

SPLIT TYPE
AIR CONDITIONER
DUCT TYPE (50Hz)

SERVICE MANUAL



Indoor unit	Outdoor unit
ARYG18LHTBP	AOYG18LBCA
ARYG24LHTBP	AOYG24LBCA

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SPECIFICATIONS

ELECTRICAL DATA

INDOOR UNIT		ARYG18LHTBP	ARYG24LHTBP
OUTDOOR UNIT		AOYG18LBCA	AOYG24LBCA
TYPE		Cooling & Heating	
POWER SOURCE		Single phase 230V 50Hz	
COOLING	Capacity	5.20 kW	6.80 kW
	Power consumption	1.37 kW	1.95 kW
	EER	3.80 kW/kW	3.49 kW/kW
	Rated operating current	6.1 A	8.6 A
	Max operating current	10.0 A	13.5 A
	Moisture removal	1.2 L/h	1.8 L/h
HEATING	Capacity	6.0 kW	8.0 kW
	Power consumption	1.48 kW	2.21 kW
	COP	4.05 kW/kW	3.62 kW/kW
	Rated operating current	6.6 A	9.7 A
	Max operating current	13.5 A	18.5 A

FAN MOTOR AND FAN REVOLUTION

INDOOR UNIT	Discrimination	MFG-ZB0VC3N	
	High	820 rpm	900 rpm
	Medium	660 rpm	740 rpm
	Low	590 rpm	620 rpm
	Quiet	520 rpm	510 rpm
OUTDOOR UNIT	Discrimination	MFE-71TVAL	
	Cooling	870 rpm	1,100 rpm
	Heating	780 rpm	1,050 rpm

AIR CIRCULATION

INDOOR UNIT	High	1,050 m ³ /h	1,360 m ³ /h
	Medium	840 m ³ /h	1,080 m ³ /h
	Low	740 m ³ /h	880 m ³ /h
	Quiet	630 m ³ /h	680 m ³ /h
OUTDOOR UNIT	Cooling	1,900 m ³ /h	2,460 m ³ /h
	Heating	1,700 m ³ /h	2,340 m ³ /h

NOISE LEVEL

INDOOR UNIT	High	28 dB	32 dB
	Medium	25 dB	28 dB
	Low	22 dB	24 dB
	Quiet	20 dB	21 dB
OUTDOOR UNIT	Cooling	50 dB	55 dB
	Heating	51 dB	56 dB

Static pressure : 35Pa

Duct length : Inlet 1m, Outlet 2m

COMPRESSOR AND REFRIGERANT

COMPRESSOR TYPE	Hermetic type, 6 pole, 3 phase, DC inverter motor, Rotary	
DISCRIMINATION	N-SF17ND1A	
WEIGHT (with oil)	10.6 kg	
PRECHARGED REFRIGERANT	1,800 g	
REFRIGERANT TYPE	R410A	
FULL CHARGE	Pipe length 15 m	1,800 g
	20 m	1,900 g
	25 m	2,000 g
	30 m	2,100 g
ADDITIONAL CHARGE	20 g/m	
MAX PIPING HEIGHT DIFFERENCE	20 m	

DIMENSIONS

INDOOR UNIT	H x W x D	300 x 1,000 x 700 mm
OUTDOOR UNIT	H x W x D	620 x 790 x 290 mm

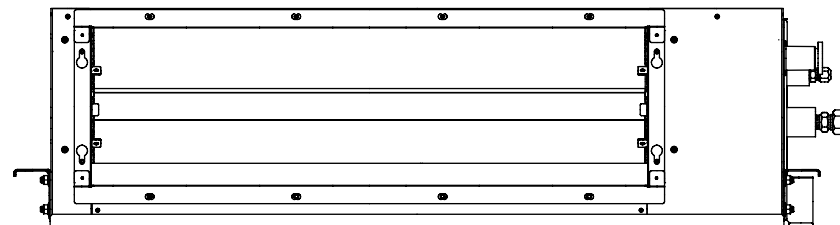
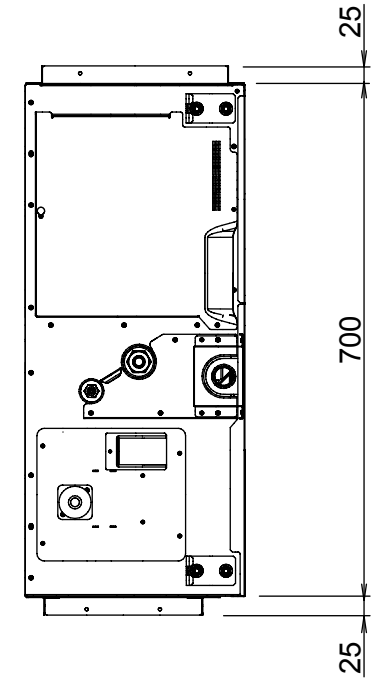
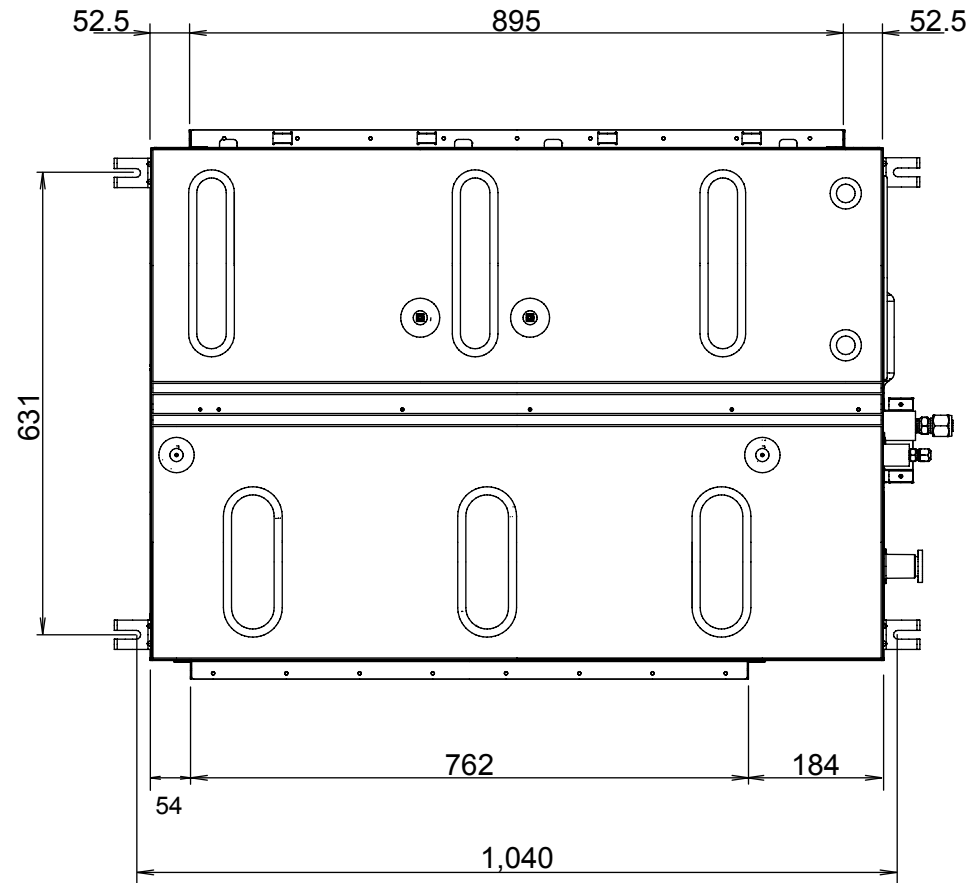
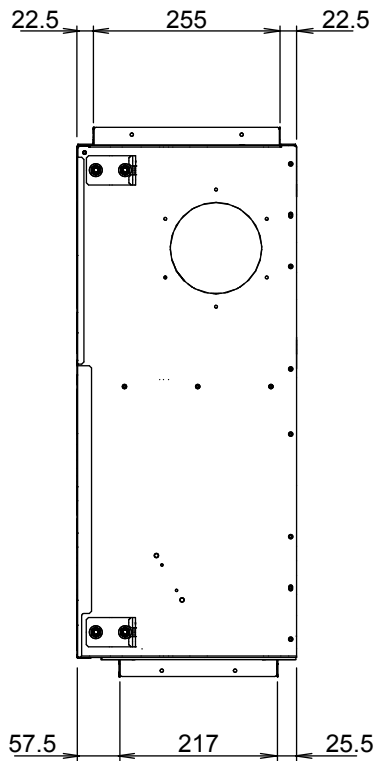
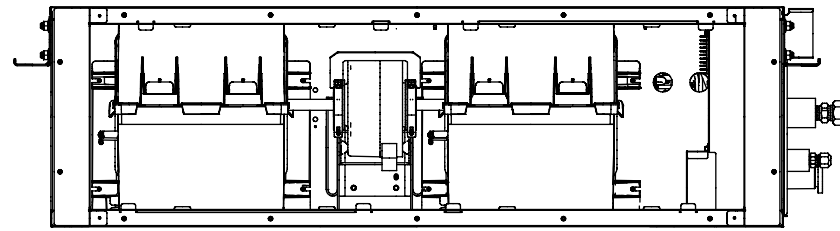
WEIGHT

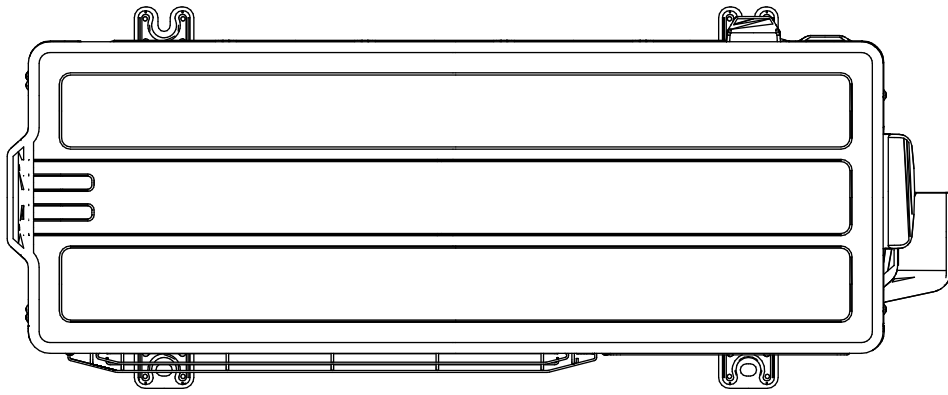
INDOOR UNIT	Net / Shipping	36 kg / 43 kg
OUTDOOR UNIT	Net / Shipping	41 kg / 45 kg

