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THERMA V™ System

SVC MANUAL(Exploded View)

MODEL : AH Series

CAUTION

Before Servicing the unit, read the safety precautions in General SVC manual.
Only for authorized service personnel.

1. Specification

Indoor

Indoor Units			AHNW096A0 (H09SNE)	AHNW126A0 (H12SNE)	AHNW146A0 (H14SNE)	AHNW166A0 (H16SNE)
Combination Outdoor Units			AHUW096A0	AHUW126A0	AHUW146A0	AHUW166A0
Nominal Power Input		W	135	205	205	205
Nominal Running Current without Electric Heater		A	0.59	0.89	0.89	0.89
Operation Range (Min.~Max.) Leaving Water Temperature	Cooling(Fan coil unit)	°C	6 ~ 30	6 ~ 30	6 ~ 30	6 ~ 30
	Cooling(Under floor)	°C	16 ~ 30	16 ~ 30	16 ~ 30	16 ~ 30
	Heating(Fan coil unit or Radiator)	°C	15~55°C (* * 20~55°C)			
	Heating(Under floor)	°C	15~55°C (* * 20~55°C)			
Pump	Type	-	Canned type for hot water circulation			
	Steps of Speed	EA	2 (In Max. / Med. / Min., Min. step is not used)			
	Power Input	W	135	205	205	205
	Water Flowrate Limit	LPM	At least 12	At least 12	At least 12	At least 12
Heat Exchanger	Type	-	Brazed Plate HEX	Brazed Plate HEX	Brazed Plate HEX	Brazed Plate HEX
	Number of Plate	EA	46	60	60	60
	Quantity	EA	1	1	1	1
Expansion Vessel	Volume	liter	8	8	8	8
	Water Pressure(Max.)	bar	3	3	3	3
	Water Pressure(Pre)	bar	1	1	1	1
Strainer	Mesh Size	mm	1 x 1	1 x 1	1 x 1	1 x 1
	Material	-	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Electric Heater	Type	-	Sheath	Sheath	Sheath	Sheath
	Number of Heating Coil	EA	2	2	2	2
	Capacity Combination	kW	2 + 2	3 + 3	3 + 3	3 + 3
	Operation	-	Automatic	Automatic	Automatic	Automatic
	Heating Steps	Step	2	2	2	2
	Power Supply	Ø / V / Hz	1 / 240 / 50	1 / 240 / 50	1 / 240 / 50	1 / 240 / 50
	Rated Current	A	16.7	25	25	25
	Maximum Current(MCA)	A	21	32	32	32
Water Circuit	Safety Valve	bar	3	3	3	3
	Entering Side Diameter	inch	Male PT 1	Male PT 1	Male PT 1	Male PT 1
	Leaving Side Diameter	inch	Male PT 1	Male PT 1	Male PT 1	Male PT 1
	Manometer	-	O	O	O	O
	Drain Valve / Fill Valve	-	O	O	O	O
	Shut Off Valve	-	O	O	O	O
	Air Vent	-	O	O	O	O
Refrigerant Circuit	Gas Side Diameter	mm(inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
	Liquid Side Diameter	mm(inch)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)
Dimensions	Unit(W x H x D)	mm	850 x 490 x 315	850 x 490 x 315	850 x 490 x 315	850 x 490 x 315
	Packed Unit(W x H x D)	mm	1082 x 563 x 375	1082 x 563 x 375	1082 x 563 x 375	1082 x 563 x 375
Weight (Without water)	Unit	kg	52	54.5	54.5	54.5
	Packed Unit	kg	57	61.5	61.5	61.5
*Sanitary Water Tank (Field Supply)	Type	-	Indirect heating(+ Electric heater)			
	Heater Capacity	kW	Max. 3			
	Power Supply	Ø / V / Hz	1 / 230 / 50			
	Power Supply Type	-	Separated power source			
	Thermal Protector Range	°C	Max. 90			
	Relay Contactor	-	Needed			
	ELB	A	40			
	Sensor Adaptor Diameter	mm(inch)	12.7 (1/2)			
	Accessory Kit	-	LG Supply			

Note : 1. The specification may be subject to change without prior notice for purpose of improvement.
2. * : This information is given as a guideline about the connection of sanitary water tank
3. ** : This specification is data when electric heater is not used.

Indoor Units			AHNW09606A0 (NH09SNG)	AHNW09A06A0 (NH09SNK)	AHNW09806A0 (NH09SNP)
Combination Outdoor Units			AHUW096AN	AHUW096AN	AHUW096AN
Nominal Power Input		W	135	135	135
Nominal Running Current without Electric Heater		A	0.59	0.59	0.59~
Operation Range (Min.~Max.) Leaving Water Temperature	Cooling(Fan coil unit)	°C	6~30	6~30	6~30
	Cooling(Under floor)	°C	16~30	16~30	16~30
	Heating(Fan coil unit or Radiator)	°C	15~55°C (* * 20~55°C)		
	Heating(Under floor)	°C	15~55°C (* * 20~55°C)		
Pump	Type	-	Canned type for hot water circulation		
	Steps of Speed	EA	2 (In Max. / Med. / Min., Min. step is not used)		
	Power Input	W	135	135	135
	Water Flowrate Limit	LPM	At least 12	At least 12	At least 12
Heat Exchanger	Type	-	Brazed Plate HEX	Brazed Plate HEX	Brazed Plate HEX
	Number of Plate	EA	46	46	46
	Quantity	EA	1	1	1
Expansion Vessel	Volume	liter	8	8	8
	Water Pressure(Max.)	bar	3	3	3
	Water Pressure(Pre)	bar	1	1	1
Strainer	Mesh Size	mm	1 x 1	1 x 1	1 x 1
	Material	-	Stainless Steel	Stainless Steel	Stainless Steel
Electric Heater	Type	-	Sheath	Sheath	Sheath
	Number of Heating Coil	EA	2	3	3
	Capacity Combination	kW	3+3	2+2+2	2+2+2
	Operation	-	Automatic	Automatic	Automatic
	Heating Steps	Step	2	2	2
	Power Supply	Ø / V / Hz	1/230/50	3/220/50	3/380-415/50
	Rated Current	A	27	16	9
	Maximum Current(MCA)	A	30	17	10
Water Circuit	Safety Valve	bar	3	3	3
	Entering Side Diameter	inch	Male PT 1	Male PT 1	Male PT 1
	Leaving Side Diameter	inch	Male PT 1	Male PT 1	Male PT 1
	Manometer	-	0	0	0
	Drain Valve / Fill Valve	-	0	0	0
	Shut Off Valve	-	0	0	0
	Air Vent	-	0	0	0
Refrigerant Circuit	Gas Side Diameter	mm(inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
	Liquid Side Diameter	mm(inch)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)
Dimensions	Unit(W x H x D)	mm	850 x 490 x 315	850 x 490 x 315	850 x 490 x 315
	Packed Unit(W x H x D)	mm	1082 x 563 x 375	1082 x 563 x 375	1082 x 563 x 375
Weight (Without water)	Unit	kg	52	52	52
	Packed Unit	kg	57	57	57
*Sanitary Water Tank (Field Supply)	Type	-	Indirect heating(+ Electric heater)		
	Heater Capacity	kW	Max. 3		
	Power Supply	Ø / V / Hz	1 / 230 / 50		
	Power Supply Type	-	Separated power source		
	Thermal Protector Range	°C	Max. 90		
	Relay Contactor	-	Needed		
	ELB	A	40		
	Sensor Adaptor Diameter	mm(inch)	12.7 (1/2)		
	Accessory Kit	-	LG Supply		
	MCCB	A	32		

Note : 1. The specification may be subject to change without prior notice for purpose of improvement.
2. * : This information is given as a guideline about the connection of sanitary water tank
3. ** : This specification is data when electric heater is not used.

Indoor Units			AHNW09604A1	AHNW16606A1	AHNW16A06A1	AHNW16806A1
Combination Outdoor Units			AHUW096A1	AHUW128A1 / AHUW148A1 / AHUW168A1		
Nominal Power Input		W	135	205	205	205
Nominal Running Current without Electric Heater		A	0.59	0.89	0.89	0.89
Operation Range (Min.~Max.) Leaving Water Temperature	Cooling(Fan coil unit)	°C	6 ~ 30	6 ~ 30	6 ~ 30	6 ~ 30
	Cooling(Under floor)	°C	16 ~ 30	16 ~ 30	16 ~ 30	16 ~ 30
	Heating(Fan coil unit or Radiator)	°C	15~55°C (* * 20~55°C)			
	Heating(Under floor)	°C	15~55°C (* * 20~55°C)			
Pump	Type	-	Canned type for hot water circulation			
	Steps of Speed	EA	2(In Max. / Med. / Min., Min. step is not used)			
	Power Input	W	135	205	205	205
	Water Flowrate Limit	LPM	At least 12	At least 15	At least 15	At least 15
Heat Exchanger	Type	-	Brazed Plate HEX			
	Number of Plate	EA	54	76	76	76
	Quantity	EA	1	1	1	1
Expansion Vessel	Volume	liter	8	8	8	8
	Water Pressure(Max.)	bar	3	3	3	3
	Water Pressure(Pre)	bar	1	1	1	1
Strainer	Mesh Size	mm	1 X 1	1 X 1	1 X 1	1 X 1
	Material	-	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Electric Heater	Type	-	Sheath	Sheath	Sheath	Sheath
	Number of Heating Coil	EA	2	2	3	3
	Capacity Combination	kW	2+2	3+3	2+2+2	2+2+2
	Operation	-	Automatic	Automatic	Automatic	Automatic
	Heating Steps	Step	2	2	2	2
	Power Supply	Ø / V / Hz	1/240/50	1/240/50	3/220/50	3/380~415/50
	Rated Current	A	16.7	25	16	9
	Maximum Current(MCA)	A	21	32	20	12
Water Circuit	Safety Valve	bar	3	3	3	3
	Entering Side Diameter	inch	Male PT 1	Male PT 1	Male PT 1	Male PT 1
	Leaving Side Diameter	inch	Male PT 1	Male PT 1	Male PT 1	Male PT 1
	Manometer	-	O	O	O	O
	Drain Valve / Fill Valve	-	O	O	O	O
	Shut Off Valve	-	O	O	O	O
	Air Vent	-	O	O	O	O
Refrigerant Circuit	Gas Side Diameter	mm(inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
	Liquid Side Diameter	mm(inch)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)
Dimensions	Unit(W x H x D)	mm	850 X 490 X 315	850 X 490 X 315	850 X 490 X 315	850 X 490 X 315
	Packed Unit(W x H x D)	mm	1082 X 563 X 375	1082 X 563 X 375	1082 X 563 X 375	1082 X 563 X 375
Weight (Without water)	Unit	kg	48	52	52	52
	Packed Unit	kg	55	59	59	59
*Sanitary Water Tank (Field Supply)	Type	-	Indirect heating(+Electric heater)			
	Heater Capacity	kW	Max. 3			
	Power Supply	Ø / V / Hz	1/230/50			
	Power Supply Type	-	Separated Power Source			
	Thermal Protector Range	°C	Max. 90			
	Relay Contactor	-	Needed			
	ELB	A	40			
	Sensor Adaptor Diameter	mm(inch)	12.7 (1/2)			
	Accessory Kit	-	LG Supply			
	MCCB	A				

Note : 1. The specification may be subject to change without prior notice for purpose of improvement.

2. * : This information is given as a guideline about the connection of sanitary water tank

Outdoor

Outdoor Units			AHUW096A0(H09SNE)	AHUW126A0(H12SNE)	AHUW146A0(H14SNE)	AHUW166A0(H16SNE)
Combination Indoor Units			AHNW096A0	AHNW126A0	AHNW146A0	AHNW166A0
Power Supply		Ø / V / Hz	1/220-240/50	1/220-240/50	1/220-240/50	1/220-240/50
Maximum Running Current	Cooling	A	24	32	32	32
	Heating	A	24	32	32	32
Wiring Connections	For Power Supply (Included Earth)	Number of wires	3	3	3	3
	For Connection with Indoor Unit (Included Earth)	Number of wires	4	4	4	4
* Capacity	Cooling(Under floor)	kW	8.60	14.0	14.0	14.0
	Heating(Under floor)	kW	9.00	12.0	14.0	16.0
* Power Input	Cooling(Under floor)	kW	2.70	4.40	4.40	4.40
	Heating(Under floor)	kW	2.20	2.67	3.17	3.80
* EER	Cooling(Under floor)	W/W	3.19	3.18	3.18	3.18
* COP	Heating(Under floor)	W/W	4.10	4.50	4.42	4.20
** Capacity	Cooling(Fan coil unit)	kW	5.83	9.50	9.50	9.50
	Heating(Fan coil unit or Radiator)	kW	7.49	9.99	11.7	13.3
** Power Input	Cooling(Fan coil unit)	kW	2.24	3.65	3.65	3.65
	Heating(Fan coil unit or Radiator)	kW	2.30	2.79	3.41	4.01
** EER	Cooling(Fan coil unit)	W/W	2.60	2.60	2.60	2.60
** COP	Heating(Fan coil unit or Radiator)	W/W	3.26	3.58	3.43	3.32
Operation Range(Min.~Max.) Outdoor Temperature	Cooling	°C DB	5~48	5~48	5~48	5~48
	Heating	°C DB	-20~30	-20~30	-20~30	-20~30
Compressor	Type	-	Hermetic Motor	Hermetic Motor	Hermetic Motor	Hermetic Motor
	Model	-	5KD240XAE21	5JD420XAD22	5JD420XAD22	5JD420XAD22
	Quantity	EA	1	1	1	1
	Displacement	cm^3/Rev.	24	42.4	42.4	42.4
	Capacity	kW	7.28	13.4 (at 57.5Hz)	13.4 (at 57.5Hz)	13.4 (at 57.5Hz)
Compressor Motor	Type	-	Brushless	Brushless	Brushless	Brushless
	Quantity	EA	1	1	1	1
	Rated Output	W	1,700	3,000	3,000	3,000
Refrigerant	Type	-	R410A	R410A	R410A	R410A
	Charge	g(oz)	1,900(67.02)	3,000(105.8)	3,000(105.8)	3,000(105.8)
	Control	-	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerant Oil	Type	-	FV50S	FV50S	FV50S	FV50S
	Charged Volume	cc	900	1300	1300	1300
Heat Exchanger	Quantity	EA	1	2	2	2
	Rows	EA	2	2	2	2
	Columns	EA	36	32	32	32
	FPI	Fins/inch	18	17	17	17
Fan	Type	-	Propeller	Propeller	Propeller	Propeller
	Quantity	EA	1	2	2	2
	Air Flow Rate	CMM(l/s)	58(967)	60(1,000)	60(1,000)	60(1,000)
Fan Motor	Model	-	SIC-72FW-F1124-3	SIC-72FW-F1124-3	SIC-72FW-F1124-3	SIC-72FW-F1124-3
	Quantity	EA	1	2	2	2
	Output	W	124	124	124	124
Sound Pressure Level	Cooling	dB(A)+3	51	55	55	55
	Heating	dB(A)+3	53	57	57	57
Liquid Piping Connection	Type	-	Flare	Flare	Flare	Flare
	Outer Diameter	mm(inch)	9.52(3/8)	9.52(3/8)	9.52(3/8)	9.52(3/8)
Gas Piping Connection	Type	-	Flare	Flare	Flare	Flare
	Outer Diameter	mm(inch)	15.88(5/8)	15.88(5/8)	15.88(5/8)	15.88(5/8)
Piping Length (Outdoor Unit ~ Indoor Unit)	Minimum	m	3	3	3	3
	Standard	m	7.5	7.5	7.5	7.5
	Maximum	m	50	50	50	50
Height Difference (Outdoor Unit ~ Indoor Unit)	Maximum	m	30	30	30	30
Additional Refrigerant Charge		g/m	30	60	60	60
Dimensions	Unit(W x H x D)	mm	870 x 800 x 320	950 x 1,355 x 330	950 x 1,355 x 330	950 x 1,355 x 330
	Packed Unit(W x H x D)	mm	1,022 x 870 x 437	1,140 x 1462 x 461	1,140 x 1462 x 461	1,140 x 1462 x 461
Weight	Unit	kg	56	105	105	105
	Packed Unit	kg	61	116	116	116

Note :

1. Capacities and power inputs are based on the following conditions:
   * : Cooling conditions - Indoor Water Temperature 23°C/18°C; Outdoor Air Temperature 35°CDB
   Heating conditions - Indoor Water Temperature 30°C/35°C; Outdoor Air Temperature 7°CDB/6°CWB
   Standard piping length 7.5m
   ** : Cooling conditions - Indoor Water Temperature 12°C/7°C; Outdoor Air Temperature 35°CDB
   Heating conditions - Indoor Water Temperature 40°C/45°C; Outdoor Air Temperature 7°CDB/6°CWB
   Standard piping length 7.5m
2. Wiring cable size must comply with the applicable local and national code.
3. The specification may be subject to change without prior notice for purpose of improvement.

