



SERVICE MANUAL

# AIR CONDITIONER

Please read this manual carefully before operating your set and retain it for future reference.

EXPLODED VIEW

**MULTI V**<sup>™</sup> S

ARUB060GSS4

# ARUB Series

<b>1. Specification .....</b>	<b>3</b>
<b>2. Functions .....</b>	<b>4</b>
<b>3. Dimensions .....</b>	<b>6</b>
<b>4. Piping Diagrams .....</b>	<b>7</b>
<b>5. Wiring Diagrams .....</b>	<b>12</b>
<b>6. Exploded View .....</b>	<b>15</b>

# 1. Specification

HP		6	
Model Name	Combination Unit		ARUB060GSS4
Capacity <sup>1)</sup> (Rated)	Cooling	kW	15.5
		kcal/h	13300
		Btu/h	52900
	Heating	kW	18
		kcal/h	15500
		Btu/h	61400
Input (Rated) <sup>1)</sup>	Cooling	kW	3.97
	Heating	kW	4.1
EER			3.9
COP			4.39
Power Factor <sup>6)</sup>	Rated	-	0.93
Casing Color			Warm Gray
Heat Exchanger			Gold fin
Compressor	Type	Hermetically Sealed Scroll	
	Piston Displacement	cm <sup>3</sup> /rev	43.8
	Number of Revolution	rev/min	3600
	Motor Output	W	4200
	Starting Method	Direct On Line	
Fan	Type	Axial Flow Fan	
	Motor Output x Number	W	124 x 2
	Air Flow Rate(High)	m <sup>3</sup> /min	110
		ft <sup>3</sup> /min	3885
	Drive	DC INVERTER	
Pipe Connctions	Discharge	Side / Top	Side
	Liquid	mm(inch)	Ø 9.52(3/8)
	Gas(HP)	mm(inch)	Ø 15.88(5/8)
	Gas(LP)	mm(inch)	Ø 19.05(3/4)
Dimensions(W x H x D)	mm		950 x 1,380 x 330
	inch		37-13/32 x 54-11/32 x 13
Net Weight	kg		118
Gross Weight	kg		132
Sound Pressure Level	Cooling	dB(A)	56
	Heating	dB(A)	58
Sound Power Level	dB(A)		69
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch
	Compressor/Fan	-	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection
Communication Cable	No.xmm <sup>2</sup> (VCTF-SB)		2C x 1.0 ~ 1.5
Refrigerant	Refrigerant name	R410A	
	Precharged Amount	kg	3.5
	Control	Electronic Expansion Valve	
Refrigerant Oil	Oil Type	FVC68D(PVE)	
	Oil Charge	2900	
Power Supply	V, Ø, Hz		220-240, 1, 50
			220, 1, 60
Number of maxmum connectable indoor units <sup>2)</sup>			13

**Notes:**

1. Nominal capacity applied with non-ducted indoor units, and is rated 0 ft. above sea level with 25 ft. of refrigerant line per indoor unit and a 0 ft. level difference between outdoor and indoor units. All capacities are net with a Combination Ratio between 95-105%.

Nominal cooling capacity rating obtained with air entering the indoor unit at 80°F dry bulb (DB) and 67 °F wet bulb (WB) and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

Nominal heating capacity rating obtained with air entering the indoor unit at 70°F dry bulb (DB) and 59°F wet bulb (WB) and outdoor ambient conditions of 47°F dry bulb (DB) and 43°F wet bulb (WB).

2. Rated capacity is certified under AHRI Standard 210 / 240 See www.ahrinet.org for information.

3. The System Combination Ratio must be between 50-130%.

4. Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745.

5. All communication cable to be minimum 18 AWG, 2-conductor, stranded and must comply with applicable local and national codes.

6. Power wiring cable is field provided and must comply with the applicable local and national codes. See below for detailed electrical data.

7. Refer to the Refrigerant Piping section of this manual for correct line sizing. Contractor must use LG manufactured Y-Branch and Header Kits only. Designer must verify refrigerant piping design configuration using LG's computerized refrigerant piping (LATS Multi V) software to validate the pipe design.

## 2. Functions

### ■ Basic functions

Category	Functions	Multi V S HR
Reliability	Defrost / Deicing	O
	High pressure switch	O
	Phase protection	O
	Restart delay (3-minutes)	O
	Self diagnosis	O
	Soft start	O
	Test Run function	X
Convenience	Night Silent Operation	O
CAC network function	Network solution(LGAP)	O