DIMENSIONS

INDOOR UNIT

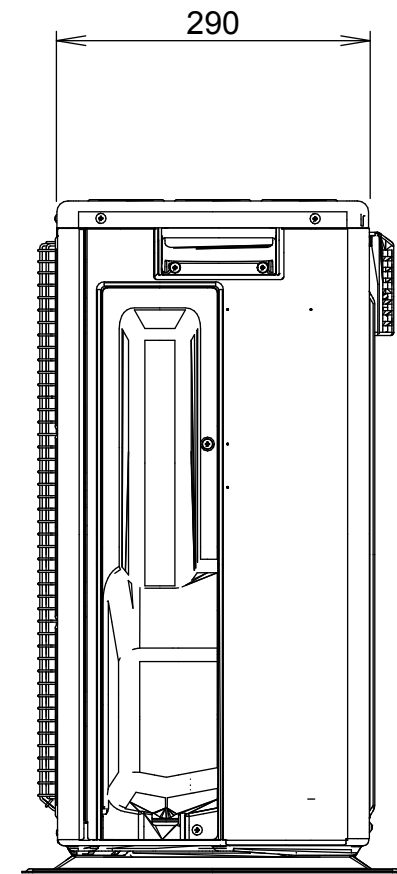
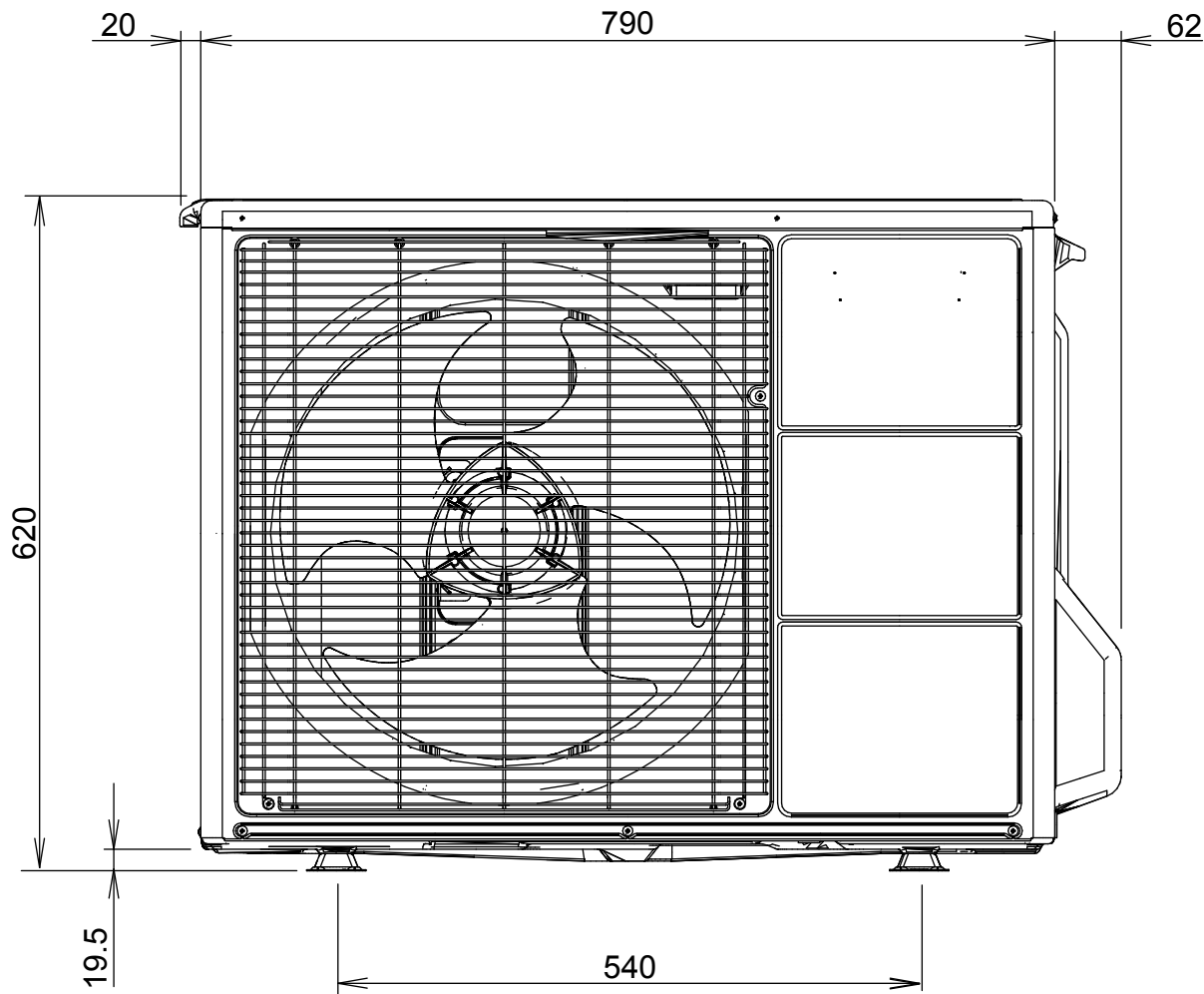
Unit : mm



