



Internal Use Only

<http://biz.lgservice.com>

***MULTI V*™ System** **MINI**

Outdoor Unit **R410A**

SERVICE MANUAL R410A **(Exploded View)**

MODEL : ARUN Series

CAUTION

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

ARUN Series

1. Specifications	3
2. Function	4
3. Dimensions	5
4. Piping Diagrams	6
5. Wiring Diagrams	9
6. Exploded View	12

1. Specification

Heat Pump

Heat Pump(50Hz/60Hz)

HP(Equivalent horsepower)			4	5	6
Model Name			ARUN40GS2	ARUN50GS2	ARUN60GS2
Capacity	Cooling	kW	11.2	14.0	15.5
		kcal/h	9,632	12,040	13,330
		Btu/h	38,200	47,800	52,900
	Heating	kW	12.5	16.0	18.0
		kcal/h	10,750	13,760	15,480
		Btu/h	42,700	54,600	61,400
Input	Cooling	kW	2.9	3.8	4.3
	Heating	kW	3.1	4.0	4.7
Casing Color			Warm Gray	Warm Gray	Warm Gray
Heat Exchanger			Gold fin	Gold fin	Gold fin
Compressor	Type		DC Scroll	DC Scroll	DC Scroll
	Piston Displacement	cm³/rev	42	42	42
	Number of Revolution	R.P.M	3,600x1	3,600x1	3,600x1
	Motor Output x Number	W	2.4 x 1	2.8 x 1	3.2 x 1
	Starting Method		Direct On Line	Direct On Line	Direct On Line
	Oil Type		FV50S	FV50S	FV50S
	Oil Charge	cc	1,700	1,700	1,700
Fan	Type		BLDC	BLDC	BLDC
	Motor Output x Number	kW	0.124 x 2	0.124 x 2	0.124 x 2
	Air Flow Rate x No. of Fan	m³/min	110	110	110
	Drive		DC INVERTER	DC INVERTER	DC INVERTER
	Discharge		Side	Side	Side
Pipe Connctions	Liquid Pipes	mm(inch)	Ø9.52(3/8)	Ø9.52(3/8)	Ø9.52(3/8)
	Gas Pipes	mm(inch)	Ø15.88(5/8)	Ø15.88(5/8)	Ø19.05(3/4)
Dimensions (WxHxD)		mm	950x1380x330	950x1380x330	950x1380x330
		inch	37.4x54.3x13	37.4x54.3x13	37.4x54.3x13
Net Weight		kg	118	118	118
		lbs	260	260	260
Transmission Cable		mm²	CVV-SB 1.25x2C	CVV-SB 1.25x2C	CVV-SB 1.25x2C
Refrigerant	Refrigerant name		R410A	R410A	R410A
	Control		EEV	EEV	EEV
Power Supply		Ø, V, Hz	1, 220~240V, 50	1, 220~240V, 50	1, 220~240V, 50
			1, 220, 60	1, 220, 60	1, 220, 60

Notes:

- Capacities are based on the following conditions:
 - Cooling * Indoor temp. 27°C[80.6°F]DB/ 19°C[66.2°F]WB
 - * Outdoor temp. 35°C[95°F]DB/ 24°C[75.2°F]WB
 - * Interconnecting Piping Length 7.5m
 - * Level Difference of Zero
 - Heating * Indoor temp. 20°C[68°F]DB/ 15°C[59°F]WB
 - * Outdoor temp. 7°C[44.6°F]DB/ 6°C[42.8°F]WB
 - * Interconnecting Piping Length 7.5m
 - * Level Difference of Zero

2. Capacities are net capacities

3. Due to our policy of innovation some specifications may be changed without prior notification

4. EEV : Electronic Expansion Valve

Conversion Formula

kcal/h = kW x 860
 Btu/h = kW x 3412
 cfm = m³/min x 35.3
 l/s = CMM x 1000/60

2. Functions

Category	Function	ARUN40GS2	ARUN50GS2	ARUN60GS2
Reliability	Defrost / Deicing		O	
	High pressure switch		O	
	Low pressure switch		O	
	Phase protection		O	
	Restart delay (3-minutes)		O	
	Self diagnosis		O	
	Soft start		O	
	Test function		O	
Convenience	Auto operation(Artificial intelligence)		O	
	Auto restart operation		O	
CAC network Function	Network solution(LGAP)		O	
	Power Distribution Indicator(PQNUD1S00)		O	
	PI485(PNF-P14A0M/P14A1M)		X	
Others	Thermistor		-	

O : Applied X : Not applied - : No reaction

Option : Model name & price are different according to options, and assembled in factory with main unit

