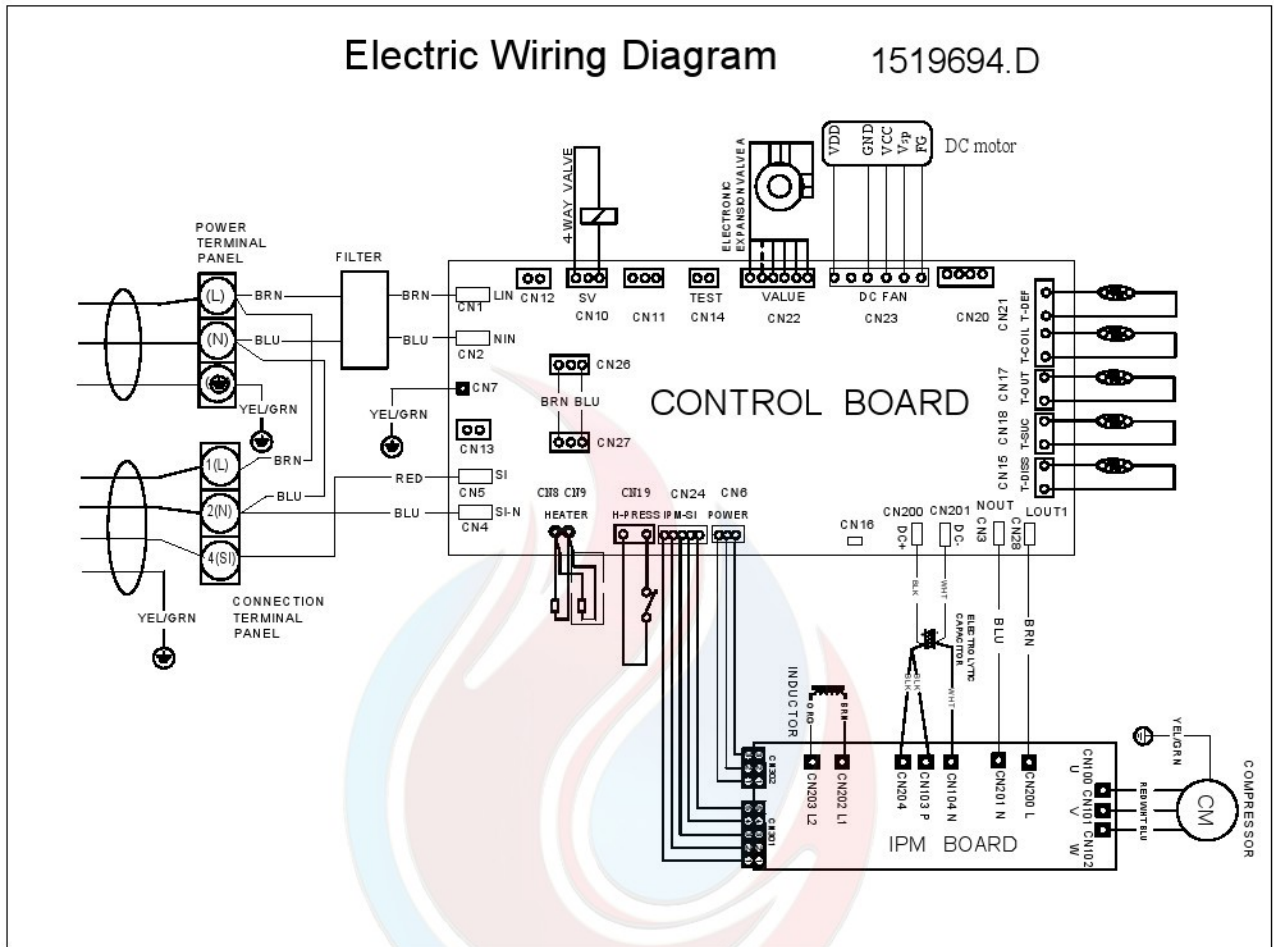
Outdoor Unit

9K/12K/18K/24K



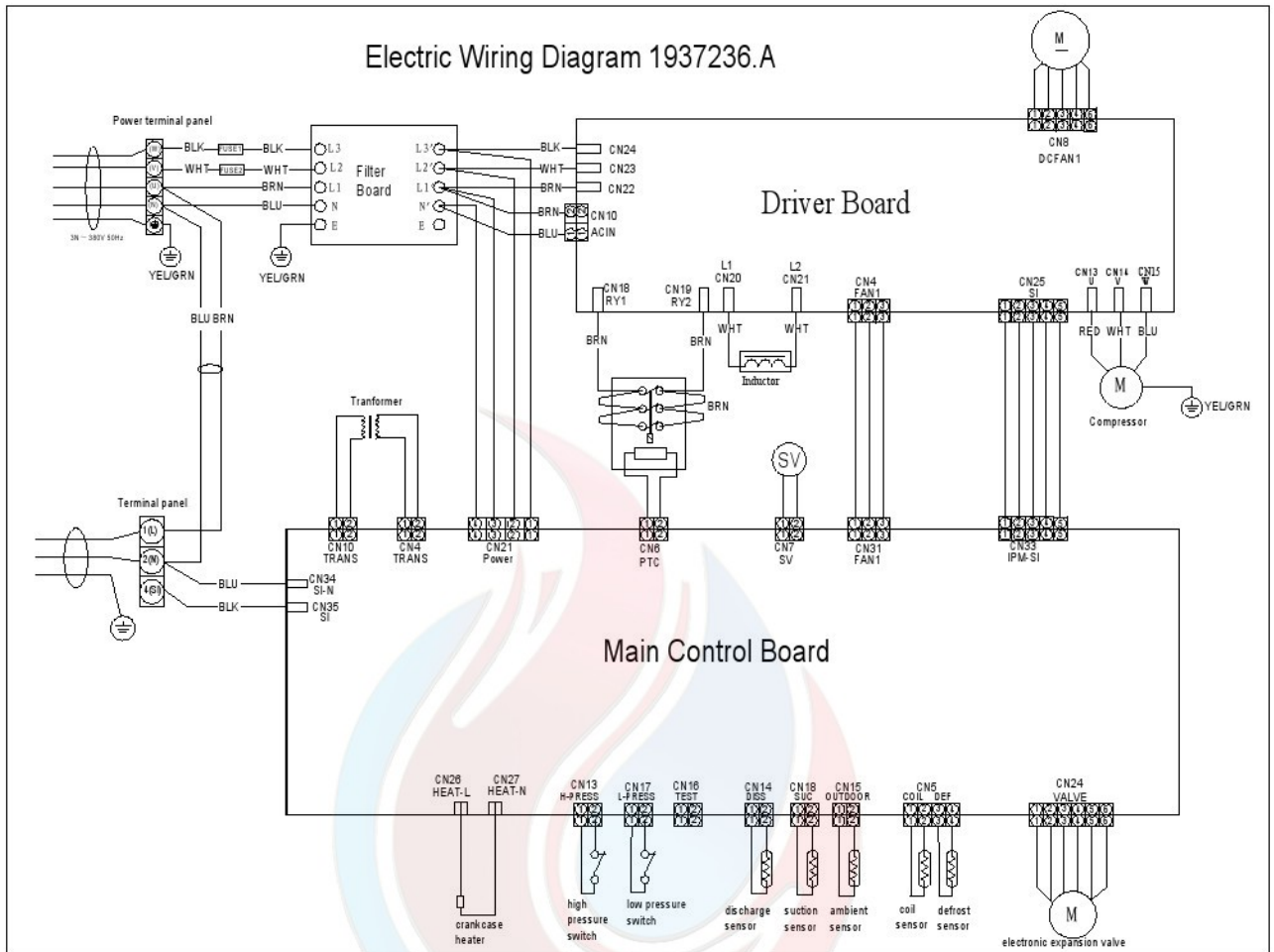
11. WIRING DIAGRAM

36K



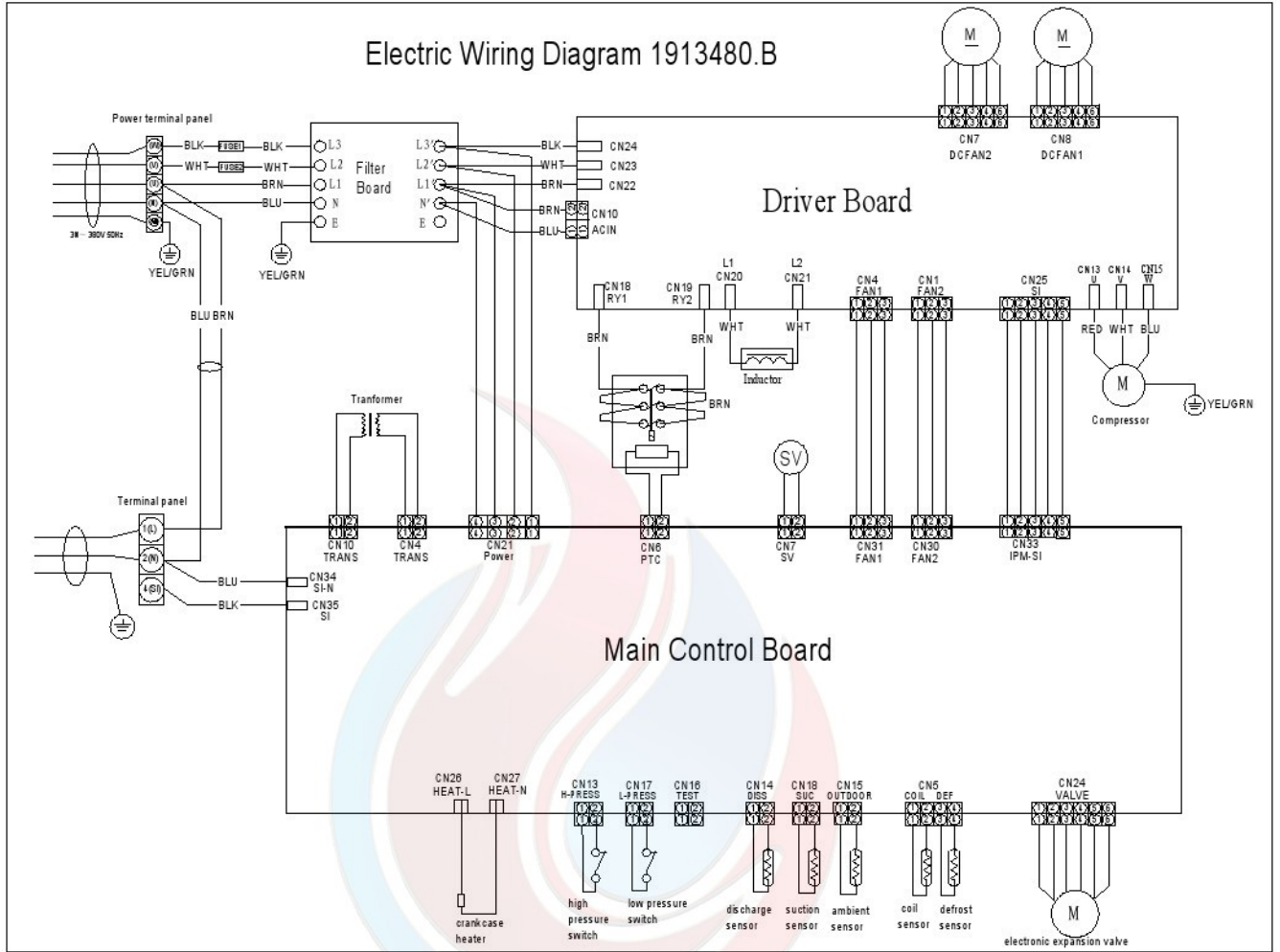
11. WIRING DIAGRAM

42K



11. WIRING DIAGRAM

48K/60K

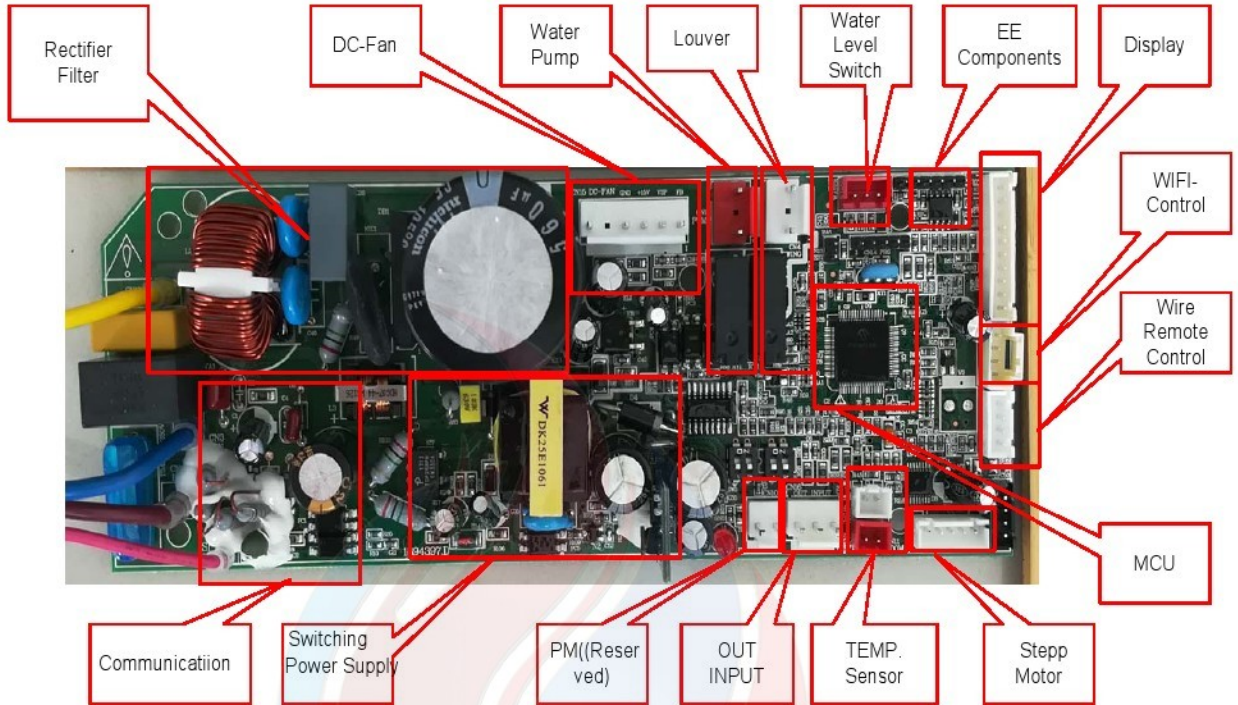


11. WIRING DIAGRAM

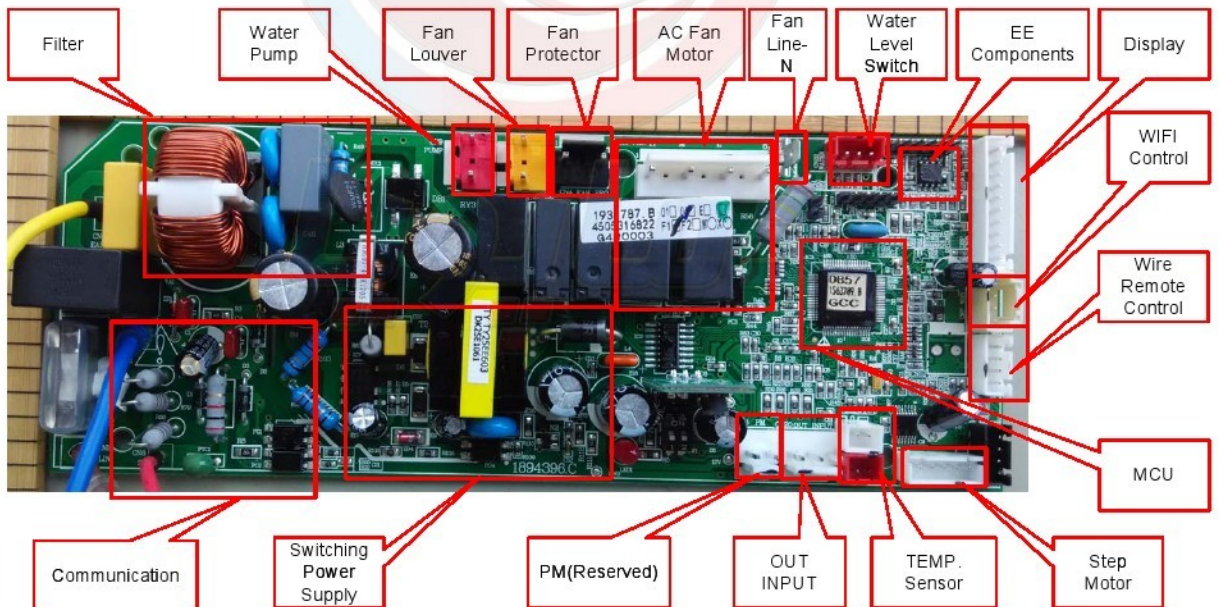
11.2 Control Board Picture

Indoor unit

9K/12K/24K (Duct/Cassette/Ceiling&Floor)



18K (Duct/Cassette)

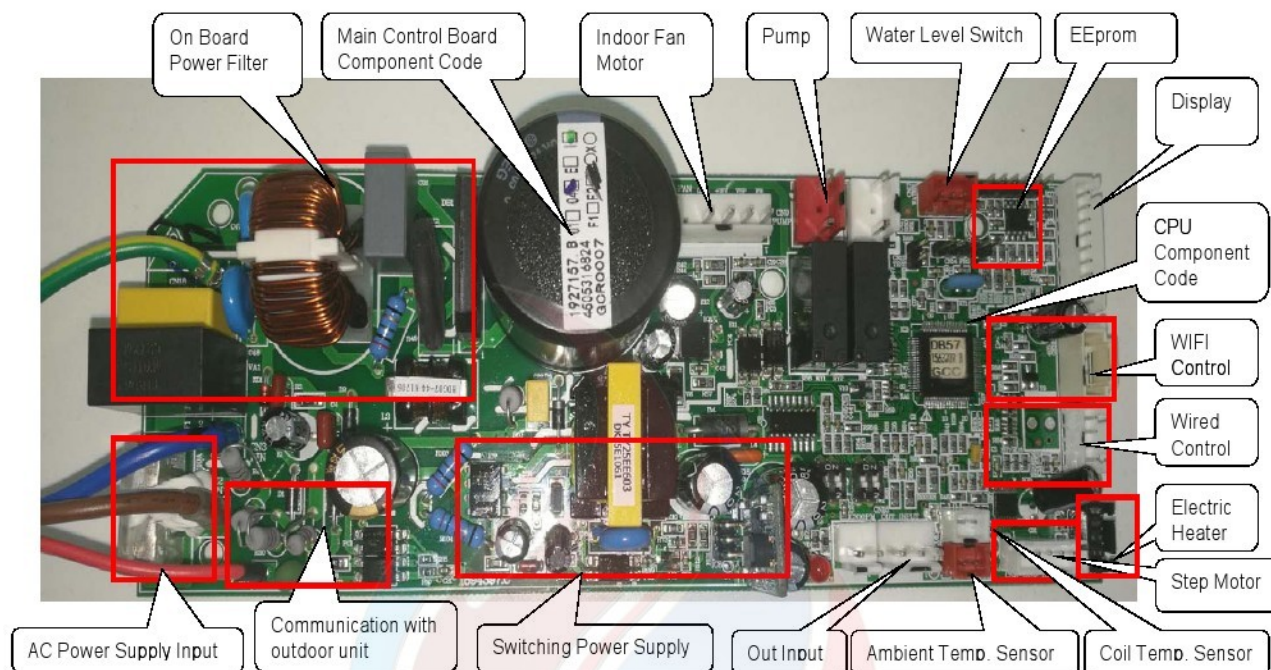


11. WIRING DIAGRAM

18K (Ceiling&Floor)

