

SERVICE MANUAL



Indoor unit	Outdoor unit
AUXG24KVLA	AOYG24KBTB
UTG-UFYF-W	

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Specifications (Indoor unit)

Type				Cassette	
				Inverter heat pump	
Model name				AUXG24KVL A	
Power supply				230 V ~ 50 Hz	
Power supply intake				Outdoor unit	
Available voltage range				198—264 V	
Capacity	Cooling	Rated	kW	6.80	
			Btu/h	23,200	
		Min.—Max.	kW	0.90—8.00	
			Btu/h	3,100—27,300	
	Heating	Rated	kW	7.50	
			Btu/h	25,600	
Min.—Max.		kW	0.90—9.10		
		Btu/h	3,100—31,000		
Input power	Cooling	Rated	kW	2.21	
				Max.	3.09
	Heating	Rated		2.03	
				Max.	2.70
Current	Cooling	Rated	A	9.7	
	Heating			8.9	
Power factor	Cooling			98.7	
	Heating			98.7	
EER	Cooling			3.08	
COP	Heating			3.69	
Moisture removal			L/h (pints/h)	2.7 (4.8)	
Maximum operating current *1	Cooling			13.6	
	Heating			13.6	
Fan	Airflow rate	Cooling	m ³ /h	HIGH	930
				MED	830
				LOW	600
				QUIET	450
		Heating		HIGH	930
				MED	860
				LOW	700
				QUIET	530
	Type × Q'ty			Turbo × 1	
	Motor output			W	
			54		
Sound pressure level *2	Cooling		dB (A)	HIGH	49
				MED	44
				LOW	36
				QUIET	30
	Heating			HIGH	49
				MED	45
				LOW	40
				QUIET	33
Heat exchanger type	Dimensions (H × W × D)		mm	Main1: 210 × 1,360 × 13.3	
				Main2: 210 × 1,295 × 13.3	
				Main3: 210 × 1,235 × 13.3	
	Fin pitch			1.45	
	Rows × Stages			1 × 10	
Pipe type			Copper tube		
Fin type			Aluminum		
Dimensions (H × W × D)	Net		mm	245 × 570 × 570	
	Gross			265 × 730 × 625	
Weight	Net		kg	16	
	Gross			20	
Connection pipe	Size	Liquid	mm (in)	Ø 6.35 (Ø1/4)	
		Gas		Ø12.70 (Ø1/2)	
	Method			Flare	
Operation range	Cooling		°C	18 to 32	
	Heating		%RH	80 or less	
			°C	16 to 30	
Cassette grille (Grid type: Option)	Material			Polystyrene	
	Color			White	
				Approximate color of Munsell 9PB 9.1/0.2	
	Dimensions (H × W × D)	Net	mm	49 × 620 × 620	
				Gross	120 × 765 × 755
	Weight	Net	kg	2.3	
Gross				4.5	
Remote control (Option)			Wired remote controller, Wireless remote controller, Mobile app*3 (FGLair™)		
Drain hose	Material			PVC	
	Size			VP25 [Ø25(I.D.),Ø32(O.D.)]	
NOTES:					
<ul style="list-style-type: none"> Specifications are based on the following conditions: <ul style="list-style-type: none"> Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB. Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB. Pipe length: 5 m, Height difference: 0 m. (Between outdoor unit and indoor unit.) Protective function might work when using it outside the operation range. *1: Maximum operating current is the total current of the indoor unit and the outdoor unit. *2: Sound pressure level: <ul style="list-style-type: none"> Measured values in manufacturer's anechoic chamber. Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here. *3: Available on Google Play™ store or on App Store®. Optional WLAN adapter is also required. For details, refer to the setting manual. 					

Specifications for ErP Lot10				
Model name			AUXG24KVLA	
Energy efficiency class	Cooling		A++	
	Heating (Average)		A+	
Pdesign	Cooling	kW	6.8 (35°C)	
	Heating (Average)		6.0 (-10°C)	
SEER	Cooling		6.10	
SCOP	Heating (Average)		4.00	
Annual energy consumption	QCE		390	
	QHE (Average)		2,097	
Sound power level	Cooling	HIGH	dB (A)	
	Heating		61	

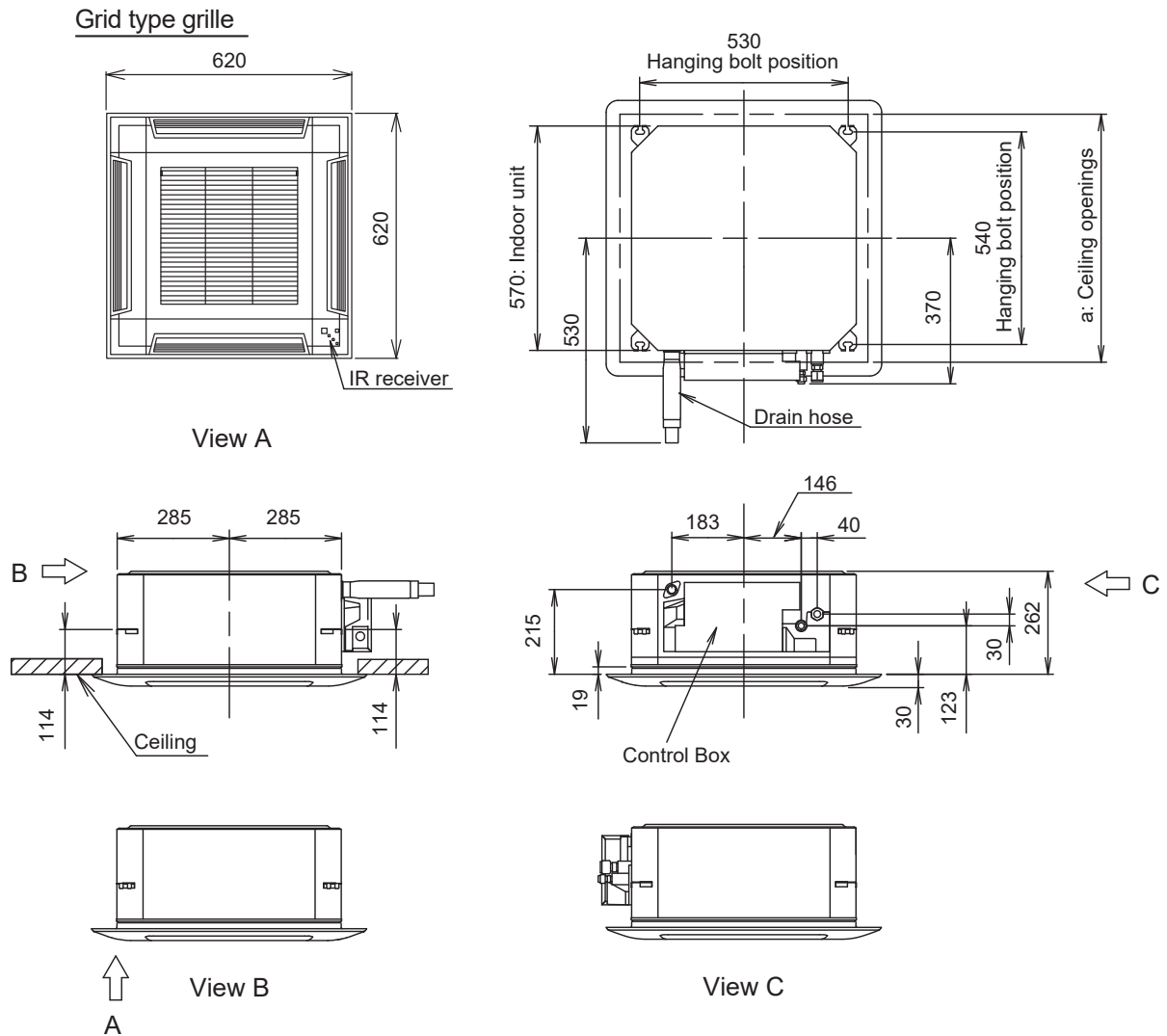
Specifications (Outdoor unit)

Type				Inverter heat pump
Model name				AOYG24KBTB
Power supply				230 V ~ 50 Hz
Power supply intake				Outdoor unit
Available voltage range				198—264 V
Starting current				9.7
Fan	Airflow rate	Cooling	m ³ /h	2,700
		Heating		2,700
	Type × Q'ty			Propeller × 1
	Motor output		W	49
Sound pressure level *1		Cooling	dB (A)	53
		Heating		54
Sound power level		Cooling	dB (A)	65
		Heating		66
Heat exchanger type	Dimensions (H × W × D)		mm	Main1: 672 × 881 × 18.2 Main2: 672 × 851 × 18.2
	Fin pitch			1.3
	Rows × Stages			2 × 32
	Pipe type			Copper tube
	Fin	Type (Material)		Aluminum
		Surface treatment		PC fin
Compressor	Type × Q'ty			DC Twin rotary × 1
	Motor output		W	1,060
Refrigerant	Type (Global warming potential)			R32 (675)
	Factory charge		g	1,250
Refrigerant oil	Type			RmM68AF
	Amount		cm ³	400
Enclosure	Material			Steel sheet
	Color			Beige Approximate color of Munsell 10YR 7.5/1.0
Dimensions (H × W × D)	Net		mm	716 × 820 × 315
	Gross			776 × 961 × 450
Weight	Net		kg	42
	Gross			46
Connection pipe	Size	Liquid	mm (in)	Ø6.35 (1/4)
		Gas		Ø12.70 (1/2)
	Method			Flare
	Pre-charge length		m	20
	Max. length			30
	Max. height difference			25
Operation range		Cooling	°C	-15 to 46
		Heating		-15 to 24
Drain hose	Material			PP
	Size		mm	Ø13.0 (I. D.), Ø16.0 to Ø16.8 (O. D.)
NOTES:				
<ul style="list-style-type: none"> • Specifications are based on the following conditions: <ul style="list-style-type: none"> – Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB. – Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB. – Pipe length: 5 m, Height difference: 0 m. (Between outdoor unit and indoor unit.) • Protective function might work when using it outside the operation range. • *1: Sound pressure level <ul style="list-style-type: none"> – Measured values in manufacturer's anechoic chamber. – Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here. 				

