

# **SERVICEMANUAL FLOORSTANDING**

**LW**

# C A T A L O G U E

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# Picture the formal



**18000-48000Btu B type**



**18000Btu**



**24000Btu**



**41000Btu**



**18000Btu C type**



**48000Btu**

# Technical specifications



R22

Item		Model	KF-50LW	KFR-50LW	KFRd-50LW
Cooling Capacity		Btu	18000	18000	18000
Heating Capacity		Btu	/	18800	18800
Power supply			220V~50Hz		
Power cable capacity		A	30	30	30
Cooling	Power input	W	1880	1880	1880
	Running current	A	9.0	9.0	9.0
	EER	W/W	2.66	2.66	2.66
Heating	Power input	W	/	1900	1900
	Running current	A	/	9.2	9.2
	COP	W/W	/	2.89	2.89
Indoor Unit	Colour		White	White	White
	Control method		Remote Controller	Remote Controller	Remote Controller
	Air volume(H)	m <sup>3</sup> /h	850	850	850
	Fan speed(H/M/S)	rmp	540/440/380	540/440/380	540/440/380
	Fan motor output power x qty	W	30X1	30X1	30X1
	Subsidiary electric heating	W	/	/	1000
	Noise level	dB(A)	≤46	≤46	≤46
	Size of draining hose	mm	φ 20	φ 20	φ 20
	Dimensions	mm	480X290X1715	480X290X1715	480X290X1715
	Weight	kg	36	36	36
Out-door Unit	Colour		White	White	White
	Throttle device		Capiuary throttle	Capiuary throttle	Capiuary throttle
	Compressor type		Rotary	Rotary	Rotary
	Compressor model		PH310/SHX33/TH338	PH310/SHX33/TH338	PH310/SHX33/TH338
	Power input	W	1880	1880	1880
	Starting current	A	40	40	40
	Running capacitor	μ F	40/50/50	40/50/50	40/50/50
	Fan speed	rpm	850	850	850
	Fan motor output power x qty	W	45X1	45X1	45X1
	Defrosting method		/	Sensor defrost	Sensor defrost
	Noise level	dB(A)	≤57	≤57	≤57
	Dimension	mm	920X355X600	920X355X600	920X355X600
	Weight	kg	49	51	51
Refrigerant	Type		R22	R22	R22
	Refrigerant charged	g	1330	1330	1330
Connecting piping	Liquid pipe	mm	φ 6.35	φ 6.35	φ 6.35
	Gas pipe	mm	φ 12.7	φ 12.7	φ 12.7
	Standard length	m	3.5	3.5	3.5
	Max.length	m	15	15	15
	Max.altitude difference	m	7	7	7

① Rated cooling capacity under below conditions:

Indoor temp:27℃DB, 19℃WB; Outdoor temp:35℃DB, 24℃WB.High speed;3.5-meter connecting pipe.

② Rated heating capacity under below conditions:

Indoor temp:20℃DB;Outdoor temp:7℃DB, 6℃WB.High speed;3.5-meter connecting pipe.

③ We get the noise under heating mode meantime.The fan runs at high speed.

④ Technical data is determined by the label data.

⑤ B Type choose color



# Technical specifications

R22

Item		Model	KF-70LW	KFR-70LW	KFRd-70LW
Cooling Capacity		Btu	24000	24000	24000
Heating Capacity		Btu	/	25600	25600
Power supply			220V~50Hz		
Power cable capacity		A	40	40	40
Cooling	Power input	W	2580	2580	2580
	Running current	A	12.0	12.0	12.0
	EER	W/W	2.71	2.71	2.71
Heating	Power input	W	/	2400	2400
	Running current	A	/	10.8	10.8
	COP	W/W	/	3.26	3.26
Indoor	Colour		White	White	White
	Control method		Remote controler	Remote controler	Remote controler
	Air volume(H)	m <sup>3</sup> /h	1150	1150	1150
	Fan speed(H/M/S)	rmp	530/450/380	530/450/380	530/450/380
	Fan motor output power x qty	W	70X1	70X1	70X1
	Subsidiary electric heating	W	/	/	1500
	Noise level	dB(A)	≤52	≤52	≤52
	Size of draining hose	mm	φ 20	φ 20	φ 20
	Dimension	mm	540X305X1785	540X305X1785	540X305X1785
	Weight	kg	42	42	42
Out-door	Colour		White	White	White
	Throttle device		Capiuary throttle	Capiuary throttle	Capiuary throttle
	Compressor type		Rotary	Rotary	Rotary
	Compressor model		PH420/SHV33	PH420/SHV33	PH420/SHV33
	Power input	W	2380	2380	2380
	Starting current	A	60	60	60
	Running capacitor	μ F	50/50	50/50	50/50
	Fan speed	rpm	830	830	830
	Fan motor output power x qty	W	70X1	70X1	70X1
	Defrosting method		/	Sensor defrost	Sensor defrost
	Noise level	dB(A)	≤60	≤60	≤60
	Dimension	mm	920X375X730	920X375X730	920X375X730
	Weight	kg	61	61	61
Refrigerant	Type		R22	R22	R22
	Refrigerant charged	g	2230	2250	2250
Connecting piping	Liquid pipe	mm	φ 9.52	φ 9.52	φ 9.52
	Gas pipe	mm	φ 15.88	φ 15.88	φ 15.88
	Standard length	m	4	4	4
	Max.length	m	15	15	15
	Max.altitude difference	m	7	7	7

① Rated cooling capacity under below conditions:

Indoor temp:27℃DB, 19℃WB; Outdoor temp:35℃DB, 24℃WB.High speed;4-meter connecting pipe.

② Rated heating capacity under below conditions:

Indoor temp:20℃DB;Outdoor temp:7℃DB, 6℃WB.High speed;4-meter connecting pipe.

③ We get the noise under heating mode meantime.The fan runs at high speed.

④ Technical data is determined by the label data.

⑤ B Type choosc color

# Technical specifications



R22

Item		Model	KF-120LW/S	KFR-120LW/S	KFRd-120LW/S
Cooling Capacity		Btu	41000	41000	41000
Heating Capacity		Btu	/	44300	44300
Power supply			3N~50Hz 380V		
Power cable capacity		A	20	20	20
Cooling	Power input	W	4400	4400	4400
	Running current	A	8.2	8.2	8.2
	EER	W/W	2.73	2.73	2.73
Heating	Power input	W	/	4300	4300
	Running current	A	/	8.0	8.0
	COP	W/W	/	3.0	3.0
Indoor  Unit	Colour		White	White	White
	Control method		Remote control	Remote control	Remote control
	Air volume(H)	m <sup>3</sup> /h	1750	1750	1750
	Fan speed(H/M/S)	rmp	560/480/400	560/480/400	560/480/400
	Fan motor output power x qty	W	130X1	130X1	130X1
	Subsidiary electric heating	W	/	/	3X600
	Noise level	dB(A)	≤55	≤55	≤55
	Size of draining hose	mm	φ 20	φ 20	φ 20
	Dimension	mm	540X385X1785	540X385X1785	540X385X1785
	Weight	kg	56	62	62
Out-door  Unit	Colour		White	White	White
	Throttle device		Capiuary throttle	Capiuary throttle	Capiuary throttle
	Compressor type		Scroll compressor	Scroll compressor	Scroll compressor
	Compressor model		VR57KF-TFP-542	VR57KF-TFP-542	VR57KF-TFP-542
	Power input	W	4300	4300	4300
	Starting current	A	60	60	60
	Running capacitor	μ F	/	/	/
	Fan speed	rpm	880	880	880
	Fan motor output power x qty	W	200X1	200X1	200X1
	Defrosting method		/	Sensor defrost	Sensor defrost
	Noise level	dB(A)	≤66	≤66	≤66
	Dimension	mm	1000X410X960	1000X410X960	1000X410X960
	Weight	kg	93	93/122	93/122
Refrig-erant	Type		R22	R22	R22
	Refrigerant charged	g	3620	3620	3620
Conne-cting piping	Liquid pipe	mm	φ 9.52	φ 9.52	φ 9.52
	Gas pipe	mm	φ 19.05	φ 19.05	φ 19.05
	Standard length	m	5	5	5
	Max.length	m	20	20	20
	Max.altitude difference	m	10	10	10

① Rated cooling capacity under below conditions:

Indoor temp:27℃DB, 19℃WB; Outdoor temp:35℃DB, 24℃WB.High speed;5-meter connecting pipe.

② Rated heating capacity under below conditions:

Indoor temp:20℃DB;Outdoor temp:7℃DB, 6℃WB.High speed; 5-meter connecting pipe.

③ We get the noise under heating mode meantime.The fan runs at high speed.

④ Technical data is determined by the label data.

⑤ B Type choosc color

# Technical specifications



R22

Item		Model	KF-140LW/S	KFR-140LW/S	KFRd-140LW/S
Cooling Capacity		Btu	48000	48000	48000
Heating Capacity		Btu	/	51000	51000
Power supply			3N~50Hz 380V		
Power cable capacity		A	20	20	20
Cooling	Power input	W	4900	4900	4900
	Running current	A	9.4	9.4	9.4
	EER	W/W	2.86	2.86	2.86
Heating	Power input	W	/	4800	4800
	Running current	A	/	9.3	9.3
	COP	W/W	/	3.13	3.13
Indoor Unit	Colour		White	White	White
	Control method		Remote controler	Remote controler	Remote controler
	Air volume(H)	m <sup>3</sup> /h	1820	1820	1820
	Fan speed(H/M/S)	rmp	560/480/400	560/480/400	560/480/400
	Fan motor output power x qty	W	130X1	130X1	130X1
	Subsidiary electric heating	W	/	/	3X600
	Noise level	dB(A)	≤55	≤55	≤55
	Size of draining hose	mm	φ 20	φ 20	φ 20
	Dimension	mm	540X385X1785	540X385X1785	540X385X1785
	Weight	kg	56	62	62
Out-door Unit	Colour		White	White	White
	Throttle device		Capiuary throttle	Capiuary throttle	Capiuary throttle
	Compressor type		Scroll compressor	Scroll compressor	Scroll compressor
	Compressor model		VR57KF-TFP-542	VR57KF-TFP-542	VR57KF-TFP-542
	Power input	W	4300	4300	4300
	Starting current	A	60	60	60
	Running capacitor	μ F	/	/	/
	Fan speed	rpm	800	800	800
	Fan motor output power x qty	W	70X2	70X2	70X2
	Defrosting method		/	Sensor defrost	Sensor defrost
	Noise level	dB(A)	≤65	≤65	≤65
	Dimension	mm	980X370X1325	980X370X1325	980X370X1325
	Weight	kg	122	122	122
Refrigerant	Type		R22	R22	R22
	Refrigerant charged	g	3820	3820	3820
Connecting piping	Liquid pipe	mm	φ 9.52	φ 9.52	φ 9.52
	Gas pipe	mm	φ 19.05	φ 19.05	φ 19.05
	Standard length	m	5	5	5
	Max.length	m	20	20	20
	Max.altitude difference	m	10	10	10

① Rated cooling capacity under below conditions:

Indoor temp:27℃DB, 19℃WB; Outdoor temp:35℃DB, 24℃WB.High speed;5-meter connecting pipe.

② Rated heating capacity under below conditions:

Indoor temp:20℃DB;Outdoor temp:7℃DB, 6℃WB.High speed; 5-meter connecting pipe.

③ We get the noise under heating mode meantime.The fan runs at high speed.

④ Technical data is determined by the label data.

⑤ B Type choosc color

# Technical specifications

R407C

Item		Model	KF-50LW	KFR-50LW	KFRd-50LW
Cooling Capacity		Btu	18000	18000	18000
Heating Capacity		Btu	/	18800	18800
Power supply			220V~50Hz		
Power cable capacity		A	30	30	30
Cooling	Power input	W	1880	1880	1880
	Running current	A	9.0	9.0	9.0
	EER	W/W	2.66	2.66	2.66
Heating	Power input	W	/	1900	1900
	Running current	A	/	9.2	9.2
	COP	W/W	/	2.89	2.89
Indoor Unit	Colour		White	White	White
	Control method		Remote controller	Remote controller	Remote controller
	Air volume(H)	m <sup>3</sup> /h	850	850	850
	Fan speed(H/M/S)	rmp	540/440/380	540/440/380	540/440/380
	Fan motor output power x qty	W	30X1	30X1	30X1
	Subsidiary electric heating	W	/	/	1000
	Noise level	dB(A)	≤46	≤46	≤46
	Size of draining hose	mm	φ 20	φ 20	φ 20
	Dimension	mm	480X290X1715	480X290X1715	480X290X1715
	Weight	kg	36	36	36
Out-door Unit	Colour		White	White	White
	Throttle device		Capiuary throttle	Capiuary throttle	Capiuary throttle
	Compressor type		Rotary	Rotary	Rotary
	Compressor model		CHX33/PG295	CHX33/PG295	CHX33/PG295
	Power input	W	1930	1930	1930
	Starting current	A	50	50	50
	Running capacitor	μ F	50/35	50/35	50/35
	Fan speed	rpm	850	850	850
	Fan motor output power x qty	W	45X1	45X1	45X1
	Defrosting method		/	Sensor defrost	Sensor defrost
	Sound level	dB(A)	≤57	≤57	≤57
	Dimension	mm	920X355X600	920X355X600	920X355X600
	Weight	kg	49	51	51
Refrigerant	Type		R407C	R407C	R407C
	Refrigerant charged	g	1280	1280	1280
Connecting piping	Liquid pipe	mm	φ 6.35	φ 6.35	φ 6.35
	Gas pipe	mm	φ 12.7	φ 12.7	φ 12.7
	Standard length	m	3.5	3.5	3.5
	Max.length	m	15	15	15
	Max.altitude difference	m	7	7	7

- ① Rated cooling capacity under below conditions:  
Indoor temp:27℃ DB, 19℃ WB; Outdoor temp:35℃ DB, 24℃ WB.High speed;3.5-meter connecting pipe.
- ② Rated heating capacity under below conditions:  
Indoor temp:20℃ DB;Outdoor temp:7℃ DB, 6℃ WB.High speed;3.5-meter connecting pipe.
- ③ We get the noise under heating mode meantime.The fan runs at high speed.
- ④ Technical data is determined by the label data.
- ⑤ B Type choose color

# Technical specifications



R407C

Item		Model	KF-70LW	KFR-70LW	KFRd-70LW
Cooling Capacity		Btu	24000	24000	24000
Heating Capacity		Btu	/	25600	25600
Power supply			220V~50Hz		
Power cable capacity		A	40	40	40
Cooling	Power input	W	2580	2650	2650
	Running current	A	12.0	12.3	12.3
	EER	W/W	2.71	2.64	2.64
Heating	Power input	W	/	2500	2500
	Running current	A	/	10.8	10.8
	COP	W/W	/	3.26	3.26
Indoor Unit	Colour		White	White	White
	Control method		Remote controller	Remote controller	Remote controller
	Air volume(H)	m <sup>3</sup> /h	1150	1150	1150
	Fan speed(H/M/S)	rmp	530/450/380	530/450/380	530/450/380
	Fan motor output power x qty	W	70X1	70X1	70X1
	Subsidiary electric heating	W	/	/	1500
	Noise level	dB(A)	≤52	≤52	≤52
	Size of draining hose	mm	φ 20	φ 20	φ 20
	Dimension	mm	540X305X1785	540X305X1785	540X305X1785
	Weight	kg	42	42	42
Out-door Unit	Colour		White	White	White
	Throttle device		Capiuary throttle	Capiuary throttle	Capiuary throttle
	Compressor type		Rotary	Rotary	Rotary
	Compressor model		PG420/CHV33	PG420/CHV33	PG420/CHV33
	Power input	W	2440/2550	2440/2550	2440/2550
	Starting current	A	60	60	60
	Running capacitor	μ F	50/50	50/50	50/50
	Fan speed	rpm	830	830	830
	Fan motor output power x qty	W	70X1	70X1	70X1
	Defrosting method		/	Sensor defrost	Sensor defrost
	Noise level	dB(A)	≤60	≤60	≤60
	Dimension	mm	920X375X730	920X375X730	920X375X730
	Weight	kg	59	61	61
Refrigerant	Type		R407C	R407C	R407C
	Refrigerant charged	g	2200	2200	2200
Connecting piping	Liquid pipe	mm	φ 9.52	φ 9.52	φ 9.52
	Gas pipe	mm	φ 15.88	φ 15.88	φ 15.88
	Standard length	m	4	4	4
	Max.length	m	15	15	15
	Max.altitude difference	m	7	7	7

① Rated cooling capacity under below conditions:

Indoor temp:27℃DB, 19℃WB; Outdoor temp:35℃DB, 24℃WB.High speed;4-meter connecting pipe.

② Rated heating capacity under below conditions:

Indoor temp:20℃DB;Outdoor temp:7℃DB, 6℃WB.High speed;4-meter connecting pipe.

③ We get the noise under heating mode meantime.The fan runs at high speed.

④ Technical data is determined by the label data.

⑤ B Type choosc color

# Technical specifications

R407C

Item		Model	KF-120LW/S	KFR-120LW/S	KFRd-120LW/S
Cooling Capacity		Btu	41000	41000	41000
Heating Capacity		Btu	/	44300	44300
Power supply			3N~50Hz 380V		
Power cable capacity		A	20	20	20
Cooling	Power input	W	5300	5300	5300
	Running current	A	9.2	9.2	9.2
	EER	W/W	2.26	2.26	2.26
Heating	Power input	W	/	5600	5600
	Running current	A	/	9.5	9.5
	COP	W/W	/	2.32	2.32
Indoor Unit	Colour		White	White	White
	Control method		Remote controller	Remote controller	Remote controller
	Air volume(H)	m <sup>3</sup> /h	1550	1750	1750
	Fan speed(H/M/S)	rmp	560/480/400	560/480/400	560/480/400
	Fan motor output power x qty	W	130X1	130X1	130X1
	Subsidiary electric heating	W	/	/	3X600
	Noise level	dB(A)	≤55	≤55	≤55
	Size of draining hose	mm	φ 20	φ 20	φ 20
	Dimension	mm	540X385X1785	540X385X1785	540X385X1785
	Weight	kg	56	56	56
Out-door Unit	Colour		White	White	White
	Throttle device		Capiuary throttle	Capiuary throttle	Capiuary throttle
	Compressor type		Scroll compressor	Scroll compressor	Scroll compressor
	Compressor model		C-SBN353H8A	C-SBN353H8A	C-SBN353H8A
	Power input	W	4950	4950	4950
	Starting current	A	60	60	60
	Running capacitor	μ F	/	/	/
	Fan speed	rpm	880	880	880
	Fan motor output power x qty	W	200X1	200X1	200X1
	Defrosting method		/	Sensor defrost	Sensor defrost
	Noise level	dB(A)	≤66	≤66	≤66
	Dimension	mm	1000X410X960	1000X410X960	1000X410X960
	Weight	kg	93	93	93
Refrigerant	Type		R407C	R407C	R407C
	Refrigerant charged	g	3480	3480	3480
Connecting piping	Liquid pipe	mm	φ 9.52	φ 9.52	φ 9.52
	Gas pipe	mm	φ 19.05	φ 19.05	φ 19.05
	Standard length	m	5	5	5
	Max.length	m	20	20	20
	Max.altitude difference	m	10	10	10

① Rated cooling capacity under below conditions:

Indoor temp:27℃DB, 19℃WB; Outdoor temp:35℃DB, 24℃WB.High speed; 5-meter connecting pipe.

② Rated heating capacity under below conditions:

Indoor temp:20℃DB;Outdoor temp:7℃DB, 6℃WB.High speed; 5-meter connecting pipe.

③ We get the noise under heating mode meantime.The fan runs at high speed.

④ Technical data is determined by the label data.

