TOSOT

SERVICE MANUAL

MODELS:

TM18H5O

TM24H5O

TM36H5O

TM42H5O

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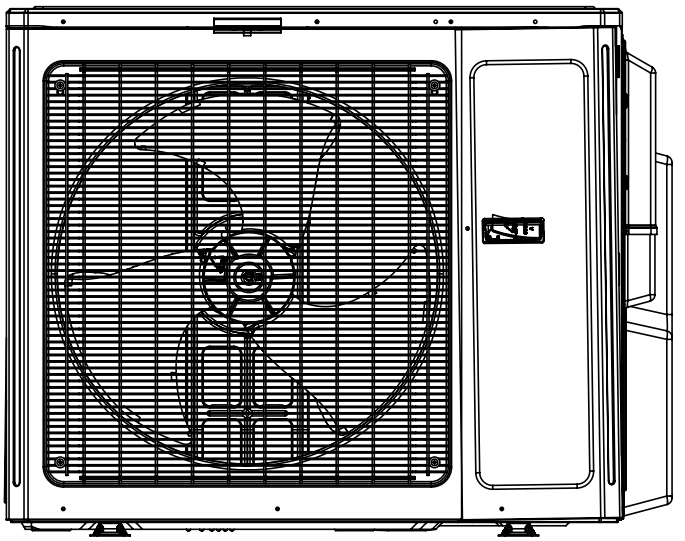
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Part Ⅰ : Technical Information

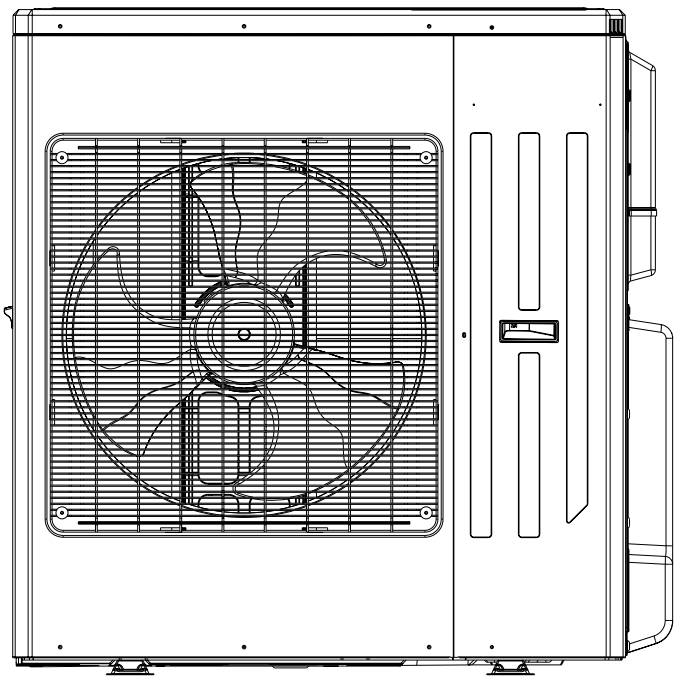
1. Summary

Outdoor Unit

TM18H5O
TM24H5O



TM36H5O
TM42H5O



No.	Model	Product Code
1	TM18H5O	CB228W09400
2	TM24H5O	CB228W09500
3	TM36H5O	CB228W09600
4	TM42H5O	CB228W09700

2. Specifications

2.1 Specification Sheet

Model			TM18H5O	TM24H5O
Product Code			CB228W09400	CB228W09500
Power supply	Rated Voltage	V~	208/230	208/230
	Rated Frequency	Hz	60	60
	Phases		1	1
Cooling capacity		Btu/h	18000	22000
Heating capacity		Btu/h	21000	26000
Cooling Power Input		W	1450	1760
Heating Power Input		W	1710	2090
Cooling Current Input		A	6.3	7.65
Heating Current Input		A	7.4	9.1
Rated Power Input		W	5000	6000
Rated Current		A	22	26
EER		(Btu/h)/W	12.5	12.5
COP		(Btu/h)/W	12.3	12.5
SEER			23	23
HSPF			10.5	10.5
Outdoor Unit	Compressor Trademark		ZHUHAI LANDA COMPRESSOR CO.,LTD	ZHUHAI LANDA COMPRESSOR CO.LTD
	Compressor Model		QXFW-D318zX035	QXFW-D318zX035
	Compressor Refrigerant Oil Type		FW68DA or equivalent	FW68DA or equivalent
	Compressor Type		Inverter Rotary	Inverter Rotary
	L.R.A	A	/	/
	Compressor Rated Load Amp (RLA)	A	14.9	17
	Compressor Power Input	W	/	/
	Compressor Thermal Protector		/	/
	Throttling Method		Electron expansion valve	Electron expansion valve
	Cooling Operation Ambient Temperature Range	°F	0~115	0~115
	Heating Operation Ambient Temperature Range	°F	-31~75.2	-31~75.2
	Condenser Material		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	inch	Φ5/16	Φ5/16
	Rows-Fin Gap(mm)	inch	2-1/16	2-1/16
	Coil length (l) X height (H) X coil width (L)	inch	38 21/32X29 7/16X1 1/2	38 21/32X29 7/16X1 1/2
	Fan Motor Speed (rpm) (H/M/L)	rpm	880	880
	Output of Fan Motor	W	90	90
	Fan Motor RLA	A	/	/
	Fan Motor Capacitor	μF	/	/
	Air Flow Volume of Outdoor Unit	CFM	2531	2531
	Fan Type-Piece		Axial-flow	Axial-flow
	Fan Diameter	inch	21 43/64-2 39/64	Φ21 19/32-4 45/64
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	PSIG	550	550
	Permissible Excessive Operating Pressure for the Suction Side	PSIG	240	240
	Dimension (WXHXD)	inch	39 31/64X31 7/64X16 13/32	39 31/64X31 7/64X16 13/32
	Dimension of Package (LXWXH)	inch	42 1/2X19X33	42 1/2X19X33
	Dimension of Package(LXWXH)	inch	42 43/64X19 13/64X33 43/64	42 43/64X19 13/64X33 43/64
	Net Weight	lb	172	174.2
	Gross Weight	lb	183	185.2
	Refrigerant Charge		R410A	R410A
	Refrigerant Charge	oz	77.62	95.26

Outdoor Unit	Cross-sectional Area of Power Cable Conductor	sq in	0.0051	0.0051
	Recommended Power Cable(Core)	N	3	3
	Connection Pipe Connection Method	-	Flare Connection	Flare Connection
	Not Additional Gas Connection Pipe Length	ft	65.6	98.4
	Connection Pipe Gas Additional Charge	oz/ft.	0.2	0.2
	Outer Diameter of Liquid Pipe1(GREE Allocation) (Metric)	inch	1/4	1/4
	Outer Diameter of Liquid Pipe2(GREE Allocation) (Metric)	inch	1/4	1/4
	Outer Diameter of Liquid Pipe3(GREE Allocation) (Metric)	inch	/	1/4
	Outer Diameter of Liquid Pipe4(GREE Allocation) (Metric)	inch	/	/
	Outer Diameter of Gas Pipe1(GREE Allocation) (Metric)	inch	3/8	3/8
	Outer Diameter of Gas Pipe2(GREE Allocation) (Metric)	inch	3/8	3/8
	Outer Diameter of Gas Pipe3(GREE Allocation) (Metric)	inch	/	3/8
	Outer Diameter of Gas Pipe4(GREE Allocation) (Metric)	inch	/	/
	Connection Pipe Max. Height Distance(indoor and indoor)	ft	26.2	26.2
	Connection Pipe Max. Height Distance(indoor and outdoor and indoor up)	ft	26.2	26.2
	Connection Pipe Max. Height Distance(indoor and outdoor and outdoor up)	ft	26.2	26.2
	Max. equivalent connection pipe length(outdoor to last indoor)	ft	82.0	82.0
	Connection Pipe Max. Length Distance(total lenght)	ft	164	229.6

The above data is subject to change without notice; please refer to the nameplate of the unit.

Model			TM36H5O	TM42H5O
Product Code			CB228W09600	CB228W09700
Power supply	Rated Voltage	V~	208/230	208/230
	Rated Frequency	Hz	60	60
	Phases		1	1
Cooling capacity		Btu/h	36000	42000
Heating capacity		Btu/h	36000	42000
Cooling Power Input		W	4020	4660
Heating Power Input		W	3300	3600
Cooling Current Input		A	17.48	20.26
Heating Current Input		A	14.35	15.65
Rated Power Input		W	7360	7360
Rated Current		A	32	32
EER		(Btu/h)/W	9.0	9.0
COP		(Btu/h)/W	10.96	11.66
SEER			23.0	23.0
HSPF			10.0	10.0
Outdoor Unit	Compressor Trademark		ZHUHAI LANDA COMPRESSOR CO.,LTD	ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXAW-F518zX440C	QXAW-F518zX440C
	Compressor Refrigerant Oil Type		FW68DA or equivalent	FW68DA or equivalent
	Compressor Type		Inverter Rotary	Inverter Rotary
	L.R.A	A	/	/
	Compressor Rated Load Amp (RLA)	A	27	28.5
	Compressor Power Input	W	/	/
	Compressor Thermal Protector		/	/
	Throttling Method		Electron expansion valve	Electron expansion valve
	Cooling Operation Ambient Temperature Range	°F	0~115	0~115
	Heating Operation Ambient Temperature Range	°F	-31~75.2	-31~75.2
	Condenser Material		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	inch	Φ5/16	Φ5/16
	Rows-Fin Gap(mm)	inch	3	3
	Coil length (l) X height (H) X coil width (L)	inch	35X41 37/64X2 1/4	35X41 37/64X2 1/4
	Fan Motor Speed (rpm) (H/M/L)	rpm	940	940
	Output of Fan Motor	W	90	90
	Fan Motor RLA	A	/	/
	Fan Motor Capacitor	μF	/	/
	Air Flow Volume of Outdoor Unit	CFM	/	/
	Fan Type-Piece		Axial-flow	Axial-flow
	Fan Diameter-height	inch	Φ22 7/16—5 63/64	Φ22 7/16—5 63/64
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	PSIG	550	550
	Permissible Excessive Operating Pressure for the Suction Side	PSIG	240	240
	Dimension (W/H/D)	inch	43 7/64X43 27/64X17 21/64	43 7/64X43 27/64X17 21/64
	Dimension of Package (L/W/H)	inch	46X18 57/64X43 57/64	46X18 57/64X43 57/64
	Dimension of Package(L/W/H)	inch	46 1/6X19X44 1/2	46 1/6X19X44 1/2
	Net Weight	lb	280	282.2
	Gross Weight	lb	297.7	299.9
	Refrigerant Charge		R410A	R410A
	Refrigerant Charge	oz	158.73	176.37

Outdoor Unit	Cross-sectional Area of Power Cable Conductor	sq in	0.013	0.013
	Recommended Power Cable(Core)	N	3	3
	Connection Pipe Connection Method	-	Flare Connection	Flare Connection
	Not Additional Gas Connection Pipe Length	ft	131.2	131.2
	Connection Pipe Gas Additional Charge	oz/ft.	0.2	0.2
	Outer Diameter of Liquid Pipe1(GREE Allocation) (Metric)	inch	1/4	1/4
	Outer Diameter of Liquid Pipe2(GREE Allocation) (Metric)	inch	1/4	1/4
	Outer Diameter of Liquid Pipe3(GREE Allocation) (Metric)	inch	1/4	1/4
	Outer Diameter of Liquid Pipe4(GREE Allocation) (Metric)	inch	1/4	1/4
	Outer Diameter of Liquid Pipe4(GREE Allocation) (Metric)	inch	/	1/4
	Outer Diameter of Gas Pipe1(GREE Allocation) (Metric)	inch	3/8	3/8
	Outer Diameter of Gas Pipe2(GREE Allocation) (Metric)	inch	3/8	3/8
	Outer Diameter of Gas Pipe3(GREE Allocation) (Metric)	inch	3/8	3/8
	Outer Diameter of Gas Pipe4(GREE Allocation) (Metric)	inch	3/8	3/8
	Outer Diameter of Gas Pipe4(GREE Allocation) (Metric)	inch	/	3/8
	Connection Pipe Max. Height Distance(indoor and indoor)	ft	49.2	49.2
	Connection Pipe Max. Height Distance(indoor and outdoor and indoor up)	ft	49.2	49.2
	Connection Pipe Max. Height Distance(indoor and outdoor and outdoor up)	ft	49.2	49.2
	Max. equivalent connection pipe length(outdoor to last indoor)	ft	82.0	82.0
	Connection Pipe Max. Length Distance(total lenght)	ft	246.1	262.5

The above data is subject to change without notice; please refer to the nameplate of the unit.

2.2 Cooling Capacity Tables

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Cooling

Outdoor Ambient Temperature (DB) °F	Indoor Entering Air Temperatures					
	68F DB		73°F DB		80°F DB	
	57F WB		61°FWB		67°FWB	
	TC	SHC	TC	SHC	TC	SHC
0°F	11182	8769	11822	9262	13018	10214
5°F	11573	9076	12235	9586	13473	10571
14°F	12122	9507	12806	10040	14453	11336
23°F	13281	10418	14206	11143	16277	12766
32°F	14113	11069	14909	11693	16826	13193
41°F	14620	11467	15440	12109	17644	13835
50°F	14875	11666	15910	12478	18230	14294
59°F	16106	12631	17227	13510	18867	14793
68°F	18240	14306	19380	15197	20710	16243
77°F	18025	14139	19171	15037	20520	16096
86°F	17138	13440	18278	14338	19950	15647
95°F	16220	12721	17353	13607	19000	14902
104°F	15434	12105	16562	12991	18506	14517
113°F	15035	11791	16169	12676	18113	14203
122°F	14643	11483	15770	12368	17721	13895
129°F	14250	11175	15200	11919	17100	13414

Heatling

Outdoor Ambient Temperature (DB) °F	Indoor Entering Air Temperatures								
	68F DB			73°F DB			80°F DB		
	57F WB			61°FWB			67°FWB		
	TC	Power Input (KW)	COP	TC	Power Input (KW)	COP	TC	Power Input (KW)	COP
-31°F	16500	4.80	1.01	16300	4.65	1.03	15900	4.63	1.01
-22°F	18902	4.89	1.13	18401	4.94	1.09	18030	4.95	1.07
-13°F	20698	4.96	1.22	20160	5.01	1.18	19762	5.02	1.15
-5°F	22479	3.28	2.01	21906	3.32	1.93	21482	3.43	1.84
0°F	22148	3.34	1.94	21565	3.38	1.87	21130	3.49	1.78
5°F	22251	3.17	2.06	21672	3.21	1.98	21245	3.31	1.88
10°F	22498	3.20	2.06	21913	3.24	1.98	21475	3.34	1.88
17°F	22072	3.18	2.03	21492	3.22	1.96	21053	3.32	1.86
19°F	21778	2.97	2.15	21478	3.01	2.09	21036	3.10	1.99
24°F	21108	3.08	2.01	20856	3.11	1.96	20478	3.21	1.87
32°F	20566	2.95	2.05	20339	2.98	2.00	20008	3.07	1.91
41°F	21375	2.73	2.30	21165	2.76	2.25	20848	2.84	2.15
43°F	21960	2.13	3.02	21750	2.16	2.96	21440	2.22	2.82
47°F	24000	2.18	3.23	23340	2.20	3.10	22846	2.27	2.94
53°F	24240	1.98	3.59	23573	2.00	3.45	23079	2.07	3.27
59°F	22316	2.00	3.27	21695	2.02	3.14	21236	2.09	2.98
64°F	22788	1.83	3.64	22160	1.85	3.50	21695	1.91	3.32
70°F	23220	1.86	3.66	22579	1.88	3.51	22100	1.94	3.33
75°F	23544	1.70	4.06	22896	1.72	3.90	22417	1.78	3.70
78°F	23760	1.72	4.06	23105	1.74	3.90	22619	1.79	3.70

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Cooling

Outdoor Ambient Temperature (DB) °F	Indoor Entering Air Temperatures					
	68F DB		73°F DB		80°F DB	
	57F WB		61°FWB		67°FWB	
	TC	SHC	TC	SHC	TC	SHC
0°F	17067	13385	18044	14137	19870	15590
5°F	17664	13852	18674	14631	20564	16135
14°F	18502	14511	19546	15324	22059	17302
23°F	20271	15901	21682	17008	24843	19485
32°F	21541	16894	22756	17847	25682	20137
41°F	22315	17502	23566	18482	26931	21116
50°F	22704	17806	24284	19045	27825	21817
59°F	24582	19279	26293	20621	28797	22579
68°F	27840	21835	29580	23196	31610	24792
77°F	27511	21580	29261	22951	31320	24567
86°F	26158	20513	27898	21884	30450	23882
95°F	24756	19417	26487	20768	29000	22746
104°F	23558	18477	25278	19828	28246	22158
113°F	22949	17997	24679	19348	27647	21678
122°F	22349	17527	24070	18878	27047	21208
129°F	21750	17057	23200	18193	26100	20474

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Outdoor Ambient Temperature (DB) °F	Indoor Entering Air Temperatures								
	68F DB			73°F DB			80°F DB		
	57F WB			61°FWB			67°FWB		
	TC	Power Input (KW)	COP	TC	Power Input (KW)	COP	TC	Power Input (KW)	COP
-31°F	21500	5.45	1.16	21000	5.50	1.12	20500	5.70	1.05
-22°F	24954	5.50	1.33	24292	5.57	1.28	23801	5.74	1.21
-13°F	27324	5.58	1.44	26614	5.64	1.38	26089	5.82	1.31
-5°F	31846	5.42	1.72	31034	5.48	1.66	30433	5.66	1.58
0°F	31376	5.51	1.67	30550	5.58	1.61	29933	5.75	1.52
5°F	31523	5.24	1.76	30703	5.30	1.70	30097	5.46	1.61
10°F	31872	5.29	1.77	31044	5.35	1.70	30423	5.52	1.62
17°F	31268	5.25	1.75	30448	5.31	1.68	29825	5.48	1.60
19°F	30852	4.91	1.84	30427	4.96	1.80	29802	5.12	1.71
24°F	29903	5.08	1.72	29546	5.14	1.68	29011	5.30	1.60
32°F	29135	4.86	1.76	28814	4.92	1.72	28344	5.07	1.64
41°F	30281	4.50	1.97	29984	4.55	1.93	29535	4.69	1.84
43°F	31110	3.52	2.59	30813	3.56	2.54	30373	3.67	2.42
47°F	34000	3.60	2.77	33065	3.64	2.66	32366	3.76	2.52
53°F	34340	3.27	3.08	33394	3.31	2.96	32695	3.41	2.81
59°F	31614	3.30	2.81	30734	3.34	2.70	30085	3.45	2.56
64°F	32283	3.03	3.12	31394	3.06	3.00	30734	3.16	2.85
70°F	32895	3.08	3.13	31987	3.11	3.01	31308	3.21	2.86
75°F	33354	2.81	3.48	32436	2.84	3.34	31757	2.93	3.17
78°F	33660	2.84	3.48	32732	2.87	3.34	32044	2.96	3.17

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Cooling

Outdoor Ambient Temperature (DB) °F	Indoor Entering Air Temperatures					
	68F DB		73°F DB		80°F DB	
	57F WB		61°FWB		67°FWB	
	TC	SHC	TC	SHC	TC	SHC
0°F	21827	16500	22800	18000	24000	19500
5°F	21927	17196	23181	18162	25527	20029
14°F	22968	18014	24264	19023	27384	21478
23°F	25164	19740	26916	21113	30840	24188
32°F	25758	45964	27663	49363	31994	57088
41°F	23613	65750	25520	71058	29746	82822
50°F	21549	81552	23437	88695	27533	104195
59°F	30516	23933	32640	25598	35748	28029
68°F	34560	27106	36720	28795	39240	30776
77°F	34152	26790	36324	28491	38880	30497
86°F	32472	25465	34632	27166	37800	29646
95°F	30732	24103	32880	25781	36000	28236
104°F	29244	22936	31380	24614	35064	27507
113°F	27744	21757	29880	23435	33576	26328

Heatling

Outdoor Ambient Temperature (DB) °F	Indoor Entering Air Temperatures								
	68F DB			73°F DB			80°F DB		
	57F WB			61°FWB			67°FWB		
	TC	Power Input (KW)	COP	TC	Power Input (KW)	COP	TC	Power Input (KW)	COP
-31°F	23000	5.50	1.23	24000	5.72	1.23	24500	5.85	1.23
-22°F	25563	5.57	1.34	25910	5.73	1.33	24899	5.91	1.24
-13°F	28859	5.65	1.50	28373	5.81	1.43	27293	5.99	1.33
-5°F	33638	5.64	1.75	33072	5.79	1.67	31837	5.98	1.56
0°F	36089	5.73	1.85	35488	5.89	1.77	34105	6.08	1.64
5°F	36259	5.70	1.86	35648	5.86	1.78	34291	6.05	1.66
10°F	39753	5.76	2.02	39091	5.92	1.94	37581	6.11	1.80
17°F	41794	5.72	2.14	41097	5.88	2.05	39475	6.06	1.91
19°F	41758	5.50	2.23	41075	5.65	2.13	39443	5.83	1.98
24°F	40398	5.42	2.18	39787	5.58	2.09	38397	5.75	1.96
32°F	39260	5.19	2.22	38728	5.33	2.13	37514	5.50	2.00
41°F	40725	5.11	2.33	40247	5.26	2.24	39090	5.42	2.11
43°F	41822	5.10	2.40	41330	5.24	2.31	40199	5.41	2.18
47°F	45450	5.22	2.55	44663	5.36	2.44	42837	5.53	2.27
53°F	45900	4.74	2.84	45098	4.87	2.71	43272	5.03	2.52
59°F	42259	4.78	2.59	41513	4.92	2.47	39818	5.07	2.30
64°F	43158	4.39	2.88	42398	4.51	2.75	40678	4.65	2.56
70°F	43968	4.46	2.89	43208	4.58	2.76	41437	4.73	2.57
75°F	44588	4.07	3.21	43803	4.19	3.07	42031	4.32	2.85
78°F	44993	4.11	3.21	44208	4.22	3.07	42411	4.36	2.85