24K

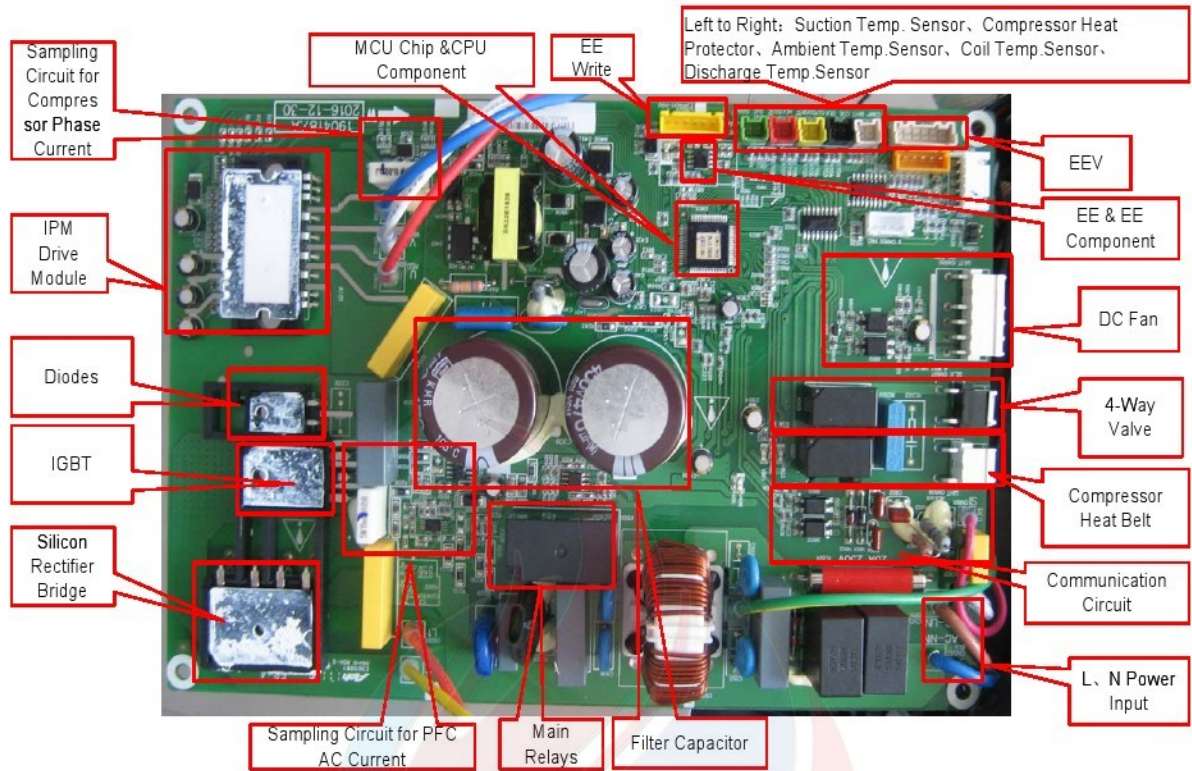
36K/48K/60K



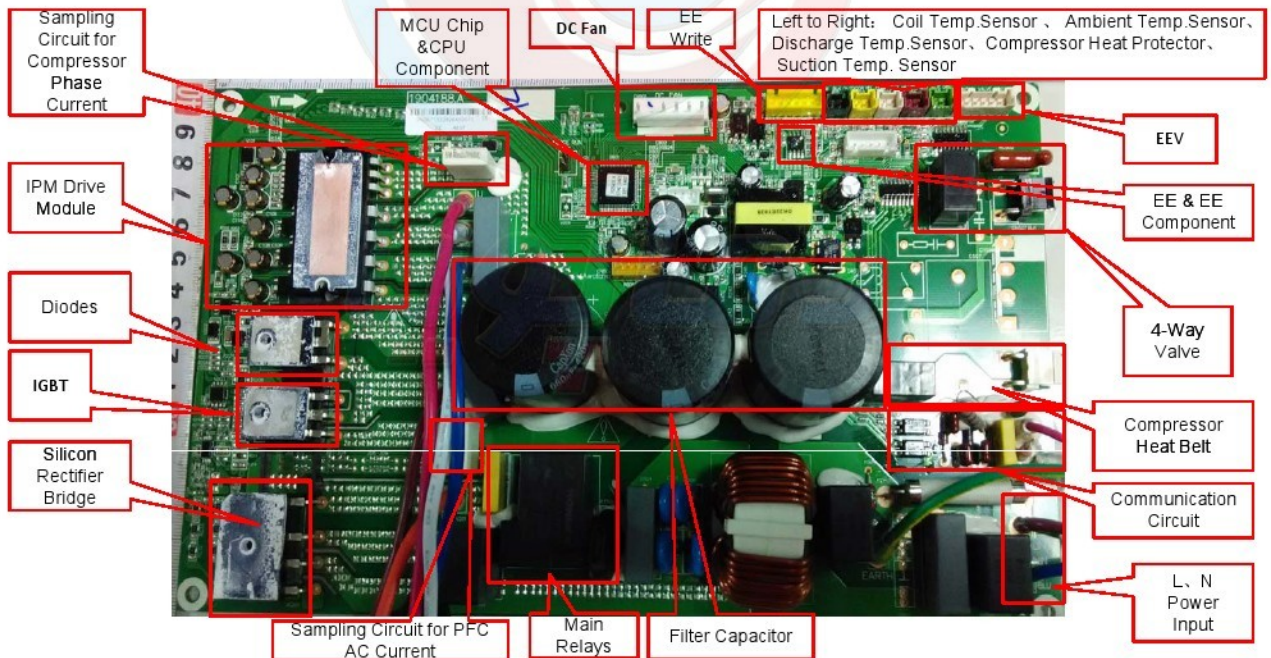
11. WIRING DIAGRAM

Outdoor unit

9K/12K

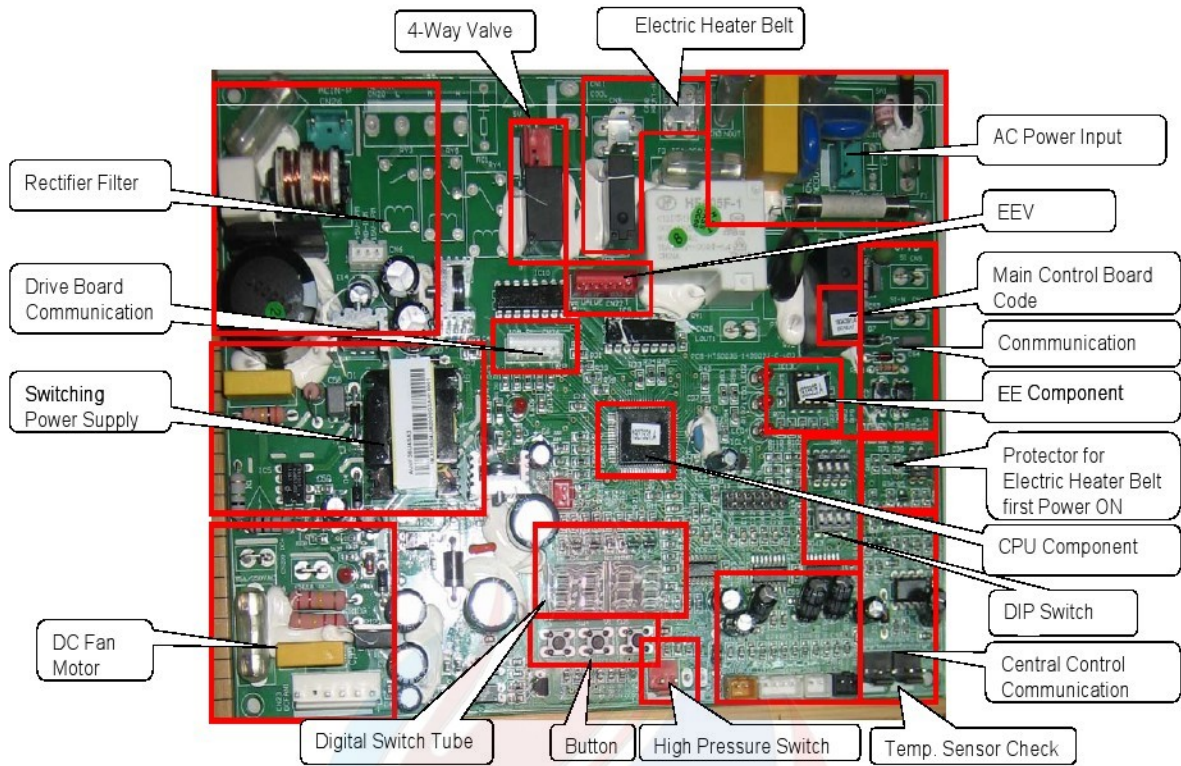


18K/24K

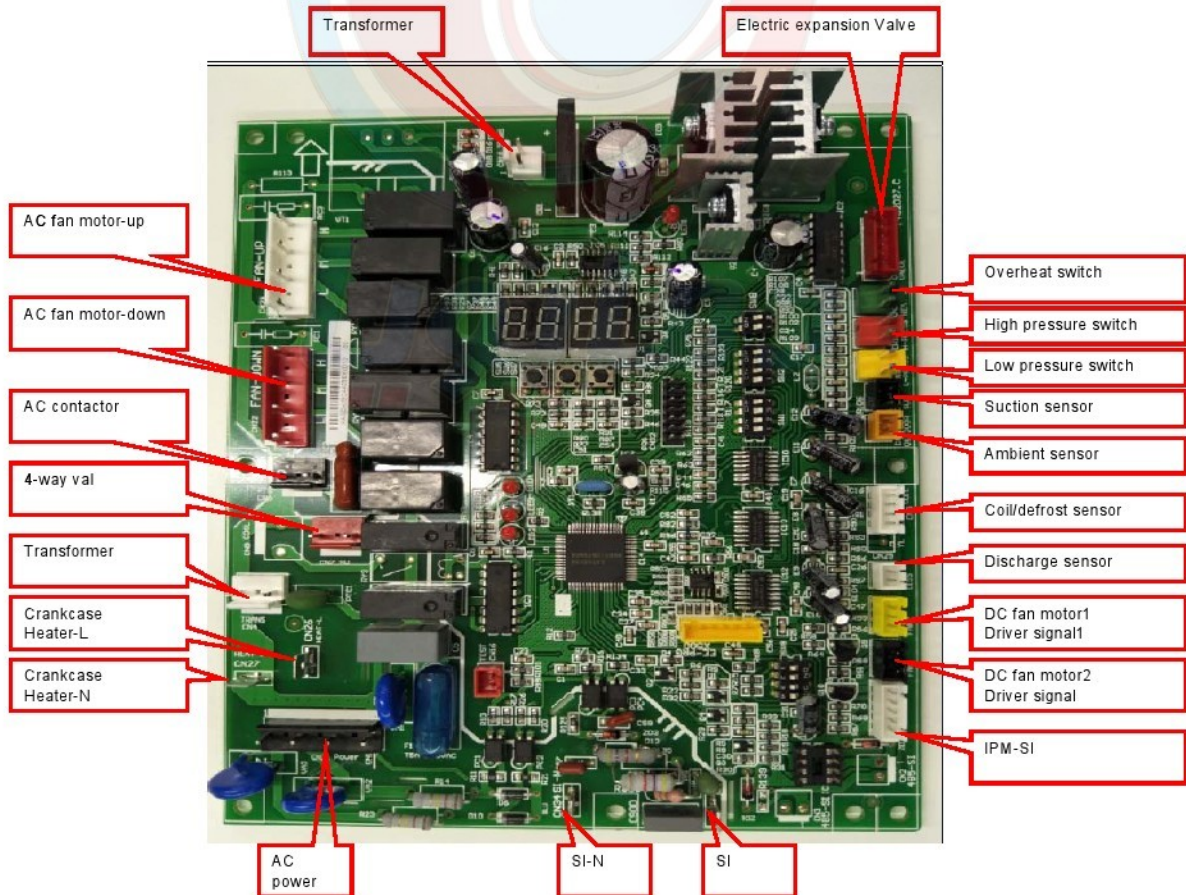


11. WIRING DIAGRAM

36K (Main Control Board)

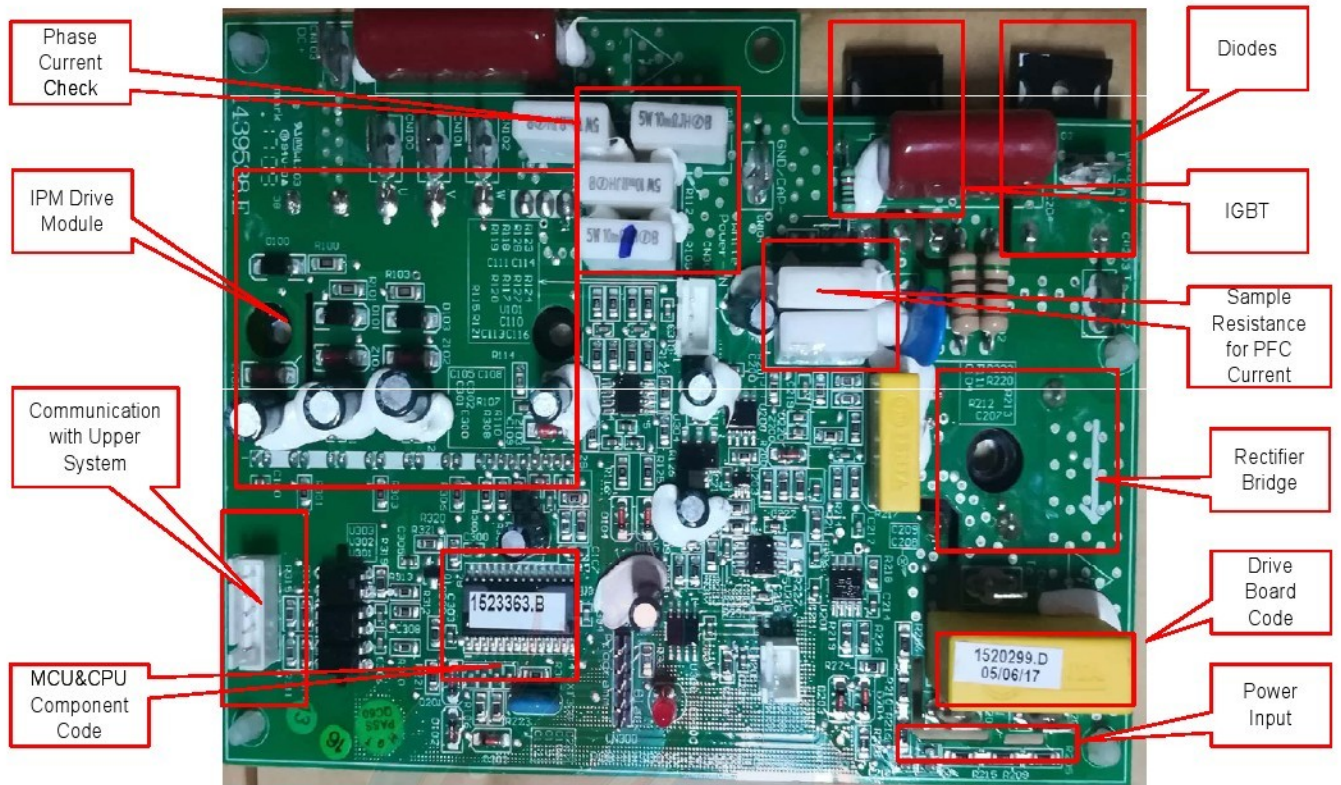


48K/60K (Main Control Board)

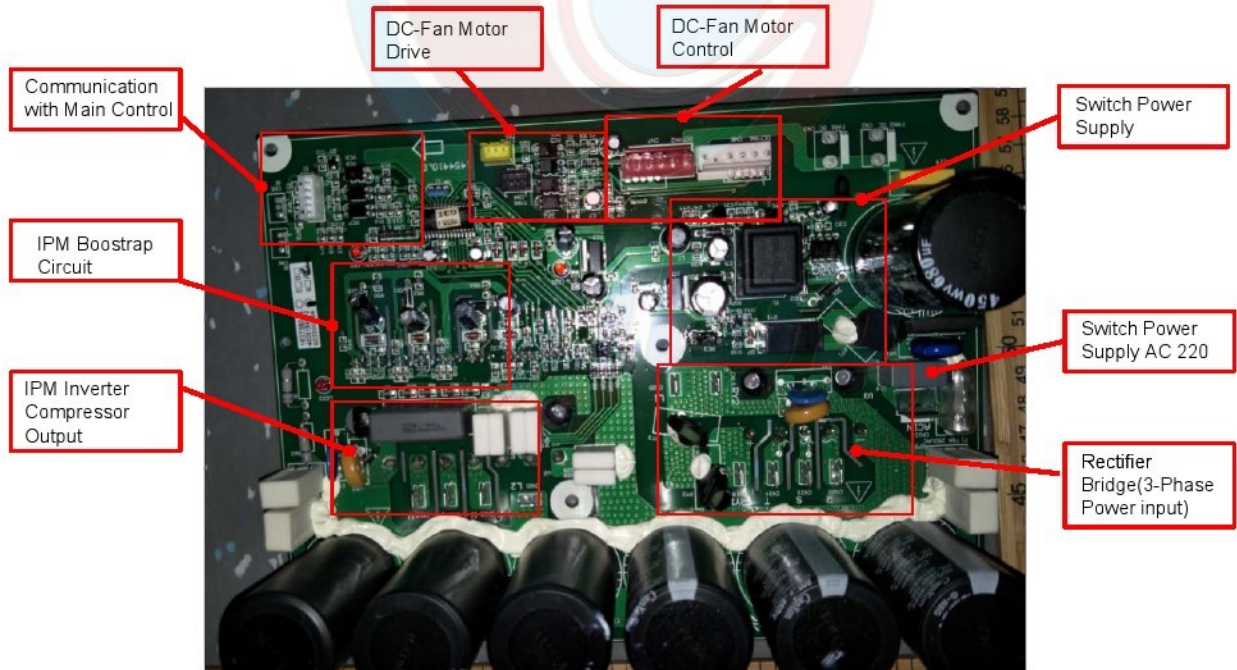


11. WIRING DIAGRAM

36K (Drive board)



48K/60K (Drive board)



11. WIRING DIAGRAM

11.3 Field Setting

DIP Setting

Dip Switch Setting of Outdoor Unit

Turn off all power sources before setting. Without turning off, the switches settings are not refreshed and might be invalid. Mark of "■" indicates the position of dip switches.