Outdoor Units			AHUW096AN (UH09SNG)
Combination Indoor Units			AHNW09606A0/ AHNW09A06A0/ AHNW09806A0
Power Supply		Ø / V / Hz	1/220-240/50
Maximum Running Current	Cooling	A	24
	Heating	A	24
Wiring Connections	For Power Supply (Included Earth)	Number of wires	3
	For Connection with Indoor Unit (Included Earth)	Number of wires	4
* Capacity	Cooling(Under floor)	kW	8.60
	Heating(Under floor)	kW	9.00
* Power Input	Cooling(Under floor)	kW	2.70
	Heating(Under floor)	kW	2.22
* EER	Cooling(Under floor)	W/W	3.19
* COP	Heating(Under floor)	W/W	4.05
** Capacity	Cooling(Fan coil unit)	kW	5.83
	Heating(Fan coil unit or Radiator)	kW	7.49
** Power Input	Cooling(Fan coil unit)	kW	2.24
	Heating(Fan coil unit or Radiator)	kW	2.30
** EER	Cooling(Fan coil unit)	W/W	2.60
** COP	Heating(Fan coil unit or Radiator)	W/W	3.26
Operation Range(Min.~Max.) Outdoor Temperature	Cooling	°C DB	5 ~ 48
	Heating	°C DB	-20 ~ 30
Compressor	Type	-	Hermetic Motor
	Model	-	5KD240XAE21
	Quantity	EA	1
	Displacement	cm^3/Rev.	24
	Capacity	kW	7.28
Compressor Motor	Type	-	Brushless
	Quantity	EA	1
	Rated Output	W	1,700
Refrigerant	Type	-	R410A
	Charge	g(oz)	1,900(67.02)
	Control	-	Electronic Expansion Valve
Refrigerant Oil	Type	-	FV50S
	Charged Volume	cc	900
Heat Exchanger	Quantity	EA	1
	Rows	EA	2
	Columns	EA	36
	FPI	Fins/inch	18
Fan	Type	-	Propeller
	Quantity	EA	1
	Air Flow Rate	CMM(l/s)	58(967)
Fan Motor	Model	-	SIC-72FW-F1124-3
	Quantity	EA	1
	Output	W	124
Sound Pressure Level	Cooling	dB(A)+3	51
	Heating	dB(A)+3	53
Liquid Piping Connection	Type	-	Flare
	Outer Diameter	mm(inch)	9.52(3/8)
Gas Piping Connection	Type	-	Flare
	Outer Diameter	mm(inch)	15.88(5/8)
Piping Length (Outdoor Unit ~ Indoor Unit)	Minimum	m	3
	Standard	m	7.5
	Maximum	m	50
Height Difference (Outdoor Unit ~ Indoor Unit)	Maximum	m	30
Additional Refrigerant Charge		g/m	30
Dimensions	Unit(W x H x D)	mm	870 x 800 x 320
	Packed Unit(W x H x D)	mm	1,022 x 870 x 437
Weight	Unit	kg	56
	Packed Unit	kg	61

Note :

1. Capacities and power inputs are based on the following conditions:
   * : Cooling conditions - Indoor Water Temperature 23°C/18°C; Outdoor Air Temperature 35°CDB
   Heating conditions - Indoor Water Temperature 30°C/35°C; Outdoor Air Temperature 7°CDB/6°CWB
   Standard piping length 7.5m
   ** : Cooling conditions - Indoor Water Temperature 12°C/7°C; Outdoor Air Temperature 35°CDB
   Heating conditions - Indoor Water Temperature 40°C/45°C; Outdoor Air Temperature 7°CDB/6°CWB
   Standard piping length 7.5m
2. Wiring cable size must comply with the applicable local and national code.
3. The specification may be subject to change without prior notice for purpose of improvement.

Outdoor Units			AHUW096A1 (HU091 U41)	AHUW128A1 (HU123 U31)
Power Supply		Ø / V / Hz	1 / 220-240 / 50	3/380-415/50
Maximum Running Current	Cooling	A	24	32
	Heating	A	24	32
Wiring Connections	For Power Supply (Included Earth)	Number of wires	3	5
	For Connection with Indoor Unit (Included Earth)	Number of wires	4	4
* Capacity	Cooling(A35/W18)	kW	8.90	14.6
	Heating(A7W35)	kW	9.00	12.0
* Power Input	Cooling(A35/W18)	kW	2.70	4.02
	Heating(A7W35)	kW	2.19	2.67
* EER	Cooling(A35/W18)	W/W	3.19	3.60
COP	Heating(A7W35)	W/W	4.10	4.49
	Heating(A2W35)	W/W	3.15	3.37
	Heating(A10W35)	W/W	4.50	4.37
	Heating(A-7W35)	W/W	2.72	2.63
Operation Range(Min.~Max.) Outdoor Temperature	Cooling	°C DB	5~48	5~48
	Heating	°C DB	-20~30	-20~30
Compressor	Type	-	Hermetic Motor	Hermetic Motor
	Model	-	GJT240DAA	GPT425DAA
	Quantity	EA	1	1
	Displacement	cm^3/Rev.	24	42.4
	Capacity	kW	7.28	12.05 (at 60Hz)
Compressor Motor	Type	-	Brushless	Brushless
	Quantity	EA	1	1
	Rated Output	W	1,700	4,000
Refrigerant	Type	-	R410A	R410A
	Charge	g(oz)	1,900(67.0)	2,980(105.1)
	Control	-	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerant Oil	Type	-	FV50S	FV50S
	Charged Volume	cc	900	1,300
Heat Exchanger	Quantity	EA	1	2
	Rows	EA	2	2
	Columns	EA	36	32
	FPI	Fins/inch	18	17
Fan	Type	-	Propeller	Propeller
	Quantity	EA	1	2
	Air Flow Rate	CMM(l/s)	58(967)	60(1,000)
Fan Motor	Model	-	SIC-72FW-F1124-3	SIC-72FW-F1124-3
	Quantity	EA	1	2
	Output	W	124	124
Sound Pressure Level	Cooling	dB(A)±3	52	54
	Heating	dB(A)±3	52	53
Liquid Piping Connection	Type	-	Flare	Flare
	Outer Diameter	mm(inch)	9.52(3/8)	9.52(3/8)
Gas Piping Connection	Type	-	Flare	Flare
	Outer Diameter	mm(inch)	15.88(5/8)	15.88(5/8)
Piping Length (Outdoor Unit ~ Indoor Unit)	Minimum	m	3	3
	Standard	m	7.5	7.5
	Maximum	m	50	50
Height Difference (Outdoor Unit ~ Indoor Unit)	Maximum	m	30	30
Additional Refrigerant Charge		g/m	30	50
Dimensions	Unit(W x H x D)	mm	950 x 833 x 400	950 x 1,380 x 330
	Packed Unit(W x H x D)	mm	1,140 x 900 x 461	1,140 x 1,462 x 461
Weight	Unit	kg	64	105
	Packed Unit	kg	69	116

Note :

1. Capacities and power inputs are based on the following conditions:
   * : Cooling conditions - Indoor Water Temperature 23°C/18°C; Outdoor Air Temperature 35°CDB/24°CWB
   Heating conditions - Indoor Water Temperature 30°C/35°C; Outdoor Air Temperature 7°CDB/6°CWB
   Standard piping length 7.5m
2. Wiring cable size must comply with the applicable local and national code.
3. The specification may be subject to change without prior notice for purpose of improvement.

Outdoor Units			AHUW148A1 (HU143 U31)	AHUW168A1 (HU163 U31)
Power Supply		Ø / V / Hz	3/380-415/50	3/380-415/50
Maximum Running Current	Cooling	A	32	32
	Heating	A	32	32
Wiring Connections	For Power Supply (Included Earth)	Number of wires	5	5
	For Connection with Indoor Unit (Included Earth)	Number of wires	4	4
* Capacity	Cooling(A35/W18)	kW	15.5	16.8
	Heating(A7W35)	kW	14.5	16.0
* Power Input	Cooling(A35/W18)	kW	4.65	5.09
	Heating(A7W35)	kW	3.38	3.81
* EER	Cooling(A35/W18)	W/W	3.33	3.33
COP	Heating(A7W35)	W/W	4.29	4.20
	Heating(A2W35)	W/W	3.33	3.20
	Heating(A10W35)	W/W	4.21	4.16
	Heating(A-7W35)	W/W	2.77	2.63
Operation Range(Min.~Max.) Outdoor Temperature	Cooling	°C DB	5~48	5~48
	Heating	°C DB	-20~30	-20~30
Compressor	Type	-	Hermetic Motor	Hermetic Motor
	Model	-	GPT425DAA	GPT425DAA
	Quantity	EA	1	1
	Displacement	cm^3/Rev.	42.4	42.4
	Capacity	kW	12.05 (at 60Hz)	12.05 (at 60Hz)
Compressor Motor	Type	-	Brushless	Brushless
	Quantity	EA	1	1
	Rated Output	W	4,000	4,000
Refrigerant	Type	-	R410A	R410A
	Charge	g(oz)	2,980(105.1)	2,980(105.1)
	Control	-	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerant Oil	Type	-	FV50S	FV50S
	Charged Volume	cc	1,300	1,300
Heat Exchanger	Quantity	EA	2	2
	Rows	EA	2	2
	Columns	EA	32	32
	FPI	Fins/inch	17	17
Fan	Type	-	Propeller	Propeller
	Quantity	EA	2	2
	Air Flow Rate	CMM(l/s)	60(1,000)	60(1,000)
Fan Motor	Model	-	SIC-72FW-F1124-3	SIC-72FW-F1124-3
	Quantity	EA	2	2
	Output	W	124	124
Sound Pressure Level	Cooling	dB(A)±3	54	54
	Heating	dB(A)±3	53	53
Liquid Piping Connection	Type	-	Flare	Flare
	Outer Diameter	mm(inch)	9.52(3/8)	9.52(3/8)
Gas Piping Connection	Type	-	Flare	Flare
	Outer Diameter	mm(inch)	15.88(5/8)	15.88(5/8)
Piping Length (Outdoor Unit ~ Indoor Unit)	Minimum	m	3	3
	Standard	m	7.5	7.5
	Maximum	m	50	50
Height Difference (Outdoor Unit ~ Indoor Unit)	Maximum	m	30	30
Additional Refrigerant Charge		g/m	50	50
Dimensions	Unit(W x H x D)	mm	950 x 1,380 x 330	950 x 1,380 x 330
	Packed Unit(W x H x D)	mm	1,140 x 1,462 x 461	1,140 x 1,462 x 461
Weight	Unit	kg	105	105
	Packed Unit	kg	116	116

Note :

1. Capacities and power inputs are based on the following conditions:
   * : Cooling conditions - Indoor Water Temperature 23°C/18°C; Outdoor Air Temperature 35°CDB/24°CWB
   Heating conditions - Indoor Water Temperature 30°C/35°C; Outdoor Air Temperature 7°CDB/6°CWB
   Standard piping length 7.5m
2. Wiring cable size must comply with the applicable local and national code.
3. The specification may be subject to change without prior notice for purpose of improvement.

2. Function Table

Indoor

Category	Function	AHNW096A0 (H09SNE)	AHNW126A0 (H12SNE)	AHNW146A0 (H14SNE)	AHNW166A0 (H16SNE)
Installation	Drain pump	-	-	-	-
	E.S.P. control	-	-	-	-
	Electric heater(operation)	O	O	O	O
	High ceiling operation	-	-	-	-
Reliability	Hot start	-	-	-	-
	Self diagnosis	O	O	O	O
	Soft dry operation	-	-	-	-
Convenience	Auto changeover	-	-	-	-
	Auto cleaning	-	-	-	-
	Auto operation(artificial intelligence)	-	-	-	-
	Auto restart operation	O	O	O	O
	Child lock	O	O	O	O
	Forced operation	-	-	-	-
	Group control	-	-	-	-
	Sleep mode	-	-	-	-
	Timer(on/off)	O	O	O	O
	Timer(weekly)	O	O	O	O
	Two thermistor control	-	-	-	-
Individual control	Standard wired remote controller(control panel)	O	O	O	O
	Deluxe wired remote controller	-	-	-	-
	Simple wired remote controller	-	-	-	-
	Wired remote controller(for hotel use)	-	-	-	-
	Wireless remote controller(simple)	-	-	-	-
	Wireless LCD remote control	-	-	-	-
CAC network function	General central controller (Non LGAP)	-	-	-	-
	Dry contact	PQDSA	PQDSA	PQDSA	PQDSA
	Network Soluation(LGAP)	O	O	O	O
	PDI(power distribution indicator)	-	-	-	-
	PI 485	-	-	-	-
Special function kit	Zone control	-	-	-	-
	CTIE	-	-	-	-
	Electro thermostat	-	-	-	-
Others	Remote room temperature sensor (TH8)	PQRSTA0	PQRSTA0	PQRSTA0	PQRSTA0
AWHP	Anti-Condensation on floor (cooling)	O	O	O	O
	Water Pump ON / OFF Control	O	O	O	O
	Flow Switch Control	O	O	O	O
	Thermostat Interface (230V AC)	O	O	O	O
	Thermostat Interface (24V AC)	O	O	O	O
	Sanitary Tank Heating	O	O	O	O
	Solar-Thermal Interface with Sanitary Tank	O	O	O	O
	PHEX Anti-Freezing Control	O	O	O	O
	Water Pump Forced Operation	O	O	O	O
	Autosetting according to Ambient Temperature	O	O	O	O
	Silent Operation	O	O	O	O
	Anti-overheating of Water Pipe	O	O	O	O
	Emergency Operation	O	O	O	O

Notes

O : Applied, X : Not applied, – : No relation

* TH8 : Refer to 'Chapter 8. Piping Diagram' of 'Part 2. Indoor Unit (Hydro kit)'

* Accessory: Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

Category	Function	AHNW09606A0 (NH09SNG)	AHNW09A06A0 (NH09SNK)	AHNW09806A0 (NH09SNP)
Installation	Drain pump	-	-	-
	E.S.P. control	-	-	-
	Electric heater(operation)	O	O	O
	High ceiling operation	-	-	-
Reliability	Hot start	-	-	-
	Self diagnosis	O	O	O
	Soft dry operation	-	-	-
Convenience	Auto changeover	-	-	-
	Auto cleaning	-	-	-
	Auto operation(artificial intelligence)	-	-	-
	Auto restart operation	O	O	O
	Child lock	O	O	O
	Forced operation	-	-	-
	Group control	-	-	-
	Sleep mode	-	-	-
	Timer(on/off)	O	O	O
	Timer(weekly)	O	O	O
	Two thermistor control	-	-	-
Individual control	Standard wired remote controller(control panel)	O	O	O
	Deluxe wired remote controller	-	-	-
	Simple wired remote controller	-	-	-
	Wired remote controller(for hotel use)	-	-	-
	Wireless remote controller(simple)	-	-	-
	Wireless LCD remote control	-	-	-
CAC network function	General central controller (Non LGAP)	-	-	-
	Dry contact	PQDSA	PQDSA	PQDSA
	Network Soluation(LGAP)	O	O	O
	PDI(power distribution indicator)	-	-	-
	PI 485	-	-	-
Special function kit	Zone control	-	-	-
	CTIE	-	-	-
	Electro thermostat	-	-	-
Others	Remote room temperature sensor (TH8)	PQRSTA0	PQRSTA0	PQRSTA0
AWHP	Anti-Condensation on floor (cooling)	O	O	O
	Water Pump ON / OFF Control	O	O	O
	Flow Switch Control	O	O	O
	Thermostat Interface (230V AC)	O	O	O
	Thermostat Interface (24V AC)	O	O	O
	Sanitary Tank Heating	O	O	O
	Solar-Thermal Interface with Sanitary Tank	O	O	O
	PHEX Anti-Freezing Control	O	O	O
	Water Pump Forced Operation	O	O	O
	Autosetting according to Ambient Temperature	O	O	O
	Silent Operation	O	O	O
	Anti-overheating of Water Pipe	O	O	O
	Emergency Operation	O	O	O

Notes

O : Applied, X : Not applied, – : No relation

* TH8 : Refer to 'Chapter 8. Piping Diagram' of 'Part 2. Indoor Unit (Hydro kit)'

* Accessory: Installed at field, ordered and purchased separately by the corresponding model mane, supplied with separate package.

Category	Function	AHNW09604A1	AHNW16606A1	AHNW16A06A1	AHNW16806A1
Installation	Drain pump	-	-	-	-
	E.S.P. control	-	-	-	-
	Electric heater(operation)	O	O	O	O
	High ceiling operation	-	-	-	-
Reliability	Hot start	-	-	-	-
	Self diagnosis	O	O	O	O
	Soft dry operation	-	-	-	-
Convenience	Auto changeover	-	-	-	-
	Auto cleaning	-	-	-	-
	Auto operation(artificial intelligence)	-	-	-	-
	Auto restart operation	O	O	O	O
	Child lock	O	O	O	O
	Forced operation	-	-	-	-
	Group control	-	-	-	-
	Sleep mode	-	-	-	-
	Timer(on/off)	O	O	O	O
	Timer(weekly)	O	O	O	O
	Two thermistor control	-	-	-	-
Individual control	Standard wired remote controller(control panel)	O	O	O	O
	Deluxe wired remote controller	-	-	-	-
	Simple wired remote controller	-	-	-	-
	Wired remote controller(for hotel use)	-	-	-	-
	Wireless remote controller(simple)	-	-	-	-
	Wireless LCD remote control	-	-	-	-
CAC network function	General central controller (Non LGAP)	-	-	-	-
	Dry contact	PQDSA	PQDSA	PQDSA	PQDSA
	Network Soluation(LGAP)	O	O	O	O
	PDI(power distribution indicator)	-	-	-	-
	PI 485	-	-	-	-
Special function kit	Zone control	-	-	-	-
	CTIE	-	-	-	-
	Electro thermostat	-	-	-	-
Others	Remote room temperature sensor (TH8)	PQRSTA0	PQRSTA0	PQRSTA0	PQRSTA0
AWHP	Anti-Condensation on floor (cooling)	O	O	O	O
	Water Pump ON / OFF Control	O	O	O	O
	Flow Switch Control	O	O	O	O
	Thermostat Interface (230V AC)	O	O	O	O
	Thermostat Interface (24V AC)	O	O	O	O
	Sanitary Tank Heating	O	O	O	O
	Solar-Thermal Interface with Sanitary Tank	O	O	O	O
	PHEX Anti-Freezing Control	O	O	O	O
	Water Pump Forced Operation	O	O	O	O
	Autosetting according to Ambient Temperature	O	O	O	O
	Silent Operation	O	O	O	O
	Anti-overheating of Water Pipe	O	O	O	O
	Emergency Operation	O	O	O	O

Notes

O : Applied, X : Not applied, – : No relation

* TH8 : Refer to 'Chapter 8. Piping Diagram' of 'Part 2. Indoor Unit (Hydro kit)'

* Accessory: Installed at field, ordered and purchased separately by the corresponding model mane, supplied with separate package.