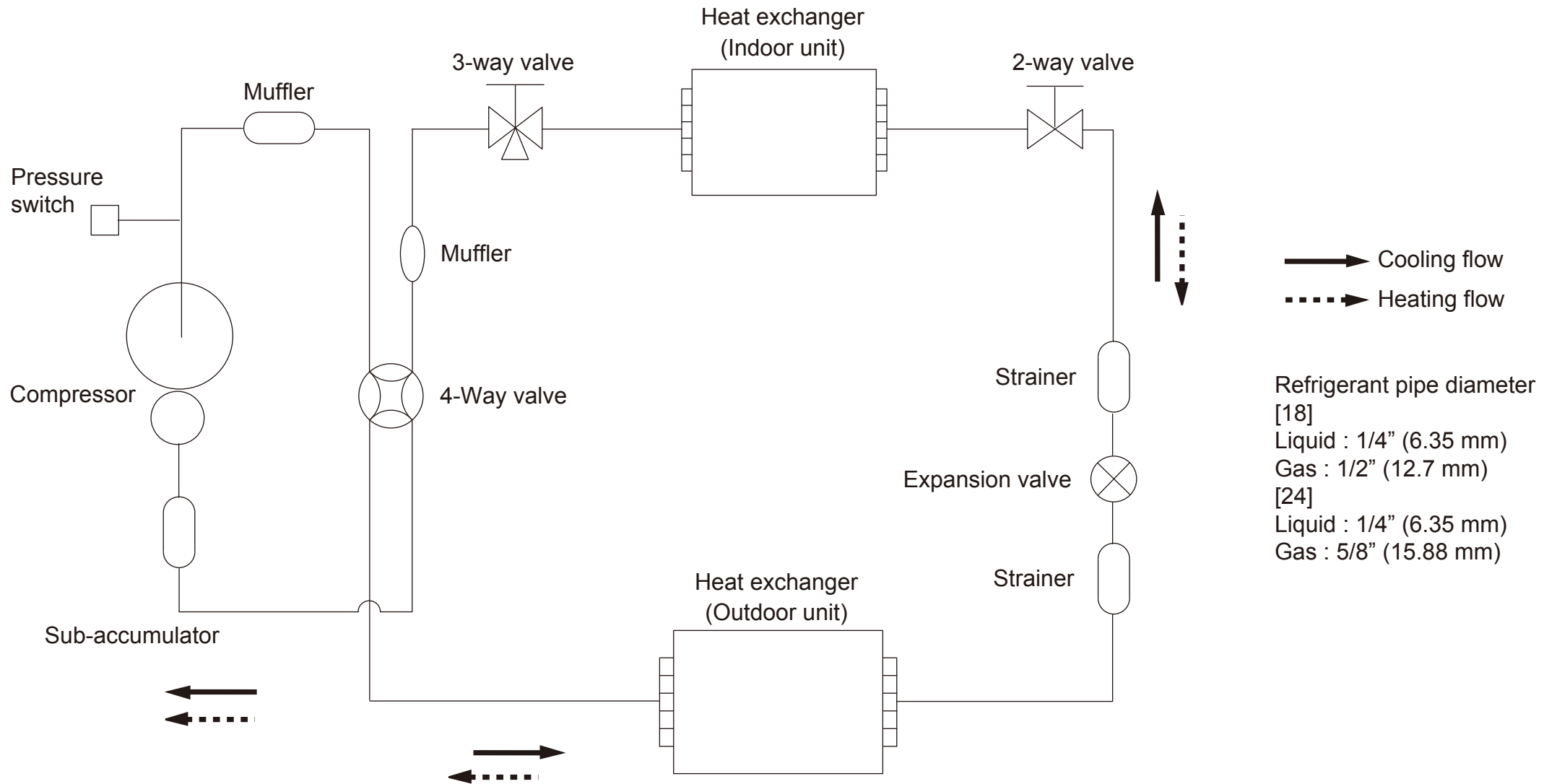


OUTDOOR UNIT

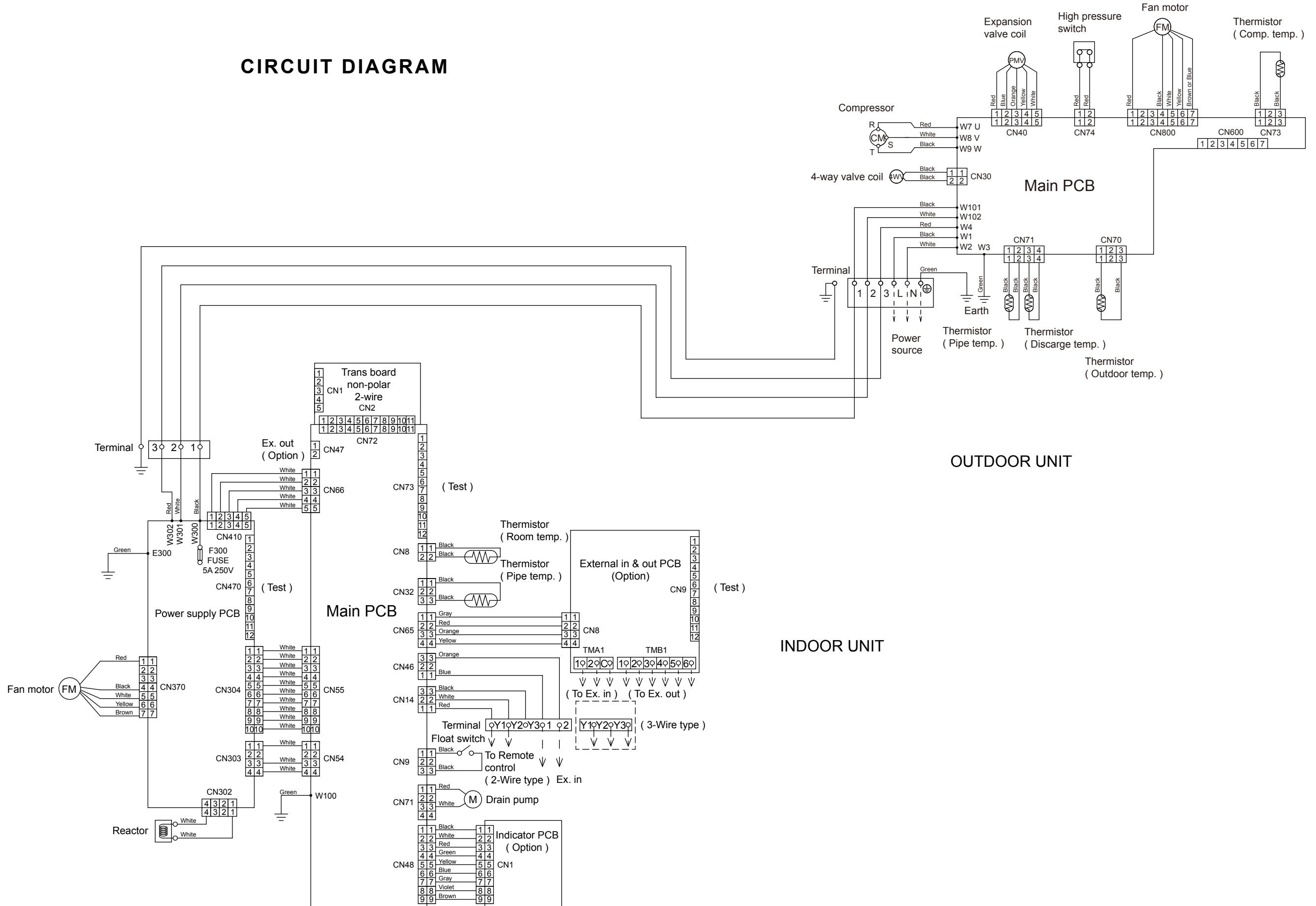
Unit : mm



REFRIGERANT SYSTEM DIAGRAM



CIRCUIT DIAGRAM



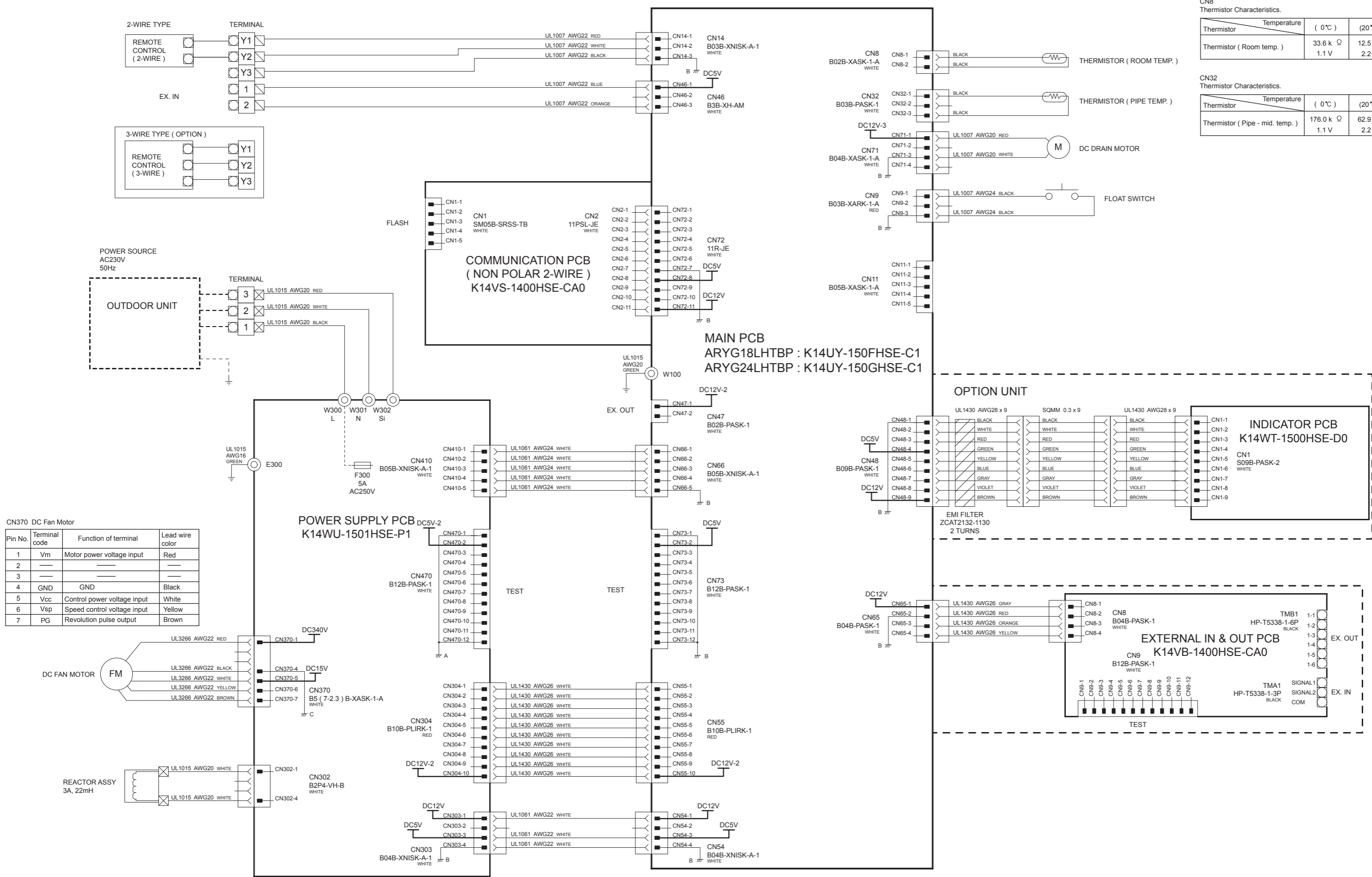
OUTDOOR UNIT

INDOOR UNIT

PCB CIRCUIT DIAGRAM

INDOOR UNIT

CONTROL UNIT ARYG18LHTBP : EZ-01504HSE ARYG24LHTBP : EZ-01505HSE



CN8 Thermistor Characteristics.

Thermistor	Temperature	(0°C)	(20°C)	(30°C)
Thermistor (Room temp.)		33.6 k Ω	12.5 k Ω	8.0 k Ω
		1.1 V	2.2 V	2.8 V

CN32 Thermistor Characteristics.

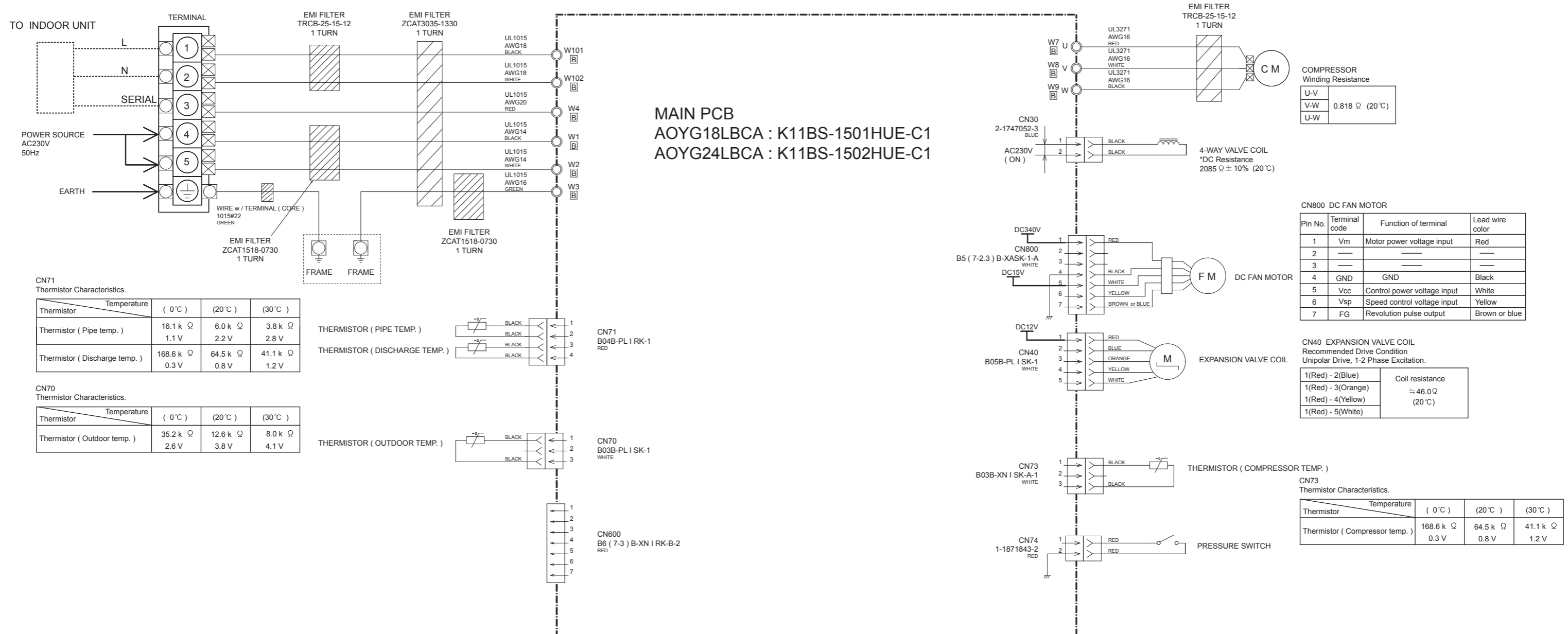
Thermistor	Temperature	(0°C)	(20°C)	(30°C)
Thermistor (Pipe - mid. temp.)		176.0 k Ω	62.9 k Ω	39.6 k Ω
		1.1 V	2.2 V	2.8 V

CN370 DC Fan Motor

Pin No.	Terminal code	Function of terminal	Lead wire color
1	Vm	Motor power voltage input	Red
2			
3			
4	GND	GND	Black
5	Vcc	Control power voltage input	White
6	Vsp	Speed control voltage input	Yellow
7	PG	Revolution pulse output	Brown

OUTDOOR UNIT

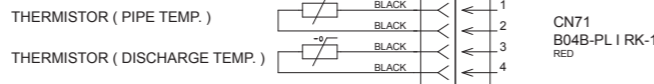
INVERTER ASSEMBLY
 AOYG18LBCA : EZ-015FHUE
 AOYG24LBCA : EZ-015GHUE



MAIN PCB
 AOYG18LBCA : K11BS-1501HUE-C1
 AOYG24LBCA : K11BS-1502HUE-C1

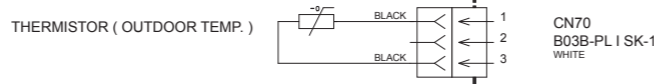
CN71 Thermistor Characteristics.