SW2	Refrigerant Piping Length Setting
Setting is required	
Actual Piping Length L(m)	
$L < 15$	
$15 \leq L \leq \text{Max.Length allowed}$	
Setting before Shipment	ON OFF
	1 2 3 4
	1 2 3 4

After set refrigerant piping length dip switch , cooling/heating performance could be improved.

11. WIRING DIAGRAM

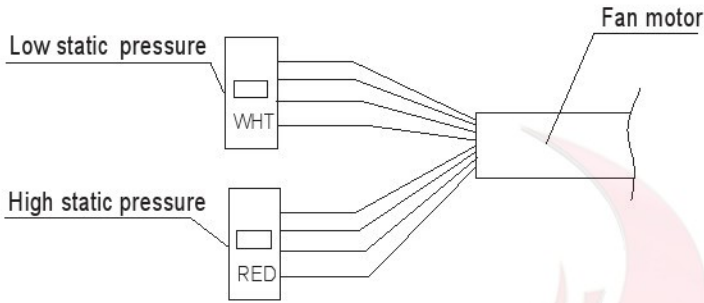
Static Pressure Setting

Setting of available of Static Pressure

The static pressure outside the indoor unit can be selected.

For AC MOTOR type:

You can change the static pressure by changing the fan motor terminal which refer to following figure.



Model	Low static pressure	High static pressure
18K	10Pa*	30Pa

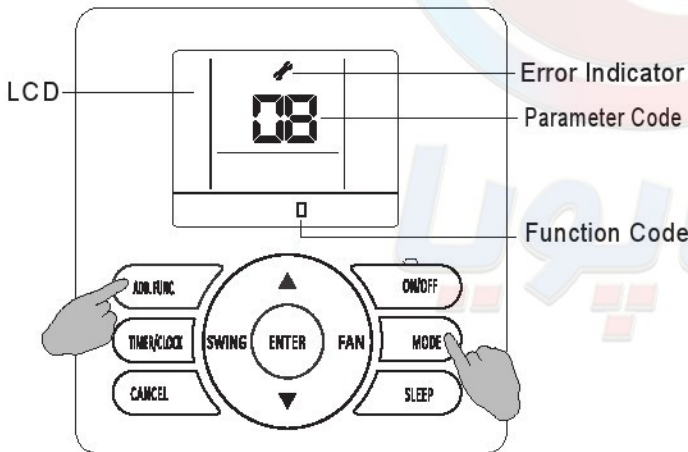
Note:

*:Default Settings is low static pressure by factory.

The noise under high static pressure is higher than static pressure.

For DC MOTOR type :



The static pressure can be freely adjusted by using specific wire remote controller.



Model (Capacity Btu/h)	The range of static pressure	Function code set
9K/12K	0-50Pa	1-50, more than 50 is 50 Pa, [default: 0(0Pa)]
24K	0-80Pa	1-80, more than 80 is 80 Pa, [default: 0(25Pa)]
36K	0-120Pa	1-120, more than 120 is 120 Pa, [default: 47Pa]
42K/48K/60K	0-120Pa	1-120, more than 120 is 120 Pa, [default: 0(60Pa)]

11. WIRING DIAGRAM

Static pressure setting:

- 1 Hold down both "MODE" button and "ADD.FUNC." button for 3 seconds, symbol  and parameter code blinking at the same time.
- 2 Press "▲/▼" button to adjust parameter number until display "17", and press "ENTER" button to entering system parameter adaption state, symbol  stop blinking.
- 3 Select desired parameter code 10 by pressing "▲/▼" button, and press "ENTER" button to confirm.
- 4 Select desired function code to rewrite the parameter values by pressing "▲/▼" button, and press "ENTER" button to confirm.
- 5 Press "ON/OFF" button or "CANCEL" button to quit.

If you still have any trouble, please contact local technical service center of our company for further information.



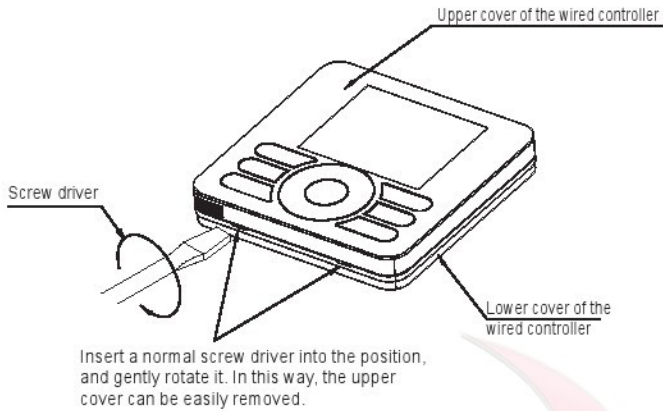
11. WIRING DIAGRAM

Indoor unit parameter revise

Internal control parameter adjustment can be performed using wire remote controller YXE-C01U/YXE-C02U.

1. Connect wire remote controller with indoor unit

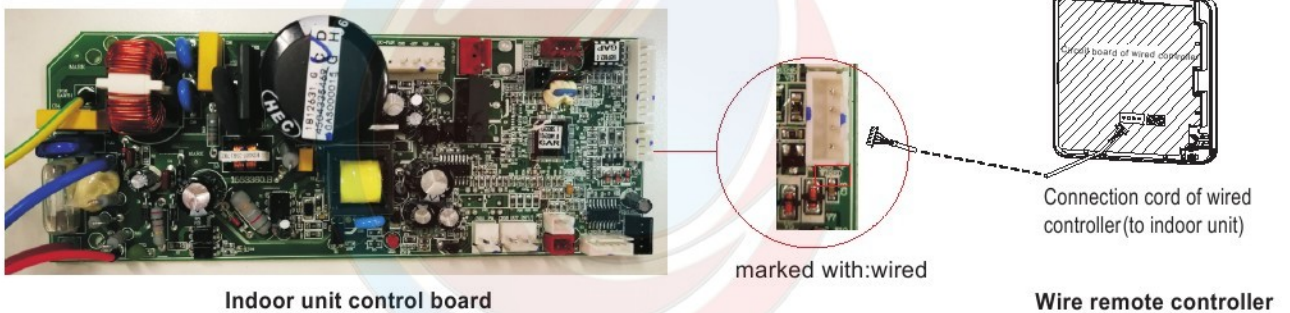
Step 1: Removing the upper cover of the wired controller



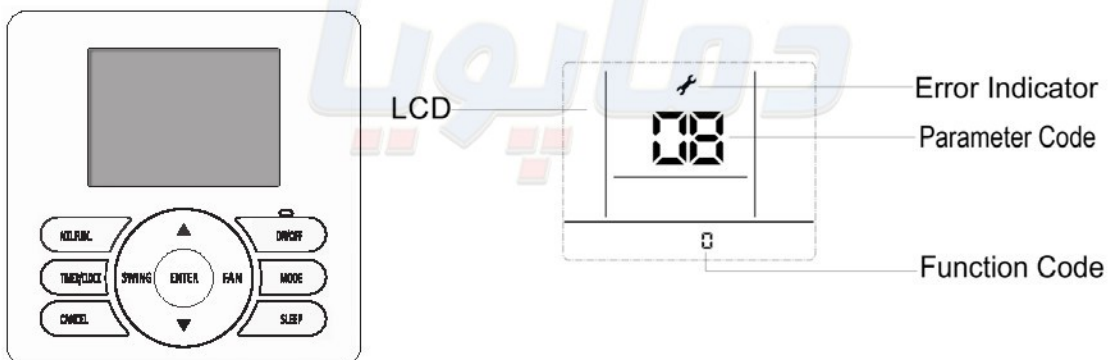
Note:

Control board of the remote controller is placed on upper cover. Please protect it from being scratched during removal and installation!

Step 2: Connecting wired controller with indoor unit



2. Changing system parameter



OPERATION:

- ① Hold down both "MODE" button and "ADD.FUNC." button for 3 seconds, symbol and parameter number blinking at the same time.
- ② Press "▲" "▼" button to adjust parameter number until display "17". And press "ENTER" button to entering system parameter adaption state, symbol stop blinking, parameter number blink.
- ③ Select desired parameter code by pressing "▲"/"▼" button following the table below, and press "ENTER" button to confirm.
- ④ Select desired function code by pressing "▲"/"▼" button, and press "ENTER" button to confirm.

11. WIRING DIAGRAM

Press "ON/OFF" button or "CANCEL" button to quit parameter adaption state.

⑤ Press "ON/OFF" button or "CANCEL" button to quit.

PARAMETER CODE	PARAMETER DESCRIPTION	PARAMETER VALUE&REPRESENTATION		NOTE
		DATA TYPE	REPRESENTATION (FUNCTION CODE)	
1	Self Recovery of Power Break	Integer	0: Cancel Self Recovery of Power Break function; 1: Self Recovery of Power Break; others: invalid	
2	Temperature Type	Integer	0: Centigrade Temperature; 1: Fahrenheit Temperature; others: invalid	
3	Temperature Display Type	Integer	0: Default display set temperature; 1: Default display room temperature; others: invalid	
4	Ratio of ambient temperature sensed by indoor temperature sensor(cooling mode)	Integer	0~10valid, more than 10 default is 10 0: 0%; 1: 10%; ...; 10: 100%	0-entirely use temperature sensed by wired remote controller; 10-entirely use temperature sensed by indoor unit
5	Filter Clean Indication	Integer	0: Cancel Filter Clean prompt function; 1: Set Filter Clean prompt function; others: invalid	
6	Filter Clean Time Set	Integer	0~32, more than 32 default is 32*1000h	
7	Installation Height	Integer	0~10m, more than 10m default is 10	
8	Cooling Temperature Compensation (indoor unit temperature sensor)	Integer	0: 0°C; 1: -0.5°C; 2: -1°C; 3: -1.5°C; 4: -2°C; 5: -2.5°C; 6: -3°C; 7: -3.5°C; 8: -4°C; 9: -4.5°C; 10: -5°C; (the wired controller displays integer with the symbol)	
9	Heating Temperature Compensation (indoor unit temperature sensor)	Integer	0: 0°C; 1: -0.5°C; 2: -1°C; 3: -1.5°C; 4: -2°C; 5: -2.5°C; 6: -3°C; 7: -3.5°C; 8: -4°C; 9: -4.5°C; 10: -5°C; (the wired controller displays integer with the symbol)	
10	Static Pressure Set	Integer	1~240, function code=static pressure more than the limit static pressure default the limit static pressure, Default is 0(default static pressure, related to models)	Duct type (DC motor)
12	Ratio of temperature sensed by indoor temperature sensor(Heating mode)	Integer	0~10valid, more than 10 default is 10 0: 0%; 1: 10%; ...; 10: 100%	0-entirely use temperature sensed by wired remote controller; 10-entirely use temperature sensed by indoor unit
13	Temperature Adjustment-Cooling	Character	-10~10°C (Single Character with symbol)	Temperature displayed on wired controller
14	Temperature Adjustment-Heating	Character	-10~10°C (Single Character with symbol)	Temperature displayed on wired controller
25	Access control, fire protection, ON/OFF function set	Integer	=0, Access control, fire protection functions are all disabled; =1, Access control function is enabled; =2, fire protection function is enabled; =3, Access control, fire protection are all enabled; =4, ON/OFF function are all enabled.	

11. WIRING DIAGRAM

11.3 Running Parameter Query

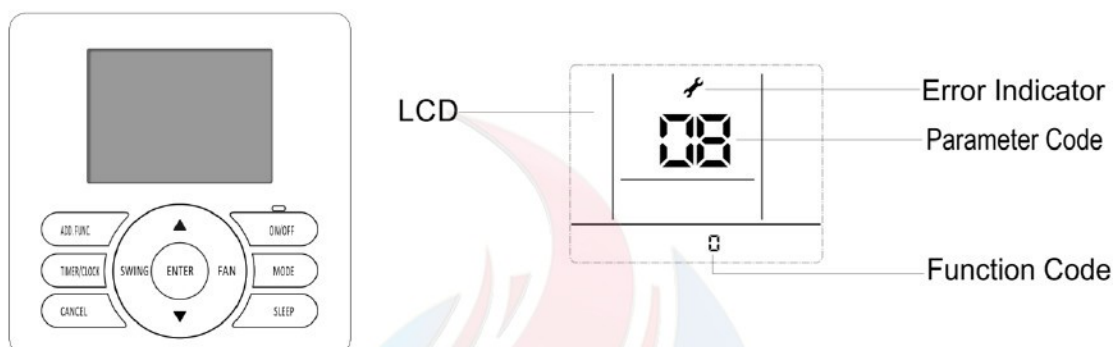
Running parameter can be referred by digital tube switch or specified wire remote controller.

Query by wire remote controller (YXE-C01U,YXE-C02U,YXE-D01U)


Operation:

1.Connect wire remote controller with indoor unit(same method as Indoor unit parameter revise)

2.Changing system parameter



OPERATION:

- ① Hold down both "MODE" button and "ADD.FUNC." button for 3 seconds, symbol  and parameter number blinking at the same time.
- ② Press "▲" "▼" button to select parameter number as you need, parameter value will be displayed on the LCD.

Parameter Code	Parameter Description
06	Indoor unit air inlet temperature
07	Indoor unit coil sensor temperature
08	Outdoor unit ambient sensor temperature
09	Discharge temperature
10	Suction temperature
11	Outdoor coil temperature
12	Discharge pressure
13	Suction pressure
14	Outdoor EEV opening
15	AC current input
16	AC voltage
24	Fault code
25	Drive fault code
26	Indoor unit air outlet temperature
28	Compressor current
29	Indoor unit room temperature
30	Indoor unit coil inlet temperature
31	Indoor unit coil outlet temperature
32	Outdoor unit condenser inlet temperature
33	Outdoor unit condenser outlet temperature
43	Outdoor unit defrost temperature
57	Outdoor fan 1 speed
58	Outdoor fan 2 speed
60	Indoor fan speed

Note:For some models, some parameter values will not display on the wired controller.

11. WIRING DIAGRAM

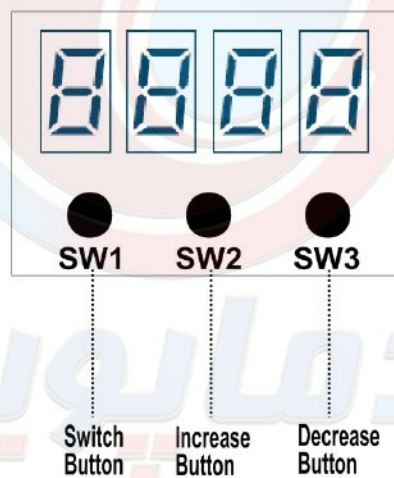
Query by digital tube switch



DC-Inverter outdoor control board

Digital Display Switch Introduction

It can be used to check outdoor running parameters.



There are 3 buttons on the digital display board :

1) SWITCH button : Indoor parameters and outdoor parameters can be selected in turn by pressing it.

“P”-outdoor unit parameter , “H.”-indoor unit parameter ;

2) INCREASE button : Each time it is pressed, the number rises by 1, hold down it, the number will be rapidly increase;

3) DECREASE button : Each time it is pressed, the number lowers by 1, hold down it, the number will be

11. WIRING DIAGRAM

be rapidly decreased.

- 4) The parameters will be displayed after 3s when the checking numbers are selected.

Parameters can be checked as following table below.

Parameter code	Descriptions
0	Protect Code or Fault code
P.1	Target Frequency
P.2	Driving Frequency
P.4	Outdoor EEV Opening
P.5	Outdoor EEV Target Opening
P.6	Upper DC Motor Revolving Speed
P.8	AC Input Voltage
P.9	Current
P.10	Modular Temperature
P.11	Capacity Needed
P.12	Modular Fault
P.20	Outdoor Ambient Temperature
P.21	Outdoor Coil Temperature
P.22	Outdoor Defrost Temperature
P.23	Suction Temperature
P.24	Discharge Temperature
H.1	Indoor Unit Fault
H.2	Indoor Ambient Temperature
H.3	Indoor Coil Temperature
H.4	Indoor Setting Temperature

11. WIRING DIAGRAM

11.4 Instructions for the function setting of access control, fire protection, ON/OFF

11.4.1 Factory setting

ON/OFF function is disabled as factory default while both the access control and fire protection functions are enabled.

In case of using or cancelling the access control / fire protection / (ON/OFF) function, use the wired controller to modify the parameters of indoor unit.

Note: please refer to "Indoor unit parameter revise" section in TC Manual for how to use the wired controller to modify the parameters of indoor unit.

11.4.2 Function introduction

(1) Access control: control mode to control the machine startup & shutdown based on the on & off state of the access control port.

(2) Fire protection: control mode to control the machine startup & shutdown based on the on & off state of the fire protection port.

(3) ON/OFF: special control mode to achieve the control of indoor unit startup & shutdown based on the input state of the fire protection port of the indoor unit (no other way can control startup & shutdown) and output the fault status of indoor unit through OUT INPUT port.

12.5.3 Function setting

(1) Hardware connection



Figure 1 electrical wiring diagram



Figure 2 short wiring



Figure 3 main control board

3 pins of the OUT INPUT CN16 socket shown in the electrical wiring diagram of Figure 1 are short circuited state under as factory default (an external short circuit plug shown as Figure 2, and the OUT INPUT CN16 socket of main control board is shown as Figure 3).

(Illustration: the socket number in circuit is subject to the actual serial number of PCB.)

- 1) When using the door lock function, the red wire should be cut and connect the door lock control switch attached to it (supplied by user), and the connecting wire should be 22AWG or above. The door lock switch is closed normal operation and open contact when the equipment must be stopped.
- 2) When using the fire protection function, the red wire should be cut and connect the fire protection lock control switch attached to it (supplied by user), and the connecting wire should be 22AWG or above. The protection control switch is closed normal operation and open contact when the equipment must be stopped.

11. WIRING DIAGRAM

3) When using the ON/OFF function, the red wire should be cut and connect the door lock control switch attached to it (supplied by user), and the connecting wire should be 22AWG or above. In normal conditions, the unit operates normally once the switch is closed and shuts down once the switch is off.