TM42H5O Cooling

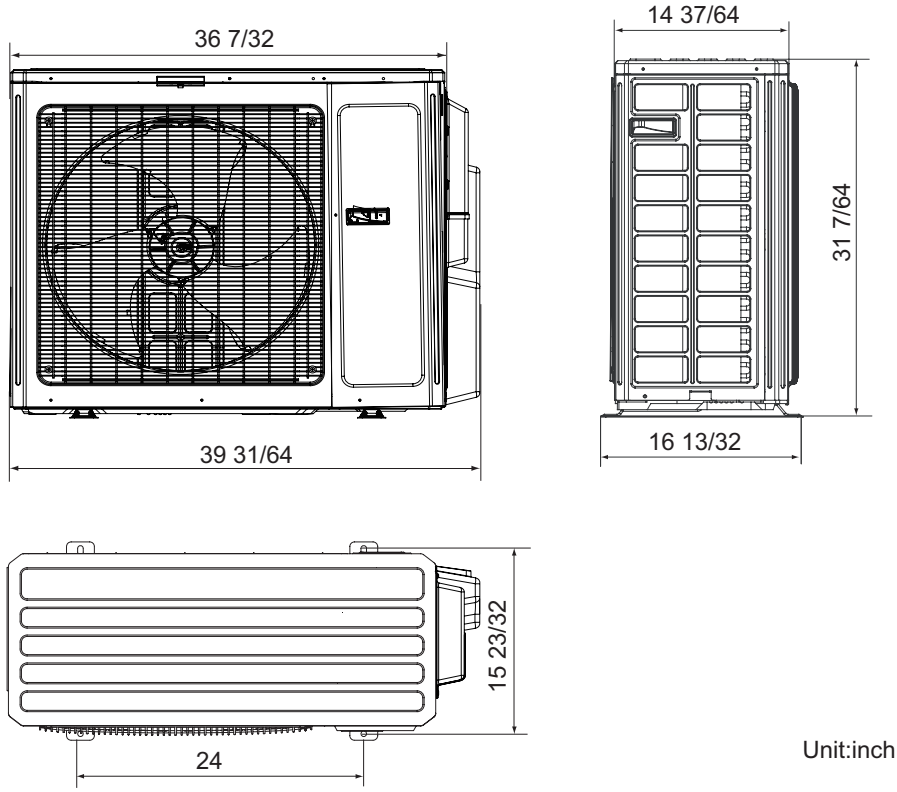
Outdoor Ambient Temperature (DB) °F	Indoor Entering Air Temperatures					
	68F DB		73°F DB		80°F DB	
	57F WB		61°FWB		67°FWB	
	TC	SHC	TC	SHC	TC	SHC
0°F	24000	19500	26000	20500	28900	22300
5°F	25582	20062	27045	21189	29782	23368
14°F	26796	21016	28308	22193	31948	25057
23°F	29358	23030	31402	24632	35980	28220
32°F	30051	53625	32274	57590	37327	66603
41°F	27549	76709	29773	82901	34704	96626
50°F	25141	95143	27343	103477	32122	121561
59°F	35602	27922	38080	29865	41706	32701
68°F	40320	31623	42840	33594	45780	35906
77°F	39844	31254	42378	33240	45360	35580
86°F	37884	29709	40404	31694	44100	34587
95°F	35854	28121	38360	30078	42000	32942
104°F	34118	26759	36610	28716	40908	32091
113°F	32368	25384	34860	27341	39172	30716

Heatling

Outdoor Ambient Temperature (DB) °F	Indoor Entering Air Temperatures								
	68F DB			73°F DB			80°F DB		
	57F WB			61°FWB			67°FWB		
	TC	Power Input (KW)	COP	TC	Power Input (KW)	COP	TC	Power Input (KW)	COP
-31°F	27000	5.50	1.44	28000	5.70	1.44	26000	5.85	1.30
-22°F	28744	5.57	1.51	29134	5.73	1.49	27998	5.91	1.39
-13°F	32450	5.65	1.68	31904	5.81	1.61	30689	5.99	1.50
-5°F	37824	5.64	1.97	37188	5.79	1.88	35799	5.98	1.76
0°F	40580	5.73	2.08	39905	5.89	1.99	38349	6.08	1.85
5°F	40771	5.70	2.10	40085	5.86	2.00	38558	6.05	1.87
10°F	44700	5.76	2.27	43955	5.92	2.18	42258	6.11	2.03
17°F	42723	5.72	2.19	42011	5.88	2.10	40352	6.06	1.95
19°F	42686	5.50	2.28	41988	5.65	2.18	40320	5.83	2.03
24°F	41296	5.42	2.23	40671	5.58	2.14	39250	5.75	2.00
32°F	40132	5.19	2.27	39589	5.33	2.18	38348	5.50	2.04
41°F	41630	5.11	2.39	41141	5.26	2.29	39959	5.42	2.16
43°F	42751	5.10	2.46	42248	5.24	2.36	41093	5.41	2.23
47°F	46460	5.22	2.61	45655	5.36	2.50	43789	5.53	2.32
53°F	46920	4.74	2.90	46101	4.87	2.77	44234	5.03	2.58
59°F	43198	4.78	2.65	42435	4.92	2.53	40703	5.07	2.35
64°F	44117	4.39	2.95	43341	4.51	2.82	41582	4.65	2.62
70°F	44945	4.46	2.96	44169	4.58	2.83	42358	4.73	2.63
75°F	45579	4.07	3.28	44777	4.19	3.14	42965	4.32	2.92
78°F	45993	4.11	3.28	45191	4.22	3.14	43353	4.36	2.92

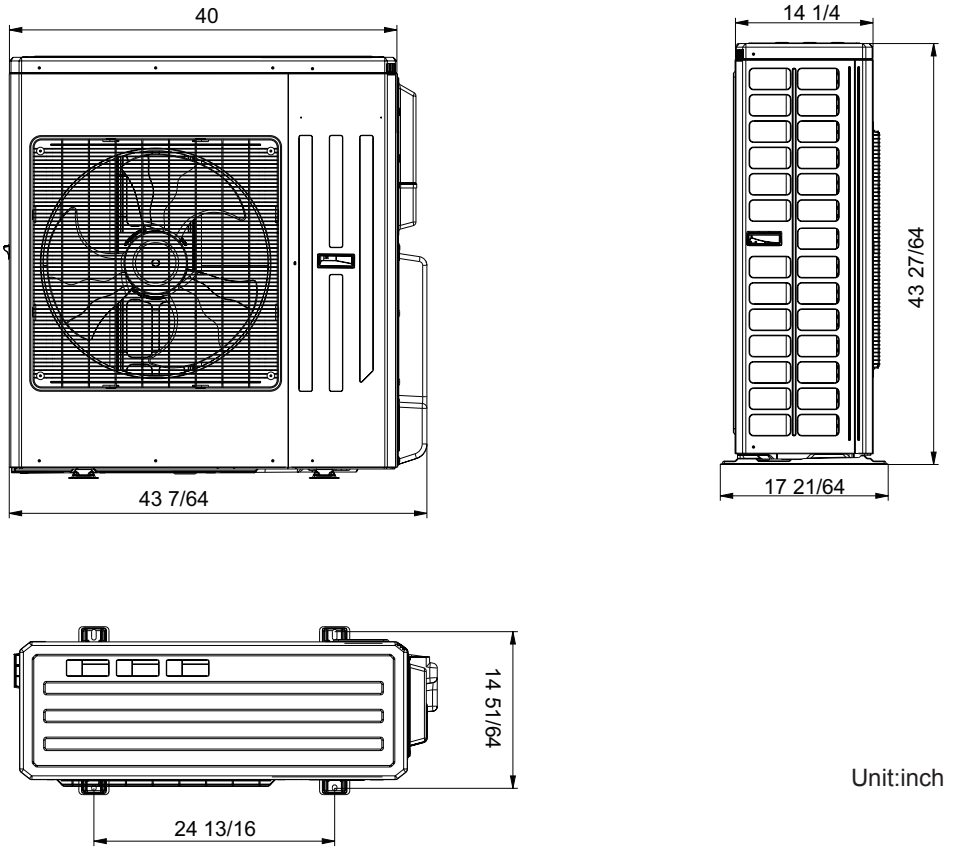
3. Outline Dimension Diagram

TM18H5O TM24H5O



Unit:inch

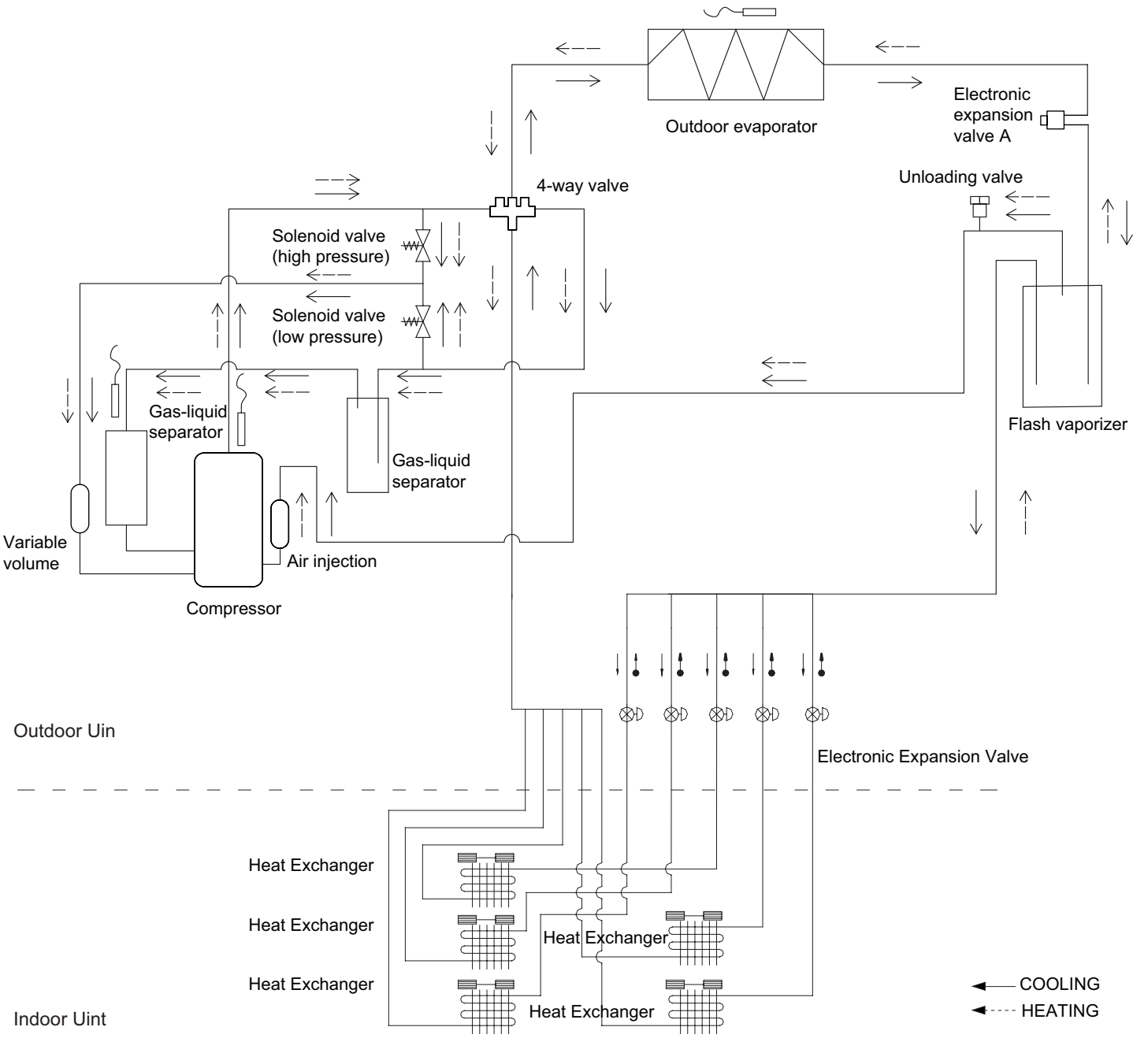
TM36H5O TM42H5O



Unit:inch

4. Refrigerant System Diagram

Schematic Diagram of Free Match Series Inverter Heat Pump System:



5. Electrical Part

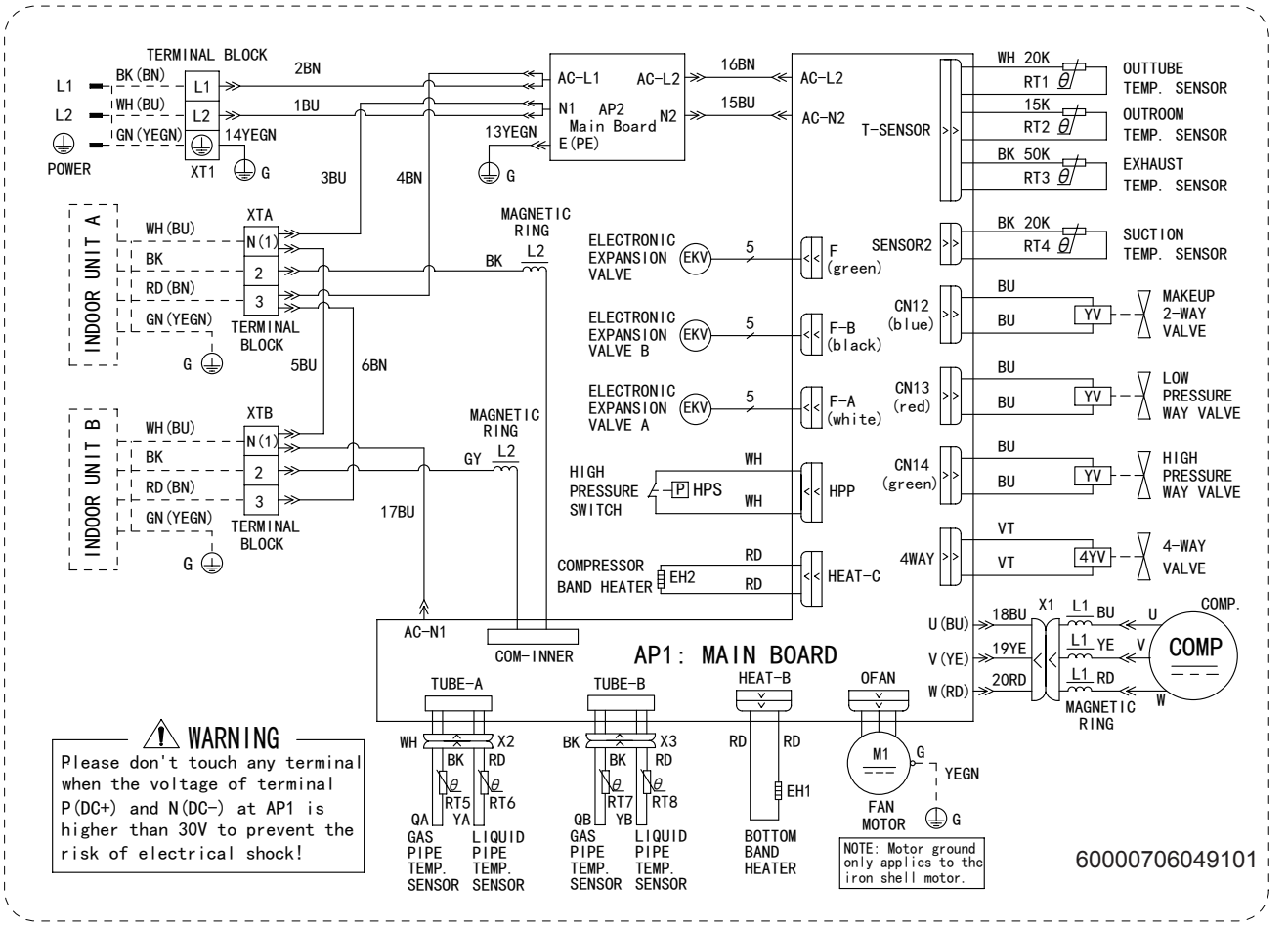
5.1 Wiring Diagram

●Instruction

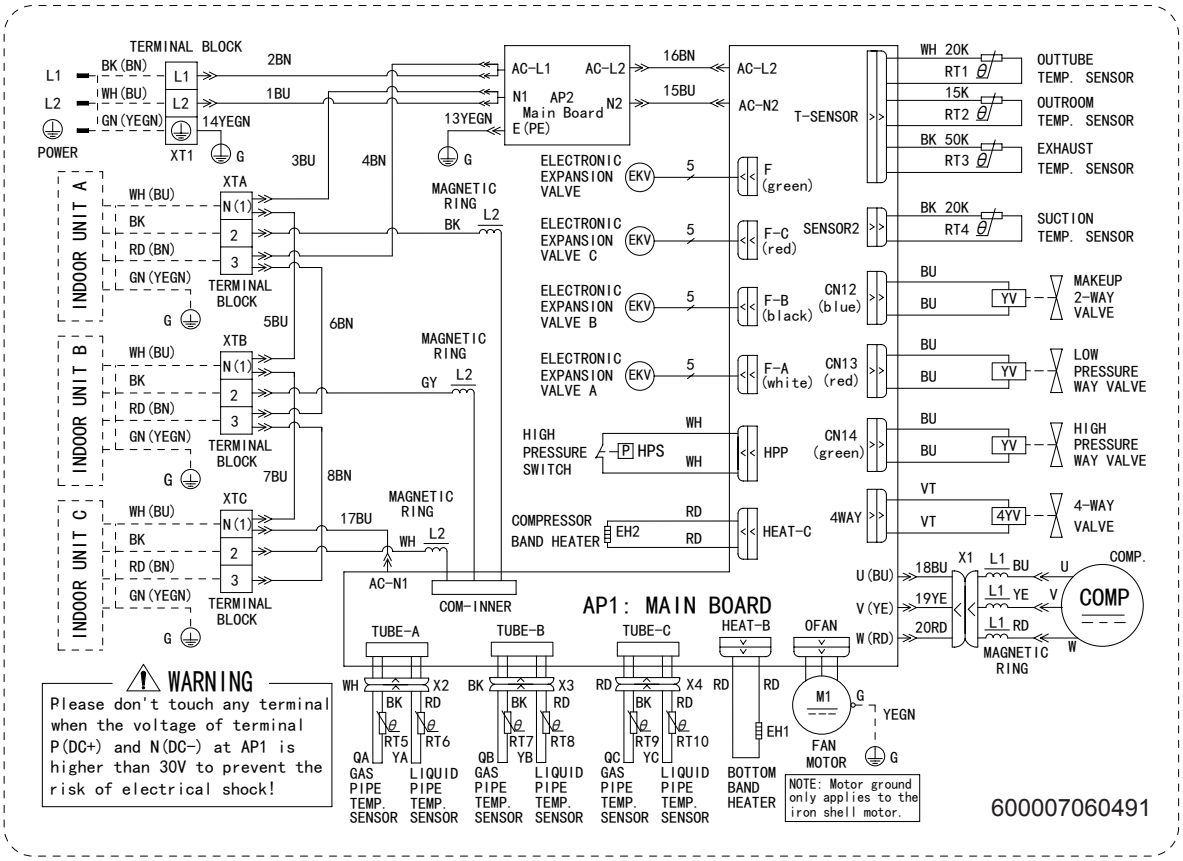
Symbol	Symbol Color	Symbol	Symbol Color	Symbol	Name
WH	White	GN	GREEN	COMP	Compressor
YE	Yellow	BN	Brown	⏚	Grouding wire
RD	Red	BU	Blue		
YEGN	Yellow/Green	BK	Black		
VT	Violet	OG	Orange		