Outdoor

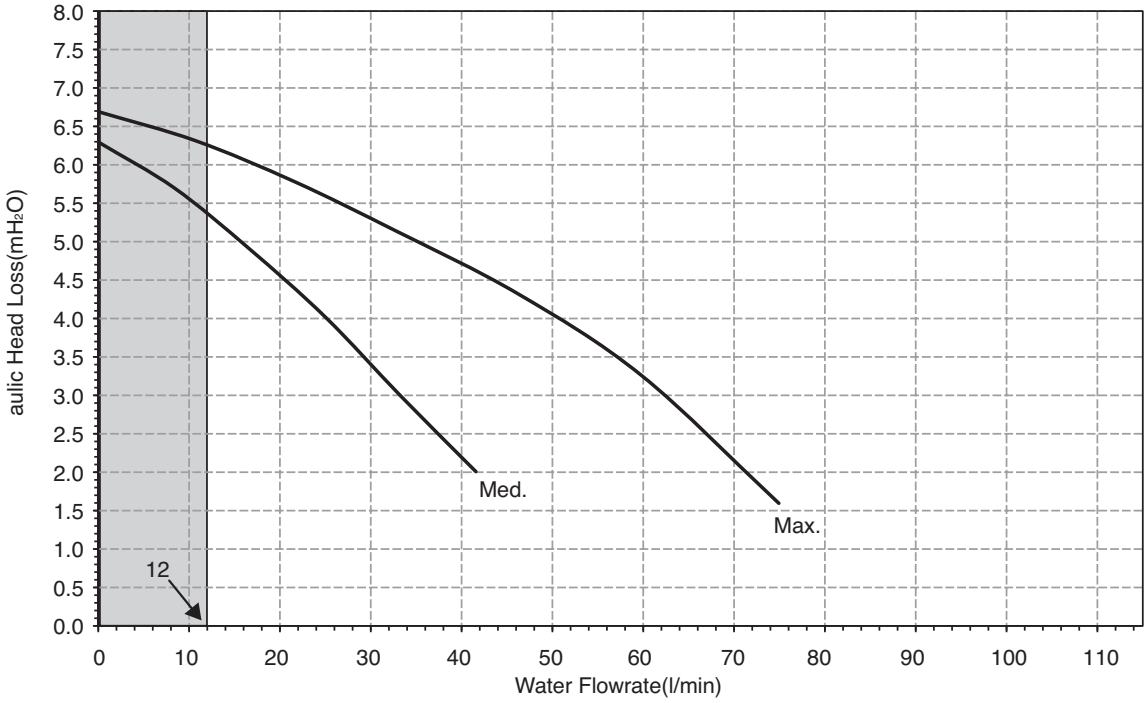
Category	Function	AHUW096A0 (H09SNE)	AHUW096AN (UH09SNG)	AHUW126A0 (H12SNE)	AHUW146A0 (H14SNE)	AHUW166A0 (H16SNE)
Reliability	Defrost / Deicing	O	O	O	O	O
	High pressure switch	O	O	O	O	O
	Low pressure switch	O	O	O	O	O
	Phase protection	-	-	-	-	-
	Restart delay (3-minutes)	O	O	O	O	O
	Self diagnosis	O	O	O	O	O
	Soft start	-	-	-	-	-
	Test function	-	-	-	-	-
Convenience	Auto operation(Artificial intelligence)	-	-	-	-	-
	Auto restart operation	-	-	-	-	-
CAC network function	Network soluation(LGAP)	O	O	O	O	O
	PDI(Power Distribution Indicator)	-	-	-	-	-
	PI485	PMNFP14A0	PMNFP14A0	PMNFP14A0	PMNFP14A0	PMNFP14A0
Special function kit	Low ambient operation	-	-	-	-	-
Others	Thermistor	-	-	-	-	-
AWHP	Sanitary Tank Heating	O	O	O	O	O
	Silent Operation	O	O	O	O	O
	Emergency Operation	O	O	O	O	O

Category	Function	AHUW096A1	AHUW128A1	AHUW148A1	AHUW168A1
Reliability	Defrost / Deicing	O	O	O	O
	High pressure switch	O	O	O	O
	Low pressure switch	O	O	O	O
	Phase protection	-	-	-	-
	Restart delay (3-minutes)	O	O	O	O
	Self diagnosis	O	O	O	O
	Soft start	-	-	-	-
	Test function	-	-	-	-
Convenience	Auto operation(Artificial intelligence)	-	-	-	-
	Auto restart operation	-	-	-	-
CAC network function	Network soluation(LGAP)	O	O	O	O
	PDI(Power Distribution Indicator)	-	-	-	-
	PI485	PMNFP14A0	PMNFP14A0	PMNFP14A0	PMNFP14A0
Special function kit	Low ambient operation	-	-	-	-
Others	Thermistor	-	-	-	-
AWHP	Sanitary Tank Heating	O	O	O	O
	Silent Operation	O	O	O	O
	Emergency Operation	O	O	O	O

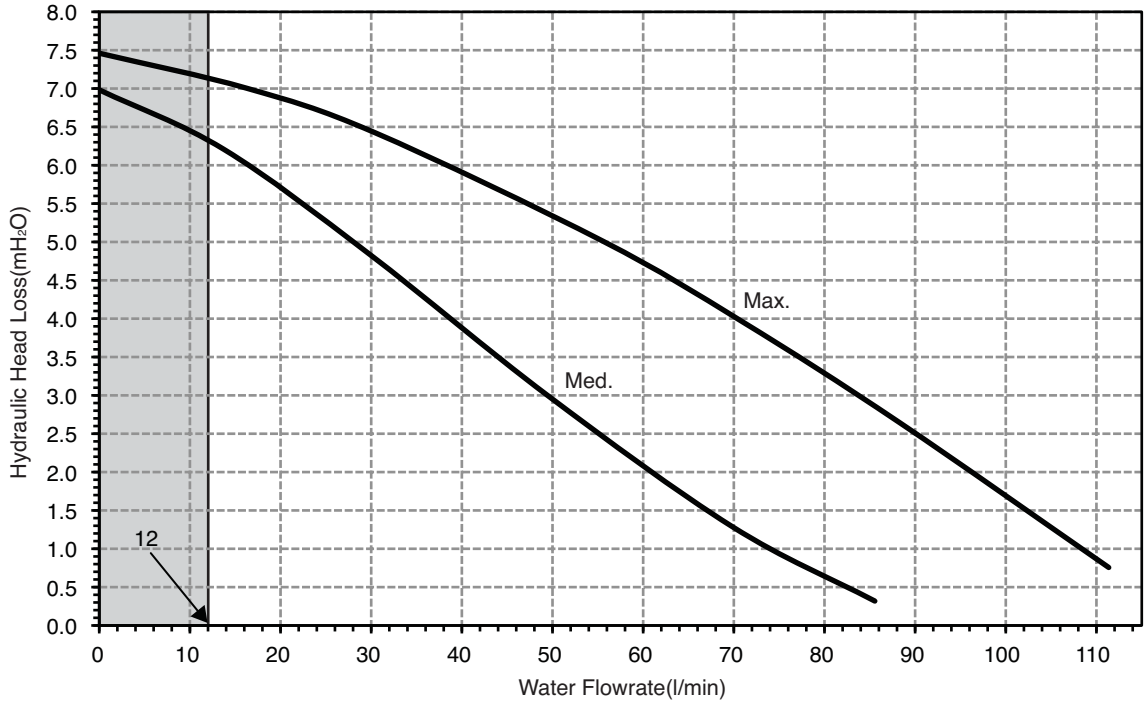
Notes
O : Applied, X : Not applied, – : No relation
* Accessory: Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

3. Pump Hydraulic Performance

Model : AHNW096A0 (H09SNE), AHNW09606A0 (NH09SNG), AHNW09A06A0 (NH09SNK), AHNW09806A0 (NH09SNP)



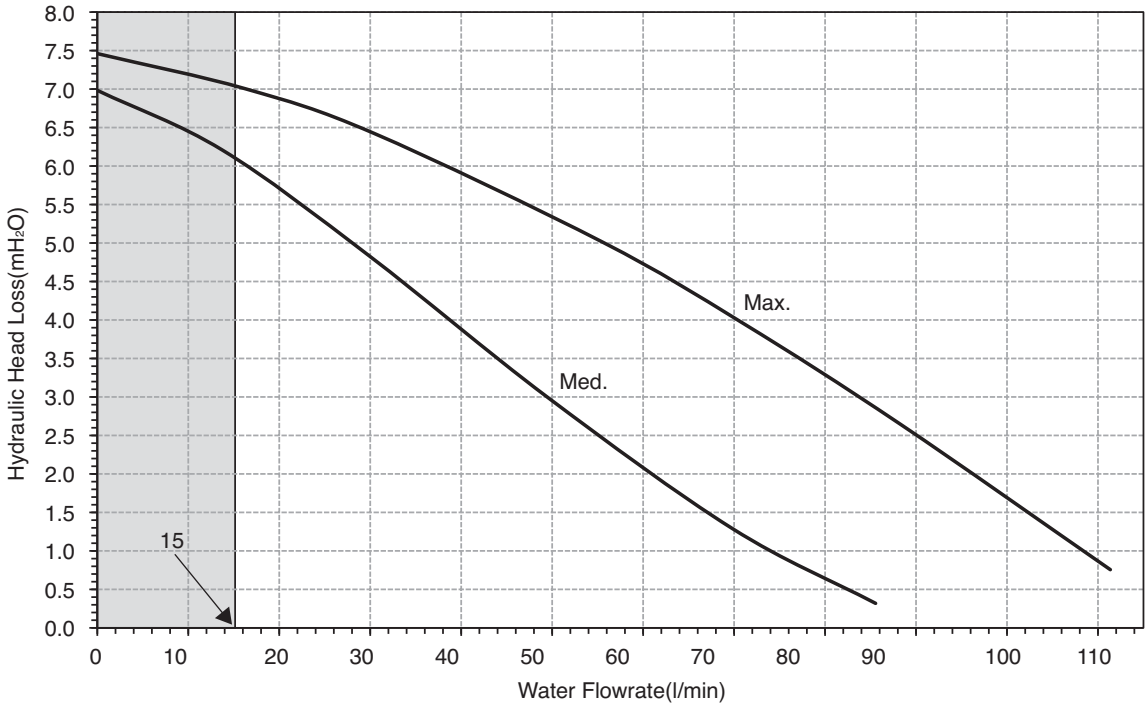
Model : AHNW126A0 (H12SNE), AHNW146A0 (H14SNE), AHNW166A0 (H16SNE)



★ Max. : high speed setting
Med. : low speed setting

Warning : Selecting a water flowrate outside the curves can cause damage to or malfunction of the unit.
: Operation cutoff range

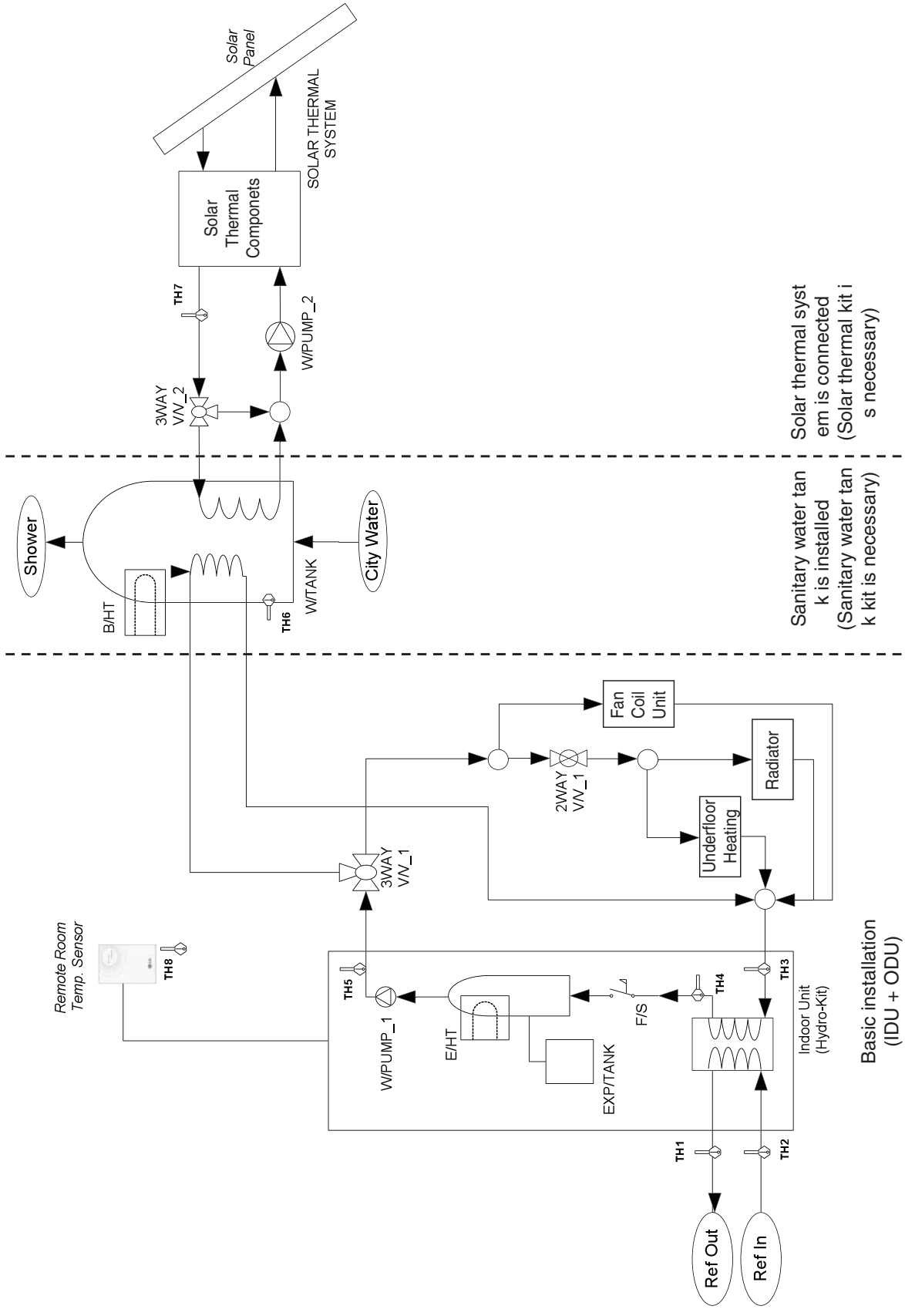
Model : AHNW16606A1(HN1616), AHNW16A06A1(HN1626), AHNW16806A1(HN1636)



★ Max. : high speed setting
Med. : low speed setting

Warning : Selecting a water flowrate outside the curves can cause damage to or malfunction of the unit.
: Operation cutoff range