(2) Timing sequence description:

- Access control:

- 1) Control of entrance card disconnection: the air conditioner will be shut down after the access control signal is disconnected for 30 seconds. In this state, the indoor unit can't start. If the user performs start operation, the wired controller will not respond and displays power-off status.
- 2) Control of entrance card connection: after the closed circuit of entrance card interface, power-on restrictions are released, the wired controller maintains power-off and the startup & shutdown control is enabled.

- Fire protection

- 1) Access to fire protection: the air conditioner will be shut down and won't blow air after the access control signal is disconnected for 30 seconds. In this state, the indoor unit can't be started. If the user performs start operation, the wired controller shall not respond and displays power-off status.
- 2) Cancellation of fire protection: after the short circuit of fire protection signal, release power-on restrictions, the wired controller maintains power-off status and the startup & shutdown control is enabled.

- ON/OFF

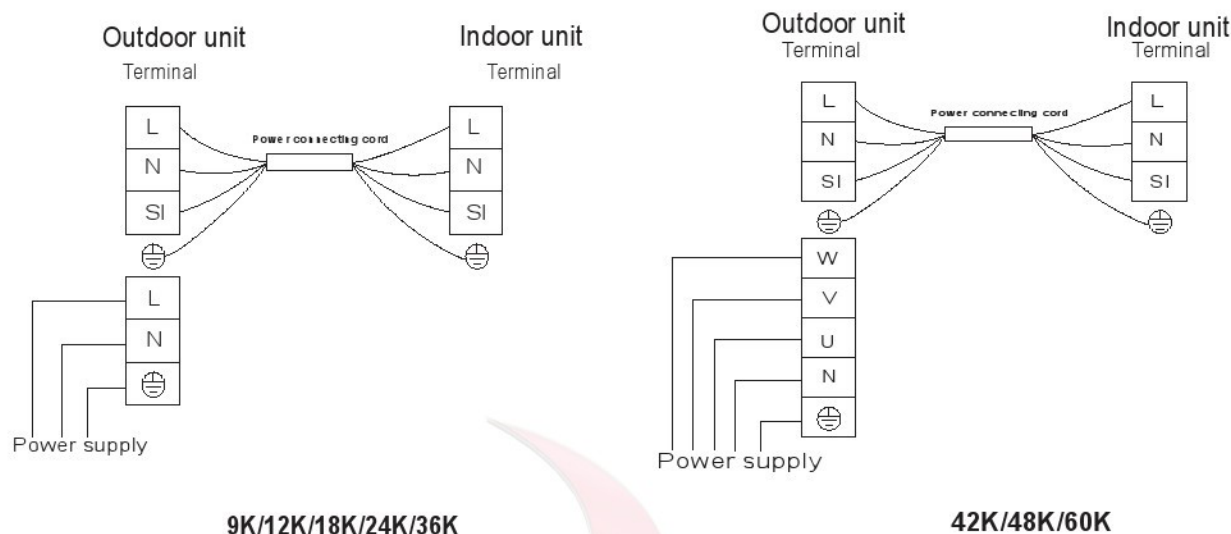
- 1) In the situation where ON/OFF function is enabled, the port is closed and in short circuit, the indoor unit starts; the indoor unit shuts down once the port is disconnected;
- 2) Other operation information (such as mode, air speed, air door, etc.) except for startup & shutdown can be set through the wired controller, remote-controller and WIFI module, priority is given to the latest command received.
- 3) In the mode of ON/OFF function, wired controller, remote-controller, WIFI module and access control cannot control the unit startup & shutdown, neither the operation mode, timer or sleeping mode.
- 4) There will be 12V signal output when machine fault occurs.

(3) Relative priorities of instructions

ON/OFF has the highest priority. The access control function shall be disabled when ON/OFF is enabled. Access control and fire prevention functions shall not affect each other.

11. WIRING DIAGRAM

11.5 Common Wiring



Recommend Wire Size

Model Capacity (Btu/h)	Power Supply	ELB		Power Source Cable Size	Transmitting Cable Size
		Nominal Current(A)	Nominal Sensitive Current (mA)	EN60335-1	EN60335-1
9K	220-240V ~,50Hz	20	30	3×1.5mm ²	4×1.5mm ²
12K	220-240V ~,50Hz	20	30	3×1.5mm ²	4×1.5mm ²
18K	220-240V ~,50Hz	20	30	3×2.5mm ²	4×1.5mm ²
24K	220-240V ~,50Hz	32	30	3×2.5mm ²	4×1.5mm ²
36K	220-240V ~,50Hz	40	30	3×4.0mm ²	4×1.5mm ²
42K/48K/60K	380-415V 3N~,50Hz	32	30	5×2.5mm ²	4×1.5mm ²

Max. Running Current(A):REFER TO NAMEPLATE

- Use an ELB (Electric Leakage Breaker). If not used, it will cause an electric shock or a fire.
 - Do not operate the system until all the check points have been cleared.
- (A) Check to ensure that the insulation resistance is more than 2 megohm, by measuring the resistance between ground and the terminal of the electrical parts. If not, do not operate the system until the electrical leakage is found and repaired.
- (B) Check to ensure that the stop valves of the outdoor unit are fully opened and then start the system.
- Pay attention to the following items while the system is running.
- (A) Do not touch any of the parts by hand at the discharge gas side, since the compressor chamber and the pipes at the discharge side are heated higher than 90°C.

11. WIRING DIAGRAM

(B) DO NOT PUSH THE BUTTON OF THE MAGNETIC SWITCH(ES). It will cause a serious Accident.

NOTES:

- 1) Follow local codes and regulations when selecting field wires.
- 2) The wire sizes marked in the table are selected at the maximum current of the unit according to the European Standard ,EN60335-1. Use the wires which are not lighter than the ordinary tough rubber sheathed flexible cord (code designation H07RN-F) or ordinary polychloroprene sheathed flexible cord (code designation H07RN-F).
- 3) Use a shielded cable for the transmitting circuit and connect it to ground.
- 4) In the case that power cables are connected in series, add each unit maximum current and select wires below.

Selection According to EN60335-1

Current i(A)	Wire Size(mm ²)
$i \leq 6$	0.75
$6 < i \leq 10$	1
$10 < i \leq 16$	1.5
$16 < i \leq 25$	2.5
$25 < i \leq 32$	4
$32 < i \leq 40$	6
$40 < i \leq 63$	10
$63 < i$	*

* in the case that current exceeds 63A, do not connect cables in series.

11. WIRING DIAGRAM

11.6 Sensor parameter

1. THE PARAMETER OF OUTDOOR COMPRESSOR DISCHARGE TEMPERATURE SENSOR:

($R_0=187.25K\pm 6.3\%$; $R_{100}=3.77K\pm 2.5K$; $B0/100=3979K\pm 1\%$)

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
-30	908.2603	985.5274	1065.1210	-7.84	7.47
-29	855.3955	927.6043	1001.9150	-7.78	7.42
-28	805.9244	873.4324	924.8368	-7.73	5.56
-27	759.6097	822.7471	887.5944	-7.67	7.31
-26	716.2320	775.3041	835.9165	-7.62	7.25
-25	675.5881	730.8775	787.5529	-7.56	7.20
-24	637.4902	689.2583	742.2720	-7.51	7.14
-23	601.7645	650.2533	699.8601	-7.46	7.09
-22	568.2499	613.6835	660.1191	-7.40	7.03
-21	536.7970	579.3832	622.8658	-7.35	6.98
-20	507.2676	547.1989	587.9307	-7.30	6.93
-19	497.5332	516.9882	555.1565	-3.76	6.88
-18	453.4748	488.6192	524.3977	-7.19	6.82
-17	428.9819	461.9693	495.5191	-7.14	6.77
-16	405.9517	436.9251	486.3954	-7.09	10.17
-15	384.2888	413.3808	442.9105	-7.04	6.67
-14	363.9047	391.2386	418.9563	-6.99	6.62
-13	344.7169	370.4072	396.4325	-6.94	6.56
-12	326.6497	350.8019	375.2461	-6.88	6.51
-11	309.6286	332.3441	355.3104	-6.83	6.46
-10	293.5903	314.9620	336.5448	-6.79	6.41
-9	278.4719	298.5822	318.3744	-6.74	6.22
-8	264.2156	283.1464	302.2294	-6.69	6.31
-7	250.7678	268.5936	286.5448	-6.64	6.26
-6	238.0783	254.8686	271.7603	-6.59	6.22
-5	226.1003	241.9200	257.8193	-6.54	6.17
-4	214.7903	229.6997	244.6593	-6.49	6.11
-3	204.1073	218.1630	232.2612	-6.44	6.07
-2	194.0135	207.2681	220.5495	-6.39	6.02
-1	184.4732	196.9759	209.4913	-6.35	5.97
0	175.4533	187.2500	199.0468	-6.30	5.93
1	166.8952	178.0255	189.1529	-6.25	5.88
2	158.8023	169.3067	179.8058	-6.20	5.84
3	151.1467	161.0633	170.9724	-6.16	5.80
4	143.9026	153.2667	162.6216	-6.11	5.75
5	137.0455	145.8905	154.7246	-6.06	5.71
6	130.5528	138.9097	147.2544	-6.02	5.67
7	124.4033	132.3011	140.1856	-5.97	5.62
8	118.5769	126.0429	133.4946	-5.92	5.58
9	113.0550	120.1146	127.1591	-5.88	5.54
10	107.8202	114.4973	121.1586	-5.83	5.50
11	102.8560	109.1728	115.4734	-5.79	5.46
12	98.1470	104.1246	110.0855	-5.74	5.41
13	93.6787	99.3367	104.9778	-5.70	5.37
14	89.4378	94.7946	100.1342	-5.65	5.33
15	85.4114	90.4842	95.5398	-5.61	5.29
16	81.5875	86.3926	91.1805	-5.56	5.25
17	77.9551	82.5076	87.0430	-5.52	5.21
18	74.5034	78.8177	83.1150	-5.47	5.17
19	71.2227	75.3122	79.3848	-5.43	5.13

11. WIRING DIAGRAM

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
20	68.1036	71.9808	75.8414	-5.39	5.09
21	65.1373	68.8141	72.4746	-5.34	5.05
22	62.3155	65.8032	69.2746	-5.30	5.01
23	59.6306	62.9395	66.2324	-5.26	4.97
24	57.0752	60.2152	63.3395	-5.21	4.93
25	54.6424	57.6227	60.5877	-5.17	4.89
26	52.3258	55.1551	57.9695	-5.13	4.85
27	50.1192	52.8058	55.4778	-5.09	4.82
28	48.0168	50.5684	53.1058	-5.05	4.78
29	46.0133	48.4371	50.8472	-5.00	4.74
30	44.1034	46.4046	48.6960	-4.96	4.71
31	42.2825	44.4711	46.6466	-4.92	4.66
32	40.5458	42.6261	44.6937	-4.88	4.63
33	38.8891	40.8668	42.8323	-4.84	4.59
34	37.3084	39.1890	41.0576	-4.80	4.55
35	35.7998	37.5883	39.3653	-4.76	4.51
36	34.3596	36.0609	37.7511	-4.72	4.48
37	32.9844	34.6030	36.2109	-4.68	4.44
38	31.6710	33.2113	34.7412	-4.64	4.40
39	30.4164	31.8823	33.3383	-4.60	4.37
40	29.2176	30.6130	31.9988	-4.56	4.33
41	28.0718	29.4004	30.7197	-4.52	4.29
42	26.9765	28.2417	29.4979	-4.48	4.26
43	25.9293	27.1342	28.3306	-4.44	4.22
44	24.9277	26.0755	27.2150	-4.40	4.19
45	23.9697	25.0632	26.1488	-4.36	4.15
46	23.0530	24.0950	25.1293	-4.32	4.12
47	22.1757	23.1688	24.1545	-4.29	4.08
48	21.3360	22.2826	23.2221	-4.25	4.05
49	20.5321	21.4345	22.3301	-4.21	4.01
50	19.7623	20.6226	21.4766	-4.17	3.98
51	19.0261	19.8468	20.6612	-4.14	3.94
52	18.3211	19.1040	19.8808	-4.10	3.91
53	17.6458	18.3926	19.1338	-4.06	3.87
54	16.9986	17.7113	18.4185	-4.02	3.84
55	16.3784	17.0537	17.7335	-3.96	3.83
56	15.7839	16.4332	17.0774	-3.95	3.77
57	15.2139	15.8338	16.4488	-3.92	3.74
58	14.6673	15.2592	15.8464	-3.88	3.71
59	14.1430	14.7083	15.2690	-3.84	3.67
60	13.6400	14.1799	14.7154	-3.81	3.64
61	13.1573	13.6730	14.1846	-3.77	3.61
62	12.6941	13.1868	13.6756	-3.74	3.57
63	12.2494	12.7202	13.1872	-3.70	3.54
64	11.8224	12.2723	12.7186	-3.67	3.51
65	11.4124	11.8424	12.2690	-3.63	3.48
66	11.0185	11.4295	11.8373	-3.60	3.45
67	10.6401	11.0331	11.4230	-3.56	3.41
68	10.2765	10.6522	11.0251	-3.53	3.38
69	9.9271	10.2863	10.6429	-3.49	3.35
70	9.5912	9.9348	10.2756	-3.46	3.32
71	9.2682	9.5968	9.9231	-3.42	3.29
72	8.9576	9.2720	9.5841	-3.39	3.26
73	8.6589	8.9597	9.2583	-3.36	3.23
74	8.3716	8.6594	8.9451	-3.32	3.19
75	8.0951	8.3705	8.6440	-3.29	3.16
76	7.8290	8.0926	8.3544	-3.26	3.13
77	7.5730	7.8252	8.0758	-3.22	3.10

11. WIRING DIAGRAM

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
78	7.3264	7.5679	7.8078	-3.19	3.07
79	7.0891	7.3202	7.5499	-3.16	3.04
80	6.8605	7.0818	7.3018	-3.12	3.01
81	6.6403	6.8522	7.0629	-3.09	2.98
82	6.4282	6.6311	6.8329	-3.06	2.95
83	6.2239	6.4182	6.6115	-3.03	2.92
84	6.0269	6.2131	6.3982	-3.00	2.89
85	5.8371	6.0154	6.1928	-2.96	2.86
86	5.6542	5.8249	5.9949	-2.93	2.84
87	5.4777	5.6413	5.8042	-2.90	2.81
88	5.3076	5.4644	5.6205	-2.87	2.78
89	5.1435	5.2937	5.4433	-2.84	2.75
90	4.9853	5.1292	5.2726	-2.81	2.72
91	4.8326	4.9705	5.1079	-2.77	2.69
92	4.6852	4.8174	4.9492	-2.74	2.66
93	4.5430	4.6697	4.7960	-2.71	2.63
94	4.4058	4.5272	4.6483	-2.68	2.61
95	4.2733	4.3896	4.5058	-2.65	2.58
96	4.1453	4.2568	4.3683	-2.62	2.55
97	4.0218	4.1287	4.2355	-2.59	2.52
98	3.9024	4.0049	4.1074	-2.56	2.50
99	3.7872	3.8854	3.9837	-2.53	2.47
100	3.6758	3.7700	3.8643	-2.50	2.44
101	3.5661	3.6585	3.7512	-2.53	2.47
102	3.4601	3.5509	3.6419	-2.56	2.50
103	3.3577	3.4468	3.5362	-2.59	2.53
104	3.2588	3.3463	3.4341	-2.61	2.56
105	3.1632	3.2491	3.3353	-2.64	2.58
106	3.0708	3.1551	3.2398	-2.67	2.61
107	2.9816	3.0643	3.1475	-2.70	2.64
108	2.8953	2.9765	3.0582	-2.73	2.67
109	2.8118	2.8915	2.9717	-2.76	2.70
110	2.7311	2.8093	2.8881	-2.78	2.73
111	2.6531	2.7299	2.8072	-2.81	2.75
112	2.5776	2.6530	2.7289	-2.84	2.78
113	2.5046	2.5785	2.6531	-2.87	2.81
114	2.4340	2.5065	2.5798	-2.89	2.84
115	2.3656	2.4368	2.5087	-2.92	2.87
116	2.2995	2.3693	2.4400	-2.95	2.90
117	2.2354	2.3040	2.3733	-2.98	2.92
118	2.1734	2.2407	2.3088	-3.00	2.95
119	2.1134	2.1795	2.2463	-3.03	2.97
120	2.0553	2.1201	2.1858	-3.06	3.01
121	1.9991	2.0626	2.1271	-3.08	3.03
122	1.9446	2.0070	2.0702	-3.11	3.05
123	1.8918	1.9530	2.0151	-3.13	3.08
124	1.8406	1.9007	1.9617	-3.16	3.11
125	1.7911	1.8500	1.9099	-3.18	3.14
126	1.7430	1.8009	1.8597	-3.22	3.16
127	1.6965	1.7533	1.8110	-3.24	3.19
128	1.6514	1.7071	1.7638	-3.26	3.21
129	1.6076	1.6623	1.7180	-3.29	3.24
130	1.5652	1.6189	1.6736	-3.32	3.27

11. WIRING DIAGRAM

2. THE PARAMETER OF THE OTHER SENSOR IN INDOOR AND OUTDOOR UNIT: ($R_0=15K\pm 2\%$;
 $B0/100=3450K\pm 2\%$)

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
-30	60.78	64.77	68.99	-6.16	6.12
-29	57.75	61.36	65.16	-5.88	5.83
-28	54.89	58.15	61.58	-5.61	5.57
-27	52.19	55.14	58.23	-5.35	5.31
-26	49.63	52.30	55.08	-5.11	5.05
-25	47.21	49.62	52.13	-4.86	4.81
-24	44.92	47.10	49.37	-4.63	4.60
-23	42.76	44.73	46.78	-4.40	4.38
-22	40.71	42.49	44.34	-4.19	4.17
-21	38.77	40.38	42.05	-3.99	3.97
-20	36.93	38.39	39.90	-3.80	3.78
-19	35.18	36.51	37.87	-3.64	3.59
-18	33.53	34.74	35.97	-3.48	3.42
-17	31.96	33.06	34.17	-3.33	3.25
-16	30.48	31.47	32.49	-3.15	3.14
-15	29.07	29.97	30.89	-3.00	2.98
-14	27.73	28.56	29.39	-2.91	2.82
-13	26.46	27.22	27.98	-2.79	2.72
-12	25.26	25.95	26.64	-2.66	2.59
-11	24.11	24.75	25.38	-2.59	2.48
-10	23.03	23.61	24.19	-2.46	2.40
-9	21.99	22.53	23.06	-2.40	2.30
-8	21.01	21.51	22.00	-2.32	2.23
-7	20.08	20.54	20.99	-2.24	2.14
-6	19.19	19.62	20.04	-2.19	2.10
-5	18.35	18.74	19.14	-2.08	2.09
-4	17.55	17.92	18.29	-2.06	2.02
-3	16.78	17.13	17.48	-2.04	2.00
-2	16.06	16.38	16.71	-1.95	1.97
-1	15.36	15.67	15.98	-1.98	1.94
0	14.70	15.00	15.29	-2.00	1.90
1	14.08	14.36	14.64	-1.95	1.91
2	13.48	13.75	14.02	-1.96	1.93
3	12.91	13.17	13.43	-1.97	1.94
4	12.36	12.62	12.87	-2.06	1.94
5	11.85	12.09	12.34	-1.99	2.03
6	11.35	11.59	11.83	-2.07	2.03
7	10.88	11.11	11.35	-2.07	2.11
8	10.43	10.66	10.89	-2.16	2.11
9	9.999	10.230	10.450	-2.26	2.11
10	9.590	9.816	10.040	-2.30	2.23