Dimensions

Model: AUXG24KVLA

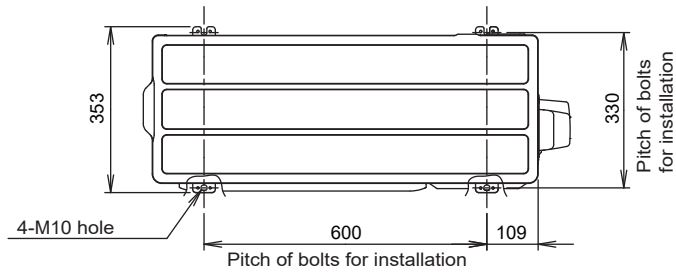
Unit: mm



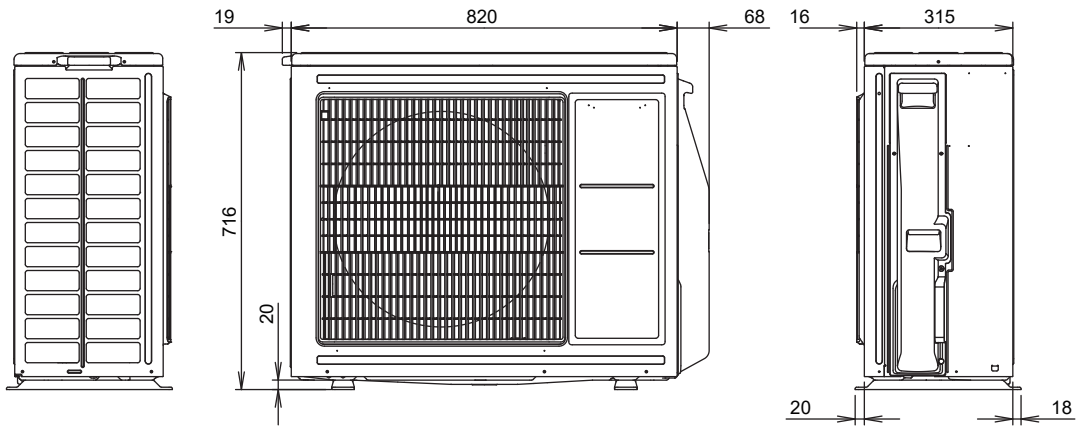
a: Ceiling openings		
Cassette grille (Option [Grid type])	mm	580 to 610

Model: AOYG24KBTB

Unit: mm



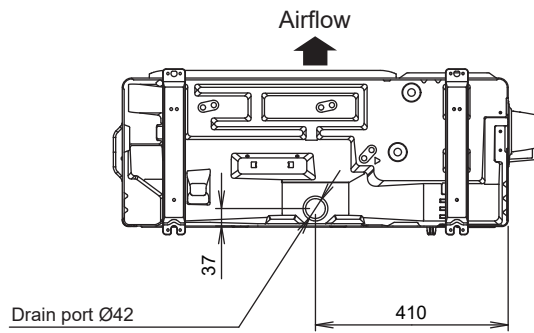
Top view



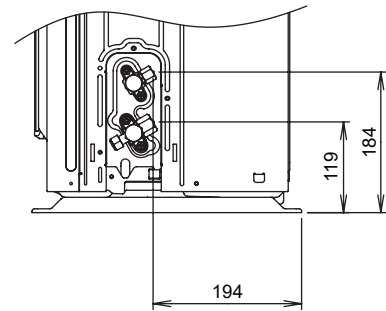
Side view

Front view

Side view



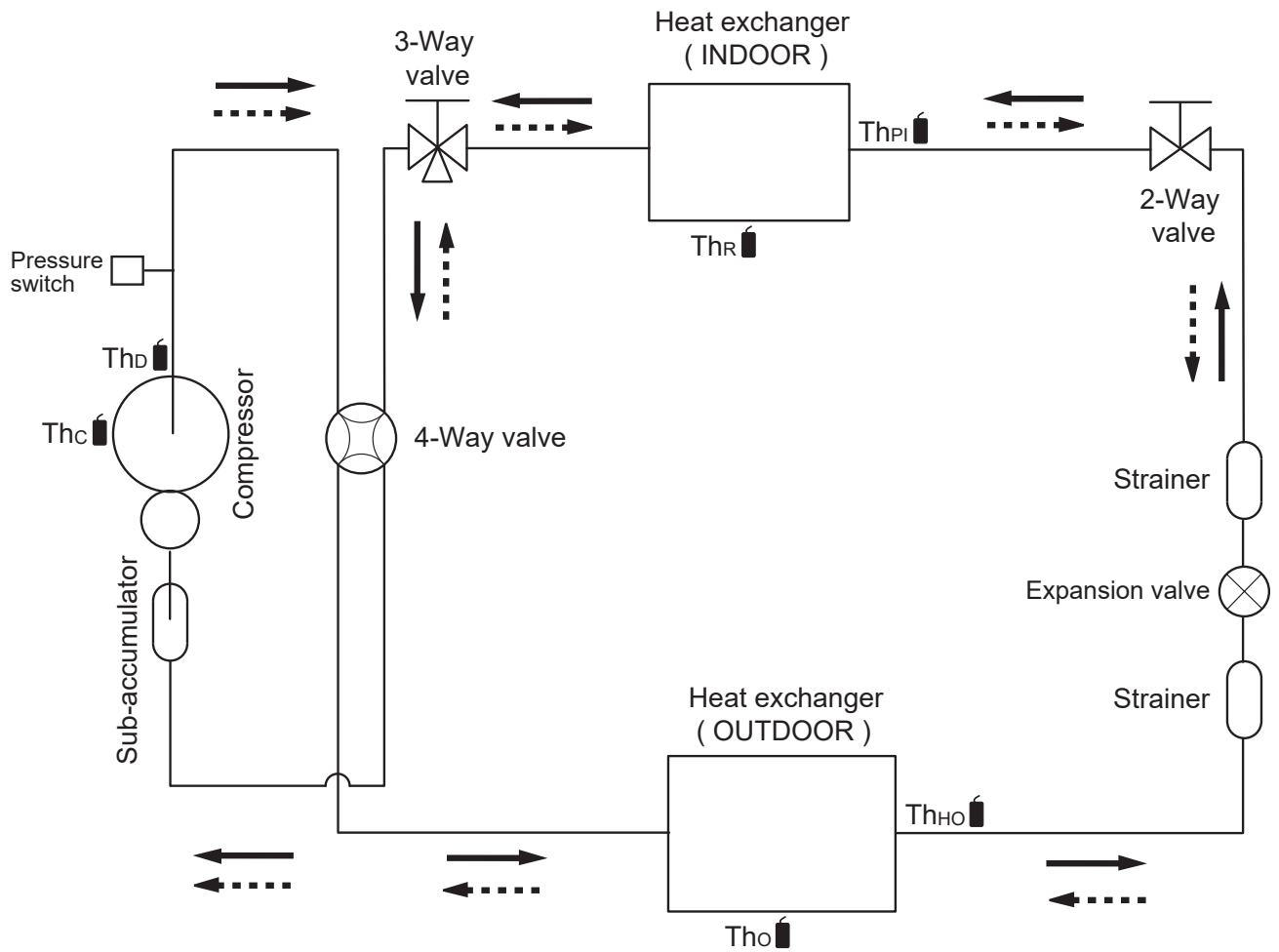
Bottom view



Side view (Valve part)

Refrigerant circuit

Model: AOYG24KBTB

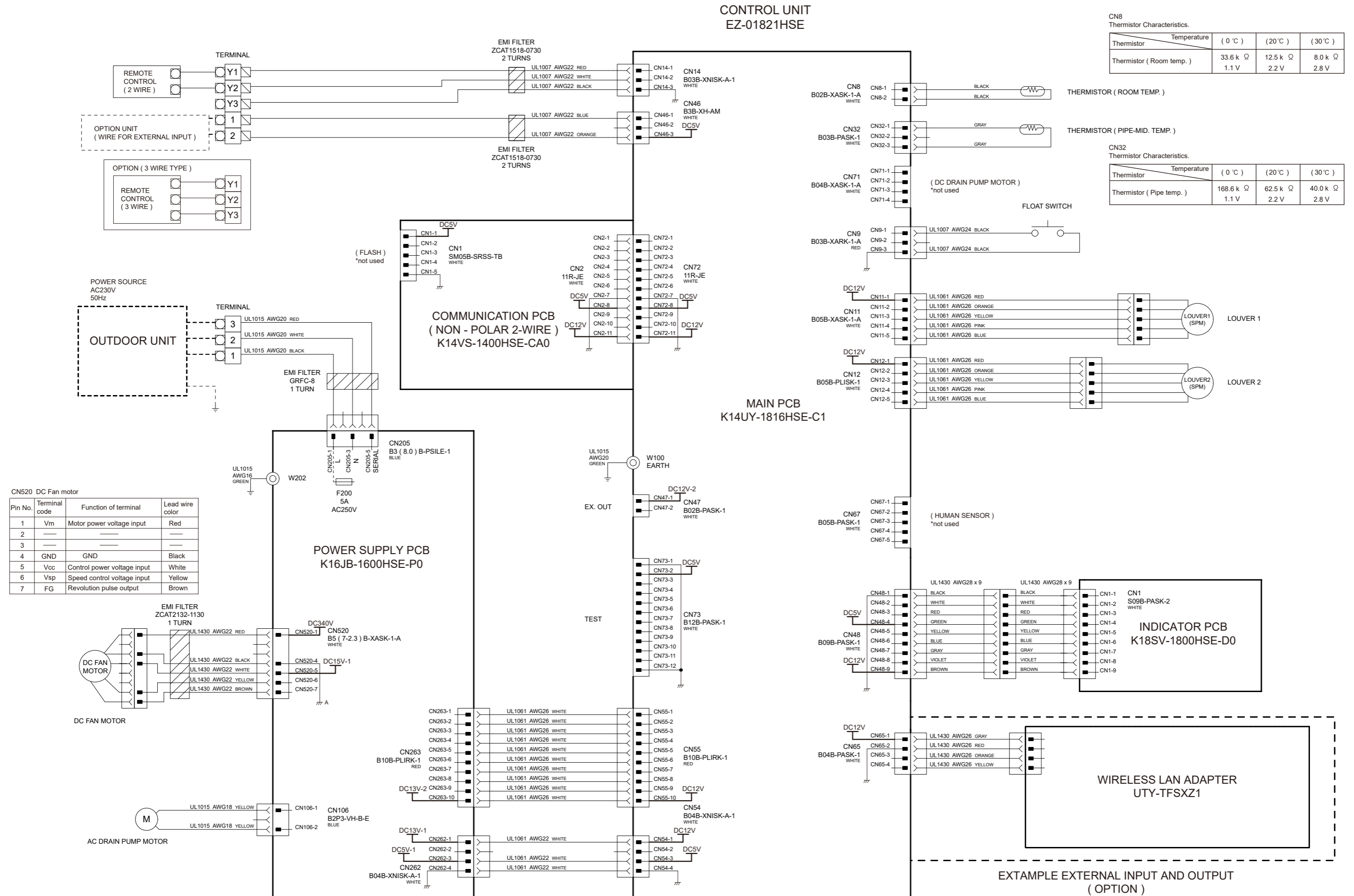


—→ : Cooling
 - - - -> : Heating

- Th_c : Thermistor (Compressor temperature)
- Th_D : Thermistor (Discharge temperature)
- Th_o : Thermistor (Outdoor temperature)
- Th_{HO} : Thermistor (Heat Exchanger Out temperature)
- Th_R : Thermistor (Room temperature)
- Th_{PI} : Thermistor (Pipe temperature)

INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

Model : AUXG24KVLA



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 temp.)	168.6 k Ω	62.5 k Ω	40.0 k Ω
	1.1 V	2.2 V	2.8 V

