



CONFIDENTIAL

***MULTI V***™ S

**Air Conditioner**

**SVC MANUAL(Exploded View)**

**MODEL : ARUB060GSS4**

**CAUTION**

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

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# ARUB / ARUN 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>15</b>
<b>6. Exploded View .....</b>	<b>18</b>

# 1. Specification

Ton			5	5
Model Name	Combination Unit		ARUB060GSS4	ARUN060GSS4
	Independent Unit			
Capacity 1), 2)	Cooling Nominal	Btu/h	60,000	60,000
	Cooling Rated		60,000	60,000
	Heating Nominal	Btu/h	64,000	64,000
	Heating Rated		64,000	64,000
Casing Color			Warm Gray / Morning Gray	Warm Gray / Morning Gray
Heat Exchanger			Gold fin	Gold fin
Compressor	Type		Hermetically Sealed Scroll	Hermetically Sealed Scroll
	Piston Displacement	cm <sup>3</sup> /rev	43.8	43.8
	Number of Revolution	rev/min	3,600	3,600
	Motor Output x Number	W x No.	4 200 x 1	4 200 x 1
	Starting Method		DC Inverter Starting	DC Inverter Starting
	Oil Type		FVC68D(PVE)	FVC68D(PVE)
	Oil Charge	cc	1,200	1,200
Fan	Type		Axial Flow Fan	Axial Flow Fan
	Motor Output x Number	W	124 x 2	124 x 2
	Air Flow Rate(High)	m <sup>3</sup> /min	110	110
		ft <sup>3</sup> /min	3,885	3,885
	Drive		DC INVERTER	DC INVERTER
Piping Connections	Liquid	mm(inch)	9.52(3/8)	9.52(3/8)
	High Pressure Vapor	mm(inch)	15.88(5/8)	-
	Low Pressure Vapor	mm(inch)	19.05(3/4)	19.05(3/4)
Dimensions(W x H x D)	mm		950×1380×330	950×1380×330
	inch		37.4 × 54.3 × 13.0	37.4 × 54.3 × 13.0
Net Weight	kg		118	118
	lbs		260	260
Sound Pressure Level 3)	Cooling	dB(A)	57	57
	Heating	dB(A)	59	59
Sound Power Level 4)		dB(A)	69	69
Protection Devices	High pressure protection	-	High pressure sensor / High pressure switch	High pressure sensor / High pressure switch
	Compressor/ Fan	-	Over-heat protection / Fan driver overload protector	Over-heat protection / Fan driver overload protector
	Inverter	-	Over-heat protection / Over-current protection	Over-heat protection / Over-current protection
Cable		No.xmm <sup>2</sup> (VCTF)	2C x 1.0 ~ 1.5	2C x 1.0 ~ 1.5
Refrigerant	Refrigerant name		R410A	R410A
	Precharged Amount	kg	3.5	3.5
		lbs	7.7	7.7
Control			Electronic Expansion Valve	Electronic Expansion Valve
Power Supply		V, Ø, Hz	208/230, 1, 60	208/230, 1, 60
Number of maximum connectable indoor units 2)			12	12

**Notes:**

- 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).
- Rated capacity is certified under AHRI Standard 210 / 240 See [www.ahrinet.org](http://www.ahrinet.org) for information.

- The System Combination Ratio must be between 50–130%.
- Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745.
- All communication cable to be minimum 18 AWG, 2-conductor, stranded and must comply with applicable local and national codes.
- Power wiring cable is field provided and must comply with the applicable local and national codes. See below for detailed electrical data.
- 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 5RT (HR/HP)
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

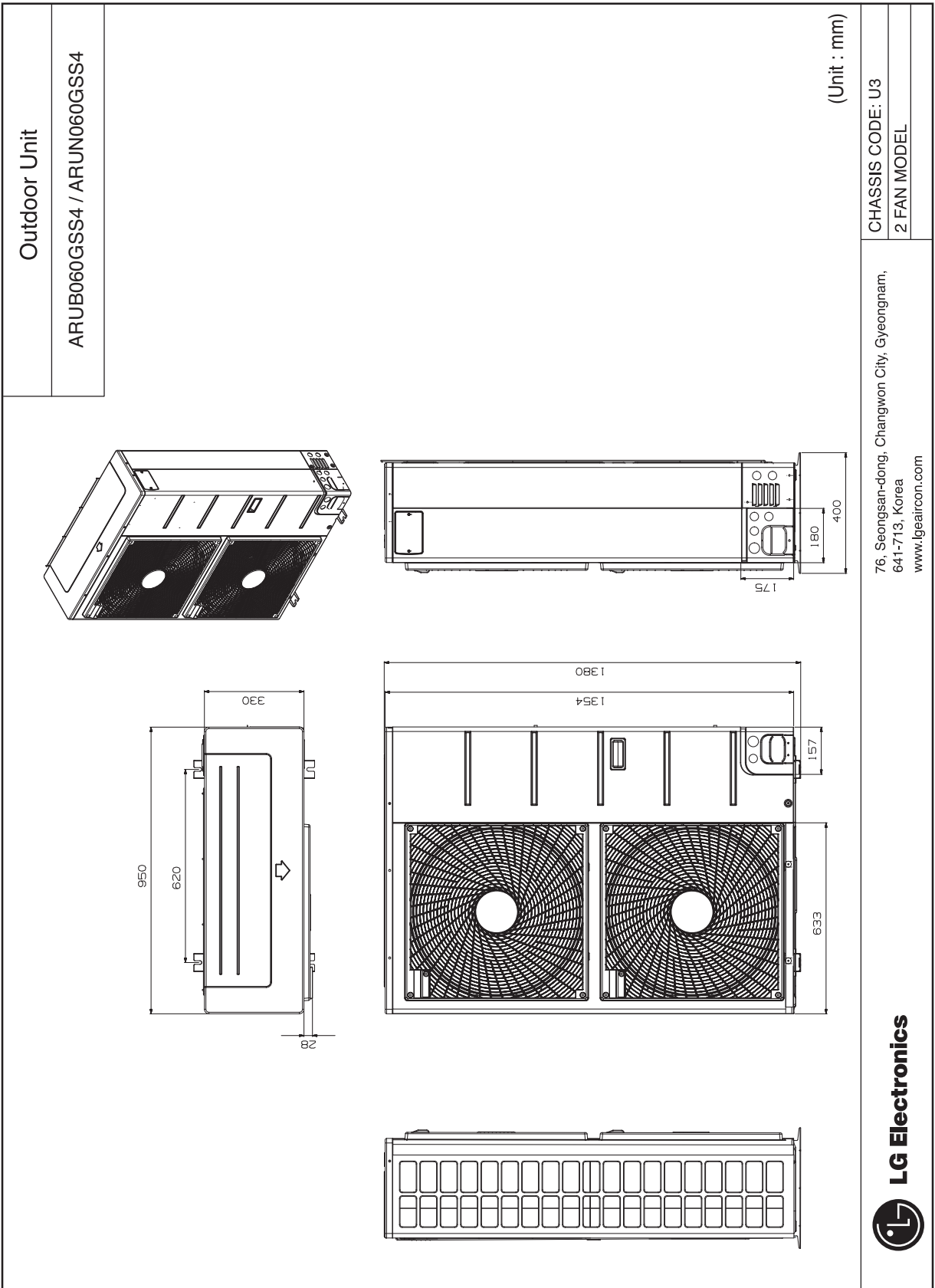
Device		Multi V S
Central Controller	AC Ez (Simple Controller)	PQCSZ250S0
	AC Smart II	PQCSW320A1E
	AC Smart Premium	PQCSW421E0A
	128 Unit Expansion Kit for AC Smart	PQCSE440U0
	Option Kit (SD card type) for AC Smart	PQCSE341A0 / PQCSE342A0
	ACP(Advanced Control Platform)	PQCPA11A0E / PQCPB11A0E
	AC 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 (only Heatpump)
Low Ambient Kit		X
Cycle Monitoring Device	LG MV	PRCT-FE1
	Mobile LGMV(Bluetooth)	PMVBTDQ01
DS(Data Saving) Module		PVADTN000
Internet Bridge		PWFMDB000
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.