11. WIRING DIAGRAM

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
11	9.199	9.422	9.647	-2.37	2.33
12	8.826	9.047	9.269	-2.44	2.40
13	8.470	8.689	8.910	-2.52	2.48
14	8.129	8.347	8.567	-2.61	2.57
15	7.804	8.021	8.240	-2.71	2.66
16	7.493	7.709	7.928	-2.80	2.76
17	7.196	7.412	7.630	-2.91	2.86
18	6.912	7.127	7.346	-3.02	2.98
19	6.640	6.855	7.074	-3.14	3.10
20	6.381	6.595	6.815	-3.24	3.23
21	6.132	6.347	6.567	-3.39	3.35
22	5.894	6.109	6.330	-3.52	3.49
23	5.667	5.882	6.103	-3.66	3.62
24	5.449	5.664	5.886	-3.80	3.77
25	5.240	5.456	5.678	-3.96	3.91
26	5.048	5.260	5.478	-4.03	3.98
27	4.864	5.072	5.286	-4.10	4.05
28	4.687	4.891	5.101	-4.17	4.12
29	4.517	4.717	4.924	-4.24	4.20
30	4.355	4.550	4.753	-4.29	4.27
31	4.198	4.390	4.589	-4.37	4.34
32	4.048	4.236	4.431	-4.44	4.40
33	3.904	4.089	4.280	-4.52	4.46
34	3.766	3.946	4.134	-4.56	4.55
35	3.663	3.810	3.994	-3.86	4.61
36	3.506	3.679	3.859	-4.70	4.66
37	3.383	3.552	3.729	-4.76	4.75
38	3.265	3.431	3.604	-4.84	4.80
39	3.152	3.314	3.484	-4.89	4.88
40	3.043	3.202	3.368	-4.97	4.93
41	2.938	3.094	3.257	-5.04	5.00
42	2.838	2.990	3.149	-5.08	5.05
43	2.741	2.890	3.046	-5.16	5.12
44	2.648	2.793	2.946	-5.19	5.19
45	2.558	2.701	2.850	-5.29	5.23
46	2.472	2.611	2.758	-5.32	5.33
47	2.389	2.525	2.669	-5.39	5.40
48	2.309	2.443	2.583	-5.49	5.42
49	2.232	2.363	2.500	-5.54	5.48
50	2.158	2.286	2.421	-5.60	5.58
51	2.087	2.212	2.344	-5.65	5.63
52	2.018	2.140	2.269	-5.70	5.69
53	1.952	2.072	2.198	-5.79	5.73
54	1.888	2.005	2.129	-5.84	5.82

11. WIRING DIAGRAM

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
55	1.827	1.941	2.062	-5.87	5.87
56	1.767	1.880	1.998	-6.01	5.91
57	1.710	1.820	1.936	-6.04	5.99
58	1.655	1.763	1.876	-6.13	6.02
59	1.602	1.707	1.818	-6.15	6.11
60	1.551	1.654	1.762	-6.23	6.13
61	1.502	1.602	1.709	-6.24	6.26
62	1.452	1.553	1.657	-6.50	6.28
63	1.409	1.505	1.606	-6.38	6.29
64	1.364	1.458	1.558	-6.45	6.42
65	1.322	1.413	1.511	-6.44	6.49
66	1.280	1.370	1.466	-6.57	6.55
67	1.241	1.328	1.422	-6.55	6.61
68	1.202	1.288	1.379	-6.68	6.60
69	1.165	1.249	1.339	-6.73	6.72
70	1.129	1.211	1.299	-6.77	6.77
71	1.095	1.175	1.261	-6.81	6.82
72	1.061	1.140	1.224	-6.93	6.86
73	1.029	1.106	1.188	-6.96	6.90
74	0.9977	1.073	1.153	-7.02	6.94
75	0.9676	1.041	1.120	-7.05	7.05
76	0.9385	1.011	1.088	-7.17	7.08
77	0.9104	0.9810	1.056	-7.20	7.10
78	0.8833	0.9523	1.026	-7.25	7.18
79	0.8570	0.9246	0.9971	-7.31	7.27
80	0.8316	0.8977	0.9687	-7.36	7.33
81	0.8071	0.8717	0.9412	-7.41	7.38
82	0.7834	0.8466	0.9146	-7.47	7.43
83	0.7604	0.8223	0.8888	-7.53	7.48
84	0.7382	0.7987	0.8639	-7.57	7.55
85	0.7167	0.7759	0.8397	-7.63	7.60
86	0.6958	0.7537	0.8161	-7.68	7.65
87	0.6755	0.7322	0.7933	-7.74	7.70
88	0.6560	0.7114	0.7712	-7.79	7.75
89	0.6371	0.6913	0.7498	-7.84	7.80
90	0.6188	0.6718	0.7291	-7.89	7.86
91	0.6011	0.6530	0.7051	-7.95	7.39
92	0.5840	0.6348	0.6897	-8.00	7.96
93	0.5674	0.6171	0.6709	-8.05	8.02
94	0.5514	0.6000	0.6527	-8.10	8.07
95	0.5359	0.5835	0.6350	-8.16	8.11
96	0.5209	0.5675	0.6179	-8.21	8.16
97	0.5064	0.5519	0.6014	-8.24	8.23
98	0.4923	0.5369	0.5853	-8.31	8.27

11. WIRING DIAGRAM

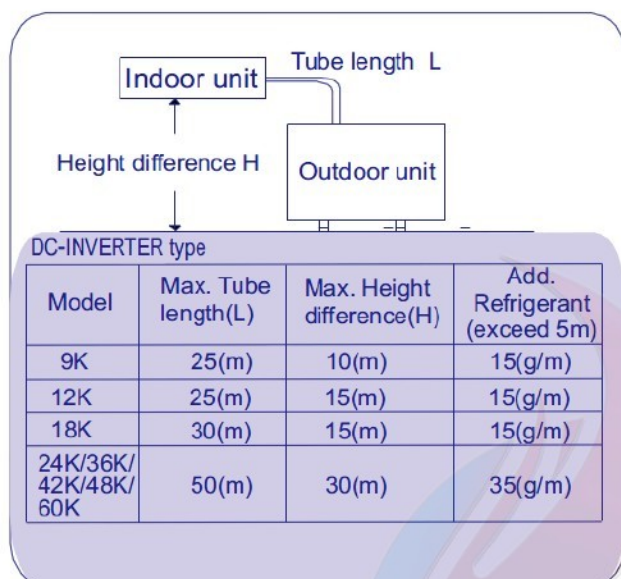
T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
99	0.4787	0.5224	0.5698	-8.37	8.32
100	0.4655	0.5083	0.5547	-8.42	8.36
101	0.4528	0.4946	0.5401	-8.45	8.42
102	0.4404	0.4814	0.5259	-8.52	8.46
103	0.4284	0.4685	0.5121	-8.56	8.51
104	0.4168	0.4561	0.4988	-8.62	8.56
105	0.4056	0.4440	0.4859	-8.65	8.62
106	0.3947	0.4323	0.4733	-8.70	8.66
107	0.3841	0.4210	0.4611	-8.76	8.70
108	0.3739	0.4100	0.4493	-8.80	8.75
109	0.3640	0.3993	0.4379	-8.84	8.81
110	0.3544	0.3890	0.4267	-8.89	8.84
111	0.3450	0.3789	0.4159	-8.95	8.90
112	0.3360	0.3692	0.4055	-8.99	8.95
113	0.3272	0.3597	0.3953	-9.04	9.01
114	0.3187	0.3505	0.3854	-9.07	9.06
115	0.3104	0.3416	0.3758	-9.13	9.10
116	0.3024	0.3330	0.3665	-9.19	9.14
117	0.2947	0.3246	0.3574	-9.21	9.18
118	0.2871	0.3164	0.3468	-9.26	8.77
119	0.2798	0.3085	0.3401	-9.30	9.29
120	0.2727	0.3008	0.33	-9.34	9.34

دما پویا

12. PIPING WORK AND REFRIGERANT CHARGE

12. Piping work and refrigerant charge

12.1 MAX. length allowed

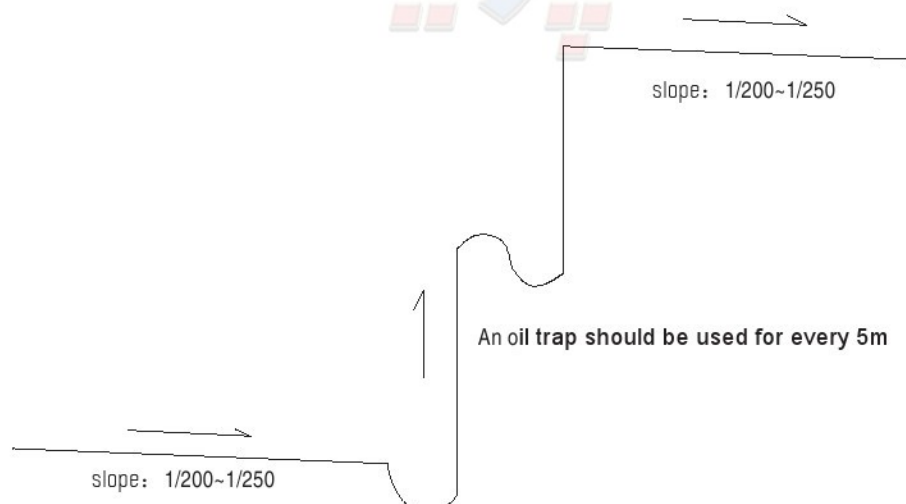


*Do your best to reduce the pipe length. Long pipe may cause capacity decrease.

Refrigerant precharge for a piping length of 5m is charged in the outdoor unit at the factory. When the piping is longer than 5m, additional refrigerant is necessary.

13.2 Oil trap

When the indoor unit is lower than outdoor unit and height is larger than 5m, an oil trap should be used for every 5m.



12. PIPING WORK AND REFRIGERANT CHARGE

NOTE:

1. When the indoor unit is lower than outdoor unit for more than 5m, an oil trap should be used on suction piping.

To avoid storing too much oil in the oil trap, the oil trap should be as short as possible.

2. The horizontal piping should be slope down along the refrigerant flow direction, to bring the oil back to compressor, the slope is about 1/200 to 1/250.

In order to ensure cooling/heating performance better, the refrigerant piping should be as short and straight as possible.

12.3 Additional refrigerant charge

Although refrigerant has been charged into this unit, additional refrigerant charge is required according to piping length.

- The additional refrigerant precharge quantity should be determined and charged into the system according to the following procedure.
- Record the additional refrigerant quantity in order to facilitate maintenance and servicing activities.

Refrigerant charge before shipment (W_0 (kg))

W_0 is the outdoor unit refrigerant charge before shipment :

X_g is additional refrigerant outdoor unit needed to charge according to piping length during installation .

Model	Refrigerant precharged before shipment (W_0 (g))	Total refrigerant pipe length	
		0m~5m	5m ~ 60m
9K	830	0g	$X_g = 15g / m \times (\text{Total pipe length(m)} - 5)$
12K	1050	0g	
18K	1300	0g	
24K	1700	0g	$X_g = 35g / m \times (\text{Total pipe length(m)} - 5)$
36K	2800	0g	
42K	3200	0g	
48K	3780	0g	
60K	3950	0g	

13. CONTROL MODE

13. Control mode

13.1 Indoor unit mode control

1. Main general technical parameters

- (1) Remote receiver distance: 8 m.
- (2) Remote receiver angle: Less than 80 degrees.
- (3) Temperature control accuracy: $\pm 1^{\circ}\text{C}$.
- (4) Time error: Less than 1%.

2. Functions of the controller

Control function

2.1 Emergency switch

Press the emergency button can realize the starting or closing Machine, starting up according to the automatic mode of operation.

- (1) Press this button to turn ON the unit, the conditioner will be run with auto mode, and press it again to turn off.
- (2) When the machine is OFF, press and hold the emergency switch for 5 seconds, with 3 beeps, the indoor unit would turn to emergency running. In such station, machine would be forced to turn to cooling operation with high speed, the flaps sweeping and the air conditioner's operation is irrelevant with room temperatures.
- (3) If a remote signal has been received during the emergency run, the machine will operate upon the command of such a remote signal.

2.2 Operator-machine communication

Air conditioning and remote controller is provided with a temperature sensor. The remote controller on the temperature sensor to detect the default settings of room temperature at room temperature. If the indoor control unit for long time have not received remote control signal, will automatically switch to the air conditioner body temperature sensor.

2.3 Timer function

(1) Timer on:

When set to start in a time by the remote controller, the air conditioner starts in the timer on condition. When the set time is up, the air conditioner will turn on and operates in the

13. CONTROL MODE

preset conditions after receiving a signal from the remote controller. If the air conditioner has not received a signal from the remote controller when the set time is up, it will automatically start and operate in the preset conditions.

(2) Timer off:

When set to stop in a set time by the remote controller, the air conditioner will start in the timer off condition. When the set time is up, the air conditioner will turn off after receiving a signal from the remote controller. If the air conditioner has not received a signal from the remote controller when the set time is up, it will turn off automatically.

(3) Neither the turning on nor turning off operation will cancel the timer function.

2.4 Sleep

(1) In the heating, cooling or dehumidifying mode, press the "Sleep" button on the remote controller to start or cancel the sleep function in turn, and at the same time the sleep icon on the display screen will be on or off accordingly.

(2) In the heating mode, the set temperature will decrease automatically after the sleep function is started.

(3) In the cooling mode, the set temperature will rise automatically after the sleep function is started.

(4) In default, the setting is to cancel the sleep function. Turning off the unit will also cancel the sleep function.

2.5 High efficient run function (only for some remote controller)

In Cooling, Dehumidification, Fan mode, press the "HIGH POWER" to enter the refrigeration mode, set the temperature automatically adjust to lowest temp.; the Fan speed is powerful speed; frequency of high frequency operation.

In heating mode, press the "HIGH POWER" to enter the refrigeration mode, set the temperature automatically adjust to highest temp.; the Fan speed is powerful speed; frequency of high frequency operation.

2.6 mute function (only for some remote controller)

In the indoor machine operation mode, You may turn on mute function and turn off mute function by mute key, The air conditioner will run by mute fan speed in mute mode.

13. CONTROL MODE

2.7 prevent cooling wind mode

In the heating-run, to prevent the indoor fan from blowing cold air, the indoor fan will stop or run slowly until the coil is warmth.

2.8 blow waste heating and waste cooling function

The heating mode, remote shutdown, such as indoor heat exchanger temperature is higher, the wind blowing out opportunities continue to run the waste heat.

Cool and dehumidification mode , after the compressor close, indoor machine will continue to set the speed of operation for a period of time.

2.9 Dehumidifying method:

Remote control setting dehumidifying mode, indoor machine forced to run at low speed (high power key or a strong bond also maintain a low wind speed) , the outdoor machine according to the refrigeration mode operation.

2.10 Self Recovery of Power Break

When the power supply is recovered after break, all preset are still effective and the air-conditioner can run according to the previous setting.

How to set/cancel

It can be set /cancel by wire remote controller.

Details see Internal control parameter adjustment.

2.11 Fault code

The fault code can be showed by LED on the indoor panel.

2.12 Filter clean

Filer clean led will light up when air filter is clogged with dust.

How to set/cancel

It can be set /cancel by wire remote controller.

Details see Internal control parameter adjustment.

13. CONTROL MODE

13.2 Outdoor unit mode control

Control function

1. Cooling Anti-freeze Protection

To prevent indoor air conditioner evaporator temperature is too low, the indoor coil sensor for real time detection of evaporator. If the indoor coil temperature is too low, the compressor will protect.

2. Overload Protection

Air can heat exchanger temperature sensor for monitoring, when the sensor when the temperature is too high, the compressor will be automatic protection

3. Exhaust temperature protection

To prevent deterioration due to high exhaust temperature of compressor, the machine will realize the real-time detection of the temperature of exhaust gas. If the temperature is too high compressor automatic protection

4. Oil-return Control

When the compressor runs for a long time low frequencies, control system will start the return oil program. The system in the oil return to the compressor.

5. Operation Mode

Air conditioning mode is the operation mode set by users through remote controller, four modes are available: cooling, heating, dehumidification, as well as fan mode.

6. Four-way Valve Control

Four-way valve of the outdoor machine shuts down when cooling and defrosting but starts when heating. During the heating process, the four way valve to stop working for a period of time after compressor disconnect.

7. Start-up Protecti

To prevent compressor from restart frequently in the condition that system pressure has not been completely balanced, it can't be restarted within 3 minutes.

8. Pressure Protection

When the pressure increases to a preset value, the pressure switch will automatically protect. Compressor will stop and report the fault code protection.

14. TROUBLESHOOTING

14. Troubleshooting

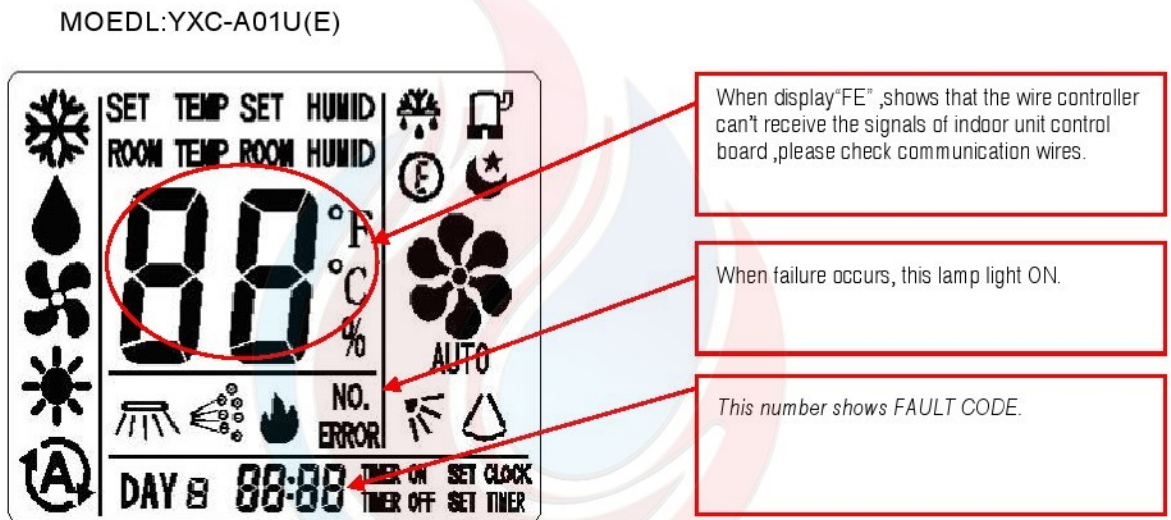
14.1 Trouble guide

When the air conditioner failure occurs, the fault code will displays on control board , wire remote controller or display panel.