Thermistor	Temperature (0°C)	(20°C)	(30°C)
Thermistor (Pipe temp.)	16.1 k Ω 1.1 V	6.0 k Ω 2.2 V	3.8 k Ω 2.8 V
Thermistor (Discharge temp.)	168.6 k Ω 0.3 V	64.5 k Ω 0.8 V	41.1 k Ω 1.2 V



CN70 Thermistor Characteristics.

Thermistor	Temperature (0°C)	(20°C)	(30°C)
Thermistor (Outdoor temp.)	35.2 k Ω 2.6 V	12.6 k Ω 3.8 V	8.0 k Ω 4.1 V



COMPRESSOR Winding Resistance

U-V	0.818 Ω (20°C)
V-W	
U-W	

CN800 DC FAN MOTOR

Pin No.	Terminal code	Function of terminal	Lead wire color
1	Vm	Motor power voltage input	Red
2	—	—	—
3	—	—	—
4	GND	GND	Black
5	Vcc	Control power voltage input	White
6	Vsp	Speed control voltage input	Yellow
7	FG	Revolution pulse output	Brown or blue

CN40 EXPANSION VALVE COIL

Recommended Drive Condition
 Unipolar Drive, 1-2 Phase Excitation.

1(Red) - 2(Blue)	Coil resistance ≈ 46.0 Ω (20°C)
1(Red) - 3(Orange)	
1(Red) - 4(Yellow)	
1(Red) - 5(White)	

CN73 Thermistor Characteristics.

Thermistor	Temperature (0°C)	(20°C)	(30°C)
Thermistor (Compressor temp.)	168.6 k Ω 0.3 V	64.5 k Ω 0.8 V	41.1 k Ω 1.2 V

ERROR DETECTION

INDOOR UNIT

If you use a wired type remote control, error codes will appear on the remote control display. If you use a wireless remote control, the lamps on the IR receiver unit will output error codes by way of blinking patterns. See the lamp blinking patterns and error codes in the table below. An error display is displayed only during operation. For more details, refer to the installation manual of the remote control.

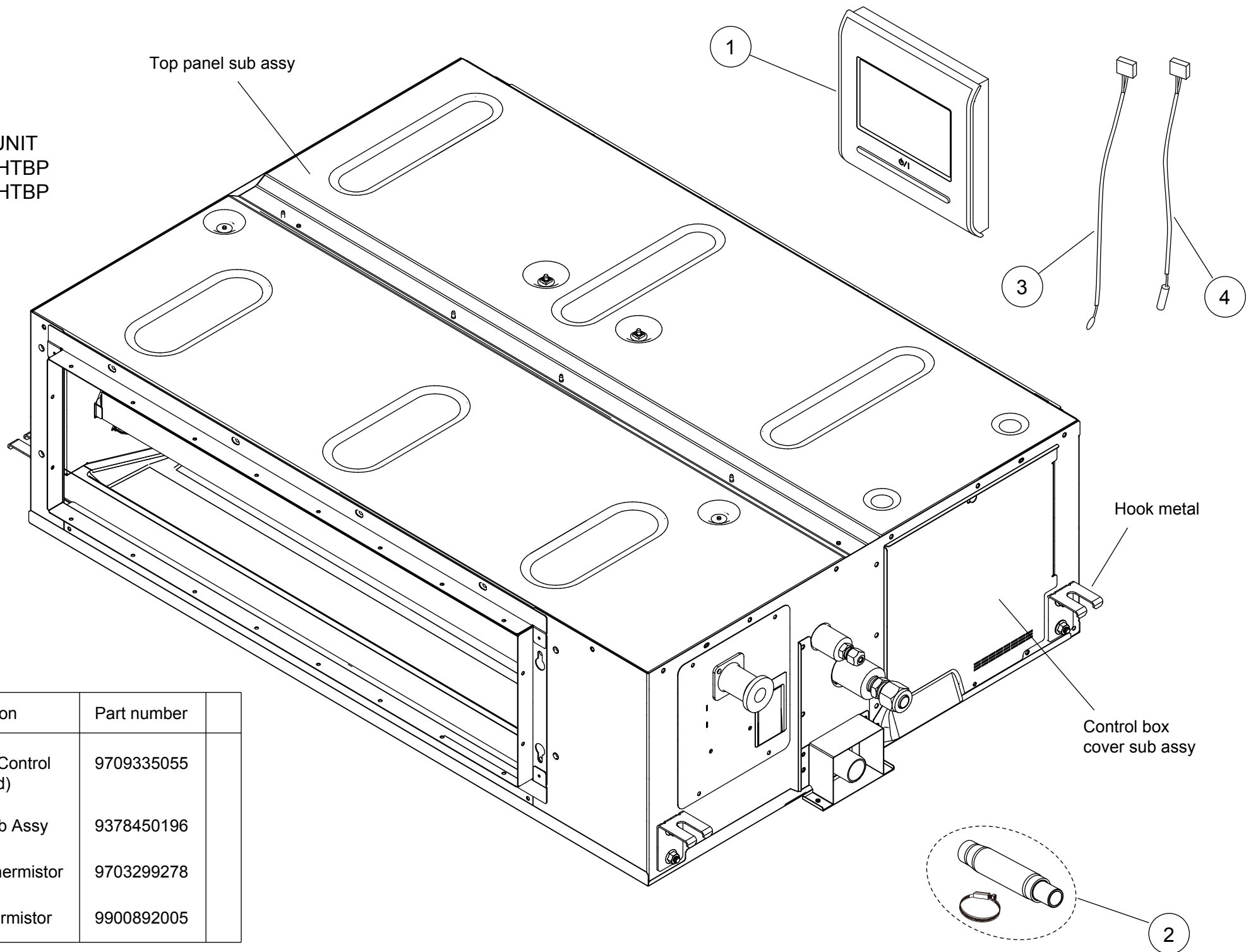
Error display			Wired remote control Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(1)	●(1)	◇	11	Serial communication error
●(1)	●(2)	◇	12	Wired remote control communication error
●(1)	●(5)	◇	15	Check run unfinished Automatic airflow adjustment error
●(1)	●(6)	◇	16	Peripheral unit transmission PCB connection error
●(1)	●(8)	◇	18	External communication error
●(2)	●(1)	◇	21	Unit number or Refrigerant circuit address setting error [Simultaneous Multi]
●(2)	●(2)	◇	22	Indoor unit capacity error
●(2)	●(3)	◇	23	Combination error
●(2)	●(4)	◇	24	• Connection unit number error (indoor secondary unit) [Simultaneous Multi] • Connection unit number error (indoor unit or branch unit) [Flexible Multi]
●(2)	●(6)	◇	26	Indoor unit address setting error
●(2)	●(7)	◇	27	Primary unit, secondary unit setup error [Simultaneous Multi]
●(2)	●(9)	◇	29	Connection unit number error in wired remote controller system
●(3)	●(1)	◇	31	Power supply interruption error
●(3)	●(2)	◇	32	Indoor unit PCB model information error
●(3)	●(3)	◇	33	Indoor unit motor electricity consumption detection error
●(3)	●(5)	◇	35	Manual auto switch error
●(3)	●(9)	◇	39	Indoor unit power supply error for fan motor
●(3)	●(10)	◇	3A	Indoor unit communication circuit (wired remote controller) error
●(4)	●(1)	◇	41	Room temp. sensor error
●(4)	●(2)	◇	42	Indoor unit heat ex. middle temp. sensor error
●(4)	●(4)	◇	44	Human sensor error
●(5)	●(1)	◇	51	Indoor unit fan motor error
●(5)	●(3)	◇	53	Drain pump error
●(5)	●(7)	◇	57	Damper error
●(5)	●(15)	◇	5U	Indoor unit error
●(6)	●(1)	◇	61	Outdoor unit reverse/missing phase and wiring error
●(6)	●(2)	◇	62	Outdoor unit main PCB model information error or communication error

Error display			Wired remote control Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(6)	●(3)	◇	63	Inverter error
●(6)	●(4)	◇	64	Active filter error, PFC circuit error
●(6)	●(5)	◇	65	Trip terminal L error
●(6)	●(8)	◇	68	Outdoor unit rush current limiting resistor temp. rise error
●(6)	●(10)	◇	6A	Display PCB microcomputers communication error
●(7)	●(1)	◇	71	Discharge temp. sensor error
●(7)	●(2)	◇	72	Compressor temp. sensor error
●(7)	●(3)	◇	73	Outdoor unit Heat Ex. liquid temp. sensor error
●(7)	●(4)	◇	74	Outdoor temp. sensor error
●(7)	●(5)	◇	75	Suction Gas temp. sensor error
●(7)	●(6)	◇	76	• 2-way valve temp. sensor error • 3-way valve temp. sensor error
●(7)	●(7)	◇	77	Heat sink temp. sensor error
●(8)	●(2)	◇	82	• Sub-cool Heat Ex. gas inlet temp. sensor error • Sub-cool Heat Ex. gas outlet temp. sensor error
●(8)	●(3)	◇	83	Liquid pipe temp. sensor error
●(8)	●(4)	◇	84	Current sensor error
●(8)	●(6)	◇	86	• Discharge pressure sensor error • Suction pressure sensor error • High pressure switch error
●(9)	●(4)	◇	94	Trip detection
●(9)	●(5)	◇	95	Compressor rotor position detection error (permanent stop)
●(9)	●(7)	◇	97	Outdoor unit fan motor 1 error
●(9)	●(8)	◇	98	Outdoor unit fan motor 2 error
●(9)	●(9)	◇	99	4-way valve error
●(9)	●(10)	◇	9A	Coil (expansion valve) error
●(10)	●(1)	◇	A1	Discharge temp. error
●(10)	●(3)	◇	A3	Compressor temp. error
●(10)	●(4)	◇	A4	High pressure error
●(10)	●(5)	◇	A5	Low pressure error
●(13)	●(2)	◇	J2	Branch boxes error [Flexible Multi]