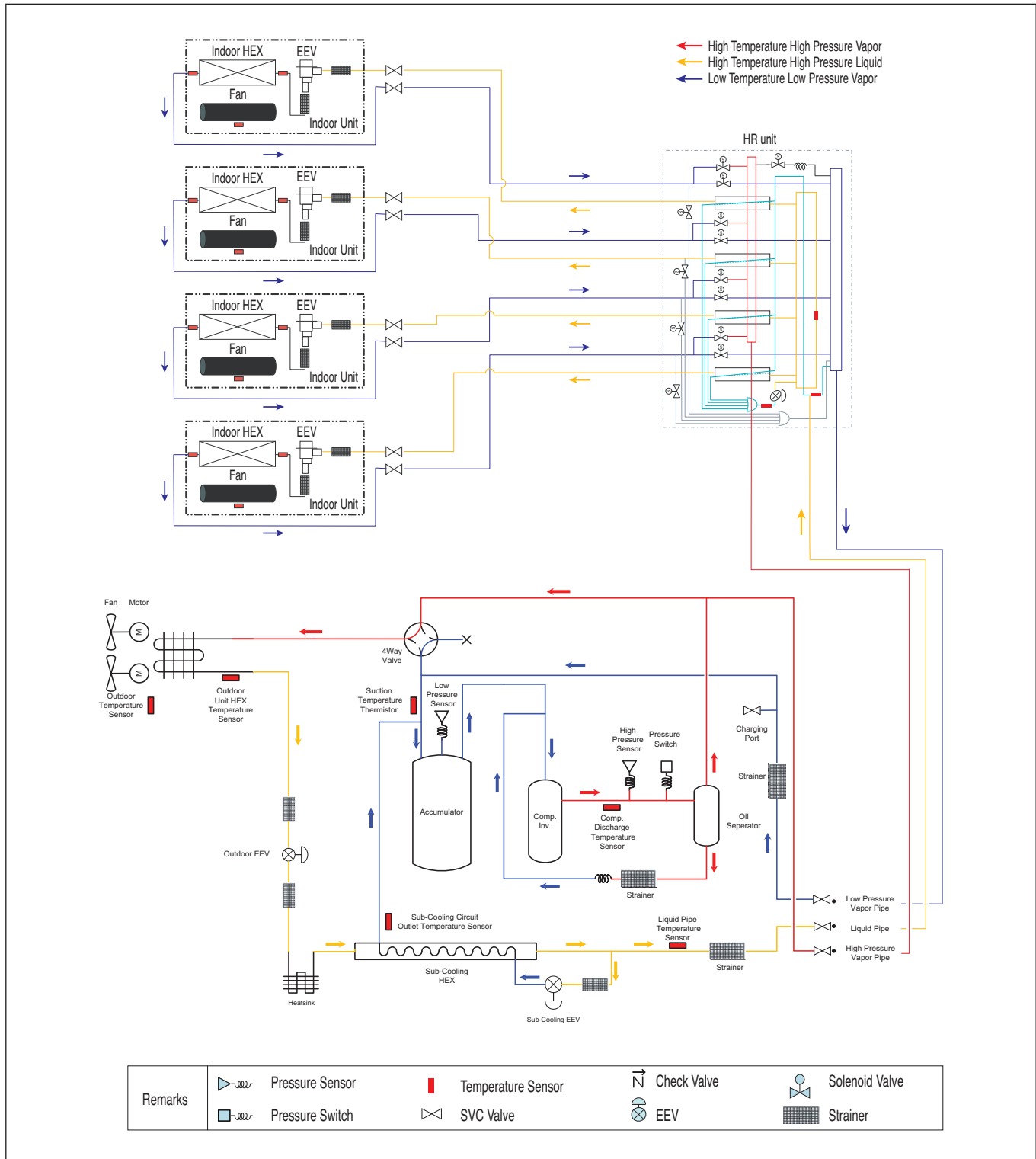
# 3. Dimensions



# 4. Piping Diagrams

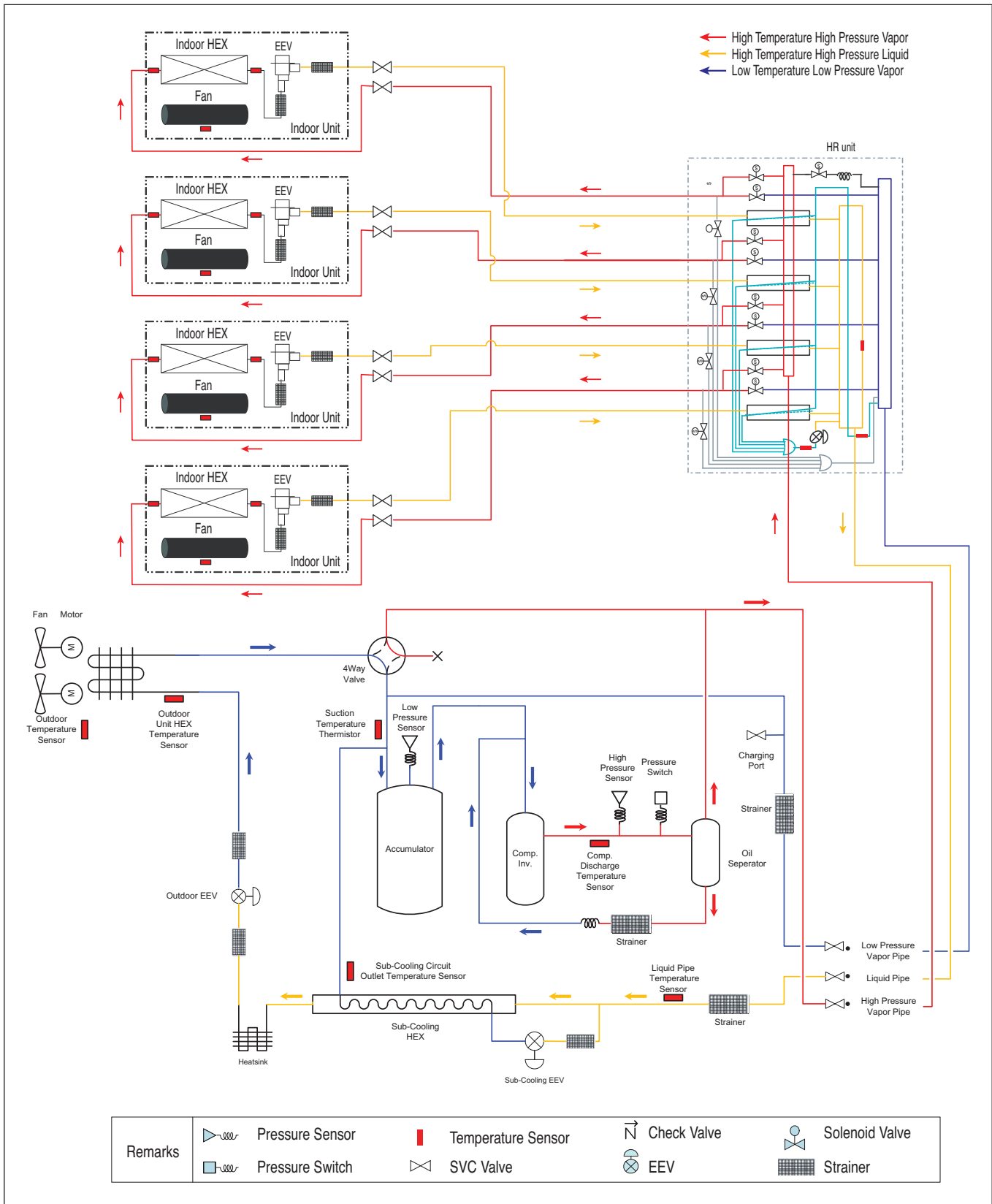
■ ARUB060GSS4

## Heat Recovery – Cooling Mode



■ ARUB060GSS4

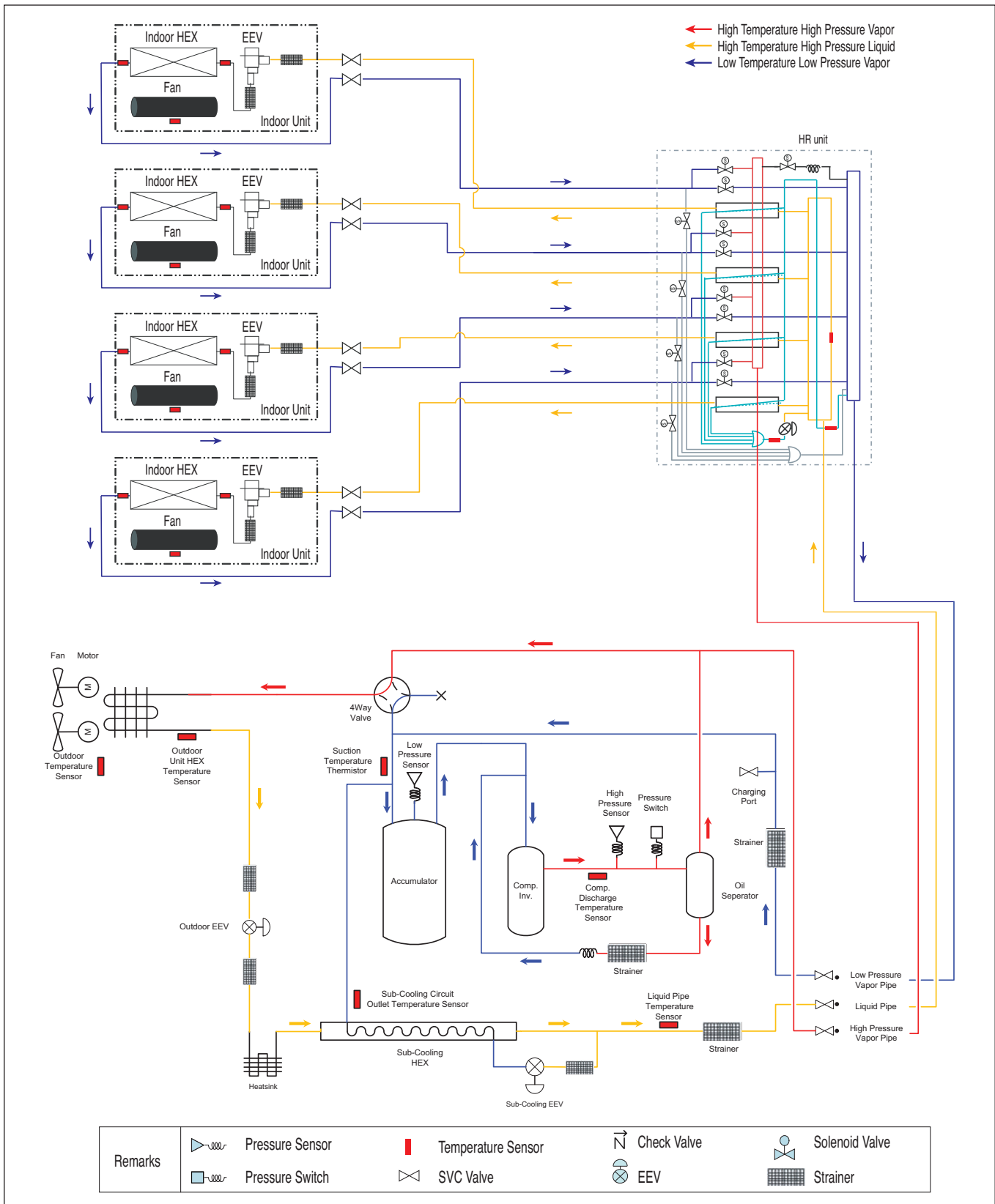
**Heat Recovery – Heating Mode**





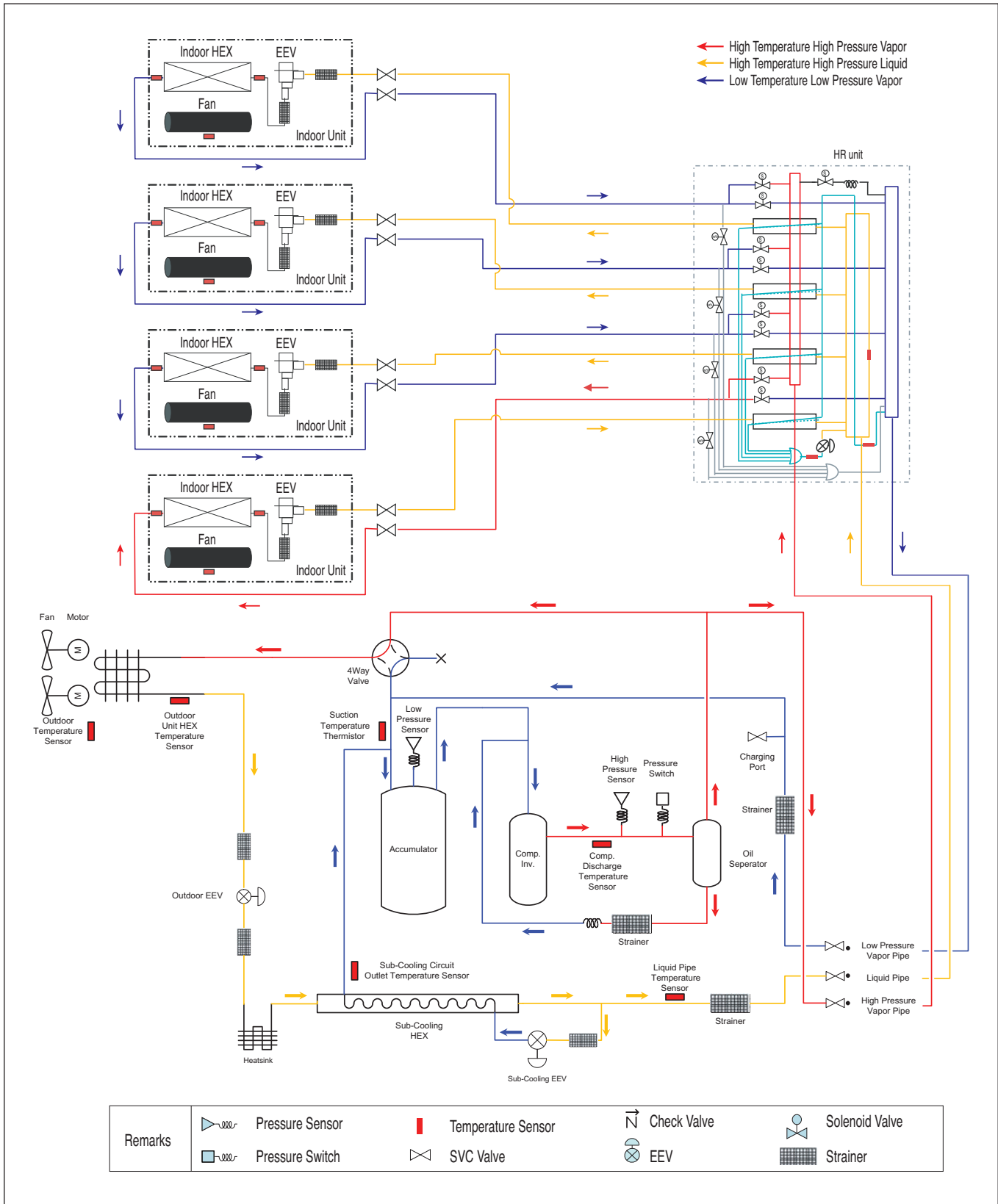