**Note :**

O : Applied, X : Not applied

## ■ Network solution Accessory List

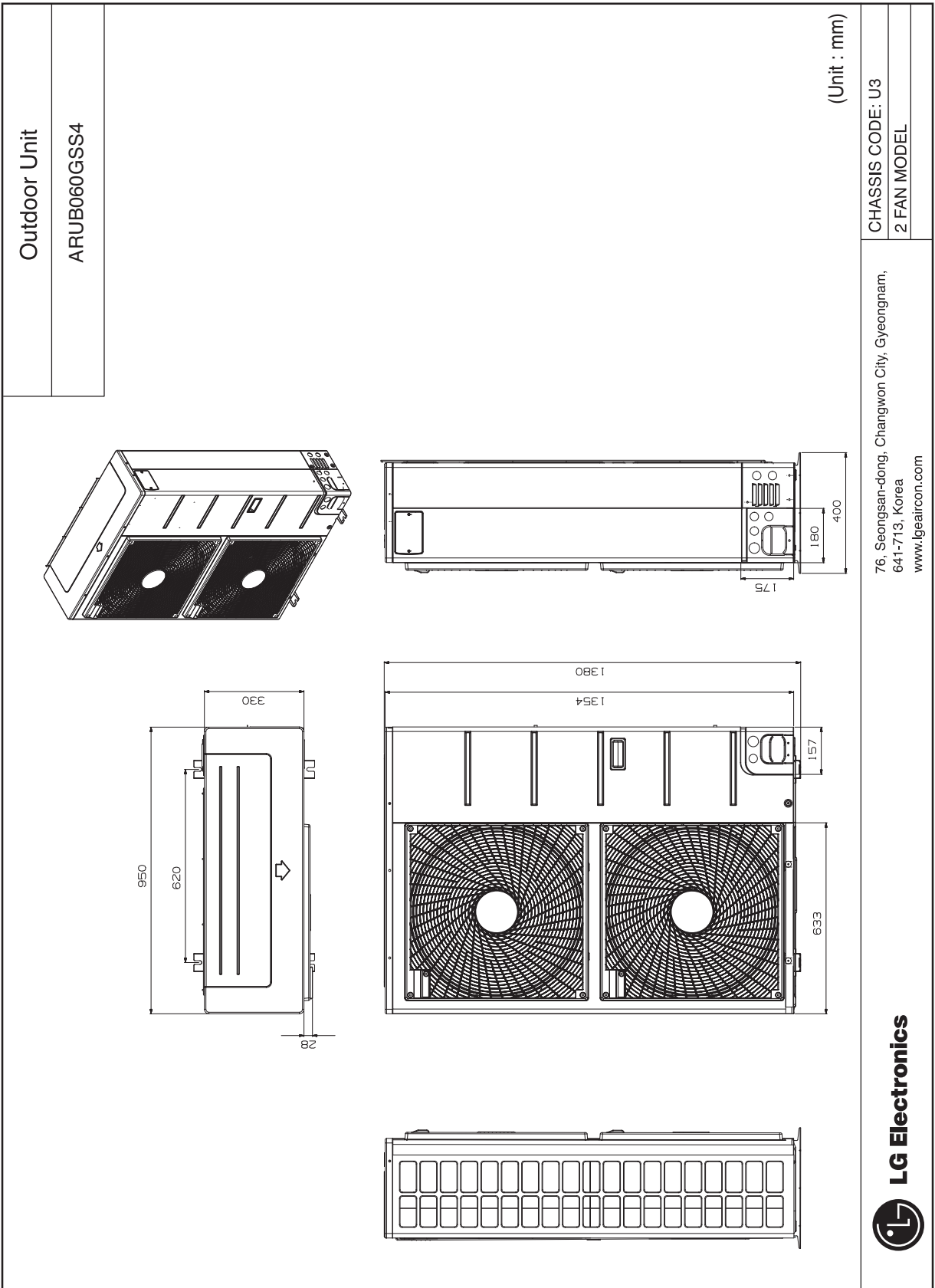
Device		Multi V S HR
Central Controller	AC Ez (Simple Controller)	PQCSZ250S0
	AC Smart II	PQCSW320A1E
	AC Smart Premium	PQCSW421E0A
	128 Unit Expansion Kit for AC Smart	PQCSE440U0
	Option Kit (SD card type) for AC Smart	PQCSE341A0 / PQCSE342A0
	ACP(Advanced Control Platform)	PQCPA11A0E / PQCPB11A0E
	AC Manager	PQCSS520A0E
	ACP(Advanced Control Platform) Standard	PQCPC22N0
	ACP(Advanced Control Platform) Premium	PQCPC22A0
	AC Manager Plus	PQCSSA21E0
	DO(Digital Output) Kit	PQNFP00T0
BNU (Building Network Unit)	LONWORKS Gateway (DC 12V Adapter)	PQNFB16A1 / PLNWKB000
	LONWORKS Gateway (AC 24 V)	X
	BACnet Gateway (DC 12V Adapter)	PQNFB17B0 / PQNFB17C0
	BACnet Gateway (AC 24 V)	X
Installation	Refrigerant Charging Kit	O (Logical operation)
	Variable Water Flow Control Kit	X
PDI(power distribution indicator)		PQNUD1S00
PDI(power distribution indicator) Premium		PQNUD1S40
Cool / Heat Selector		PRDSBM
IO Module (ODU Dry Contact)		PVDSMN000
Low Ambient Kit		X
Cycle Monitoring Device	LG MV	PRCT-FE1
	Mobile LGMV(Bluetooth)	PMVBTQ01
DS(Data Saving) Module		PVADTN000
Internet Bridge		PWFMD000
ACP IV		PACP4B000.ENCXLUS
AC Smart IV		PACS4B000
BACNET VERSION ACS4		PCBACNA000
IO Module (ACP4 & ACSmart4)		PEXPMB000
24VAC Dry Contact for Thermostat		PDRYCB300
Dry Contact Simple 24VAC		PQDSA1 SB1
Dry Contact With Economizer Interface		PQDSBC1
DO Kit (Bacnet Compatible)		PQNFP00T0
PI-485 Gateway for ODU and DFS		PMNFP14A0
2 Relay Auxiliary Heat Kit		PRARH1
Heat Cool Selector Switch		PRDSBM
PDI Standard		PPWRDB000
LG Premium Touch Thermostat		PREMTA000
LG Programmable Thermostat (manufactured after April 30, 2015)		PREMTB10U