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

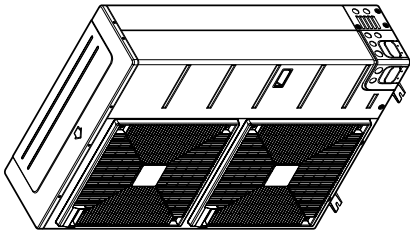
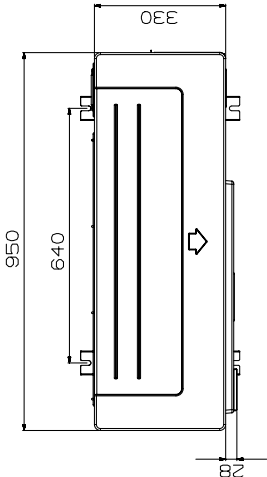
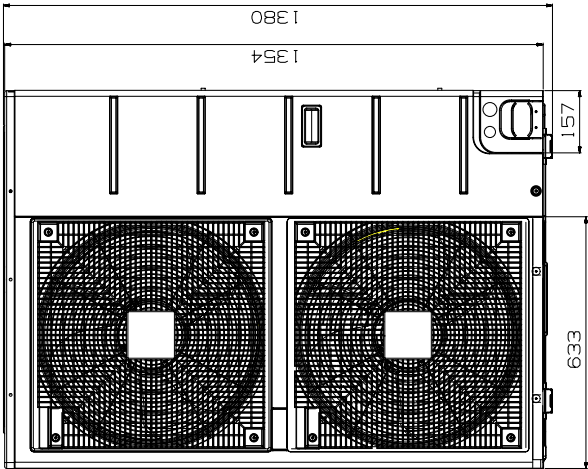
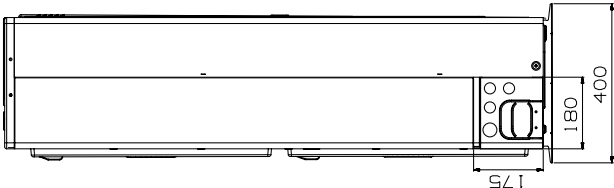
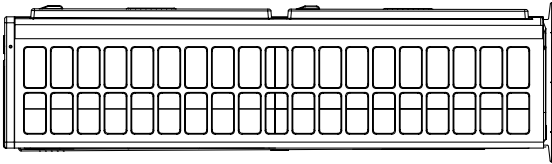
Category	Function	ARUN40GS2	ARUN50GS2	ARUN60GS2
CAC network Function	Network solution(LGAP)		O	
	Simple Central Controller		PQCSB101S0	
	Function Controller		PQCSC101S0	
	PC Central Control Software		PQCSS513A0	
	Deluxe Central Controller		PQCSW502A2	
	PDI(Power Distribution Indicator)		PQNUD1S00	
	CNU2(I-Gateway)		PQNFG14B0	
	Cool/Heat Selector		PRDSBM	
	Dry contact(Indoor Unit)		PQDSB	
	AC Smart		PQCSW320A0E	
	ACP		PQCPA11A0E/B11A0E	
	AC Manager		PQCSS520A0E	
	LONWORKS Gateway(BNU-LW)		PQNFB16A1	
	BACnet Gateway(BNU-BN)		PQNFB17B0	
Program	LG MV		Option	
Others	Y-Branch		Accessory	
	Header		Accessory	
	Air guide		Accessory	

O : Applied X : Not applied - : No reaction

Option : Model name & price are different according to options, and assembled in factory with main unit