■ ARUB060GSS4

**Heat Recovery – Oil Return and Defrost Operation**



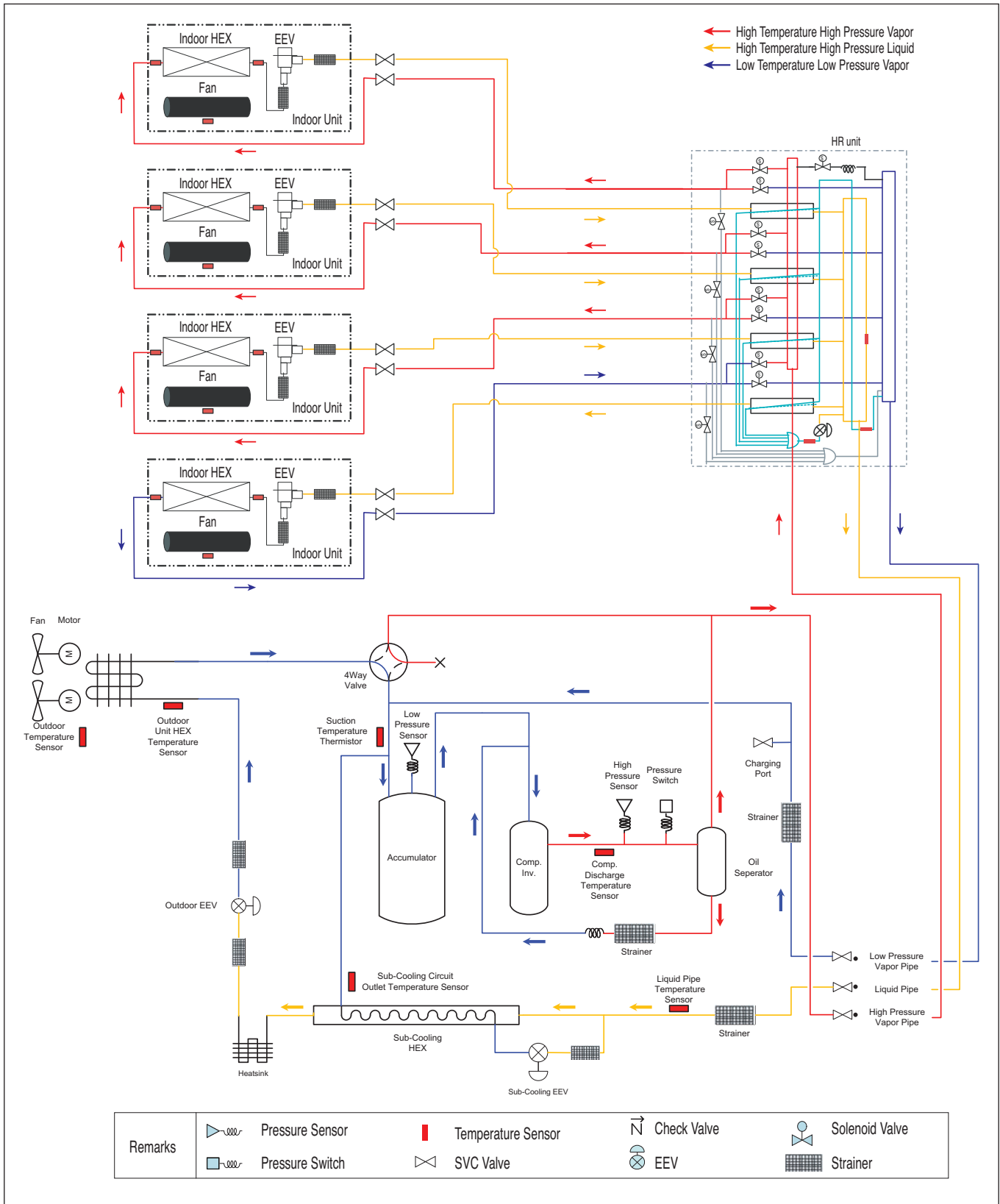
■ ARUB060GSS4

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



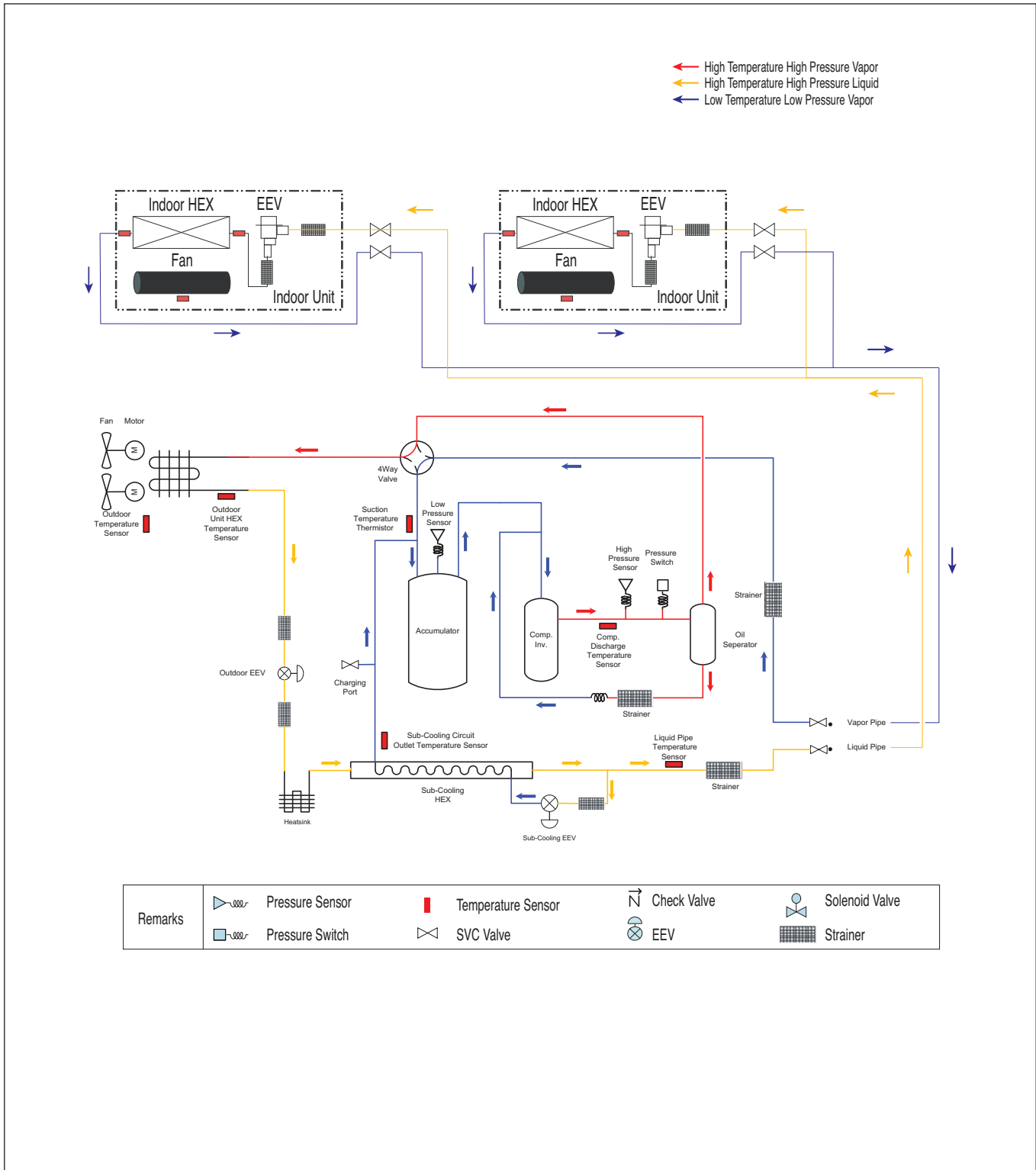
■ ARUB060GSS4