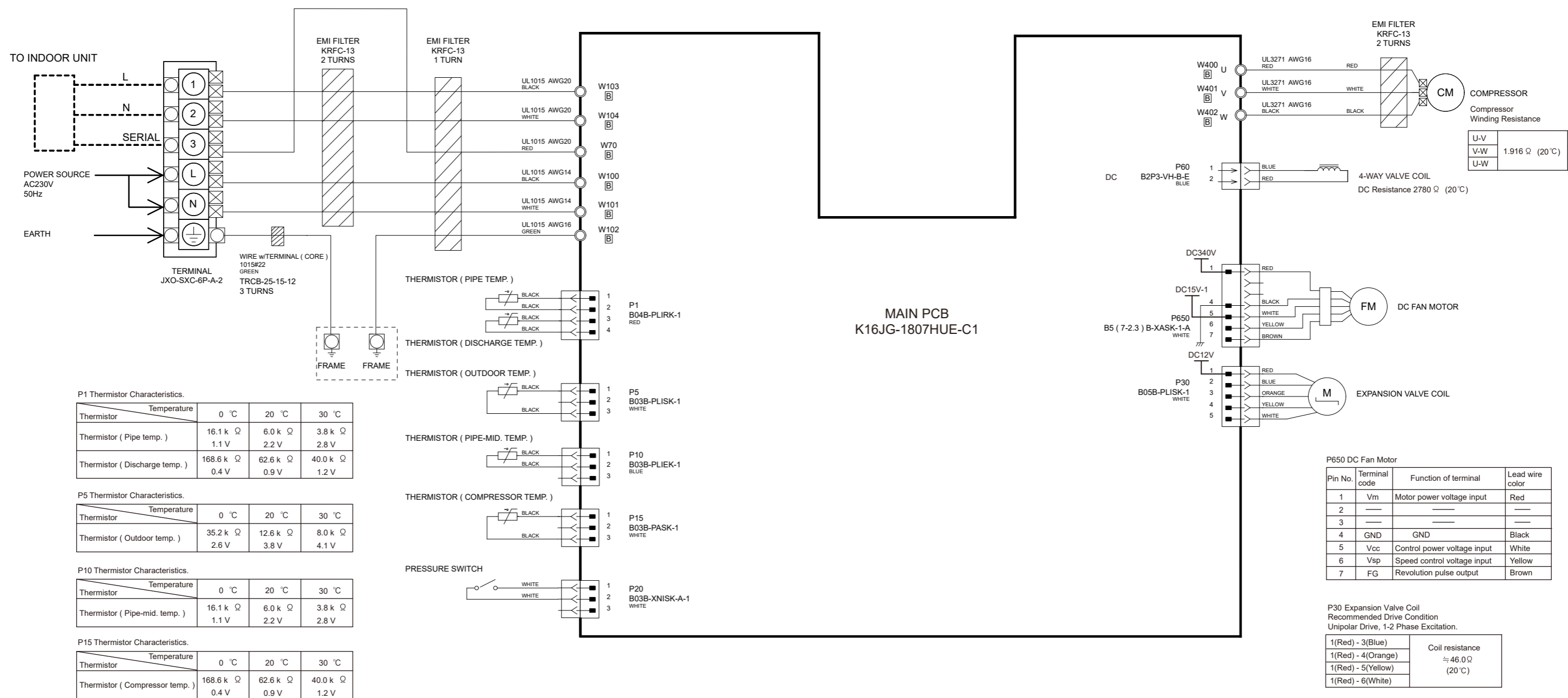
CN520 DC Fan motor

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

OUTDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

Model : AOYG24KBTB

INVERTER ASSEMBLY
EZ-01801HUE



P1 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 0.4 V	62.6 k Ω 0.9 V	40.0 k Ω 1.2 V

P5 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

P10 Thermistor Characteristics.

Thermistor	Temperature	0 °C	20 °C	30 °C
Thermistor (Pipe-mid. temp.)		16.1 k Ω 1.1 V	6.0 k Ω 2.2 V	3.8 k Ω 2.8 V

P15 Thermistor Characteristics.

Thermistor	Temperature	0 °C	20 °C	30 °C
Thermistor (Compressor temp.)		168.6 k Ω 0.4 V	62.6 k Ω 0.9 V	40.0 k Ω 1.2 V

P650 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

P30 Expansion Valve Coil
Recommended Drive Condition
Unipolar Drive, 1-2 Phase Excitation.

1(Red) - 3(Blue)	Coil resistance ≈ 46.0 Ω (20 °C)
1(Red) - 4(Orange)	
1(Red) - 5(Yellow)	
1(Red) - 6(White)	

Error codes

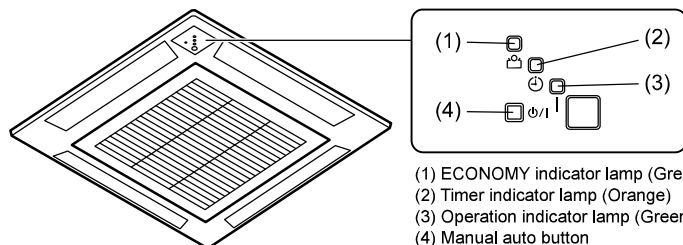
If you use a wireless remote controller, the lamp on the photo detector unit will output error codes by way of blinking patterns. If you use a wired remote controller, error codes will appear on the remote control display. Refer to the lamp blinking patterns and error codes in the table. An error display is displayed only during operation.

Error display			Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(1)	●(1)	◇	11	Serial communication error
●(1)	●(2)	◇	12	• Wired remote controller communication error • Server room 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)	●(4)	◇	54	Electric air cleaner reverse VDD error
●(5)	●(5)	◇	55	Filter set error
●(5)	●(7)	◇	57	Damper error
●(5)	●(8)	◇	58	Intake grille error
●(5)	●(9)	◇	59	Indoor unit fan motor 2 error (Left side fan)
●(5)	●(10)	◇	5A	Indoor unit fan motor 3 error (Right side fan)
●(5)	●(15)	◇	5U	Indoor unit error

Error display			Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(6)	●(1)	◇	61	Outdoor unit reverse/missing phase and wiring error
●(6)	●(2)	◇	62	Outdoor unit main PCB model information error or communication error
●(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

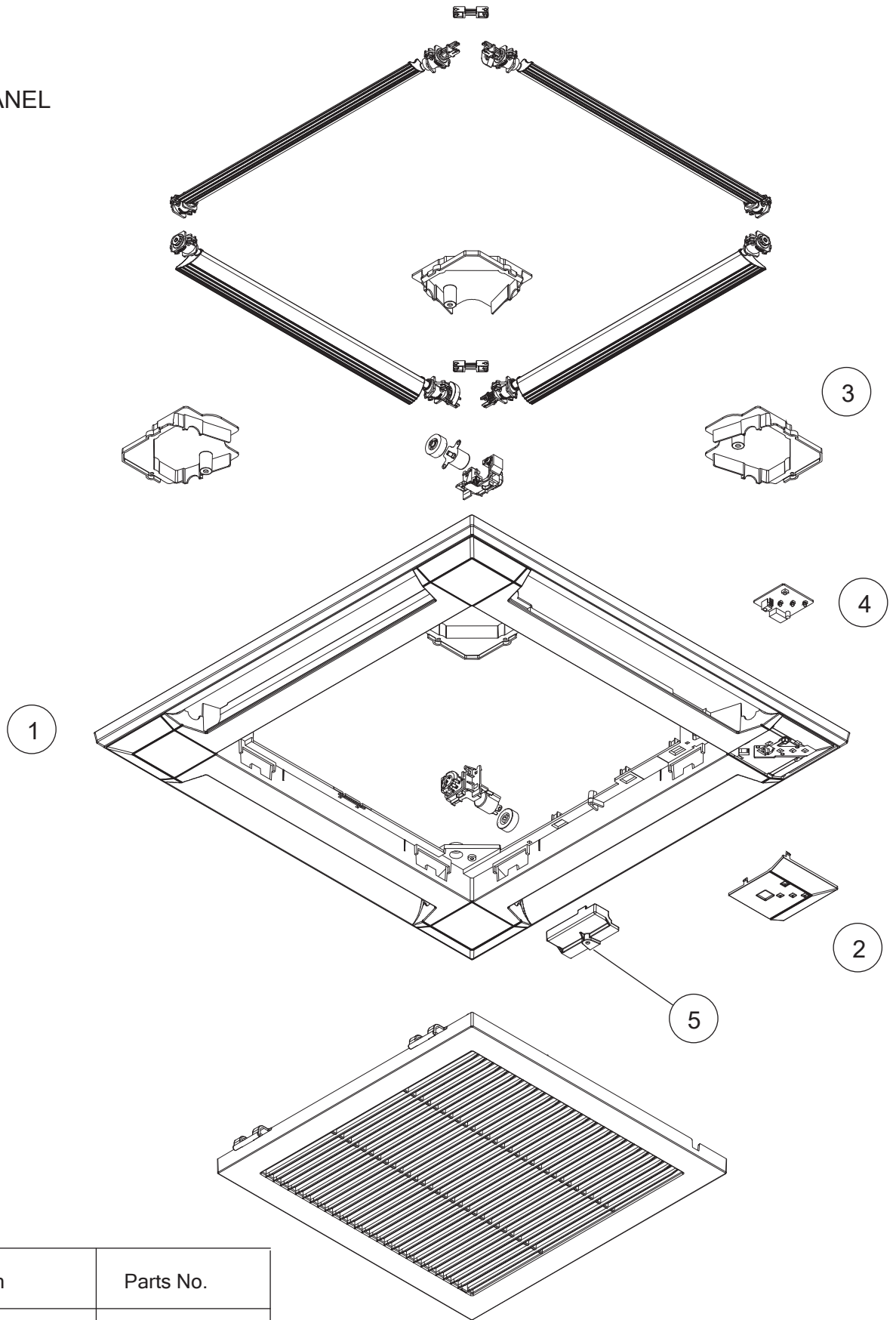
■ Error display on the indoor unit



- (1) ECONOMY indicator lamp (Green)
(2) Timer indicator lamp (Orange)
(3) Operation indicator lamp (Green)
(4) Manual auto button