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

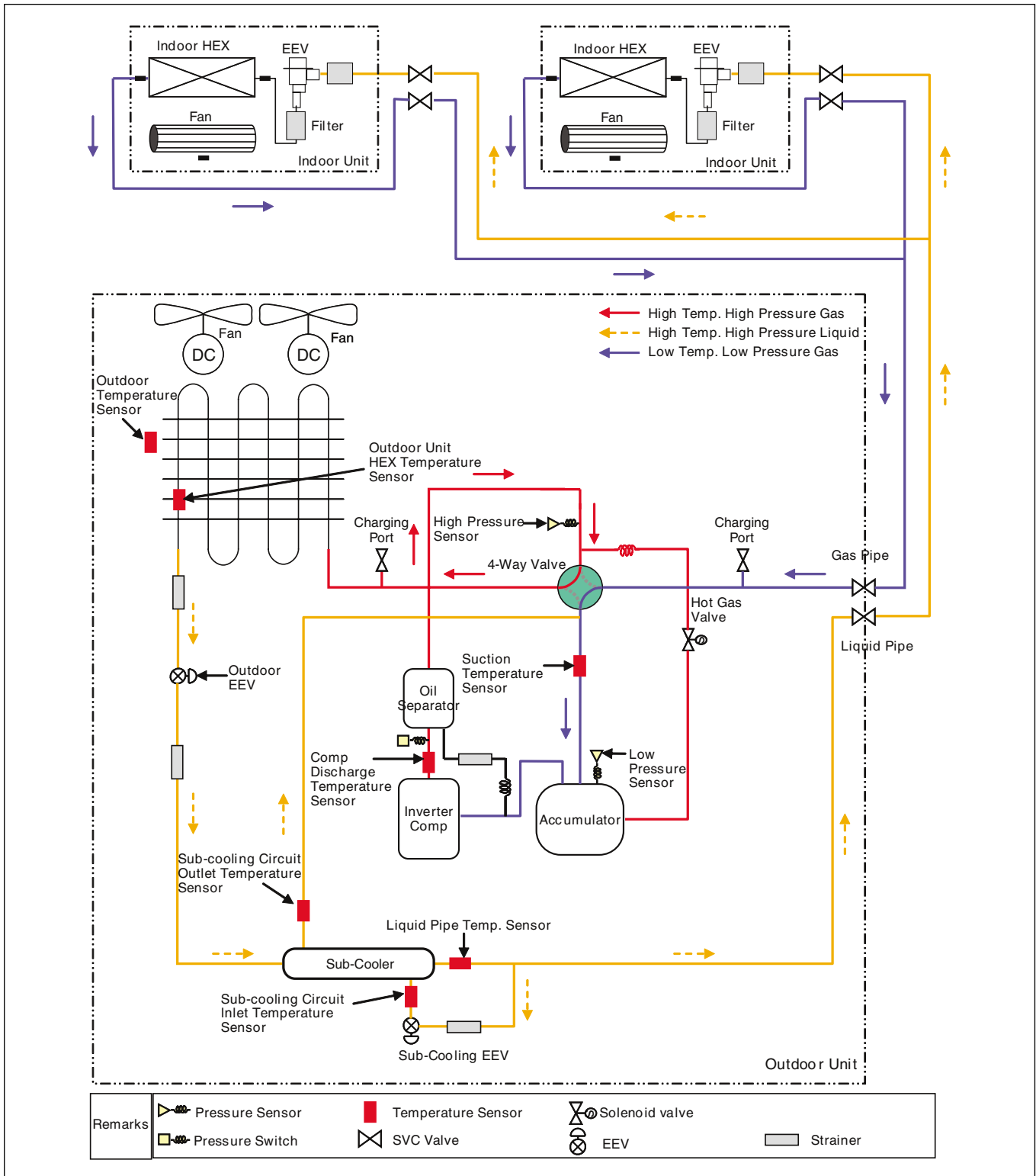
3. Dimensions

Outdoor Unit							LG Electronics	76, Seongsan-dong, Changwon City, Gyeongnam, 641-713, Korea www.lgeaircon.com	CHASSIS CODE: U3