⑤ B Type choosc color

# Technical specifications

R407C

Item		Model	KF-140LW/S	KFR-140LW/S	KFRd-140LW/S
Cooling Capacity		Btu	48000	48000	48000
Heating Capacity		Btu	/	51000	51000
Power supply			3N~50Hz 380V		
Power cable capacity		A	20	20	20
Cooling	Power input	W	5100	5100	5100
	Running current	A	8.9	8.9	8.9
	EER	W/W	2.74	2.74	2.74
Heating	Power input	W	/	5100	5100
	Running current	A	/	8.91	8.91
	COP	W/W	/	2.94	2.94
Indoor Unit	Colour		White	White	White
	Control method		Remote control	Remote control	Remote control
	Air volume(H)	m <sup>3</sup> /h	1550	1750	1750
	Fan speed(H/M/S)	rmp	560/480/400	560/480/400	560/480/400
	Fan motor output power x qty	W	130X1	130X1	130X1
	Subsidiary electric heating	W	/	/	3X600
	Noise level	dB(A)	≤55	≤55	≤55
	Size of draining hose	mm	φ 20	φ 20	φ 20
	Dimension	mm	540X385X1785	540X385X1785	540X385X1785
	Weight	kg	56	56	56
Outdoor Unit	Colour		White	White	White
	Throttle device		Capiuary throttle	Capiuary throttle	Capiuary throttle
	Compressor type		Scroll compressor	Scroll compressor	Scroll compressor
	Compressor model		C-SBN373H8A	C-SBN753H8A	C-SBN373H8A
	Power input	W	5960	5960	5960
	Starting current	A	60	60	60
	Running capacitor	μ F	/	/	/
	Fan speed	rpm	800	800	800
	Fan motor output power x qty	W	70X2	70X2	70X2
	Defrosting method		/	Sensor defrost	Sensor defrost
	Noise level	dB(A)	≤65	≤65	≤65
	Dimension	mm	980X370X1325	980X370X1325	980X370X1325
	Weight	kg	122	122	122
Refrigerant	Type		R407C	R407C	R407C
	Refrigerant charged	g	4025	4025	4025
Connecting piping	Liquid pipe	mm	φ 9.52	φ 9.52	φ 9.52
	Gas pipe	mm	φ 19.05	φ 19.05	φ 19.05
	Standard length	m	5	5	5
	Max.length	m	20	20	20
	Max.altitude difference	m	10	10	10

① Rated cooling capacity under below conditions:

Indoor temp:27℃DB, 19℃WB; Outdoor temp:35℃DB, 24℃WB.High speed; 5-meter connecting pipe.

② Rated heating capacity under below conditions:

Indoor temp:20℃DB;Outdoor temp:7℃DB, 6℃WB.High speed; 5-meter connecting pipe.

③ We get the noise under heating mode meantime.The fan runs at high speed.

④ Technical data is determined by the label data.

⑤ B Type choosc color

# Technical specifications



R410A

Item		Model	KF-50LW	KFR-50LW	KFRd-50LW
Cooling Capacity		Btu	18000	18000	18000
Heating Capacity		Btu	/	19100	19100
Power supply			220V~50Hz		
Power cable capacity		A	30	30	30
Cooling	Power input	W	1800	1800	1800
	Running current	A	8.3	8.3	8.3
	EER	W/W	2.78	2.78	2.78
Heating	Power input	W	/	1750	1750
	Running current	A	/	8.2	8.2
	COP	W/W	/	3.20	3.20
Indoor Unit	Colour		White	White	White
	Control method		Remote controler	Remote controler	Remote controler
	Air volume(H)	m <sup>3</sup> /h	850	850	850
	Fan speed(H/M/S)	rmp	540/440/380	540/440/380	540/440/380
	Fan motor output power x qty	W	30X1	30X1	30X1
	Subsidiary electric heating	W	/	/	1000
	Noise level	dB(A)	≤46	≤46	≤46
	Size of draining hose	mm	φ 20	φ 20	φ 20
	Dimension	mm	480X290X1715	480X290X1715	480X290X1715
	Weight	kg	36	36	36
Out-door Unit	Colour		White	White	White
	Throttle device		Capiuary throttle	Capiuary throttle	Capiuary throttle
	Compressor type		Rotary	Rotary	Rotary
	Compressor model		PA225	PA225	PA225
	Power input	W	1700	1700	1700
	Starting current	A	36	36	36
	Running capacitor	μ F	50	50	50
	Fan speed	rpm	850	850	850
	Fan motor output power x qty	W	45X1	45X1	45X1
	Defrosting method		/	Sensor defrost	Sensor defrost
	Noise level	dB(A)	≤57	≤57	≤57
	Dimension	mm	920X355X600	920X355X600	920X355X600
	Weight	kg	49	51	51
Refrigerant	Type		R410A	R410A	R410A
	Refrigerant charged	g	1370	1370	1370
Connecting piping	Liquid pipe	mm	φ 6.35	φ 6.35	φ 6.35
	Gas pipe	mm	φ 12.7	φ 12.7	φ 12.7
	Standard length	m	3.5	3.5	3.5
	Max.length	m	15	15	15
	Max.altitude difference	m	7	7	7

① Rated cooling capacity under below conditions:

Indoor temp:27℃DB, 19℃WB; Outdoor temp:35℃DB, 24℃WB.High speed;4-meter connecting pipe.

② Rated heating capacity under below conditions:

Indoor temp:20℃DB;Outdoor temp:7℃DB, 6℃WB.High speed;3.5-meter connecting pipe

③ We get the noise under heating mode meantime.The fan runs at high speed.

④ Technical data is determined by the label data.

⑤ B Type choos color



# Technical specifications

R410A

Item		Model	KF-70LW	KFR-70LW	KFRd-70LW
Cooling Capacity		Btu	24000	24000	24000
Heating Capacity		Btu	/	25600	25600
Power supply			220V~50Hz		
Power cable capacity		A	40	40	40
Cooling	Power input	W	2500	2500	2500
	Running current	A	11.6	11.6	11.6
	EER	W/W	2.80	2.80	2.80
Heating	Power input	W	/	2300	2300
	Running current	A	/	10.7	10.7
	COP	W/W	/	3.26	3.26
Indoor Unit	Colour		White	White	White
	Control method		Remote controller	Remote controller	Remote controller
	Air volume(H)	m <sup>3</sup> /h	1150	1150	1150
	Fan speed(H/M/S)	rmp	530/450/380	530/450/380	530/450/380
	Fan motor output power x qty	W	70X1	70X1	70X1
	Subsidiary electric heating	W	/	/	1500
	Noise level	dB(A)	≤52	≤52	≤52
	Size of draining hose	mm	φ 20	φ 20	φ 20
	Dimension	mm	540X305X1785	540X305X1785	540X305X1785
	Weight	kg	42	42	42
Out-door Unit	Colour		White	White	White
	Throttle device		Capiuary throttle	Capiuary throttle	Capiuary throttle
	Compressor type		Rotary	Rotary	Rotary
	Compressor model		PA290	PA290	PA290
	Power input	W	2350	2350	2350
	Starting current	A	60	60	60
	Running capacitor	μ F	50	50	50
	Fan speed	rpm	830	830	830
	Fan motor output power x qty	W	70X1	70X1	70X1
	Defrosting method		/	Sensor defrost	Sensor defrost
	Noise level	dB(A)	≤60	≤60	≤60
	Dimension	mm	920X375X730	920X375X730	920X375X730
	Weight	kg	61	61	61
Refrigerant	Type		R410A	R410A	R410A
	Refrigerant charged	g	1850	1850	1850
Connecting piping	Liquid pipe	mm	φ 9.52	φ 9.52	φ 9.52
	Gas pipe	mm	φ 15.88	φ 15.88	φ 15.88
	Standard length	m	4	4	4
	Max.length	m	15	15	15
	Max.altitude difference	m	7	7	7

① Rated cooling capacity under below conditions:

Indoor temp:27℃DB, 19℃WB; Outdoor temp:35℃DB, 24℃WB.High speed;4-meter connecting pipe.

② Rated heating capacity under below conditions:

Indoor temp:20℃DB;Outdoor temp:7℃DB, 6℃WB.High speed;4-meter connecting pipe.

③ We get the noise under heating mode meantime.The fan runs at high speed.

④ Technical data is determined by the label data.

⑤ B Type choosc color

# Wiring diagram



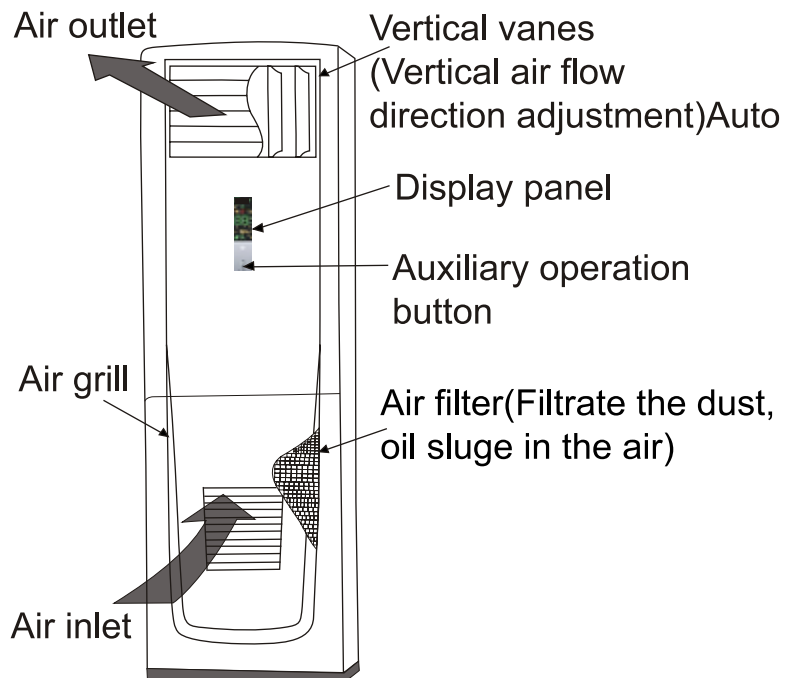
## Main parts list

models name of parts	18000Btu	24000Btu	41000Btu	48000Btu
Indoor unit				
Fan motor	YDK124/20-8F 220V 50Hz	YSK70-8 220V 50Hz	YDK140-130-8T2 220V 50Hz	YDK140-130-8T2 220V 50Hz
Step motor (vertical)	35BYJ-A09 12VDC	35BYJ-A09 12VDC	35BYJ-A09 12VDC	35BYJ-A09 12VDC
Step motor (level)	35BYJ-C01 12VDC	35BYJ-C01 12VDC	35BYJ-C01 12VDC	35BYJ-C01 12VDC
Fan capacitor	CBB61 3 $\mu$ F/450V	CBB61 4 $\mu$ F/450V	CBB61 6 $\mu$ F/450V	CBB61 6 $\mu$ F/450V
Indoor temp. sensor Evaporator temp.sensor	R25=10.0K $\Omega$ B25/50=3470K	R25=10.0K $\Omega$ B25/50=3470K	R25=10.0K $\Omega$ B25/50=3470K	R25=10.0K $\Omega$ B25/50=3470K
Fuse	AC250V 5A	AC250V 5A	AC250V 5A	AC250V 5A
Transformer	SLBYQ-4 INPUT:AC220V/50Hz OUTPUT:15V/500mA	SLBYQ-4 INPUT:AC220V/50Hz OUTPUT:15V/500mA	SLBYQ-4 INPUT:AC220V/50Hz OUTPUT:15V/500mA	SLBYQ-4 INPUT:AC220V/50Hz OUTPUT:15V/500mA
Outdoor unit				
Fan motor	YDK120/18-6E 220V 50Hz	YDK120/30-6T 220V 50Hz	YDK140-200/6A 220V 50Hz	YDK120/30-6D 220V 50Hz
Fan capacitor	CBB61 3 $\mu$ F/450V	CBB61 4 $\mu$ F/450V	CBB61 10 $\mu$ F/450V	CBB61 4 $\mu$ F/450V
Evaporator temp.sensor	R25=10.0K $\Omega$ B25/50=3470K	R25=10.0K $\Omega$ B25/50=3470K	R25=10.0K $\Omega$ B25/50=3470K	R25=10.0K $\Omega$ B25/50=3470K
Compressor relay	/	JQX-116F-2 COIL 12VDC 25A	/	/
Contacteur	/	/	GC3-12/22(CJX1-12/22) 220V 50Hz 12A	GC3-12/22(CJX1-12/22) 220V 50Hz 12A
R22				
Compressor	PH310/SHX33/TH338	PH420/SHV33	VR57KF-TFP	VR57KF-TFP
4-way valve	DHF-9	DHF-9	DHF-20	DHF-20
R capacitor	CBB65 40/50/50 $\mu$ F/450V	CBB65 50/50 $\mu$ F/450V	/	/
R407C				
Compressor	PG295/CHX33	PG420/CHV33	C-SBN353H8A	C-SBN373H8A
4-way valve	DHF-9	DHF-9	DHF-20	DHF-20
R capacitor	CBB65 35/50 $\mu$ F/450V	CBB65 50/50 $\mu$ F/450V	/	/
R410A				
Compressor	PA225	PA290	/	/
4-way valve	DHF-9	DHF-9	/	/
R capacitor	CBB65 50 $\mu$ F/450V	CBB65 50 $\mu$ F/450V	/	/

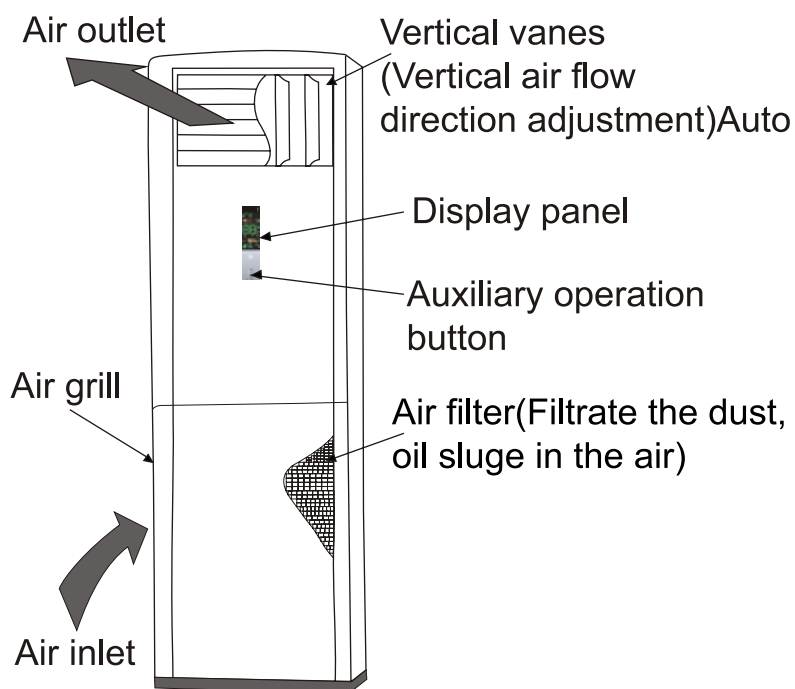
# Indoor unit



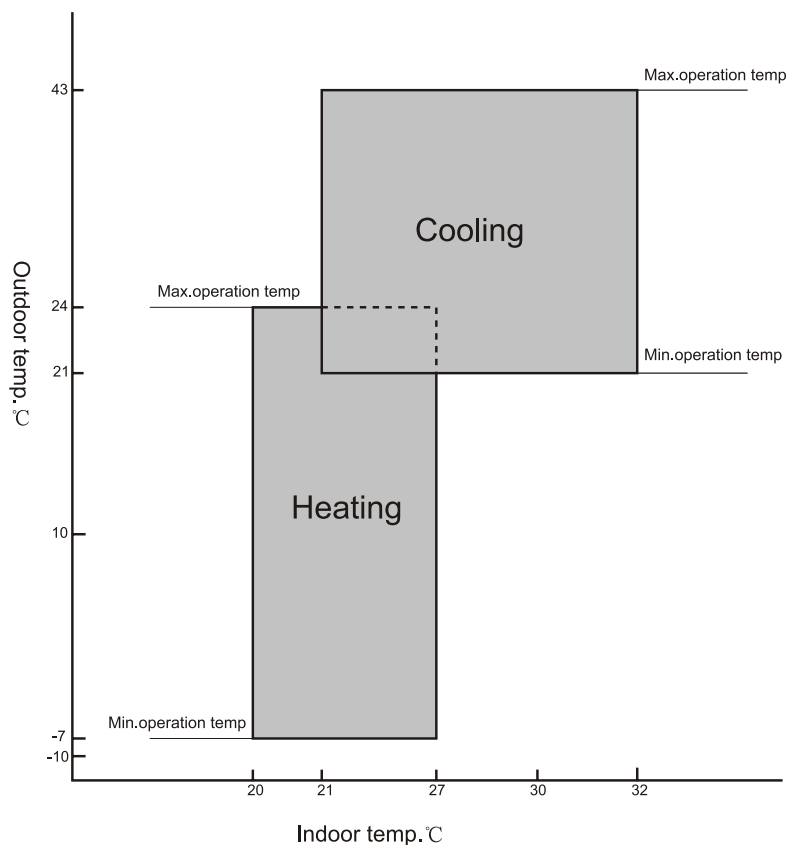
## • B Type



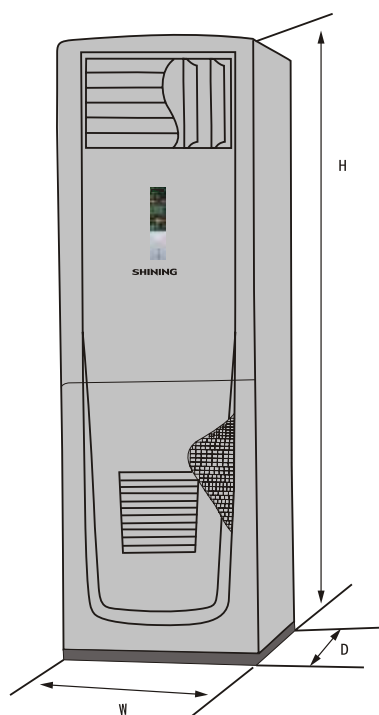
## • C Type



# Working range



# Indoor unit



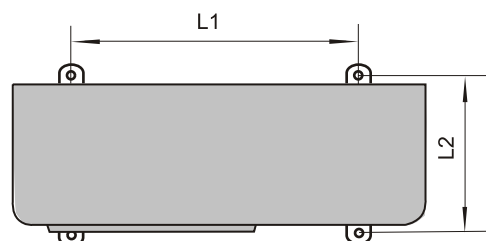
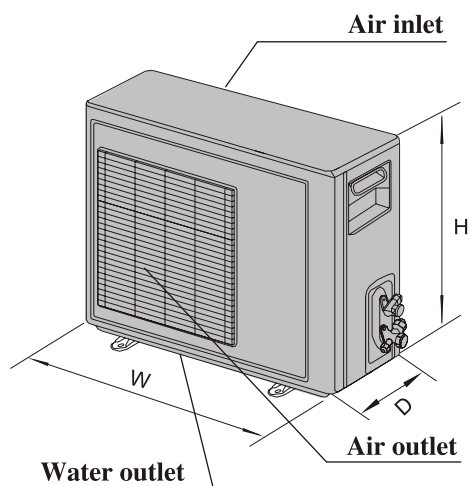
Dimension	18000Btu	24000Btu	41000Btu/48000But
W	485	520	540
H	1700	1765	1770
D	285	300	385

# Outdoor unit

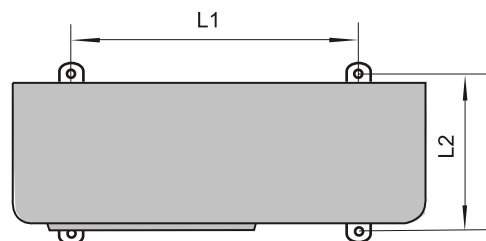
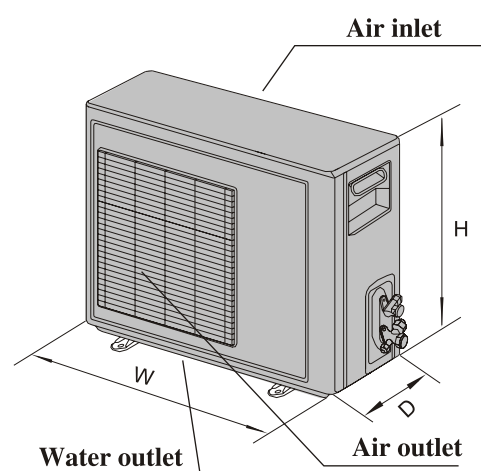