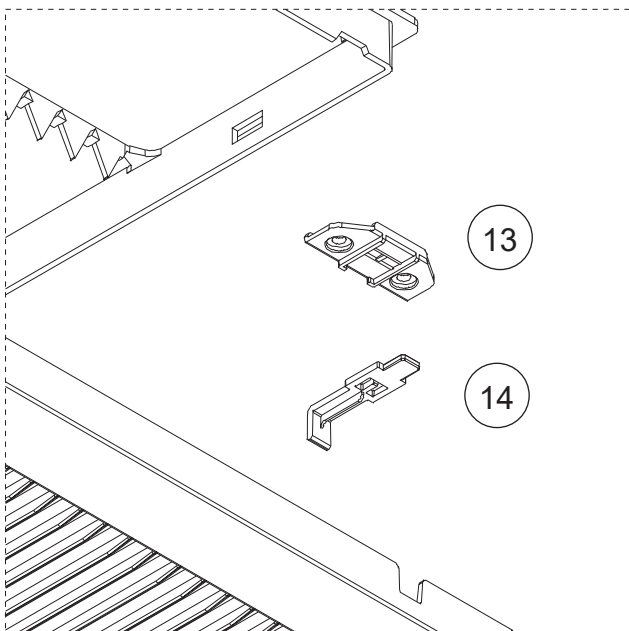
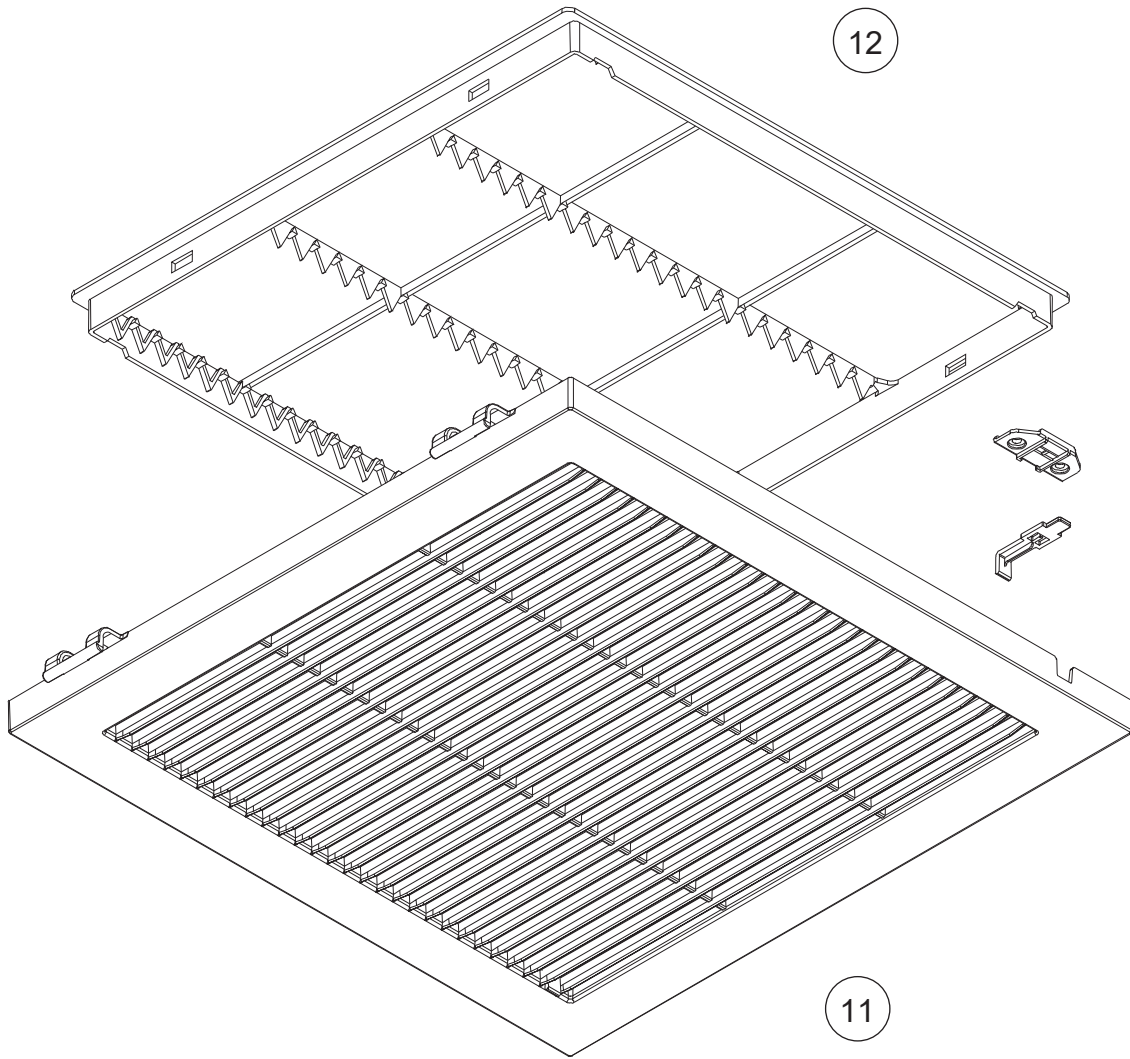
Parts

DECORATION PANEL
UTG-UFYF-W



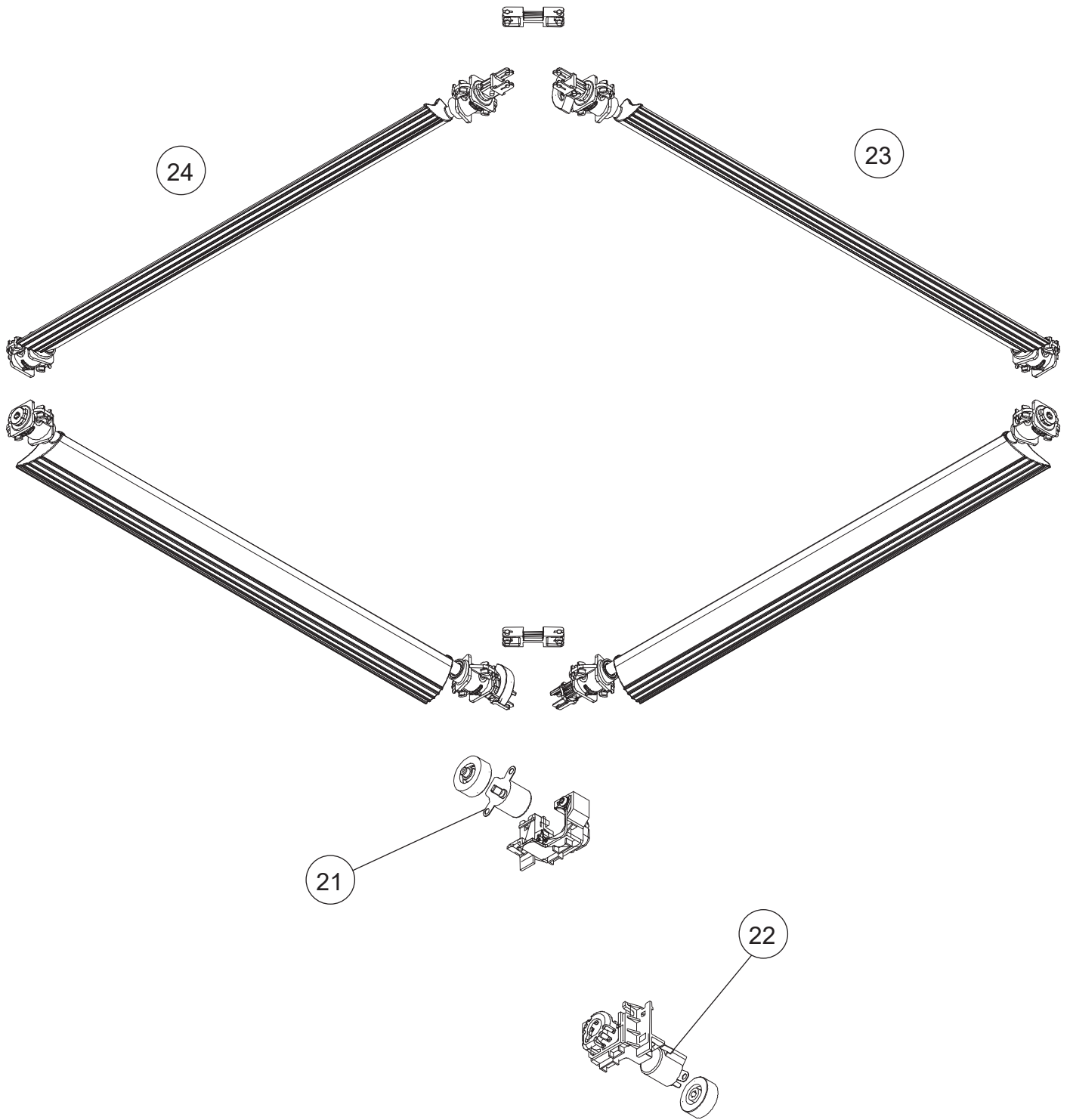
Ref	Description	Parts No.
1	Decoration Panel without Insulations	9382821005
2	Display panel assy	9383100031
3	Panel Cover without Insulations	9375530013
4	Indicator PCB	9711310002
5	Connector Cover	9375549015

DECORATION PANEL
 UTG-UFYF-W
 Intake grille assy



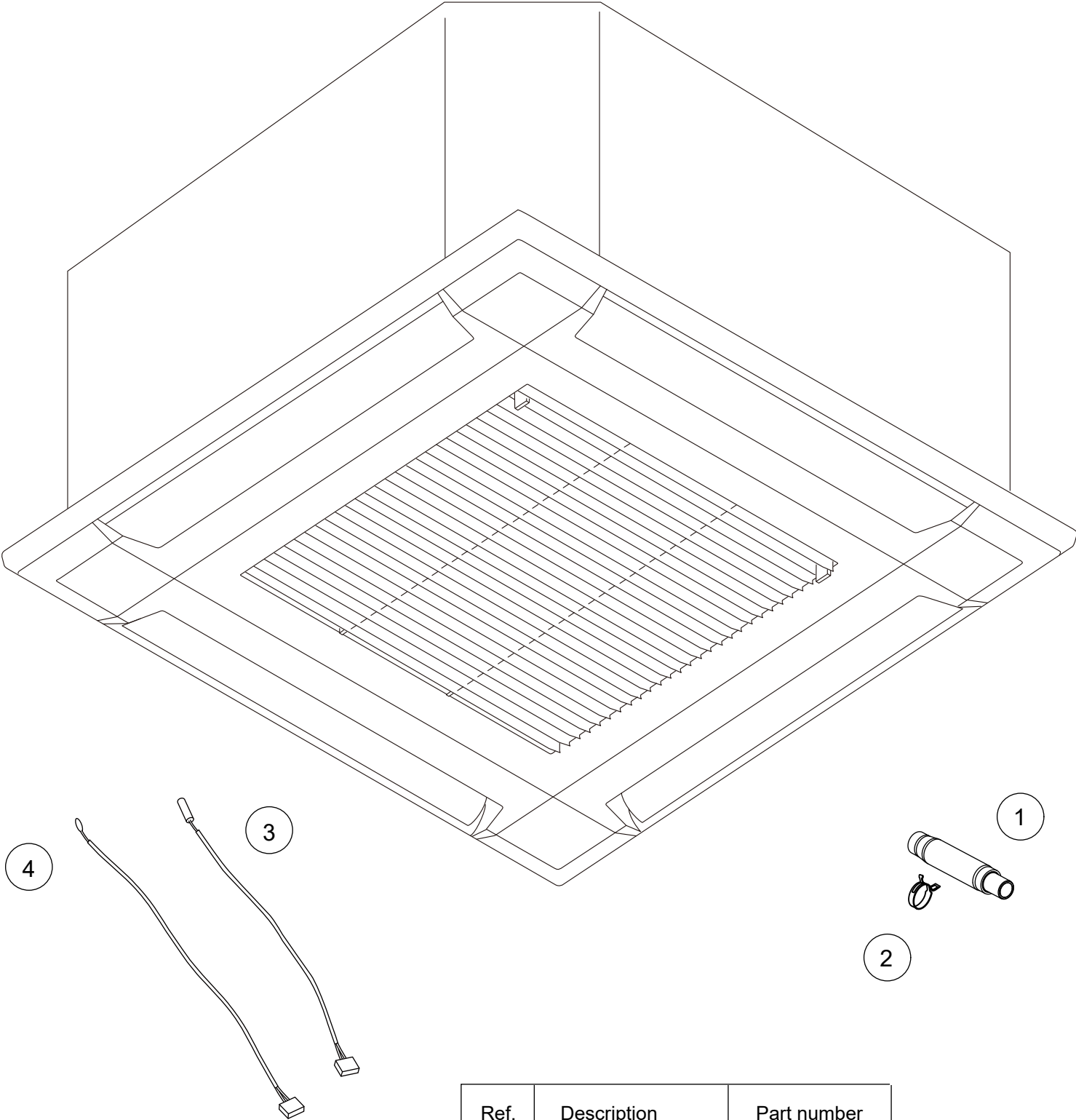
Ref	Description	Parts No.
11	Intake grille	9382863005
12	Long Life Filter	9375533014
13	Hook bracket	9375546014
14	Grille hook	9375532031