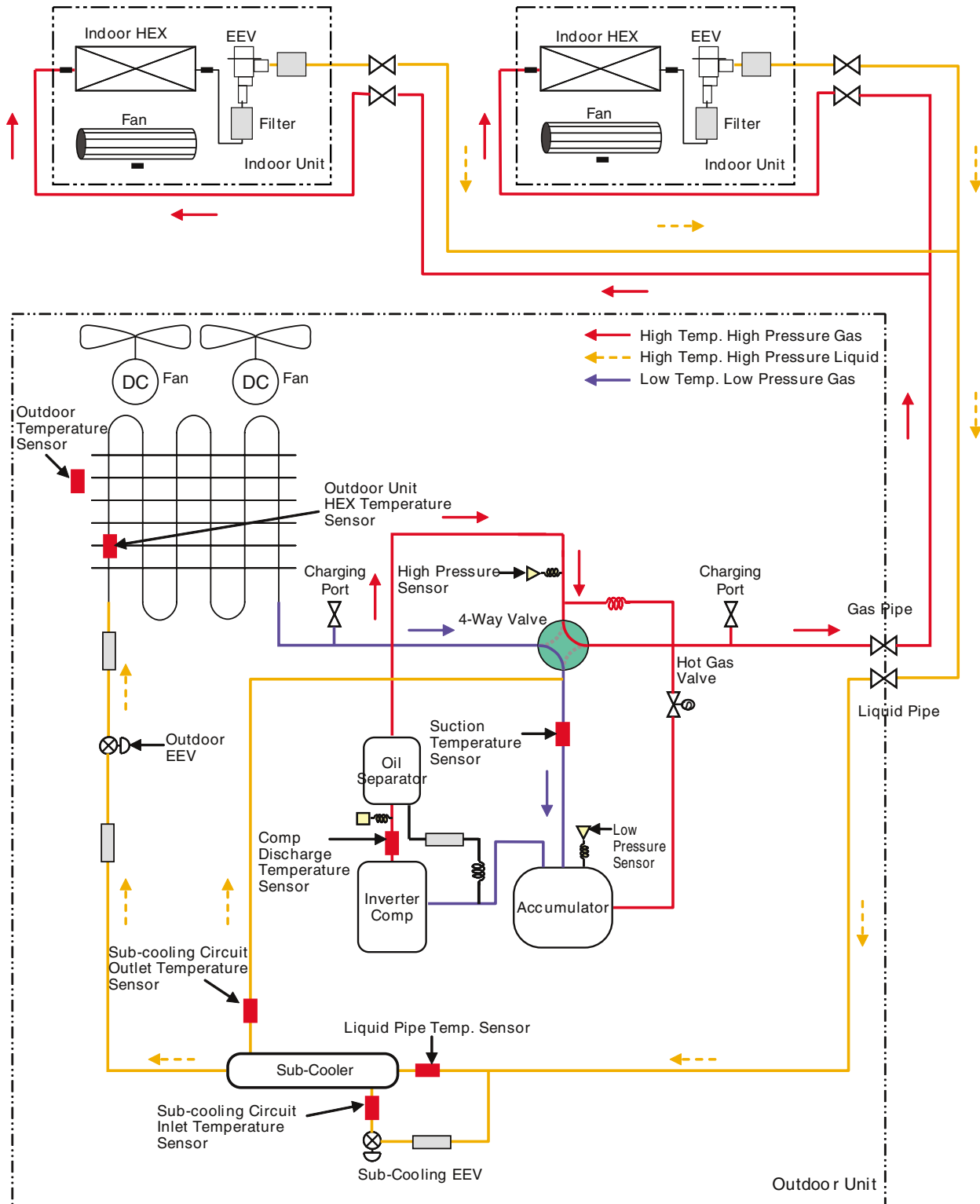
4. Piping Diagrams

Heat Pump

Cooling Operation

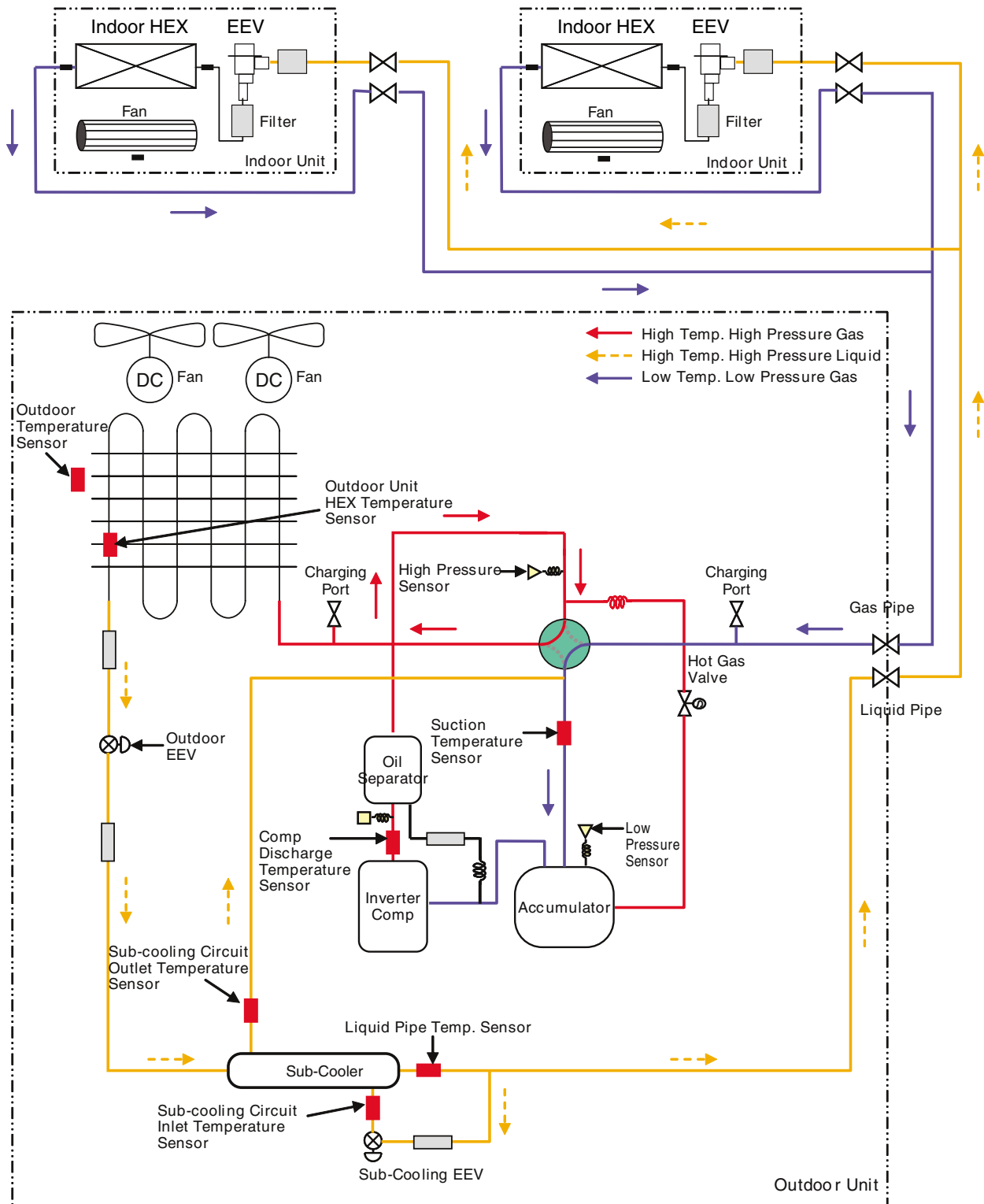


Heating Operation



Remarks	Pressure Sensor	Temperature Sensor	Solenoid valve
	Pressure Switch	SVC Valve	EEV
			Strainer