18000Btu

Unit (mm)



24000Btu

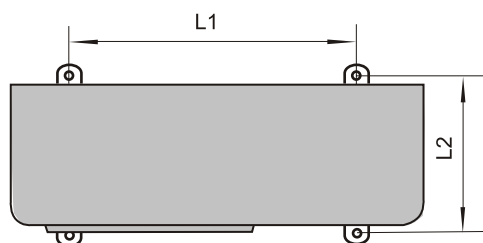
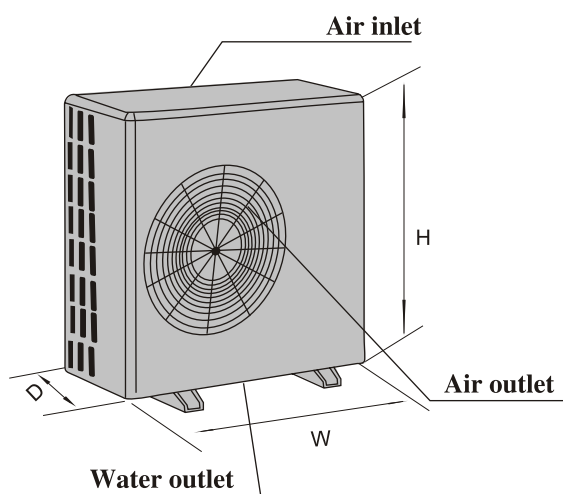


Dimension	18000Btu	24000Btu
W	850	860
H	600	730
D	290	310
L1	550	630
L2	310	340

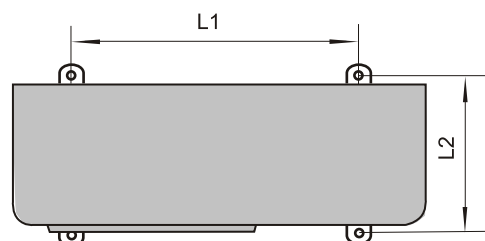
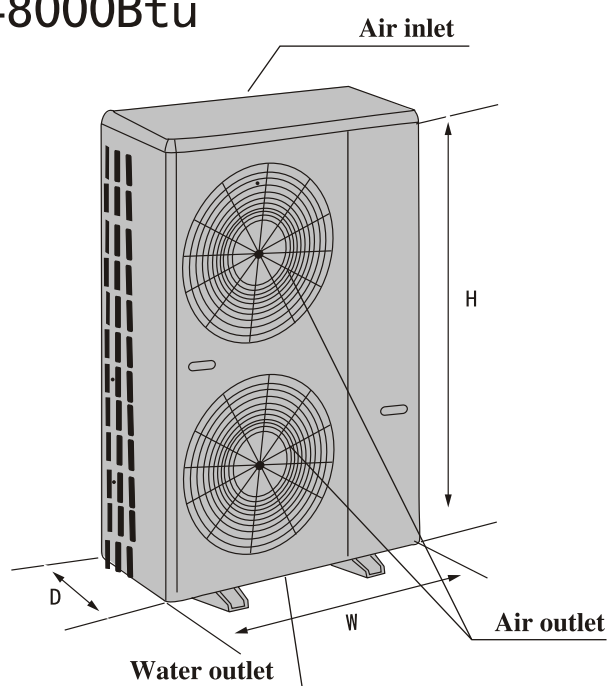
# Outdoor unit



41000Btu

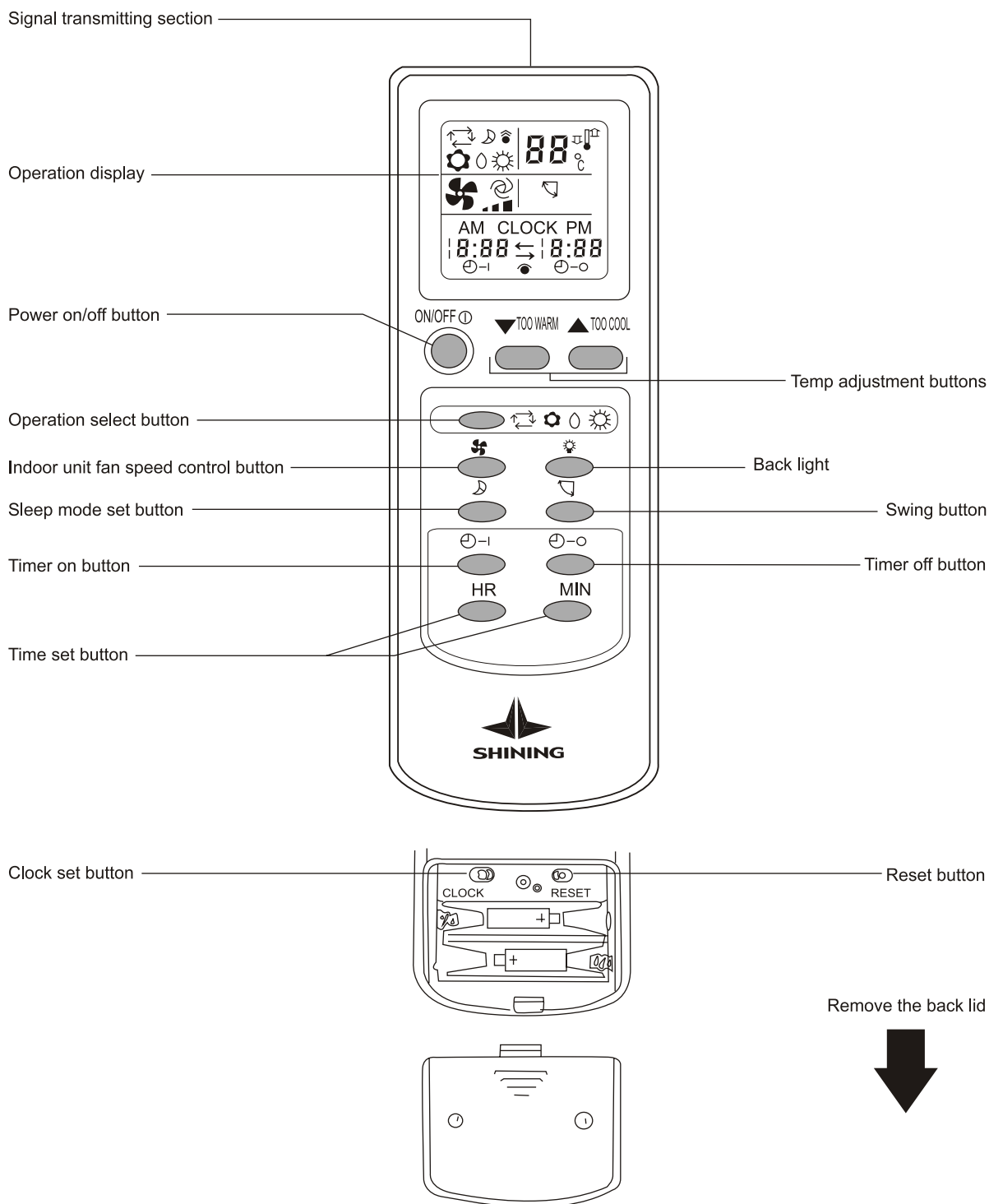


48000Btu

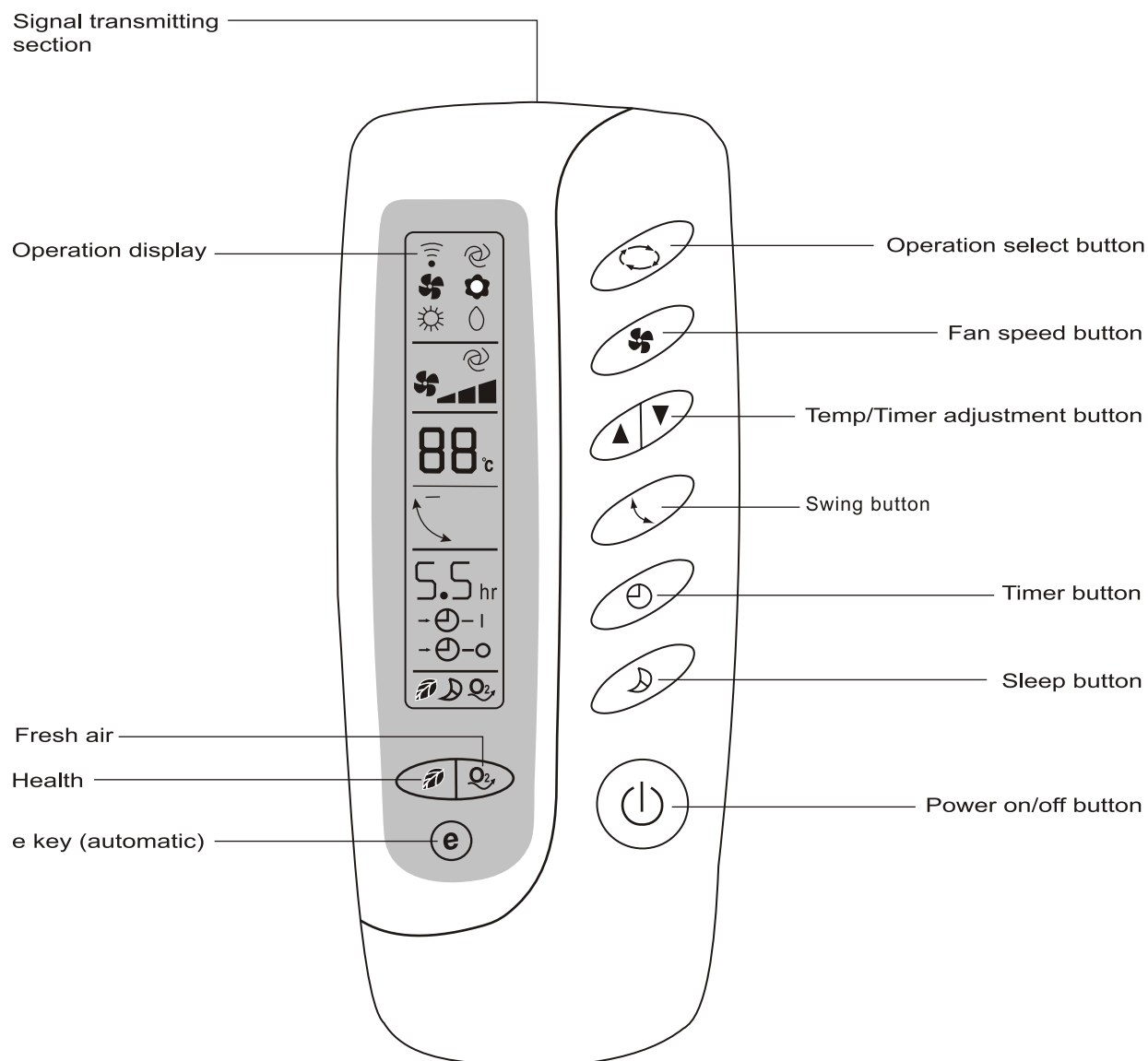


Dimension	41000Btu	48000Btu
W	960	980
H	1000	1325
D	410	370
L1	670	630
L2	380	380

# Remote controller



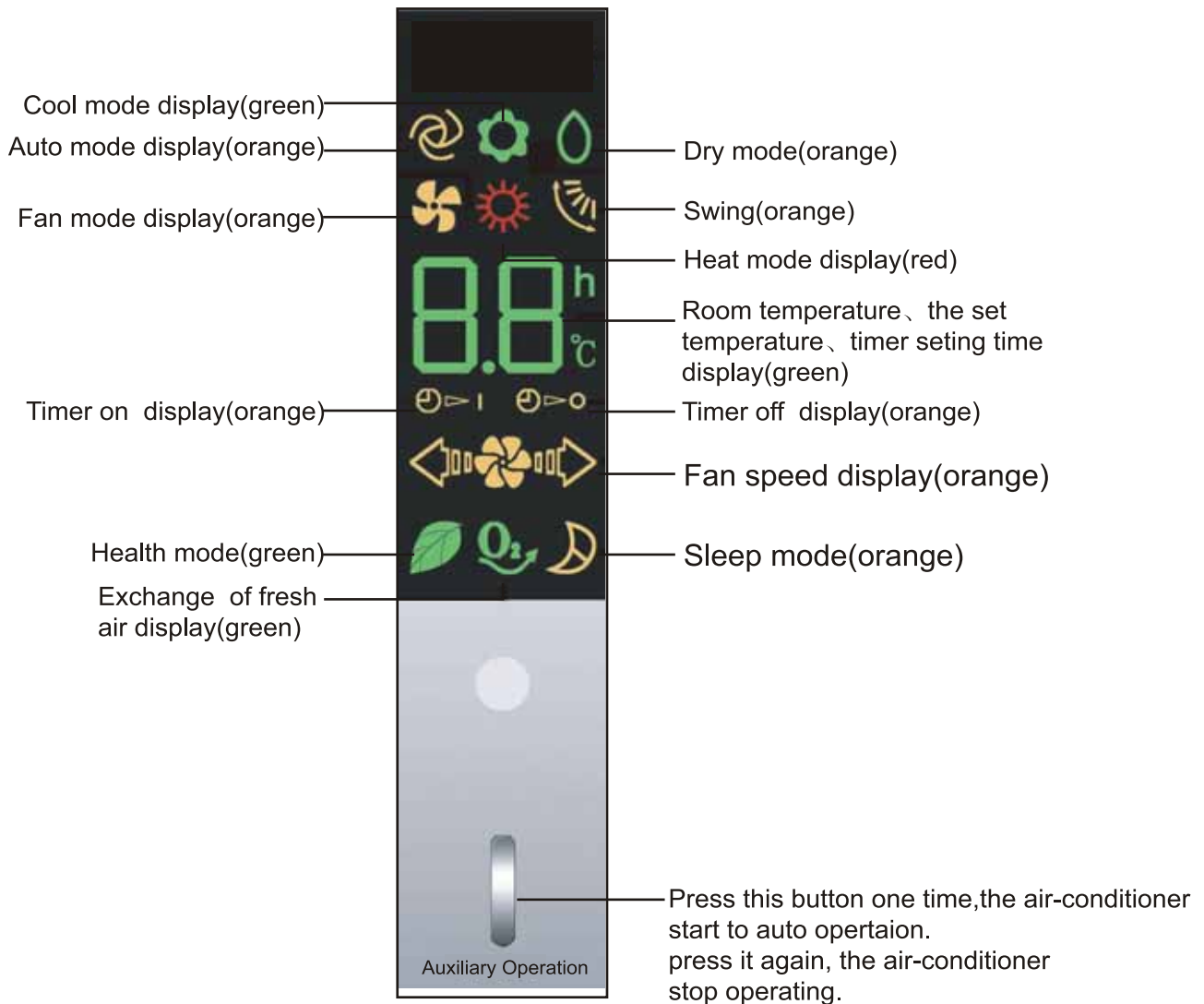
# Remote controller



**Note:** Health button and fresh air button is optional, if air condition without these functions, these two buttons are invalid.



# Operation panel



- Auto mode,the orange operation light bright.
  - Heat mode,the red operation light bright
  - Dry mode,the orange dry operation light bright
  - Cool mode,the green operation light bright
  - When set swing function,the swing operation light bright.
  - When the indoor motor run, the orange light bright.
- Mode in details:

Low:1、4 section bright

Mid:1、3、4 section bright

High:1~4 section bright

Dynamic rotation display: 

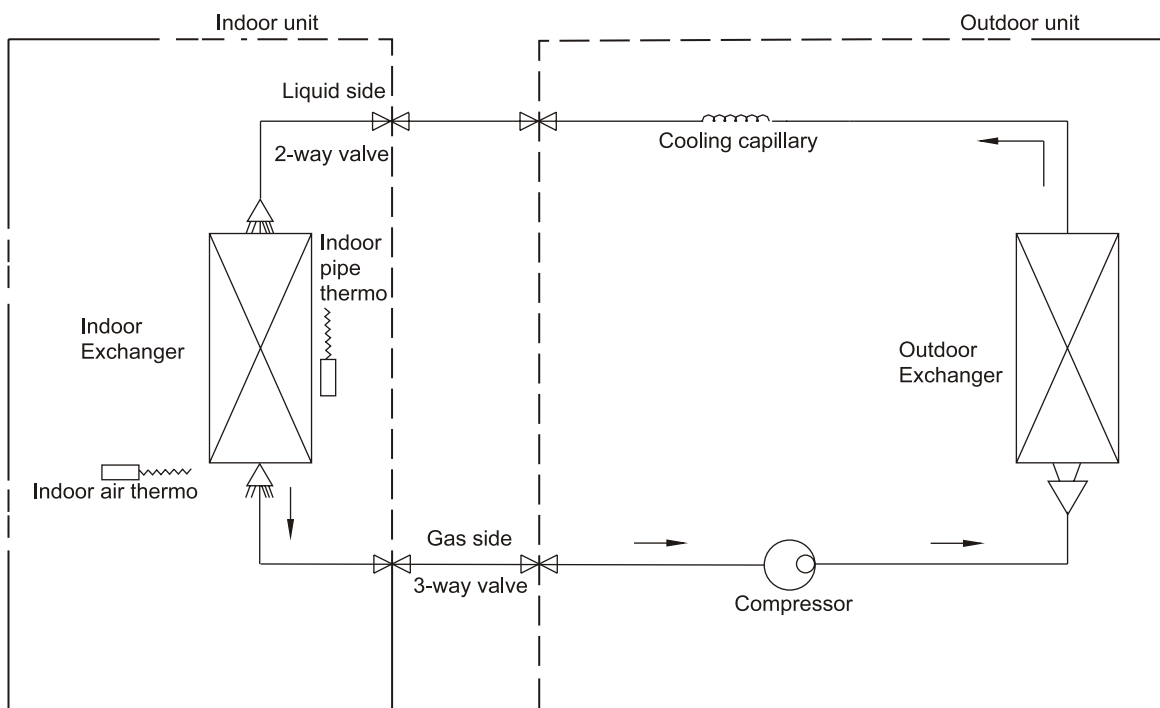
- Room temperature、the set temperature、timer setting time display:
  - Display ambient temperature in normal conditions.
  - Display the set temperature when set temp,recover to display ambient temperature after setting temp.
  - Display timer setting time when set timer,recover to display ambient temperature after setting timer.
- Timer ON button is pressed, the orange operation light bright
- Timer OFF button is pressed, the orange operation light bright
- In health mode operation,the green operation light bright
- In exchange of fresh air mode operation, the green operation light bright.

Note: Health operation and exchange of fresh air are optional function.