DECORATION PANEL
UTG-UFYF-W

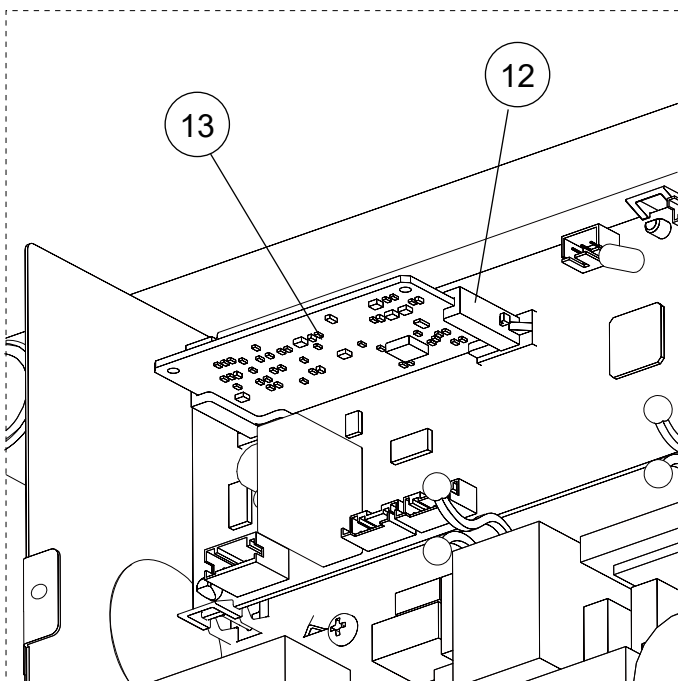
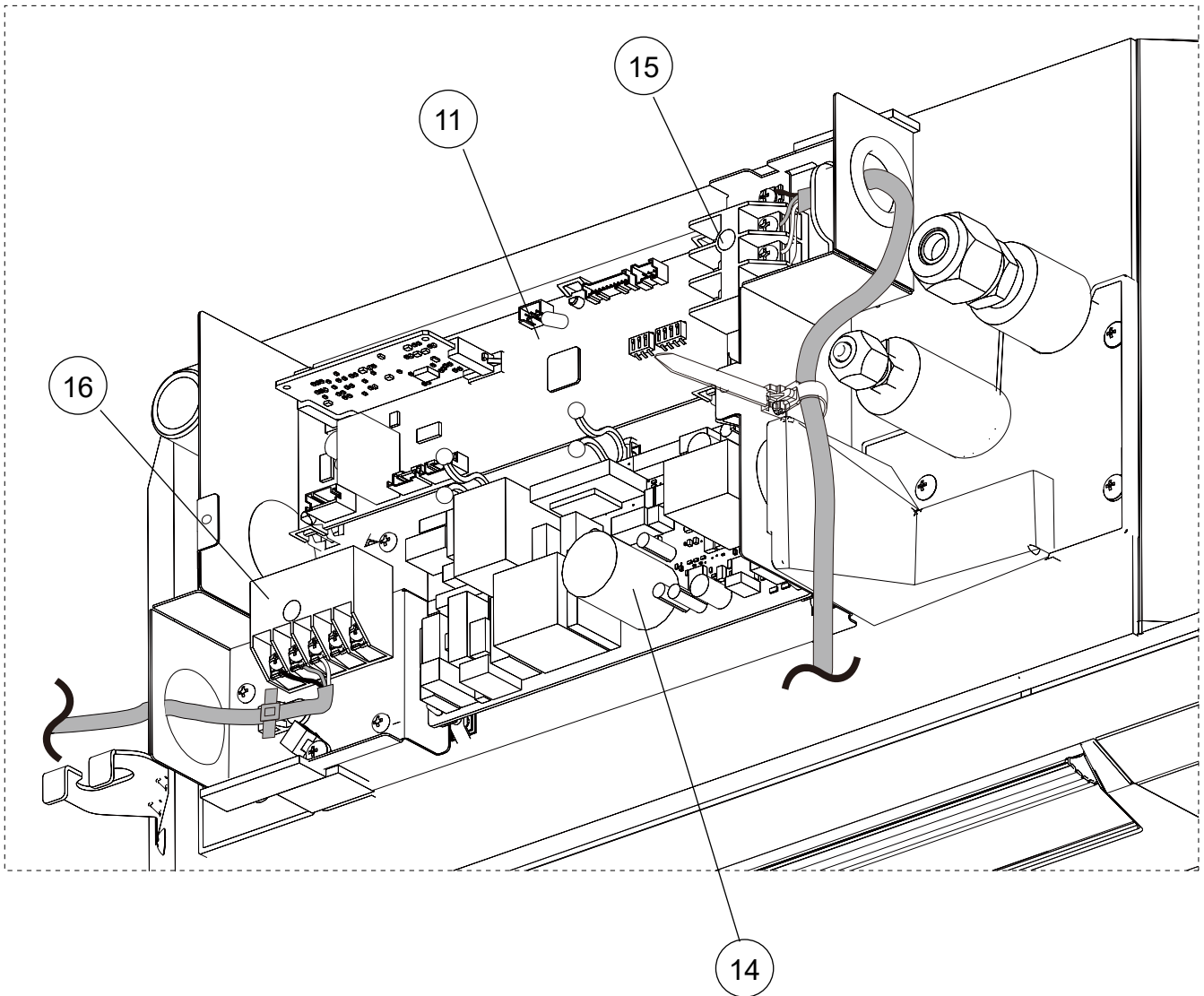


Ref	Description	Parts No.
21	Step Motor (White connector)	9900139070
22	Step Motor (Red connector)	9900139087
23	Flap assy A	9375727048
24	Flap assy B	9377759047

INDOOR UNIT
AUXG24KVLA

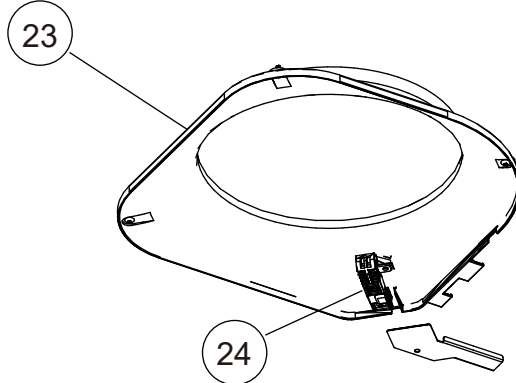
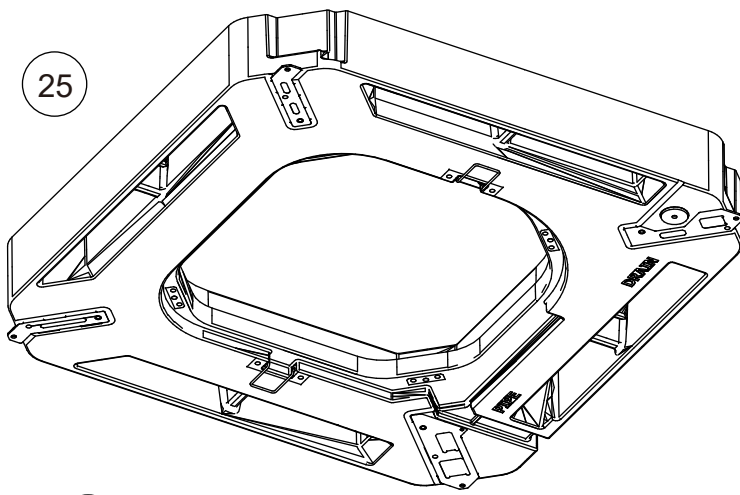
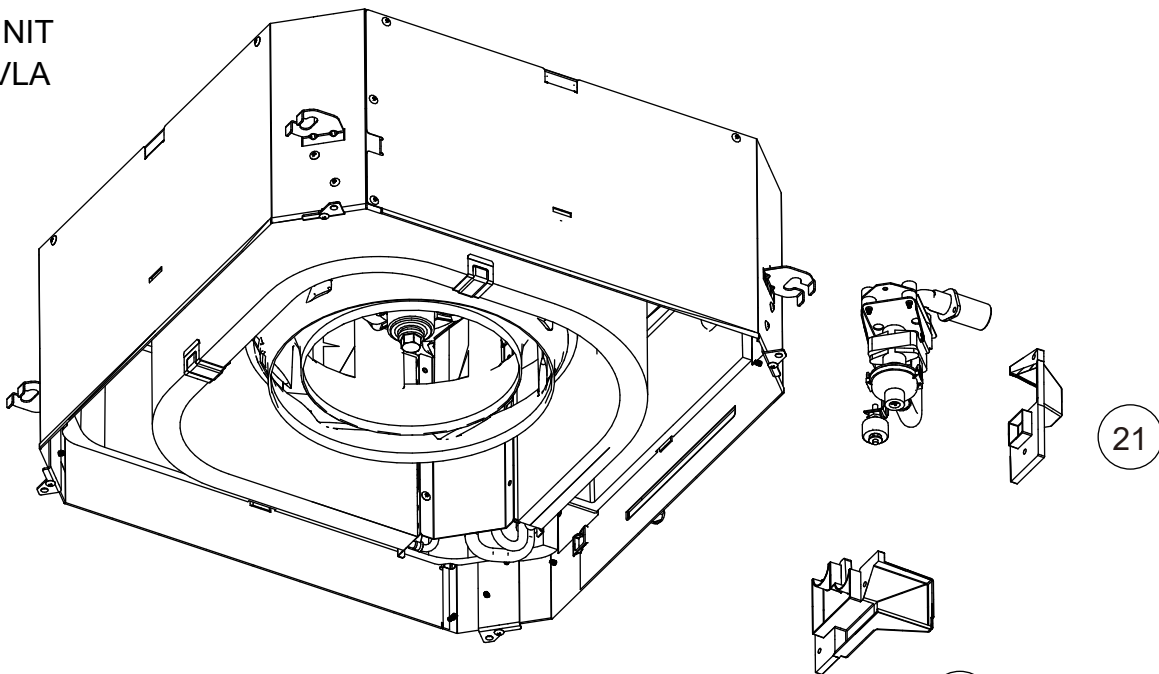