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



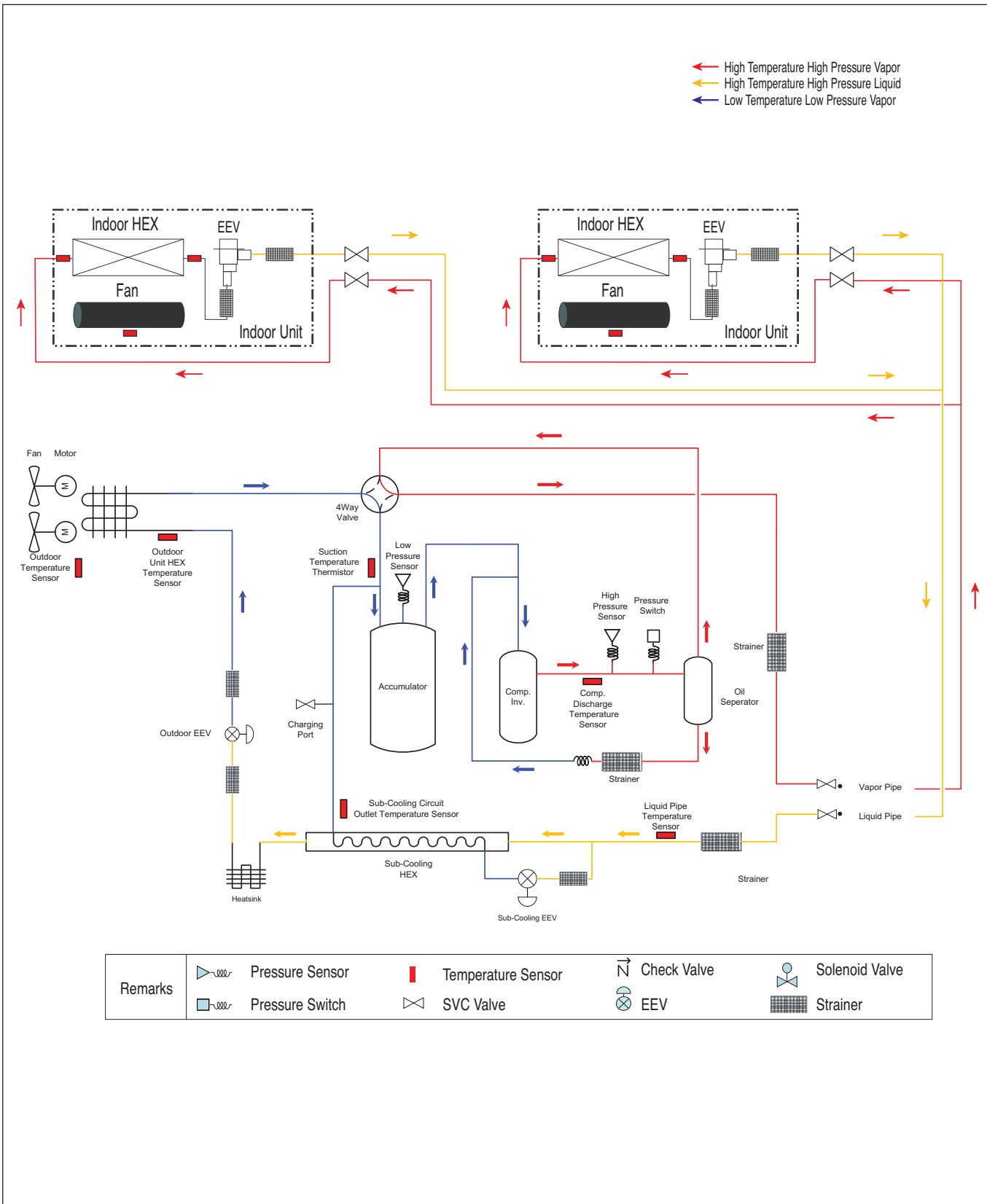
■ ARUN060GSS4

**Heat Pump – Cooling Mode**



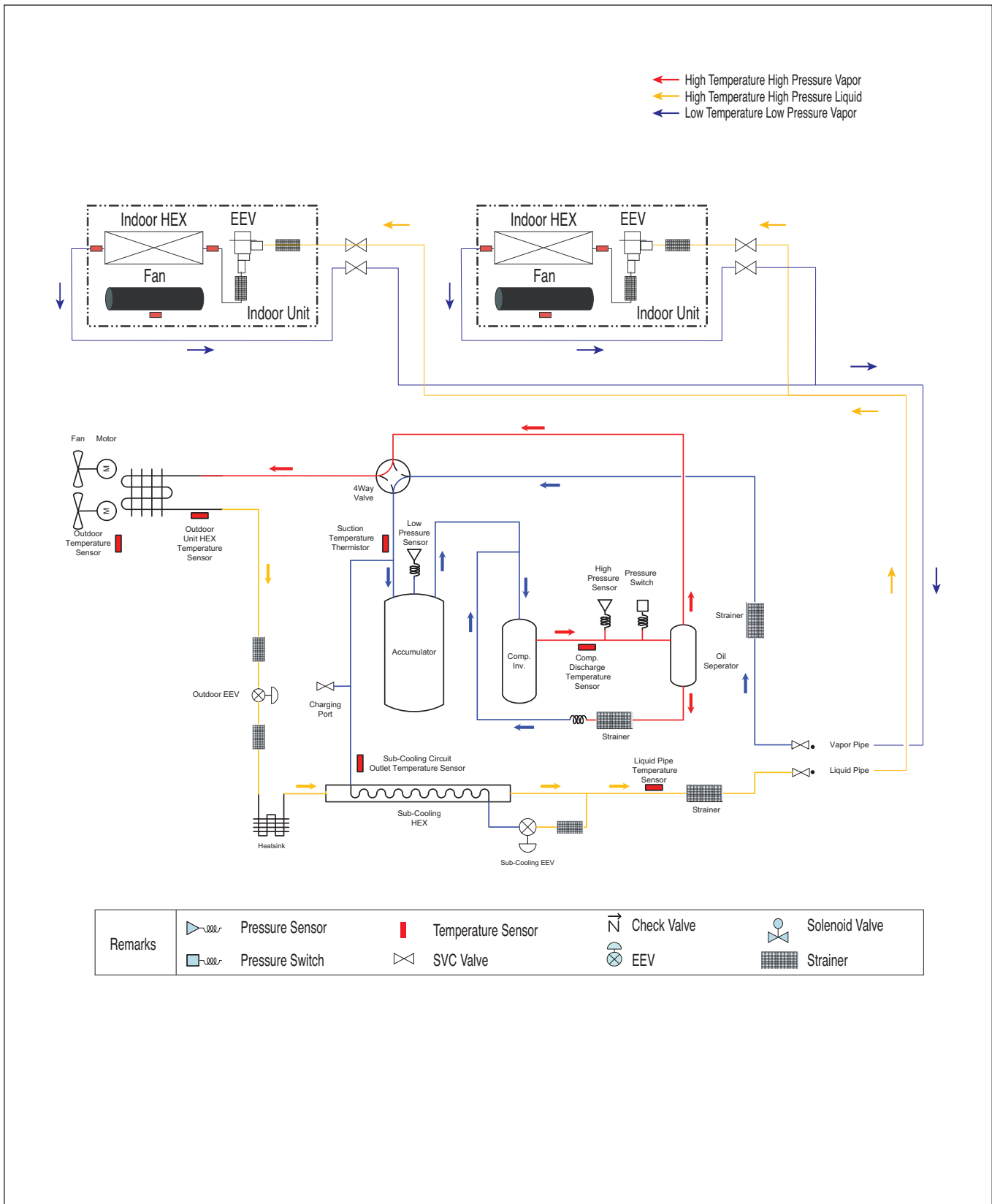
■ ARUN060GSS4

**Heat Pump – Heating Mode**



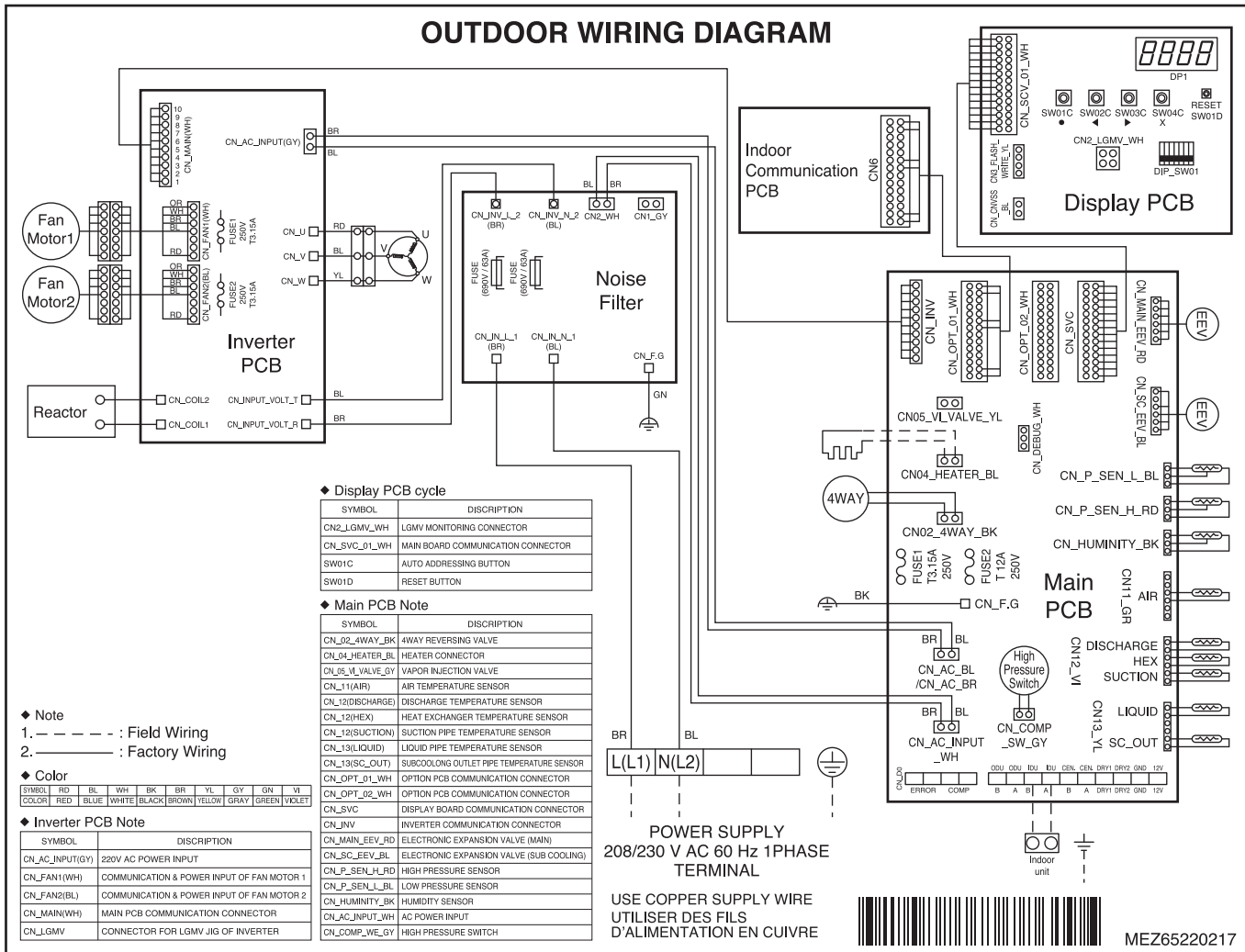
■ ARUN060GSS4

**Heat Pump – Oil Return and Defrost Operation**



# 5. Wiring Diagrams

## OUTDOOR WIRING DIAGRAM



◆ Display PCB cycle

SYMBOL	DISCRPTION
CN2_LGMV_WH	LGMV MONITORING CONNECTOR
CN_SVC_D1_WH	MAIN BOARD COMMUNICATION CONNECTOR
SW01C	AUTO ADDRESSING BUTTON
SW01D	RESET BUTTON