Display mode ● : 0.5s ON / 0.5s OFF
◇ : 0.1s ON / 0.1s OFF
() : Number of flashing

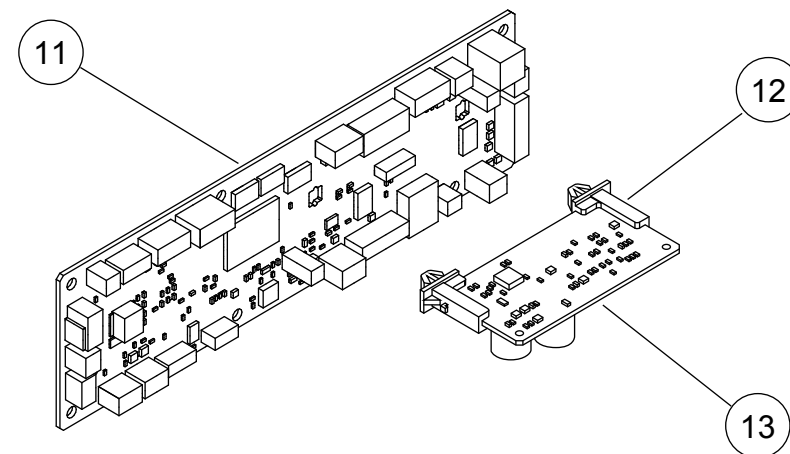
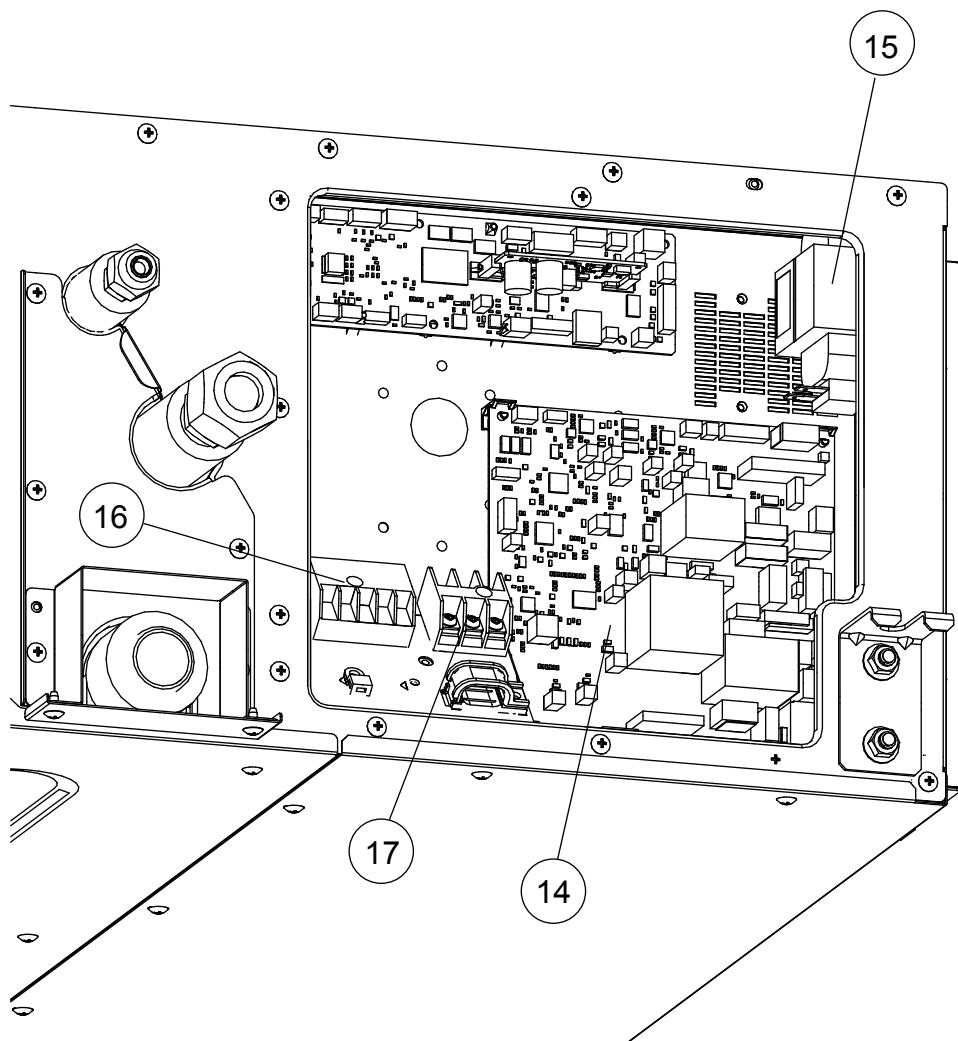
PARTS

INDOOR UNIT
ARYG18LHTBP
ARYG24LHTBP



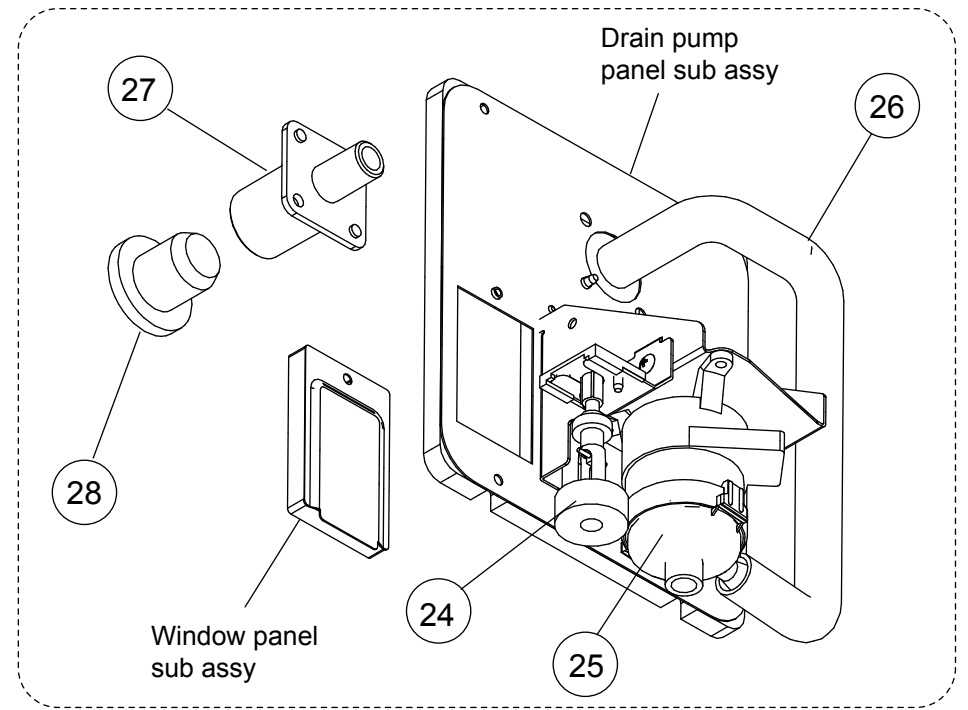
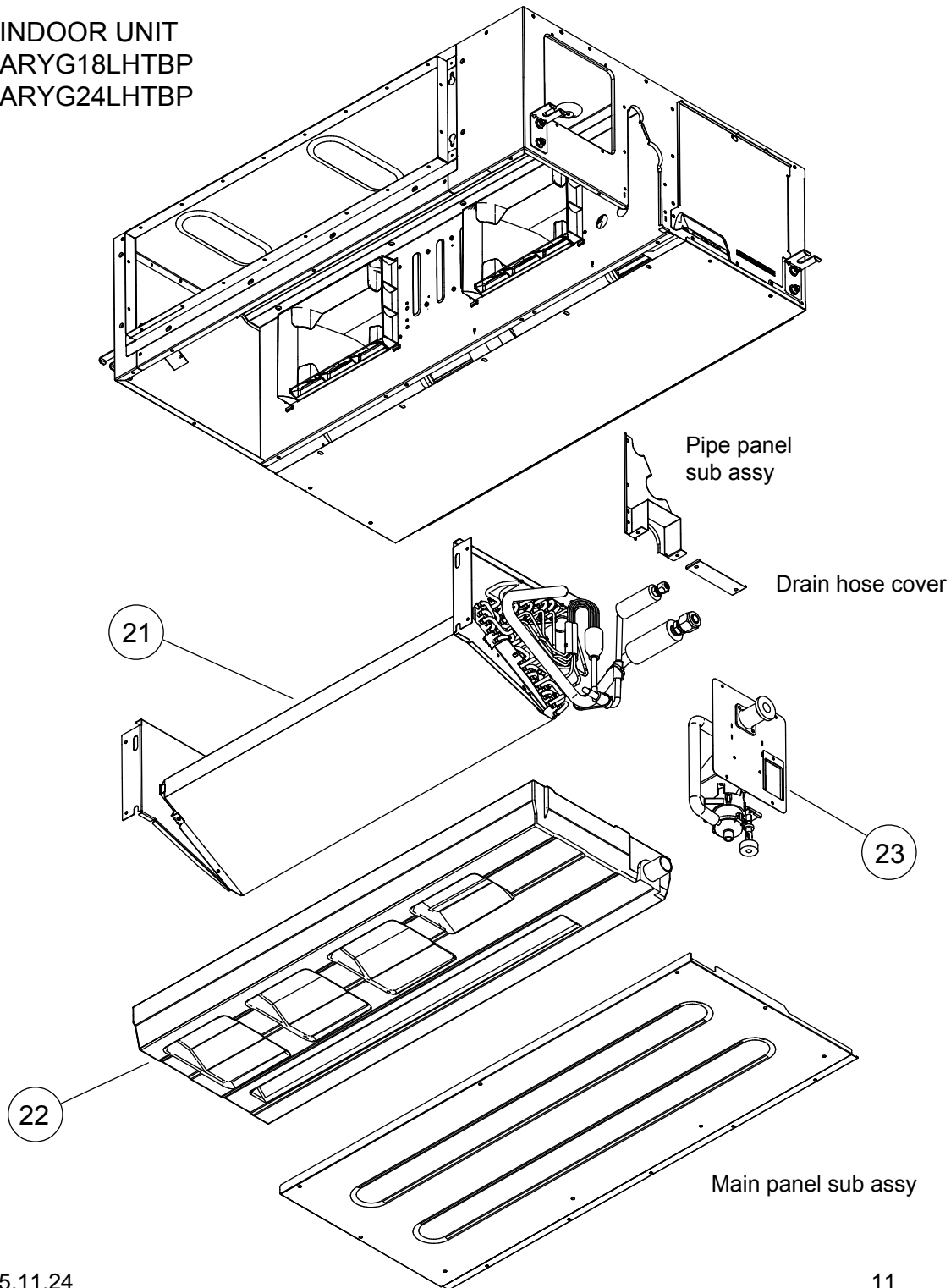
Ref.	Description	Part number
1	Remote Control (no brand)	9709335055
2	Hose Sub Assy	9378450196
3	Room Thermistor	9703299278
4	Pipe Thermistor	9900892005