4. Piping Diagrams

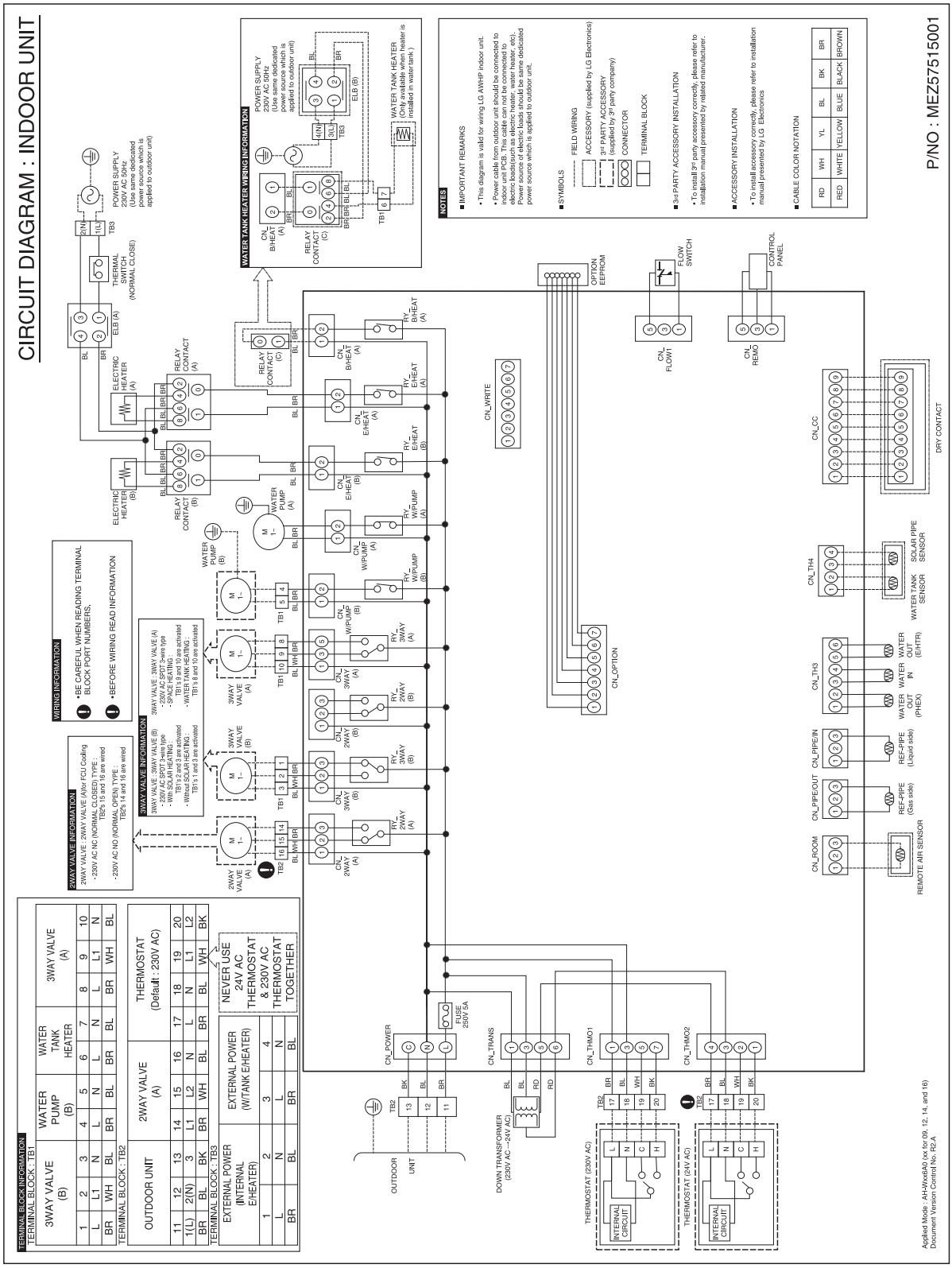


Category	Symbol	Meaning	PCB Connector	Remarks
Indoor Unit	TH1	Refrigerant temperature sensor (Gas side)	CN_PIPE/OUT	- Meaning is expressed based on Cooling mode.
	TH2	Refrigerant temperature sensor (Liquid side)	CN_PIPE	
	TH3	Entering Water temperature sensor	CN_TH3	- TH3, TH4, and TH5 are connected at 6 pin type connector CN_TH3.
	TH4	Interim Water temperature sensor		
	TH5	Leaving Water temperature sensor		
	F/S	Flow Switch	CN_FLOW1	
	E/HT	Electric Heater	CN_E/HEAT(A) CN_E/HEAT(B)	- Heating capacity is divided into two level : partial capacity by E/HEAT(A) and full capacity by E/HEAT(A) + E/HEAT(B). - Operating power(230V AC 50Hz) of E/HEAT(A) and E/HEAT(B) are supplied by external power source via relay connector and ELB.
	W_PUMP1	Internal Water Pump	CN_W/PUMP(A)	- Operating power(230V AC 50Hz) of internal water pump is supplied by the connector.
	EXP/TANK	Expansion Tank	(no connector)	- Absorb volume change of heated water,
	TH8	Remote Air temperature sensor	CN_ROOM	- Optional accessory (sold separately) - Model : PQRSTA0
	CTR/PNL	Control Panel (or 'Remote Controller')	CN_REMO	- Pre built-in at indoor unit
	2WAY V/V_1	To control water flow for Fan Coil Unit	CN_2WAY(A)	- 3rd party accessory and Field installation (sold separately) - 2wire NO or NC type 2way valve is supported.
Water Heating	W/TANK	Sanitary Water Tank	(no connector)	- 3rd party accessory and Field installation (sold separately) - Generating and storing sanitary hot water by AWHP or built-in electric heater-
	B/HT	Electric Heater	CN_B/HEAT(A)	- 3rd party accessory and Field installation (usually built-in at W/TANK) - Supplying additional water heating capacity.
	3WAY V/V_1	- Flow control for water which is leaving from indoor unit. - Flow direction switching between under-floor and water tank	CN_3WAY(A)	- 3rd party accessory and Field installation (sold separately) - SPDT type 3way valve is supported.
	CITY WATER	Water to be heated by Indoor unit and B/HT of W/TANK	(no connector)	- Field installation
	SHOWER	Water supplied to end-user	(no connector)	- Field installation
	TH6	W/TANK water temperature sensor	CN_TH4	- TH6 and TH7 are connected at 4 pin type connector CN_TH4. - TH6 is a part of sanitary water tank kit. (Model:PHLTA) - TH7 is a part of solar thermal kit (Model:PHLLA)
Solar Heating	TH7	Solar-heated water temperature sensor		
	3WAY V/V_2	- Flow control for water which is heated and circulated by SOLAR THERMAL SYSTEM. - Flow direction switching between SOLAR THERMAL SYSTEM and W/TANK	CN_3WAY(B)	- 3rd party accessory and Field installation (sold separately) - SPDT type 3way valve is supported.
	W_PUMP/2	External Water Pump	CN_W/PUMP(B)	- 3rd party accessory and Field installation (sold separately) - If water pump of SOLAR THERMAL SYSTEM is incapable of circulation,external water pump can be used.
	SOLAR THERMAL SYSTEM	- This system can include following components : Solar panel, Sensors, Thermostats, Interim heat exchanger, Water pump, etc. - To utilized hot water heated by SOLAR THERMAL SYSTEM, end-user must buy LG AWHP Solar-Kit.	(no connector)	- 3rd party accessory and Field installation (sold separately)