**Note :**

O : Applied, X : Not applied

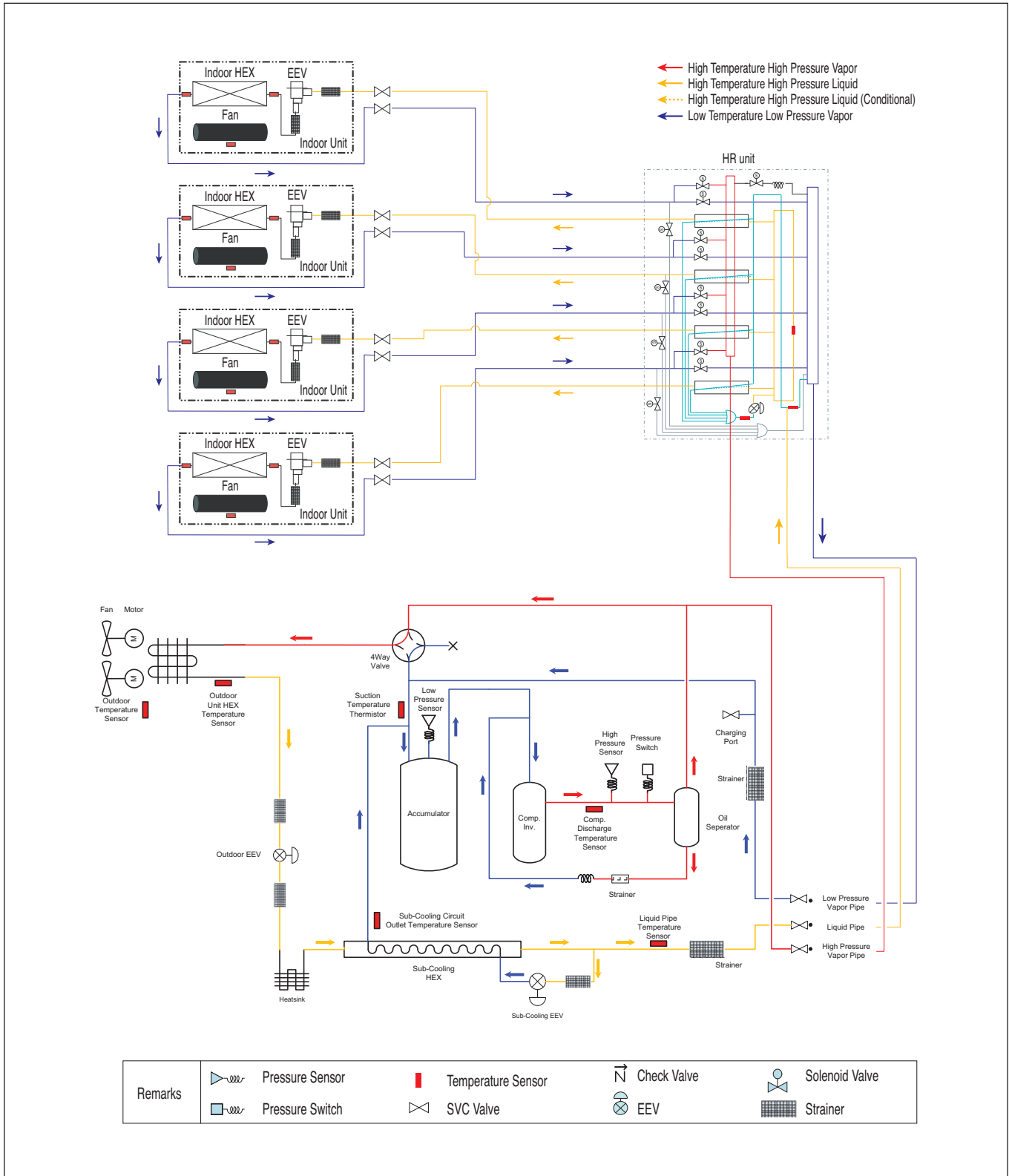
Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