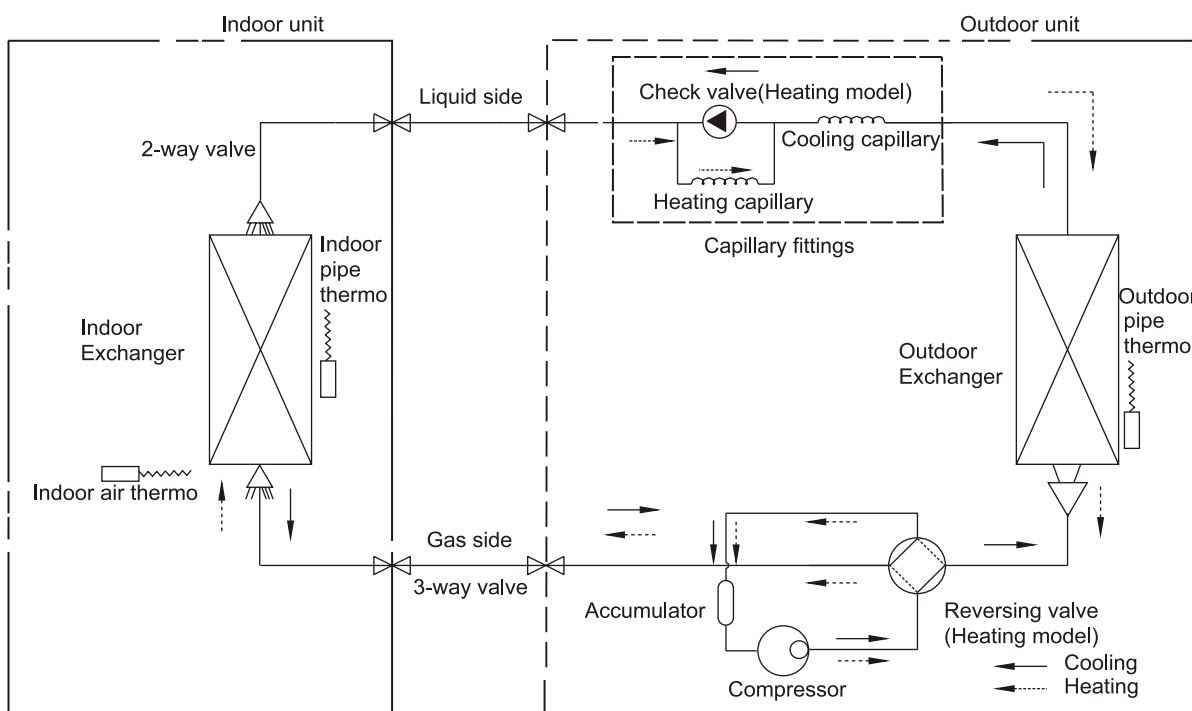
# Refrigeration cycle diagram



## COOLING ONLY MODELS



## COOLING AND HEATING MODELS





# Microcomputer Control Principle

Note: RT means room temperature; ST means setting temperature; IPT means indoor pipeline temperature means outdoor pipeline temperature.

The operation modes are AUTO, COOL, DRY, HEAT, FAN, each time press the MODE, the operation mode is: (if cooling on the mode)

AUTO → COOL → DRY → FAN → HEAT → AUTO

## 1、Auto operation

The temp. Setting and control range is  $16\sim 31$  when auto mode, the unit will choose cool, dry or heat (fan) mode according with the RT automatically.

$RT \geq 25\text{ }^{\circ}\text{C}$ , COOL, the ST is  $24^{\circ}\text{C}$

$20\text{ }^{\circ}\text{C} \leq RT < 25\text{ }^{\circ}\text{C}$ , no dr; no TS

$RT < 20\text{ }^{\circ}\text{C}$ , HEAT (FAN), the ST is  $21^{\circ}\text{C}$

## 2、COOL

1)、The temp. Setting and control range is  $16\sim 31$  the four-way valve not work, the compressor start to work require 3 minutes protection.

A、When  $RT \leq ST - 1\text{ }^{\circ}\text{C}$ , the compressor and outdoor fan motor stop working simultaneously, the indoor fan motor and air outlet operate as setting habitus

B、When  $ST - 1\text{ }^{\circ}\text{C} < RT < ST + 1\text{ }^{\circ}\text{C}$ , the compressor, outdoor fan motor, indoor fan motor and air outlet operate as setting habitus

C、When  $RT \geq ST + 1\text{ }^{\circ}\text{C}$ , the compressor and outdoor fan motor start operating, the indoor fan motor and air outlet operate as setting habitus.

D、Indoor fan motor control: set the indoor fan motor as auto, low speed, high speed through remote controller, the indoor fan motor operate as setting speed.

E、Air outlet control: the air outlet controlled by SWING button.

### 2)、Cooling frost prevention function.

If  $IPT \leq 2\text{ }^{\circ}\text{C}$ , indoor fan motor change to high speed; compressor turned on after 4 minutes,  $-1\text{ }^{\circ}\text{C}$ , turn off the compressor and outdoor fan motor,  $IPT \geq 6\text{ }^{\circ}\text{C}$ , the normal cooling comes back, the malfunction code E3

## 3、DRY

A、When DRY mode, no S.

B、The indoor fan motor keeps low speed.

C、Compressor and outdoor fan motor operating for 8 minutes; 3 minutes, when compressor running, the indoor fan motor runs at low speed, when compressor turned off, the indoor fan motor turn off 10s delay.

●  $RT < 15\text{ }^{\circ}\text{C}$ , DRY not works.

● The control of air outlet is the same as cooling mode.

## 4、HEAT

A、Temp setting and control range is  $16\sim 31^{\circ}\text{C}$ ;

B、Four-way valve keeps opening

- 1)、When  $RT \leq ST - 1^{\circ}\text{C}$ , the compressor and outdoor fan motor start running, and the indoor fan motor running as anticold wind function, the auxiliary electric heating running as 4)
- 2)、When  $RT \geq ST + 1^{\circ}\text{C}$ , the compressor and outdoor fan motor stop running, indoor fan motor operate as 4), 4-way valve keep the original habitus.
- 3)、When  $ST - 1^{\circ}\text{C} < RT < ST + 1^{\circ}\text{C}$ , compressor, outdoor fan motor and indoor fan motor operating as original status.
- 4)、Auxiliary electric heating control

The conditions Auxiliary electric heating starting:

- a、HEAT mode (not including auto heating)
- b、 $IPT \leq 38^{\circ}\text{C}$
- c、Compressor operating  $\geq 3$  min.
- d、Fan motor operating  $\geq 5$  s.
- e、The system not under overload status.

When indoor fan motor operating, if one of the following conditions, the auxiliary electric heating turn off.

- a、 $IPT \geq 45^{\circ}\text{C}$
- b、Compressor not turned on.
- c、Defrosting
- d、Indoor pipeline sensor on.

#### 5)、Anticold wind function

When the indoor pipeline temp. rising, the indoor fan motor will the running mode according to the indoor pipeline temp., to prevent the cold wind.

- a、 $IPT < 22^{\circ}\text{C}$ , indoor fan motor not works.
- b、 $22^{\circ}\text{C} \leq IPT \leq 28^{\circ}\text{C}$ , or after 2 min of compressor running, the indoor fan motor run at special speed.
- c、 $IPT > 28^{\circ}\text{C}$ , indoor fan motor running by improve the speed.
- d、 $IPT > 35^{\circ}\text{C}$ , setting of speed start, then keep the speed.

#### 6)、Rest heat blowing function

When heating mode, compressor not running, the indoor fan motor will choose the running mode according to the indoor pipeline temp., utilize the rest heat from the indoor pipeline.

- a、The indoor pipeline temp. decreasing;
- b、Compressor stopped, subsequently low speed running.
- c、Compressor stopped for 1 min.  $IPT < 25^{\circ}\text{C}$ , the indoor fan motor stop running.
- d、Auxiliary electric heating started and turn off then indoor fan motor must turn off

after 30s

#### 7)、Heating overload protection

compressor running, when indoor pipeline temp rising  $\geq 52^{\circ}\text{C}$ ,  $IPT$  turn off the outdoor fan motor

#### 8)、Defrost operation

Outdoorsensor defrost

Requirements

- a、Compressor start for 20 min
- b、Working time last for 50 min



c、EPT < -5 ℃

Defrost stopping requirement

a、Defrost for 10 min.

b、EPT > 10 ℃

#### 5、Fan

When FAN mode, can not turn on the outdoor indoor fan motor running as setting fan speed by the remote controller

#### 6、Sleep function

Set sleep fan speed into low speed

1)、When cool mode, after setting sleep one hour, the ST increase 1 ℃, two hours later, 0.5 ℃ increased again.

2)、When heat mode, after setting sleep one hour, the ST reduces 2 ℃, two hours later, 2 ℃ increased again.

3)、After 8 hours sleep mode operation, unit returns to the original setting habitus.

#### 7、Check the system abnormal

After compressor work for 20 min,  $|RT - IPT| \leq 3 \text{ }^{\circ}\text{C}$ , and last for 5 min, the compressor and outdoor fan motor stop running, means the system problem, outdoor unit malfunction code is E4

#### 8、TIMER

##### 1)、Timer on

The unit begins to work on setting. Before timer on reaches, the unit turns on in hand, timer on function will be canceled under the operation. If choose the timer on function, unit will stop working first, start at the time setting. If under the state of these, unit will start automatically.

##### 2)、Timer off

The unit stops working setting time. Before timer off reaches, if the unit turns off in hand, timer function will be canceled. Under the close case, the timer off function, the function have no effect on the unit. Under the state operation, the unit will turn off automatically.

#### 9、Compressor delay protection function

To protect the compressor, setting this function.

1)、The compressor need 3 min to restart, but include defrost mode.

2)、First time turn on, no delay.

3)、Once the compressor start work for at least 5 min, the ST reached within 5 min., the compressor does not stop.

#### 10、Fresh air (optional)

When the unit on working, the fresh air operation follows:

Fresh air 1 (press the fresh air button once) Fresh 2 (press the fresh air button twice) turn off the fresh air (press the fresh air button three times) (fresh air on fresh air, fresh air 2 intermittent fresh air, press on one hour of one hour, repeat)

When the unit not working, fresh air operate continuously, under control.

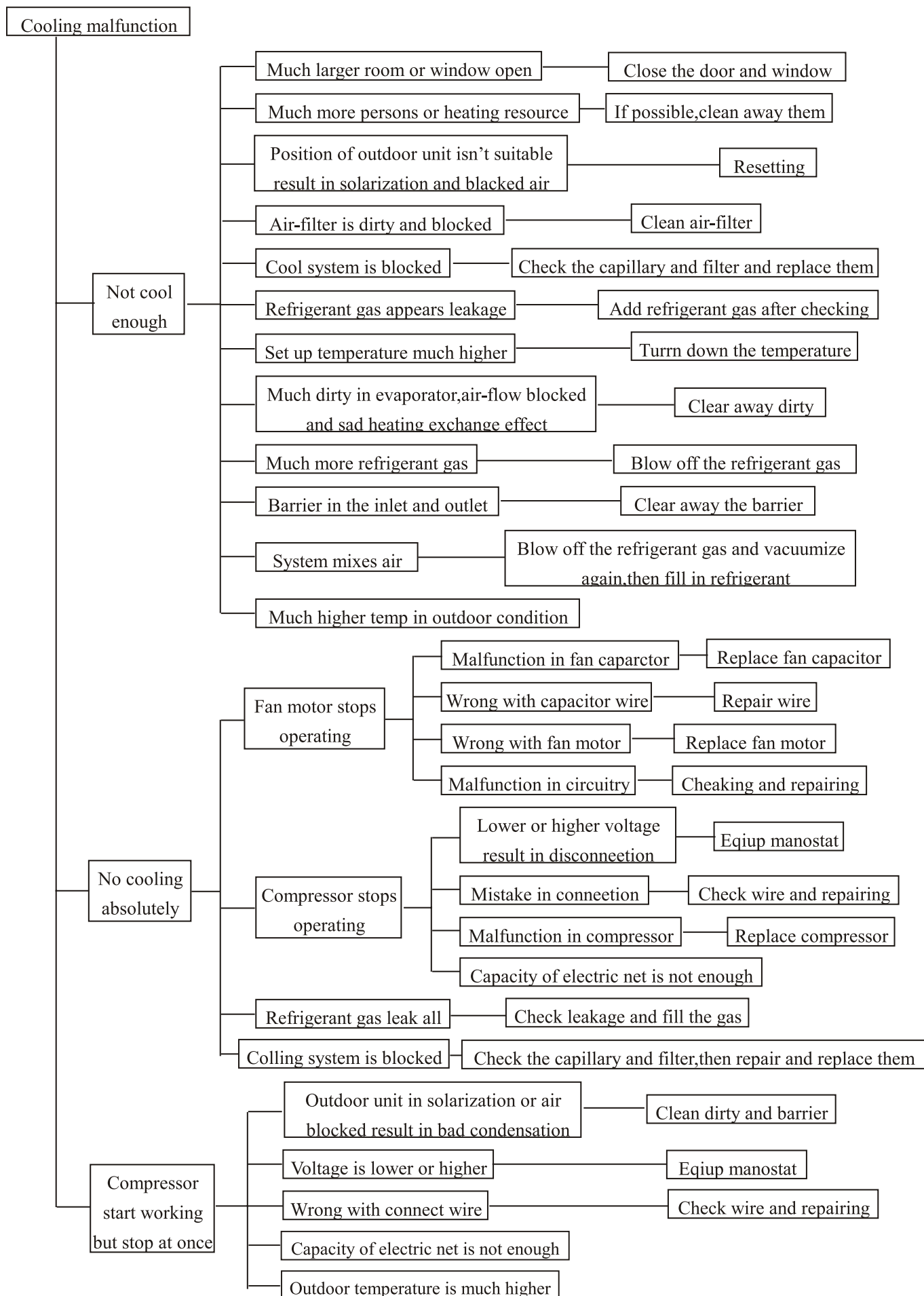
#### 11、Health (optional)

When indoor fan motor working, the health function operates the circular period is one hour, the anode and cathode ion start for 15 min, then turn off, then the cathode ion turn off after 15 min. operating. Press the health button, start the health running mode, press again the health button, turn off the health running mode.

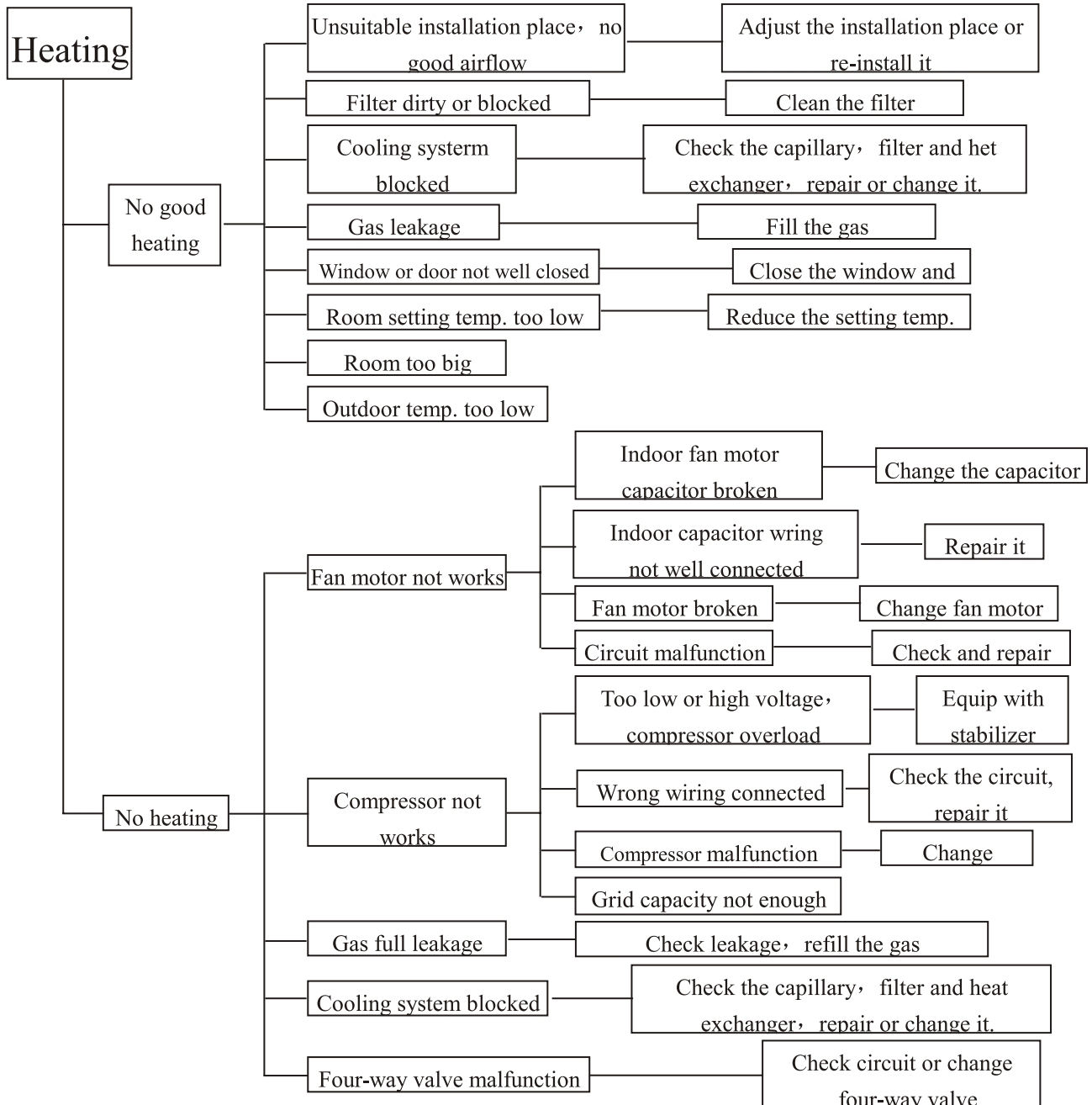
# PROCESS CHART FOR MALFUNCTION ANALYSIS



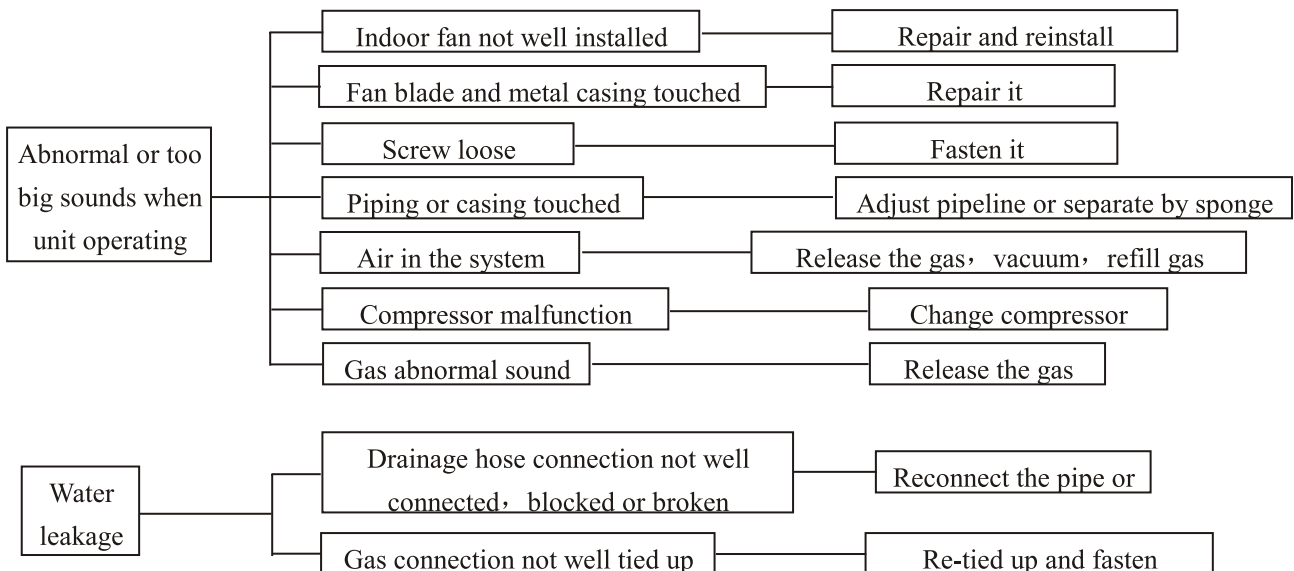
## 1、Process chart for cooling malfunction analysis