5. Wiring Diagrams

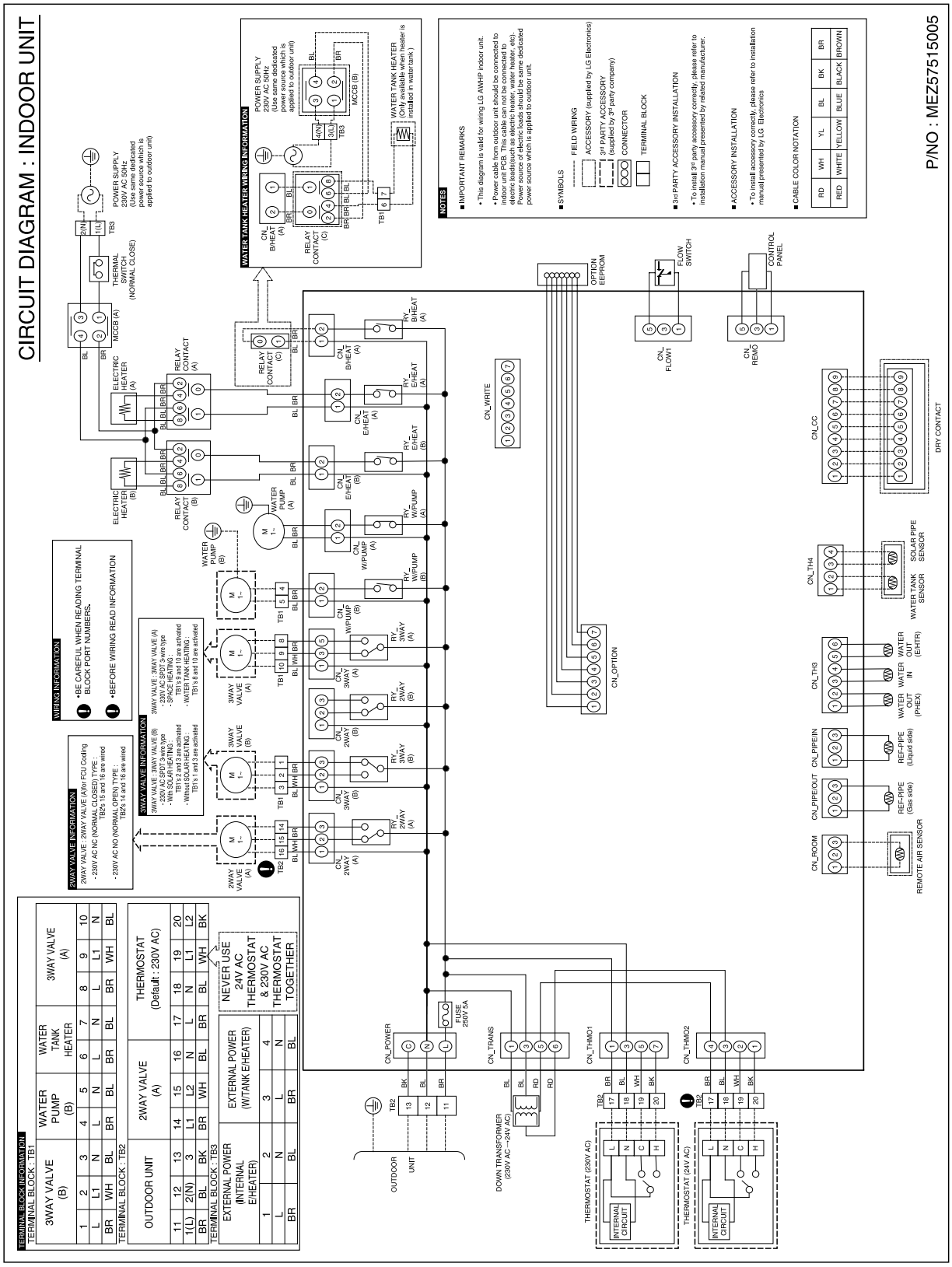
Indoor Unit

Model : AHNW096A0, AHNW126A0, AHNW146A0, AHNW166A0



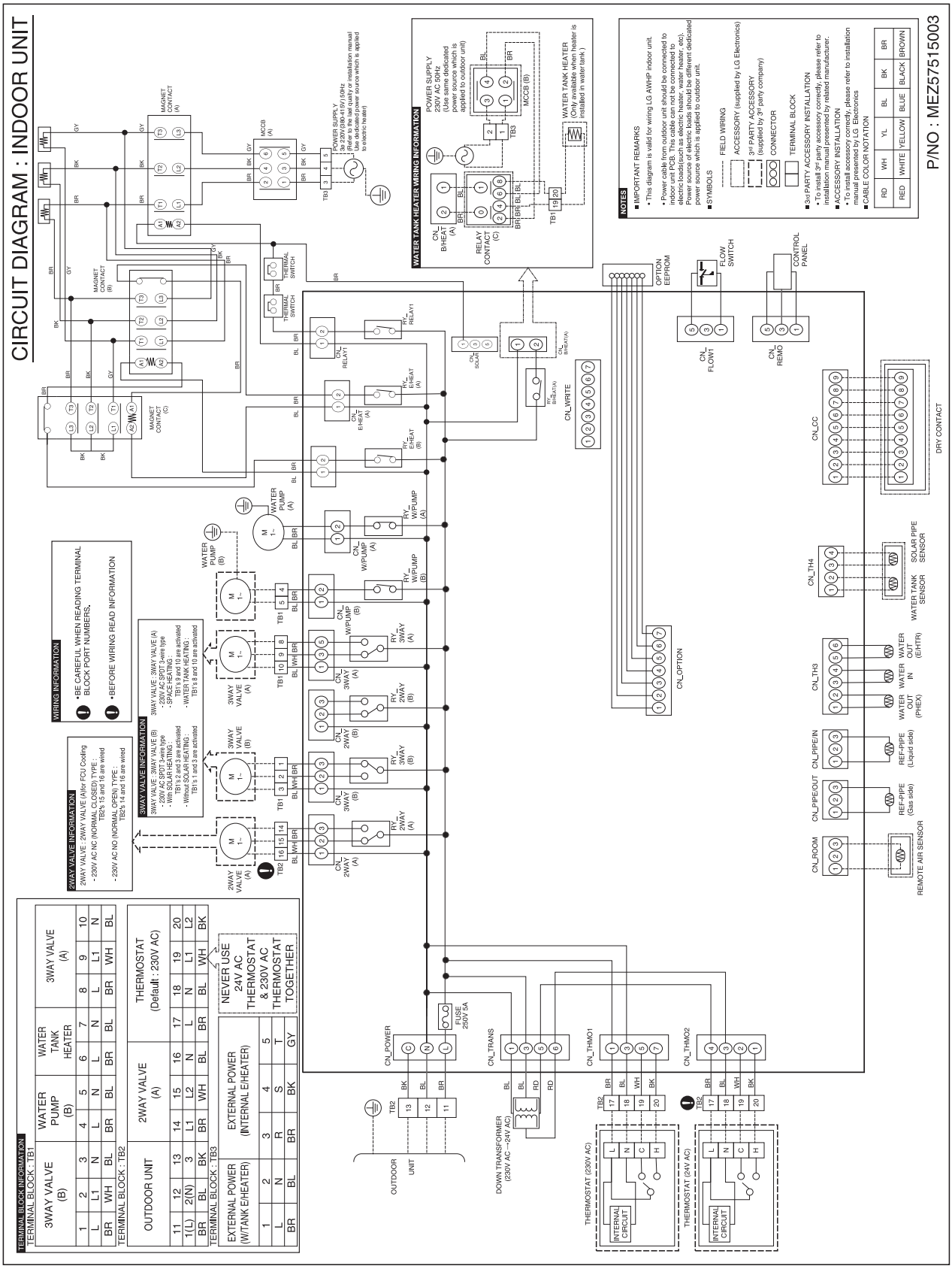
Indoor Unit

Model : AHNW09606A0, AHNW16606A1, AHNW09604A1

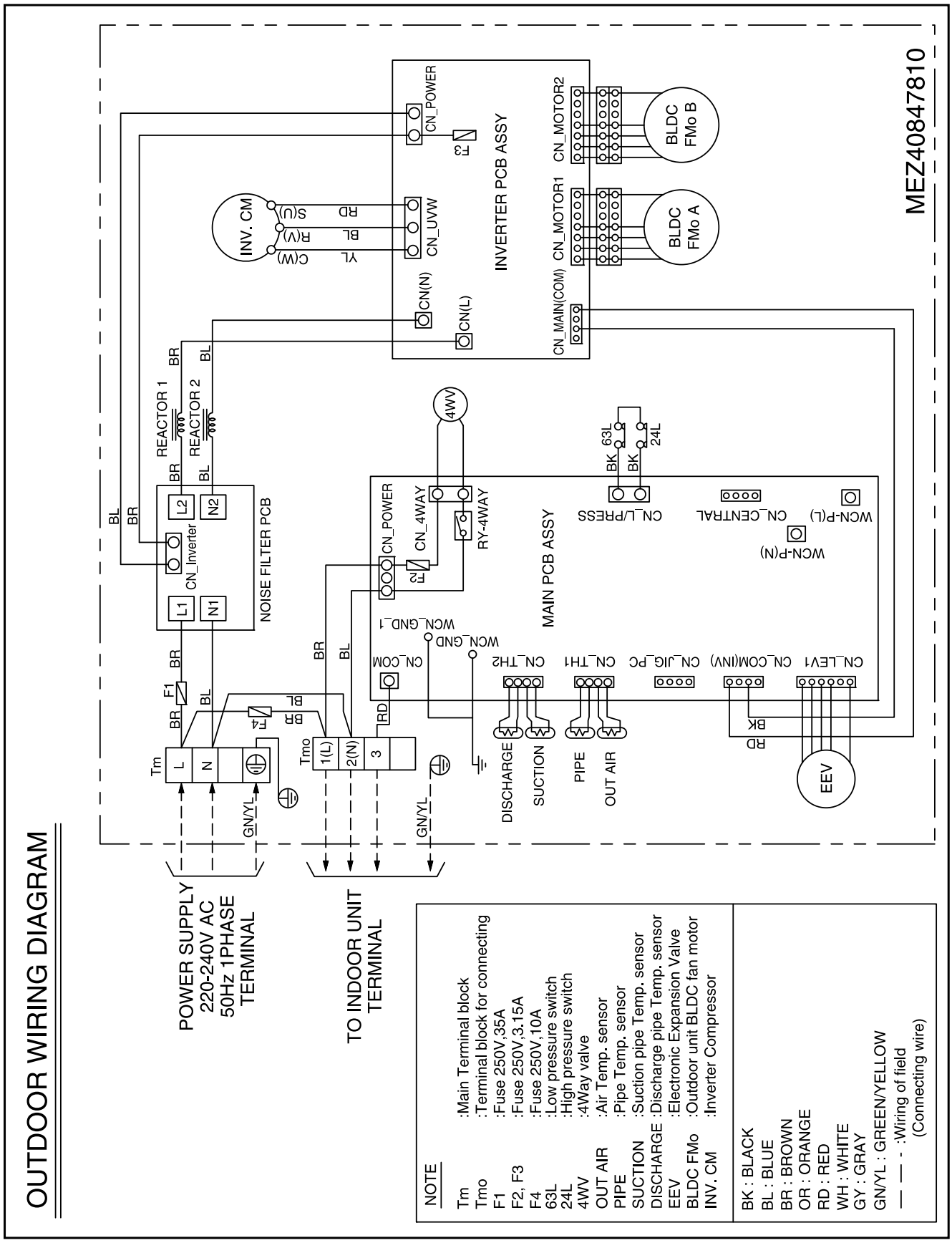


Indoor Unit

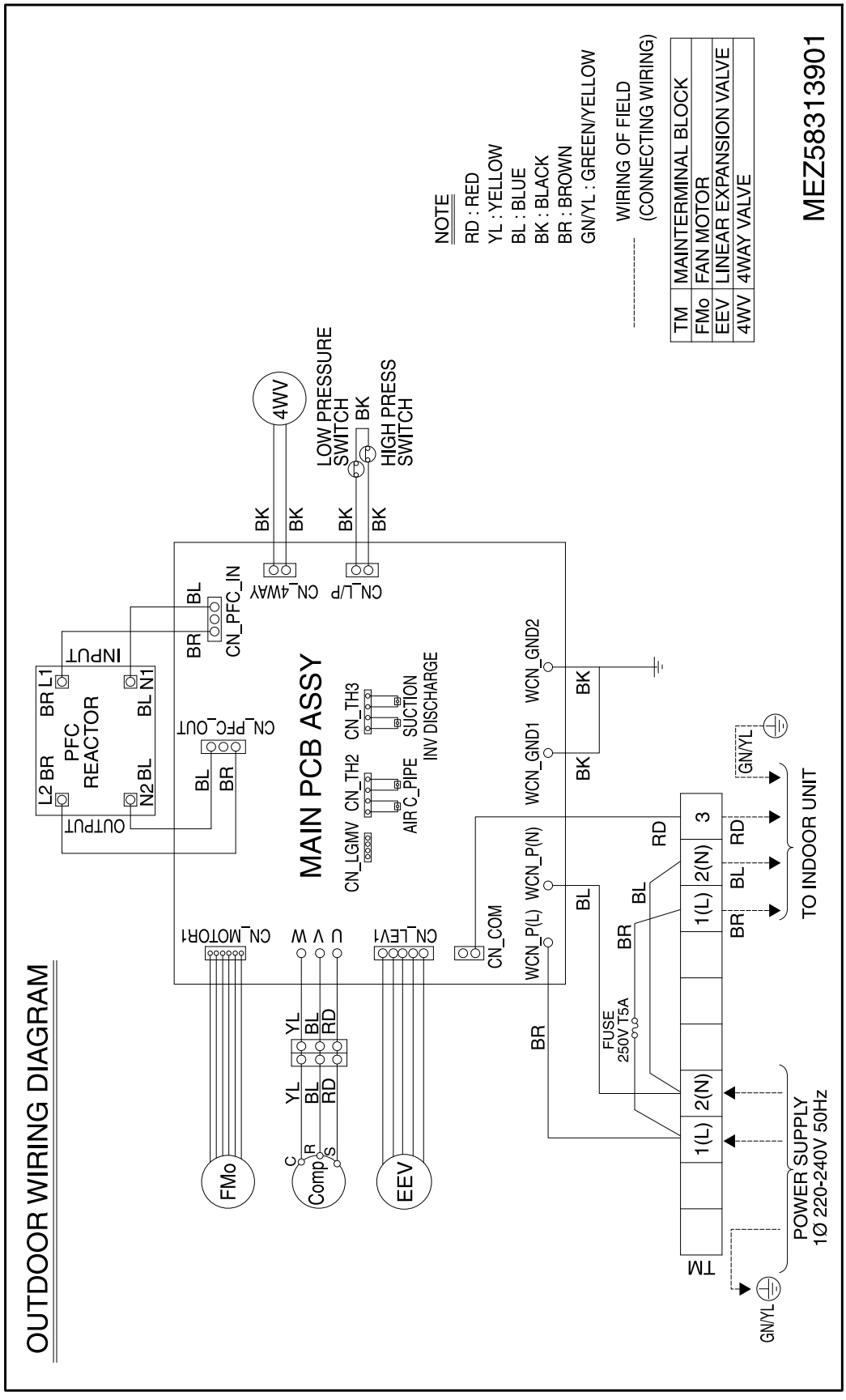
Model : AHNW09A06A0, AHNW09806A0, AHNW16A06A1, AHNW16806A1