# 3. Dimensions

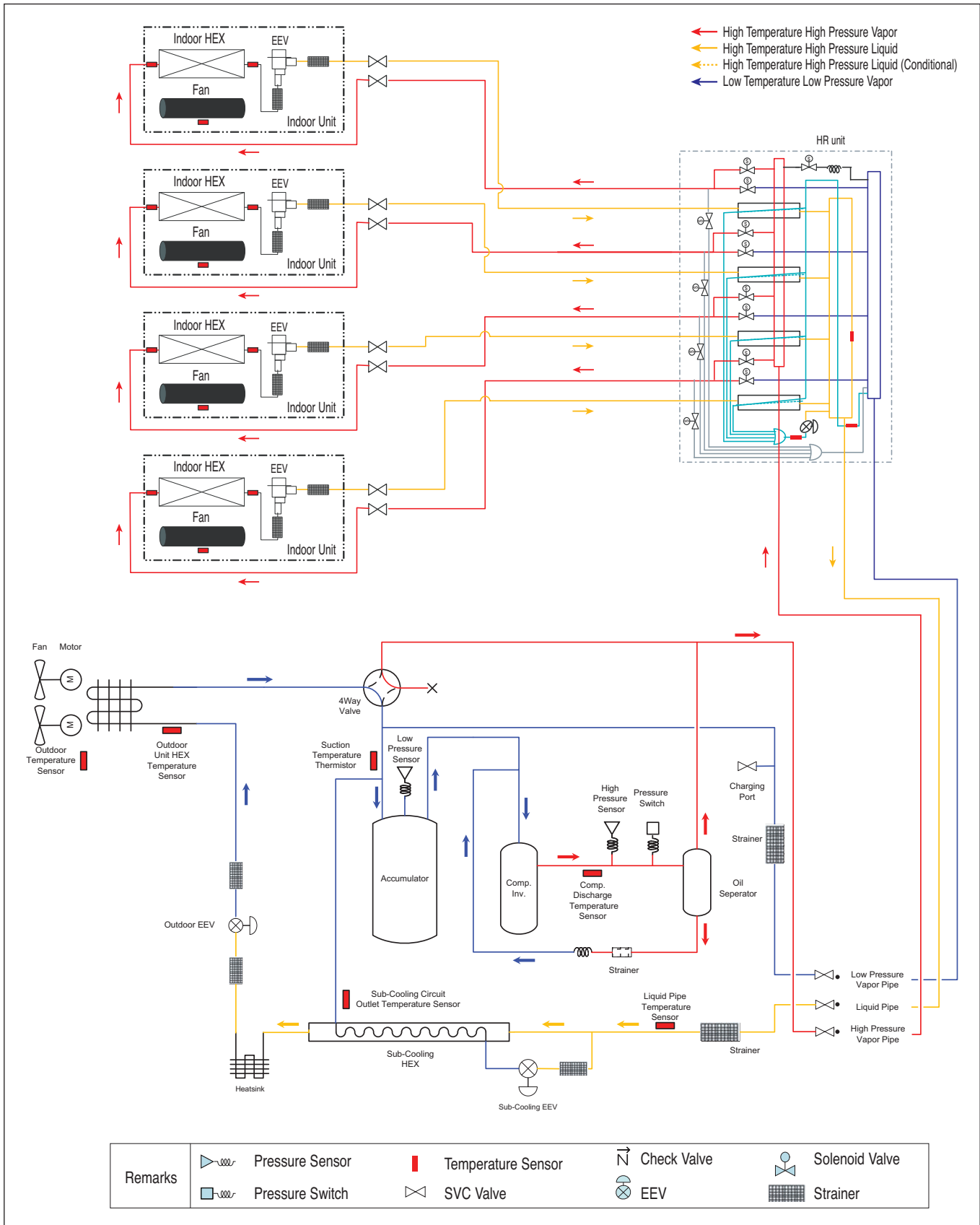


# 4. Piping Diagrams

## Heat Recovery – Cooling Mode

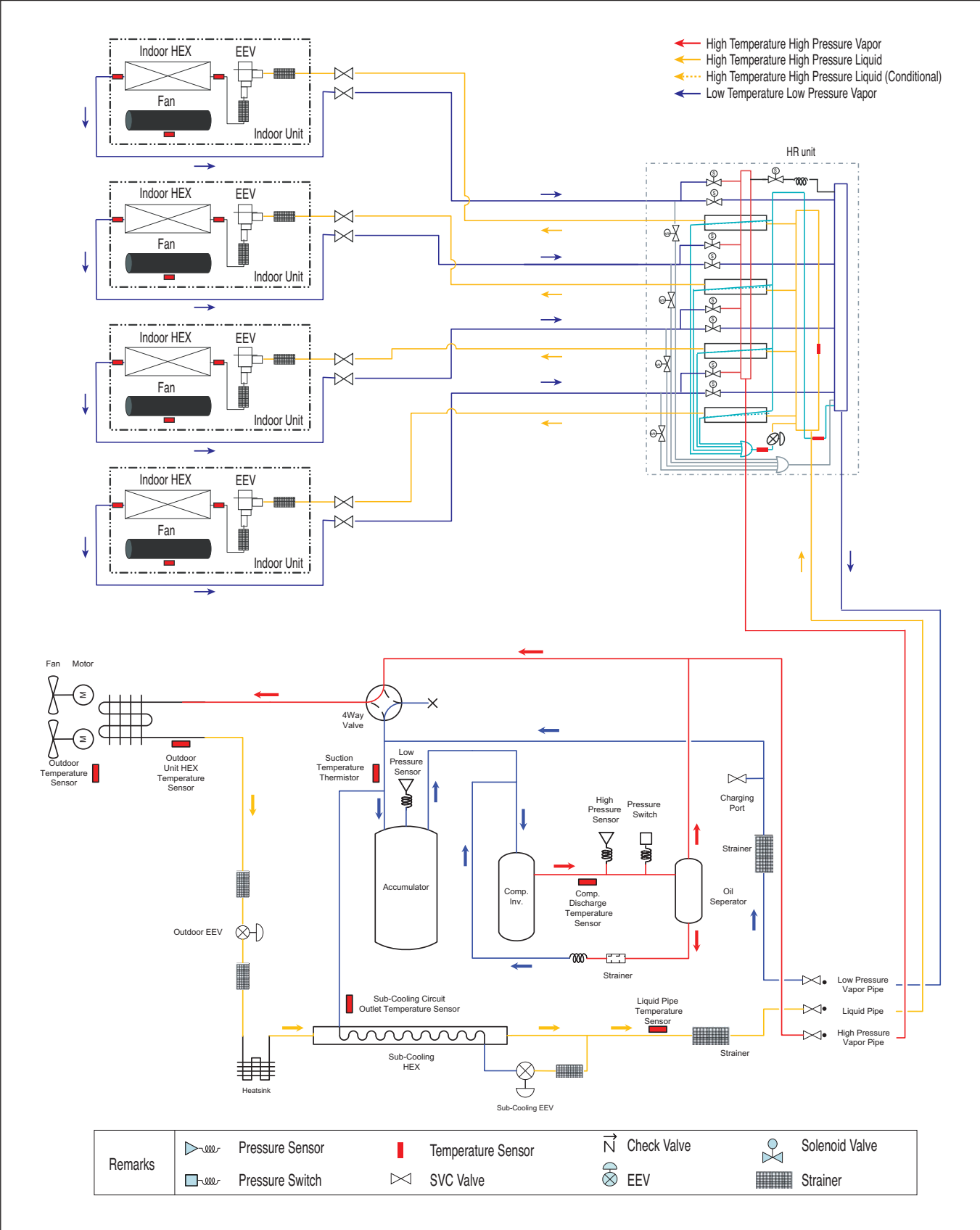