● Outdoor Unit

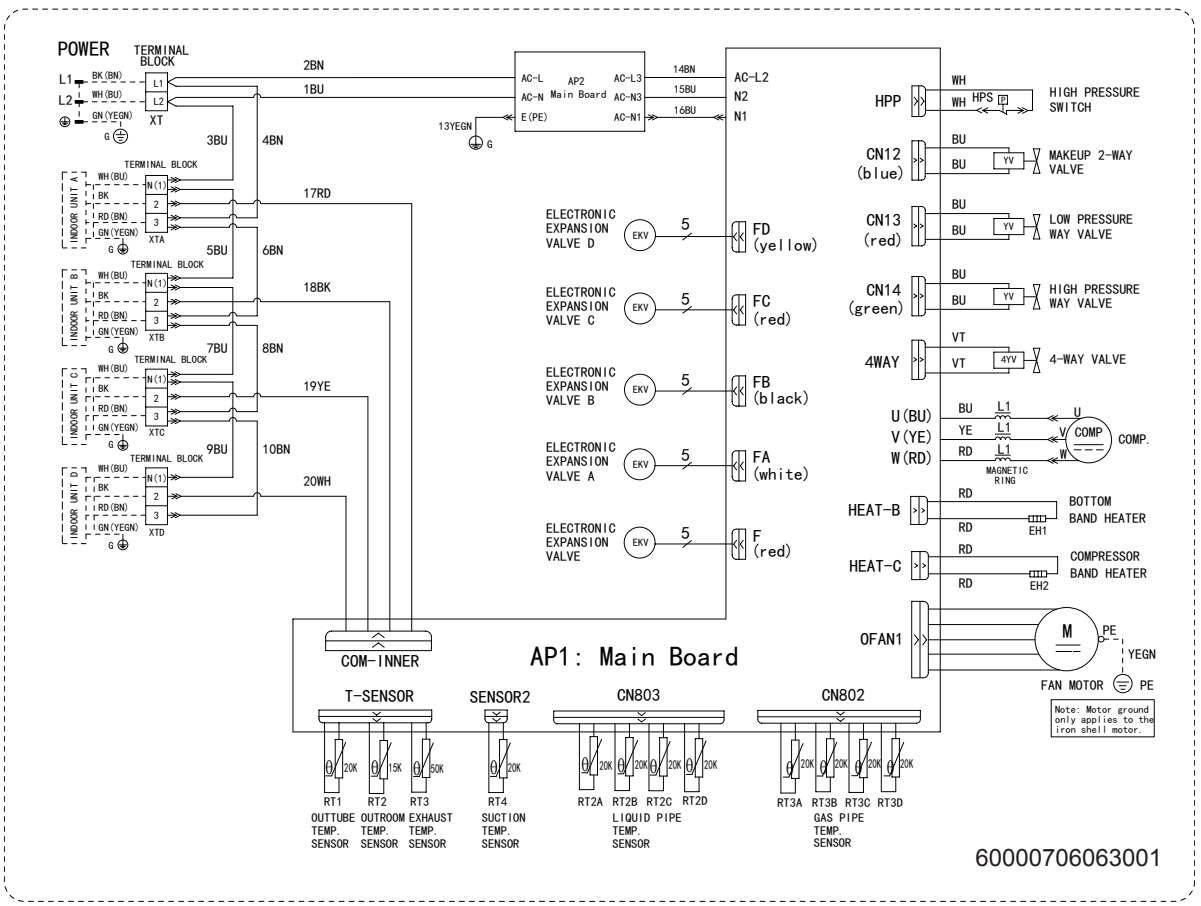
TM18H5O



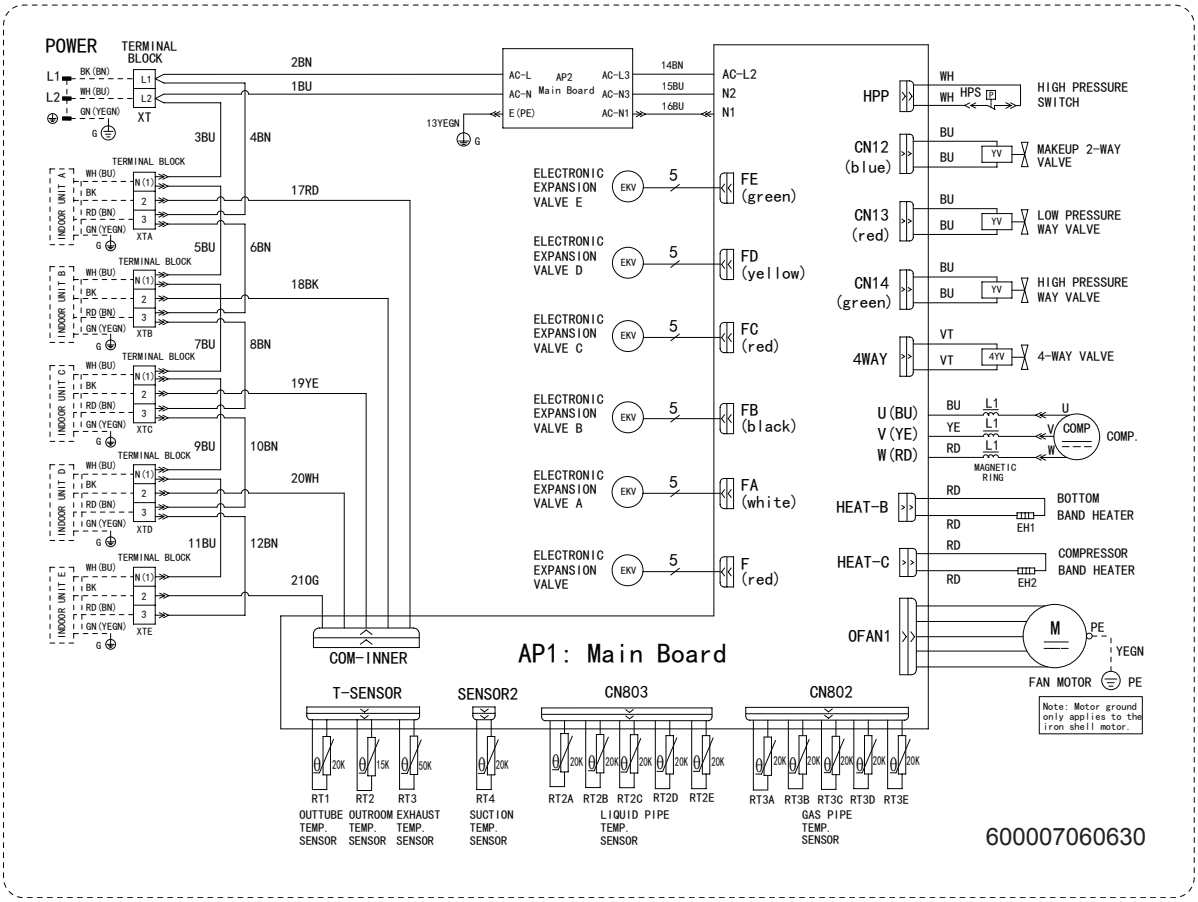
TM24H5O



TM36H5O



TM42H5O

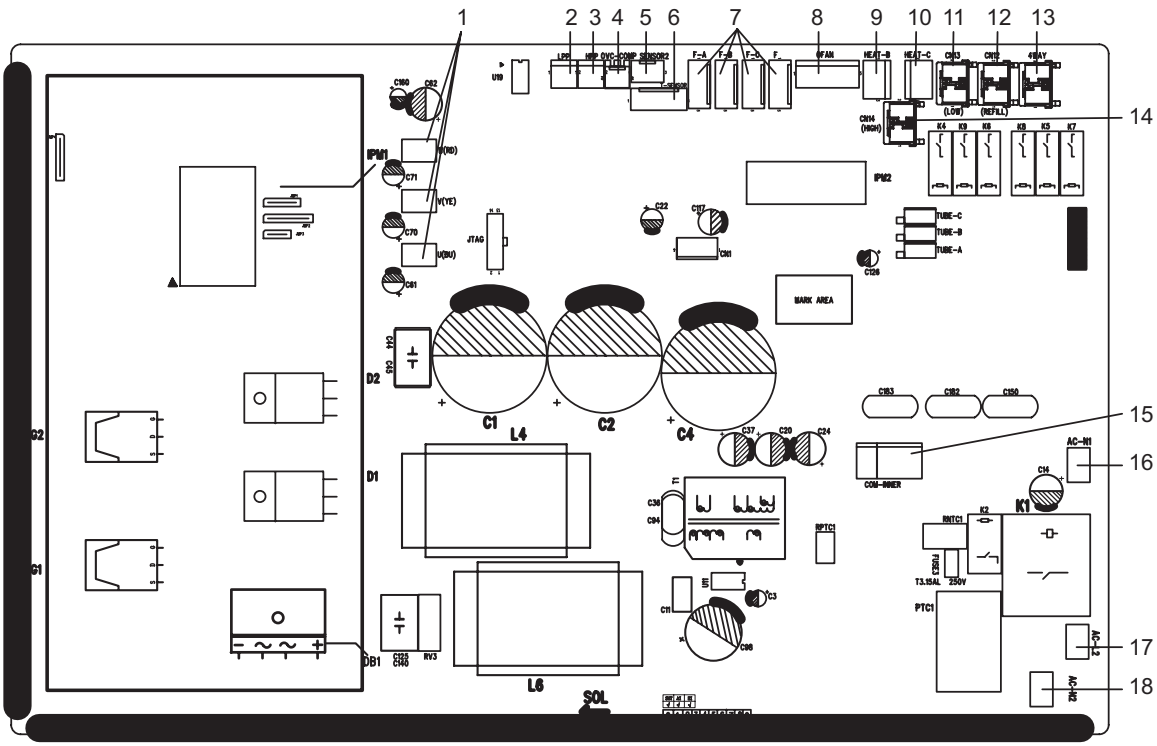


These circuit diagrams are subject to change without notice, please refer to the one supplied with the unit.

5.2 PCB Printed Diagram

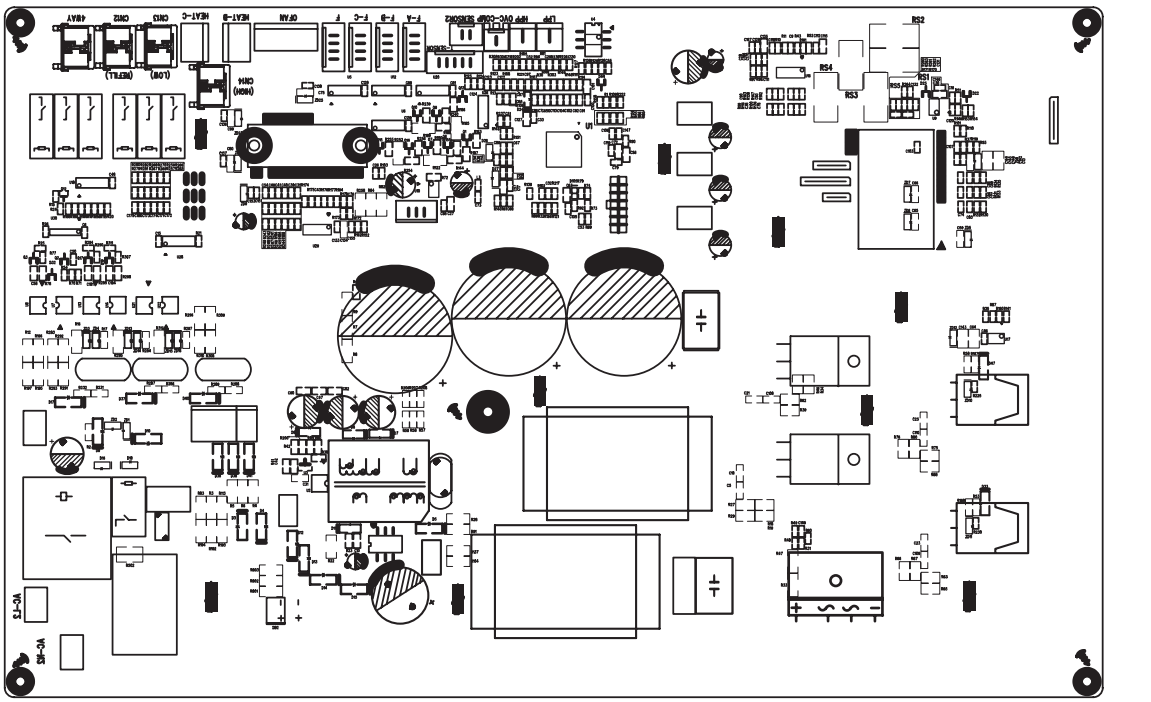
TM18H5O TM24H5O

● TOP VIEW



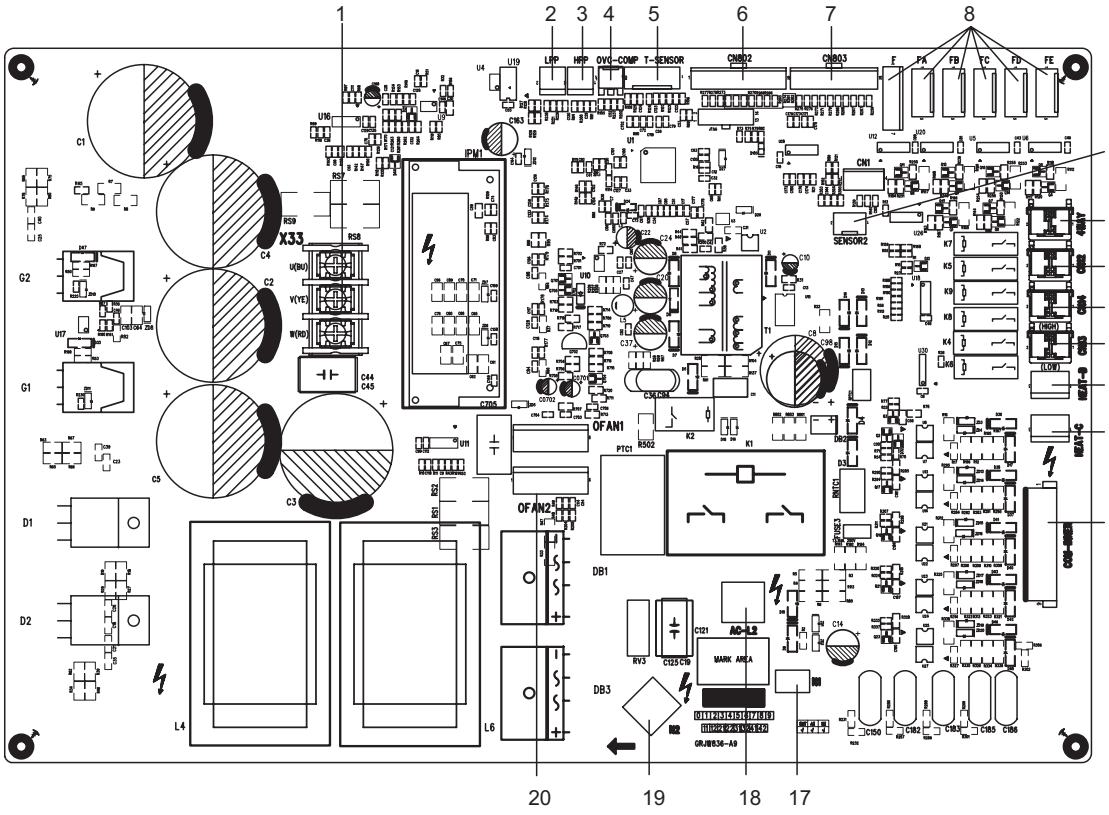
1	Compressor three phase input interface
2	Terminal of system low pressure protection
3	Terminal of system high pressure protection
4	Overload interface of compressor
5	Interface of Inhalation temperature package
6	Interface of temperature sensor
7	Terminal of electronic expansion valve
8	Interface of fan
9	Interface of electric heating for chassis
10	Interface of electric heating for compressor
11	Terminal of low pressure 2-way valve
12	Terminal of 2-way valve
13	Terminal of 4-way valve
14	Terminal of high pressure 2-way valve
15	Terminal of communication wire
16	Terminal of neutral wire
17	Terminal of live wire
18	Terminal of neutral wire

● BOTTOM VIEW



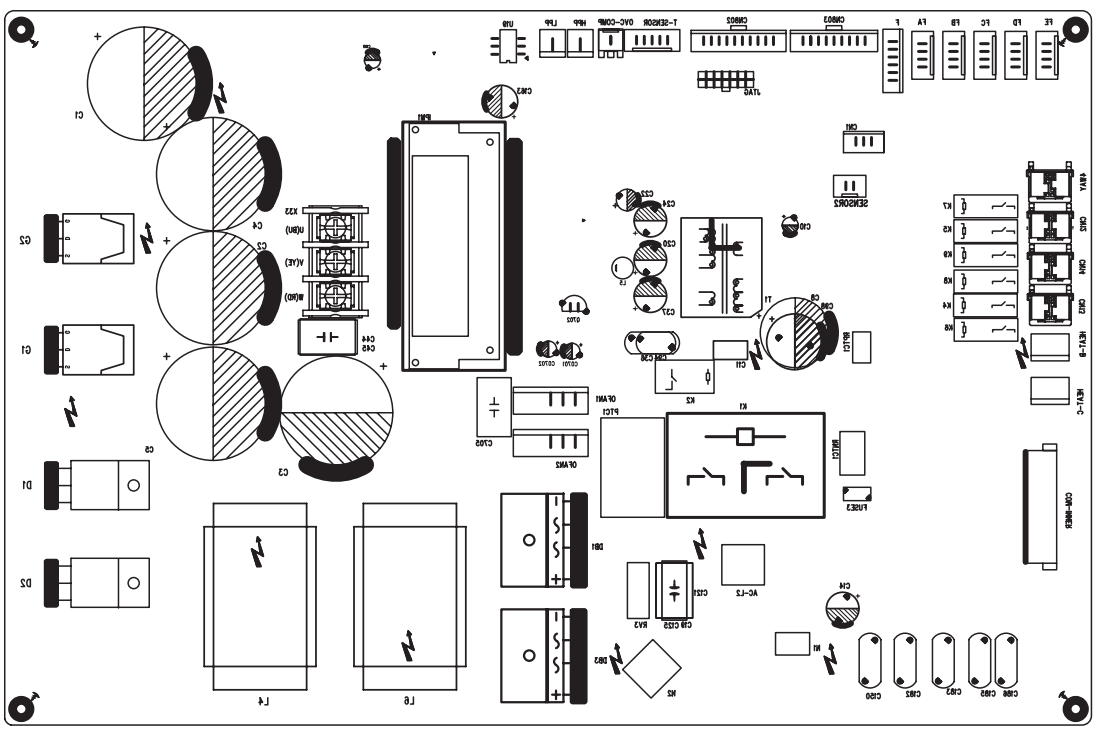
TM36H5O TM42H5O

● TOP VIEW



1	Compressor three phase input interface
2	Terminal of system low pressure protection
3	Terminal of system high pressure protection
4	Overload interface of compressor
5	Interface of temperature sensor
6	Air valve temperature package
7	Liquid valve temperature package
8	Terminal of electronic expansion valve
9	Inhalation temperature package
10	Terminal of 4-way valve
11	Terminal of 2-way valve
12	Terminal of low pressure 2-way valve
13	Terminal of high pressure 2-way valve
14	Terminal of electric heating for chassis
15	Terminal of electric heating for compressor
16	Communication interface
17	Interface of netural wire
18	Live wire interface
19	Neutral wire interface
20	DC fan interface

● BOTTOM VIEW



6. Function and Control

1.Function Control

1) Cooling mode

a. Turning on the unit for cooling operation, and if any one of the indoor units satisfy the cooling operation condition, the system will start for cooling operation; and the electronic expansion valve, the outdoor fan and the compressor start operation.

b. When some of the indoor units satisfy the stop-condition while some indoor units does not satisfy the stop-condition, the compressor does not stop, the compressor adjust the frequency according to demand. For the indoor unit with stop-condition satisfies, the corresponding electronic expansion valve will be closed.

c. Change Cooling mode to heating mode

When change the unit to heating mode from cooling mode, the whole system will stop first. Then the system will restart in heating mode after the compressor stops.

d. 4-way valve

In this mode, the 4-way valve is closed.

e. Outdoor fan control in cooling mode

The outdoor fan starts before 5s of the starting of compressor. The outdoor fan will run in high speed after starting and then it will run in set speed.

2) Dry mode (dehumidification mode)

This mode is the same as cooling mode;

3) Heating mode

a. Turning on the unit for heating operation, If any one of the indoor unit satisfy the heating condition, the system will start to run in heating mode

b. If all the indoor units satisfy the stop-condition, the compressor stops and the outdoor fan stops after 1min;

c. If only part of the indoor units satisfy the stop-condition, the compressor decrease the frequency immediately and operates according to demand.

d. Change Heating mode to cooling mode or dehumidification mode, the whole system will stop first, then restart under the required mode.

e. Defrosting function

When the defrosting condition is satisfied, the 4-way valve reverses the direction, the outdoor fan stop. After the 4-way valve reverses the direction, the frequency of compressor rises, and the unit will start defrosting under cooling cycle.

f. Oil-return control in heating mode

a)If the whole system runs in low frequency for a long time, the system will run a oil-return operation in high frequency, the oil-return operation will runs for 60 second.

4) Fan mode

Only indoor fan run. Compressor, outdoor fan and 4-way valve are closed .

2.Protection Function

1) Mode conflict protection of indoor units

When the setting mode is different of different indoor unit, the unit runs in below status:

a. The system mode is determined by the first turning on indoor unit except indoor unit is in fan mode. Cooling mode (dry mode) is in conflict with heating mode.

b. If the first turning on unit is fan mode, and the second turning on unit is cooling or heating mode, then the system will run in cooling or heating mode.

2) Overload protection

If the tube temperature at the high pressure side is higher than normal, the compressor frequency is restricted or decreased to normal operation frequency.

3) High exhaust temperature protection

If the exhaust temperature is higher than protection value, the compressor stops running.

If the exhaust temperature protection continuously appears for 6 times, the compressor can't resume running. In this case, only by cutting off the power and then reenergize that the compressor can restart. If the running duration of the compressor is longer than 10min, the protection times will be cleared to zero time.

4) Communication malfunction

Detection of the quantity of installed indoor units: after 3min of energizing, if the outdoor unit does not receive the communication data of certain indoor unit, the outdoor unit will judge that indoor unit is not installed. If the outdoor unit receives the communication data of that indoor unit later, the communication malfunction will be cleared.