Oil Return/ Defrost Operation

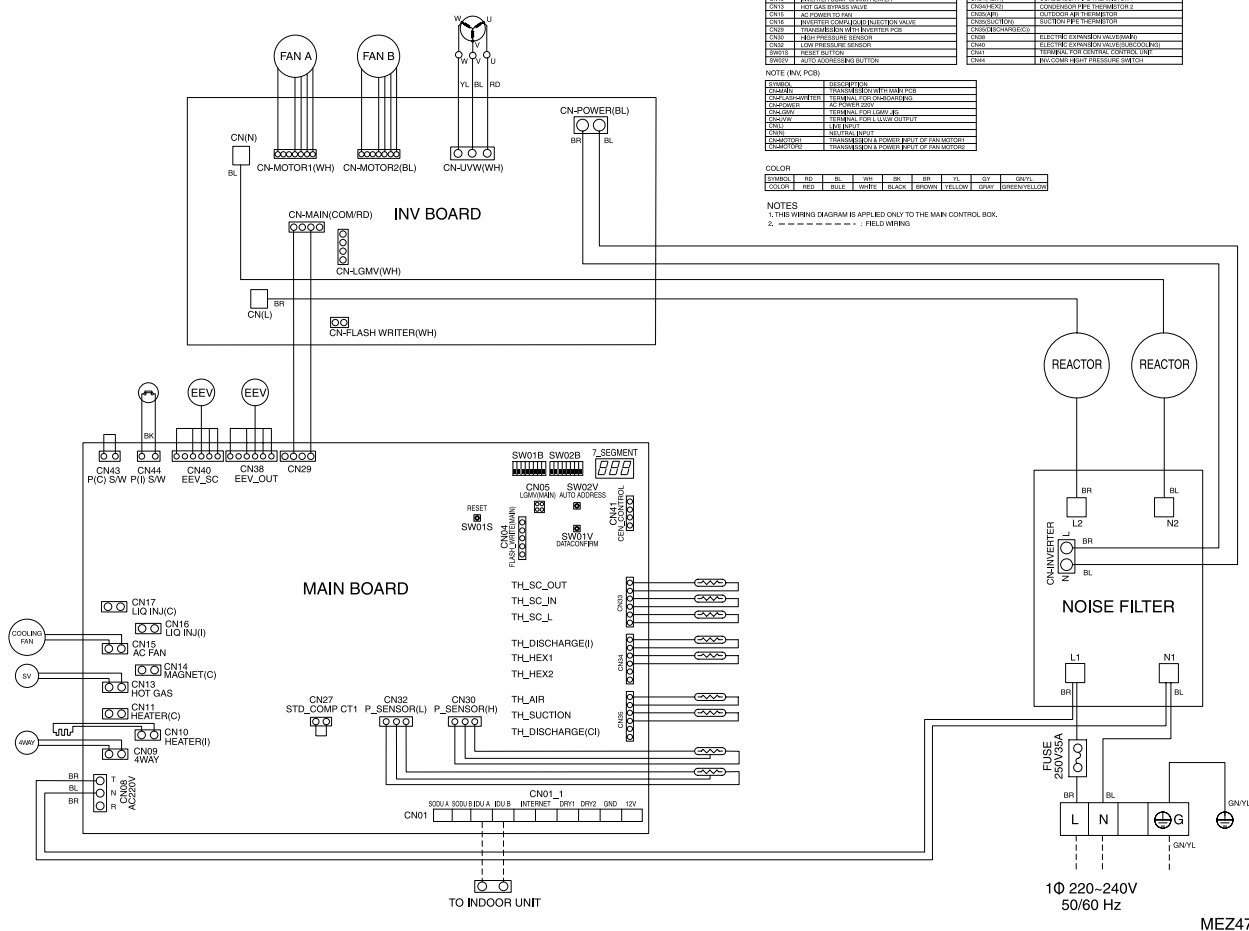


Remarks	Pressure Sensor	Temperature Sensor	Solenoid valve
	Pressure Switch	SVC Valve	EEV
			Strainer