◆ Main PCB Note

SYMBOL	DISCRPTION
CN_02_4WAY_BK	4WAY REVERSING VALVE
CN_04_HEATER_BL	HEATER CONNECTOR
CN_05_VL_VALVE_GY	VAPOR INJECTION VALVE
CN_11(AIR)	AIR TEMPERATURE SENSOR
CN_12(DISCHARGE)	DISCHARGE TEMPERATURE SENSOR
CN_12(H)EX	HEAT EXCHANGER TEMPERATURE SENSOR
CN_12(SUCTION)	SUCTION PIPE TEMPERATURE SENSOR
CN_13(LIQUID)	LIQUID PIPE TEMPERATURE SENSOR
CN_13(SC_OUT)	SUBCOOLING OUTLET PIPE TEMPERATURE SENSOR
CN_OPT_D1_WH	OPTION PCB COMMUNICATION CONNECTOR
CN_OPT_D2_WH	OPTION PCB COMMUNICATION CONNECTOR
CN_SVC	DISPLAY BOARD COMMUNICATION CONNECTOR
CN_INV	INVERTER COMMUNICATION CONNECTOR
CN_MAIN_EEV_RD	ELECTRONIC EXPANSION VALVE (MAIN)
CN_SC_EEV_BL	ELECTRONIC EXPANSION VALVE (SUB COOLING)
CN_P_SEN_L_RD	HIGH PRESSURE SENSOR
CN_P_SEN_L_BL	LOW PRESSURE SENSOR
CN_HUMINITY_BK	HUMIDITY SENSOR
CN_AC_INPUT_WH	AC POWER INPUT
CN_COMP_WE_GY	HIGH PRESSURE SWITCH

- ◆ Note  
 1. - - - - - : Field Wiring  
 2. ———— : Factory Wiring

◆ Color

SYMBOL	RD	BL	WH	BK	BR	YL	GY	GN	VI
COLOR	RED	BLUE	WHITE	BLACK	BROWN	YELLOW	GRAY	GREEN	VIOLET

◆ Inverter PCB Note

SYMBOL	DISCRPTION
CN_AC_INPUT(GY)	220V AC POWER INPUT
CN_FAN1(WH)	COMMUNICATION & POWER INPUT OF FAN MOTOR 1
CN_FAN2(BL)	COMMUNICATION & POWER INPUT OF FAN MOTOR 2
CN_MAIN(WH)	MAIN PCB COMMUNICATION CONNECTOR
CN_LGMV	CONNECTOR FOR LGMV JIG OF INVERTER

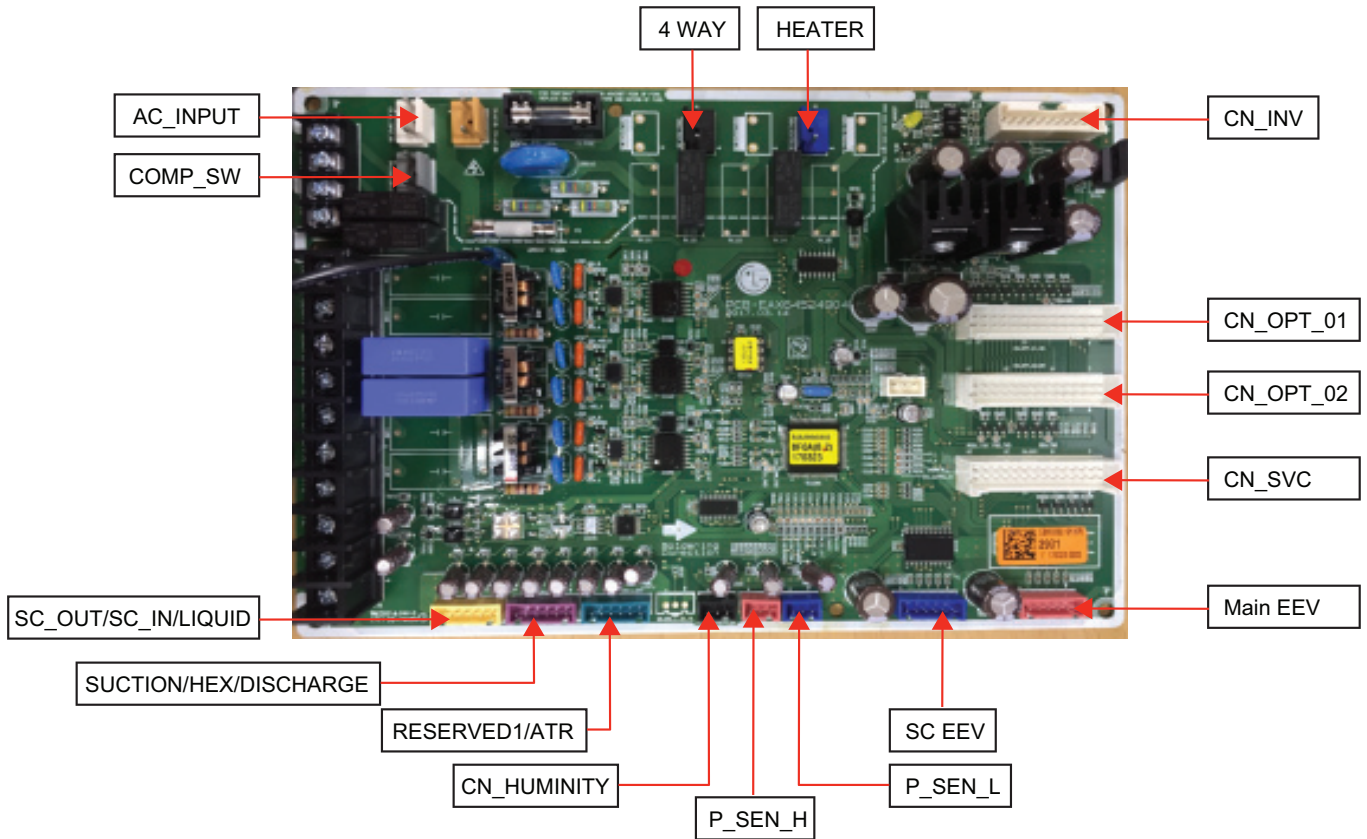
POWER SUPPLY  
 208/230 V AC 60 Hz 1PHASE  
 TERMINAL