5) System high-pressure protection

a. When the high-pressure switch detects the system pressure higher than limit ,then the high-pressure switch cuts off, the system will stop to run.

b. If high-pressure protection is detected for one time, only by cutting off the power and then reenergize that the compressor can restart.

6) Compressor overload protection

No matter the compressor is on or off, when the compressor overload switch is detected activated, the system will stop and indoor unit will display H3. If the compressor overload protection appears for more than 6 times, in this case, only by cutting off the power and then reenergize that the compressor can restart. If the running duration of the compressor is longer than 30min, the protection times will be cleared to zero.

7) Antifreeze protection

Under cooling and dry mode, 6minutes after the compressor is started:

When it is detected for 10 minutes successively that Tevap. Is less than -2^{0}℃(varying with indoor unit), the antifreeze protection will be activated, in which case the outdoor unit will immediately shut off the indoor electronic expansion valve and the capacity will be set to "0".

If Tevap. exceed 10^{O}℃ and the compressor has remained at OFF for at least 3minutes, the compressor will resume its original operation state.

Part Ⅱ : Installation and Maintenance

7. Safety Precautions

Forbidden Items! It indicates that improper operation might lead to human casualty or sever injury.

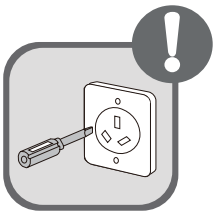
Items need to be followed. It indicates that improper operation might lead to personal injury or property damage.



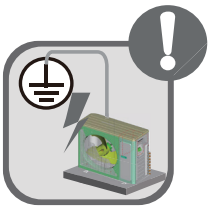
Follow this instruction to complete the installation work.
Please carefully read this manual before unit startup and service.



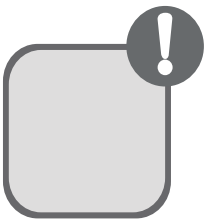
Installation should be conducted by dealer or qualified personnel. Please do not attempt to install the unit by yourself. Improper handling may result in water leakage, electric shock or fire disaster etc.



Before installation,please check if the power supply is in accordance with the requirements specified on the nameplate.And also take care of the power safety.



Make sure the unit can be earthed properly and soundly after plugging into the socket so as to avoid electric shock. Please do not connect the groundwire to gas pipe, water pipe, lightning rod or telephone line.



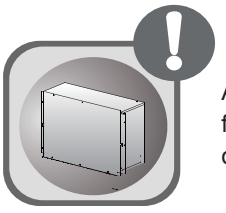
Be sure to use the excluxive accessory and part to prevent the water leakage,electric shock and fire accidents.



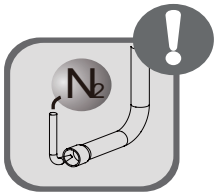
If refrigerant leakage happens during installation, please ventilate immediately.Poisonous gas will emerge if the refrigerant gas meets fire.



Wire size of power cord should be large enough The damaged power cord and connection wire should be replaced by exclusive cable.



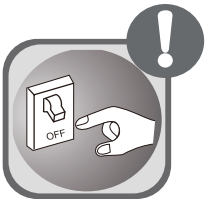
After connecting the power cord, please fix the electric box cover properly in order to avoid accident.



Never fail to comply with the nitrigen charge requirements. Charge nitrogen when welding pipes.



Never short-circuit or cancel the pressure switch to prevent unit damage.



Please firstly connect the wired controller before energization,otherwise wired controller can not be used.



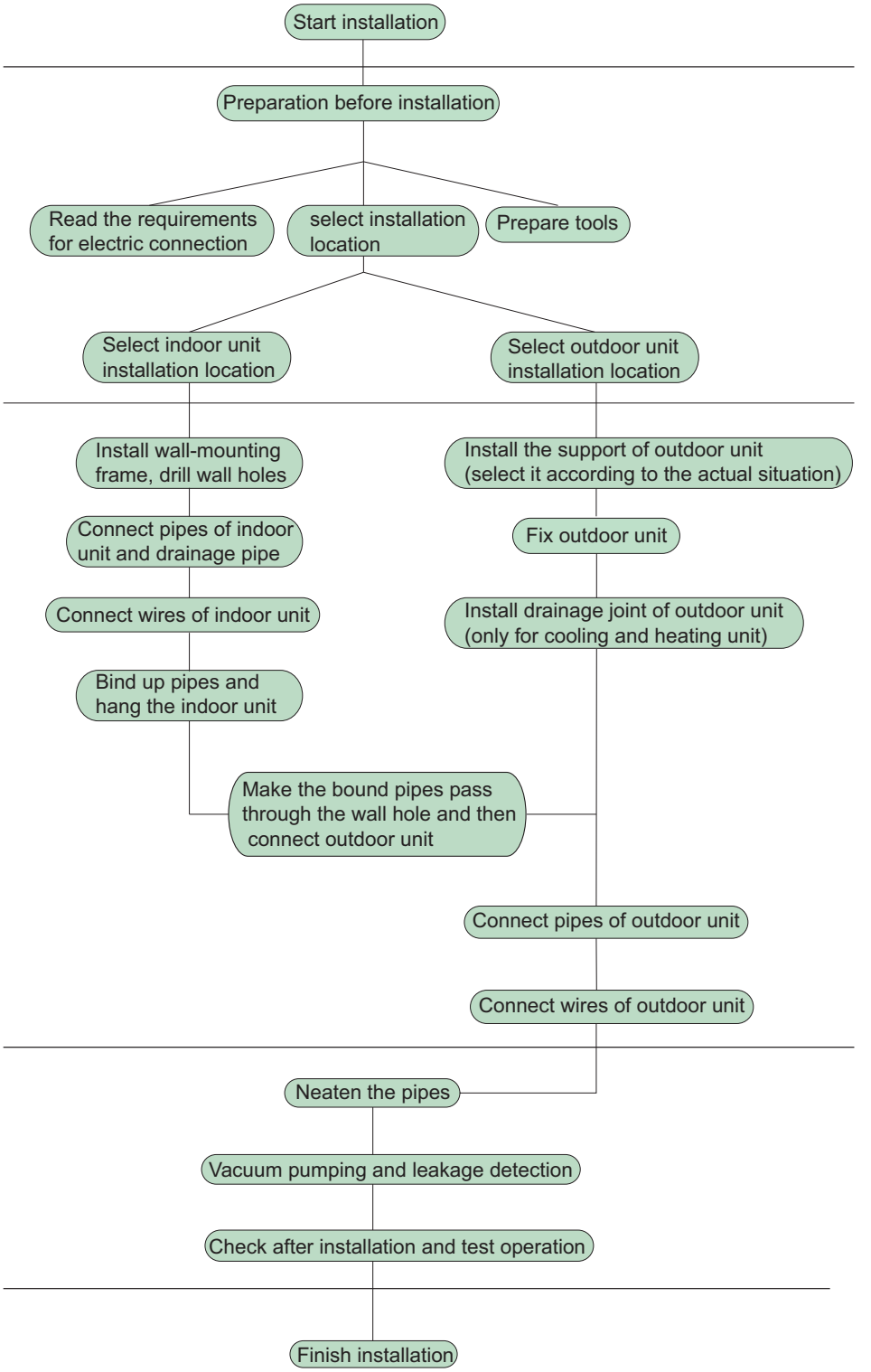
Before using the unit, please. check if the piping and wiring are correct to avoid water leakage, refrigerant leakage,electric shock, or fire etc.

Main Tools for Installation and Maintenance

1. Level meter, measuring tape 	2. Screw driver 	3. Impact drill, drill head, electric drill 
4. Electroprobe 	5. Universal meter 	6. Torque wrench, open-end wrench, inner hexagon spanner 
7. Electronic leakage detector 	8. Vacuum pump 	9. Pressure meter 
10. Pipe pliers, pipe cutter   	11. Pipe expander, pipe bender  	12. Soldering appliance, refrigerant container  

8. Installation Manual

Installation procedures

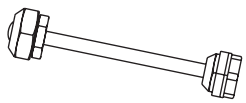


Note: this flow is only for reference; please find the more detailed installation steps in this section.

8.1 Preparation before Installation

8.1.1 Standard parts

Please use the following standard parts supplied by GREE.

Pars of Outdoor Unit				
Nember	name	picture	Quantity	Remark
1	Owner's manual		1	
2	Tube connector subassy		18/24/36K:8; 42K:9	

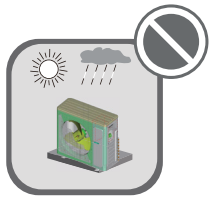
8.1.2 Selecting installation site

Forbidden Items! It indicates that improper operation might lead to human casualty or sever injury.

Items need to be followed. It indicates that improper operation might lead to personal injury or property damage.



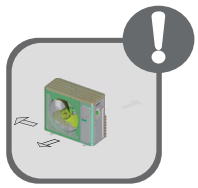
Install the unit at a place where is adequa to withstand the weight of the unit and make sure the unit would not shake or fall off.



Never expose the unit under direct sunshine and rainful. install the unit at a place where is against dust, typhoon and earthquake.



Try to keep the unit away from combustible, inflammable and corrosive gas or exhaust gas.



Leave some space for heat exchanging and servicing so as to guarantee unit normal operation.



Keep the indoor and outdoor units close to each other as much units close to each other as much the pipe length and bends.



Never allow children to approach to the unit and take measures to prevent children touching the unit.

When the outdoor unit is totally surrounded by walls, the installation space of the unit should be as required in Fig.1.

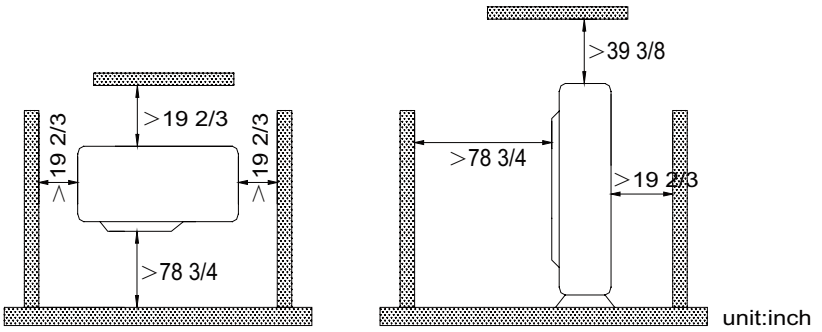


Fig.1

8.1.3 Piping Connection

The maximum pipe length is shown in the following table. When the distance between units (piping length) is out of the range listed below, normal run of the unit can not be guaranteed.

Model	Connecting Pipe (inch)		Max. Pipe length(ft)	Max. Height Difference between Indoor Unit and Outdoor Unit (ft)
	Liquid	Gas		
18K	Φ 1/4	Φ 3/8	164	When the outdoor unit is above maximum height difference between indoor and outdoor units is up to 49.2ft; When the indoor unit is above,maximum height difference between indoor and outdoor units is up to 49.2ft.
24K	Φ 1/4	Φ 3/8	229.6	
36K	Φ 1/4	Φ 3/8	246.1	
42K	Φ 1/4	Φ 3/8	246.1	

Note:

① **Use water-proof insulating pipe.**

② **Wall thickness of pipe: 0.5-1.0 mm;bearing pressure: 3.0MPa**

③ **The longer the connection pipe is, the more cooling and heating capacity will decrease.**

8.2 Installation Instruction

8.2.1 Outline and dimension of the outdoor unit

NAME OF PARTS

WARNING

● If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.

● Be sure to cut off the power supply before cleaning the air conditioner; otherwise electricshock might happen.

● Wetting of air conditioner may cause the risk of electric shock. Make sure not to wash your air conditioner in any case.

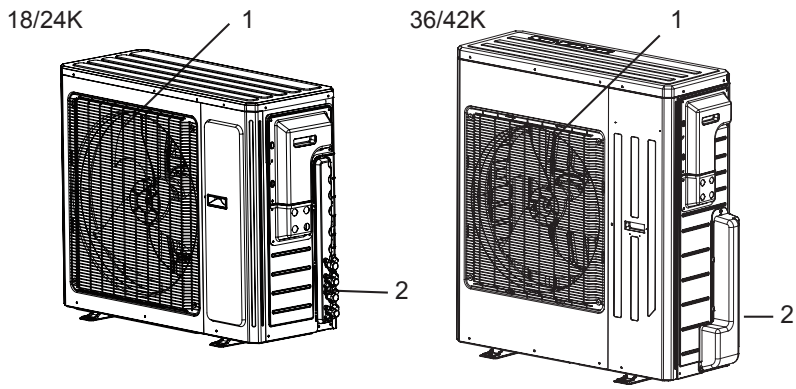
● Volatile liquids such as thinner or gasoline will cause damage to the appearance of air conditioner. (Only use soft dry cloth moist cloth clean the air conditioner cabinet).

● Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

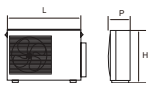
● The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.

OUTDOOR UNIT	
No.	Description
1	Air outlet grille
2	Valve

Note: The above figures are only intended to be a simple diagram of the appliance and may not correspond to the appearance of the units that have been purchased



TECHNICAL DATA

MODE		TM18H5O	TM24H5O	TM36H5O TM42H5O	
Electrical data					
Electricity supply		208/230V,60HZ	208/230V,60HZ	208/230V,60HZ	
Fuse or air switch		35	40	60	A
Minimum power cord section		AWG10	AWG10	AWG8	
Size and clearance					
	L	36 7/21	36 7/21	40	inch
	P	14 61/64	14 61/64	17 21/64	inch
	H	31 7/64	31 7/64	43 27/64	inch

OUTDOOR UNIT WORKING TEMPERATURE RANGE

	OutdoorsideDB/WB(℃)
Maximum cooling	115°F(46°C)/-
Maximum heating	75.2°F(24°C)/-

ELECTRICAL CONNECTIONS

1. Remove the handle at the right side plate of the outdoor unit (one screw).
2. Remove the cable clamp, connect the power connection cable with the terminal at the row of connection and fix the connection. The fitting line distributing must be consistent with the indoor unit. terminal of line bank.Wiring should meet that of indoor unit.
3. Fix power connection wire by wire clamp.
4. Ensure wire has been fixed well.
5. Install the handle.

⚠ Including an air switch with suitable capacity,please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protect the circuit)

Air-conditioner	Air switch capacity
TM18H5O	35A
TM24H5O	40A
TM36H5O	60A
GWHD(42)ND3JO	60A

⚠ An all-pole disconnection switch having a contact separation of at least 3mm in all pole should be connected in fixed wiring.

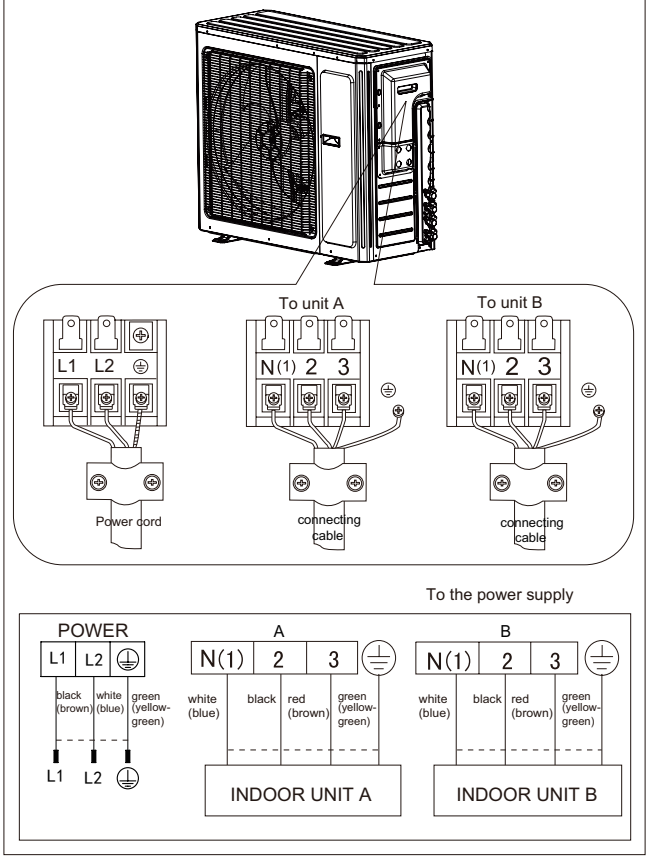
⚠ Wrong wire connection may cause malfunction of some electric components.After fixing cable, ensure that leads between connection to fixed point have some space.

⚠ The connection pipes and the connectiong wirings of the unit A and unit B must be corresponding to each other respective.

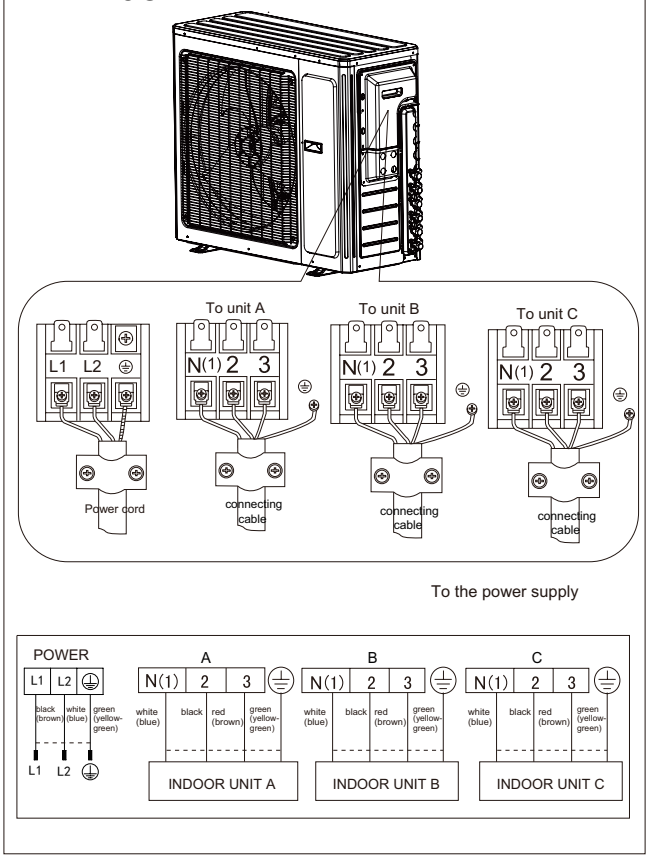
⚠ The appliance shall be installed in accordance with national wiring regulations.

Note: the above figures are only intended to be a simple diagram of the appliance and may not correspond to the appearance of the units that have been purchased.

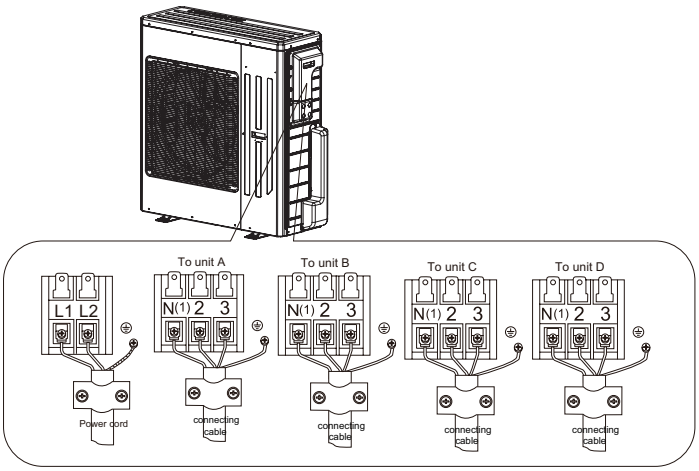
TM18H5O



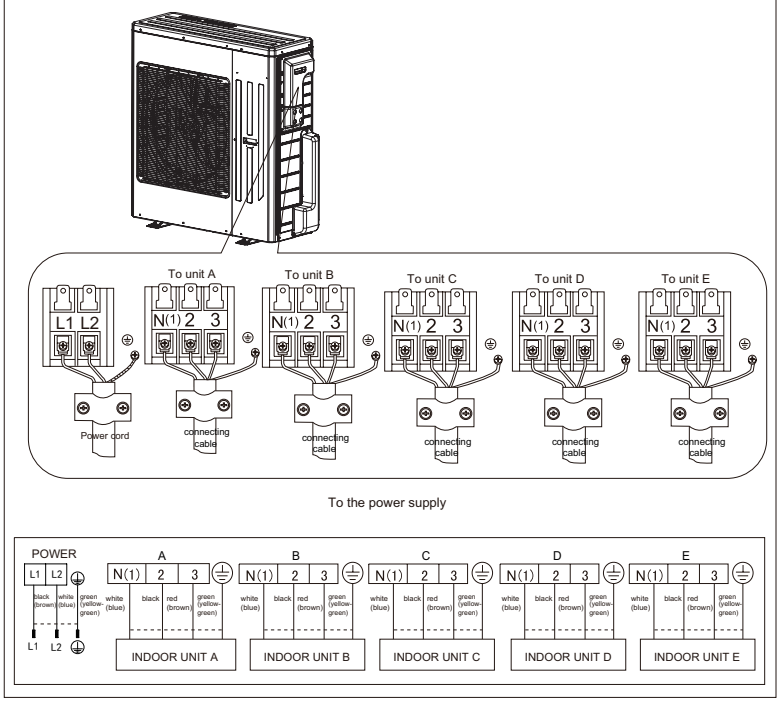
TM24H5O



TM36H5O



GWHD(42)ND3JO



INSTALLING THE OUTDOOR UNIT

Location

⚠ Use bolts to secure the unit to a flat, solid floor.When mounting the unit on a wall or the roof, make sure the support is firmly secured so that it cannot move in the event of intense vibrations or a strong
wind.