## 2、Process chart of heating malfunction analysis



## 3、Process chart of heating malfunction analysis of others



## Diagnosis for malfunctions

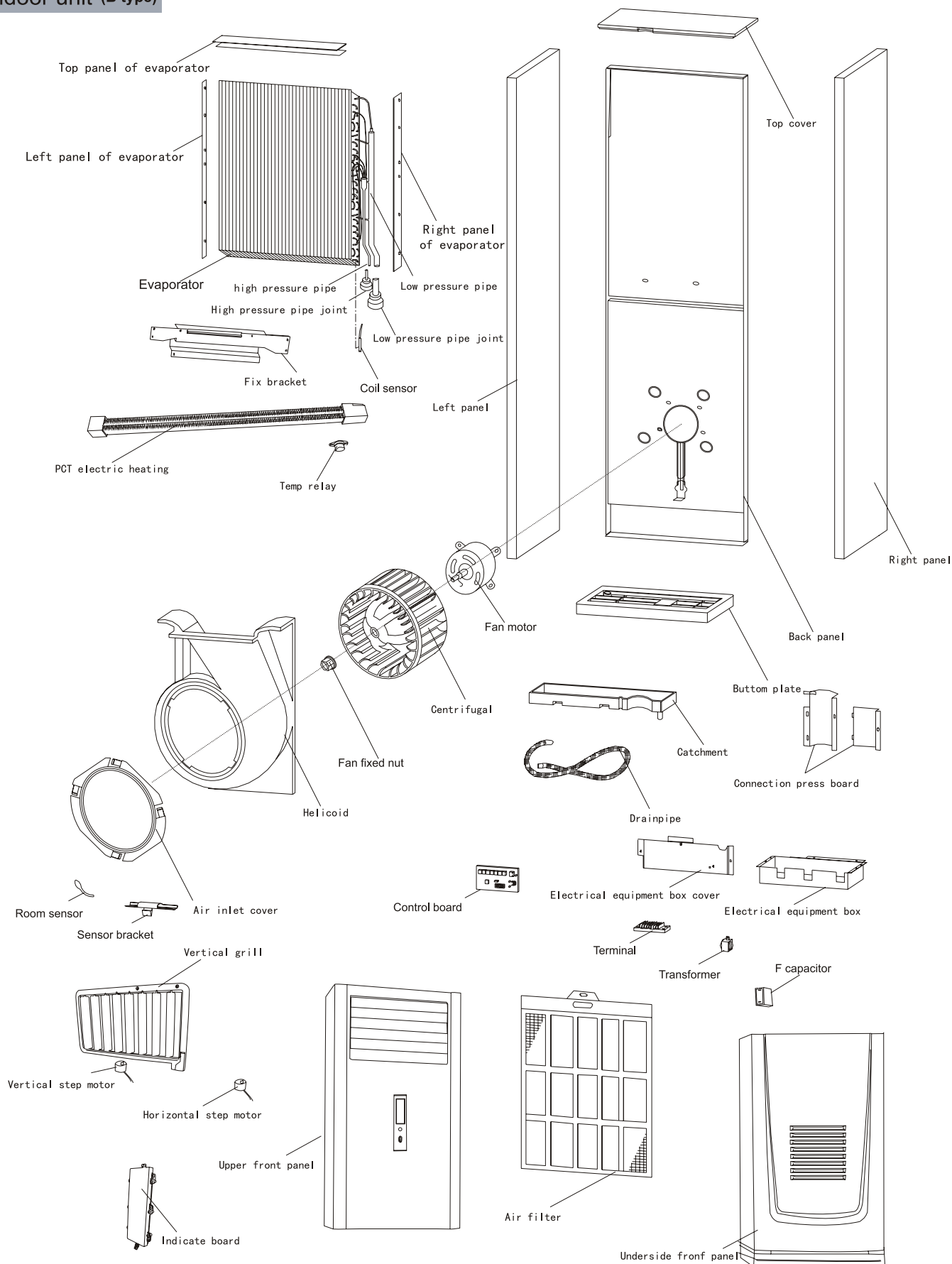
No	MALFUNCTIONS	MEASURES
1	No operation after connecting electric resource	①、Check if the terminal L.N have 220V or not. ②、Check if the fuse has blown or not. ③、Check if the transformer has broken or not. ④、Check if all the wires are connected correct or not. ⑤、Check if it is short of phase. (120-140LW/S)
2	Indoor unit can operate but outdoor unit not. (120-140LW/S)	①、Check if it is short of phase. ②、Check if the phase sequence is correct or not. ③、If the phase sequence in on malfunction, please replace the wrong phase instrument.
3	E5 displayed (stand by mode)	Temperature sensor malfunction ①、Check if the indoor temp sensor plug in matched or not. ②、Check if the indoor temp sensor short circuit or open circuit. ③、If above mentioned no problem, change the control board.
4	E6 displayed (stand by mode)	Indoor coil sensor malfunction: ①、Check if the indoor coil sensor plug in matched or not. ②、Check if the indoor coil sensor short circuit or open circuit ③、If above mentioned no problem, change the control board
5	E7 displayed (stand by mode)	Outdoor coil sensor malfunction: ①、Check the outdoor coil sensor plug in matched or not ②、Check if the indoor coil sensor short circuit or open circuit ③、If above mentioned are no problem, change the control board
6	E2 displayed	Overload protection malfunction: ①、Check if the air-filter is blocked or not. ②、Check if indoor motor has any malfunction or not. ③、Check if the inlet and outlet air are blocked or not.
7	E3 displayed	System in anti frozen protection: ①、Check if the air-filter is blocked or not. ②、Check if indoor motor has any malfunction or not. ③、Check if the inlet and outlet air are blocked or not.
8	E9 displayed	System enter the state of high and low pressure protection: 1、Low pressure protection ①、Check the switch of low pressure is normal or not. Under the normal condition, testing the switch of low pressure should be access. ②、Check if the system is leakage of gas or not. ③、Check if outdoor motor operate normally or not. 2、High pressure protection ①、Check the switch of high pressure is normal or not. Under the normal condition, testing the switch of high pressure should be access. ②、Check if the system fills much more gas or not. ③、Check if air circulation is well or not. ④、Check if the system is blocked or not.
9	after around 10 minutes operation, unit stop, E4 displayed	Cooling system malfunction: ①、Check if the compressor, indoor fan motor, outdoor fan motor are working well. ②、Check if the indoor temp sensor and coil sensor are normal operation. ③、Check if the system is blocked or not. ④、Check if the refrigerant gas leak or not. ⑤、Check if air circulation is well or not.
10	After about 10 minutes in operation, the unit stop, normal displayed	①、Check if the indoor temp and coil sensor short circuit or open circuit ②、Check if the indoor temp bracket is close to evaporator or not. ③、Check if the indoor temp and coil sensor wrong terminal connected



# Service Parts Name



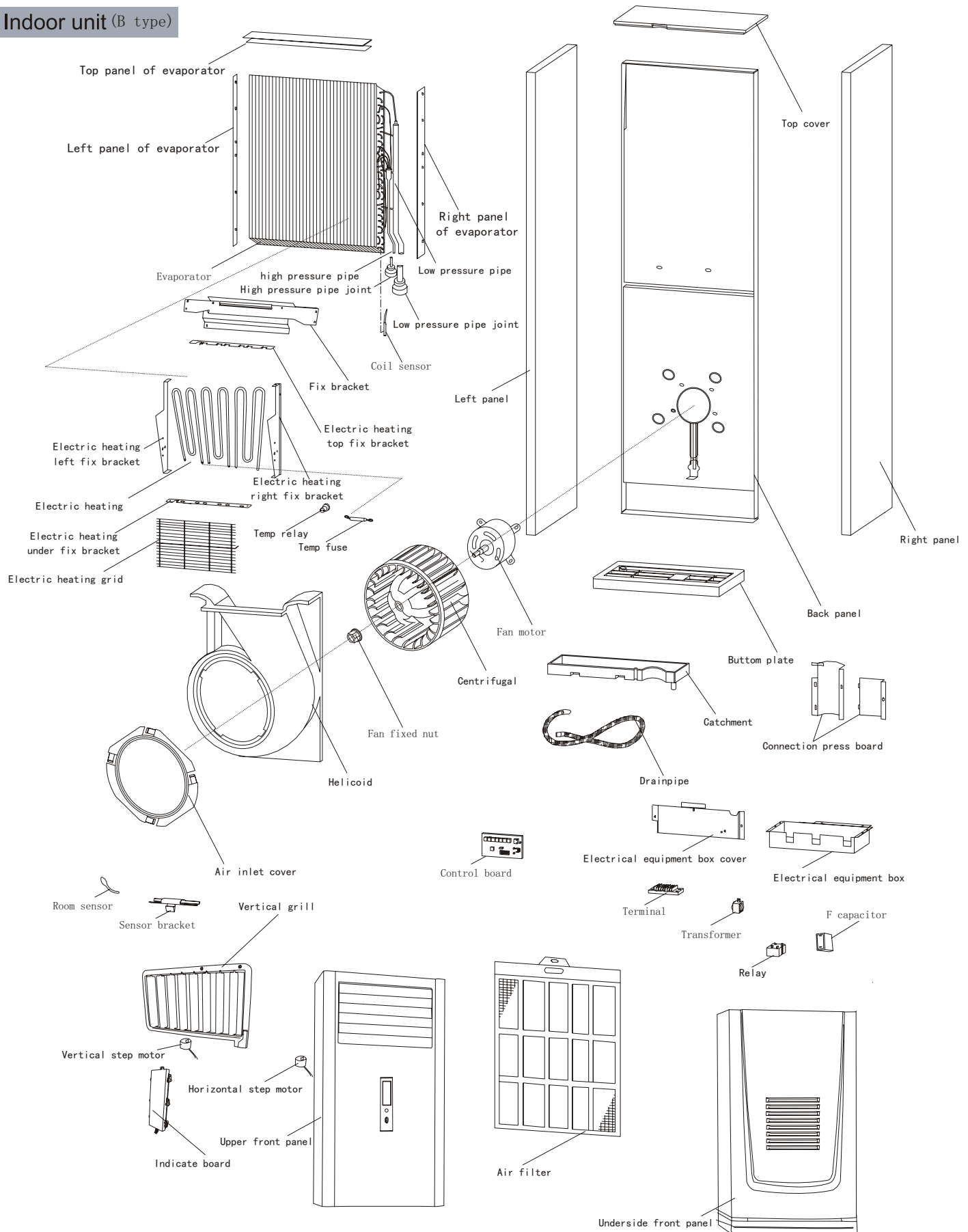
## Indoor unit (B type)