INDOOR UNIT
 ARYG18LHTBP
 ARYG24LHTBP

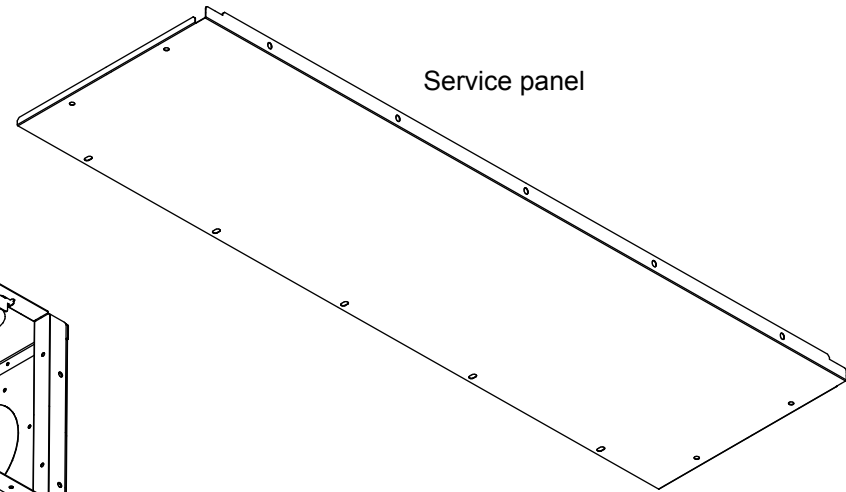
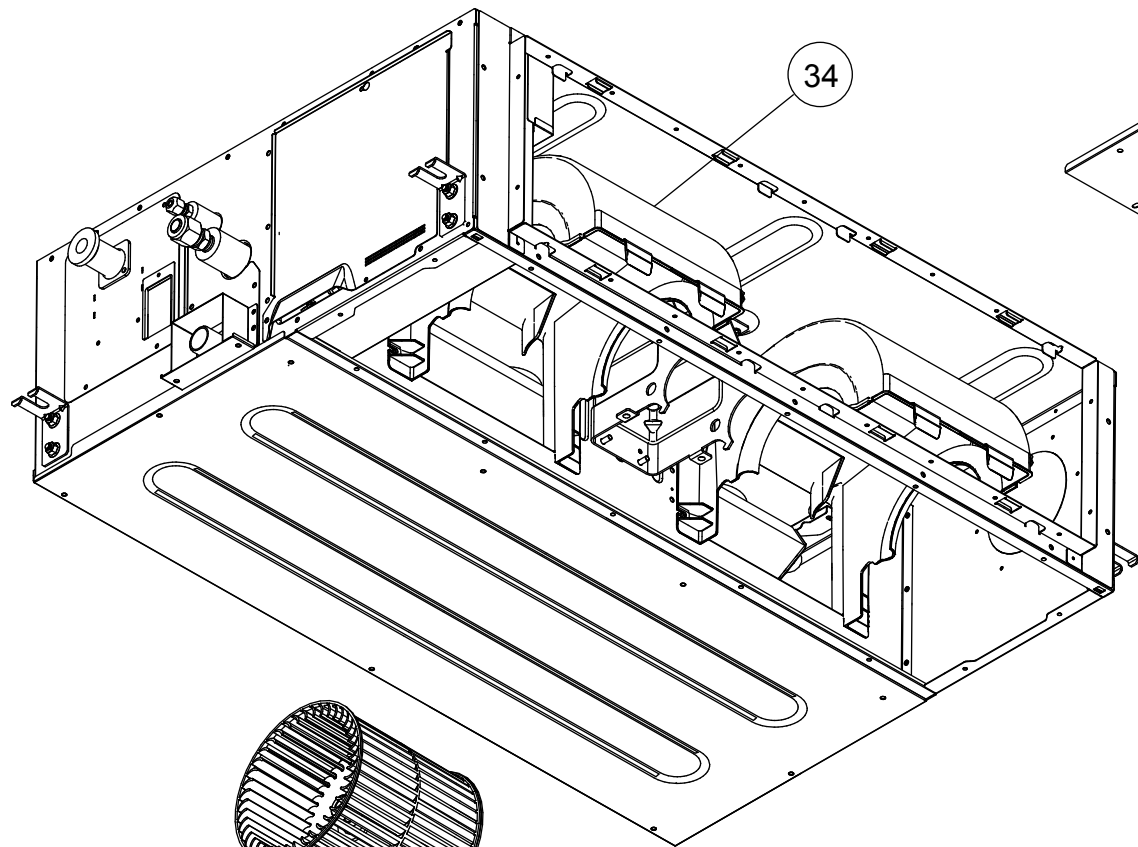


Ref.	Description	Part number
11	Main PCB (18LHTBP)	9710016226
11	Main PCB (24LHTBP)	9710016233
12	Holder	0600063023
13	Communication PCB	9710019005
14	Power Supply PCB	9710032011
15	Reactor Assy	9900898014
16	Terminal (Remote)	9900896003
17	Terminal (Power)	9900568009

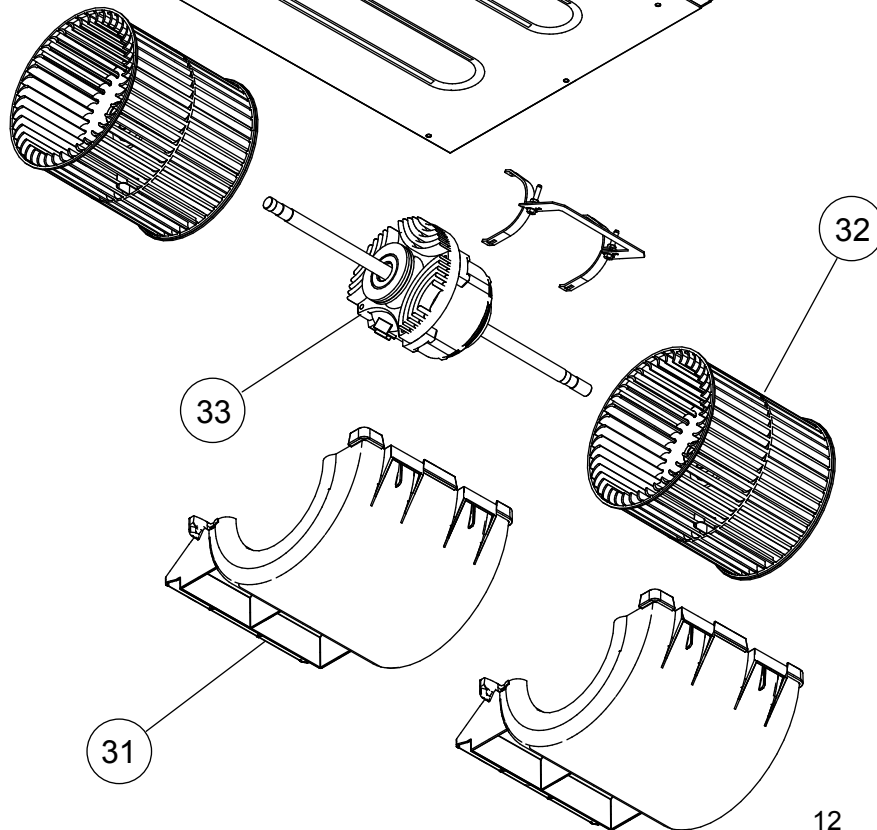
INDOOR UNIT
ARYG18LHTBP
ARYG24LHTBP



Ref.	Description	Part number
21	Evaporator Total Assy (18)	9374517404
21	Evaporator Total Assy (24)	9374517374
22	Drain Pan Sub Assy	9381752027
23	Drain Pump Sub Assy	9381766017
24	Float Switch	9900465070
25	Pump Assy	9900890018
26	Drain Hose	9381576005
27	Drain Port	9381565009
28	Drain Cap	9381578009