# Heat Recovery – Heating Mode

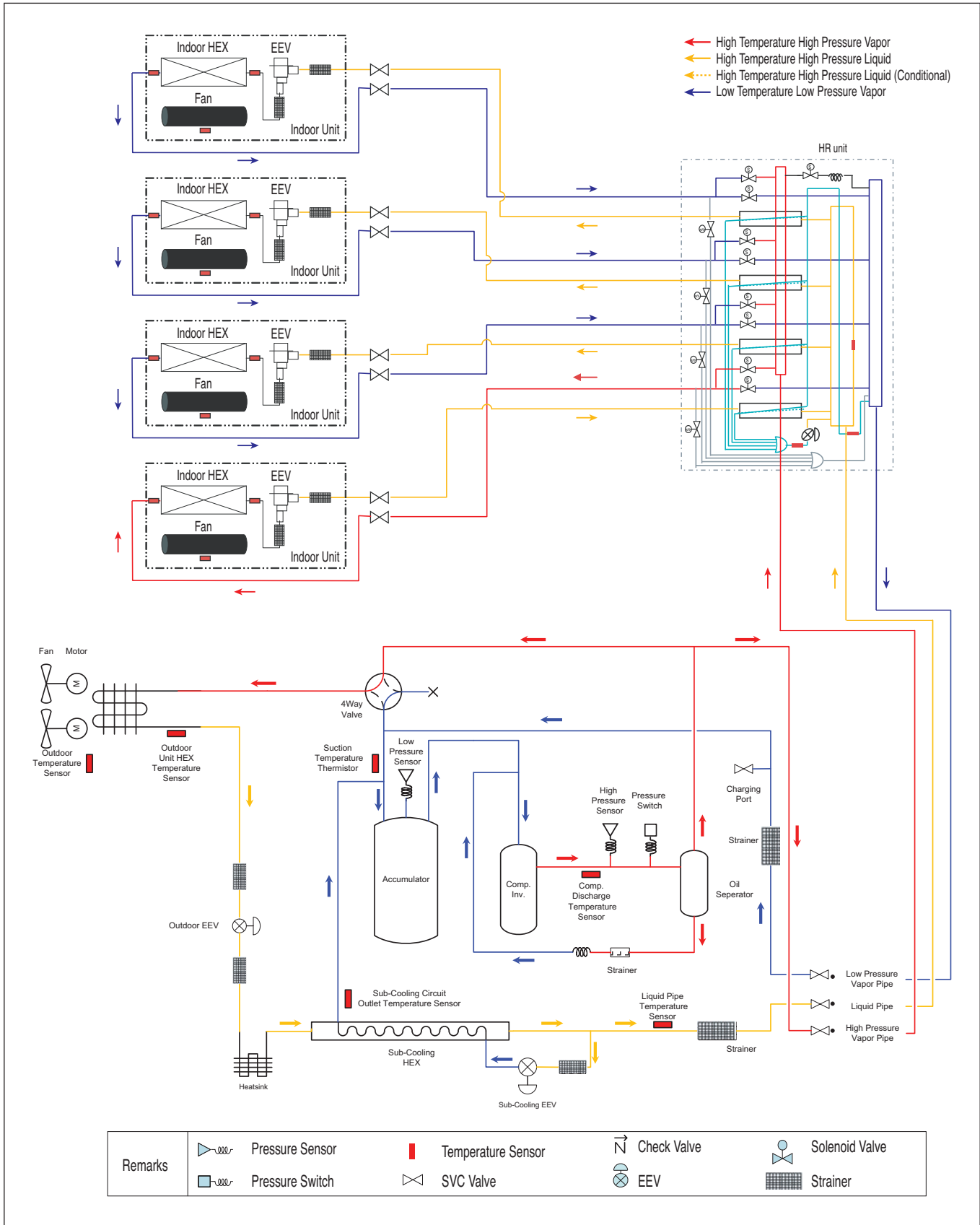




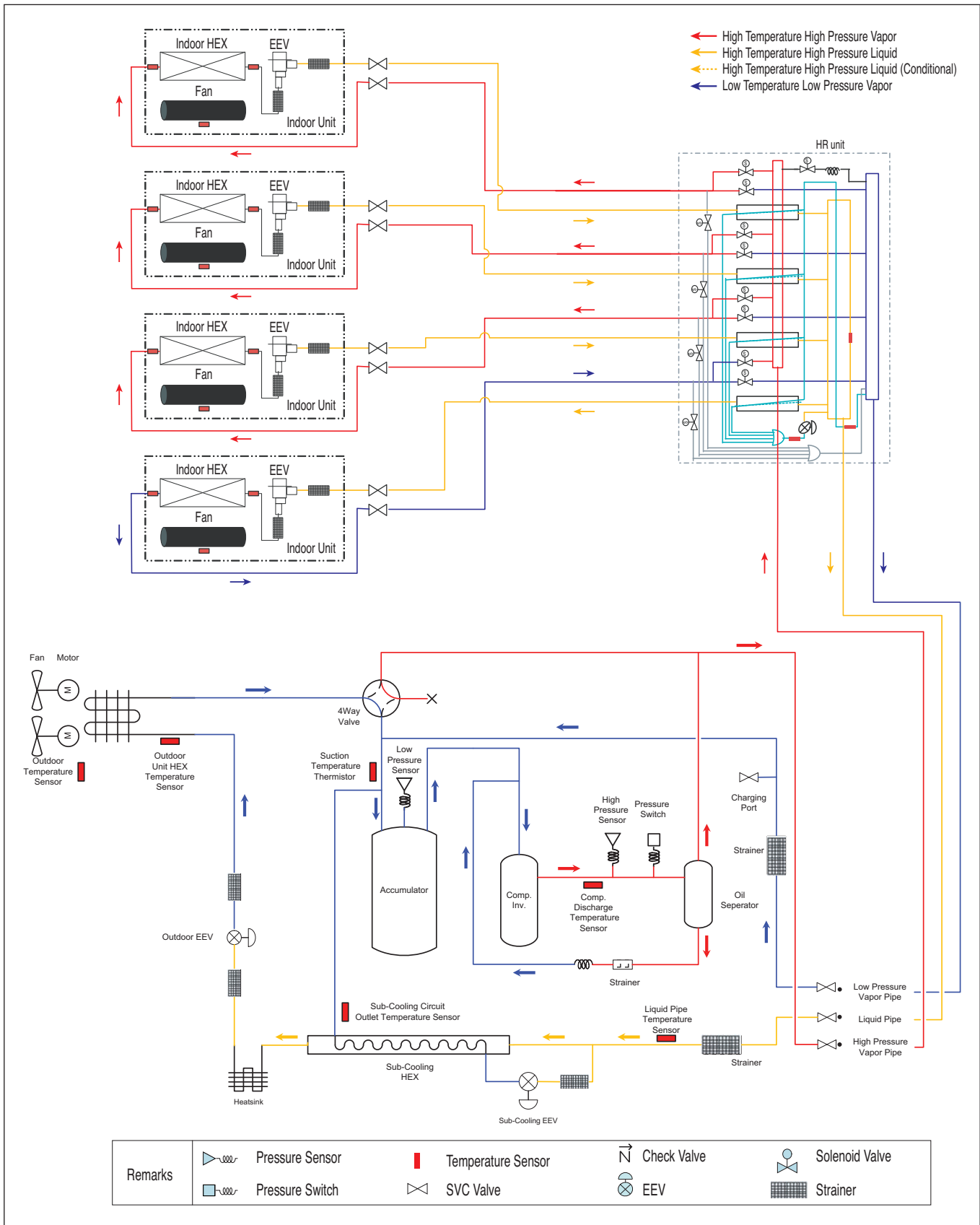
# Heat Recovery – Oil Return and Defrost Operation