18000Btu 24000Btu

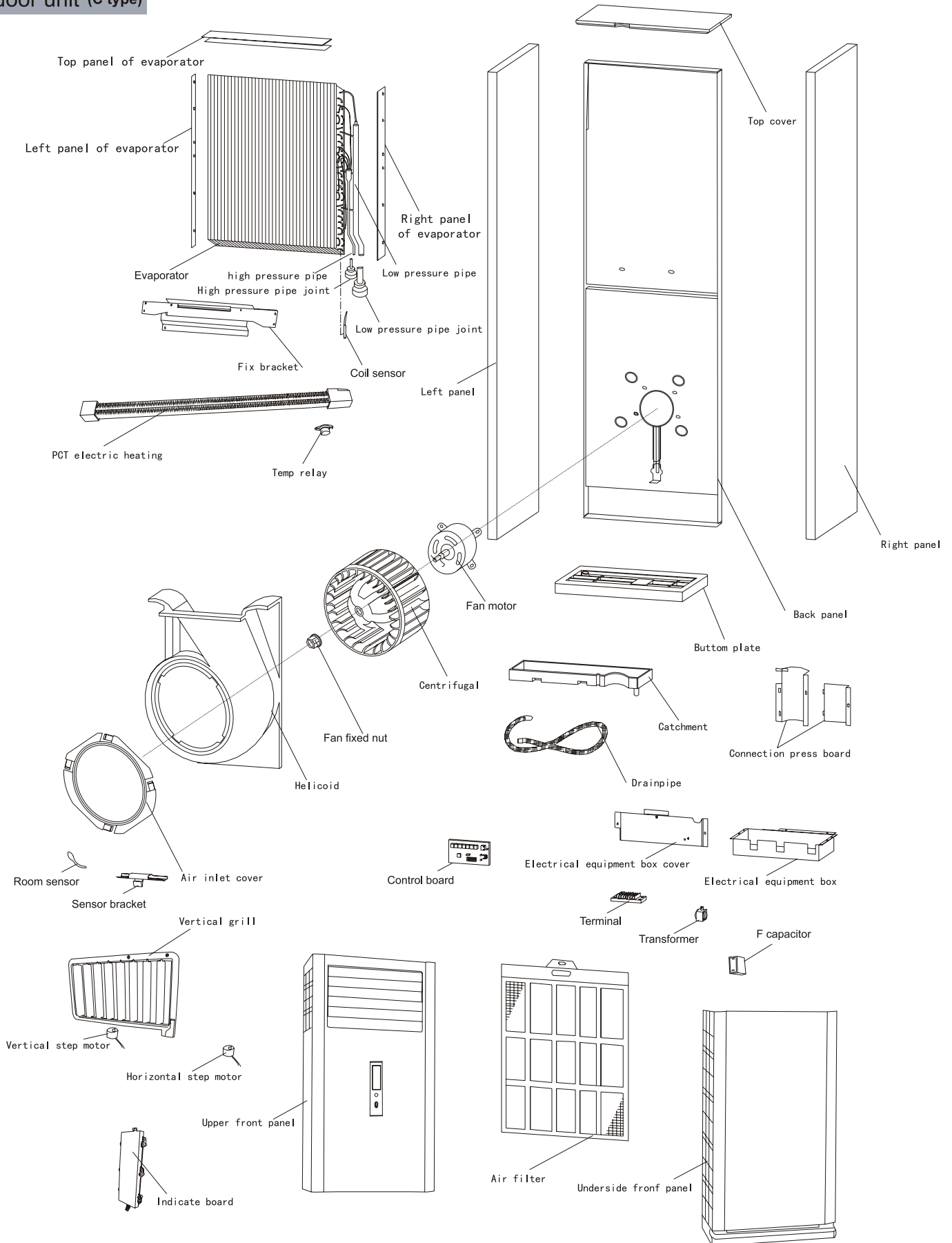
# Service Parts Name

## Indoor unit (B type)



41000Btu-48000Btu

## Indoor unit (C type)

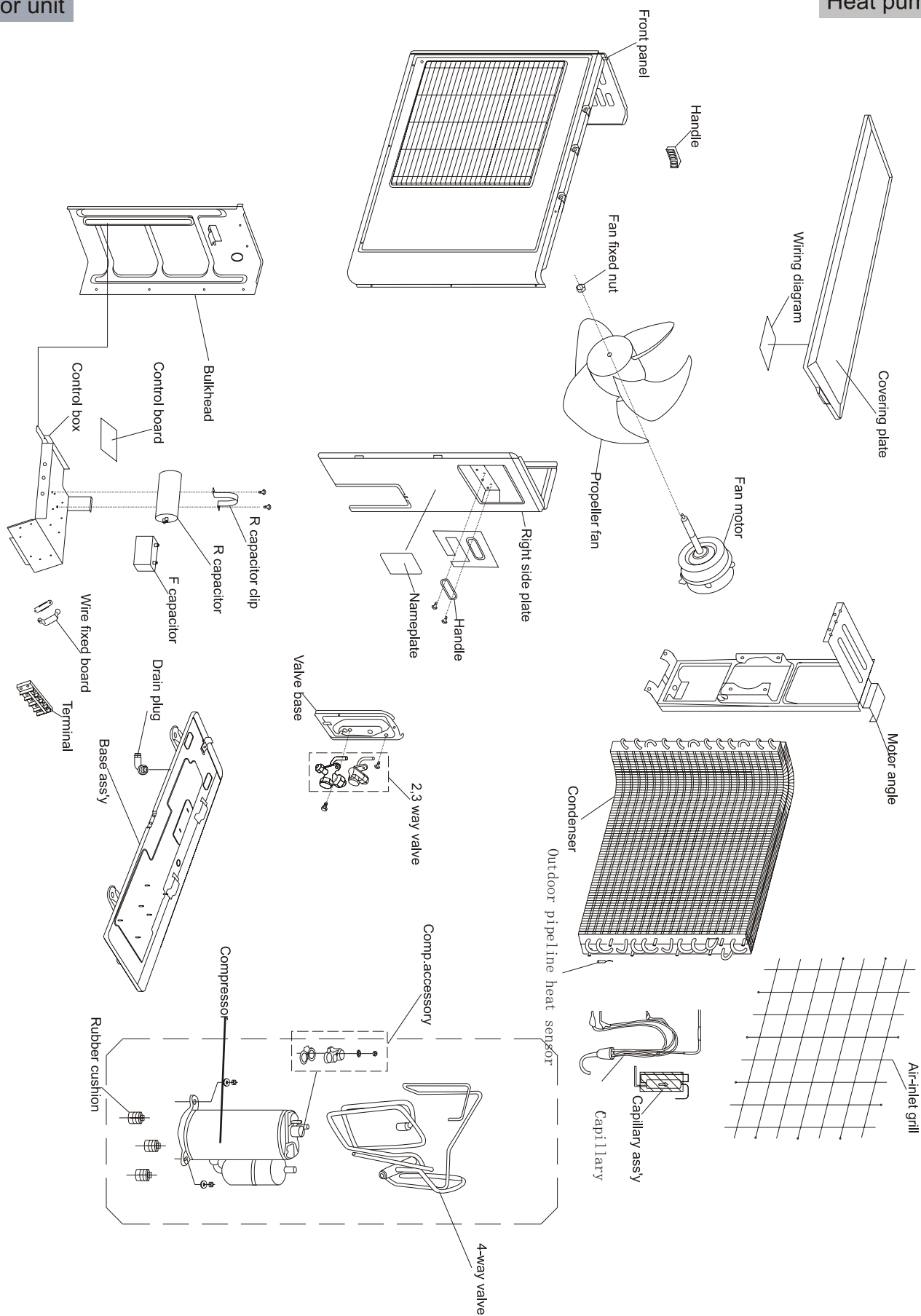


18000Btu

# Service Parts Name

Outdoor unit

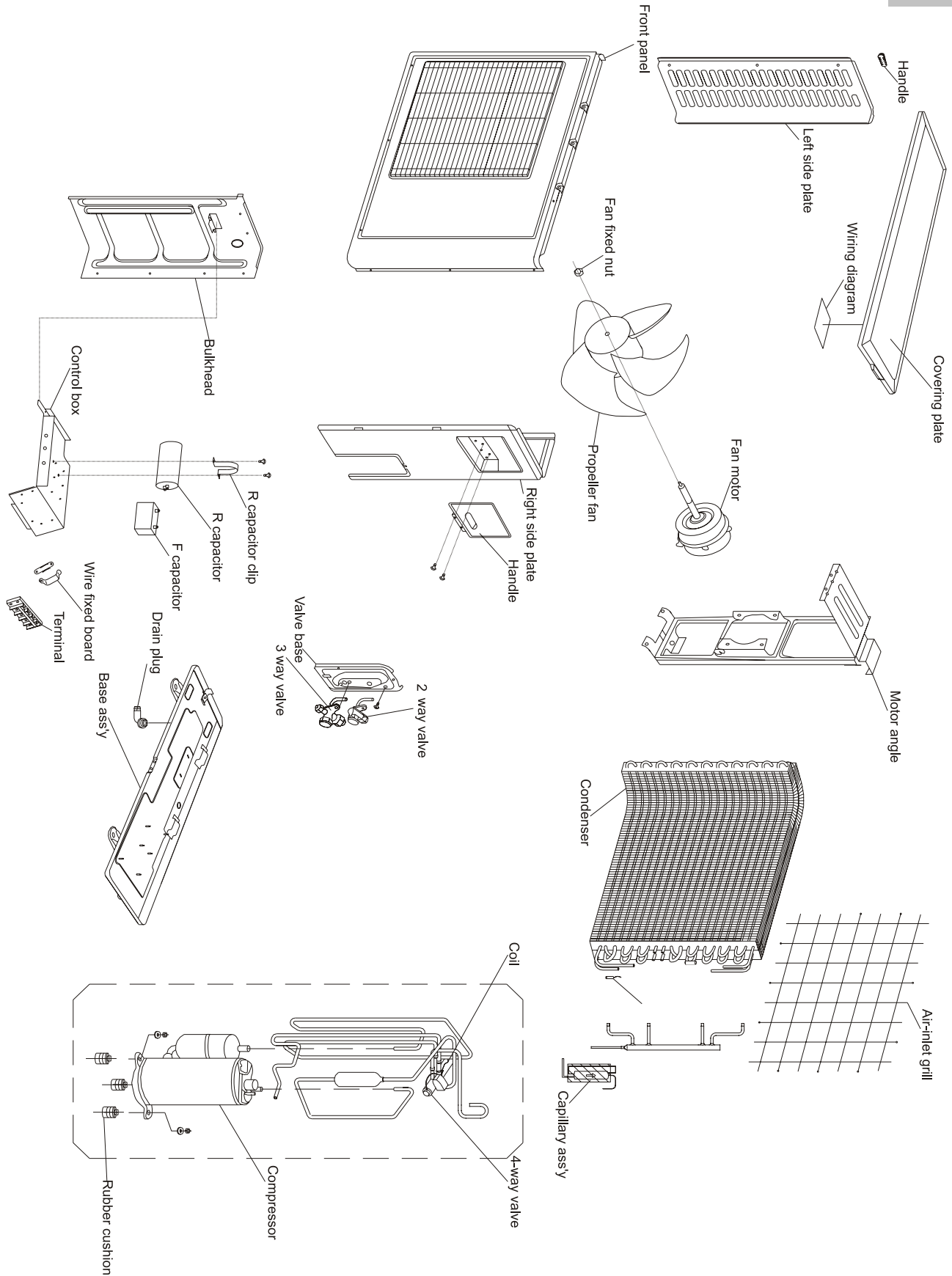
Heat pump



# Service Parts Name

Outdoor unit

Heat pump

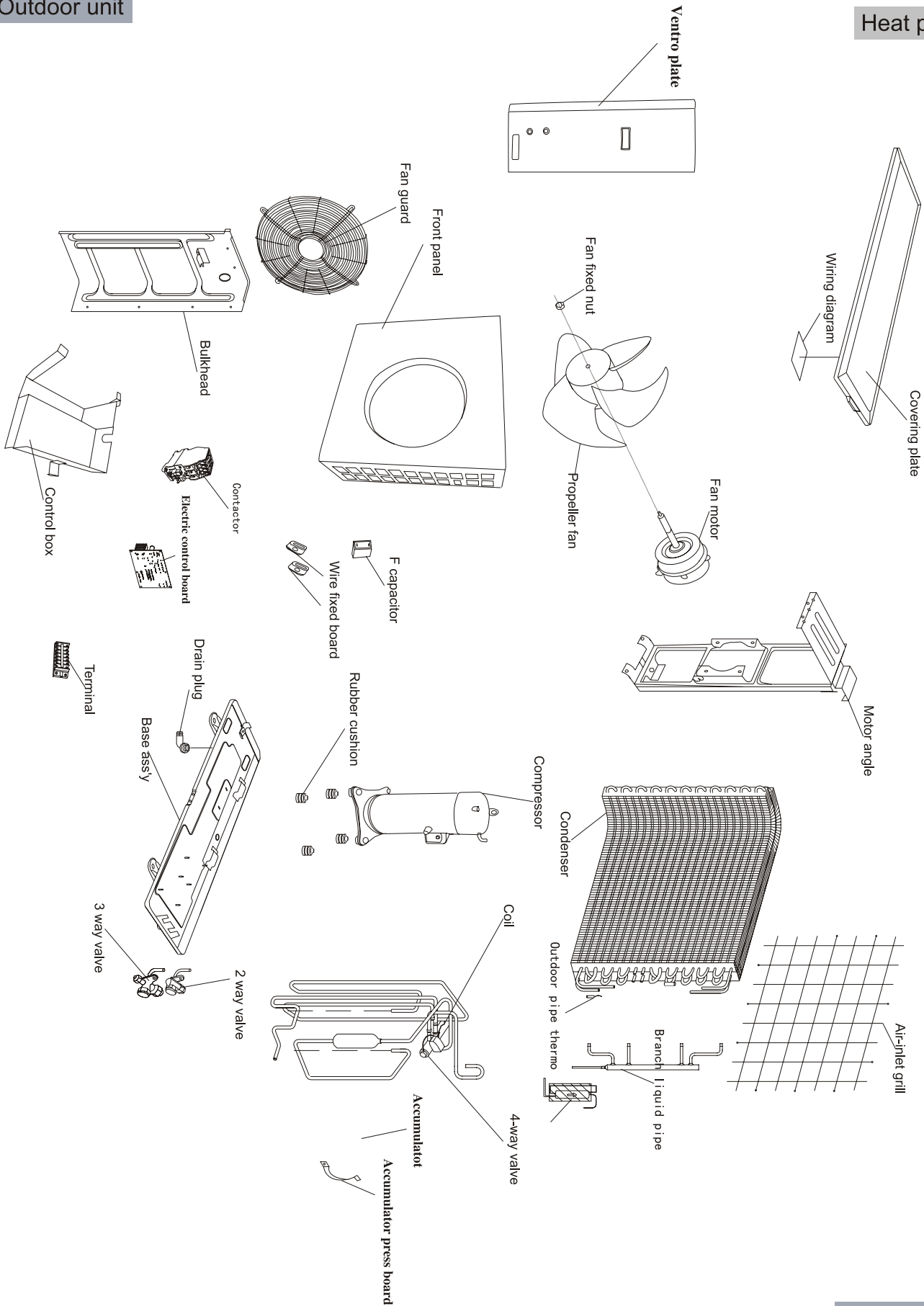


24000Btu

# Service Parts Name

Outdoor unit

Heat pump



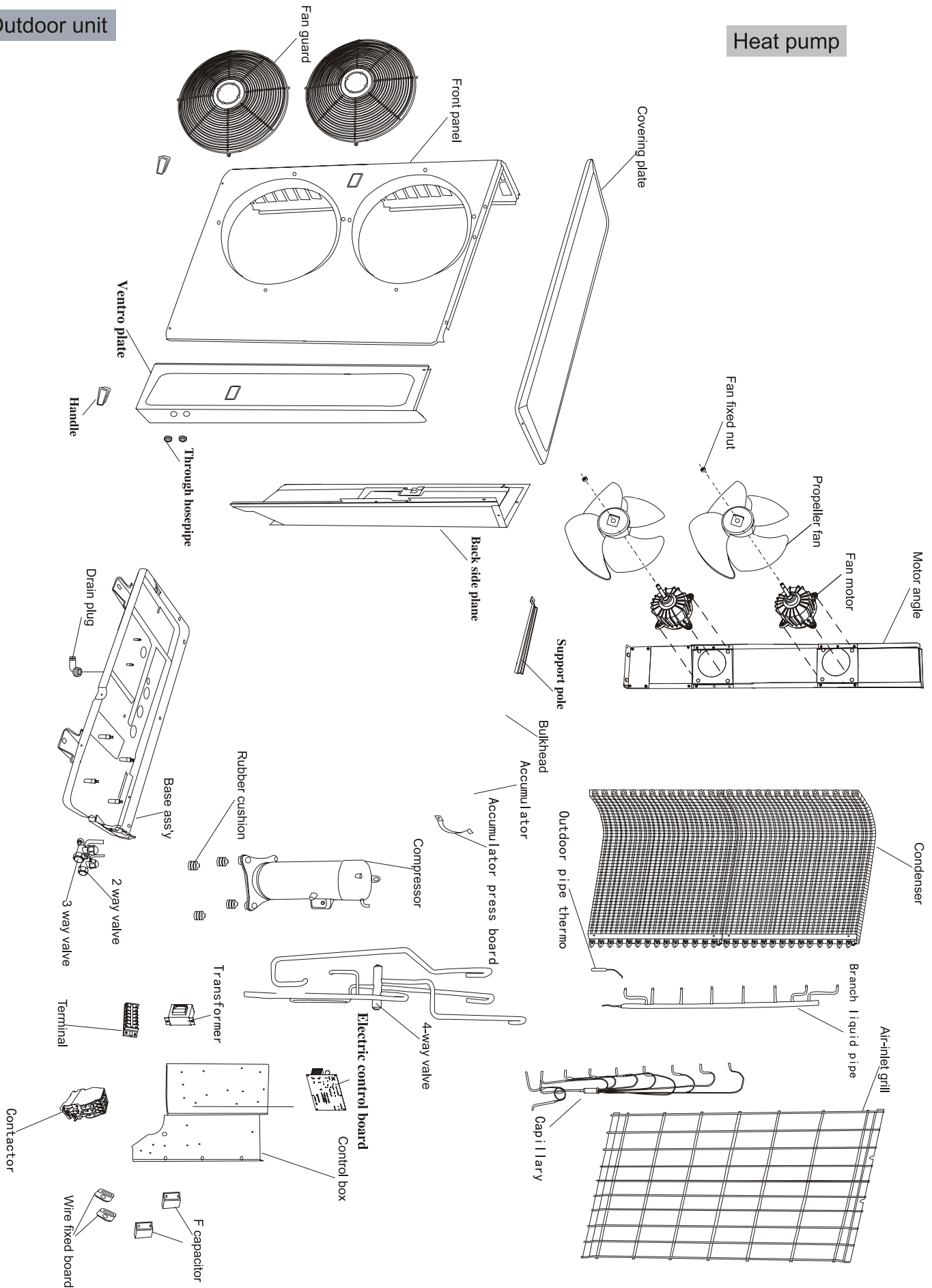
41000Btu

# Service Parts Name



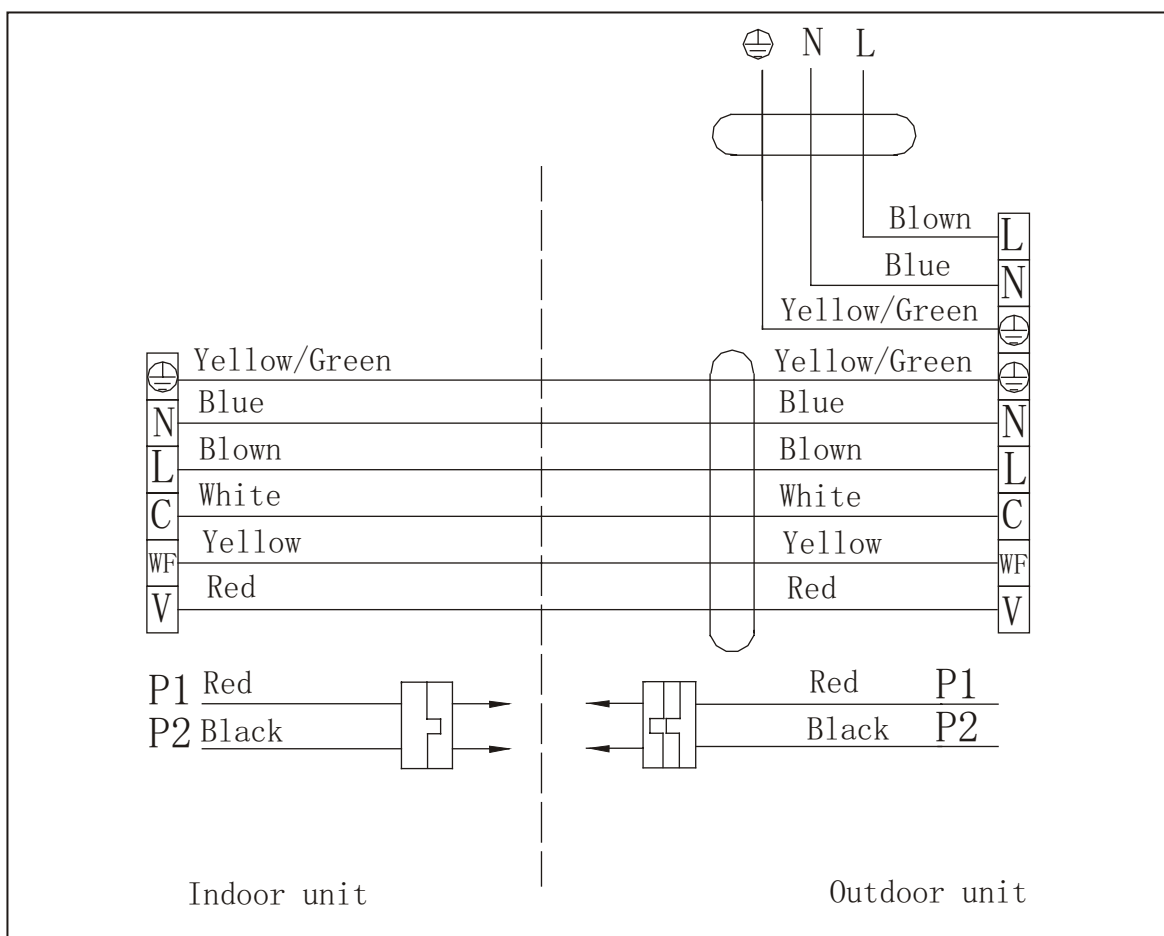
Outdoor unit

Heat pump

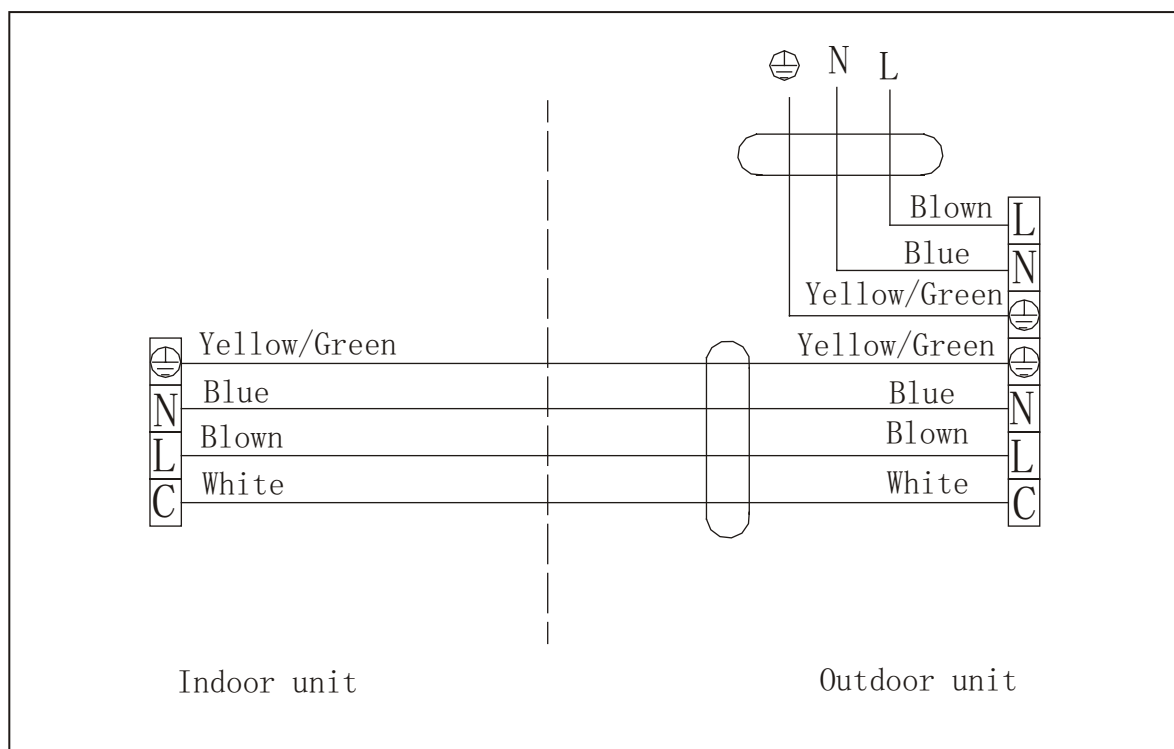


# Wiring diagram

18000/24000Btu(Cooling and heating)



18000/24000Btu (Cooling)

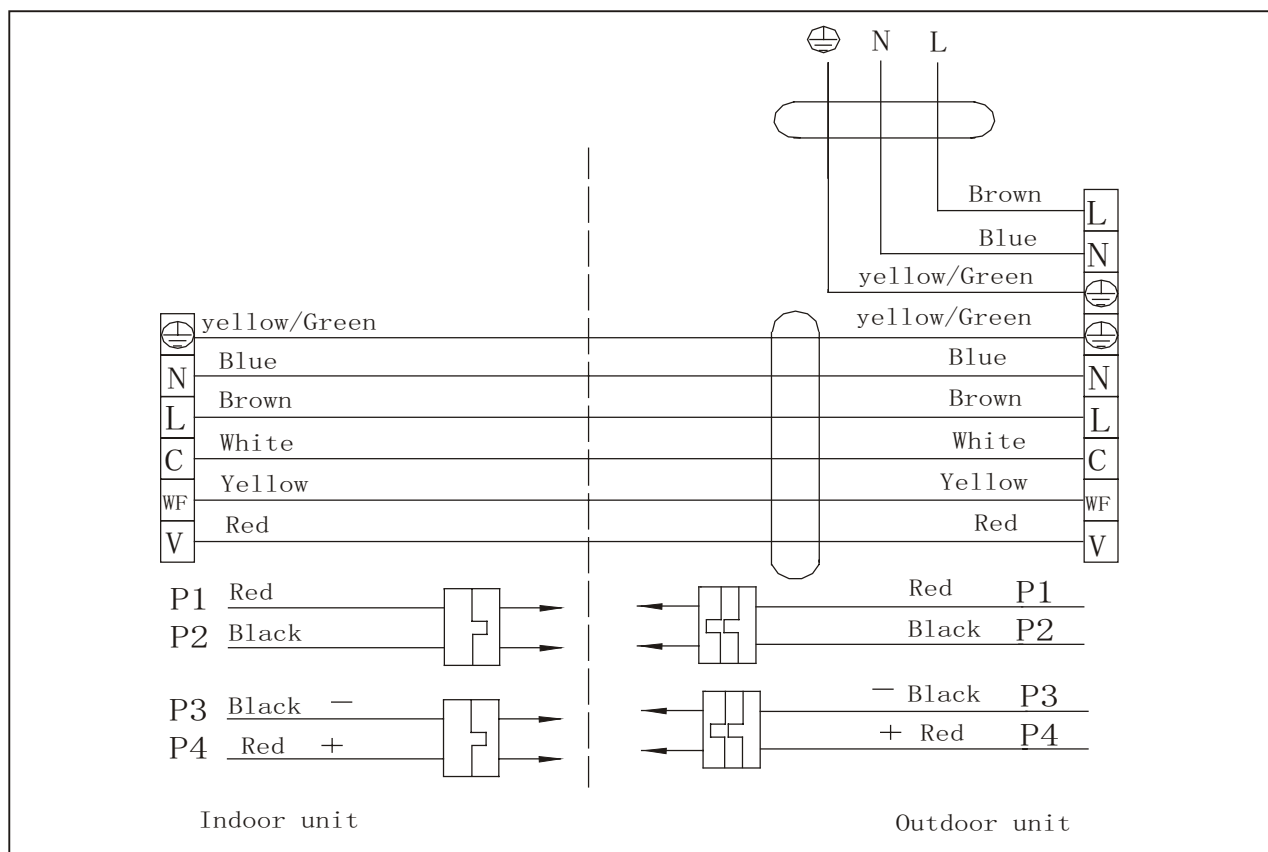




# Wiring diagram

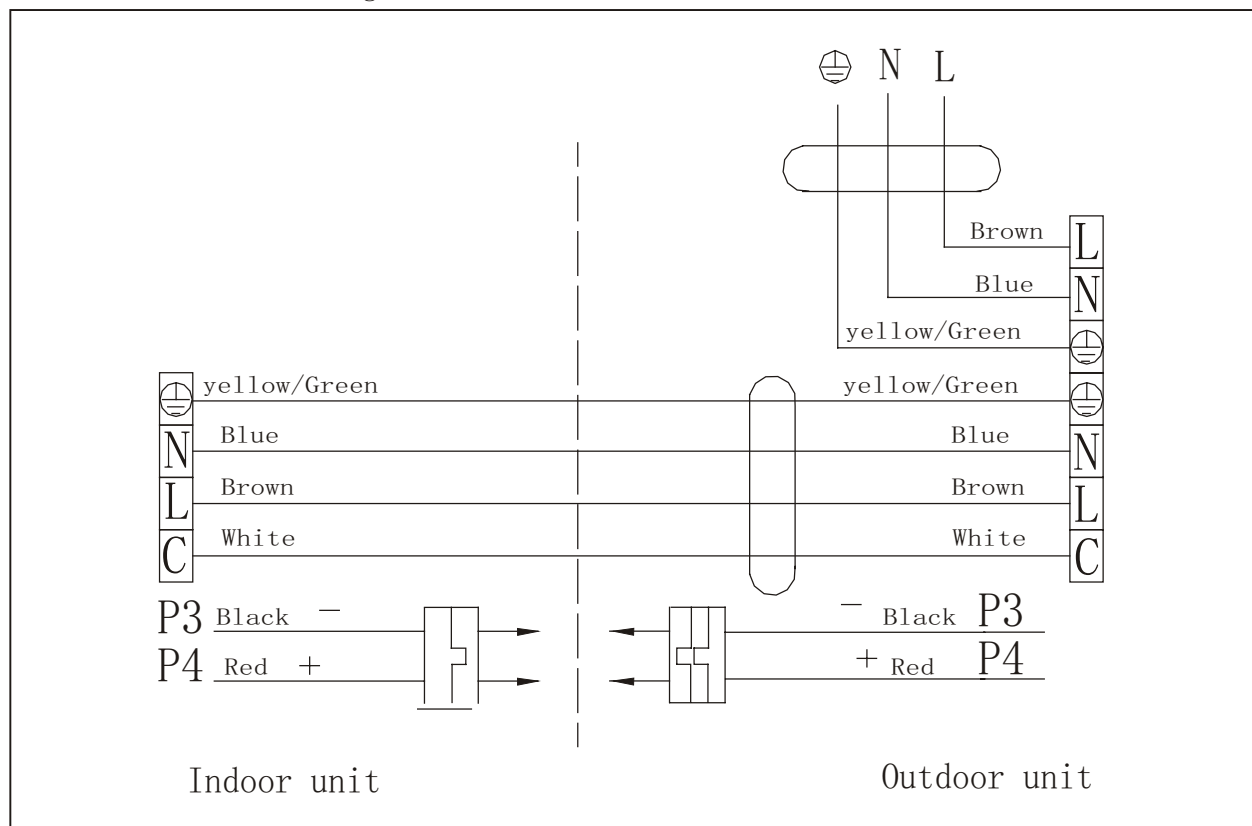
18000/24000Btu(Cooling and heating)