● Do not install the outdoor unit in pits or air vents

Installing the pipes

⚠ Use suitable connecting pipes and equipment for the refrigerant R410A.

⚠

Models(m)	18Kx2	24Kx2	24Kx3	36Kx2	36Kx3
Max. connection pipe length	50	50	70	50	70
Max. connection pipe length (Simple one indoor unit)	25	25	25	25	25

Models(m)	36Kx4	42Kx2	42Kx3	42Kx4	42Kx5
Max. connection pipe length	75	50	75	80	80
Max. connection pipe length (Simple one indoor unit)	25	25	25	25	25

⚠The refrigerant pipes must not exceed the maximum heights 10m(18Kx2&24Kx2&24Kx3&36x2&36x3&36x4&42x2 &42x3&42x4&42x5)..

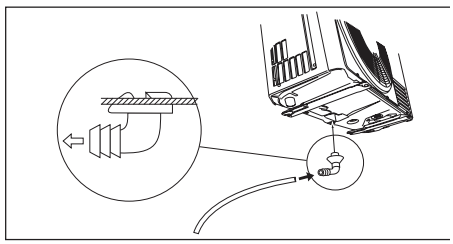
⚠ Wrap all the refrigerant pipes and joints.

⚠ Tighten the connections using two wrenches working in opposite directions.

Caution: Installation Must be Performed in Accordance with the NEC/CEC by Authorized Personnel Only.

Install the drain fitting and the drain hose(for model with heat pump only)

Condensation is produced and flows from the outdoor unit when the appliance is operating in the heating mode. In order not to disturb neighbours and to respect the environment,install a drain fitting and a drain hose to channel the condensate water.Install the drain fitting and rubber washer on the outdoor unit chassis and connect a drain hose to it as shown in the figure.



BLEEDING

Humid air left inside the refrigerant circuit can cause compressor malfunction. After having connected the indoor and outdoor units, bleed the air and humidity from the refrigerant circuit using a vacuum pump.

(1) Unscrew and remove the caps from the 2-way and 3-way valves.

(2) Unscrew and remove the cap from the service valve.

(3) Connect the vacuum pump hose to the service valve.

(4) Operate the vacuum pump for 10-15 minutes until an absolute vacuum of 10 mm Hg has been reached.

(5) With the vacuum pump still in operation, close the low-pressure knob on the vacuum pump coupling.Stop the vacuum pump.

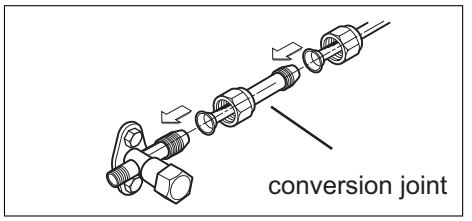
(6) Open the 2-way valve by 1/4 turn and then close it after 10 seconds. Check all the joints for leaks using liquid soap or an electronic leak device.

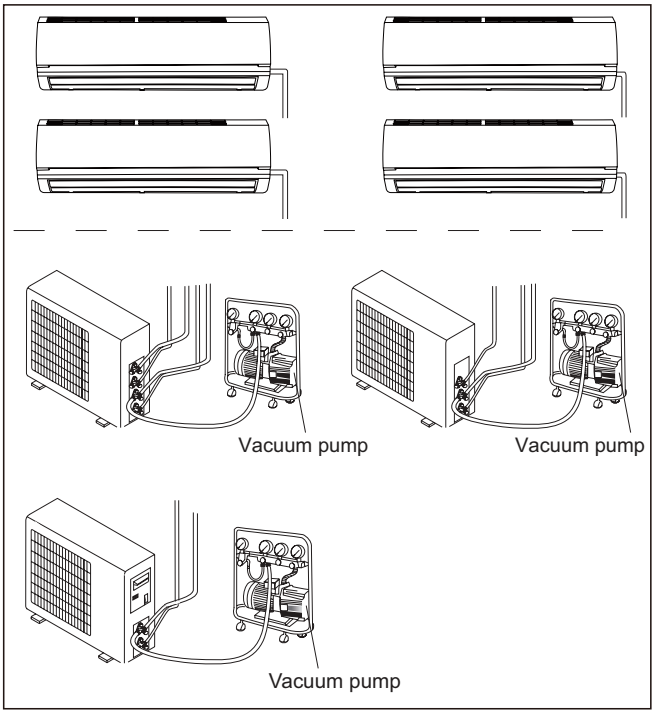
(7) Turn the body of the 2-way and 3-way valves. Disconnect the vacuum pump hose.

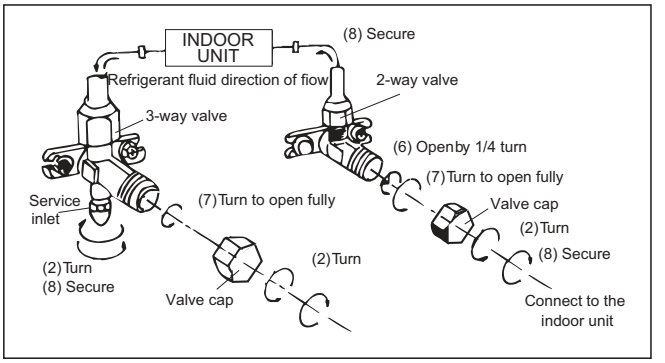
(8) Replace and tighten all the caps on the valves.

Diameter (mm)	Twisting moment (N.m)
Φ6	15-20
Φ9.52	35-40
Φ12	45-50
Φ16	60-65
Φ19	70-75

18/24/36/42K unit need to be installed the indoor unit





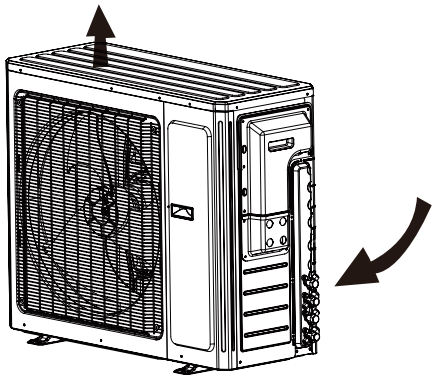


MAINTENANCE

⚠ Use suitable instruments for the refrigerant R410A.

● Do not use any other refrigerant than R410A.

⚠ Do not use mineral oils to clean the unit.



INSTALLATION DIMENSION DIAGRAM

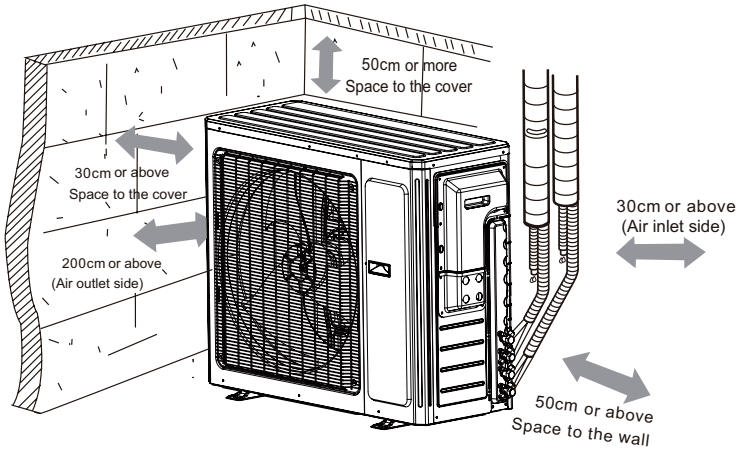
⚠ The installation must be done by trained and qualified service personnel with reliability according to this manual.

⚠ Contact service center before installation to avoid the malfunction due to unprofessional installation.

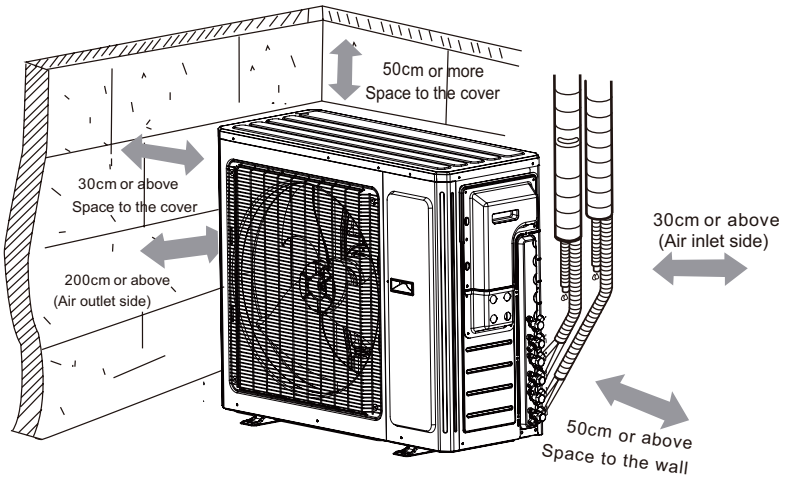
⚠ When picking up and moving the units, you must be guidedby trained and qualified person.

⚠ Ensure that the recommende dspace is left around the appliance.

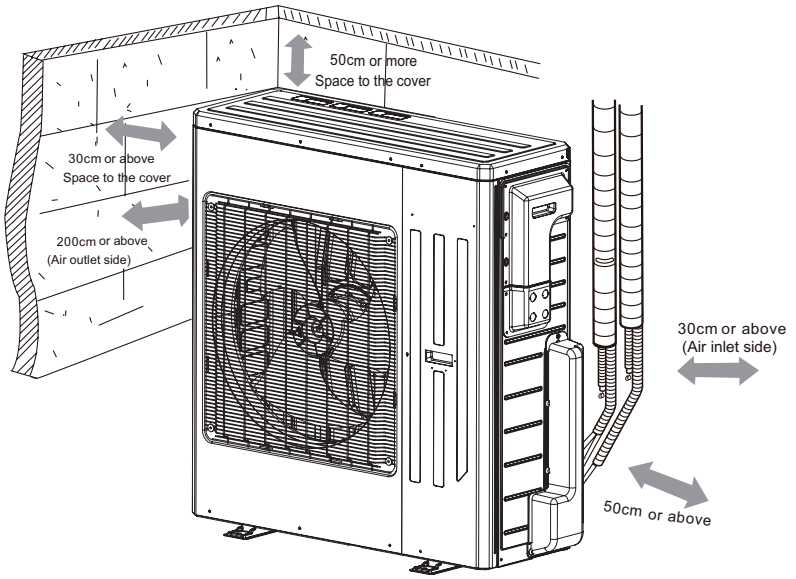
GWHD(18)ND3JO



TM24H5O



TM36H5O GWHD(42)ND3JO



9. Troubleshooting

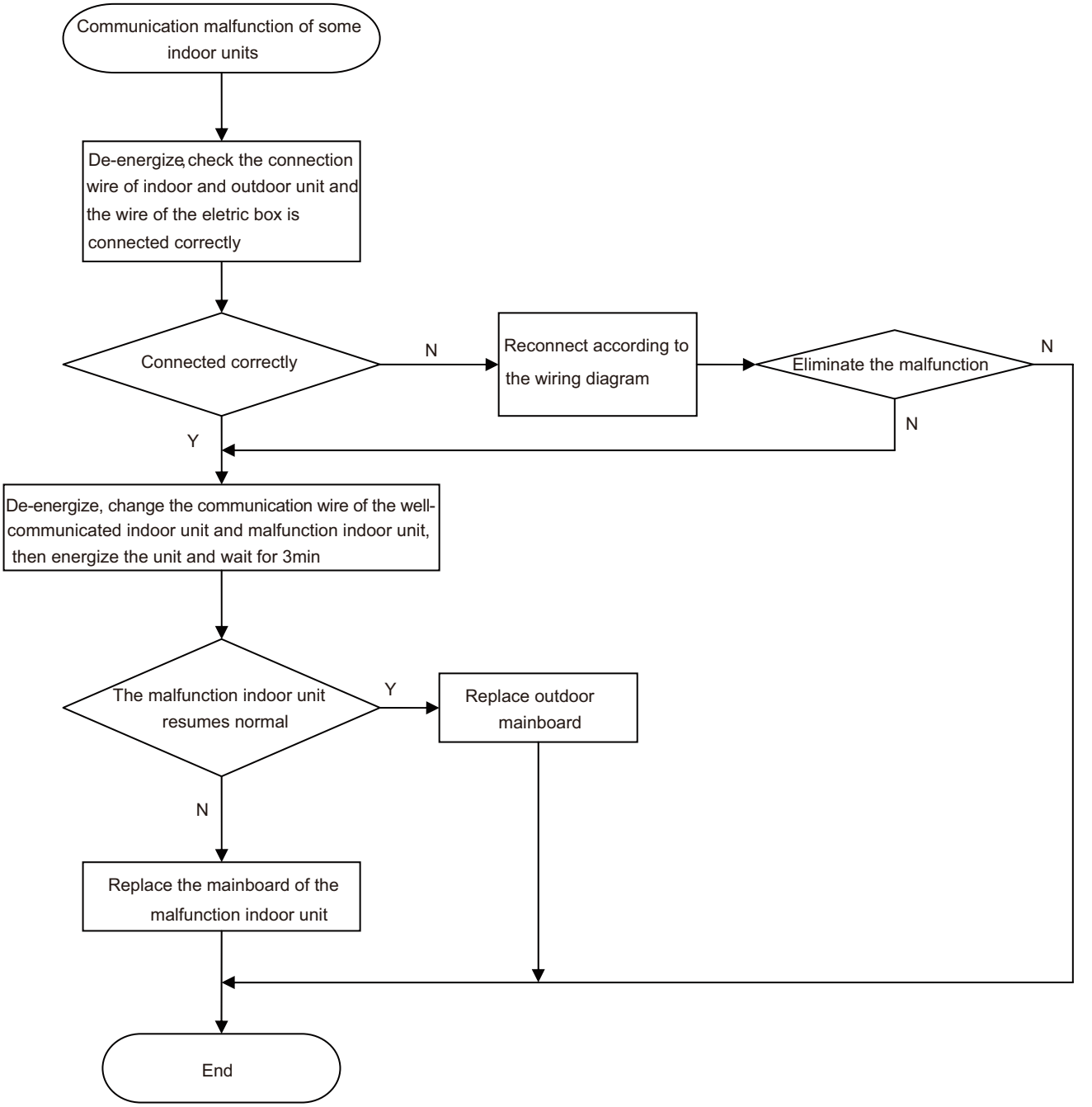
9.1 Malfunction Indicator

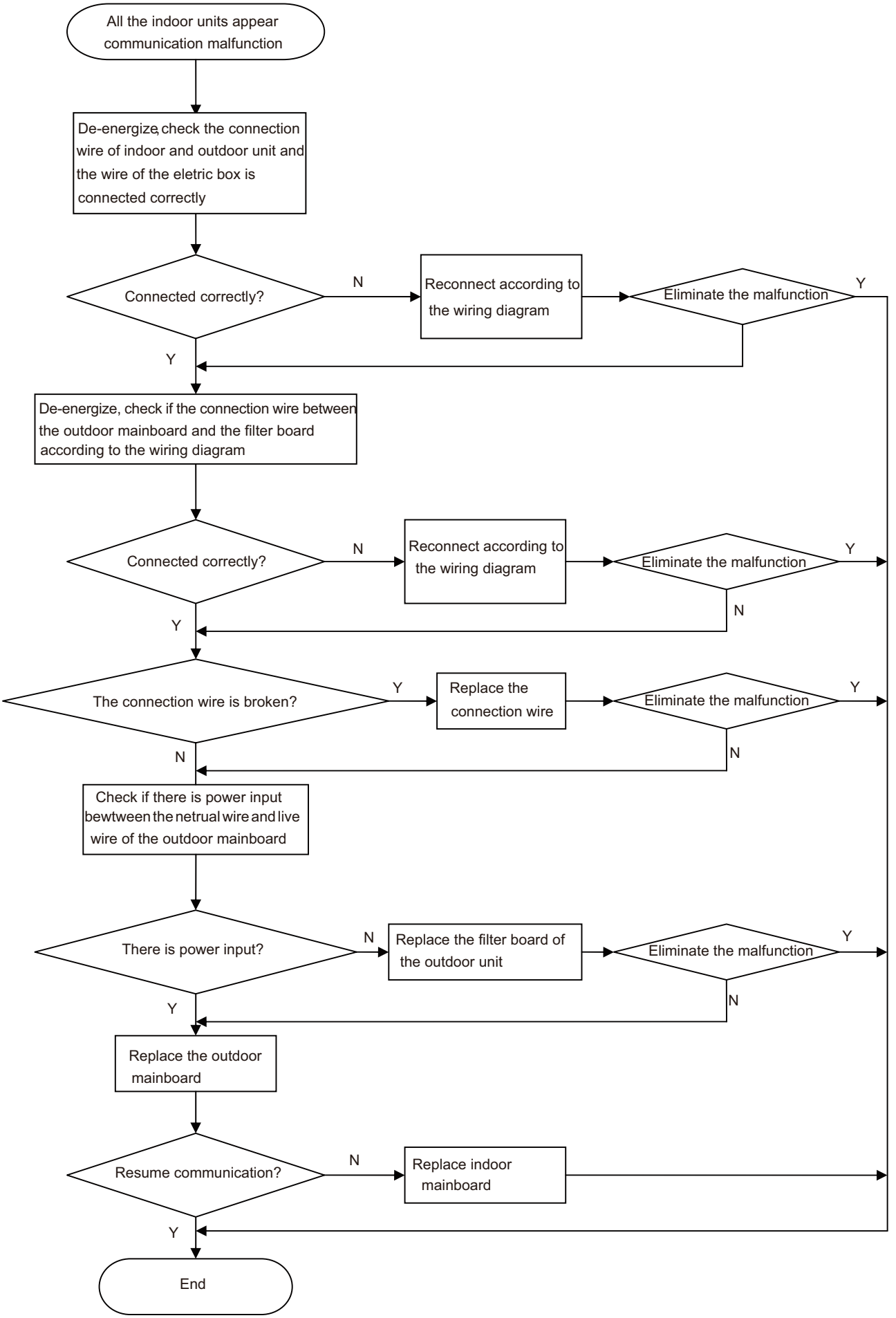
▲ The error code will be displayed on the wired controller and the main board of the outdoor unit The meaning of each error.