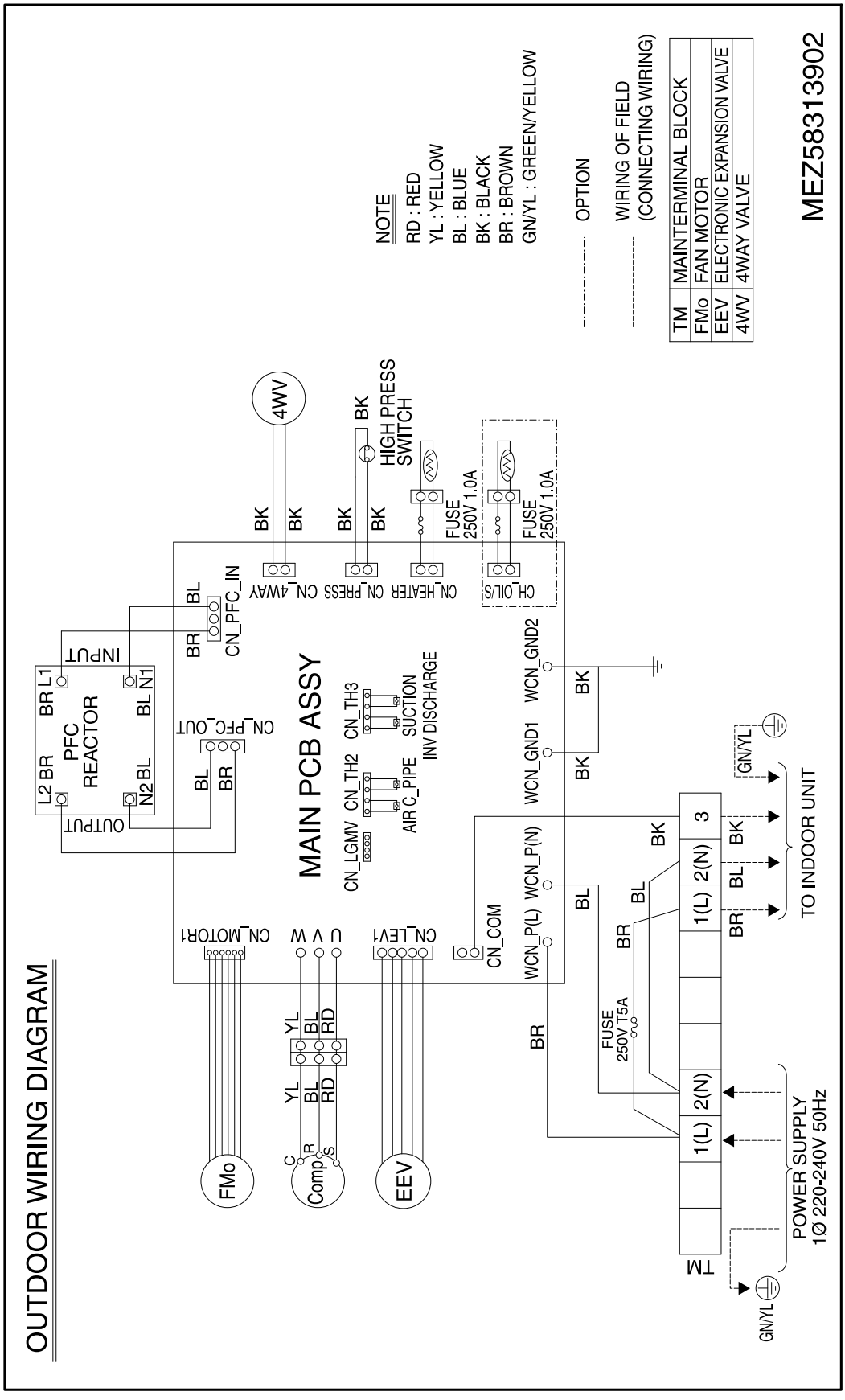
Outdoor Unit : AH-W126A0, AH-W146A0, AH-W166A0



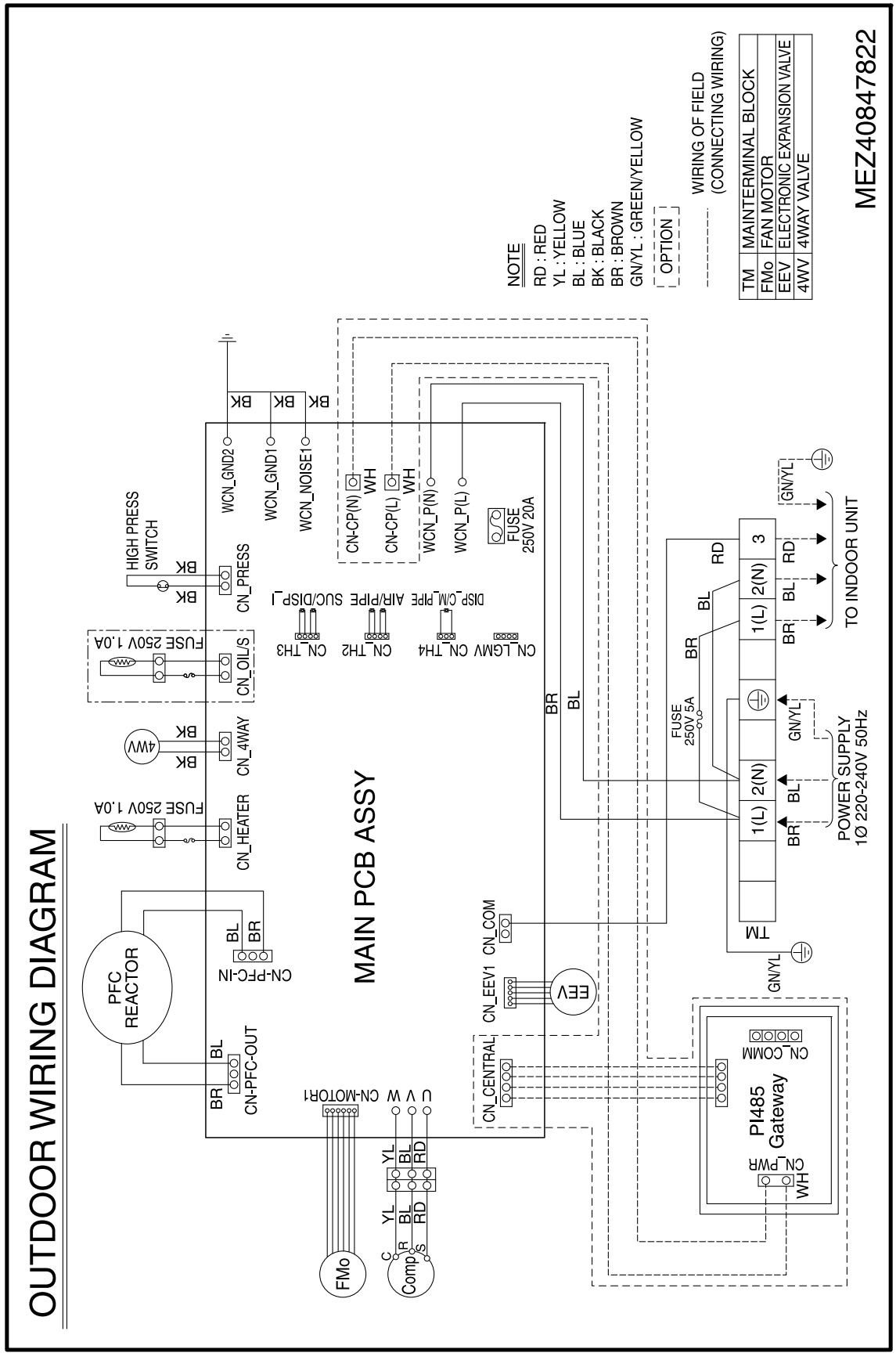
Outdoor Unit : AH-W096A0



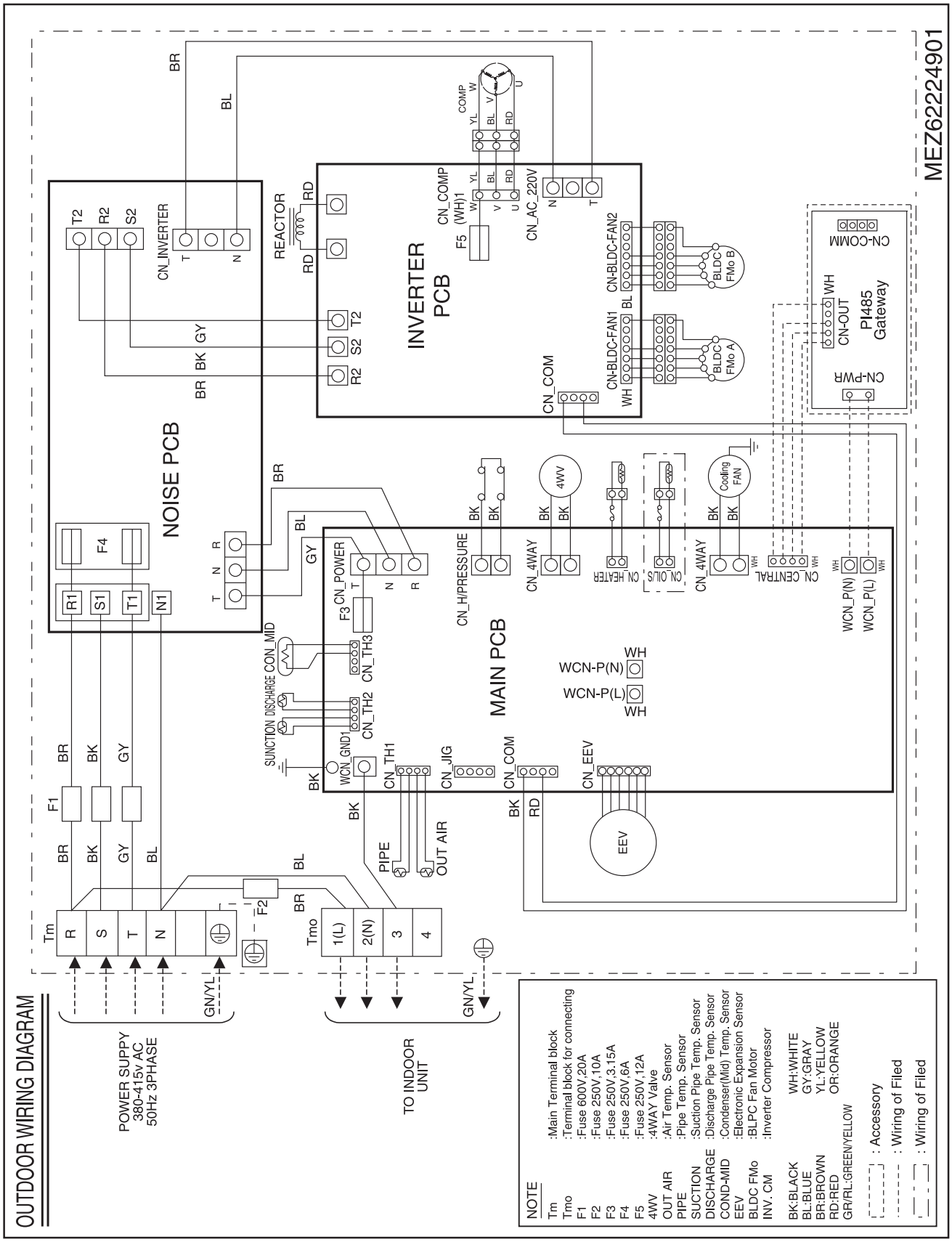
Outdoor Unit : AHUW096AN



Outdoor Unit : AHUW096A1



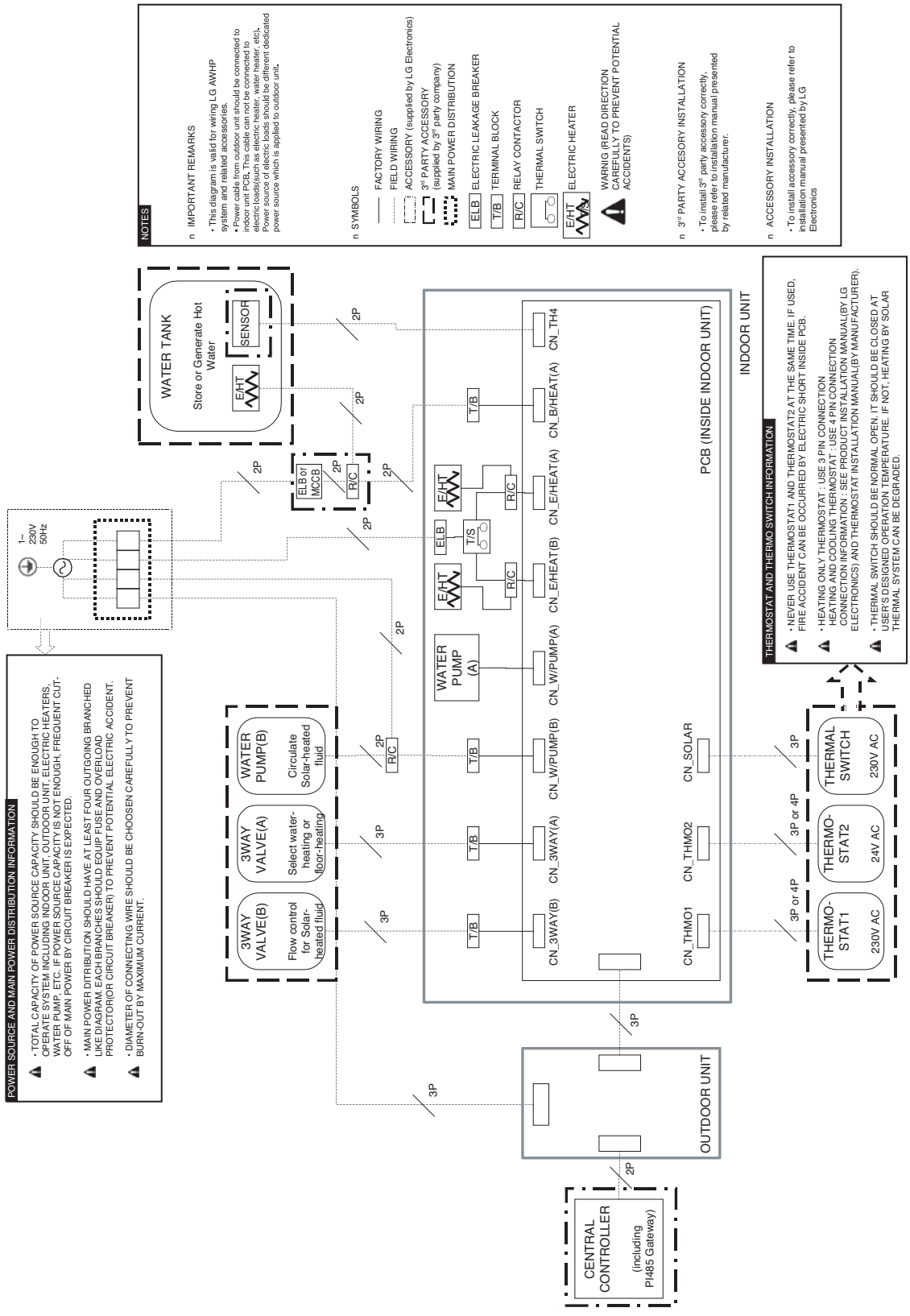
Outdoor Unit : AHUW128A1, AHUW148A1, AHUW168A1