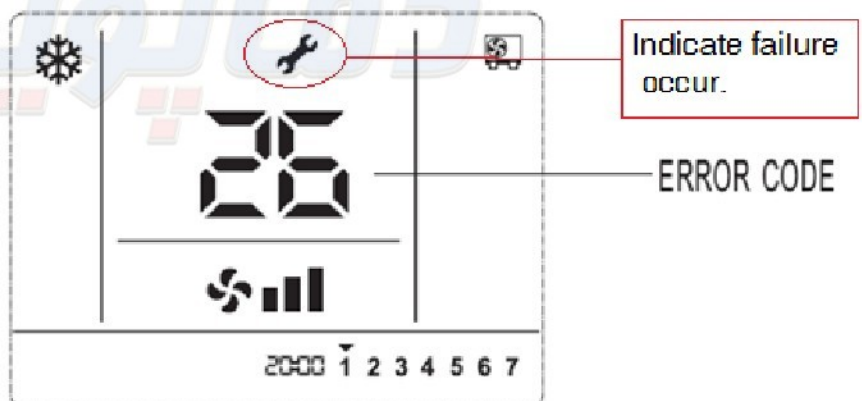
How to check fault codes

Indoor Unit

(1) Fault codes indicated by wire remote controller (see figure below)



MODEL:YXC-C01U/YXE-C01U/YXC-D01U/YXE-D01U(E)



When the airconditioner is malfuction, will display on the LCD,and error codes will appear and blink.

FIG.2 FAULT CODE DISPLAY ON WIRE REMOT CONTROLLER

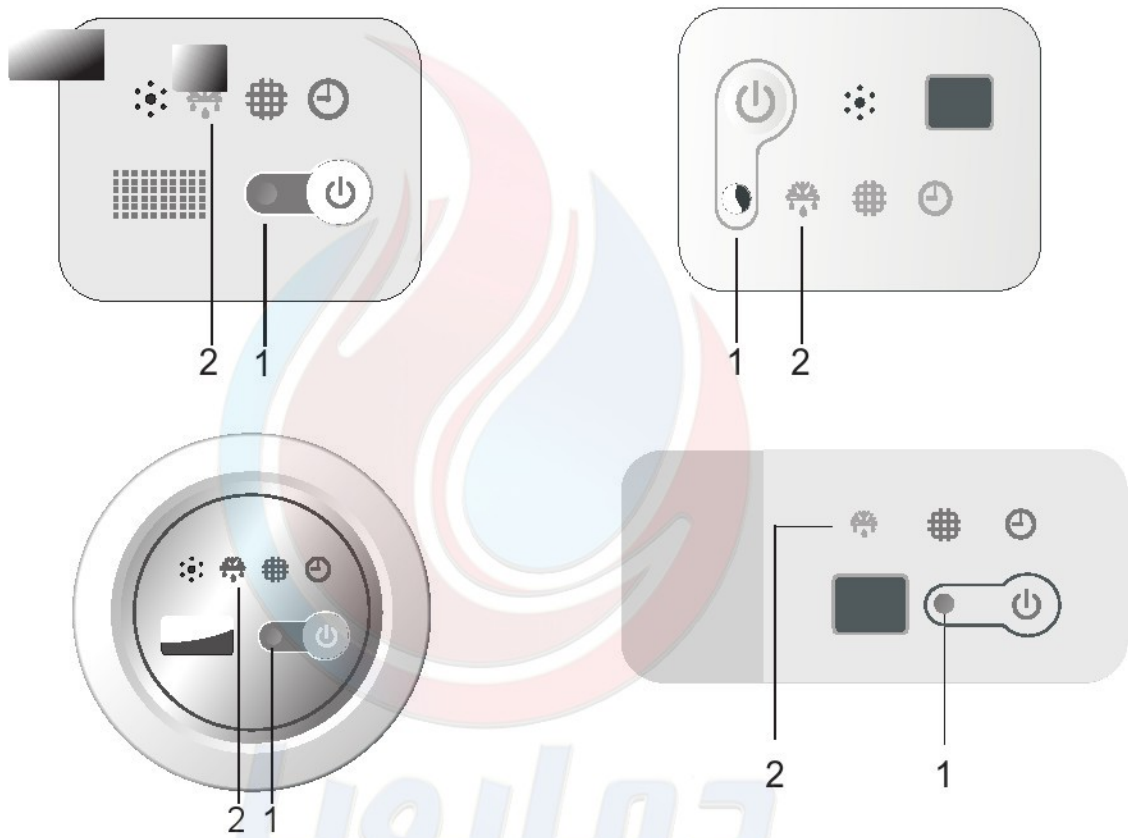
14. TROUBLESHOOTING

(2) Fault codes indicated by LED lamps on display panel

Lamp RUN(LED 1) and Lamp DEFROST (LED2, green) flashing, Lamp RUN display fault code ten digit number, lamp DEFROST display fault code single digit number (as shown fig. below).

For example, fault code 36: led RUN& defrost flash 3 times at the same time, and led DEFROST continue flash 3 times, reports No. 36 fault.

Display panel



- 1 Run indicator (Red)
Indicates the fault code ten digital number.
- 2 Defrost indicator (Green)
Indicates the fault code single digital number.

LED FLASH CONTROL: flash 300ms(T1), off 300ms(T2), after 2000ms(T3) fault code repeat displays. (as shown below)

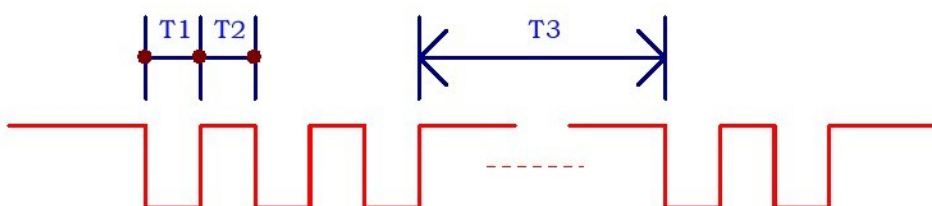


Fig.2 LED FLASH CONTROL

14. TROUBLESHOOTING

Outdoor Unit

DC-Inverter unitary 9K,12K,18K,24K(Main control board upside-down)

Fault code displays by LED lamps on outdoor main control board.

There are 3 LED lamps on control board, LED1,LED2 and LED3.

LED1 indicate fault code ten digit number, LED2 indicate fault code single digit number and LED3 indicate outdoor drive control fault .

When LED3 is off, LED1 and LED 2 indicate main control failure code.

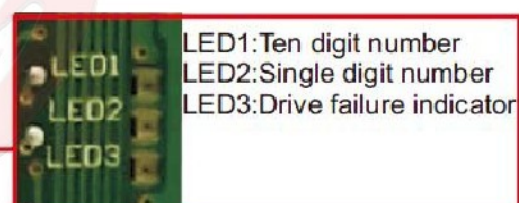
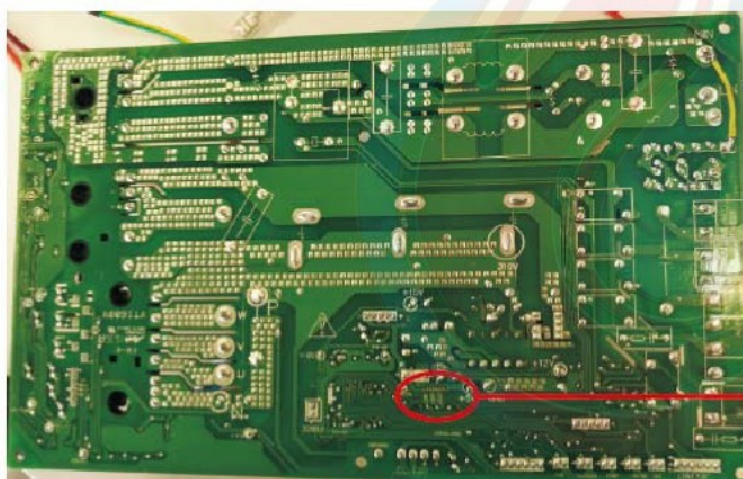
When LED3 is on, LED1 and LED 2 indicate drive control failure code.

When LED3 is flickering and LED1,LED 2 are all off, indicate compressor is preheating .

Failures display with 5s interval .It means LED will off 5s to report next failure code .

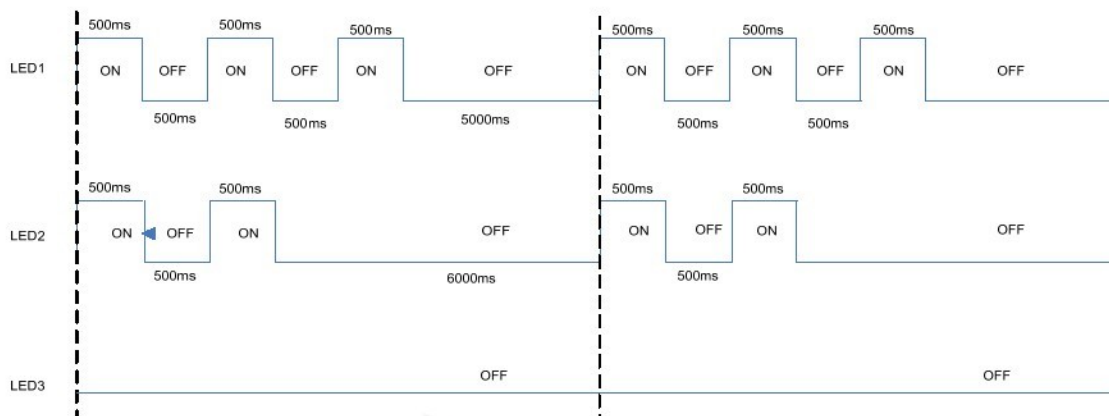
System protect codes display method is the same with main control failure code .

LED lamps will off when there is no failure ,protect or preheating.

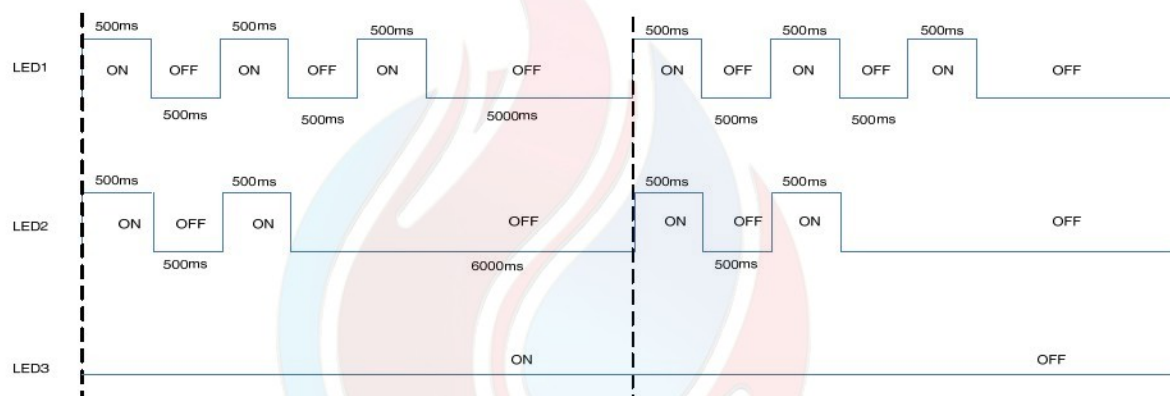


14. TROUBLESHOOTING

For example, outdoor main control fault 32:



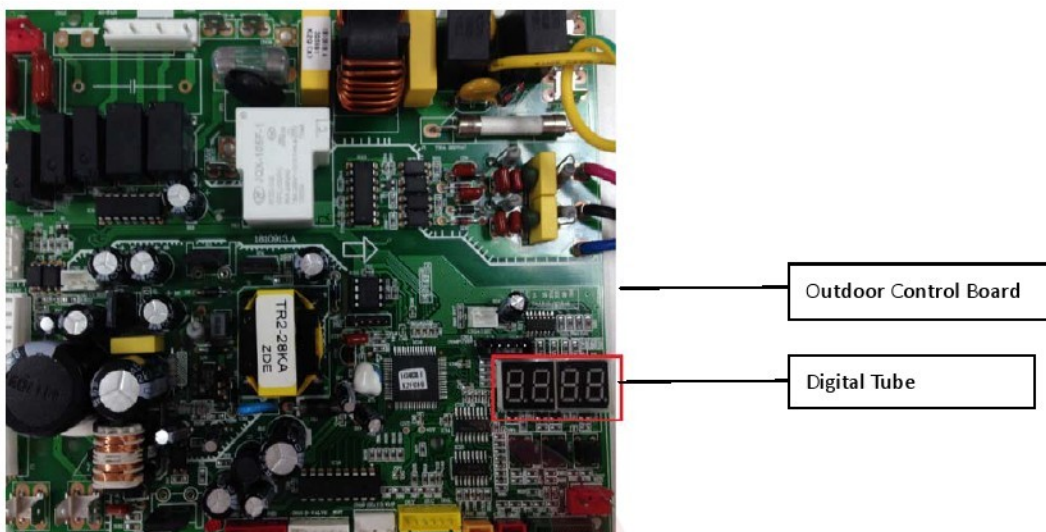
For example, outdoor drive fault 32:



14. TROUBLESHOOTING

(2) INVERTER UNITARY AIR CONDITONER (36K,42K,48K,60K):

Fault code will display on digital tube board.



E shows failure occur

Display ERROR Code

Drive fault code display

The lamp of drive board flash shows failure occur. Or, fault code can be check on digital tube board.

14. TROUBLESHOOTING

14.2 Fault codes

The following is the fault code table of outdoor.

Sheet 1 Outdoor Fault code

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	Remarks
1	Outdoor ambient temperature sensor fault	<ol style="list-style-type: none"> 1.The outdoor ambient temperature sensor connect loose; 2.The outdoor ambient temperature sensor is failure; 3.The sampling circuit is failure 	<ol style="list-style-type: none"> 1.Reconnect the outdoor ambient temperature sensor; 2.Replace the outdoor ambient temperature sensor omponents; 3.Replace the outdoor control board components. 	
2	Outdoor coil temperature sensor fault	<ol style="list-style-type: none"> 1.The outdoor coil temperature sensor connect loose; 2.The outdoor coil temperature sensor is failure; 3.The sampling circuit is failure 	<ol style="list-style-type: none"> 1.Reconnect the outdoor coil temperature sensor; 2.Replace the outdoor coil temperature sensor components; 3.Replace the outdoor control board components. 	
3	The unit over-current turn off fault	<ol style="list-style-type: none"> 1.Control board current sampling circuit is failure; 2.The current is over high because of the supply voltage is too low; 3.The compressor is blocked; 4. Overload in cooling mode; 5.Overload in heating mode. 	<ol style="list-style-type: none"> 1. Replace the electrical control board components; 2. Normally protection; 3. Replace the compressor; 4. Please see the Note 3; 5. Please see the Note 4. 	
4	EEprom Data error	<ol style="list-style-type: none"> 1.EE components is failure; 2.EE components control circuit failure; 3.EE components insert incorrect 	<ol style="list-style-type: none"> 1.Replace the EE components; 2.Replace the outdoor control board components; 3.Reassembly the EE components. 	
5	Cooling freezing protection(the indoor coil temperature is too low) or heating overload(indoor coil temperature is too high)	<ol style="list-style-type: none"> 1.The indoor unit can not blow air normally; 2.The room temperature is too low in cooling mode or the room temperature is too high in heating; 3.The filter is dirty; 4.The duct resistance is too high to result in low air flow; 5.The setting fan speed is too low; 6. The indoor unit is not standard installed, air inlet is too near with air outlet . 	<ol style="list-style-type: none"> 1.Check the indoor fan, indoor fan motor and evaporator whether normally; 2. Normally protection; 3.Clean the filter; 4.Check the volume control valve,duct length etc; 5.Set the speed with high speed; 6.Reinstall the indoor unit refer to the user manual to change the distance between the indoor unit and the wall or ceiling. 	

14. TROUBLESHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	Remarks
7	The communication fault between the indoor unit and outdoor unit	<ol style="list-style-type: none"> 1.The connection cable connect wrong between the indoor unit and outdoor unit; 2.The communication cable connect loose; 3.The communication cable is fault; 4.The indoor control board is fault; 5.The outdoor control board is fault; 6.Communication circuit fuse open; 7.The specification of communication cable is incorrect. 	<ol style="list-style-type: none"> 1.Reconnect the connection cable refer to the wiring diagram; 2.Reconnect the communication cable; 3.Replace the communication cable; 4.Replace the indoor control board; 5.Replace the outdoor control board; 6.Check the communication circuit, adjust the DIP switch and the short-circuit fuse. 7.Choose suitable communication cable refer to the user manual 	
12	voltage absent phase	<ol style="list-style-type: none"> 1.Three-phase power is abnormal; 2.The outdoor wiring connect wrong; 3.The outdoor control board is failure. 	<ol style="list-style-type: none"> 1. Normally protection 2. Check the wiring connection refer to the wiring diagram; 3. Replace the outdoor control board 	Application of three-phase power supply models
13	Compressor overheat protector device	<ol style="list-style-type: none"> 1.The wiring of the overload protector connect loose. 2. The overload protector is failure . 3. The refrigerant is not enough; 4. The installation pipe is too long than normal, but not add the enough refrigerant; 5. The expansion valve is failure; 6. The outdoor control board is failure 	<ol style="list-style-type: none"> 1. Reconnect the wiring of the overload protector; 2. Replace the overload protector; 3. Check the welding point of the unit to confirm whether it is leakage, and then recharge the refrigerant; 4. Add the refrigerant; 5. Replace expansion valve; 6. Replace the outdoor control board. 	
14	the high pressure switch operate or the unit turn off for high pressure protection	<ol style="list-style-type: none"> 1.The wiring of the high pressure protector connect loose; 2.The high pressure protector is failure; 3.The outdoor control board is abnormal; 4. Overload in cooling; 5. Overload in heating. 	<ol style="list-style-type: none"> 1.Reconnect the wiring the high pressure protector; 2. Replace the high pressure protector; 3. Replace the outdoor control board; 4. Please refer to the Note 3; 5. Please refer to the Note 4. 	Applied to models with high pressure switch or pressure sensor
15	the low pressure switch protection or the unit turn off for low pressure protection	<ol style="list-style-type: none"> 1.The wiring of the low pressure switch connect loose ; 2.The low pressure switch is failure; 3.The refrigerant is not enough; 4.The expansion valve failure in heating mode; 5.The outdoor control board is abnormal. 	<ol style="list-style-type: none"> 1. Reconnect the wiring of the low pressure switch; 2. Replace the low pressure switch; 3.Check the welding point to confirm whether the unit is leakage, and then add some refrigerant; 4. Replace the expansion valve; 5. Replace the outdoor control board. 	Applied to models with low pressure switch or pressure sensor
16	overload protection in cooling mode	System overload	Please refer to the Note 3.	
17	Discharge temperature sensor fault	<ol style="list-style-type: none"> 1.The wiring of the discharge temperature sensor connect loose; 2.The discharge temperature sensor is failure; 3.The sampling circuit is abnormal. 	<ol style="list-style-type: none"> 1.Reconnect the wiring of the discharge temperature sensor; 2.Replace the discharge temperature sensor; 3.Replace the outdoor control board. 	

14. TROUBLESHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	Remarks
18	AC voltage is abnormal	1.The AC voltage>275V or <160V. 2.The AC voltage of sampling circuit on the driver board is abnormally	1. Normally protection, please check the supply power; 2. Replace the driver board.	
19	Suction temperature sensor fault	1.The wiring of the suction temperature sensor connect loose; 2. The suction temperature sensor is failure; 3. The sampling circuit is abnormally.	1.Reconnect the wiring of the suction temperature sensor; 2.Replace the suction temperature sensor; 3.Replace the outdoor control board.	
22	The defrosting sensor fault	1.The wiring of the defrosting sensor connect loose; 2.The defrosting sensor is failure; 3.The sampling circuit is abnormally	1. Reconnect the wiring of the defrosting sensor; 2. Replace the defrosting sensor; 3. Replace the outdoor control board.	
45	IPM fault	There are many reasons for this failure, If you need further analysis, fault code of the driver board is needed by watching the driver board fault led. Analysis can be further to know why and how to operate. Specific see table 5, table 6.	See attached "analysis of the driving board fault".	
46	IPM and control board communication fault	1.The cable between the control board and the driver board connect loose; 2.The cable between the control board and the driver board is failure; 3.The driver board is failure 4.The control board is failure	1.Reconnect the cable between the control board and the driver board; 2.Replace the communication cable between the control board and the driver board; 3.Replace the driver board; 4.Replace the control board.	
47	Discharge temperature too high fault	1. The refrigerant of the unit is not enough; 2.The refrigerant of the unit is not enough due to add the length of the installation pipe 3.Throttling service is failure; 4.The outdoor ambient temperature is too high.	1.Check the welding point to confirm whether the unit has exist leakage point, and then add some refrigerant. 2.Add some refrigerant refer to the installation user manual; 3.Replace the throttling service(such as capillary, expansion valve) 4. Normally protection.	
48	the outdoor DC fan motor fault (upper fan motor)	1.The wiring of the up DC fan motor connect loose; 2. The cord of the up DC fan motor is failure; 3.The up DC fan motor is failure; 4.The drive circuit of the up DC fan motor is failure; 5. The outdoor fan has been blocked.	1.Reconnect the wiring of the up DC fan motor; 2.Replace the up DC fan motor; 3. Replace the up DC fan motor; 4.Replace the driver board of the fan motor; 5. Check the outdoor fan and ensure the outdoor fan can run normally.	
49	the outdoor DC fan motor fault (down fan motor)	1.The wiring of the down DC fan motor connect loose; 2.The cord of the down DC fan motor is failure; 3. The down DC fan motor is failure; 4. The drive circuit of the down DC fan motor is failure; 5. The outdoor fan has been blocked.	1. Reconnect the wiring of the down DC fan motor; 2. Replace the down DC fan motor; 3.Replace the down DC fan motor; 4.Replace the driver board of the fan motor; 5. Check the outdoor fan and ensure the outdoor fan can run normally.	
91	The unit turn off due to the IPM board over heating fault	1.The outdoor ambient is too high; 2. The speed of the out fan motor is too low if the fan motor is AC fan motor; 3.The outdoor unit has been installed without standard; 4.The supply power is too low.	1. Normally protection; 2. Check the fan capacitor, and replace the fan capacitor if it is failure; 3. Reinstalled the outdoor unit refer to the installation user manual; 4.Normally protection.	

14. TROUBLESHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	Remarks
96	the refrigerant of the unit is not enough fault	The refrigerant of the unit is not enough	Discharge the refrigerant and charge the refrigerant refer to the rating label	
97	4-way valve commutation failure fault	<ol style="list-style-type: none"> 1.The wiring of the 4-way valve coil connect loose; 2.The 4-way valve coil is failure; 3.The 4-way valve is failure; 4.The driver board of the 4-way valve is failure 	<ol style="list-style-type: none"> 1. Reconnect the wiring of the 4-way valve; 2. Replace the 4-way valve coil; 3. Replace the 4-way valve; 4.Replace the driver board of the 4-way valve. 	



14. TROUBLESHOOTING

The following is the fault code table of indoor.

Sheet 2 Indoor fault code

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	Remarks
51	Drainage protection	<ol style="list-style-type: none"> 1. The water level of the drain pan exceed safe level; 2. The cable of the water level switch connect loose; 3. The water level switch is failure; 4. The control board is failure. 	<ol style="list-style-type: none"> 1.1 Check whether there are something to block the drain hose or the height of the drain hose is too high; 1.2 Check the water pump and replace the water pump if the water pump is failure; 2. Reconnect the cable of the water level switch refer to the wiring diagram; 3. Replace the water level switch; 4. Replace the control board. 	
64	Communication between Indoor & Outdoor unit Fault	<ol style="list-style-type: none"> 1. The connection cable between the indoor unit and the outdoor unit connect wrong; 2. The communication cable connect loose; 3. The communication cable between the indoor unit and the outdoor unit is failure or the cable between the indoor control board to terminal is failure or the cable between the outdoor control board to the terminal is failure; 4. The indoor control board is failure; 5. The outdoor control board is failure. 	<ol style="list-style-type: none"> 1. Reconnect the connection cable refer to the indoor and outdoor wiring diagram; 2. Reconnect the communication cable refer to the indoor and outdoor wiring diagram; 3. Replace the communication cable refer to the indoor and outdoor wiring diagram; 4. Replace the indoor control board; 5. Replace the outdoor control board. 	
72	Indoor fan motor fault	<ol style="list-style-type: none"> 1. The cable of the indoor fan motor connect loose; 2. The cable of the indoor fan motor is failure; 3. The indoor fan motor is failure; 4. The indoor control board is failure. 	<ol style="list-style-type: none"> 1. Reconnect the cable of the fan motor; 2. Replace the cable of the fan motor; 3. Replace the fan motor; 4. Replace the indoor control board; 5. Check the indoor fan and ensure the indoor fan can run normally. 	
73	Indoor EEPROM Data 1 fault	<ol style="list-style-type: none"> 1. Indoor EE components is failure; 2. The control circuit of the EE components is failure; 3. The EE components has been inserted with opposite direction. 	<ol style="list-style-type: none"> 1. Replace the EE components; 2. Replace the indoor control board; 3. Reassembly the EE components of the indoor control board. 	
74	Indoor EEPROM Data 2 error	EE in MCU is failure, the unit can run, but the function user has set is ineffective.	Replace EE data in MCU.	
81	Indoor ambient Temperature Sensor Fault	<ol style="list-style-type: none"> 1. The cable of the room temperature sensor connect loose; 2. The room temperature sensor is failure; 3. The sampling circuit is abnormally. 	<ol style="list-style-type: none"> 1. Reconnect the cable of the room temperature sensor; 2. Replace the room temperature sensor; 3. Replace the indoor control board. 	

14. TROUBLESHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	Remarks
83	Evaporator Middle Temperature Sensor Fault	<ol style="list-style-type: none"> 1.The cable of the coil temperature sensor of the evaporator is failure; 2. The coil temperature sensor of the evaporator is failure; 3. The sampling circuit is abnormally 	<ol style="list-style-type: none"> 1. Reconnect the cable of the coil temperature sensor of the evaporator; 2. Replace the coil temperature sensor of the evaporator; 3. Replace the indoor control board. 	
FE (254)	Communication between main control board &Wiring remote controller Fault (display on wiring remote controller)	<ol style="list-style-type: none"> 1. The wiring between the wiring controller to the indoor control board connect loose; 2. The sequence of the wiring between the wiring controller to the indoor control board is wrong; 3. The wiring between the wiring controller to the indoor control board is failure; 4.The wiring controller is failure; 5. The indoor control board is abnormally 	<ol style="list-style-type: none"> 1.Reconnect the wiring between the wiring controller to the indoor control board; 2.Replace the wiring between the wiring controller to the indoor control board; 3.Replace the wiring between the wiring controller to the indoor control board; 4. Replace the wiring controller; 5. Replace the indoor control board 	
ER	Communication between main control board &display board Fault (displays on display board)	<ol style="list-style-type: none"> 1.The wiring between the display board to the indoor control board connect loose; 2.The sequence of the wiring between the display board to the indoor control board is wrong; 3.The wiring between the display board to the indoor control board is failure; 4. The display board is failure; 5. The indoor control board is failure. 	<ol style="list-style-type: none"> 1. Reconnect the between the display board to the indoor control board; 2. Replace the wiring between the display board to the indoor control board; 3. Replace the wiring between the display board to the indoor control board; 4. Replace the display board; 5. Replace the indoor control board. 	

NOTE 1:

If the indoor unit can not turn on or the indoor unit turn off itself after 30s, at the same time the unit do not display the fault code, please check the fire and the socket of the control board.

Note 2:

If the indoor unit display the 75,76,77,78 fault code after you turn on the unit, please check the TEST seat of the indoor control board or the TEST detection circuit whether exists short circuit.

14. TROUBLESHOOTING

Note 3:Overload in cooling mode

Sheet 3 Overload in cooling mode

overload in cooling mode		
sr.	The root cause	Corrective measure
1	The refrigerant is excessive	Discharge the refrigerant, and recharge the refrigerant refer to the rating label
2	The outdoor ambient temperature is too high	Please use within allowable temperature range
3	The air outlet and air inlet of the outdoor unit is short-circuit	Adjust the installation of the outdoor unit refer to the user manual
4	The outdoor heat exchanger is dirty, such as condenser	Clean the heat exchanger of the outdoor unit, such as condenser
5	The speed of the outdoor fan motor is too low	Check the outdoor fan motor and fan capacitor
6	The outdoor fan is broken or the outdoor fan is blocked	Check the outdoor fan
7	The air inlet and outlet has been blocked	Remove the blocked thing
8	The expansion valve or the capillary is failure	Replace the expansion valve or the capillary

Note 4:Over load in heating mode

Sheet 4 Overload in heating mode

Overload in heating mode		
sr.	The root cause	Corrective measure
1	The refrigerant is excessive	Discharge the refrigerant, and recharge the refrigerant refer to the rating label
2	The indoor ambient temperature is too high	Please use within allowable temperature range
3	The air outlet and air inlet of the indoor unit is short-circuit	Adjust the installation of the indoor unit refer to the user manual
4	The indoor filter is dirty	Clean the indoor filter
5	The speed of the indoor fan motor is too low	Check the indoor fan motor and fan capacitor
6	The indoor fan is broken or the outdoor fan is blocked	Check the indoor fan
7	The air inlet and outlet has been blocked	Remove the blocked thing
8	The expansion valve or the capillary is failure	Replace the expansion valve or the capillary

14. TROUBLESHOOTING

Sheet 5 DriveFault Code (9K/12K/18K/24K)

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With
1	Inverter DC voltage overload fault	1.Power supply input too high or too low; 2.Driver board fault.	1.Check power supply 2.Change driver board.
2	Inverter DC low voltage fault		
3	Inverter AC current overload fault		
4	Out-of-step detection	1.Compressor phase lost ; 2.Bad driver board components ; 3.The compressor insulation fault	1.Check compressor wire connect ; 2.Change driver board ; 3.Change compressor.
5	Loss phase detection fault (speed pulsation)		
6	Loss phase detection fault (current imbalance)		
7	Inverter IPM fault (edge)	1.System overload or current overload; 2.Driver board fault. 3.Compressor oil shortage, serious wear of crankshaft ; 4.The compressor insulation fault	1.Check the system . 2.Change driver board; 3.Change the compressor; 4.Change the compressor.
8	Inverter IPM fault (level)		
9	PFC_IPM IPM fault (edge)		
10	PFC_IPM IPM fault (level)		
11	PFC power detection of failure	1.The power supply is not stable ; 2.The instantaneous power failure ; 3.Driver board failure.	1.Check the power supply. 2.Not abnormal. 3.Change the driver board.
12	PFC overload current detection of failure.	1.System overload, current too high; 2.Driver board failure ; 3.PFC failure ;	1.Check the system; 2.Change the driver board; 3.Change the PFC.
13	DC voltage detected abnormal .	1.Input voltage is too high or too low; 2.Driver board failure ;	1.Check the power supply. 2.Change the driver board;
14	PFC LOW voltage detected failure.		
15	AD offset abnormal detected failure.	Driver board failure.	Change the driver board.
16	Inverter PWM logic set fault.		
17	Inverter PWM initialization failure		
18	PFC_PWM logic set fault.		
19	PFC_PWM initialization fault.		
20	Temperature abnormal.		
21	Shunt resistance unbalance adjustment fault		
22	Communication failure.	1.Communication wire connect not well. 2.Driver board failure. 3.Control board failure.	1.Check the wiring. 2.Change the driver board. 3.Change the control board.
23	Motor parameters setting of failure	Initialization abnormal.	Reset the power supply.
25	EE data abnormal	Driver board EEPROM abnormal	1.Change EEPROM ; 2.Change driver board.
26	DC voltage mutation error	1.Power input changes suddenly 2.Driver board failure	1.Check power supply , to provide stable power supply ; 2. Change driver board.
27	D axis current control error	1.System overload , phase current is too high; 2.Driver board failure	1.Check system if normally. 2.Check stop valve if is open; 3. Change driver board.
28	q axis current control error	1.System overload , phase current is too high ; 2.Driver board failure	1.Check system if normally. 2.Check stop valve if is open; 3. Change driver board.
29	Saturation error of d axis current control integral	1. System overload suddenly; 2. Compressor parameter not suitable; 3. Driver board failure	1.Check system if normally. 2.Check stop valve if is open; 3. Change driver board.
30	Saturation error of q axis current control integral	1. System overload suddenly; 2. Compressor parameter not suitable; 3. Driver board failure	1.Check system if normally. 2.Check stop valve if is open; 3. Change driver board.

14. TROUBLESHOOTING

Sheet 6 Drive Fault Code (36K/42K/48K/60K)

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With
1	Q axis current detection, step out of failure	1. compressor wire connect not well; 2. Bad driver board components; 3. Compressor start load is too large; 4. Compressor demagnetization; 5. Compressor oil shortage, serious wear of crankshaft.; 6. The compressor insulation fault	1. Check compressor wire; 2. Change driver board ; 3. Turn on the machine after pressure balance again; 4. Change Compressor; 5. Change the Compressor; 6. Change the Compressor.
2	Phase current detection, out of step	1. Compressor voltage default phase; 2. Bad driver board components; 3. The compressor insulation fault	1. Check compressor wire connection; 2. Change the driver board; 3. Change the Compressor.
3	Initialization, phase current imbalance	Bad driver board components.	Change driver board .
4	Speed estimation, step out of failure	1. Bad driver board components; 2. Compressor shaft clamping; 3. The compressor insulation fault.	1. Change driver board ; 2. Change the Compressor ; 3. Change the Compressor .
5	IPM FO output fault	1. System overload or current overload. 2. Driver board fault; 3. Compressor oil shortage, serious wear of crankshaft; 4. The compressor insulation fault.	1. Check the air-conditioner system; 2. Change the driver board; 3. Change the Compressor; 4. Change the Compressor.
6	Communication between driver board and control board fault	1. Communication wire connect not well; 2. Driver board fault; 3. Control board fault;	1. Check compressor wire connect. 2. Change the driver board; 3. Change the control board ;
7	AC voltage, overload voltage	1. Supply voltage input too high or too low; 2. Driver board fault;	1. Check power supply; 2. Change the driver board;
8	DC voltage, overload voltage	1. Supply voltage input too high ; 2. Driver board fault;	1. Check power supply; 2. Change the driver board;
9	AC voltage imbalance	Driver board fault;	Change the driver board;
10	The PFC current detection circuit fault before compressor is ON	Bad driver board components;	Change the driver board
11	AC voltage supply in outrange	1. Power supply abnormal, power frequency out of range; 2. Driver board fault;	1. Check the system; 2. Change the driver board;
12	Products of single-phase PFC over-current, FO output low level	1. System overload, current too large; 2. Driver board fault; 3. PFC fault.	1. Check the system; 2. Change the driver board; 3. Change PFC.
	Inverter over current (3-phase power supply air conditioners)	1. System overload, current too large; 2. Driver board fault; 3. Compressor oil shortage, serious wear of crankshaft; 4. The compressor insulation fault.	1. Check the system; 2. Change the driver board; 3. Change the Compressor; 4. Change the Compressor.
13	Inverter over current	1. System overload, current too large; 2. Driver board fault; 3. Compressor oil shortage, serious wear of crankshaft; 4. The compressor insulation fault.	1. Check the system; 2. Change the driver board; 3. Change the Compressor; 4. Change the Compressor.
14	PFC over current (single-phase air-conditioner)	1. System overload, current too large; 2. Driver board fault; 3. PFC fault.	1. Check the system; 2. Change the driver board; 3. Change PFC.
	Phase imbalance or phase lacks or the instantaneous power failure (only for 3-phase power supply air conditioners)	1. 3-Phase voltage imbalance; 2. The 3-phase power supply phase lost; 3. Power supply wiring wrong; 4. Driver board fault.	1. Check the power supply; 2. Check the power supply; 3. Check the power supply wiring connect; 4. Change the driver board.
15	The instantaneous power failure detection	1. The power supply is not stable ; 2. The instantaneous power failure ; 3. Driver board fault;	1. Check the power supply. 2. Not fault. 3. Change the driver board;

14. TROUBLESHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With
16	Low DC voltage 200V	1.Voltage input too low ; 2.Driver board fault.	1.Check the power supply. 2.Change the driver board.
18	Driver board read EE data error	1.EEPROM has no data or data error; 2.EEPROM circuit fault.	1.Change EEPROM component; 2.Change the driver board.
19	PFC chip receive data fault	Abnormal communication loop	Change the drive board.
20	PFC soft start abnormal	Abnormal PFC drive loop	Change the drive board.
21	The compressor drive chip could not receive data from PFC chip.	Communication loop fault.	Change the drive board.



15. CHECKING COMPONENTS

15. Checking components

15.1 Check refrigerant system

TEST SYSTEM FLOW

Conditions: ① Compressor is running.