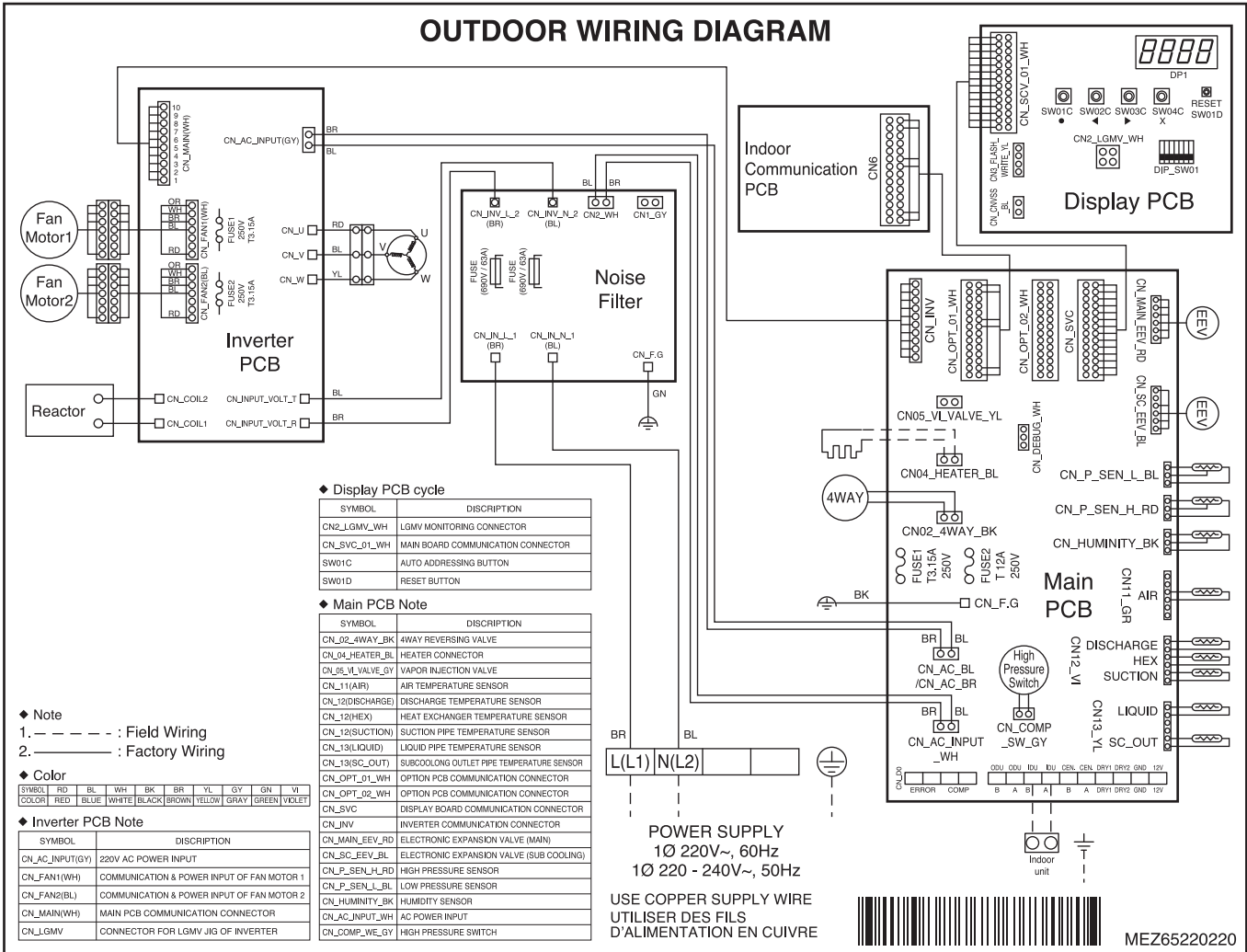
**Heat Recovery – Cooling-based Simul. Operation**



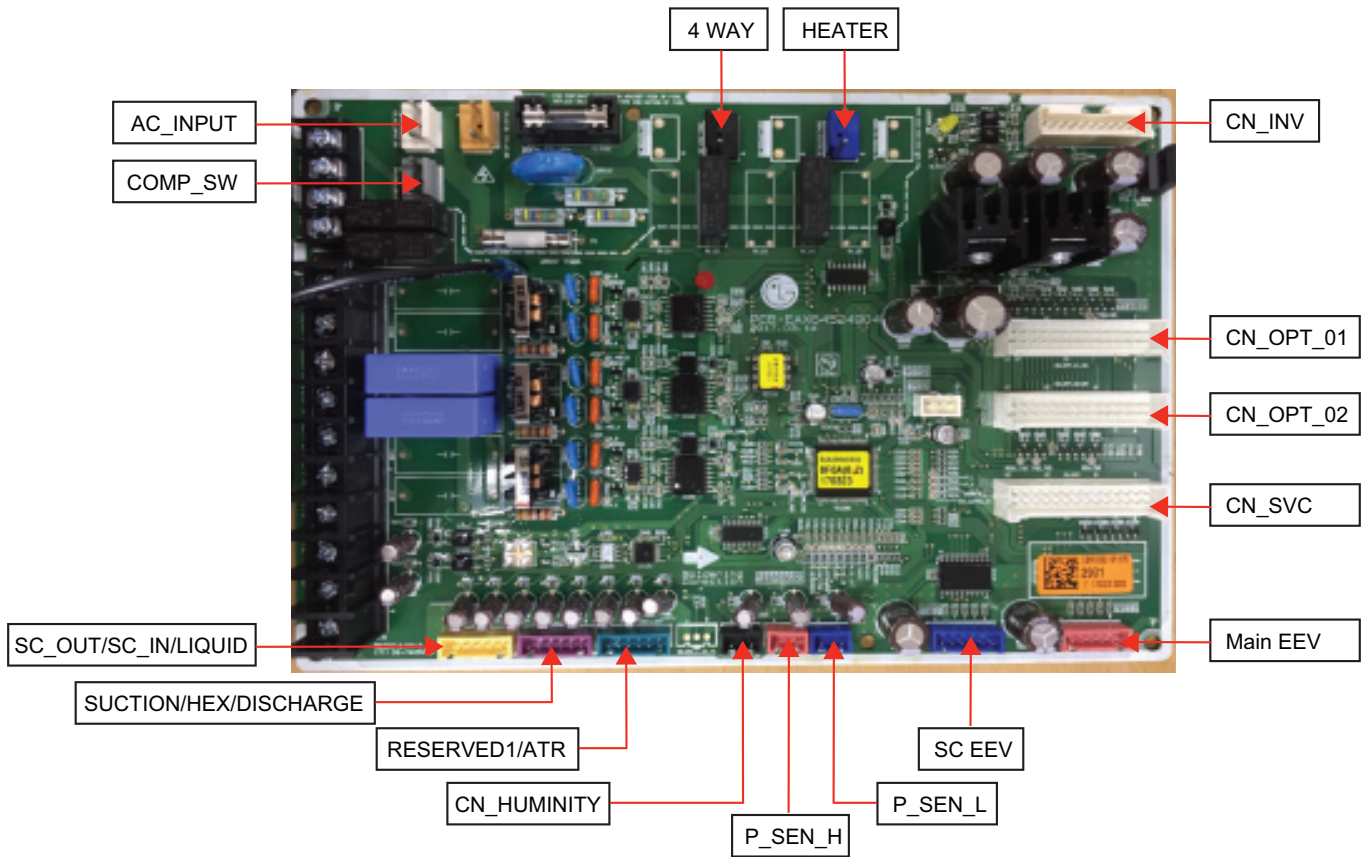
## Heat Recovery – Heating-based Simul. Operation