6. External Wiring Diagram

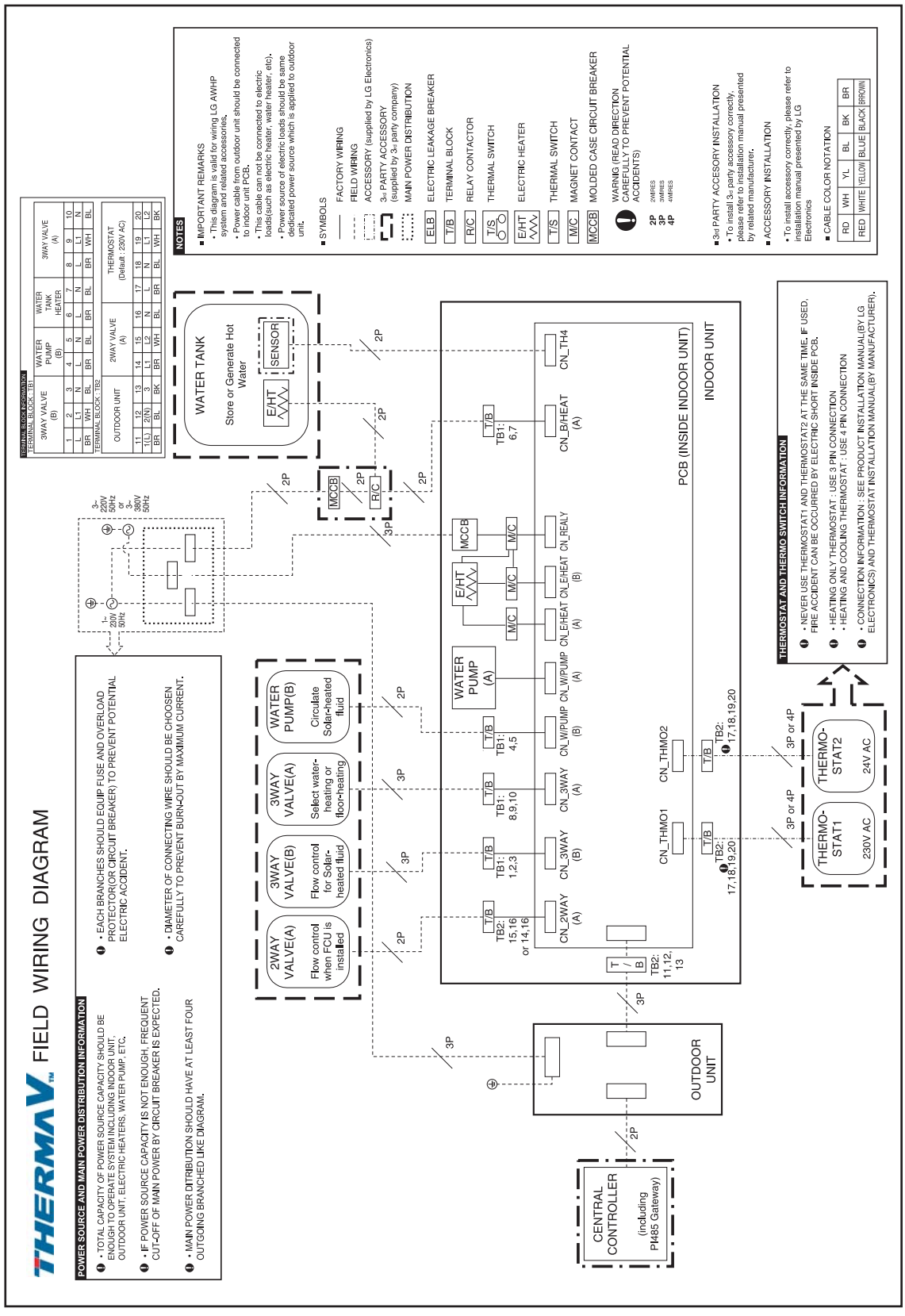
Indoor Unit

Model : AHNW096A0, AHNW126A0, AHNW146A0, AHNW166A0, AHNW09606A0, AHNW09604A1



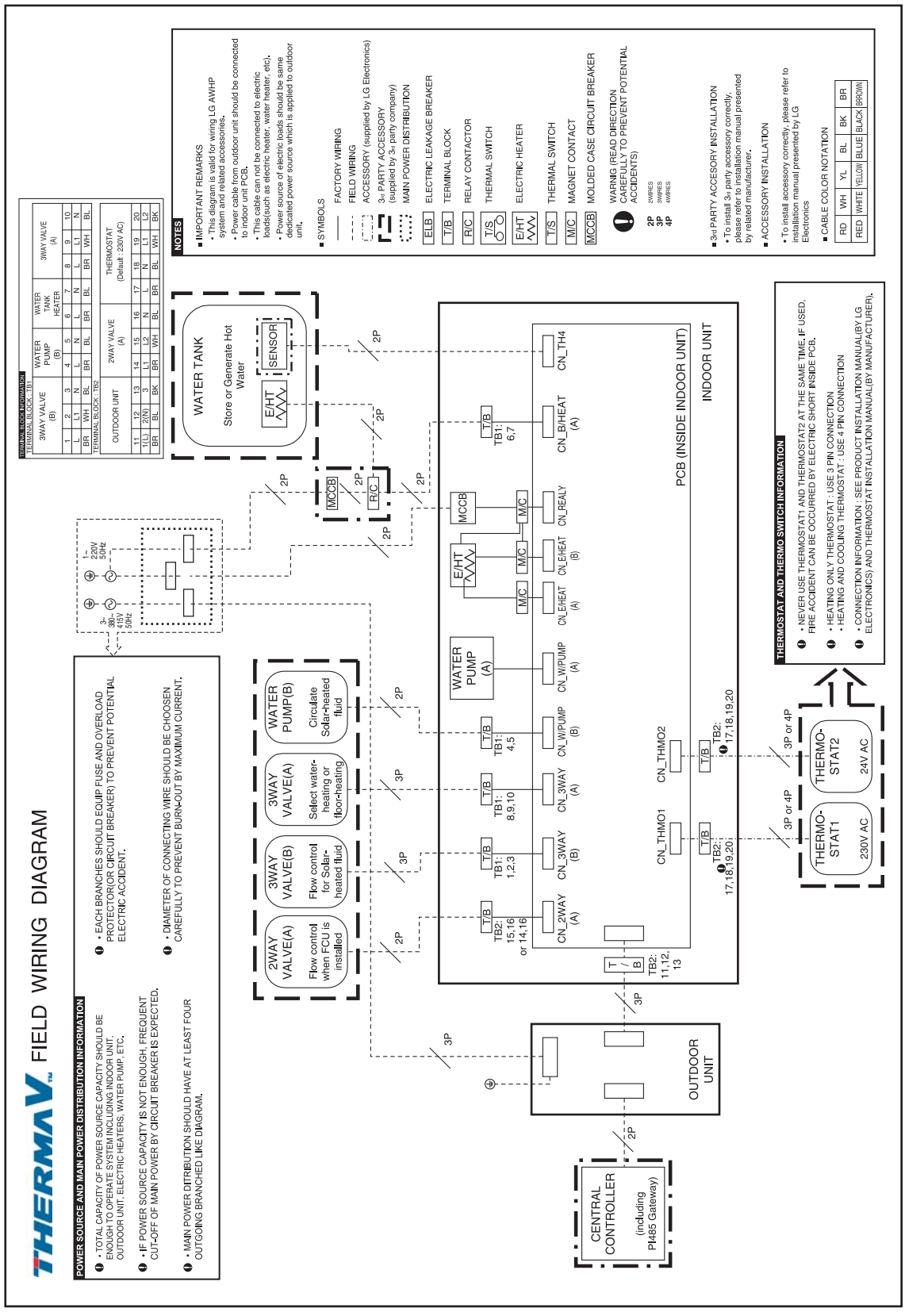
Indoor Unit

Model : AHNW09A06A0, AHNW09806A0



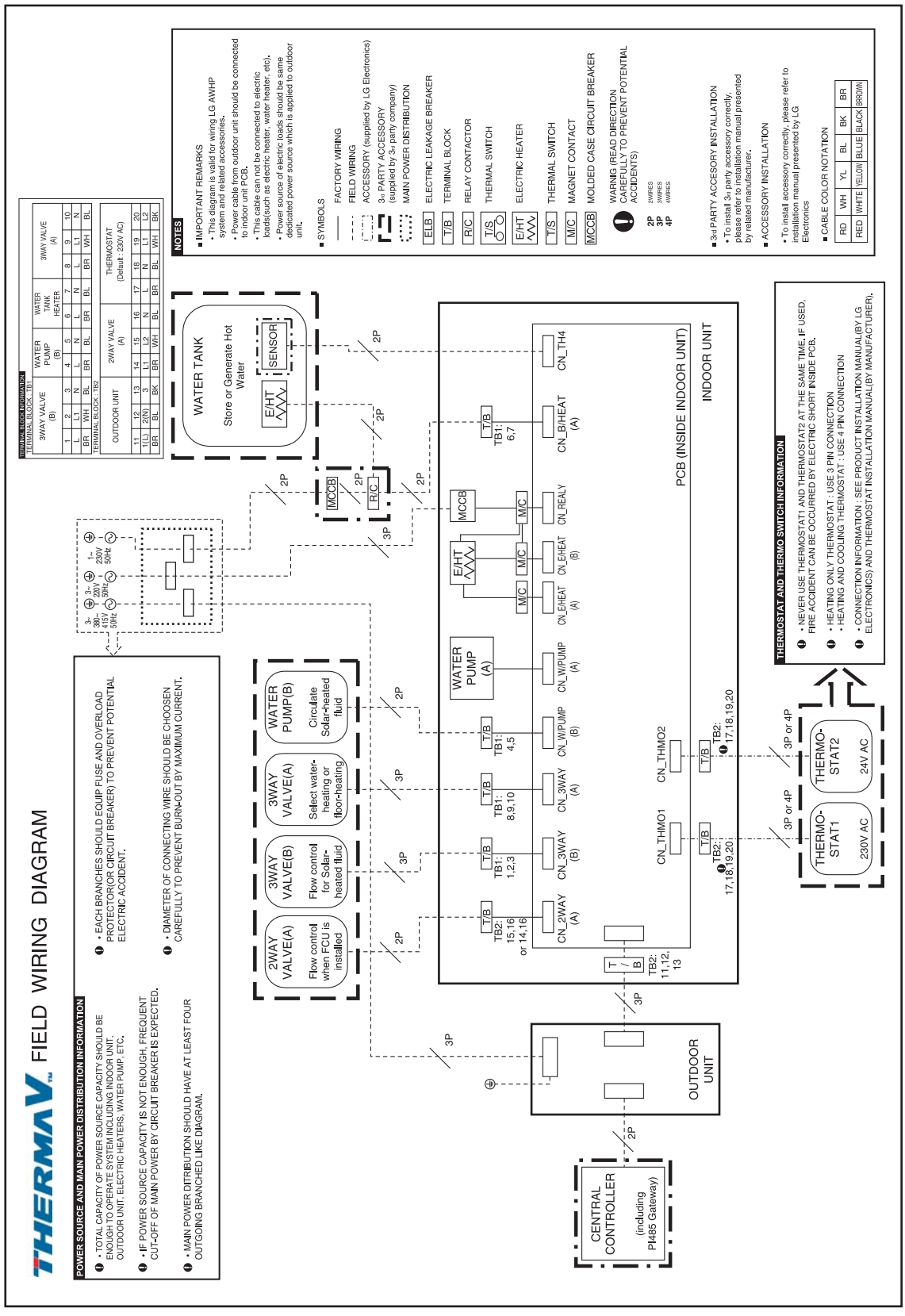
Indoor Unit

Model : AHNW16606A1



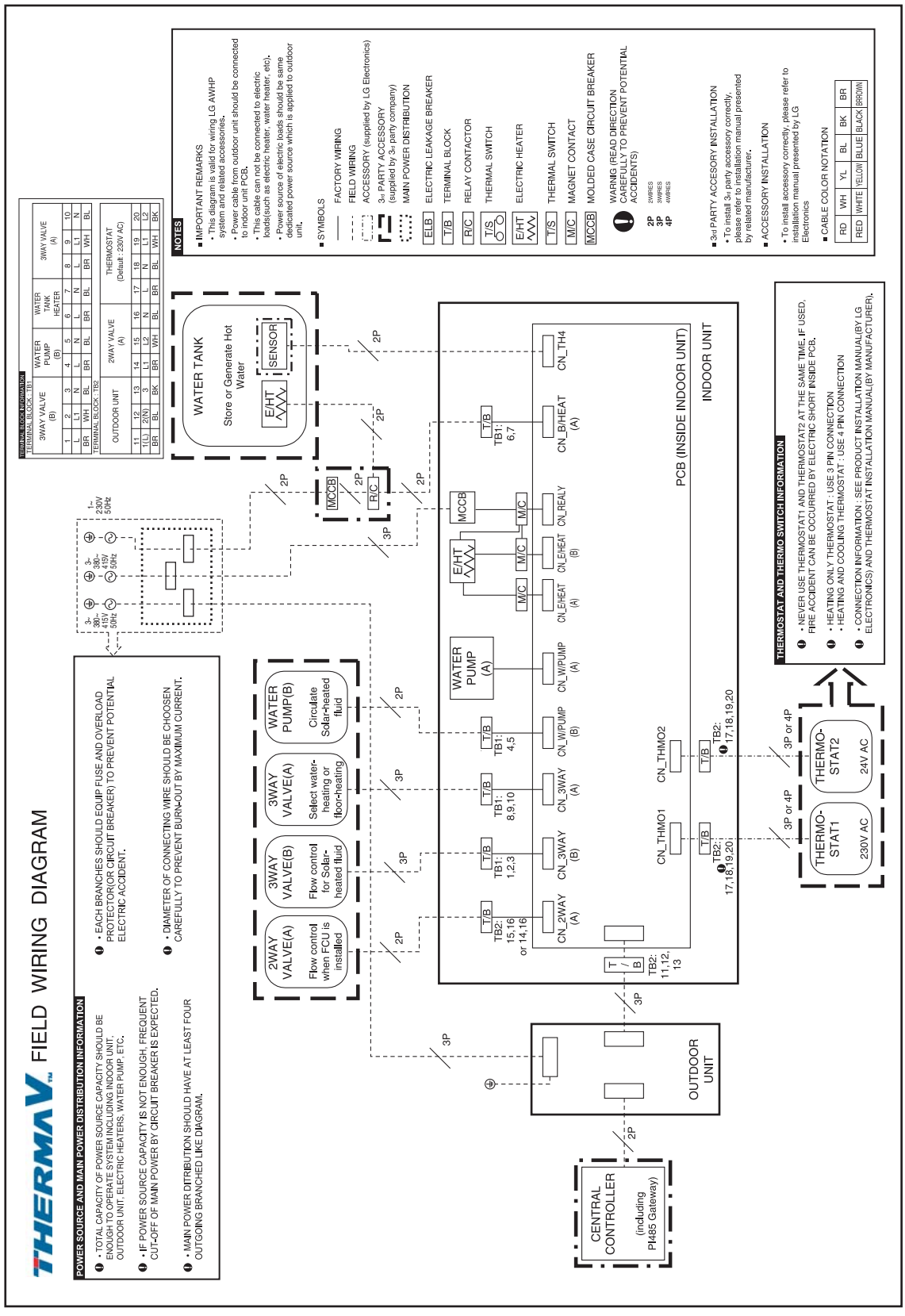
Indoor Unit

Model : AHNW16A06A1



Indoor Unit

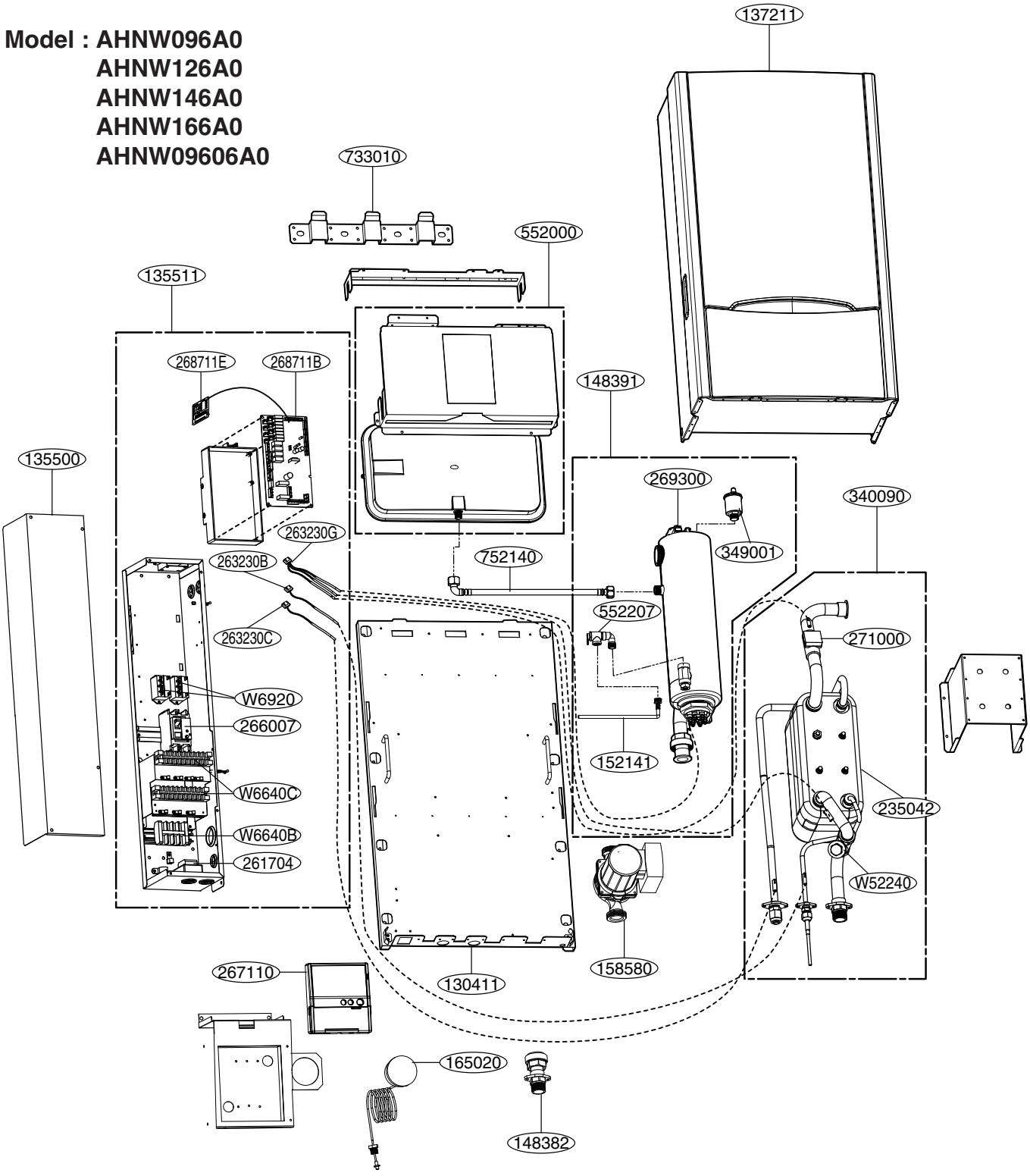
Model : AHNW16806A1



7. Exploded View

Indoor Unit

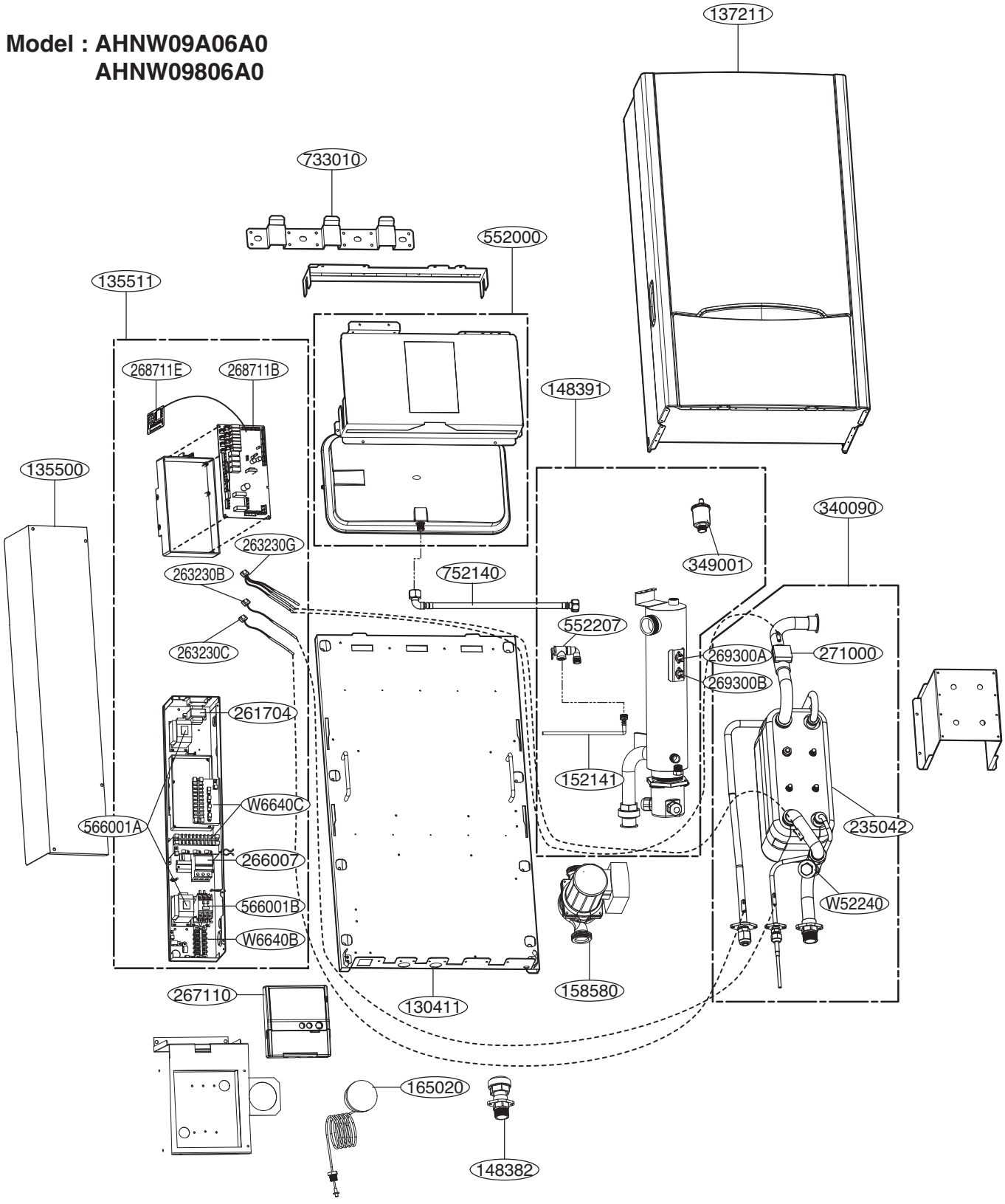
Model : AHNW096A0
AHNW126A0
AHNW146A0
AHNW166A0
AHNW09606A0



Note) * Please ensure GCSC since the replacement parts may be changed depending upon the buyer's request.
Please check the correct parts in View RPL(Replacement Part List) on GCSC.
(GCSC Website http://biz.Lgservice.com,)