USE COPPER SUPPLY WIRE  
 UTILISER DES FILS  
 D'ALIMENTATION EN CUIVRE

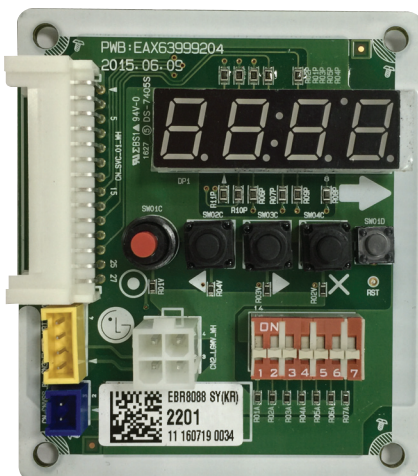


MEZ65220217

■ Main PCB



■ Service PCB

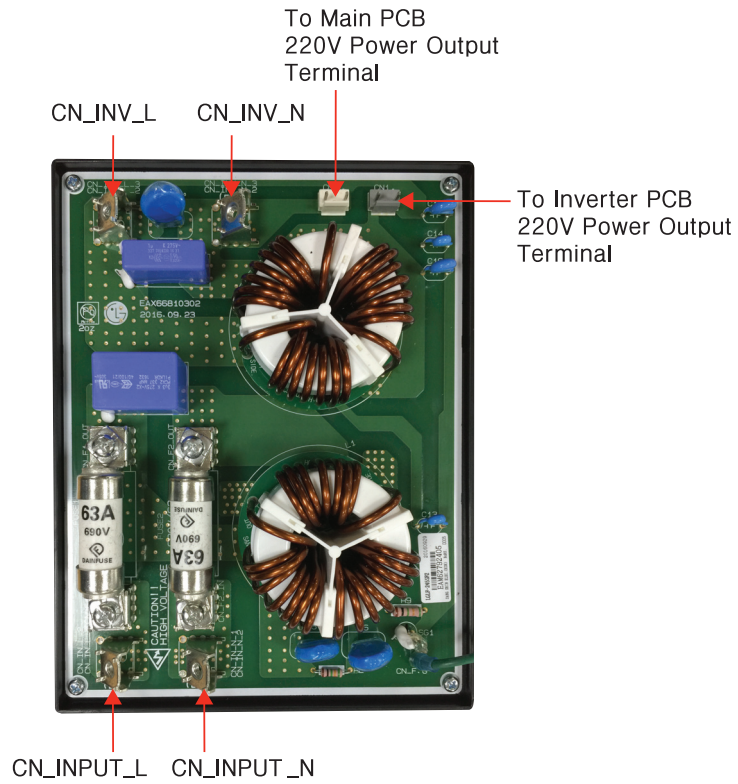


■ Indoor Communication PCB

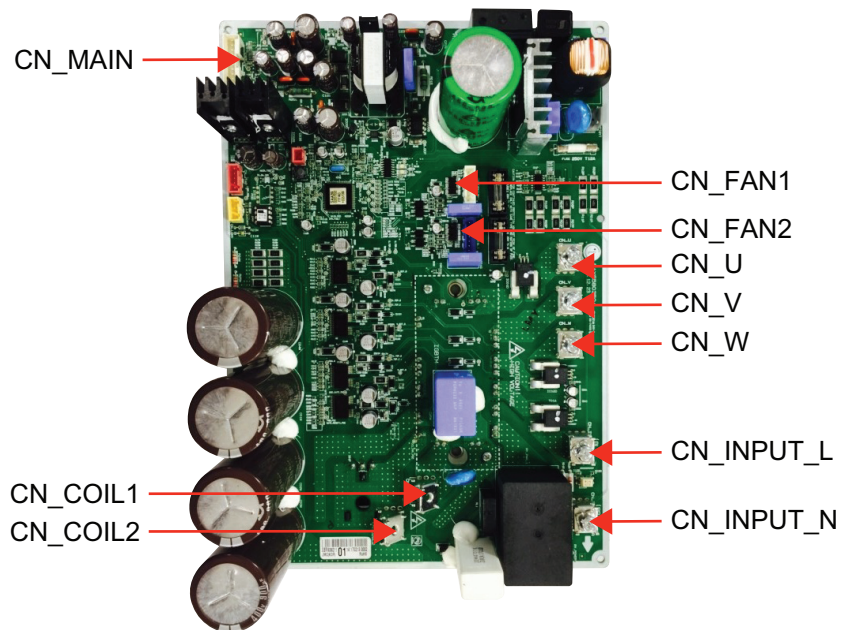




■ Noise Filter



■ Inverter PCB

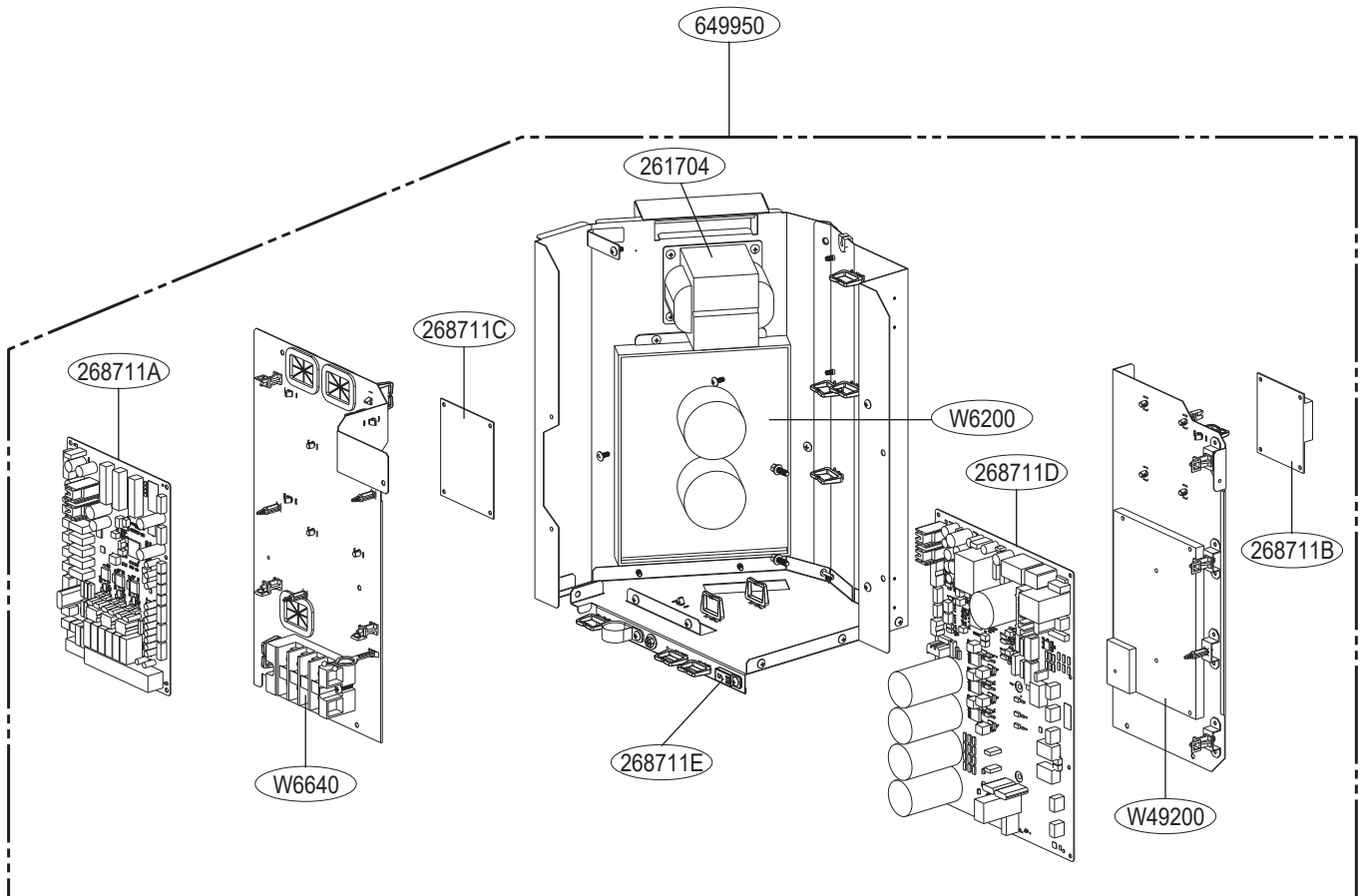


5TON