(Fresh air function)



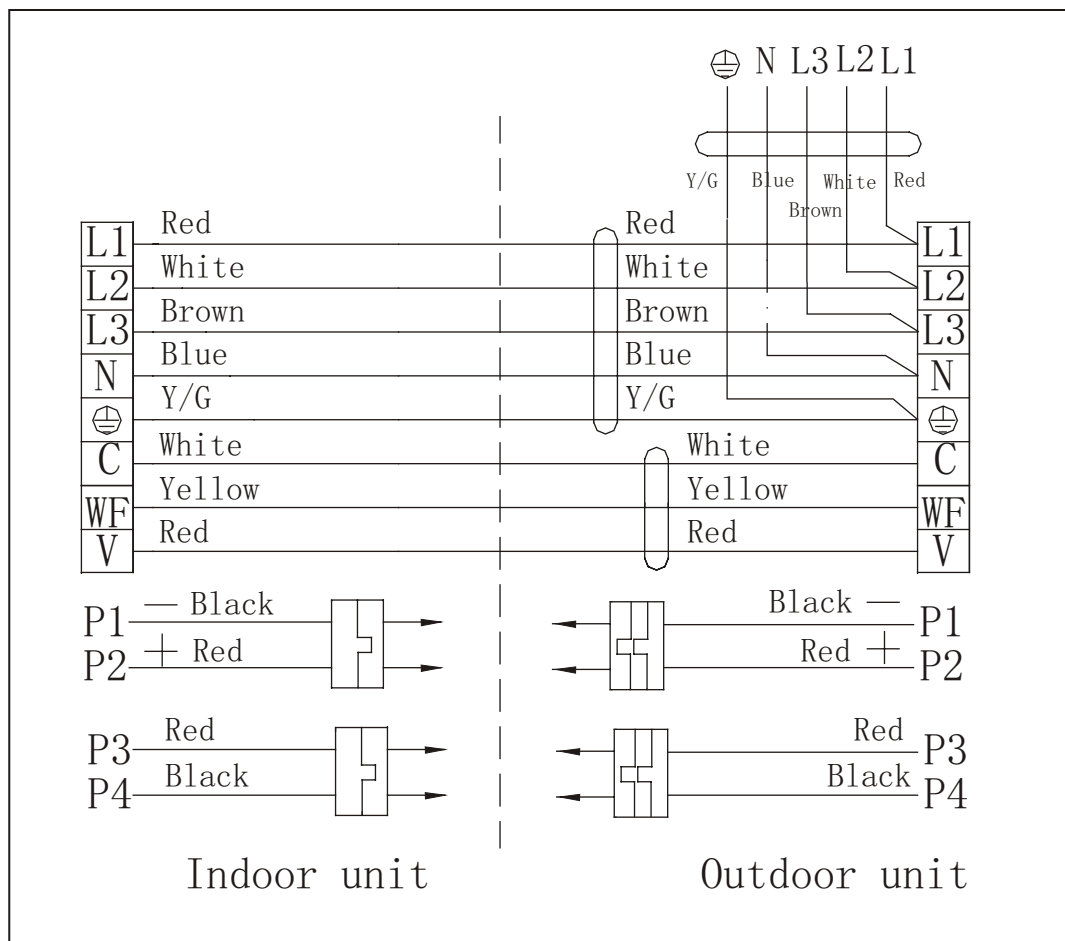
18000/24000Btu (Cooling)

(Fresh air function)

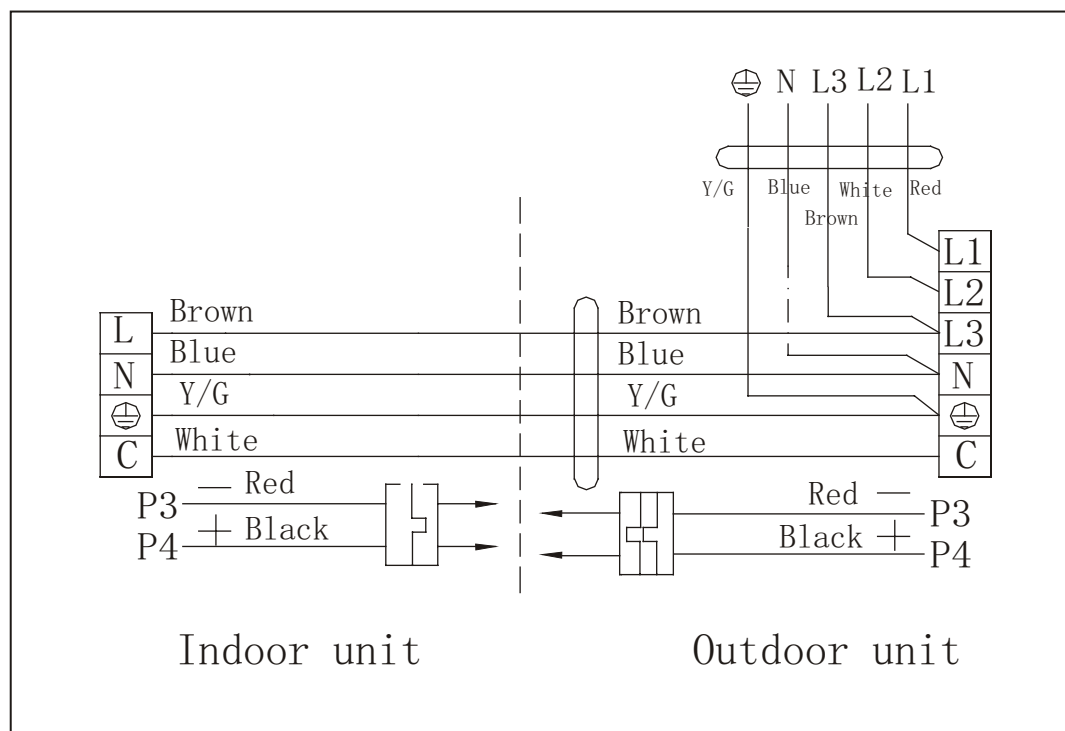


# Wiring diagram

41000Btu-48000Btu (Cooling and heating) (R22) (Note: P3 P4 Fresh air function, optional)

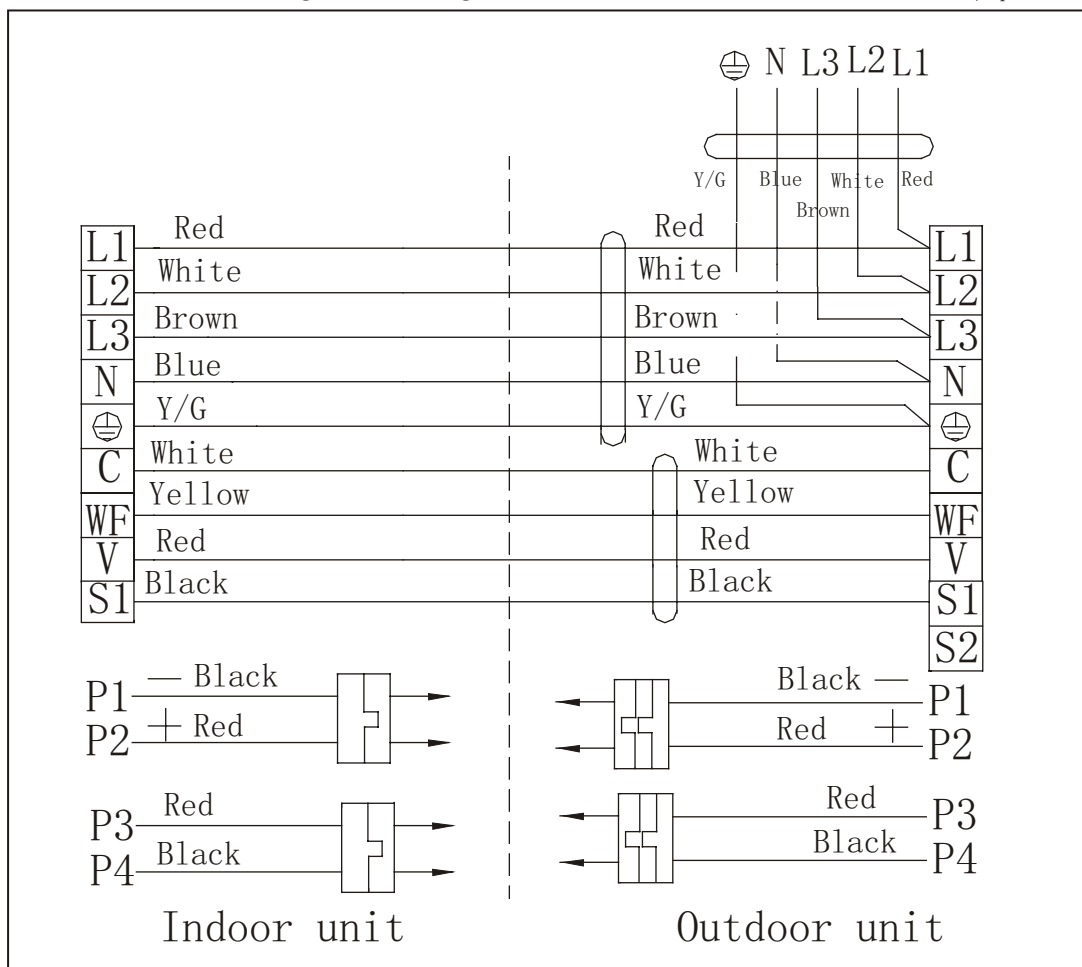


41000Btu-48000Btu (Cooling)(R22) (Note: P3 P4 Fresh air function, optional)

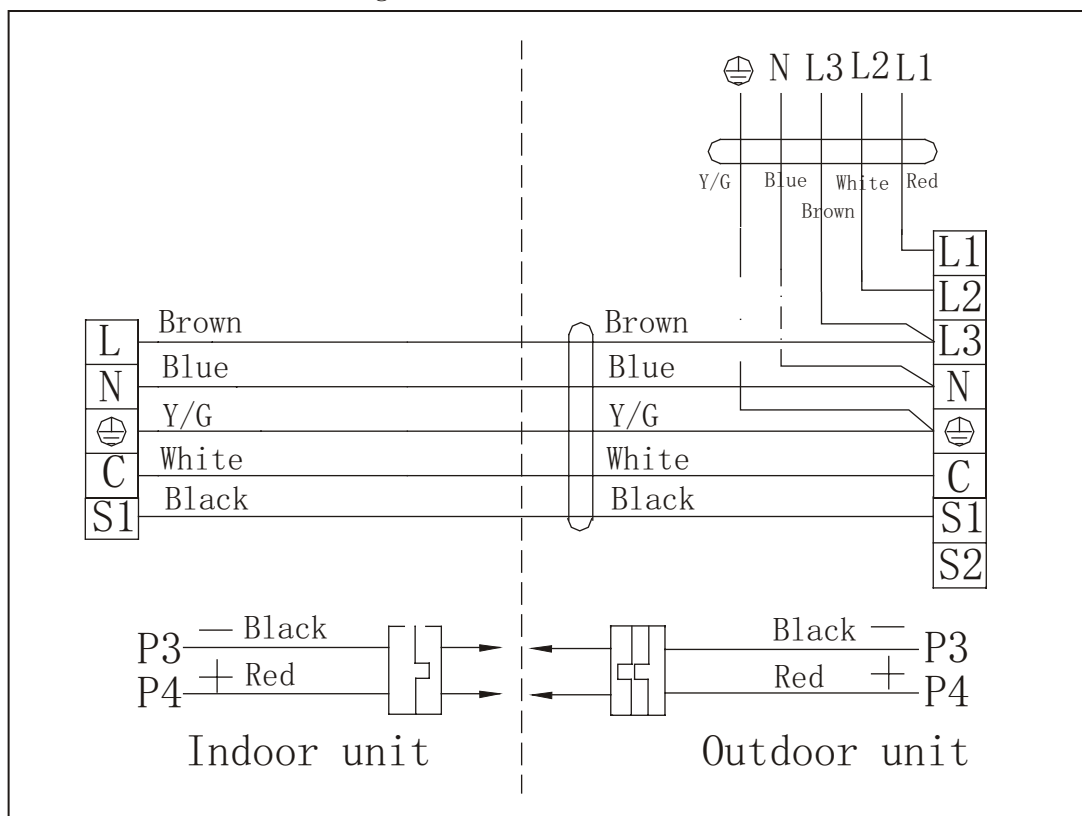


# Wiring diagram

41000Btu-48000Btu(Cooling and heating) (R407C)(Note: P3 P4 Fresh air function, optional)

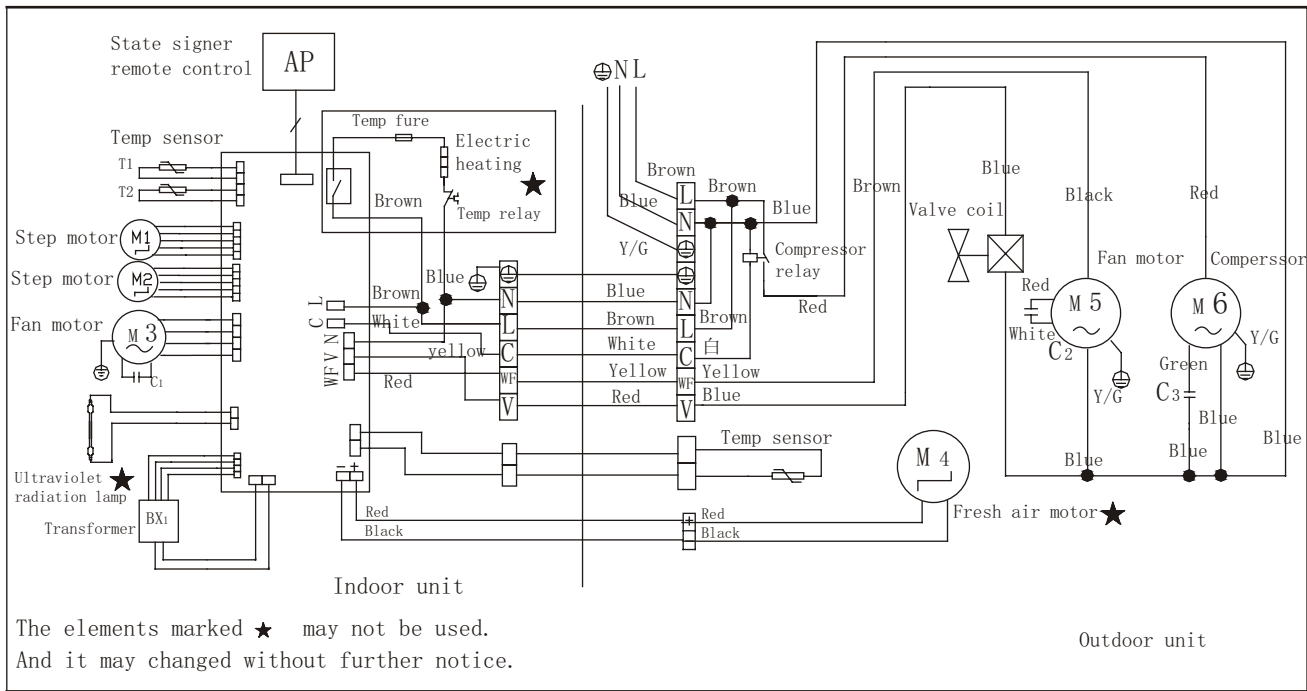


41000Btu-48000Btu (Cooling) (R407C) (Note: P3 P4 Fresh air function, optional)

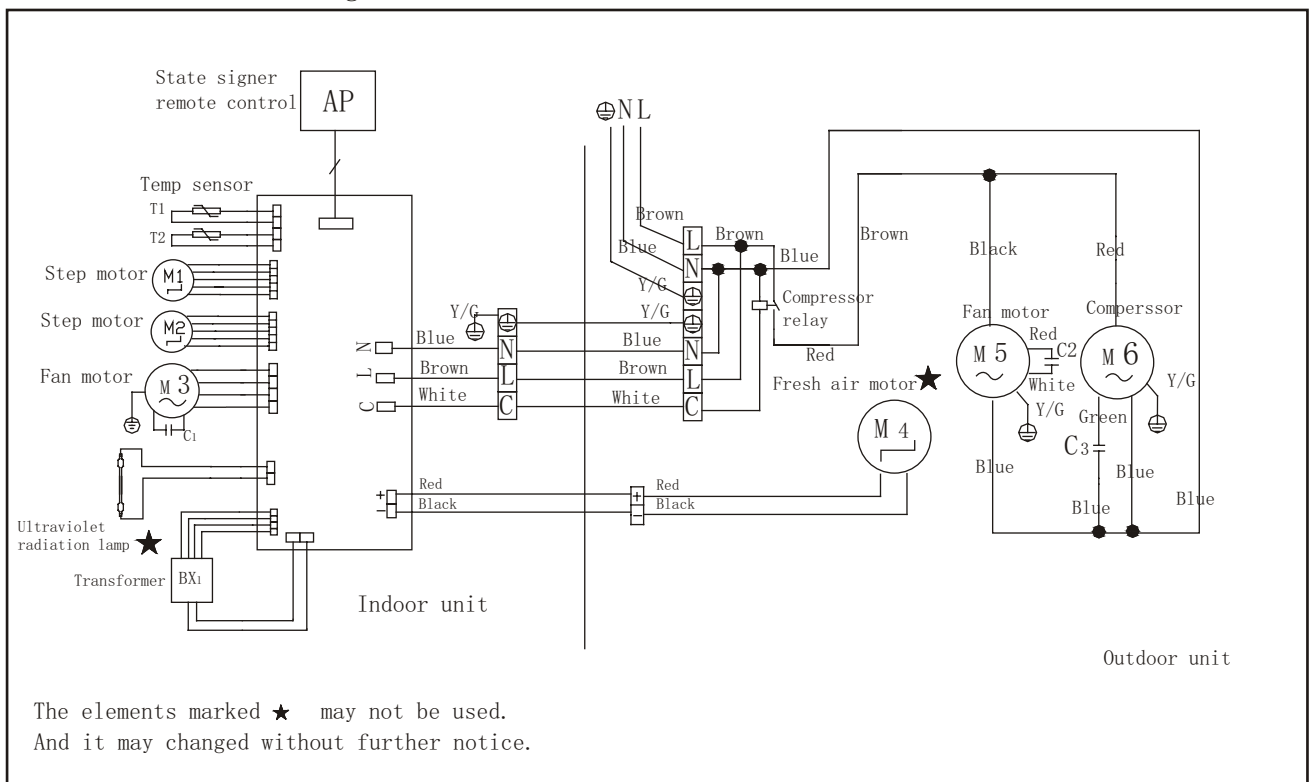


# Wiring diagram

18000/24000Btu (Cooling and heating)