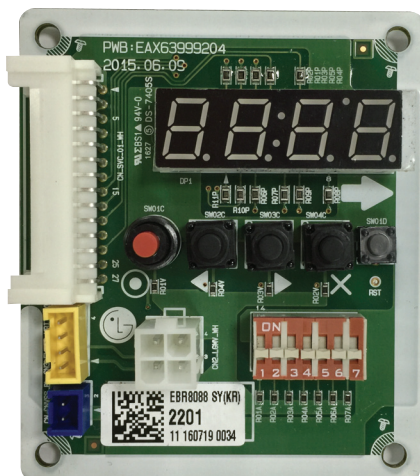
# 5. Wiring Diagrams



■ Main PCB



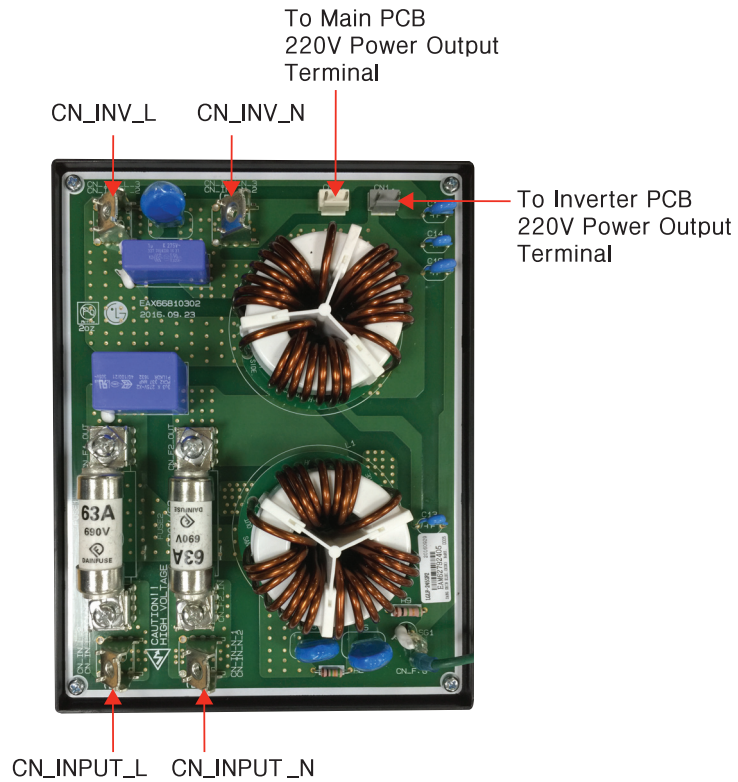
■ Service PCB



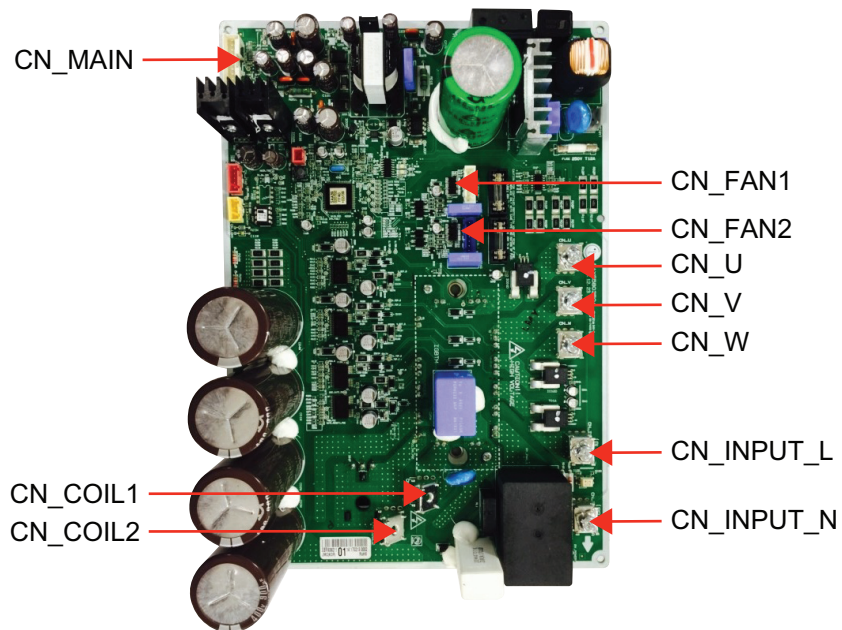
■ Indoor Communication PCB



■ Noise Filter 1Ø



■ Inverter PCB

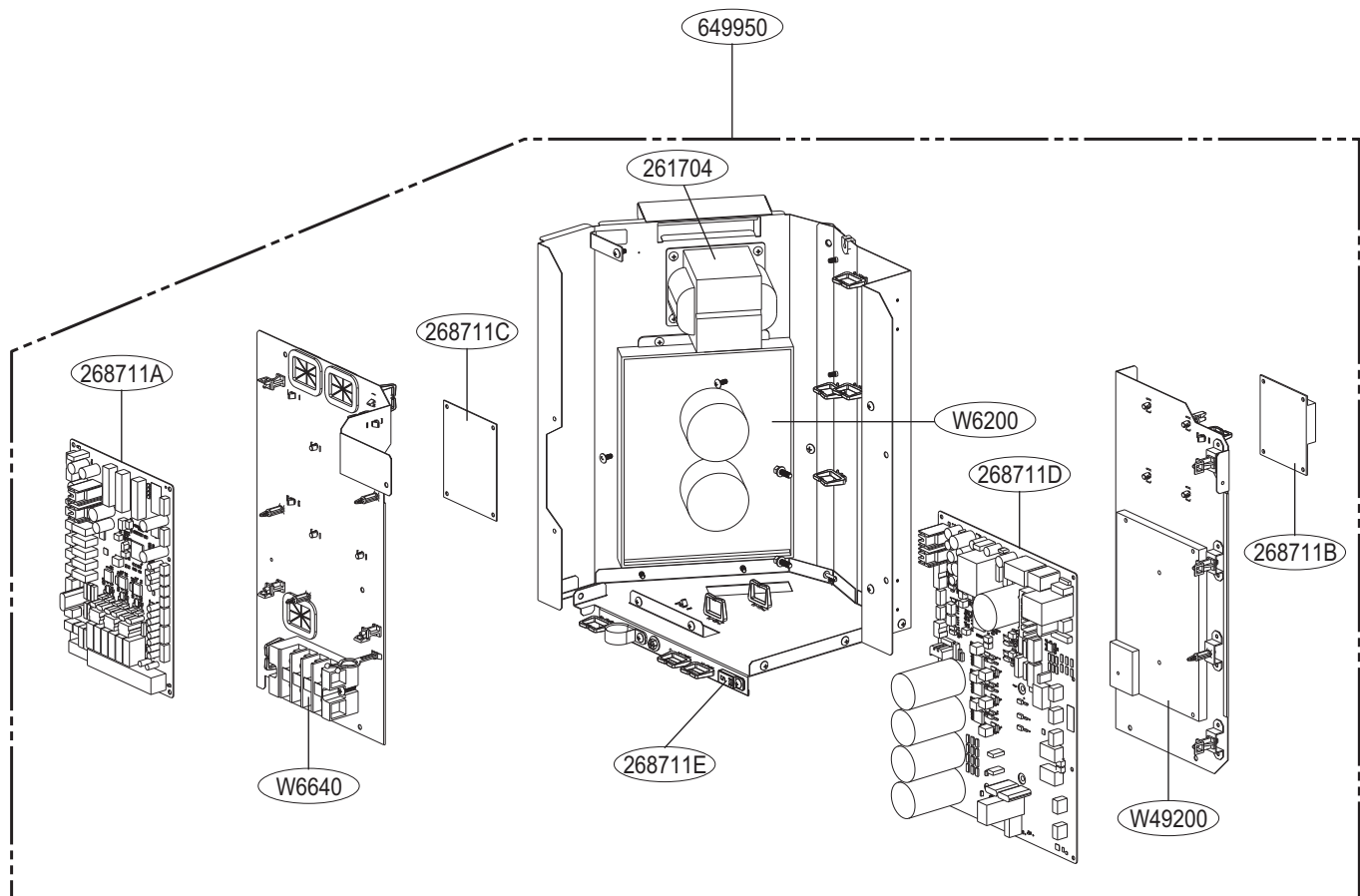


6HP