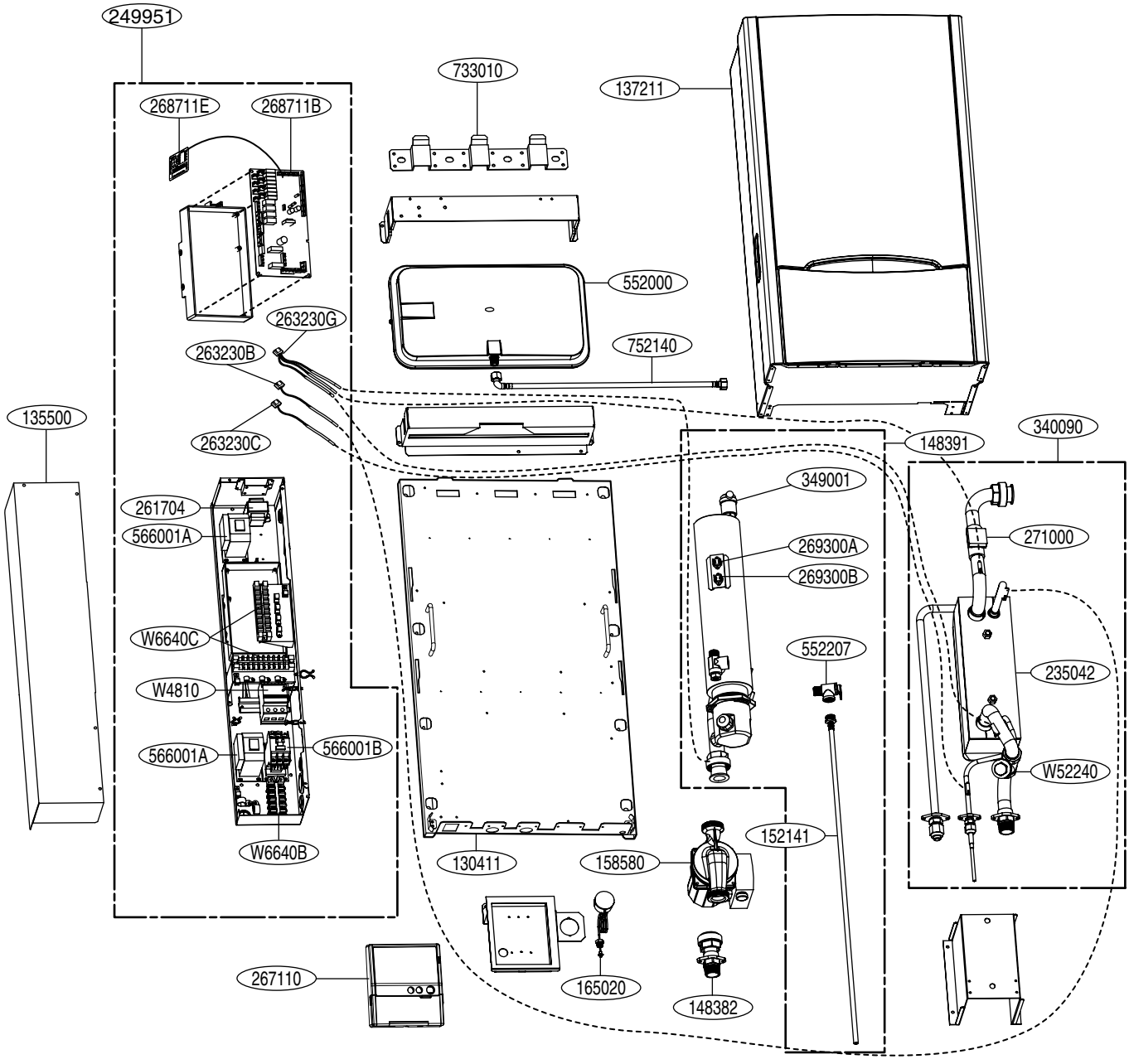
Indoor Unit

Model : AHNW09A06A0
AHNW09806A0



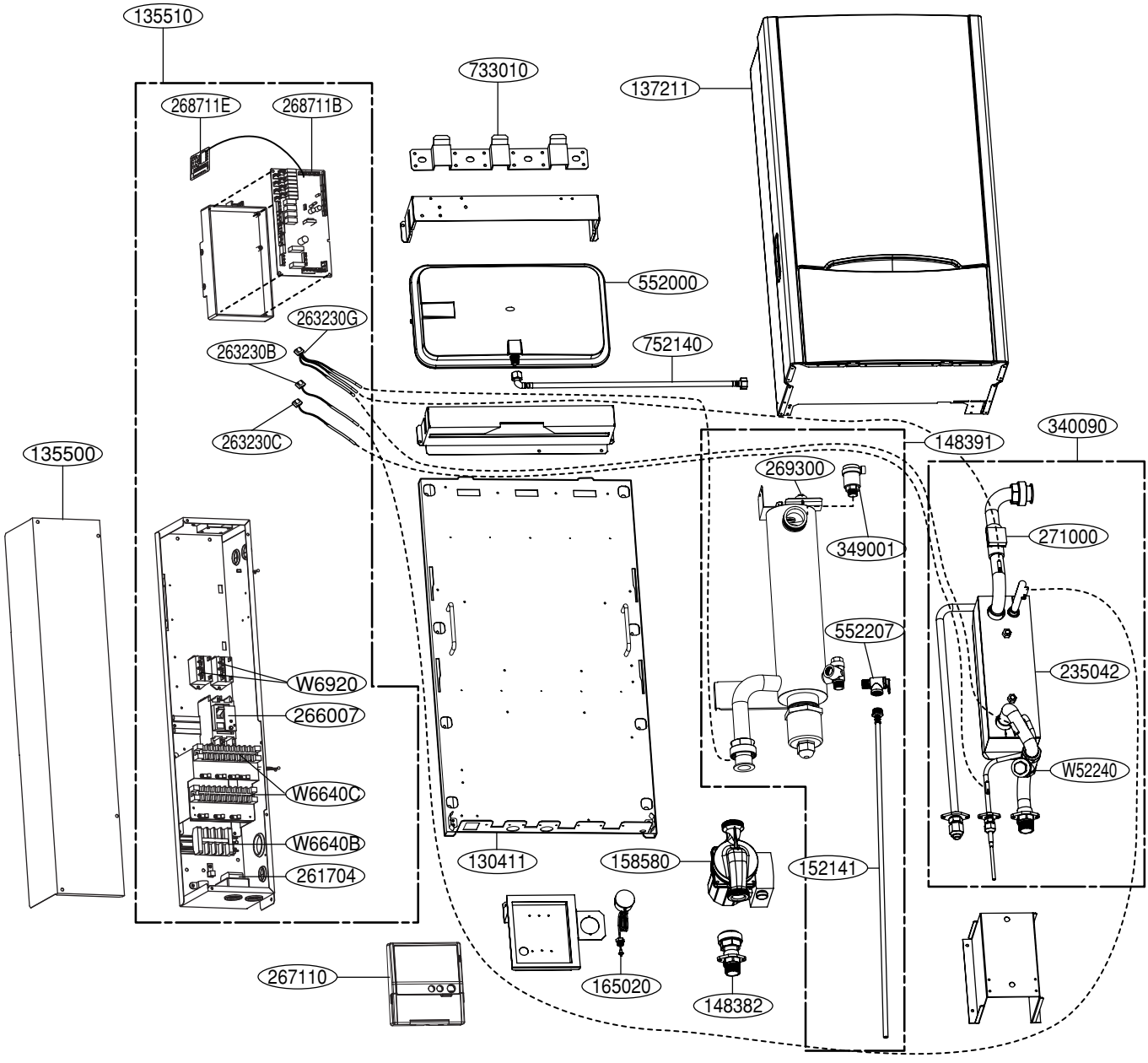
Indoor Unit

Model : AHNW16A06A1,AHNW16806A1,AHNW16A09A1,AHNW16809A1

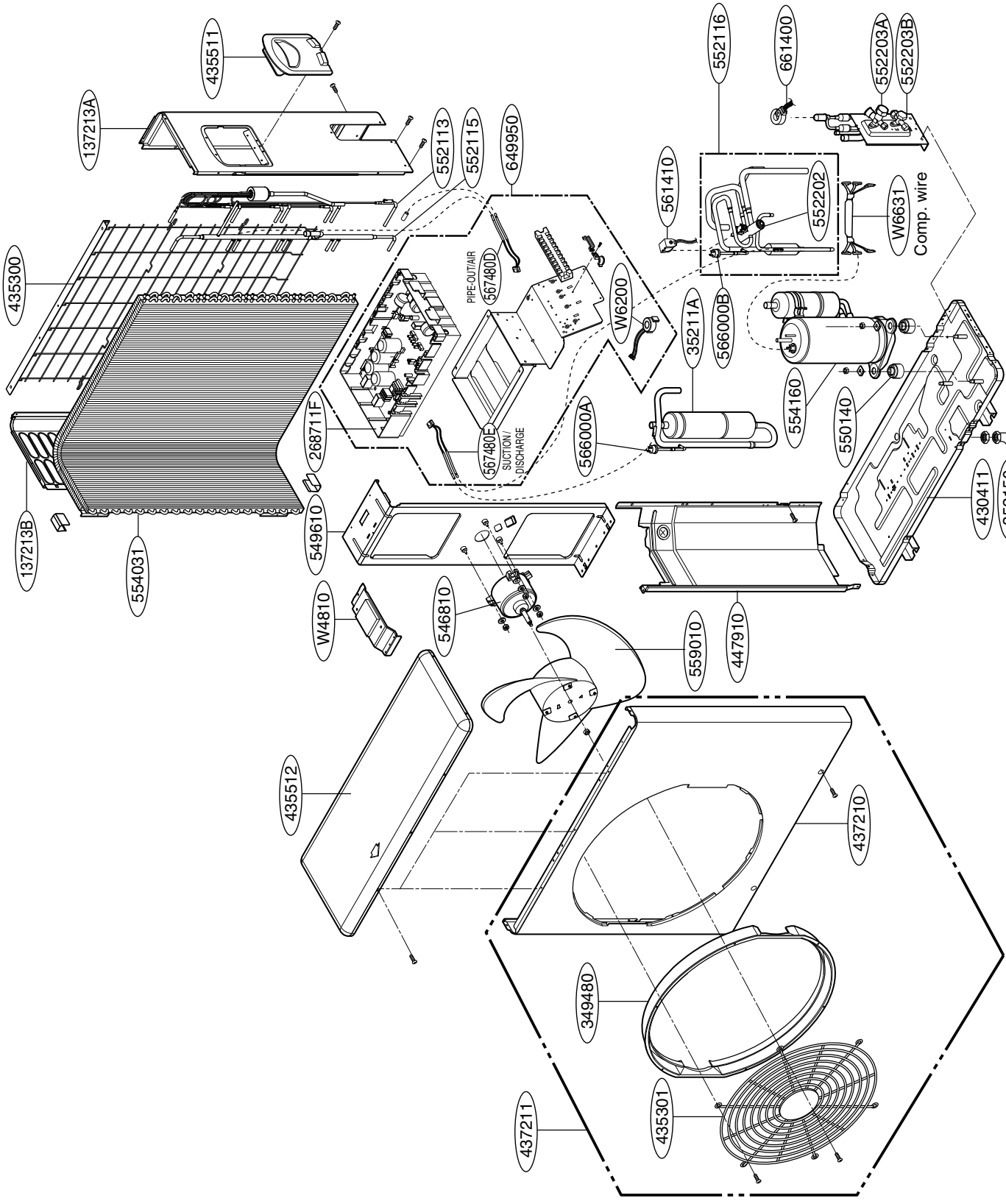


Indoor Unit

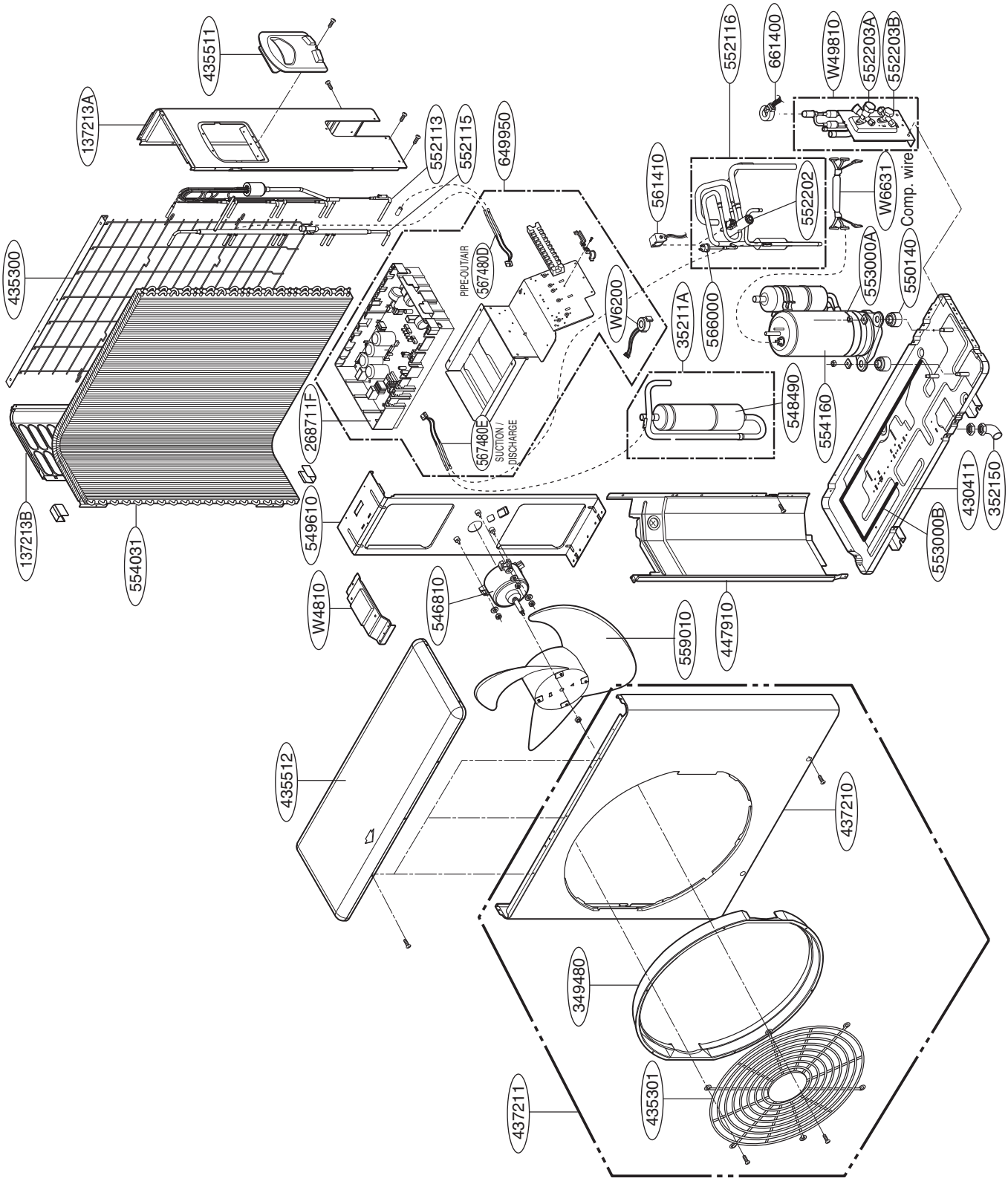
Model : AHNW16606A1, AHNW09604A1



Outdoor Unit : AW-H096A0



Outdoor Unit : AHUW096AN



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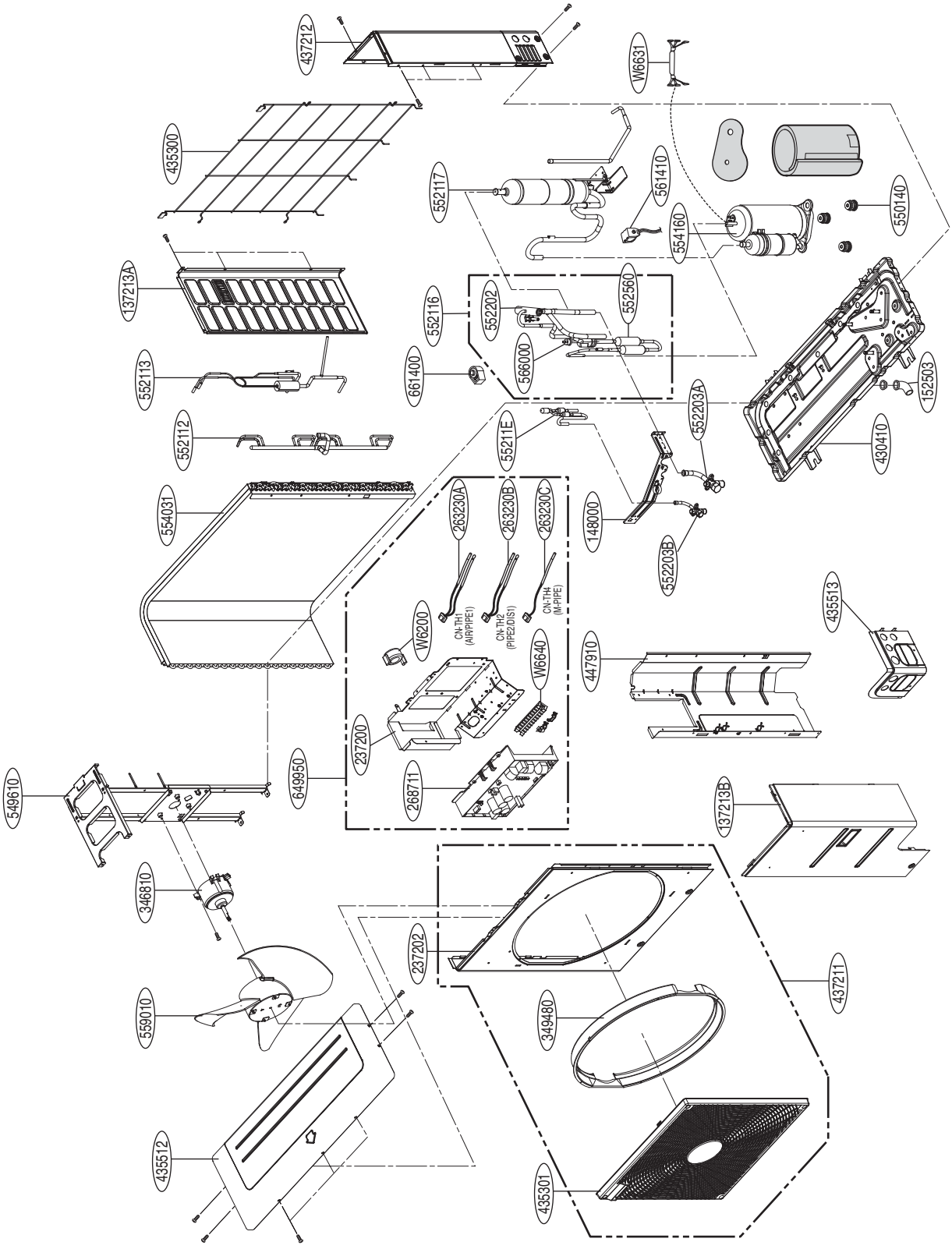
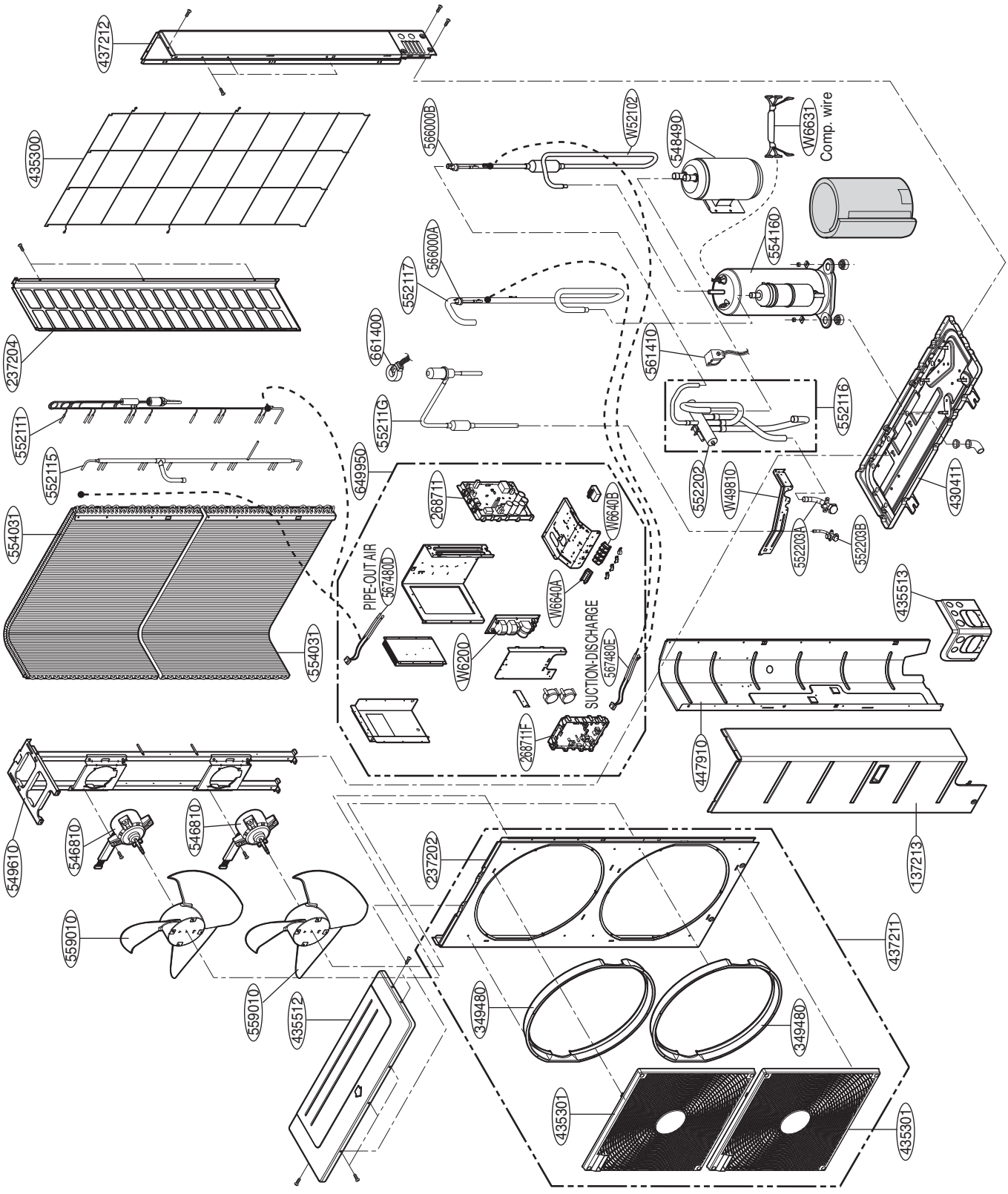
(GCSC Website http://biz.Lgservice.com,)

Outdoor Unit : AHUW096A1



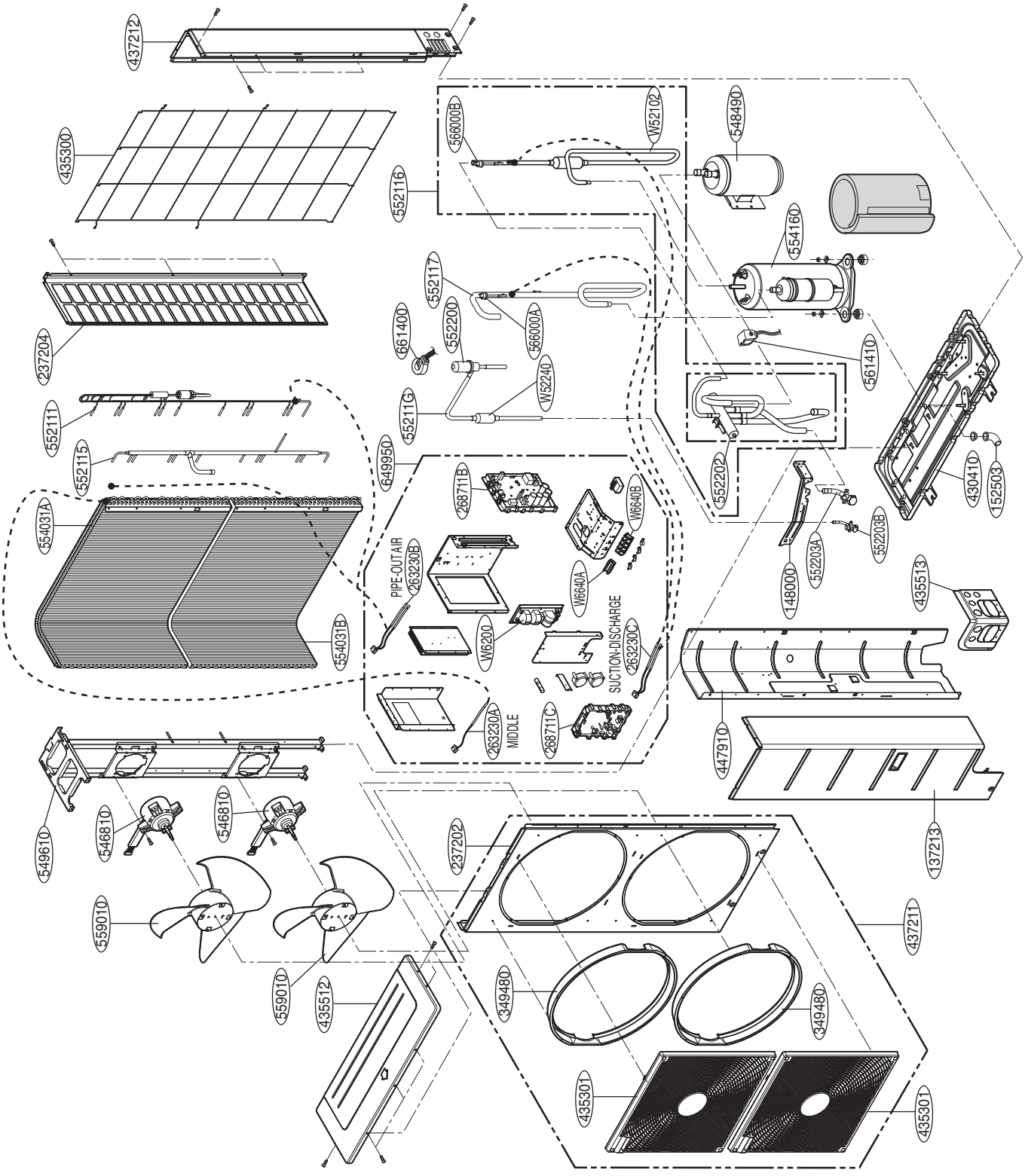
Note) * Please ensure GCSC since the replacement parts may be changed depending upon the buyer's request.
Please check the correct parts in View RPL(Replacement Part List) on GCSC.
(GCSC Website http://biz.Lgservice.com,)

Outdoor Unit : AW-H126A0, AW-H146A0, AW-H166A0



Note) * Please ensure GCSC since the replacement parts may be changed depending upon the buyer's request.
Please check the correct parts in View RPL(Replacement Part List) on GCSC.
(GCSC Website http://biz.Lgservice.com,)

Outdoor Unit : AHUW128A1, AHUW148A1, AHUW168A1



Note) * Please ensure GCSC since the replacement parts may be changed depending upon the buyer's request.
Please check the correct parts in View RPL(Replacement Part List) on GCSC.
(GCSC Website http://biz.Lgservice.com,)

P/NO : MFL57946203

JANUARY, 2010