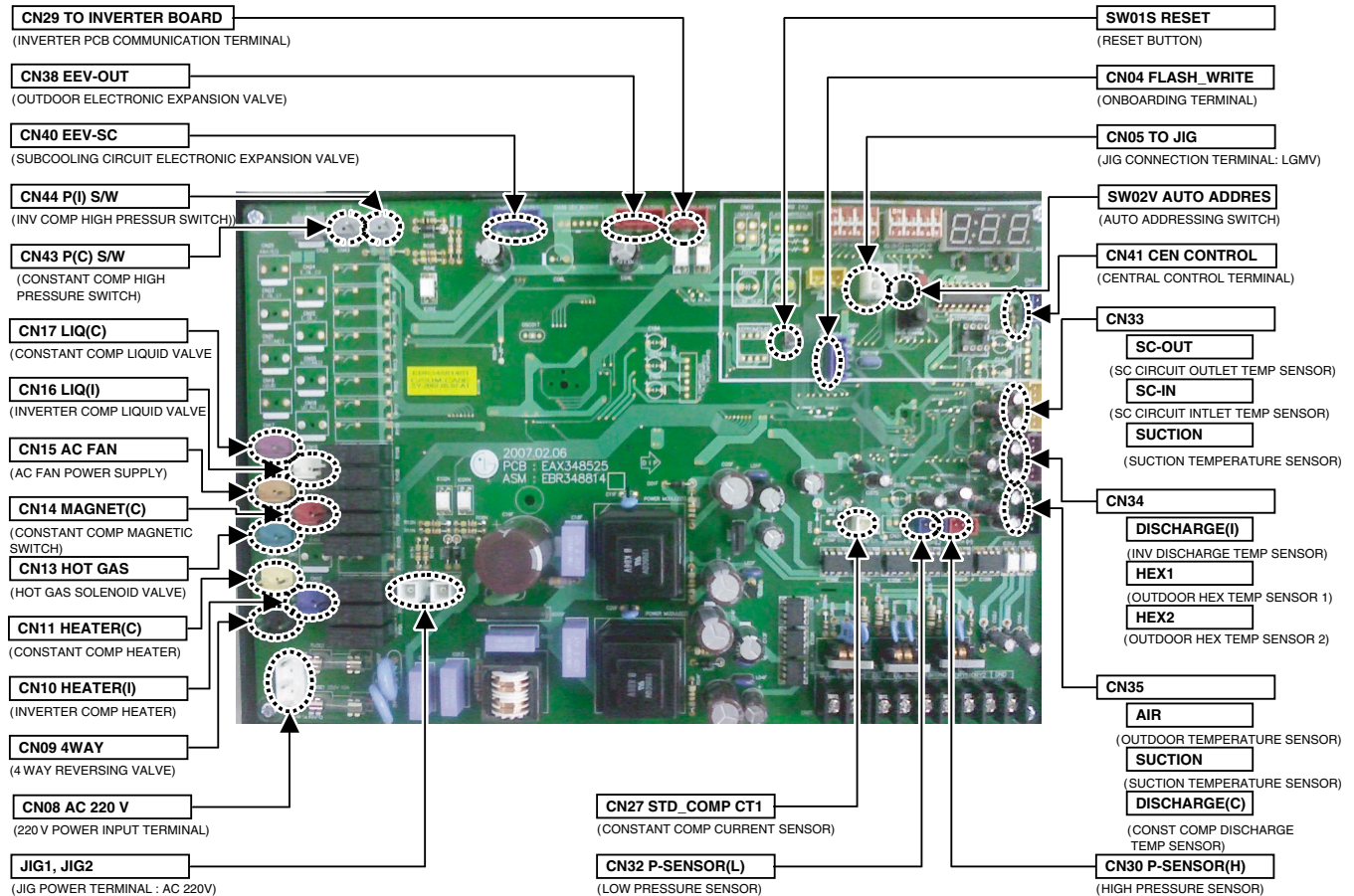
5. Wiring Diagrams

Heat Pump

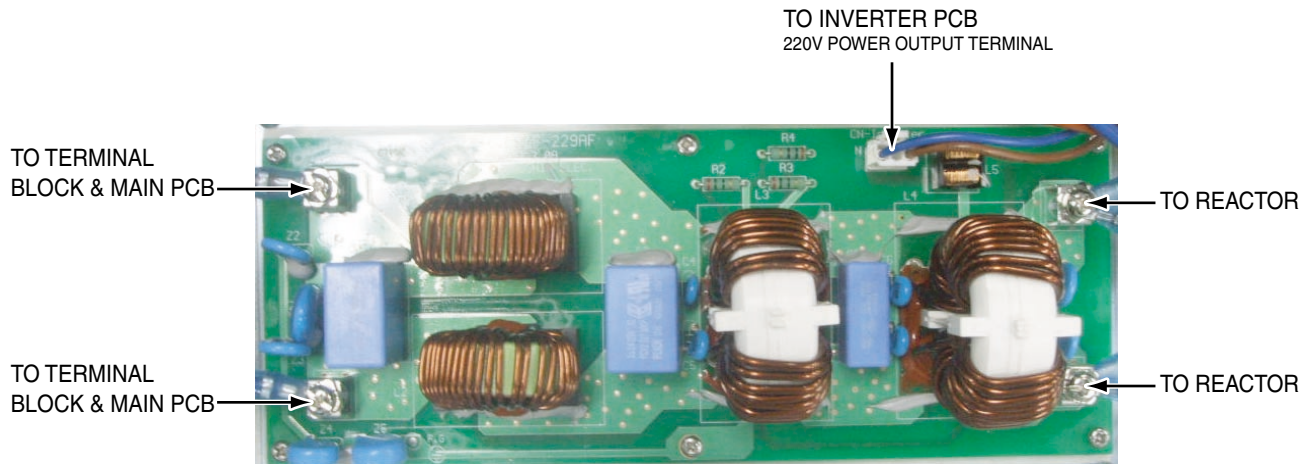
OUTDOOR WIRING DIAGRAM