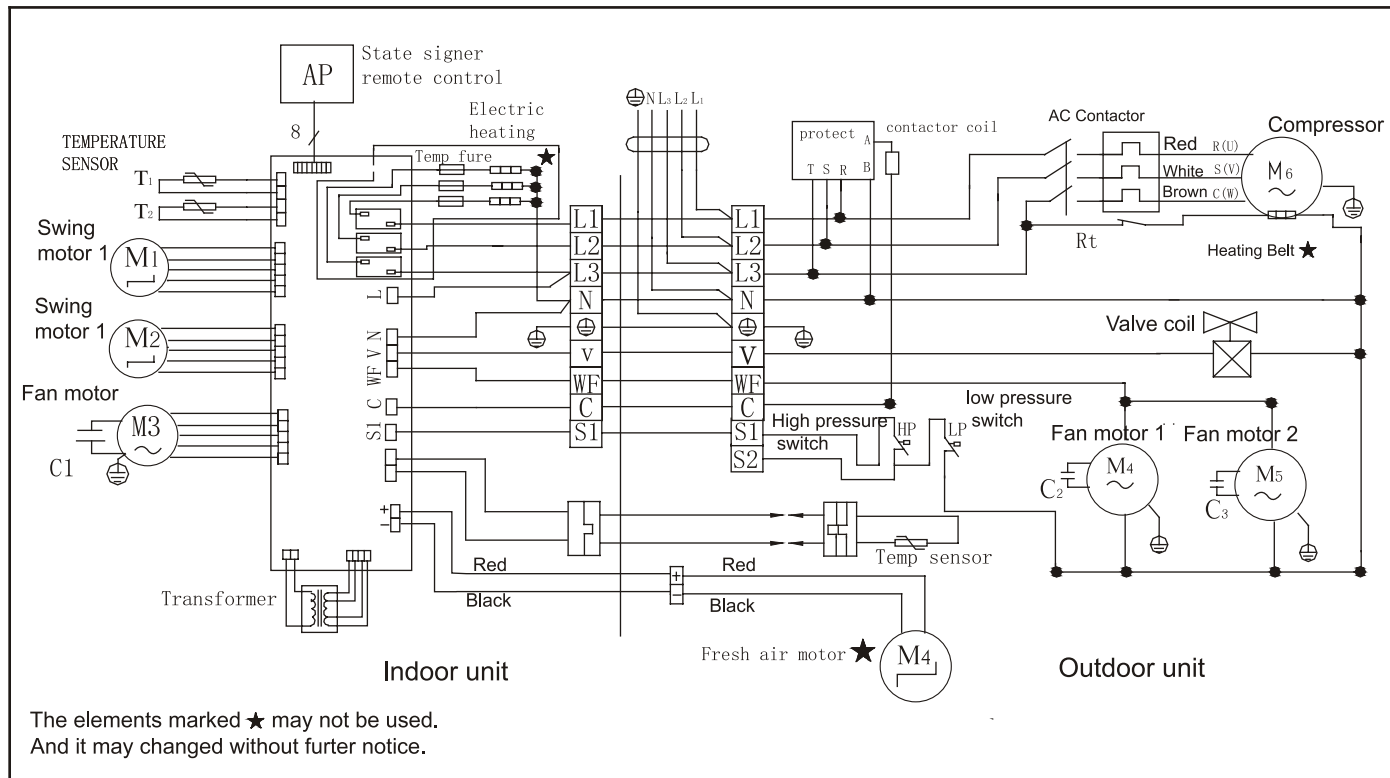


18000/24000Btu (Cooling)

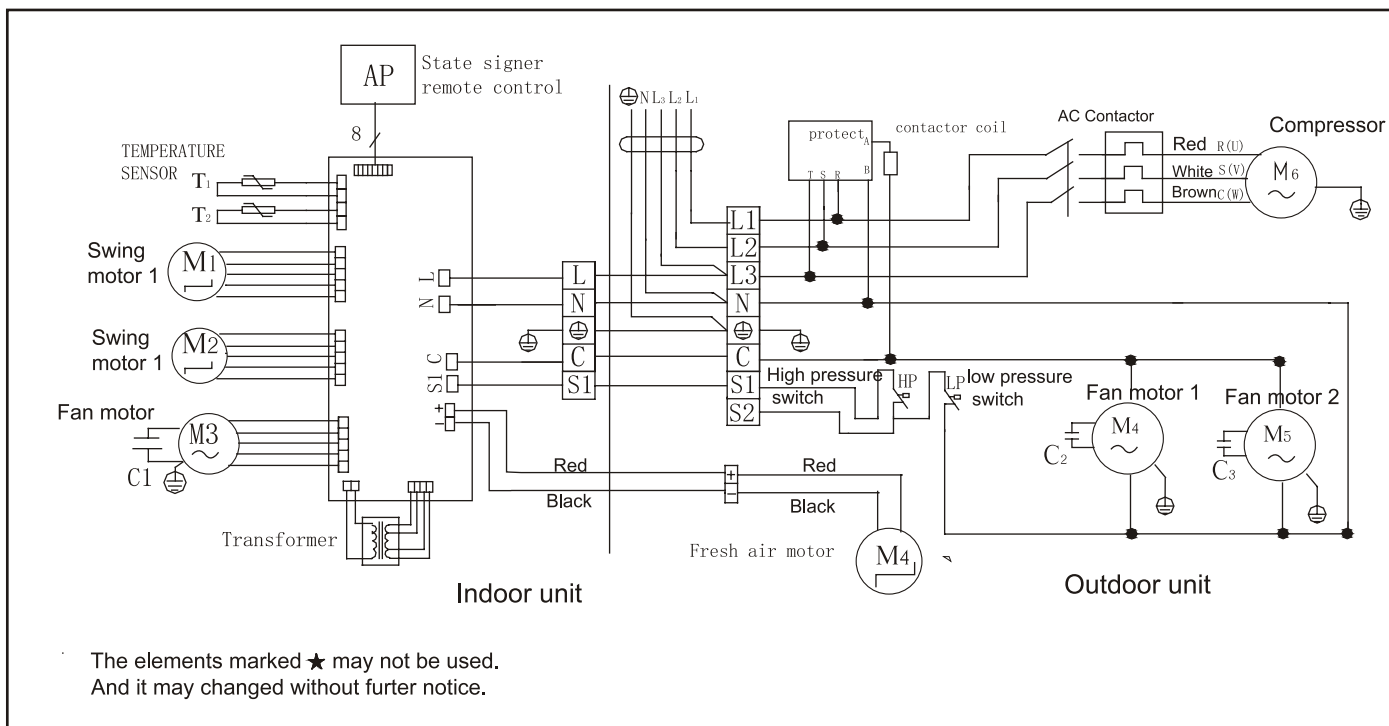


# Wiring diagram

## 120LW/S-140LW/S(Cooling and heating)(R407C)

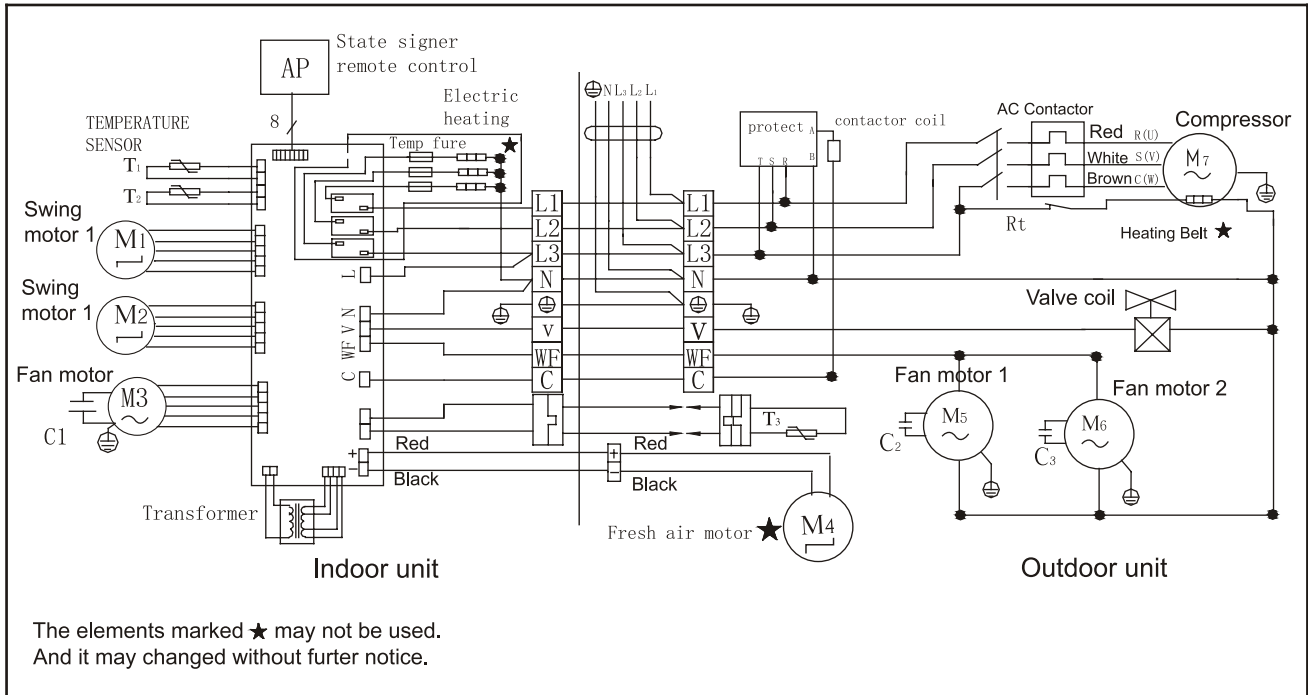


## 120LW/S-140LW/S(Cooling)(R407C)

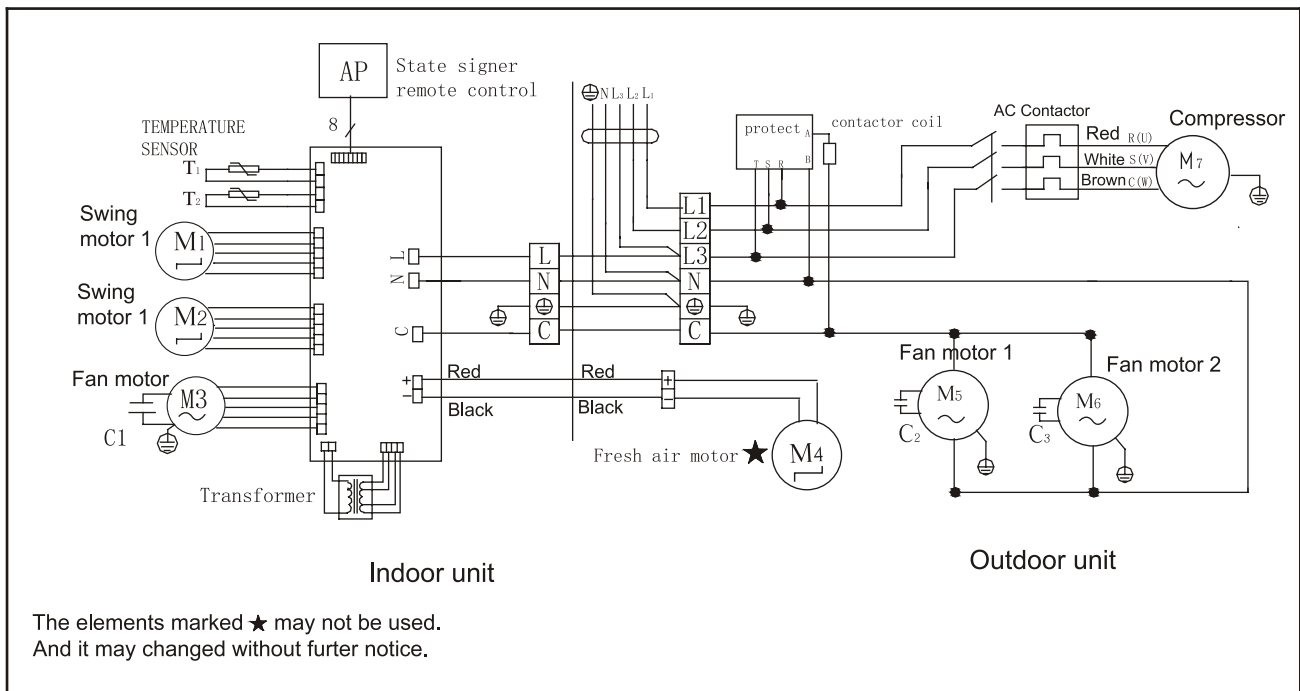


# Wiring diagram

## 120LW/S-140LW/S(Cooling and heating)(R22)



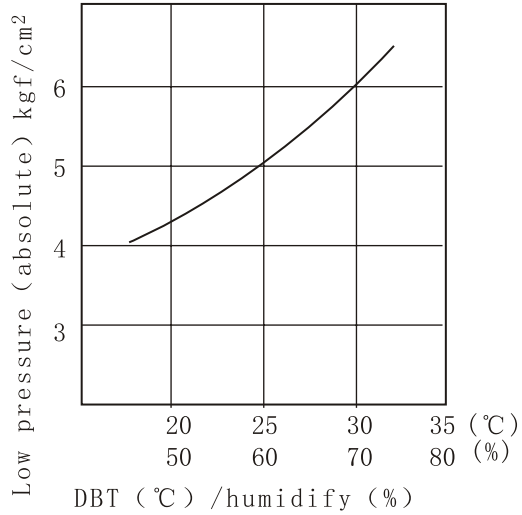
## 120LW/S-140LW/S(Cooling)(R22)



# CHARACTERISTIC CURVE

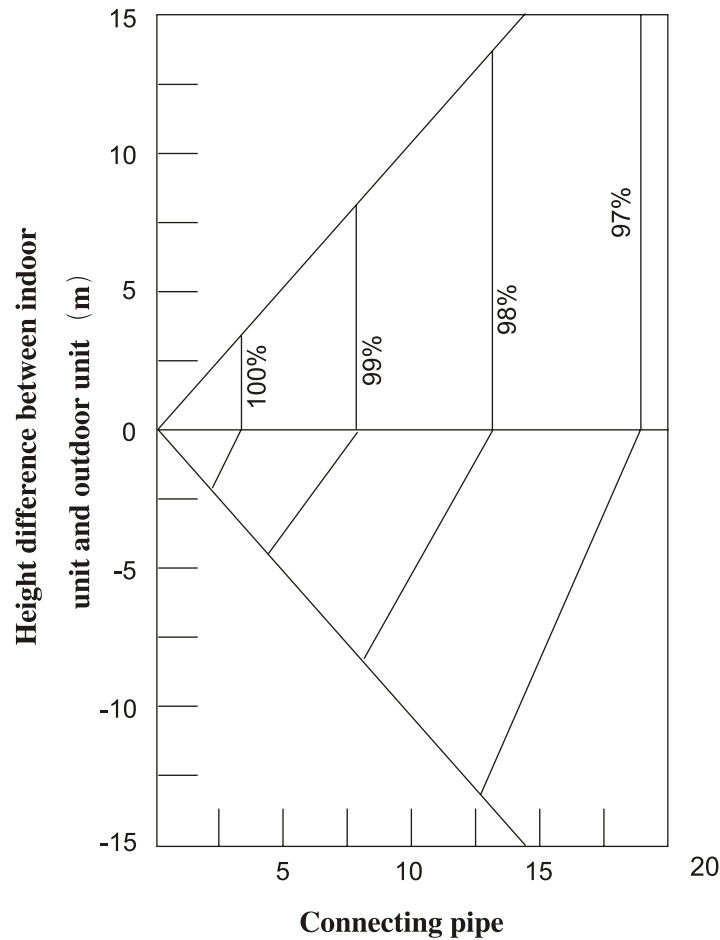
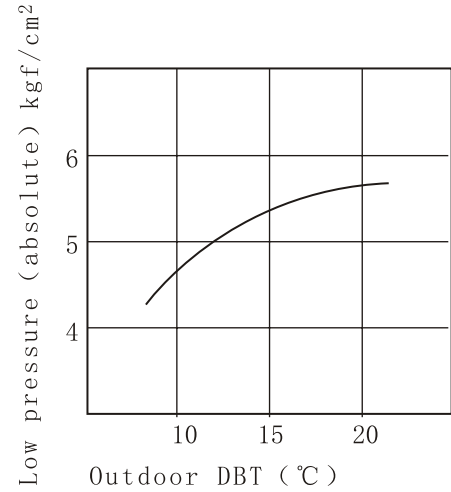
## COOLING

Same condition of the indoor and outdoor when it test



## HEATING

Roomside condition: DBT21 $^{\circ}\text{C}$ , WBT15.5 $^{\circ}\text{C}$



The change of refrigerant according to the connecting pipe length

# RESISTANA — TEMPERATURE SPECIALITY TABLE

R25=10.000K  $\Omega$  B25/50=3470K

Temp (°C)	Resistance (K $\Omega$ )		Temp (°C)	Resistance (K $\Omega$ )		Temp (°C)	Resistance (K $\Omega$ )
-16	61.034		13	16.187		42	5.347
-15	58.057		14	15.529		43	5.163
-14	55.243		15	14.901		44	4.987
-13	52.583		16	14.303		45	4.817
-12	50.066		17	13.732		46	4.655
-11	47.685		18	13.187		47	4.498
-10	45.431		19	12.667		48	4.348
-9	43.297		20	12.170		49	4.203
-8	41.276		21	11.696		50	4.064
-7	39.361		22	11.242		51	3.931
-6	37.546		23	10.810		52	3.803
-5	35.826		24	10.396		53	3.680
-4	34.194		25	10.000		54	3.561
-3	32.646		26	9.622		55	3.446
-2	31.177		27	9.259		56	3.336
-1	29.783		28	8.913		57	3.230
0	28.459		29	8.582		58	3.127
1	27.203		30	8.264		59	3.028
2	26.011		31	7.961		60	2.933
3	24.879		32	7.670		61	2.841
4	23.802		33	7.391		62	2.753
5	22.779		34	7.124		63	2.667
6	21.806		35	6.868		64	2.584
7	20.880		36	6.622		65	2.505
8	19.999		37	6.387		66	2.428
9	19.160		38	6.162		67	2.354
10	18.362		39	5.945		68	2.283
11	17.602		40	5.738		69	2.214
12	16.877		41	5.538		70	2.147



# Faults & self-diagnoses



## ■ Resistance of compressor motor

### ● Wall split air conditioner ( R22 )

Model of compressor	Value of compressor motor ( $\Omega$ ) (20°C)		
	R-C	S-C	
PH310	1.74	2.91	
SHX33	1.79	3.50	
TH338	1.00	1.12	
PH420	1.13	2.10	
SHV33	1.03	2.57	
	U-V	U-W	W-V
VR57KF-TFP	2.76	2.76	2.76

### ● Wall split air conditioner (R407C)

Model of compressor	Value of compressor motor ( $\Omega$ ) (20°C)		
	R-C	S-C	
PG295	1.74	2.91	
CHX33	1.79	3.50	
PG420	1.13	2.10	
CHV33	1.45	3.34	
	U-V	U-W	W-V
C-SBN353	2.806	2.806	2.651
C-SBN373	2.806	2.806	2.651

### ● Wall split air conditioner (R410A)

Model of compressor	Value of compressor motor ( $\Omega$ ) (20°C)	
	R-C	S-C
PA225	1.54	2.48
PA290	1.13	2.10

### Adjustment of refrigerant charging

Type	18000Btu	24000Btu	41000Btu/48000Btu
Additional refrigerant charging for adding each meter of connection tube	30g	60g	80g