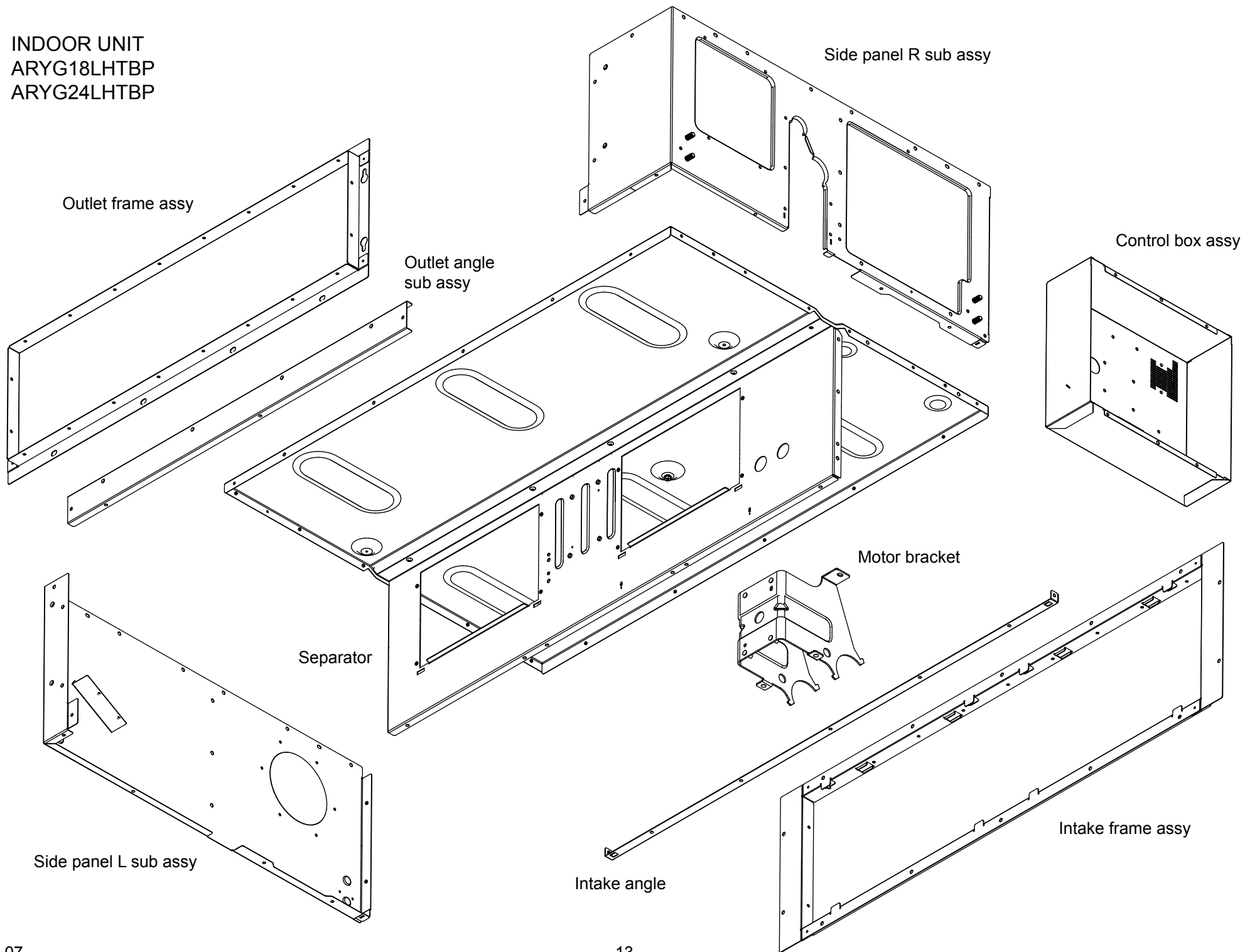


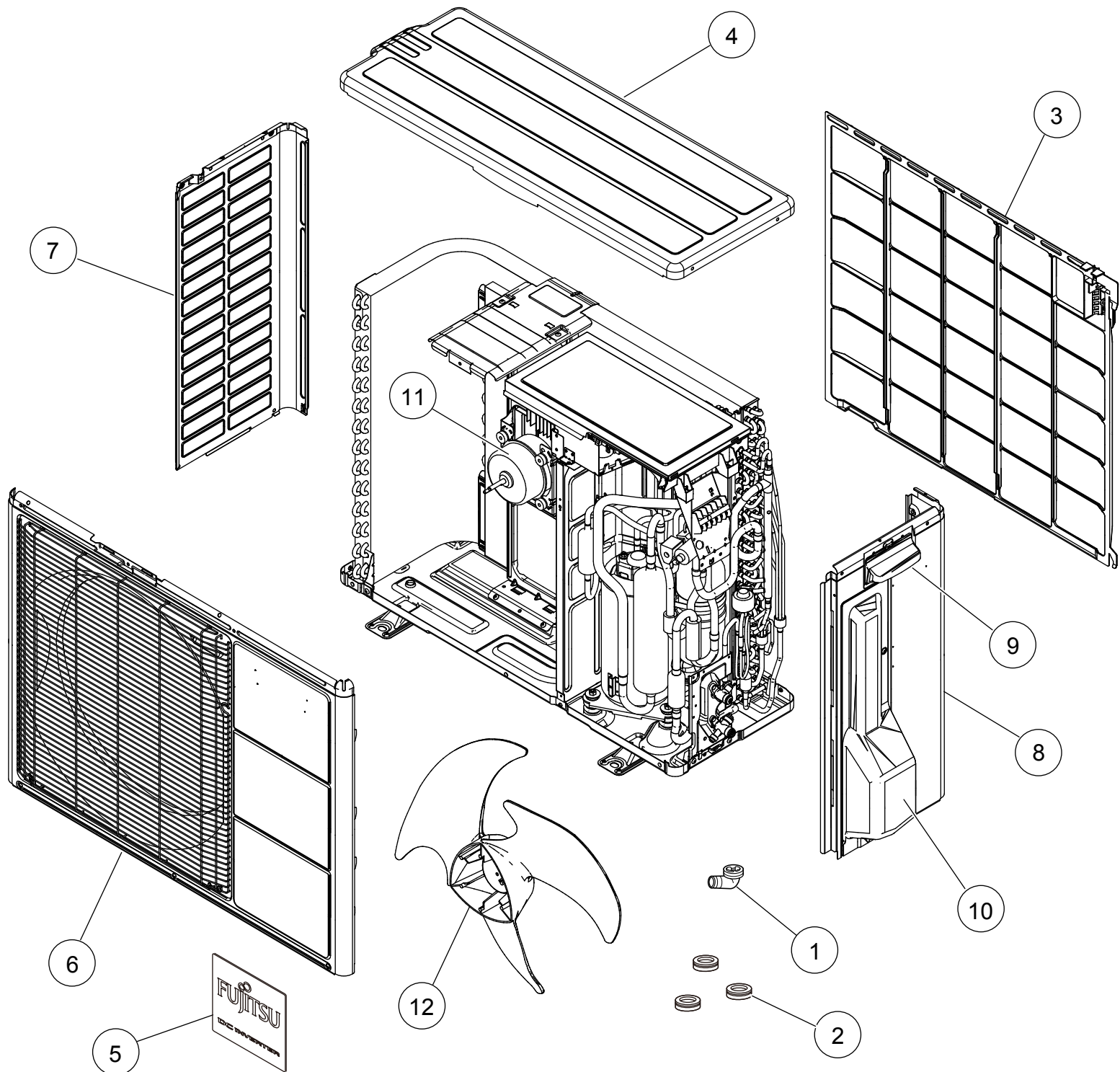
INDOOR UNIT
 ARYG18LHTBP
 ARYG24LHTBP



Ref.	Description	Part number	
31	Casing B Sub Assy	9381829002	
32	Sirocco Fan Assy	9381302000	
33	Fan Motor	9603479015	
34	Casing A	9381587001	