Ref.	Description	Part number
1	Drain hose	9379665001
2	Hose band	9379757010
3	Pipe Thermistor	9900942038
4	Room Thermistor	9900826000

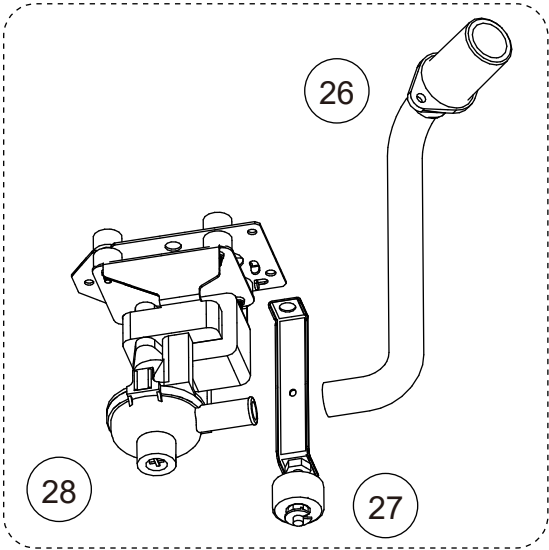


Ref.	Description	Part number
11	Main PCB	9710995866
12	Holder	0600063023
13	Communication PCB	9710019005
14	Power supply PCB	9710661006
15	Terminal	9900568009
16	Terminal	9900896003

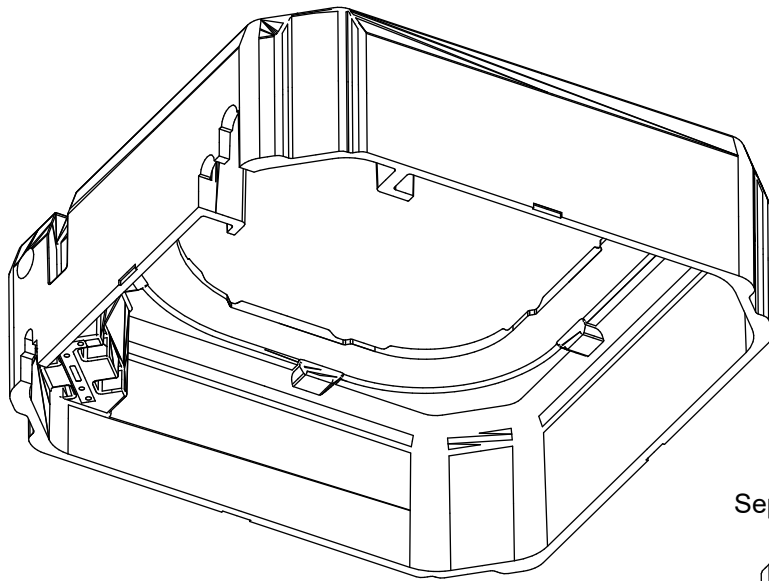
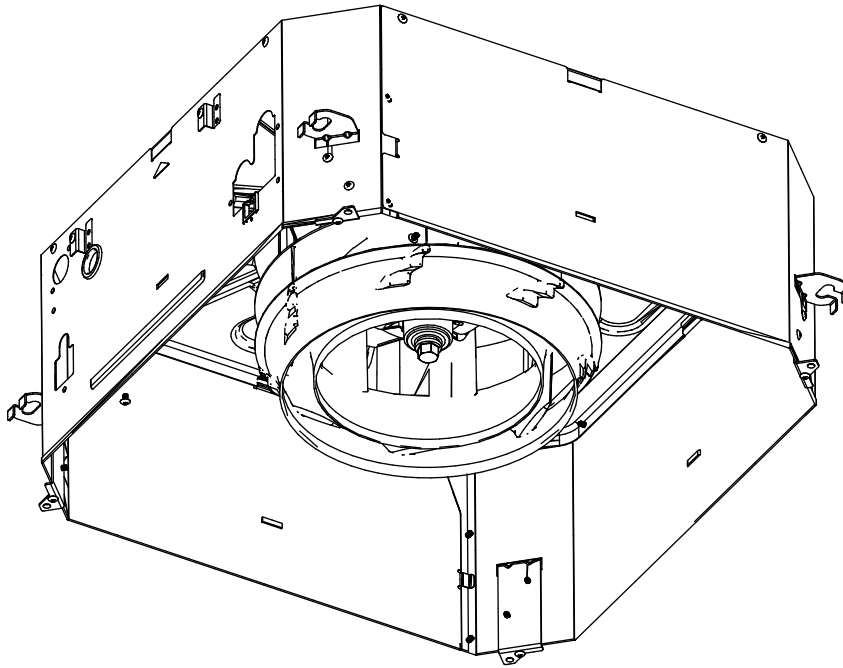
INDOOR UNIT
AUXG24KVLA



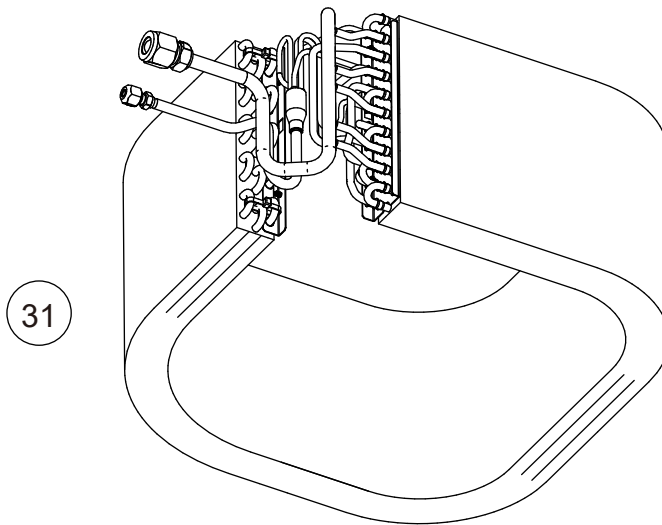
Wire holder



Ref.	Description	Part number
21	Wire cover	9375516017
22	Pipe cover	9375515010
23	Bellmouth	9375503017
24	Thermistor holder	9375477011
25	Drain pan sub assy	9377765017
26	Drain port sub assy	9375718015
27	Float switch sub assy	9375721046
28	Drain pump sub assy	9375717025

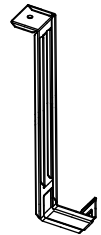
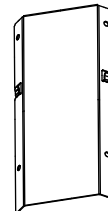


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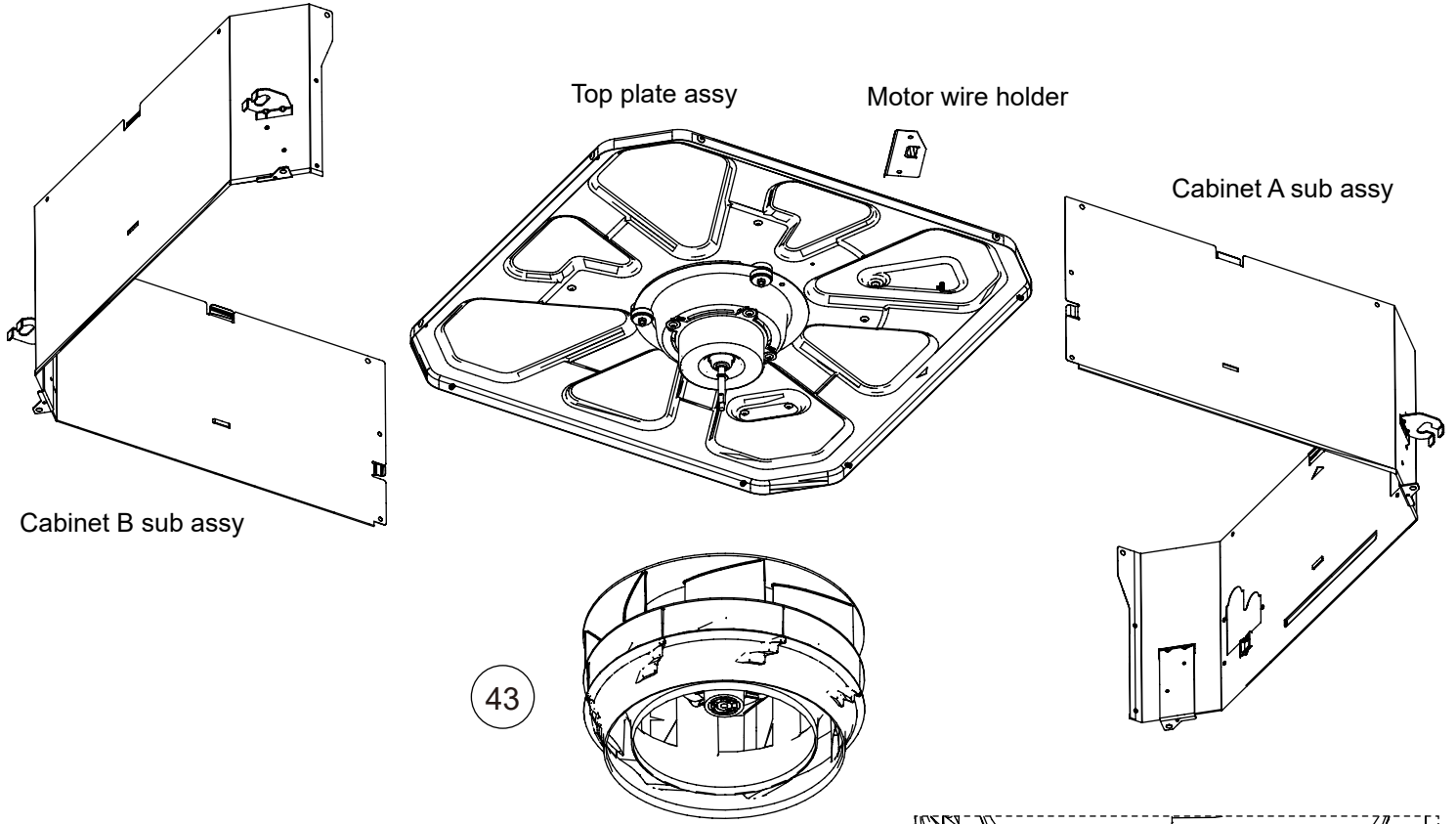
Separate wall