Name of malfunction	The indicator display			Indoor display
	Yellow light	Red light	Green light	
Compressor runs	Flash once			
Defrost	Flash twice			H1
Anti-freezing protection	Flash 3 times			E2
IPM protection	Flash 4 times			H5
AC over-current protection	Flash 5 times			E5
Over-burden protection	Flash 6 times			H4
Compressor exhaust high temperature protection	Flash 7 times			E4
Compressor overload protection	Flash 8 times			H3
Power protection	Flash 9 times			L9
EEPROM reads and write protection	Flash 11 times			
Low PN voltage protection	Flash 12 times			PL
Over voltage protection for PN	Flash 13 times			PH
PFC protection	Flash 14 times			HC
PFC module temperature protection	Flash 15 times			oE
Low pressure protection	Flash 17 times			E3
High pressure protection	Flash 18 times			E1
Limit/decline frequency(electric current)		Flash 1 times		
Frequency limit（exhaust)		Flash 2 times		
Frequency limit(Over-burden)		Flash 3 times		
Outdoor ambient sensor malfunction		Flash 6 times		F3
Outdoor tube sensor malfunction		Flash 5 times		F4
Exhaust sensor malfunction		Flash 7 times		F5
Attain the temperature of switch on		Flash 8 times		
Frequency limit(power)		Flash 13 times		
Outdoor fan malfunction		Flash 14 times		
Frequency limit(PFC module temperature)		Flash 15 times		
PFC module sensor malfunction		Flash 16 times		oE
Liquid pipe temperature sensor malfunction of A		Flash 17 times		
Gas pipe temperature sensor malfunction of A		Flash 18 times		
Liquid pipe temperature sensor malfunction of B		Flash 19 times		
Gas pipe temperature sensor malfunction of B		Flash 20 times		
Liquid pipe temperature sensor malfunction of C		Flash 21 times		
Gas pipe temperature sensor malfunction of C		Flash 22 times		
Liquid pipe temperature sensor malfunction of D		Flash 23 times		
Gas pipe temperature sensor malfunction of D		Flash 24 times		
Liquid pipe temperature sensor malfunction of E		Flash 25 times		
Gas pipe temperature				
sensor malfunction of E		Flash 26 times		
Exit of the condenser tube sensor malfunction		Flash 27 times		
Correspondence is normal			Flash 7 times(n=indoor unit number)	
Communication failure between indoor unit and outdoor unit			Often bright	
（indoor unit all Communication failure)				
Indoor ambient sensor malfunction				F1
Indoor evaporate sensor malfunction				F2
Mode conflict				E7
Accept fluorine mode				Fo
Jumper cap malfunction protection				C5

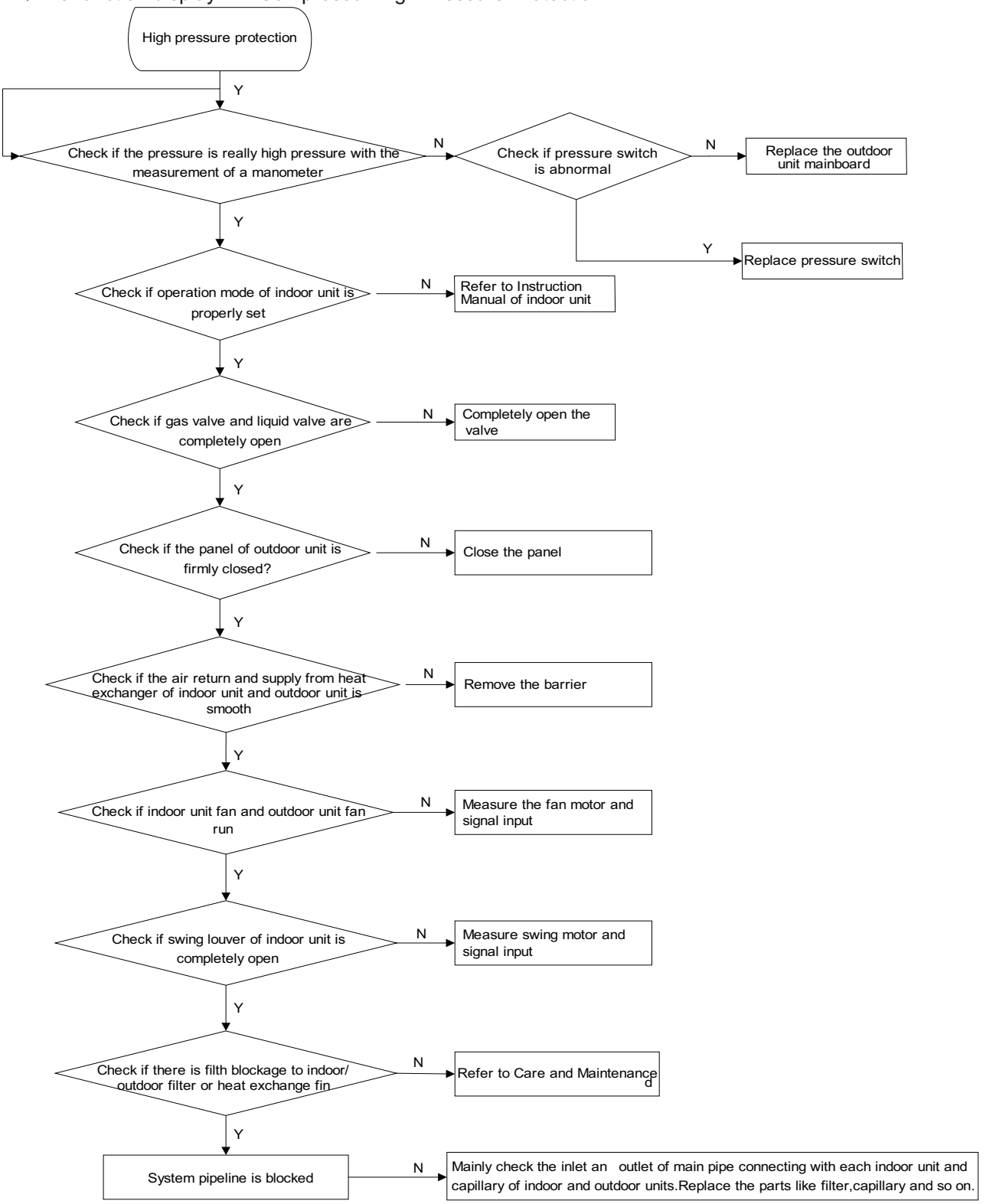
9.2 Malfunction Checking and Elimination

◆ **Malfunction display: E6 Communication malfunction**

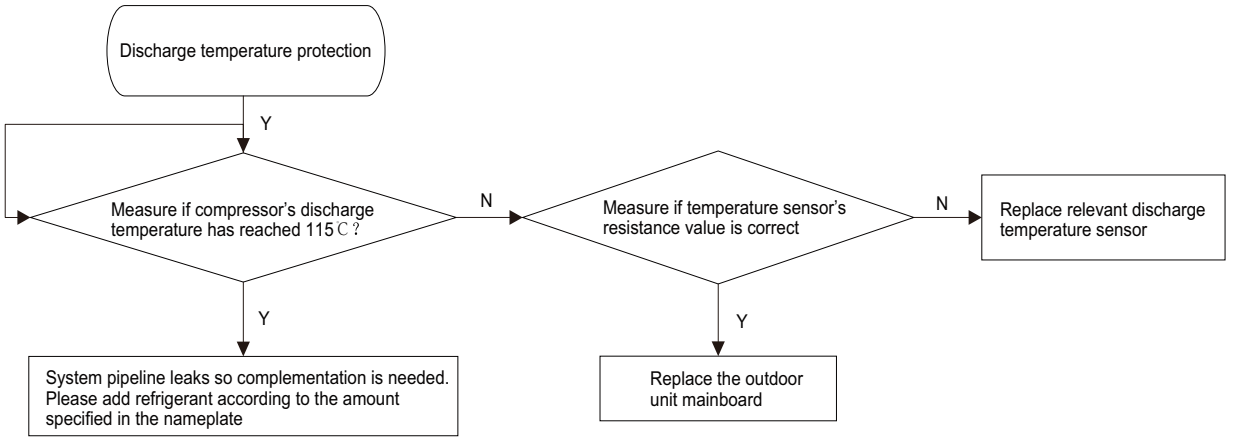



All the indoor units appear communication malfunction
De-energize, check the connection wire of indoor and outdoor unit and the wire of the eletric box is connected correctly
Connected correctly?
N
Reconnect according to the wiring diagram
Eliminate the malfunction
Y
Y
De-energize, check if the connection wire between the outdoor mainboard and the filter board according to the wiring diagram
Connected correctly?
N
Reconnect according to the wiring diagram
Eliminate the malfunction
Y
N
Y
The connection wire is broken?
Y
Replace the connection wire
Eliminate the malfunction
Y
N
N
Check if there is power input bewtween the netrual wire and live wire of the outdoor mainboard
There is power input?
N
Replace the filter board of the outdoor unit
Eliminate the malfunction
Y
N
Y
Replace the outdoor mainboard
Resume communication?
N
Replace indoor mainboard
Y
End

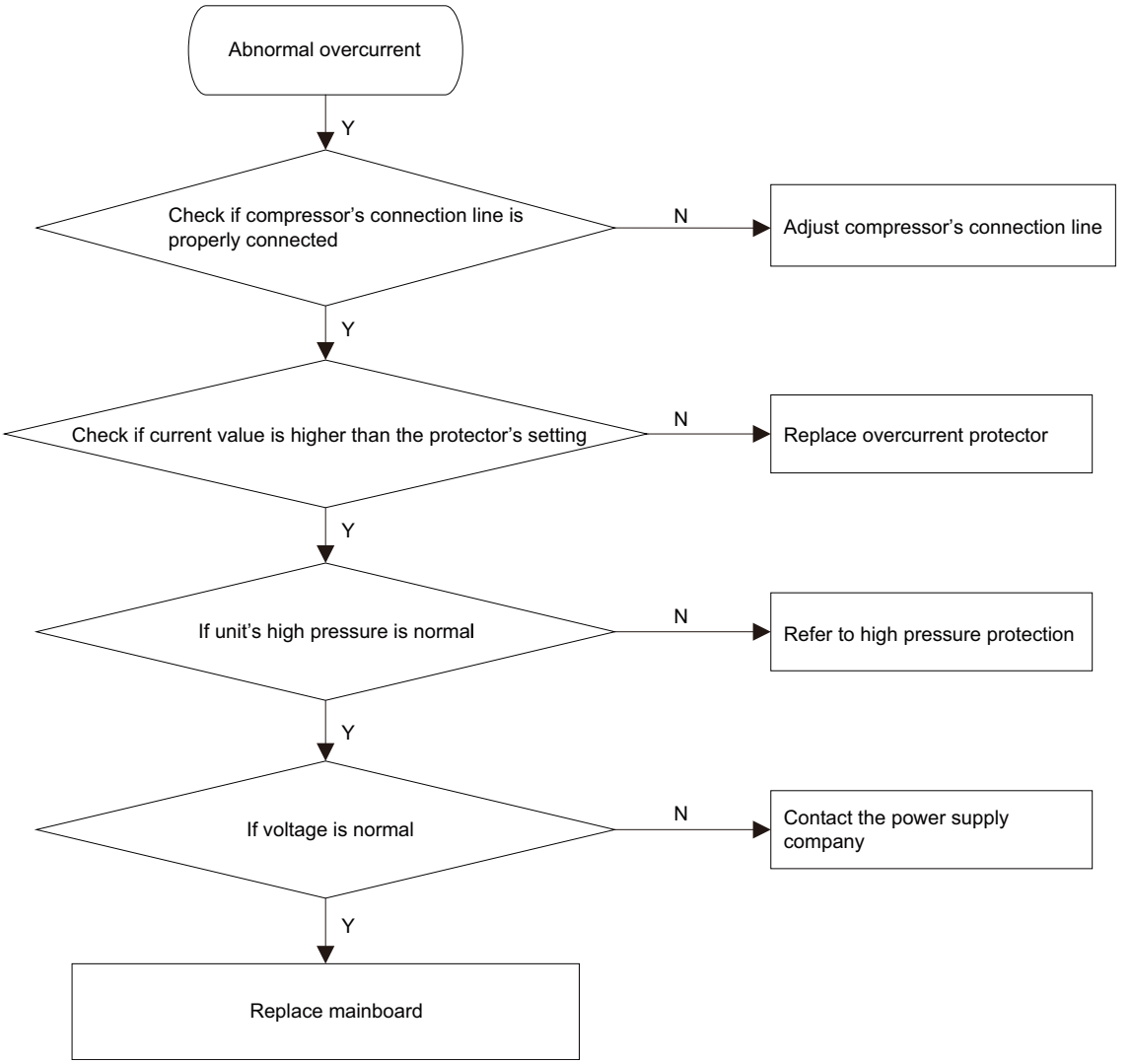
◆ Malfunction display: E1 Compressor High Pressure Protection



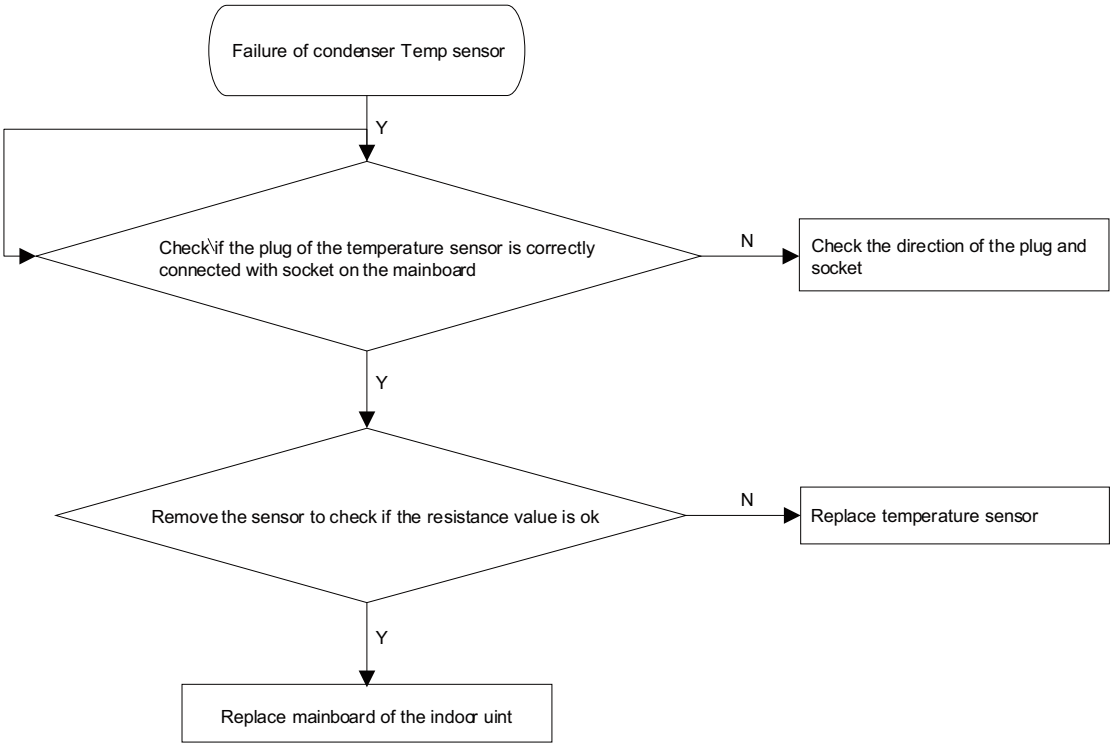
◆ Malfunction display: E4 Compressor Exhaust High Temperature Protection



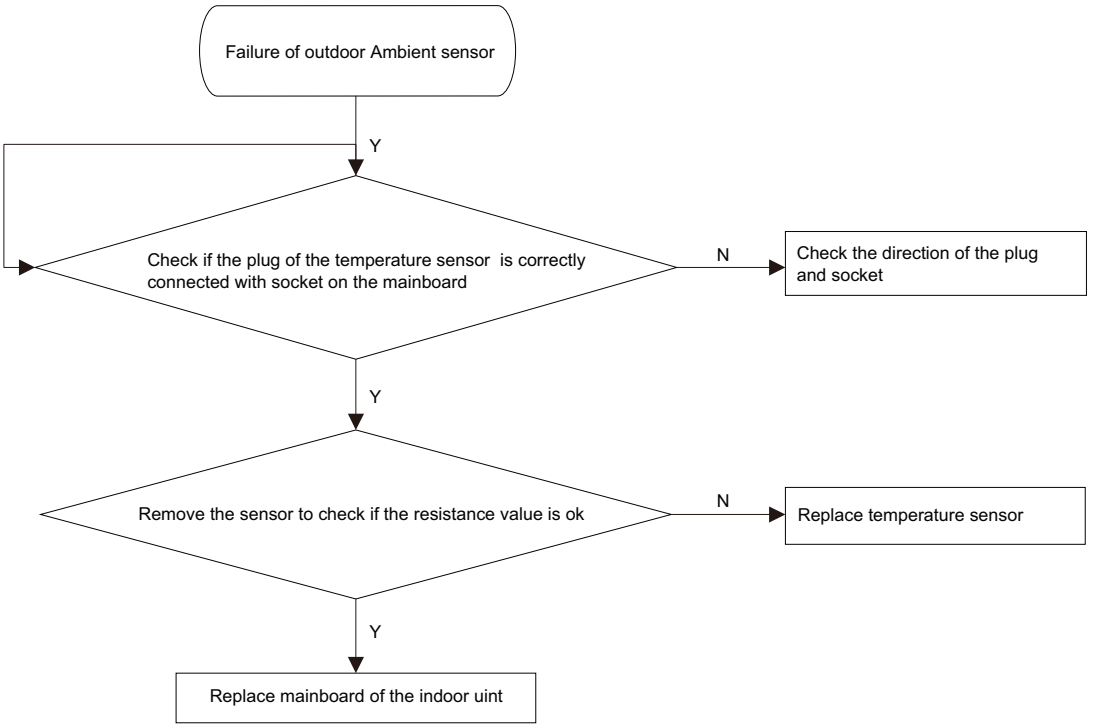
◆ Malfunction display: E5 Compressor Overheat



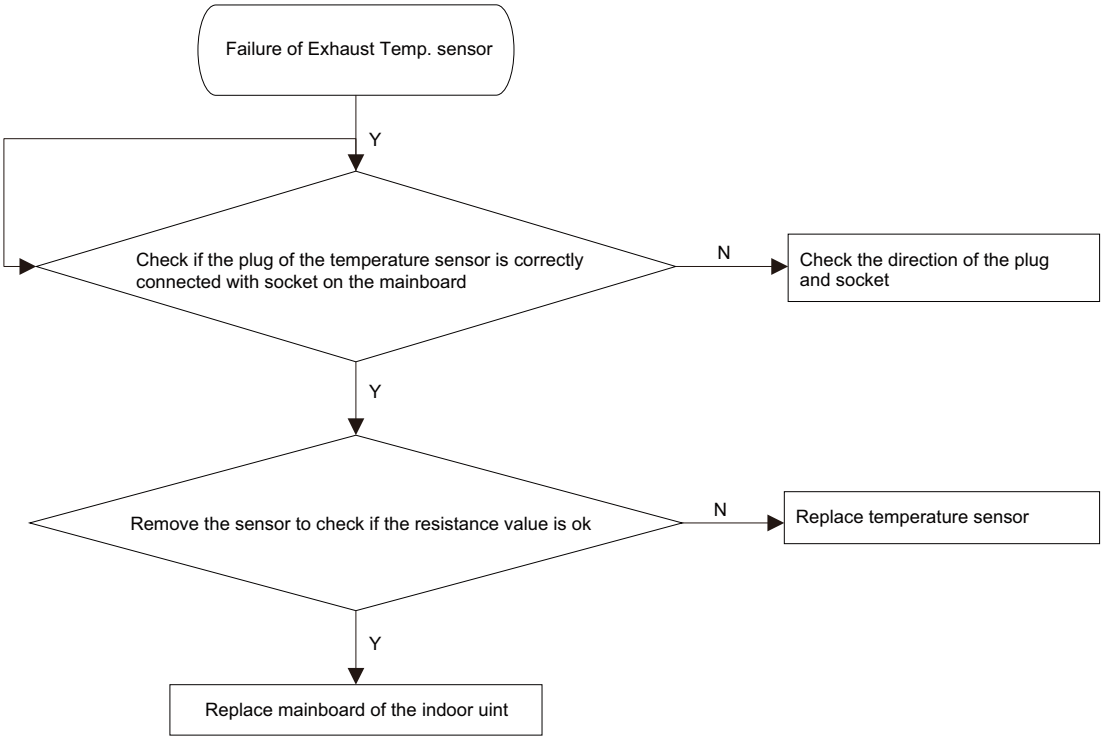
◆ Malfunction display: F2 Failure of Evaporator Temp. Sensor



◆ Malfunction display: F3 Failure of Outdoor Ambient Sensor



◆ Malfunction display: F5 Failure of Exhaust Temp. Sensor



9.3 Maintenance Method for Normal Malfunction

1. Air Conditioner Can't be Started Up

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
No power supply, or poor connection for power plug	After energization, operation indicator isn't bright and the buzzer can't give out sound	Confirm whether it's due to power failure. If yes, wait for power recovery. If not, check power supply circuit and make sure the power plug is connected well.
Wrong wire connection between indoor unit and outdoor unit, or poor connection for wiring terminals	Under normal power supply circumstances, operation indicator isn't bright after energization	Check the circuit according to circuit diagram and connect wires correctly. Make sure all wiring terminals are connected firmly
Electric leakage for air conditioner	After energization, room circuit breaker trips off at once	Make sure the air conditioner is grounded reliably Make sure wires of air conditioner is connected correctly Check the wiring inside air conditioner. Check whether the insulation layer of power cord is damaged; if yes, place the power cord.
Model selection for air switch is improper	After energization, air switch trips off	Select proper air switch
Malfunction of remote controller	After energization, operation indicator is bright, while no display on remote controller or buttons have no action.	Replace batteries for remote controller Repair or replace remote controller

2. Poor Cooling (Heating) for Air Conditioner

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Set temperature is improper	Observe the set temperature on remote controller	Adjust the set temperature
Rotation speed of the IDU fan motor is set too low	Small wind blow	Set the fan speed at high or medium
Filter of indoor unit is blocked	Check the filter to see it's blocked	Clean the filter
Installation position for indoor unit and outdoor unit is improper	Check whether the installation postion is proper according to installation requirement for air conditioner	Adjust the installation position, and install the rainproof and sunproof for outdoor unit
Refrigerant is leaking	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unit's pressure is much lower than regulated range	Find out the leakage causes and deal with it. Add refrigerant.
Malfunction of 4-way valve	Blow cold wind during heating	Replace the 4-way valve
Malfunction of capillary	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unit't pressure is much lower than regulated range. If refrigerant isn't leaking, part of capillary is blocked	Replace the capillary
Flow volume of valve is insufficient	The pressure of valves is much lower than that stated in the specification	Open the valve completely
Malfunction of horizontal louver	Horizontal louver can't swing	Refer to point 3 of maintenance method for details
Malfunction of the IDU fan motor	The IDU fan motor can't operate	Refer to troubleshooting for H6 for maintenance method in details
Malfunction of the ODU fan motor	The ODU fan motor can't operate	Refer to point 4 of maintenance method for details
Malfunction of compressor	Compressor can't operate	Refer to point 5 of maintenance method for details

3. Horizontal Louver Can't Swing

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Stepping motor is damaged	Stepping motor can't operate	Repair or replace stepping motor
Main board is damaged	Others are all normal, while horizontal louver can't operate	Replace the main board with the same model

4. ODU Fan Motor Can't Operate

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of the ODU fan motor is damaged	Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor.	Replace the capacity of fan
Power voltage is a little low or high	Use universal meter to measure the power supply voltage. The voltage is a little high or low	Suggest to equip with voltage regulator
Motor of outdoor unit is damaged	When unit is on, cooling/heating performance is bad and ODU compressor generates a lot of noise and heat.	Change compressor oil and refrigerant. If no better, replace the compressor with a new one

5. Compressor Can't Operate

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of compressor is damaged	Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor.	Replace the compressor capacitor
Power voltage is a little low or high	Use universal meter to measure the power supply voltage. The voltage is a little high or low	Suggest to equip with voltage regulator
Coil of compressor is burnt out	Use universal meter to measure the resistance between compressor terminals and it's 0	Repair or replace compressor
Cylinder of compressor is blocked	Compressor can't operate	Repair or replace compressor