INDOOR UNIT
ARYG18LHTBP
ARYG24LHTBP



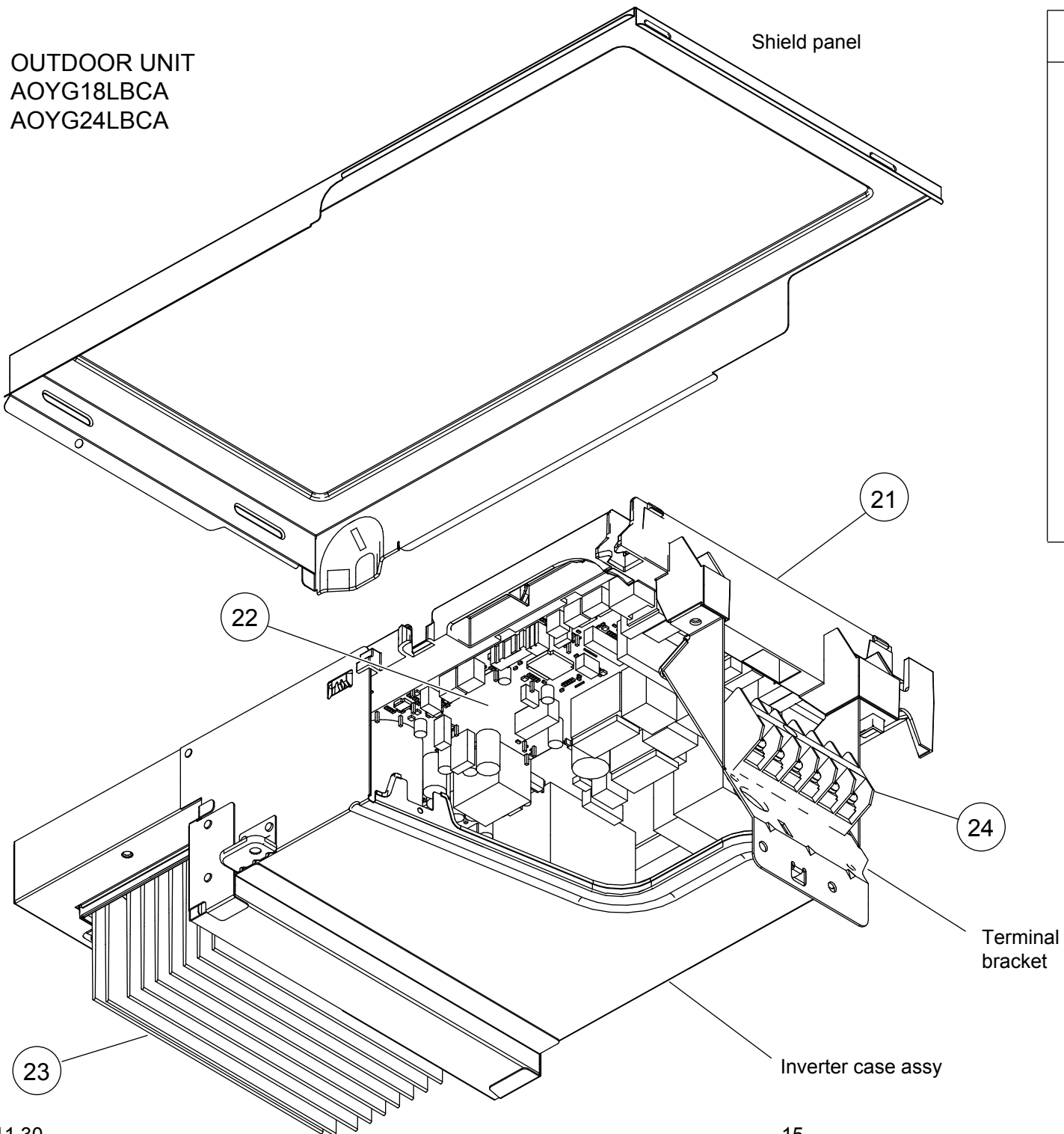


PARTS

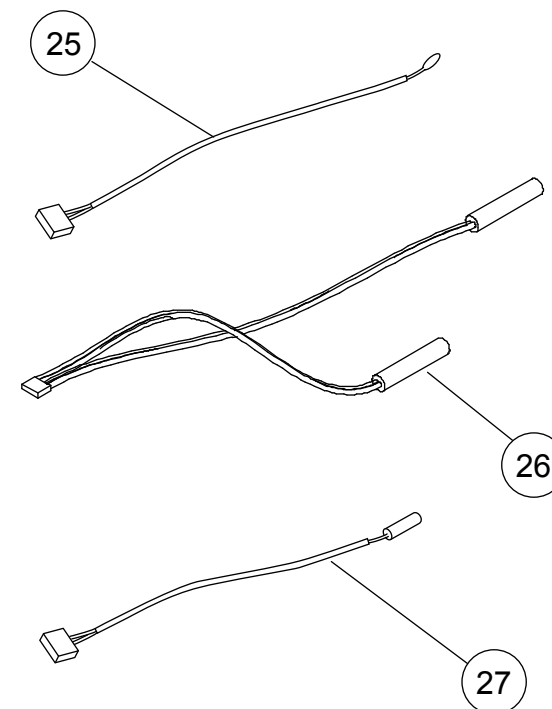
OUTDOOR UNIT
 AOYG18LBCA
 AOYG24LBCA

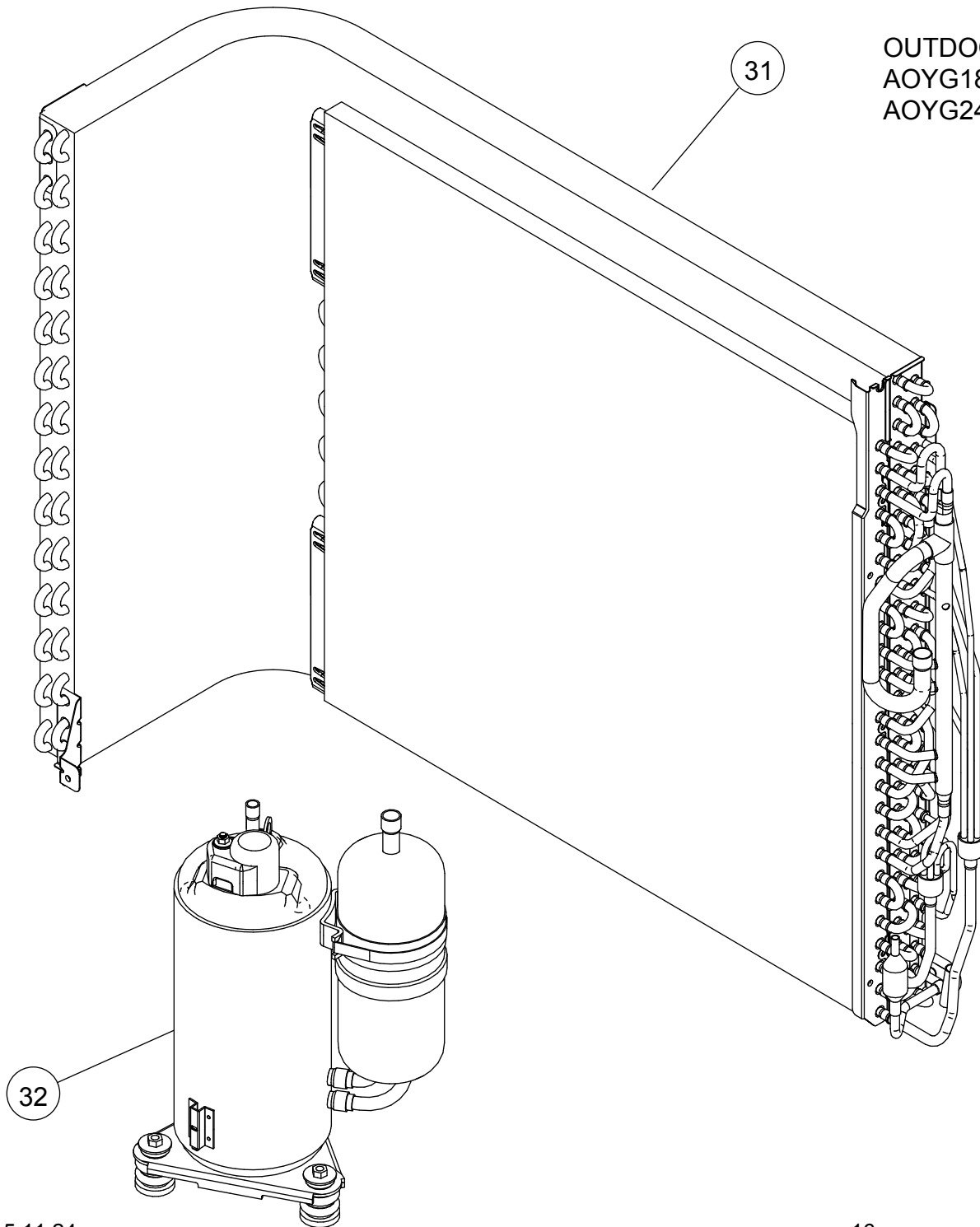
Ref.	Description	Part number
1	Drain Assy	9303029022
2	Drain Cap	313166024302
3	Protective Net	9331640015
4	Top Panel Assy	9318464139
5	Emblem	9319151007
6	Front Panel Assy	9318463040
7	Cabinet Left Assy	9318461015
8	Cabinet Right Assy	9318462012
9	Grip	9317588003
10	Switch Cover Assy	9318499001
11	Fan Motor	9602724017
12	Propeller Fan	9313808013

OUTDOOR UNIT
AOYG18LBCA
AOYG24LBCA

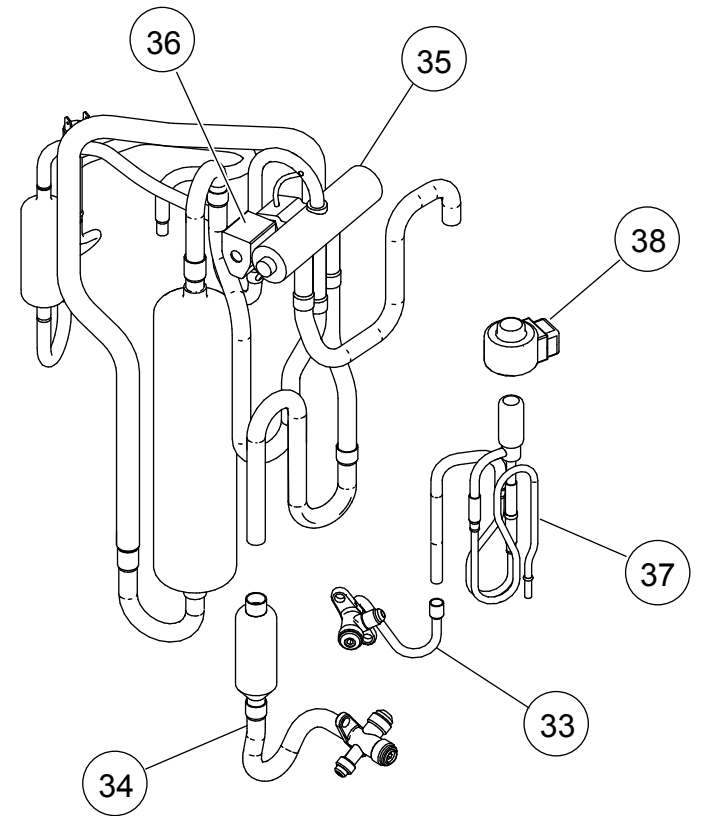


Ref.	Description	Part number
21	PCB Holder	9319547015
22	Main PCB (18LBCA)	9708995342
22	Main PCB (24LBCA)	9708995359
23	Heat Sink	9319540009
24	Terminal 6P	9900435028
25	Outdoor Thermistor	9900565008
26	Thermistor Assy	9900727017
27	Compressor Thermistor	9900777012

















OUTDOOR UNIT
AOYG18LBCA
AOYG24LBCA





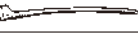



Ref.	Description	Part number
31	Condenser Total Assy	9317089166
32	Compressor	9810244000
33	2-way Valve Assy	9314554018
34	3-way Valve Sub Assy (18)	9317109017
34	3-way Valve Sub Assy (24)	9319098005
35	4-way Valve Assy	9319874012
36	Solenoid	9970110023
37	Pulse Motor Valve Sub Assy	9319886022
38	Expansion Valve Coil	9970095030

ACCESSORIES



INDOOR UNIT

Name and Shape	Q'ty	Description
Special nut A (large flange) 	4	For suspending the indoor unit from ceiling
Special nut B (small flange) 	4	
Washer 	8	
Coupler heat insulation (large) 	1	For indoor side pipe joint (gas pipe)
Coupler heat insulation (small) 	1	For indoor side pipe joint (liquid pipe)
Cable tie (large) 	4	For fixing the heat insulation
Cable tie (medium) 	1	For fixing the remote control cable
Cable tie (small) 	1	For fixing the remote control cable
Remote control 	1	For air conditioner operation
Remote control accessories	1 set	See Installation manual for remote control
Drain hose insulation 	1	Insulates the drain hose and vinyl hose
Drain hose 	1	For installing drain pipe VP25 (O.D.32, I.D.25)
Hose Band 	1	For installing drain hose

REMOTE CONTROL

Name and Shape	Q'ty	Application
Screw (M4 × 16 mm) 	2	For installing the remote controller
Cable tie (medium) 	1	For fixing the remote controller cable
Cable tie (small) 	1	For fixing the remote controller cable
Tube 	1	To protect wiring
Screw (M4 × 14 mm) 	1	For installing the remote controller cable to the indoor unit
Cable clamber 	1	For installing the remote controller cable to the indoor unit

OUTDOOR UNIT

Name and shape	Q'ty	Description
Drain pipe 	1	For outdoor unit drain piping work
Drain cap 	3	

1510G4455