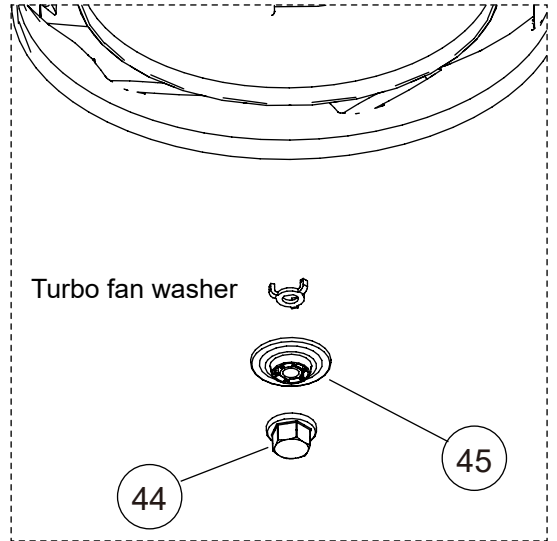
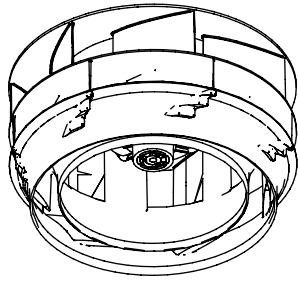
Evaporator holder

Ref.	Description	Part number
31	Evaporator total assy, completed	9377914149
32	Insulation box sub assy	9377764058

INDOOR UNIT
AUXG24KVLA

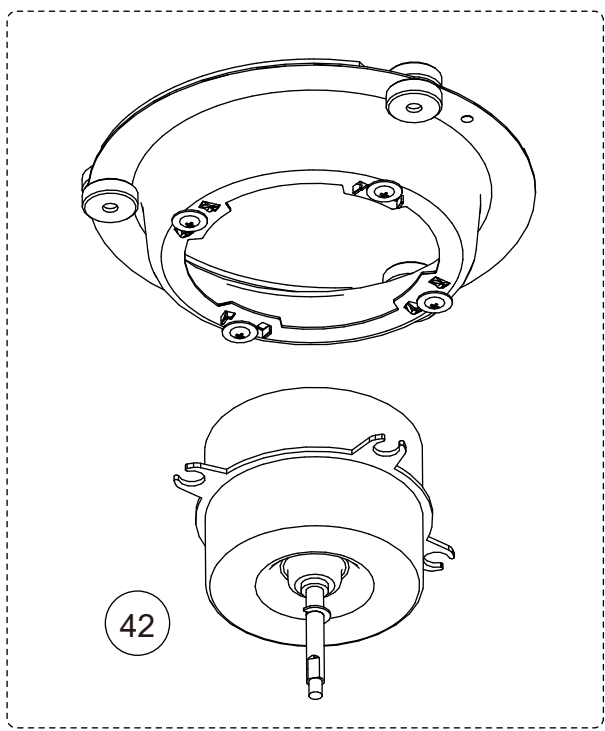


43



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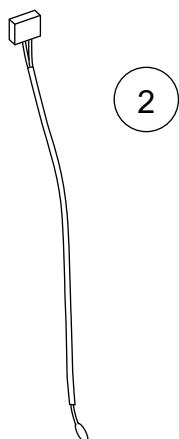
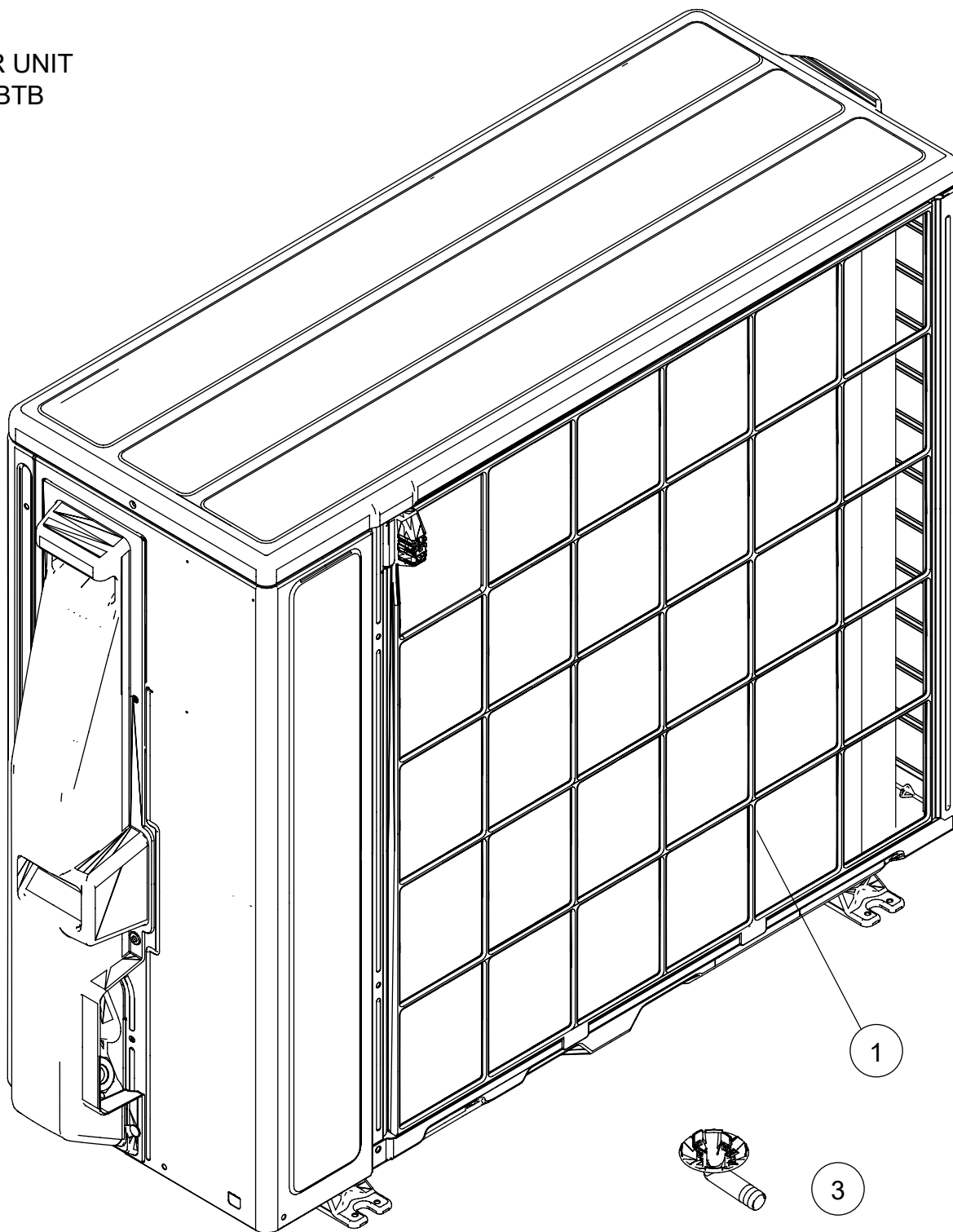


41

42

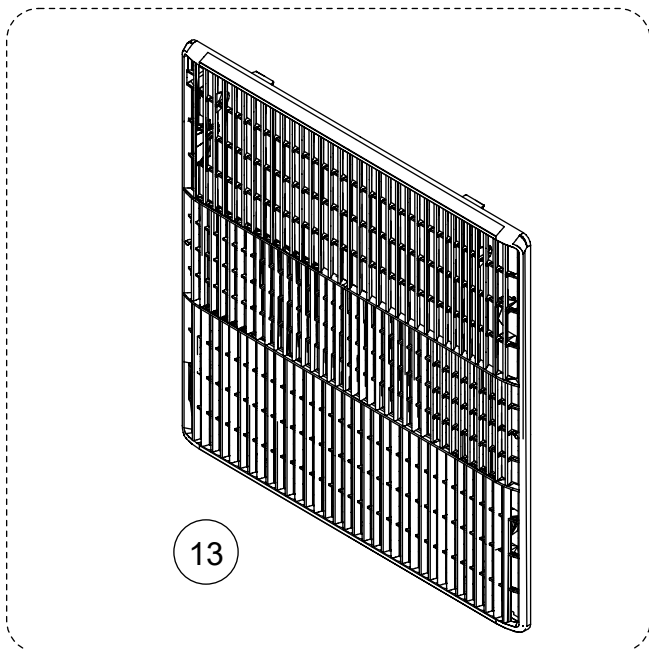
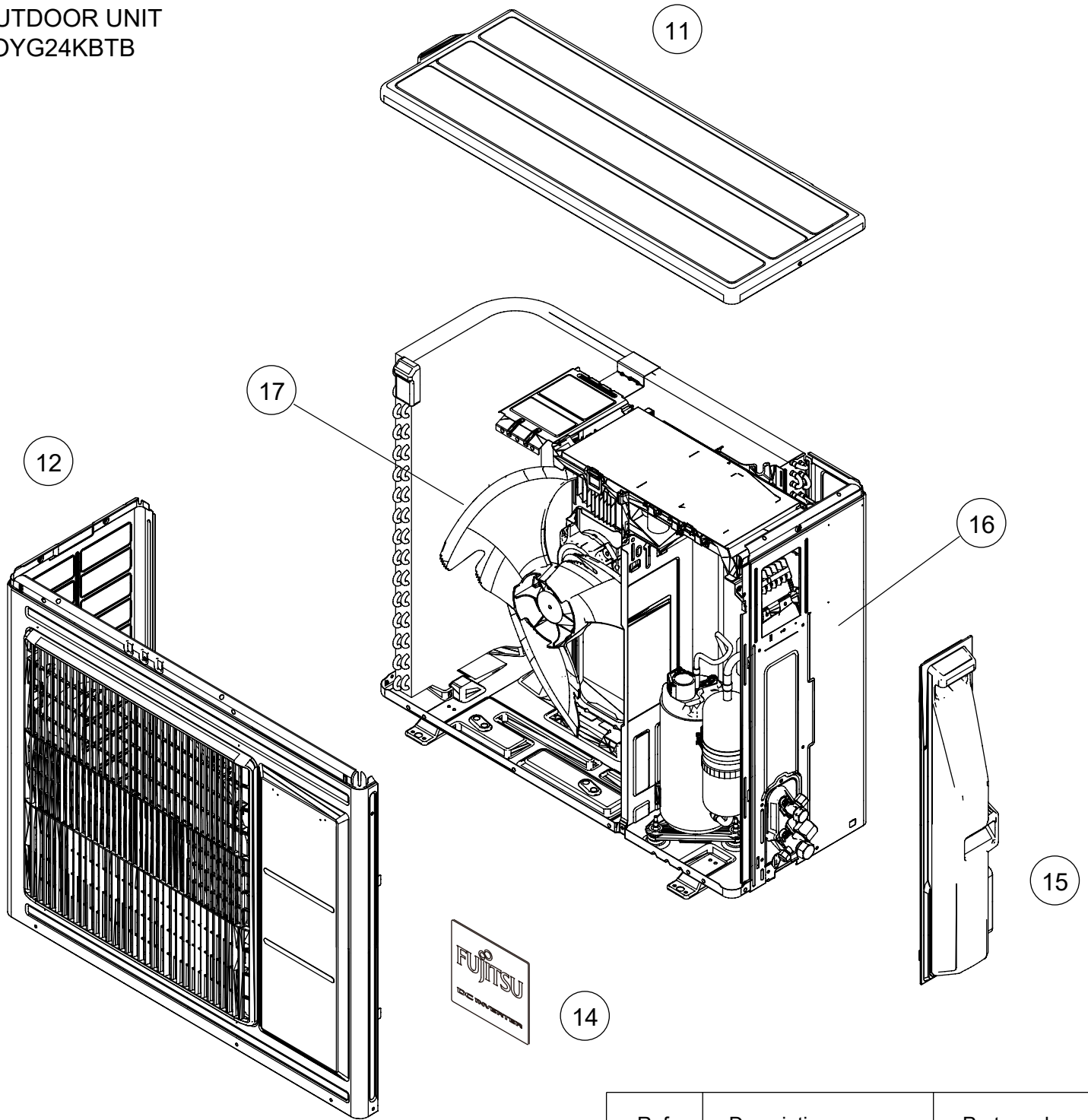
Ref.	Description	Part number
41	Fan motor sub assy	9375719012
42	Fan motor	9602436019
43	2 stage turbo fan assy	9375480011
44	Shaft cap	9377807014
45	Washer cover	9377811011