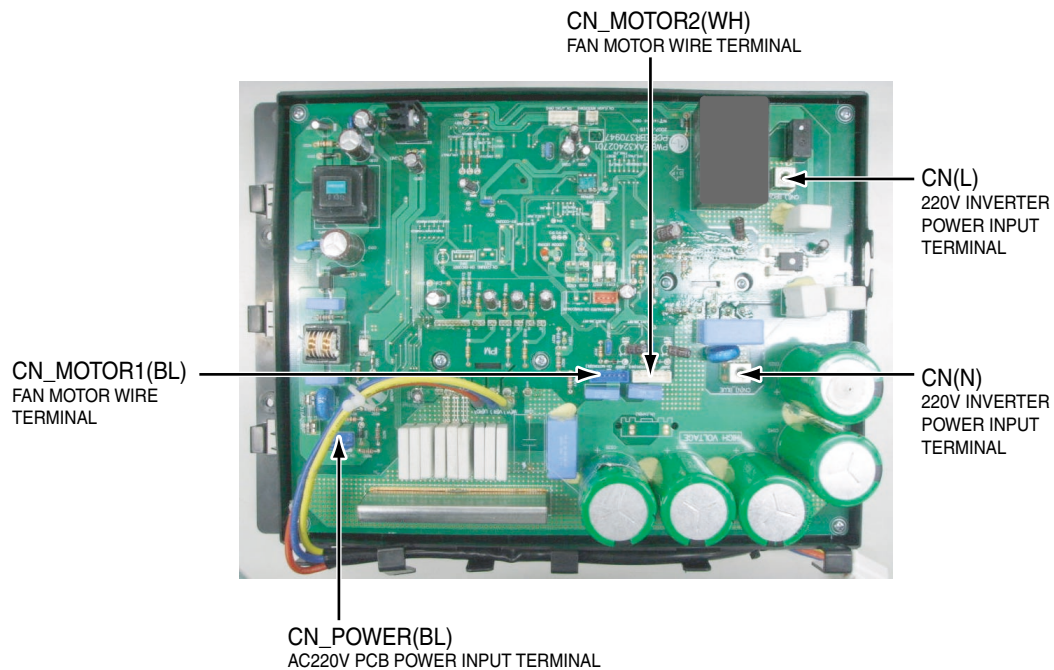
■ Main PCB



■ Noise Filter

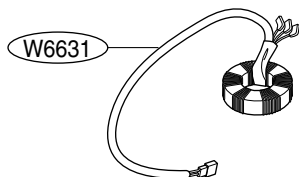
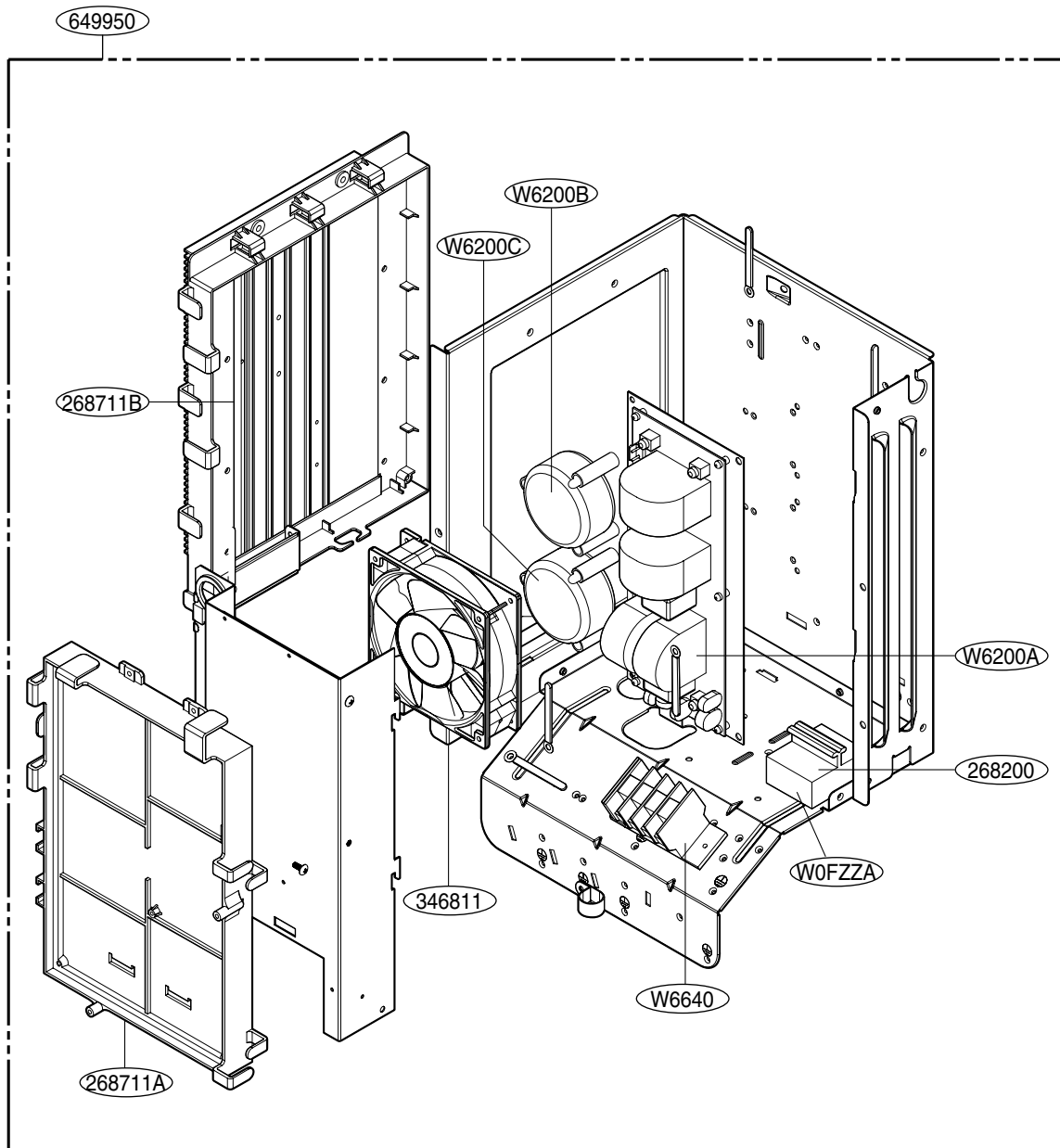