② The air condition should be installed in good ventilation.

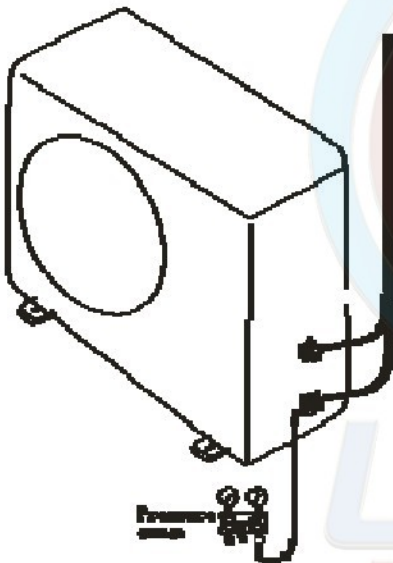
Tool: Pressure Gauge

Technique: ① see ② feel ③ test

SEE ---- Tube defrost.

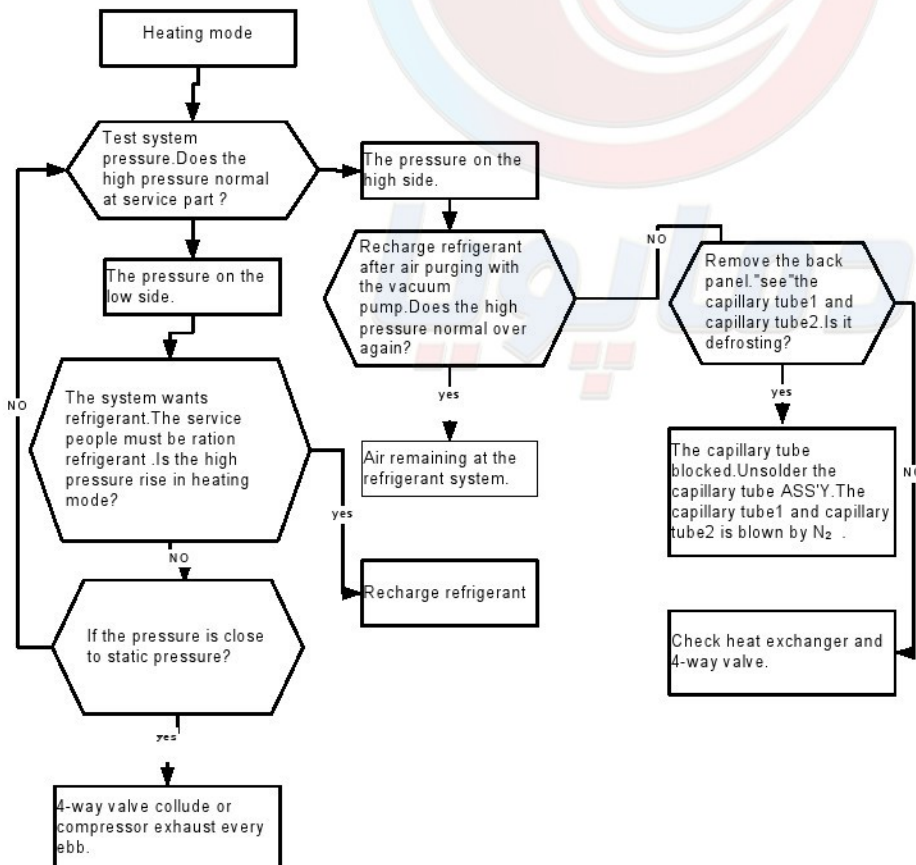
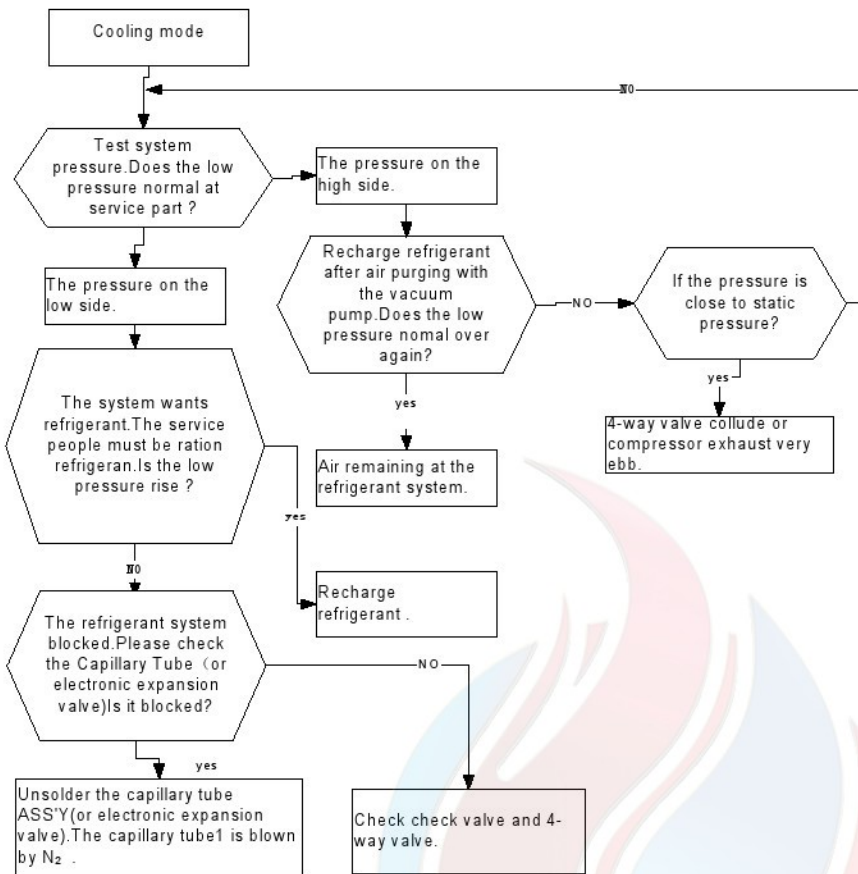
FEEL ---- The difference between tube's temperature.

TEST ---- Test pressure.



15. CHECKING COMPONENTS

Test system flow



15. CHECKING COMPONENTS

15.2 Check parts unit

1. INDOOR FAN MOTOR

Duct type

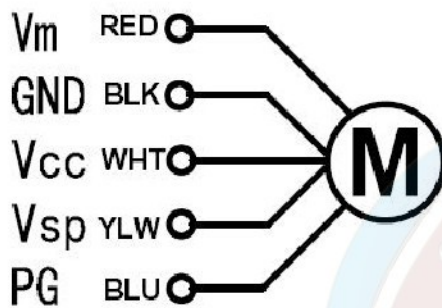
9K, 12K, 24K, 36K, 42K, 48K, 60K---DC motor

18K---AC motor

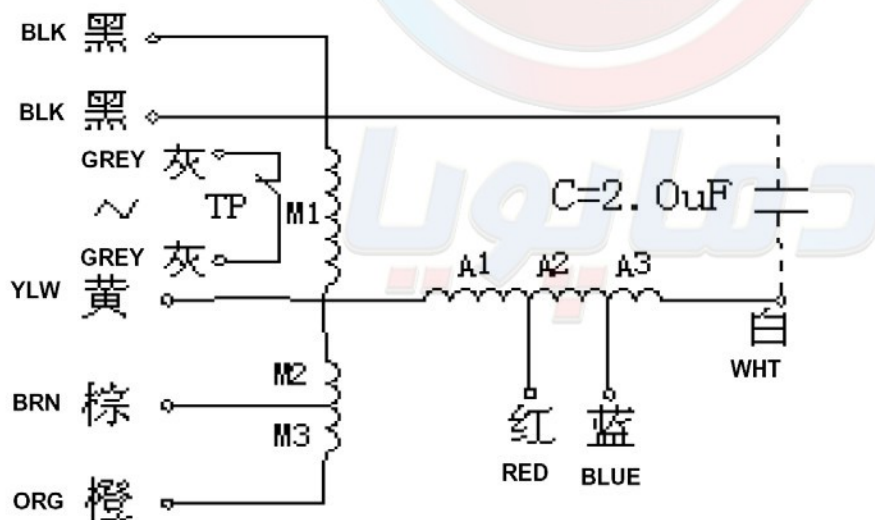
9K/12K Motor model: SIC-68CVL-F140-1

24K Motor model: SIC-70CW-F195-1

36K/42K/48K/60K: Motor model: SIC-101CW-F1250-4



18K Motor model: YSK110-40-4-A



BLACK-YELLOW: $146 \pm 15\% \Omega$

YELLOW-BROWN: $33 \pm 15\% \Omega$

BROWN-ORANGE: $43 \pm 15\% \Omega$

YELLOW-RED: $63 \pm 15\% \Omega$

15. CHECKING COMPONENTS

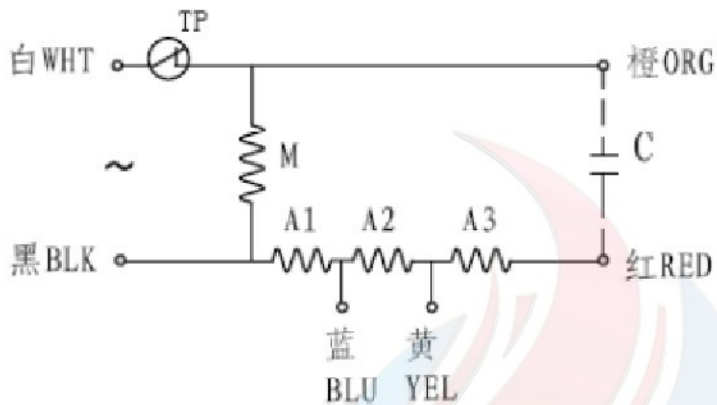
RED-BLUE: $63 \pm 15\% \Omega$

BLUE-WHITE: $119 \pm 15\% \Omega$

Cassette

12K-DC MOTOR

18K-AC MOTOR MODEL:YDK95-28-4-B



25°C

: **M** 240 [Ω] ± 15%

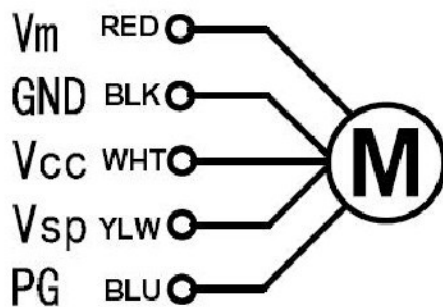
:

A1 60 [Ω] ± 15% ; **A2** 33 [Ω] ± 15% ;

A3 143 [Ω] ± 15% ;

24K/36K DC-MOTOR MODEL:EHDS50AQH

42K/48K/60K DC MOTOR MODEL: SIC-72FW-D8124-2B



15. CHECKING COMPONENTS

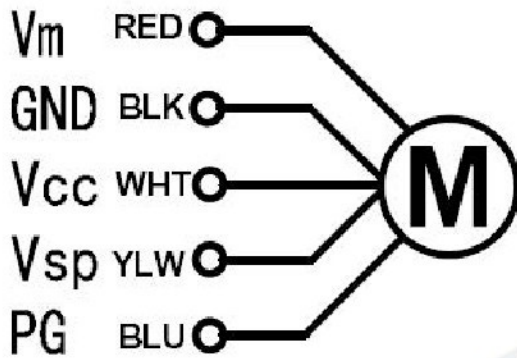
Ceiling & Floor type

18K DC MOTOR MODEL: SIC-52FV-F130-3

24K DC MOTOR MODEL: SIC-70CW-F1100-6

36K DC MOTOR MODEL: SIC-70CW-F1140-3

42K/48K/60K DC MOTOR MODEL: SIC-101CW-F1181-2



Test in resistance.

TOOL: Multimeter.

Test the resistance of the main winding. The indoor fan motor is fault if the resistance of main winding 0 (short circuit) or ∞ (open circuit).

Test in voltage

TOOL: Multimeter.

Insert screwdriver into to rotate indoor fan motor slowly for 1 revolution or over, and measure voltage "YELLOW" and "GND" on motor. The voltage repeat 0V DC and 5V DC.

Notes:

Please don't hold motor by lead wires.

Please don't plug IN/OUT the motor connector while power ON.

Please don't drop hurl or dump motor against hard material. Malfunction may not be observed at early stage after such shock. But it may be found later, this type of mishandling void our warranty.

15. CHECKING COMPONENTS

2. OUTDOOR FAN MOTOR

DC MOTOR

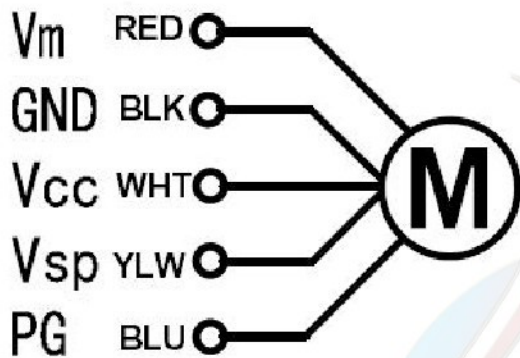
9K/12K-- MOTOR MODEL: SIC-52FV-F130-3

18K/24K-- MOTOR MODEL: SIC-61FV-F161-1

36K—MOTOR MODEL:SIC-71FW-D8121-1

42K—MOTOR MODEL:SIC-81FW-F1138-1

48K/60K: MOTOR MODEL:SIC-71FW-D8121-1+ SIC-71FW-D8121-2

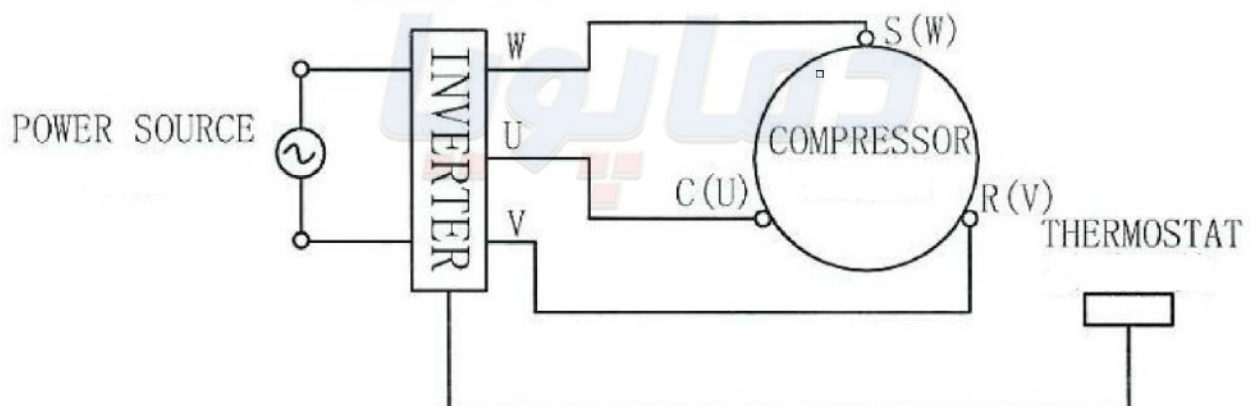


3. COMPRESSOR

COMPRESSOR EXAMINE AND REPAIR

9K: SD088SKNA8JT

12K: ASN108D43UFZA



18K: ATM150D23UFZ

24K:ATF235D43UMT

36K/42K: ATF310D43UMT

48K/60K:ATH356SDPC9FL

15. CHECKING COMPONENTS

Test in resistance.

TOOL: Multimeter.

Test the resistance of the winding. The compressor is fault if the resistance of winding 0(short circuit) or ∞ (open circuit)

Familiar error:

- 1) Compressor motor lock.
- 2) Discharge pressure value approaches static pressure value .
- 3) Compressor motor winding abnormality.

Notes:

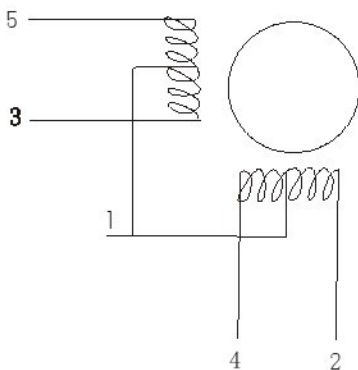
- 1) Don't put a compressor on its side or turn over.
- 2) Please assembly the compressor in your air conditioner rapidly after removing the plugs. Don't place the comp. In air for along time.
- 3) Avoiding compressor running in reverse caused by connecting electrical wire incorrectly.
- 4) Warning! In case AC voltage is impressed to compressor, the compressor performance will below because of its rotor magnetic force decreasing.

4. INDUCTANCE

Familiar error:

- 1) Sound abnormality
- 2) Insulation resistance disqualification.

5. STEP MOTOR



Test in resistance.

TOOL: Multimeter.

Test the resistance of winding. The stepper motor is fault if the resistance of winding 0(short circuit) or ∞ (open circuit) .

15. CHECKING COMPONENTS

6. FUSE

Checking continuity of fuse on PCB ASS'Y.

Remove the PCB ASS'Y from the electrical component box. Then pull out the fuse from the PCB ASS'Y

(Fig.1)

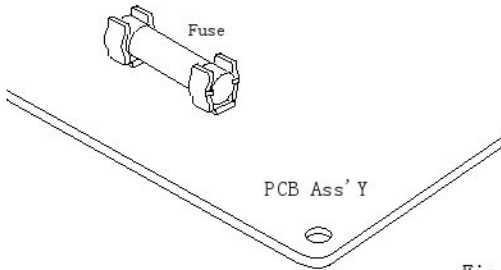


Fig.1

Check for continuity by a multimeter as shown in Fig.2.

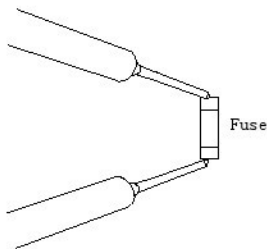


Fig.2

7.CAPACITOR

Remove the lead wires from the capacitor terminals, and then place a probe on the capacitor terminals as shown in Fig.3.

Observe the deflection of the pointer, setting the resistance measuring range of the multimeter to the maximum value.

* The capacitor is "good" if the pointer bounces to a great extent and then gradually returns to its original position.

* The range of deflection and deflection time differ according to the capacity of the capacitor.

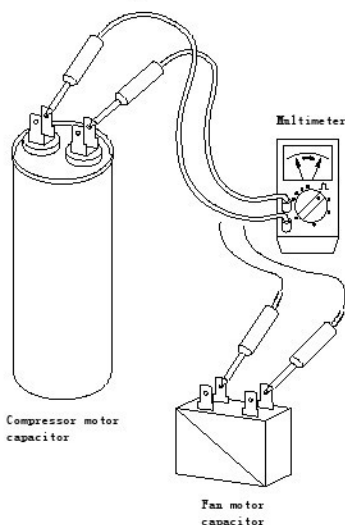


Fig.3

Hisense



دماپوينا

Product improvement, specifications and appearance in this manual are subject to change without prior notice.