# 6. Exploded View

## Control Box

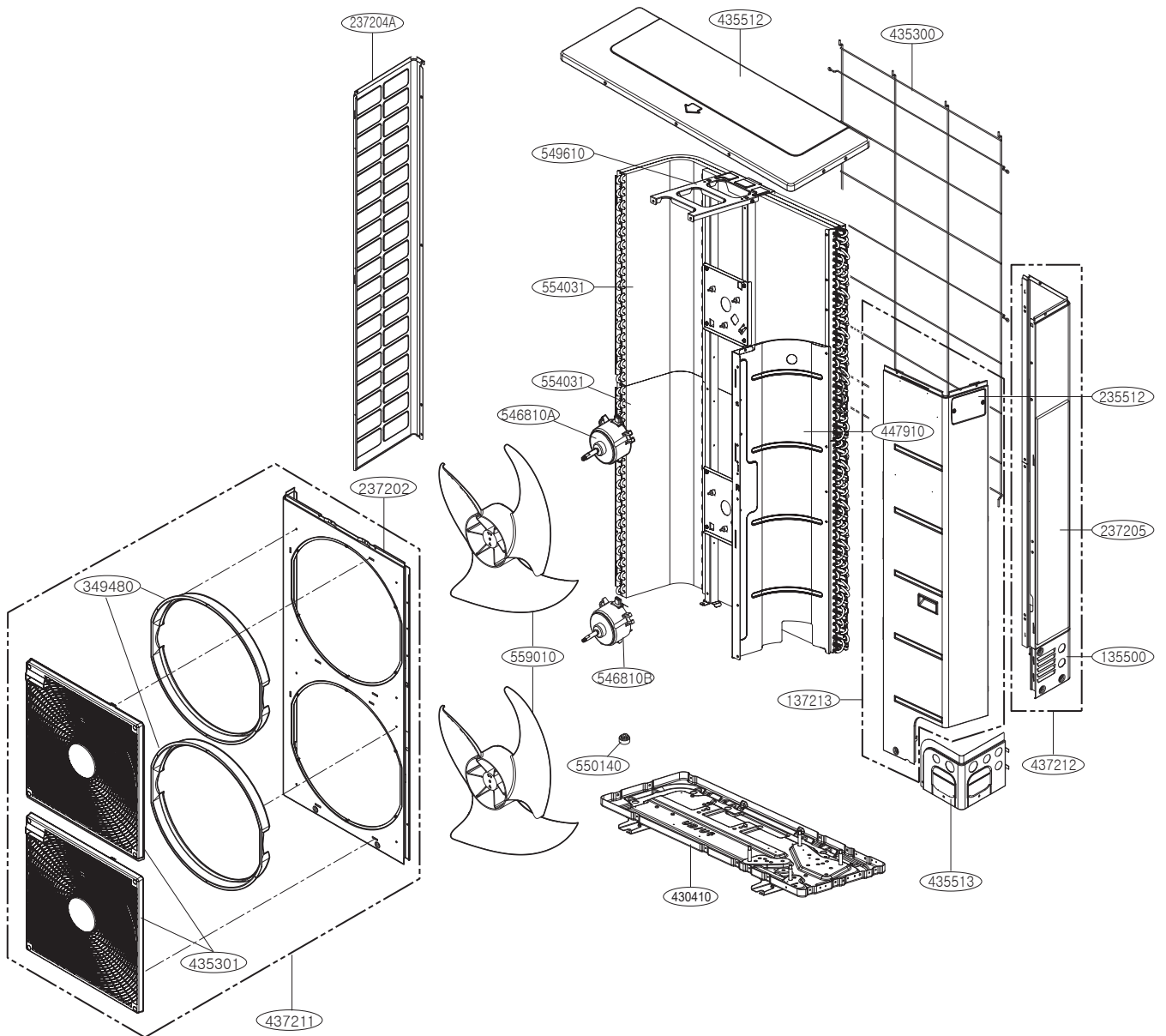
■ ARUB060GSS4, ARUN060GSS4



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

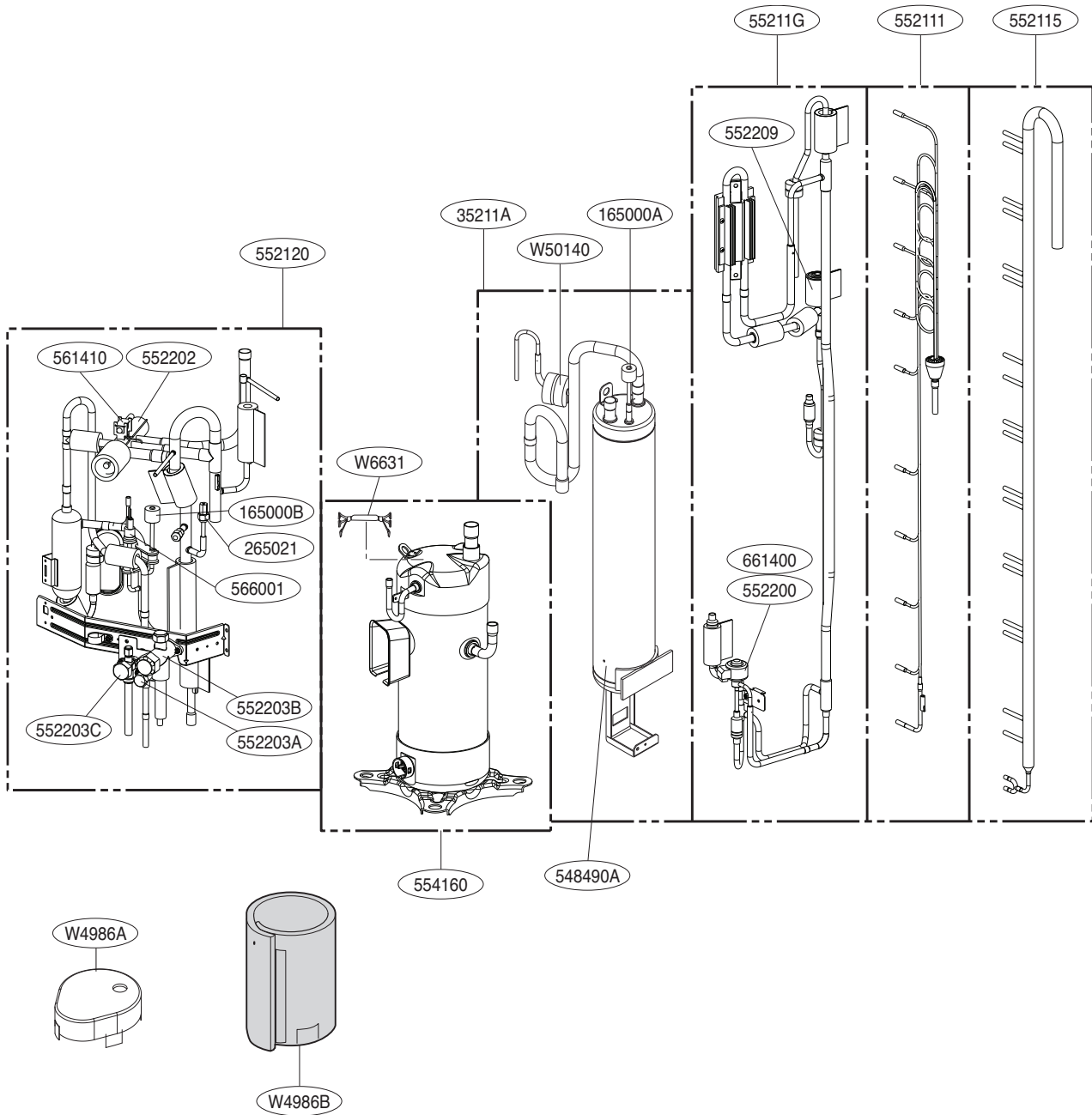
Mechanical Parts and Panels

■ ARUB060GSS4, ARUN060GSS4

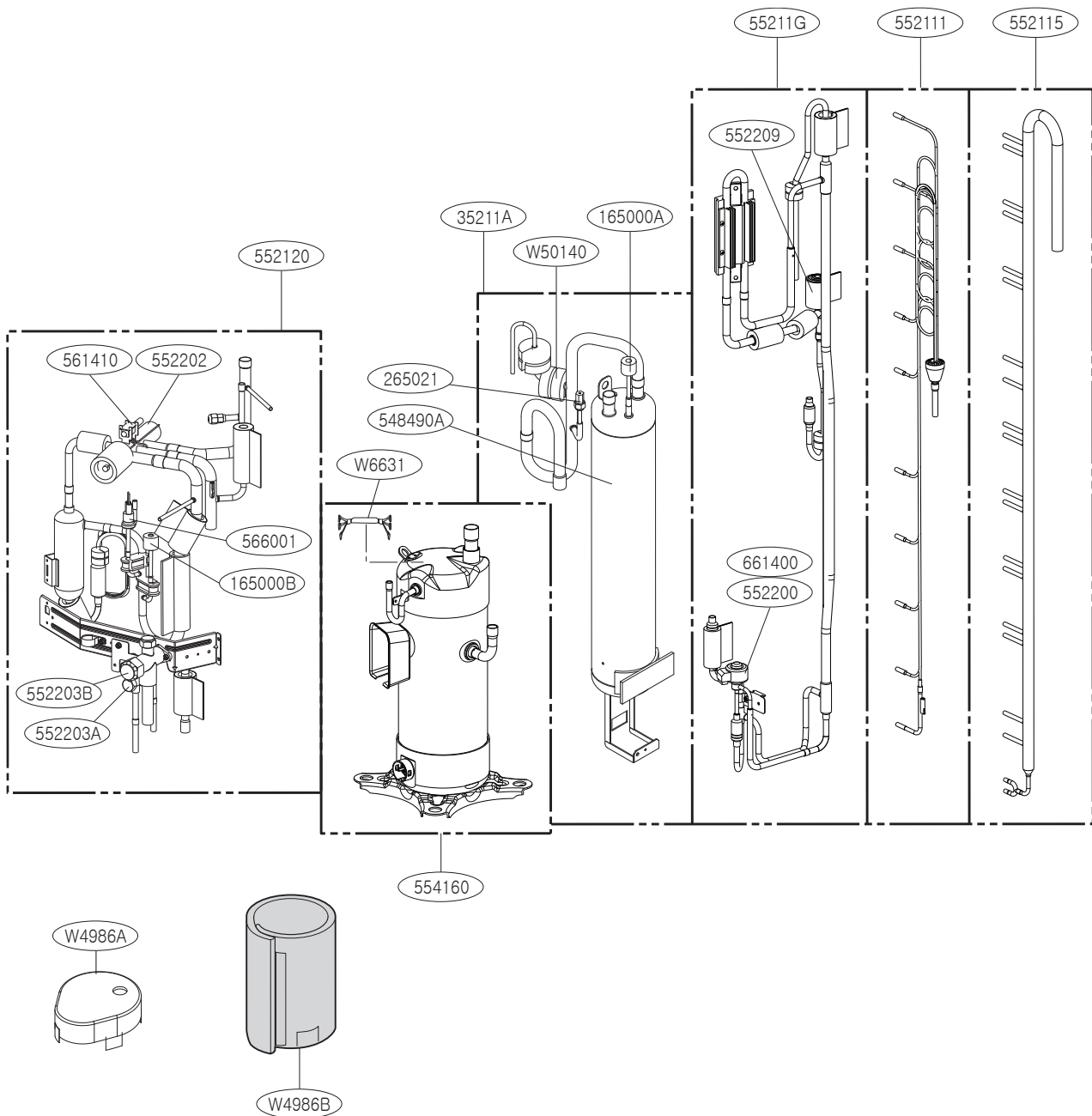


# Cycle Parts

## ■ ARUB060GSS4



■ ARUN060GSS4





P/NO : MFL69656401