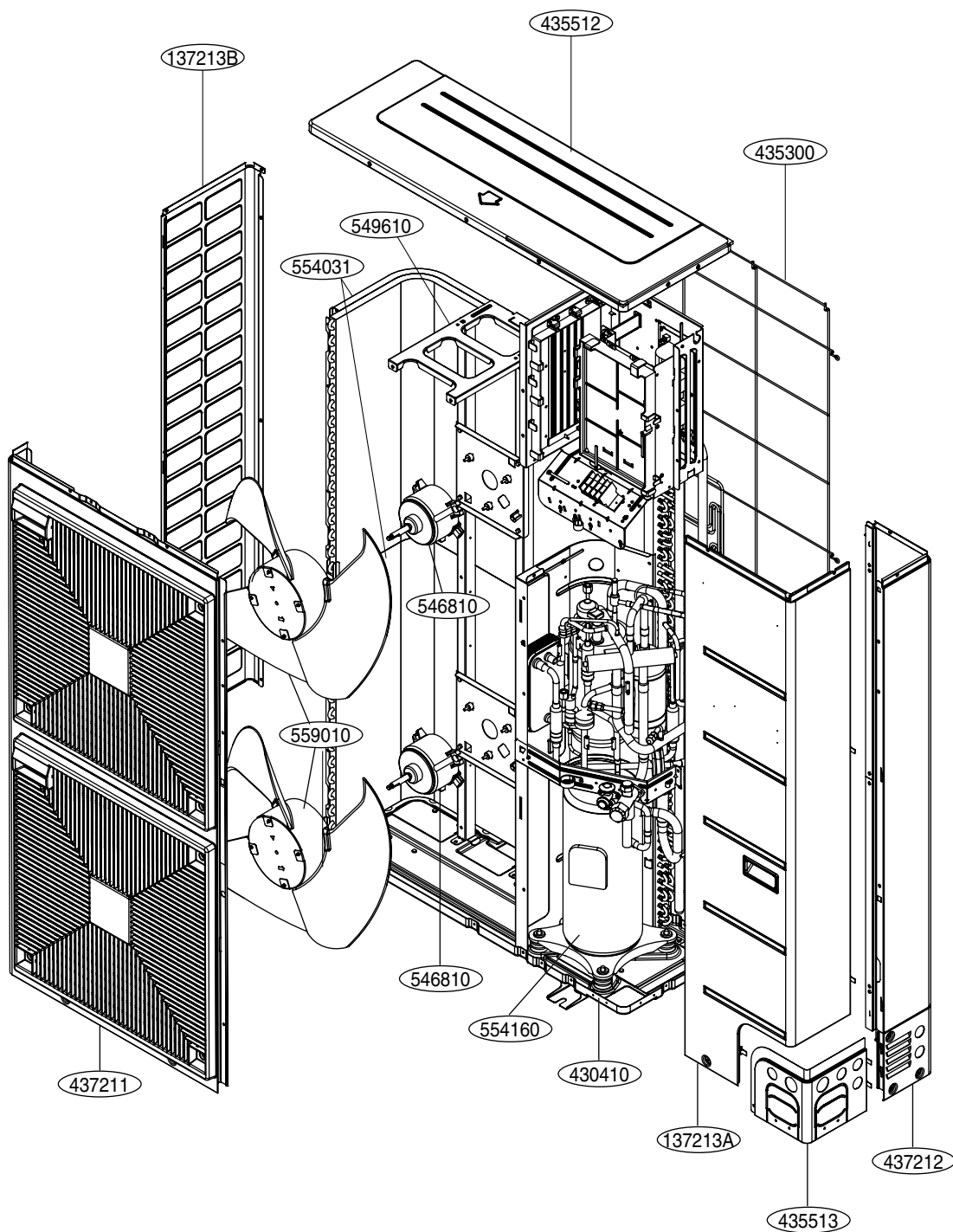
■ Inverter PCB



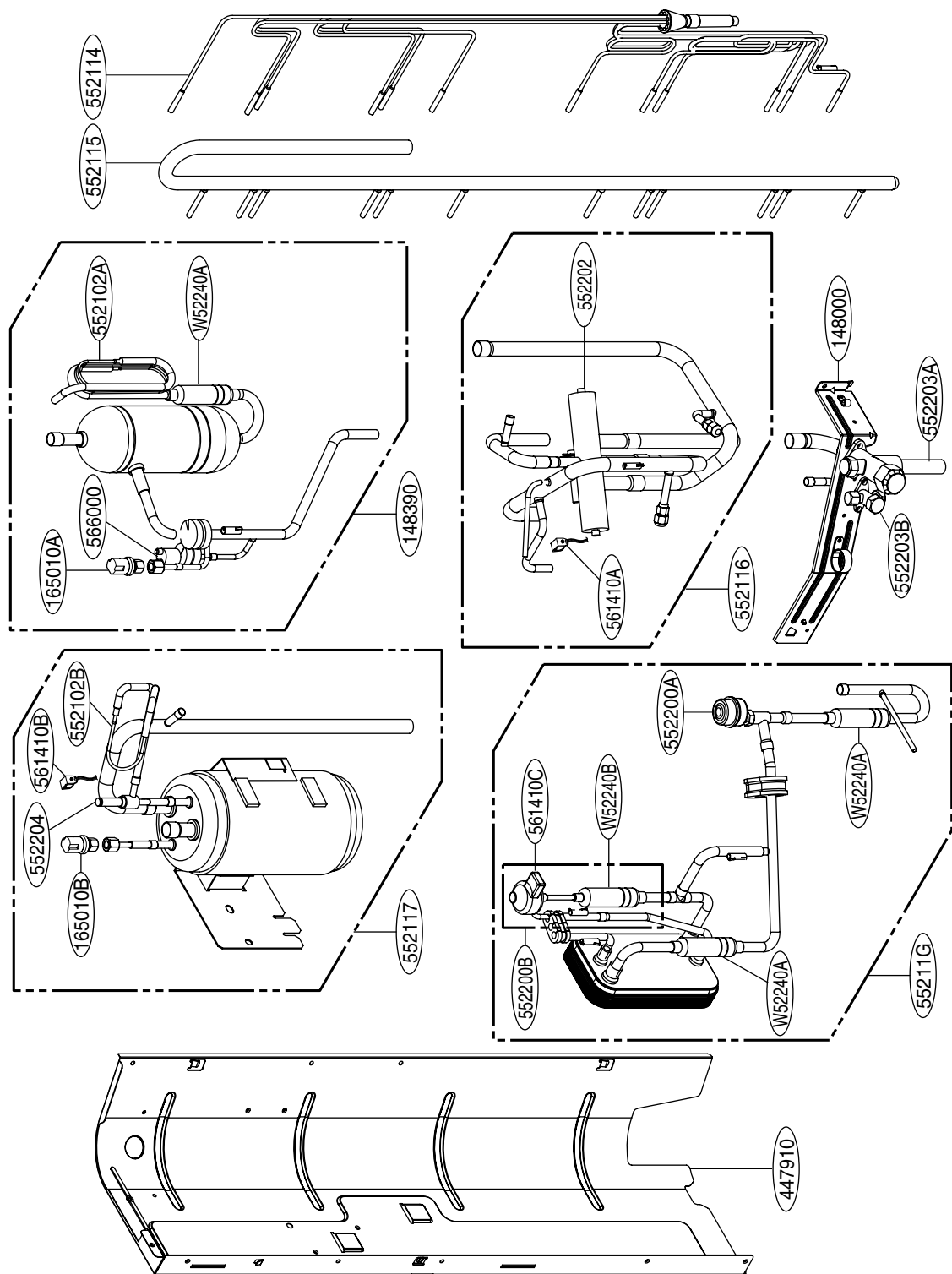
6. Exploded View

Outdoor Unit





THERMISTOR 1	263230A	Liquid Pipe + sub Cooler IN + Sub Cooler OUT	Housing color : yellow
THERMISTOR 2	263230B	Inv. discharge + HEX	Housing color : purple
THERMISTOR 3	263230C	Air + suction Pipe	Housing color : black





P/NO : MFL42395702

FEBRUARY, 2008