6. Air Conditioner is Leaking

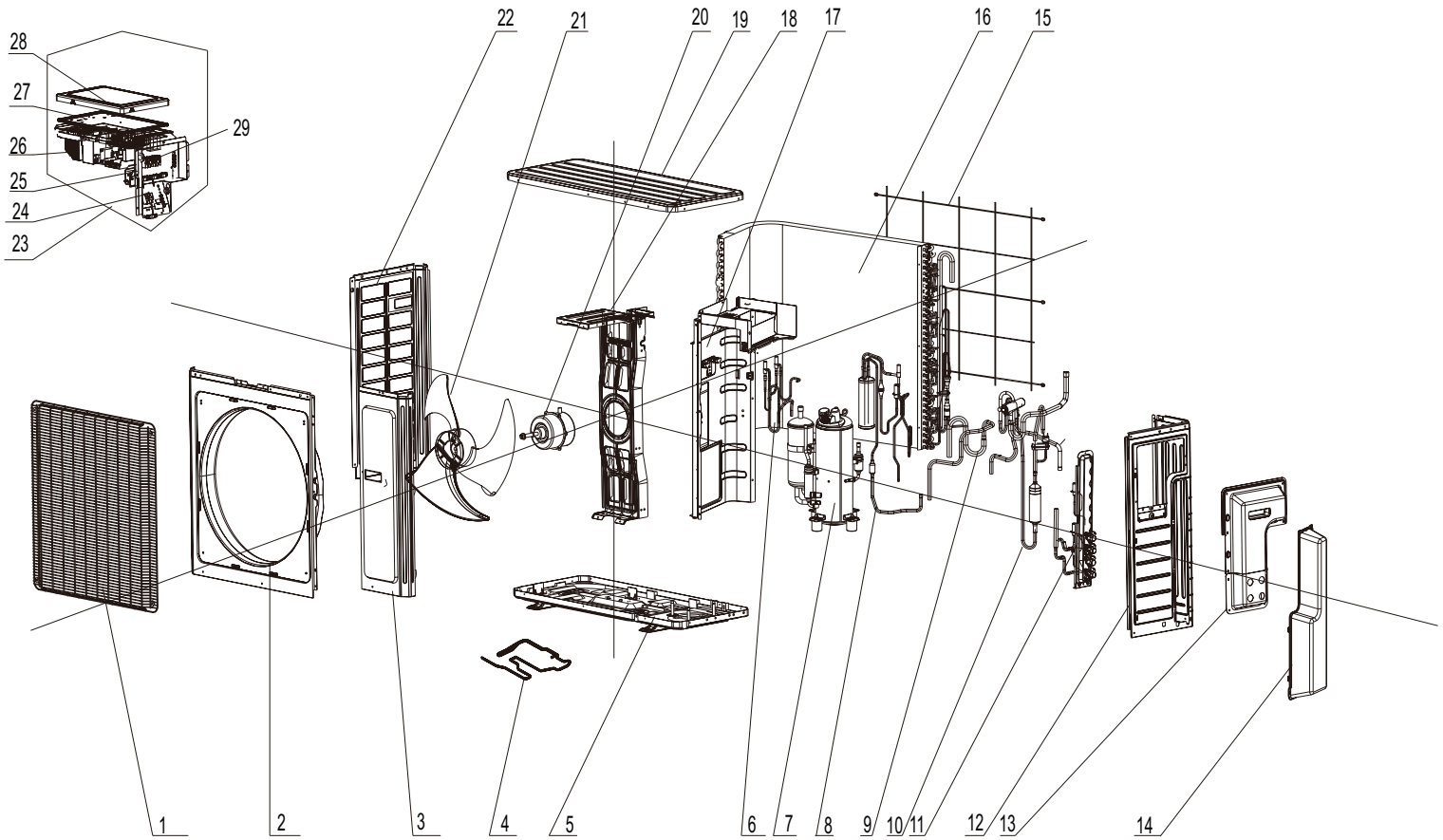
Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Drain pipe is blocked	Water leaking from indoor unit	Eliminate the foreign objects inside the drain pipe
Drain pipe is broken	Water leaking from drain pipe	Replace drain pipe
Wrapping is not tight	Water leaking from the pipe connection place of indoor unit	Wrap it again and bundle it tightly

7. Abnormal Sound and Vibration

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
When turn on or turn off the unit, the panel and other parts will expand and there's abnormal sound	There's the sound of "PAPA"	Normal phenomenon. Abnormal sound will disappear after a few minutes.
When turn on or turn off the unit, there's abnormal sound due to flow of refrigerant inside air conditioner	Water-running sound can be heard	Normal phenomenon. Abnormal sound will disappear after a few minutes.
Foreign objects inside the indoor unit or there're parts touching together inside the indoor unit	There's abnormal sound fro indoor unit	Remove foreign objects. Adjust all parts' position of indoor unit, tighten screws and stick damping plaster between connected parts
Foreign objects inside the outdoor unit or there're parts touching together inside the outdoor unit	There's abnormal sound fro outdoor unit	Remove foreign objects. Adjust all parts' position of outdoor unit, tighten screws and stick damping plaster between connected parts
Short circuit inside the magnetic coil	During heating, the way valve has abnormal electromagnetic sound	Replace magnetic coil
Abnormal shake of compressor	Outdoor unit gives out abnormal sound	Adjust the support foot mat of compressor, tighten the bolts
Abnormal sound inside the compressor	Abnormal sound inside the compressor	If add too much refrigerant during maintenance, please reduce refrigerant properly. Replace compressor for other circumstances.

10. Exploded View and Parts List

GWHD(18)ND3JO TM24H5O

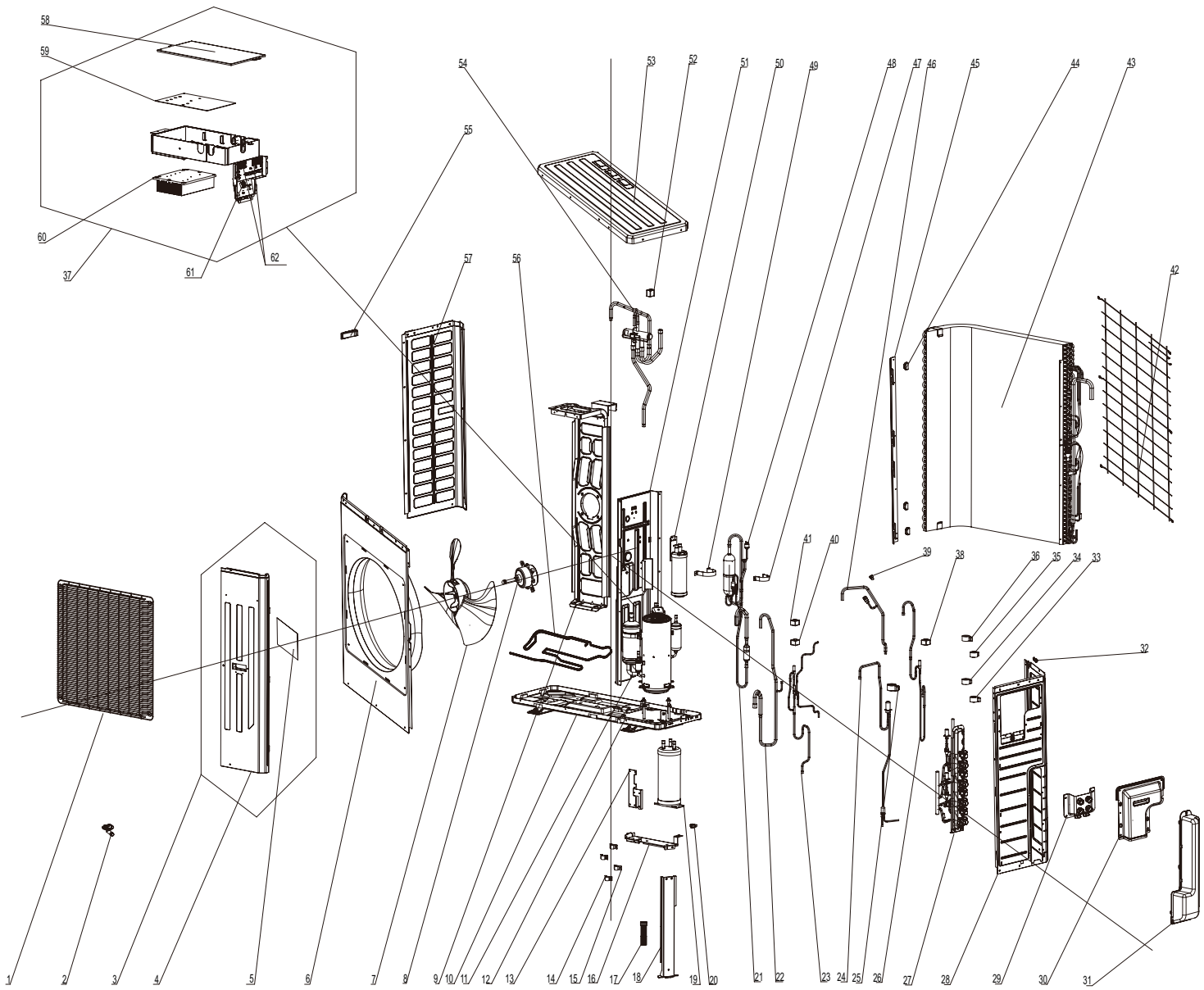


The component picture is only for reference; please refer to the actual product.

NO.	Description	Part Code		Qty
		GWHD(18)ND3JO	TM24H5O	
	Product code	CB228W09400	CB228W09500	
1	Front Grill	016004000006	016004000006	1
2	Cabinet	0143543901P	0143543901P	1
3	Front Side Plate Sub-Assy	017101060007	017101060007	1
4	Electrical Heater (Chassis)	7651000413	7651000413	1
5	Base Plate Sub-Assy	017000060044P	017000060044P	1
6	Electromagnetic Valve Sub-assy	030025060020	030025060020	1
7	Compressor and Fittings	009001000013	009001000013	1
8	Flash Vaporizer Assy	000036060003	000036060003	1
9	Inhalation Tube Sub-assy	030010060420	030010060420	1
10	4-way Valve Assy	030152060055	030152060055	1
11	Valve Support Assy	030163060001	030163060003	1
12	Right Side Plate	0131410000902P	0131410000902P	1
13	Handle	26233053	26233053	1
14	Valve Cover	200087000006	200087000006	1
15	Rear Grill	01574100003	01574100003	1
16	Condenser Assy	011002060151	011002060151	1
17	Clapboard Sub-Assy	017021060037	017021060037	1
18	Motor Support Sub-Assy	017012000017	017012000017	1
19	Top Cover Sub-Assy	000051060049	000051060049	1
20	Brushless DC Motor	15010400000107	15010400000107	1
21	Axial Flow Fan Sub-Assy	10333017	10333017	1
22	Left Side Plate	01305043P	01305043P	1
23	Electric Box Assy	100002060834	100002060797	1
24	Terminal Board	42200006001301	42200006001301	1
25	Terminal Board Support sub-assy	017041060005A	017041060005A	1
26	Radiator	4901305201	4901305201	1
27	Main Board	300027060170	300027060012	1
28	Electric Box Cover Sub-Assy	02603217A	02603217A	1
29	Terminal Board	422000060015	422000060015	2/3

Above data is subject to change without notice.

TM36H5O

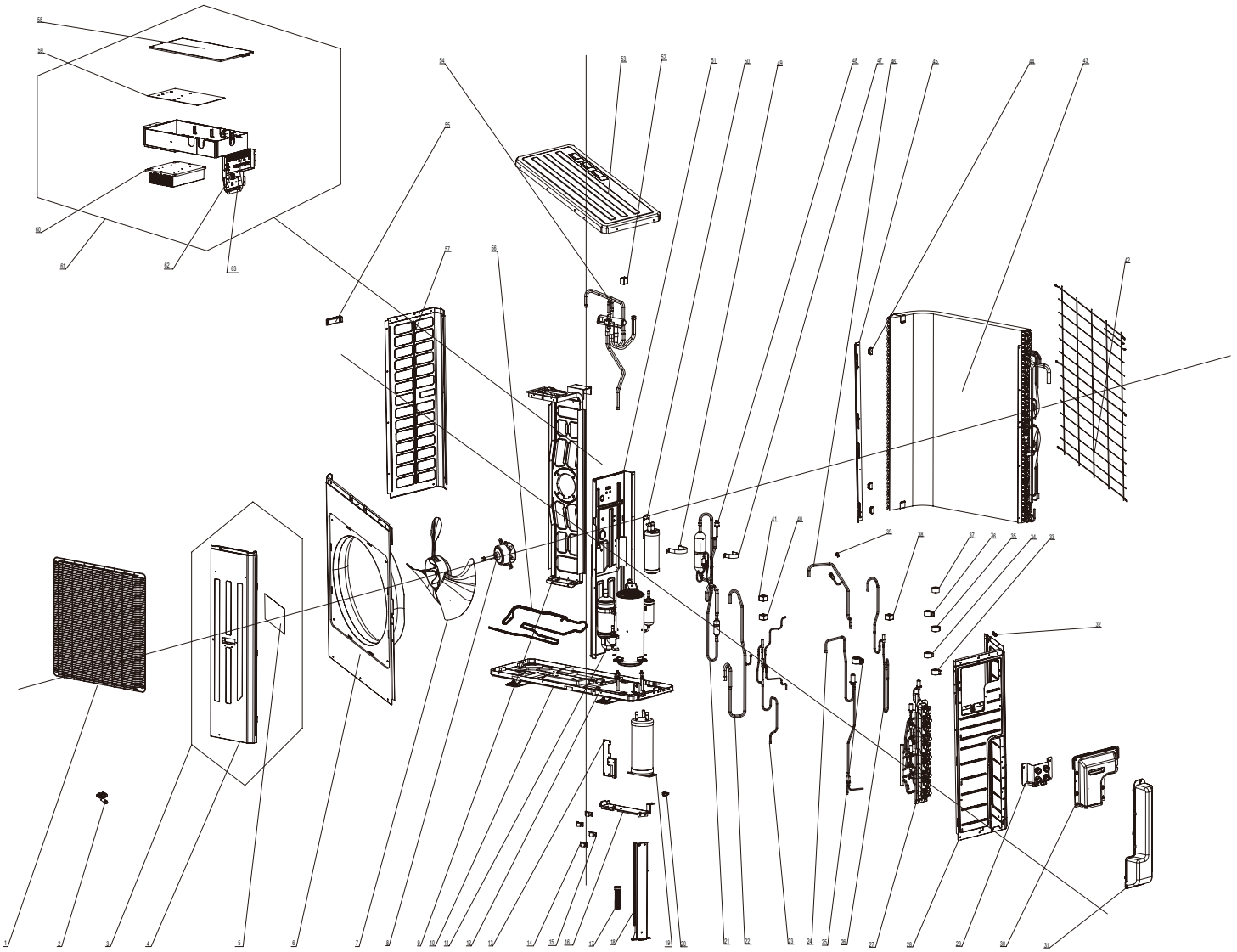


The component picture is only for reference; please refer to the actual product.

NO.	Description	Part Code	Qty
		TM36H5O	
	Product code	CB228W09600	
1	Front Grill	016004060003	1
2	Drainage Joint	26113009	1
3	Front Side Plate Sub-Assy	017101060008P	1
4	Front Side Plate Sub-Assy	017101060008	1
5	Insulated Board (Cover of Electric Box)	20113003	1
6	Cabinet	01435007P	1
7	Axial Flow Fan	10335014	1
8	Brushless DC Motor	1570280000409	1
9	Motor Support Sub-Assy	017012060043	1
10	Base Plate Sub-Assy	017000060108P	1
11	Compressor and Fittings	00204100030	1
12	Retaining Plate Sub-Assy	017032000118P	1
13	Supporting Board	0189410008902P	1
14	Tube Clip	021400053P	2
15	Litter Liquid Pipe(Rubber Loop)	76518218	2
16	Supporting Board Sub-assy	017056000201P	1
17	Electrical Heater	7651521242	1
18	Supporting Board Sub-assy	017056060224P	1
19	Accumulator	07424100031	1
20	Rubber Band	76510006	5
21	Oil Separator Sub-Assy	030079060004	1
22	Inhalation Tube Sub-Assy	030010060207	1
23	Electromagnetic Valve Sub-assy	030025060016	1
24	Electric Expansion Valve Sub-Assy	030026060045	1
25	Electric Expand Valve Fitting	43000345	1
26	Electromagnetic Valve Sub-assy	030025060014	1
27	Valve Support Assy	030163060005	1
28	Right Side Plate	0131410002702P	1
29	Wiring Cover Sub-assy	000224060003	1
30	Handle Assy	000223000003	1
31	Valve Cover	200087000005	1
32	Wiring Clamp	26115004	1
33	Electric Expand Valve Fitting	43000344	1
34	Electric Expand Valve Fitting	4300034411	1
35	Electric Expand Valve Fitting	4300034412	1
36	Electric Expand Valve Fitting	4300034414	1
37	Electric Box Assy	100002060835	1
38	Magnet Coil	4304000404	1
39	fusible plug	035222000004	1
40	Magnet Coil	4304000449	1
41	Magnet Coil	4304000447	1
42	Rear Grill	1574100007	1
43	Condenser Assy	011002060110	3
44	Toggle Switch Sheath	26905207	1
45	Condenser support plate	01895242	1
46	Connection Pipe Sub-assy	030062060112	1
47	Tube Clip	0214000521	1
48	Pressure Protect Switch	4602000603	1
49	Securing clip	02263702	1
50	Gas-liquid Separator	07223048	1
51	Clapboard Sub-Assy	017021060106	1
52	Magnet Coil	4300040029	1
53	Top Cover	0125500901P	1
54	4-way Valve Assy	030152060041	1
55	Handle	26233053	1
56	Electrical Heater	7651000417	1
57	Left Side Plate	01305064P	1
58	Electric Box Cover	012020060060	1
59	Main Board	300027060190	1
60	Radiator	4901800000203	1
61	Terminal Board	42200006001201	1
62	Terminal Board	422000060015	4

Above data is subject to change without notice.

GWHD(42)ND3JO



The component picture is only for reference; please refer to the actual product.

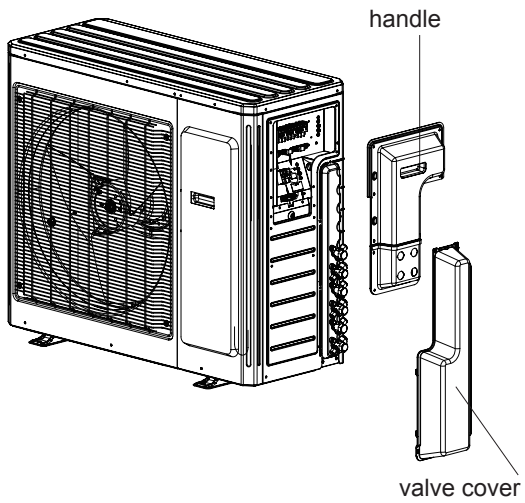
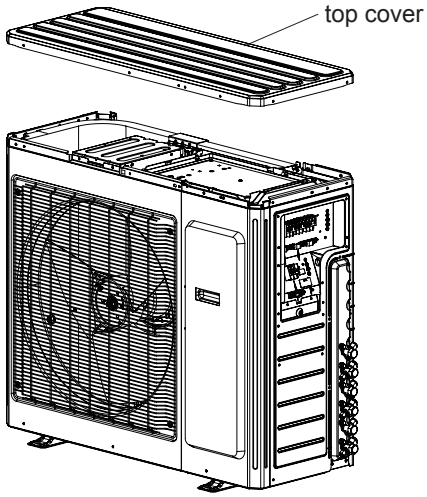
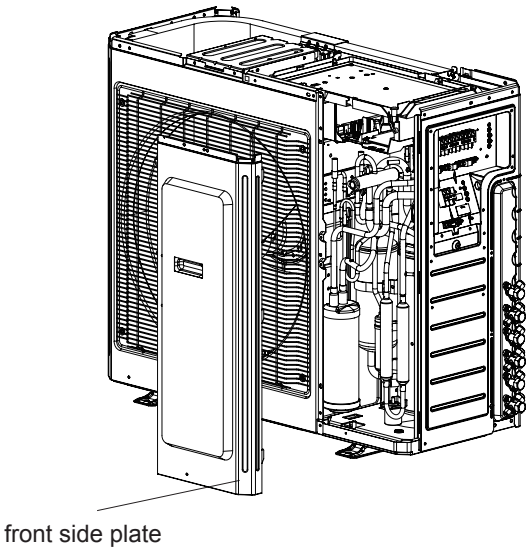
NO.	Description	Part Code	Qty
		GWHD(42)ND3JO	
	Product code	CB228W09700	
1	Front Grill	016004060003	1
2	Drainage Joint	26113009	1
3	Front Side Plate Sub-Assy	017101060008P	1
4	Front Side Plate Sub-Assy	017101060008	1
5	Insulated Board (Cover of Electric Box)	20113003	1
6	Cabinet	01435007P	1
7	Axial Flow Fan	10335014	1
8	Brushless DC Motor	1570280000409	1
9	Motor Support Sub-Assy	017012060043	1
10	Base Plate Sub-Assy	017000060108P	1
11	Compressor and Fittings	00204100030	1
12	Retaining Plate Sub-Assy	017032000118P	1
13	Supporting Board	0189410008902P	1
14	Tube Clip	021400053P	2
15	Litter Liquid Pipe(Rubber Loop)	76518218	2
16	Supporting Board Sub-assy	017056000201P	1
17	Electrical Heater	7651521242	1
18	Supporting Board Sub-assy	017056060224P	1
19	Accumulator	07424100031	1
20	Rubber Band	76510006	5
21	Oil Separator Sub-Assy	030079060004	1
22	Inhalation Tube Sub-Assy	030010060207	1
23	Electromagnetic Valve Sub-assy	030025060016	1
24	Electric Expansion Valve Sub-Assy	030026060045	1
25	Electric Expand Valve Fitting	43000345	1
26	Electromagnetic Valve Sub-assy	030025060014	1
27	Valve Support Assy	030163060002	1
28	Right Side Plate	0131410002702P	1
29	Wiring Cover Sub-assy	000224060003	1
30	Handle Assy	000223000003	1
31	Valve Cover	200087000005	1
32	Wiring Clamp	26115004	1
33	Electric Expand Valve Fitting	43000344	1
34	Electric Expand Valve Fitting	4300034411	1
35	Electric Expand Valve Fitting	4300034412	1
36	Electric Expand Valve Fitting	4300034414	1
37	Electric Expand Valve Fitting	4300034413	1
38	Magnet Coil	4304000404	1
39	fusible plug	035222000004	1
40	Magnet Coil	4304000449	1
41	Magnet Coil	4304000447	1
42	Rear Grill	1574100007	1
43	Condenser Assy	011002060110	3
44	Toggle Switch Sheath	26905207	1
45	Condenser support plate	01895242	1
46	Connection Pipe Sub-assy	030062060112	1
47	Tube Clip	0214000521	1
48	Pressure Protect Switch	4602000603	1
49	Securing clip	02263702	1
50	Gas-liquid Separator	07223048	1
51	Clapboard Sub-Assy	017021060106	1
52	Magnet Coil	4300040029	1
53	Top Cover	0125500901P	1
54	4-way Valve Assy	030152060041	1
55	Handle	26233053	1
56	Electrical Heater	7651000417	1
57	Left Side Plate	01305064P	1
58	Electric Box Cover	012020060060	1
59	Main Board	300027060011	1
60	Radiator	4901800000203	1
61	Electric Box Assy	100002060833	1
62	Terminal Board	42200006001201	1
63	Terminal Board	422000060015	5