# 6. Exploded View

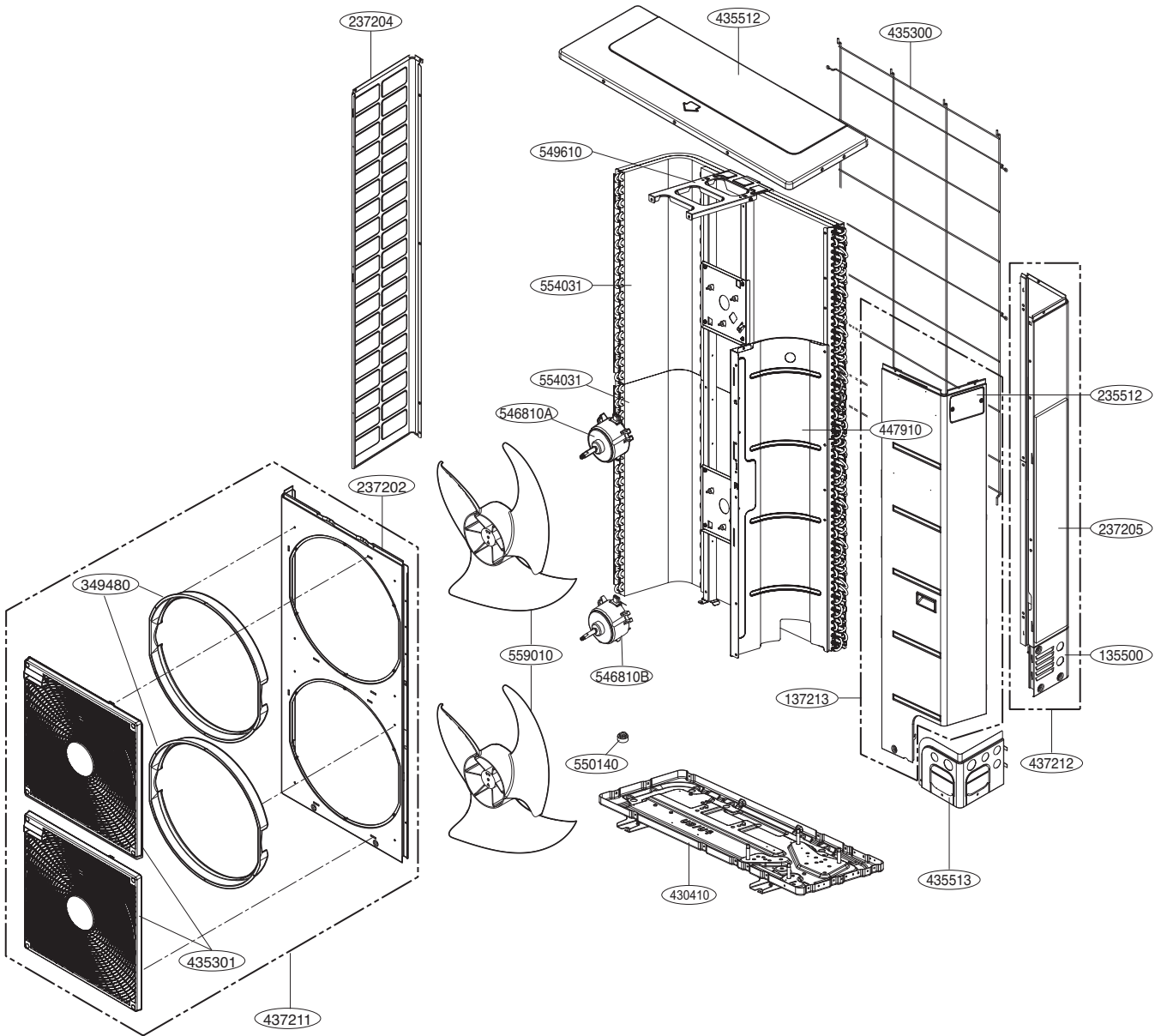
## Control Box

■ U3 chassis 1Ø, ARUB060GSS4



SVC Location	Applied	Housing color
263230A	Subcool out pipe + liquid pipe	yellow
263230B	Suction pipe + hex + discharge pipe	purple
263230C	Air temperature sensor	green

# Mechanical Parts and Panels





**Cycle Parts**