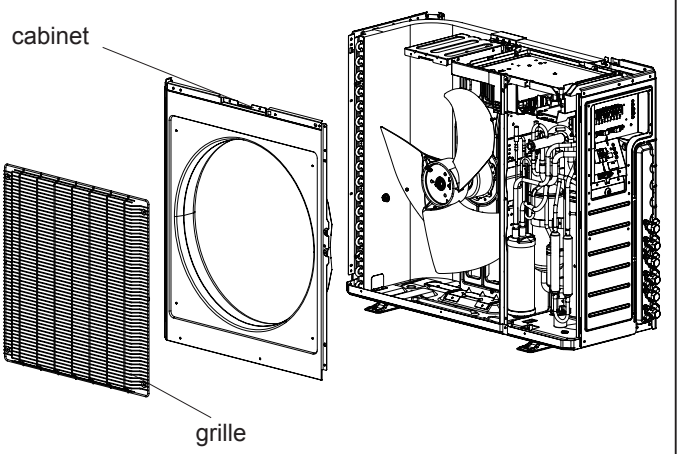
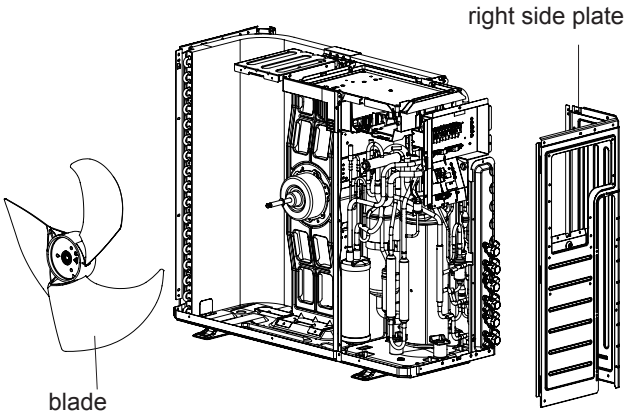
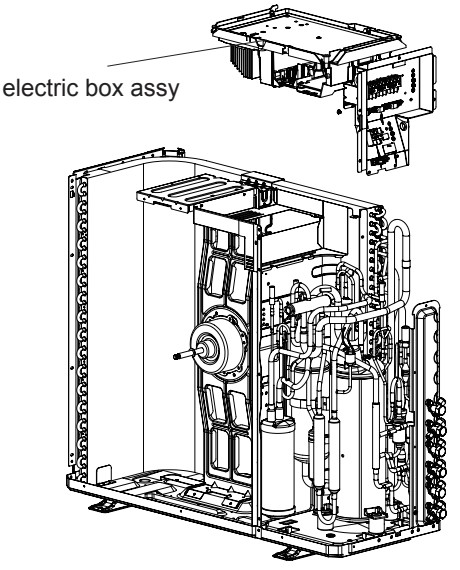
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11. Removal Procedure

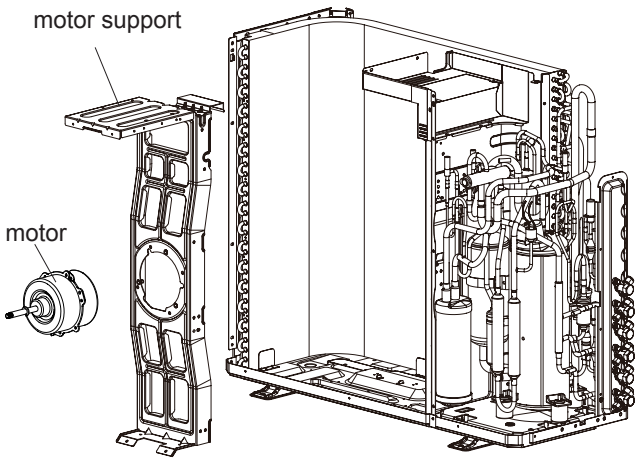
⚠ Warning: Be sure to wait for a minimum of 20 minutes after turning off all power supplies and discharge the refrigerant completely before removal.

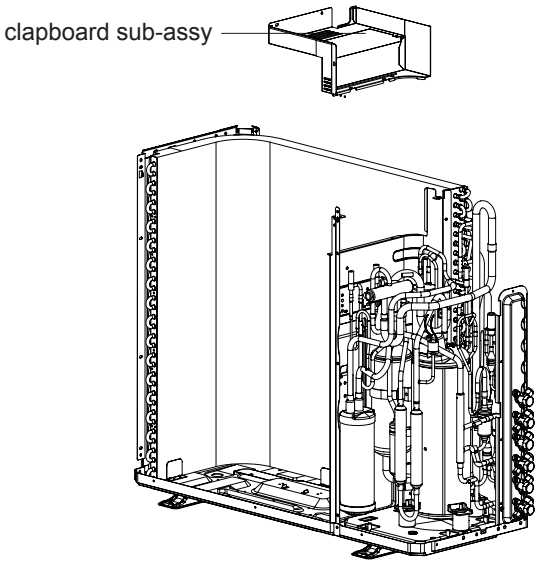
GWHD(18)ND3JO TM24H5O

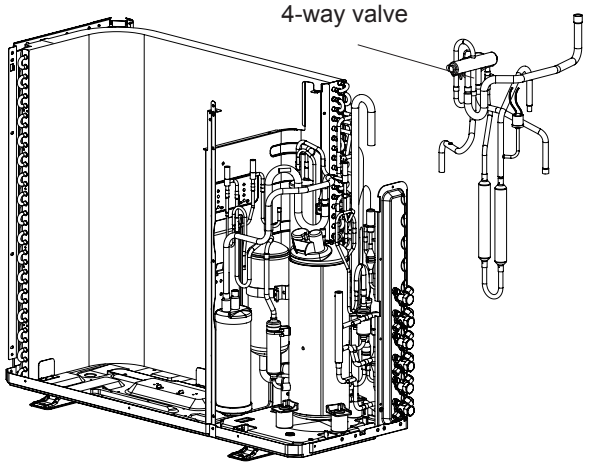
Steps	Procedure	
1. Remove the handle and valve cover		
	Remove the screws connicting the handle with right side plate and then remove the handle. Remove the screws connicting the valve cover and then remove the valve cover.	
2. Remove top cover		
	Remove the screws connecting the top cover with outer case, right side plate and left side plate; lift the top cover upwards to remove it.	
3.Remove front side plate		
	Remove the screws connecting the front side plate with chassis and middle isolation sheet,and then remove the front side plate	

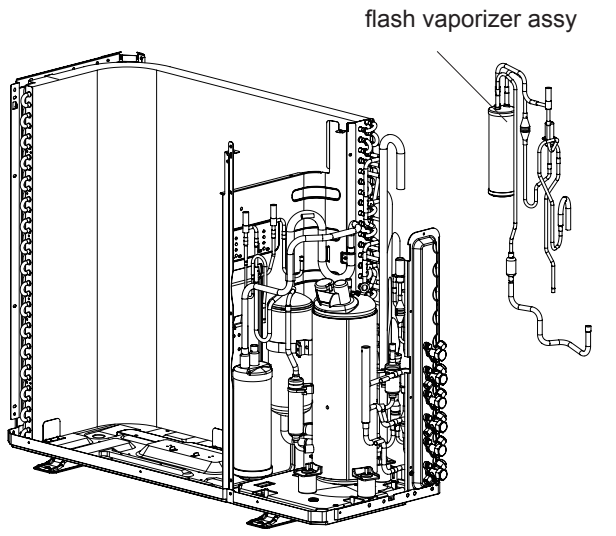
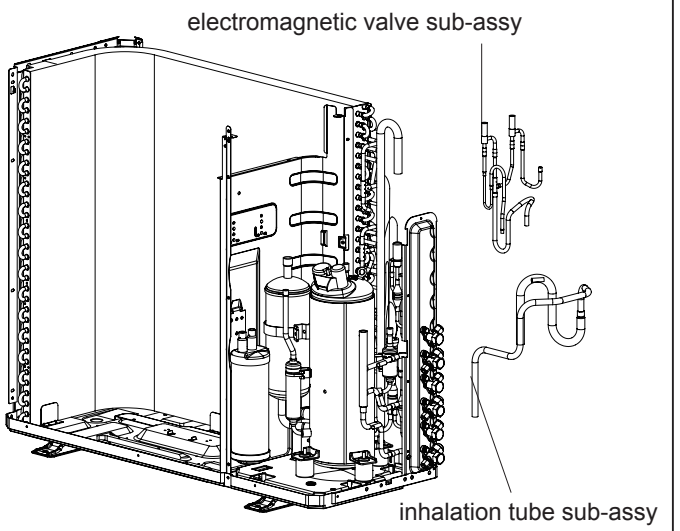
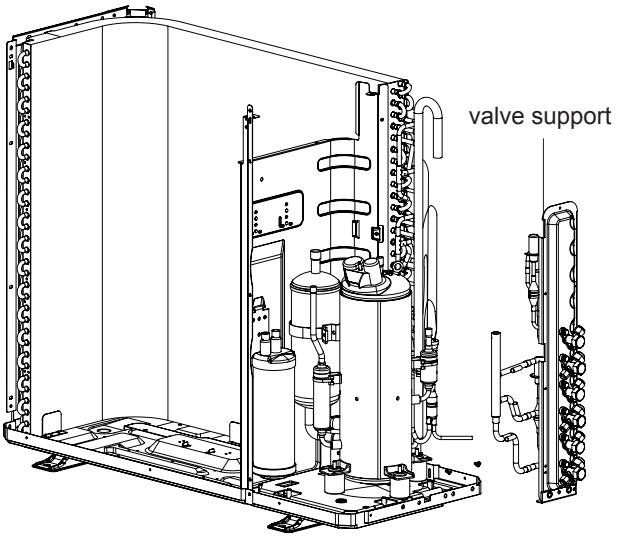
Steps	Procedure
4.Remove grille and cabinet	
Remove the 4 screws connecting the grille and outer case, and then remove the panel grille.	
5.Remove right side plate and blade	
Remove the screws connecting the right side plate with electric box assy, valve support, chassis and condenser side plate, and then remove the right side plate. Remove nuts fixing axial flow blade with wrench, and then remove the axial flow blade.	
6. Remove electric box assy	
1.Remove the grounding wire screw on the electric box assy and then remove the grounding wire. 2.Disconnect the wiring terminals of reactor, compressor, high and low pressure switch, compressor overload protector, temperature sensor, outdoor fan motor and 4-way valve. (See fig 2) Note: keep pressing the circlip when disconnecting the wiring terminal of reactor; keep pressing the retainer when disconnecting other wiring terminals. 3.Remove the wire inside the wiring groove.	

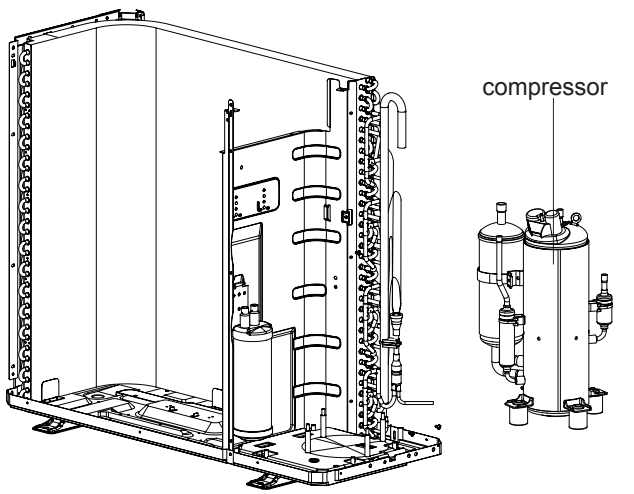
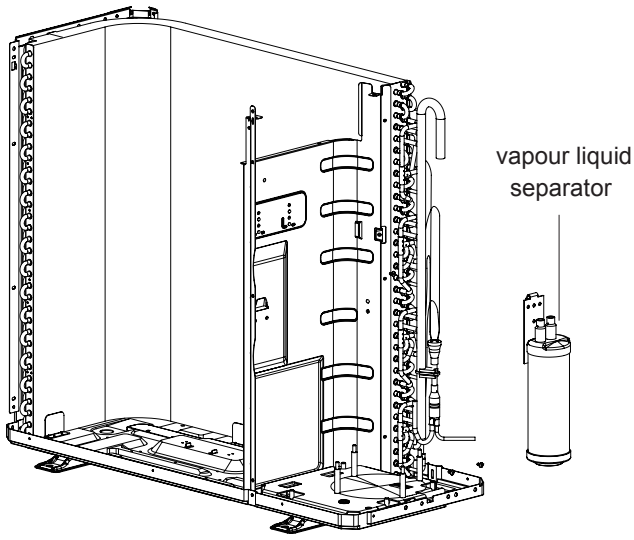
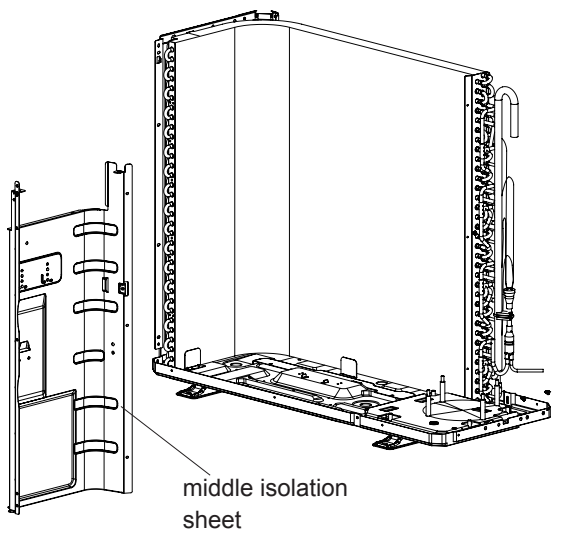
Steps	Procedure
7. Remove motor and motor support	
	Remove 4 screws fixing motor,and then remove the motor; Remove 2 screws connecting motor support and chassis, loosen damper block and then remove the motor support.
8. Remove clapboard sub-assy	
	Remove 4 screws fixing clapboard sub-assy,and then remove the clapboard sub-assy.
9. Remove 4-way valve	
	Unsolder the spot weld between 4-way valve and vapour liquid separator, compressor cut-off valve sub-assy and condenser, and then remove the 4-way valve. Note: When unsoldering the spot weld, wrap the 4-way valve with wet cloth completely to avoid damage to valve due to high temperature.

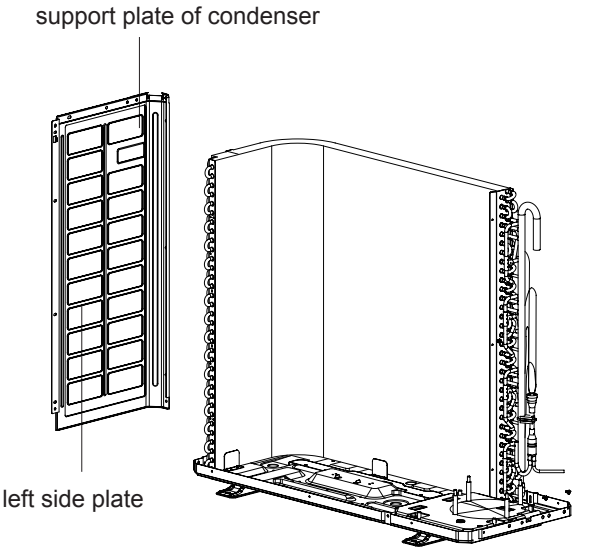
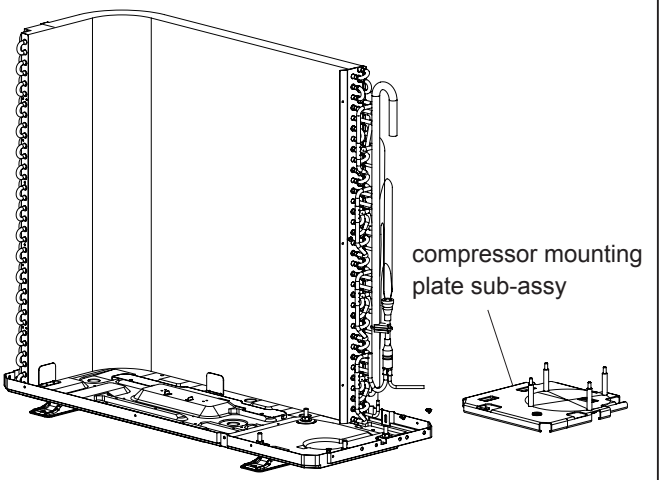
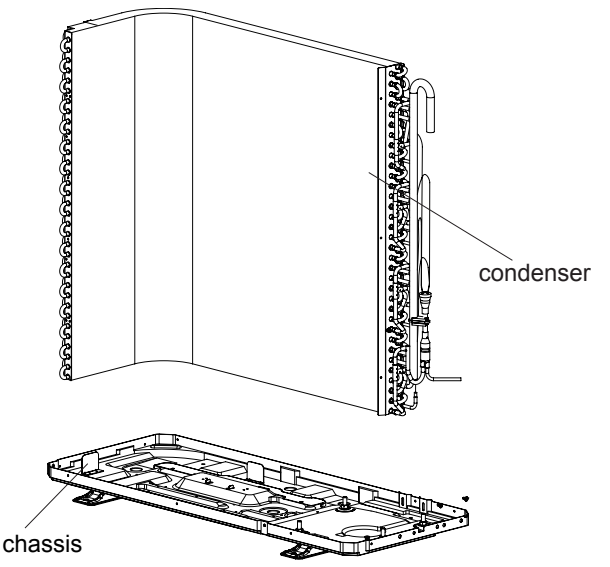






Steps	Procedure
10. Remove flash vaporizer assy	
Unsolder all spot welds cflash vaporizer assy, and then remove the flash vaporizer assy.	
11. Remove electromagnetic valve sub-assy and inhalation tube sub-assy	
Unsolder all spot welds electromagnetic valve sub-assy and then remove the electromagnetic valve sub-assy. Unsolder all spot welds inhalation tube sub-assy and then remove the inhalation tube sub-assy.	
12. Remove valve support	
Unsolder all spot welds connected with valve support and then remove the valve support. Note:When unsoldering the spot weld, wrap the gas valve and liquid valve with wet cloth completely to avoid damage to valve due to high temperature.	

Steps	Procedure
13. Remove compressor	
Remove the 3 foot nuts fixing compressor and then lift the compressor upwards to remove the compressor and damping cushion. Note: Keep the ports of discharge pipe and suction pipe from foreign objects.	
14.Remove vapour liquid separator	
Unsolder spot welds connected with vapour liquid separator, remove 2 foot nuts fixing vapour liquid separator and compressor mounting plate sub-assy, and then remove the vapour liquid separator.	
15. Remove middle isolation sheet	
Remove screws connecting middle isolation sheet and support plate of condenser, chassis, and then remove the middle isolation sheet.	

Steps	Procedure
16.Remove left side plate	
Remove screws connecting left side plate and support plate of condenser, chassis, and then remove the left side plate.	
17.Remove compressor mounting plate sub-assy	
Remove the 4 foot nuts fixing compressor mounting plate sub-assy and chassis, to remove the compressor mounting plate sub-assy.	
18. Remove condenser	
Pull it upwards to separate the chassis and condenser.	