OUTDOOR UNIT
AOYG24KBTB



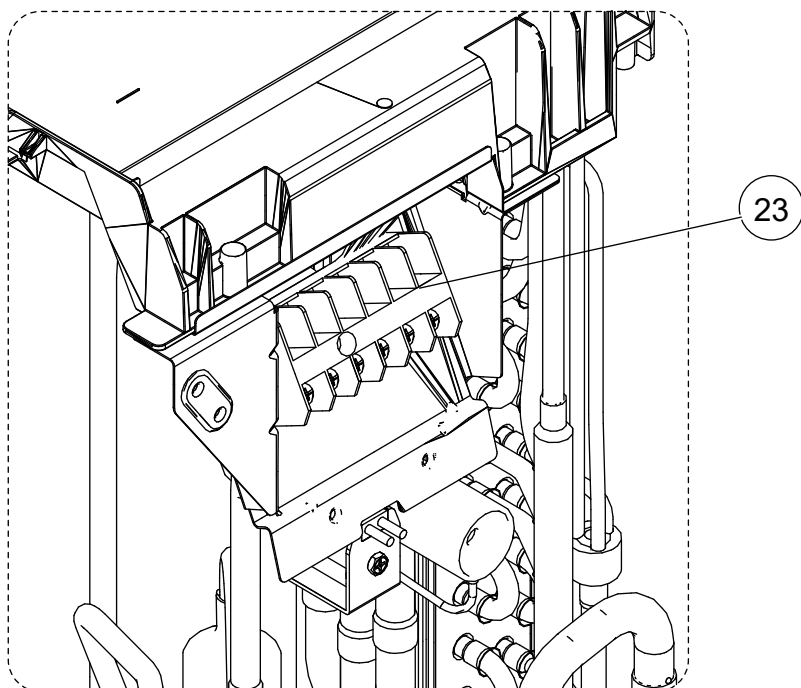
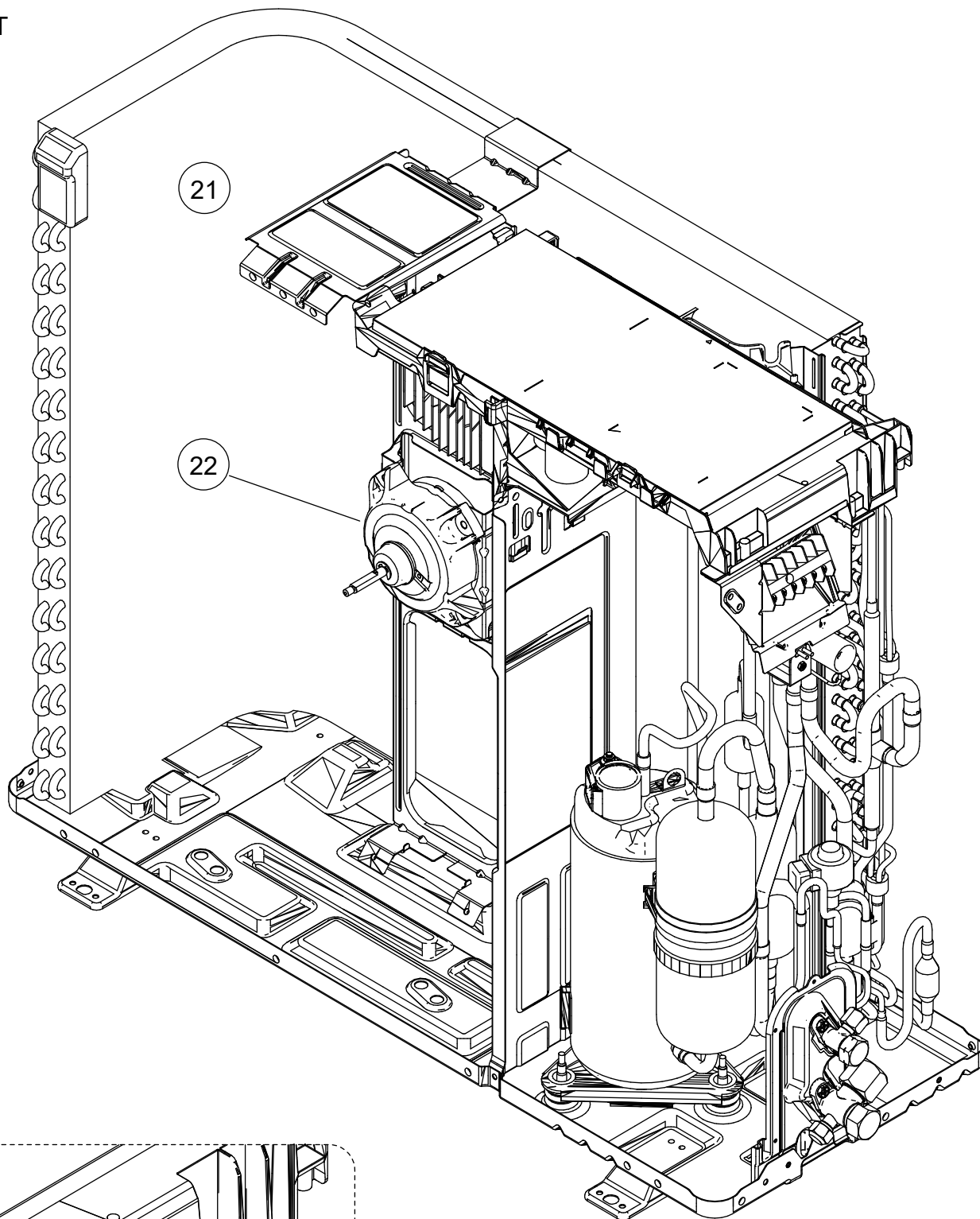
Ref.	Description	Part number
1	Protective net assy	9322811042
2	Outdoor thermistor	9900585060
3	Drain pipe	9322144003

OUTDOOR UNIT
AOYG24KBTB



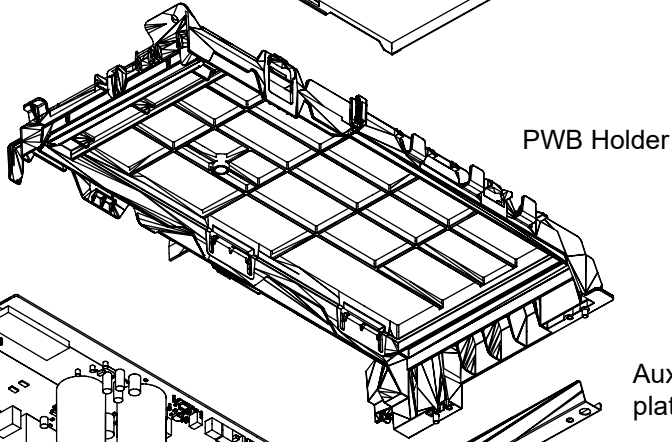
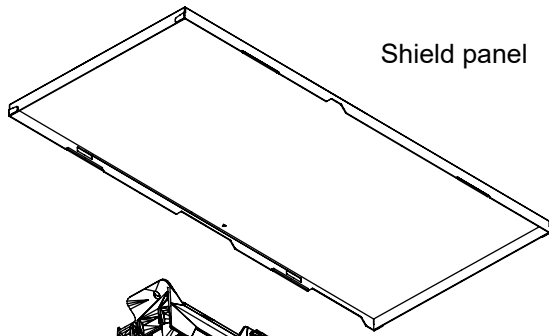
Ref.	Description	Part number
11	Top panel assy	9322556073
12	Front panel assy	9322555038
13	Blow grille	9322149008
14	Emblem	9319151007
15	Switch cover assy	9322570031
16	Cabinet right Assy	9322552150
17	Propeller fan	9322150004

OUTDOOR UNIT
AOYG24KBTB

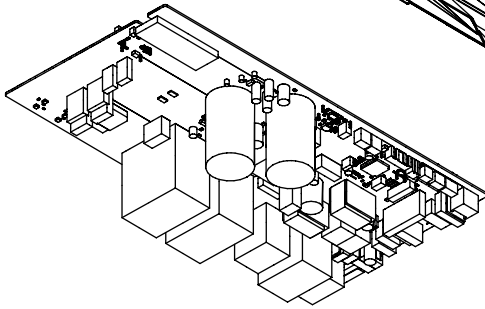


Ref.	Description	Part number
21	Motor bracket assy	9322553034
22	Brushless motor	9603601003
23	Terminal	9900435028

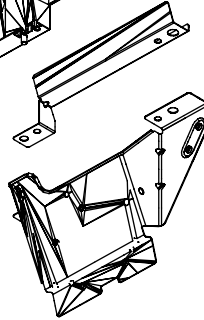
OUTDOOR UNIT
AOYG24KBTB



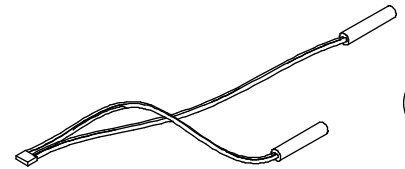
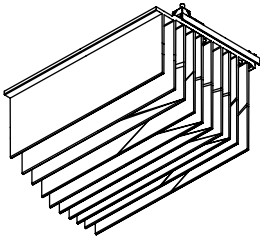
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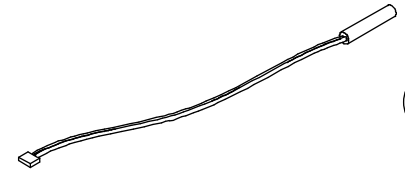
Auxiliary plate



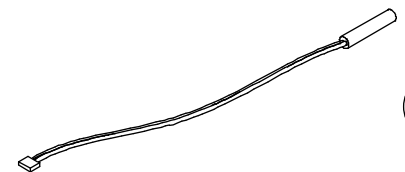
Terminal
bracket assy



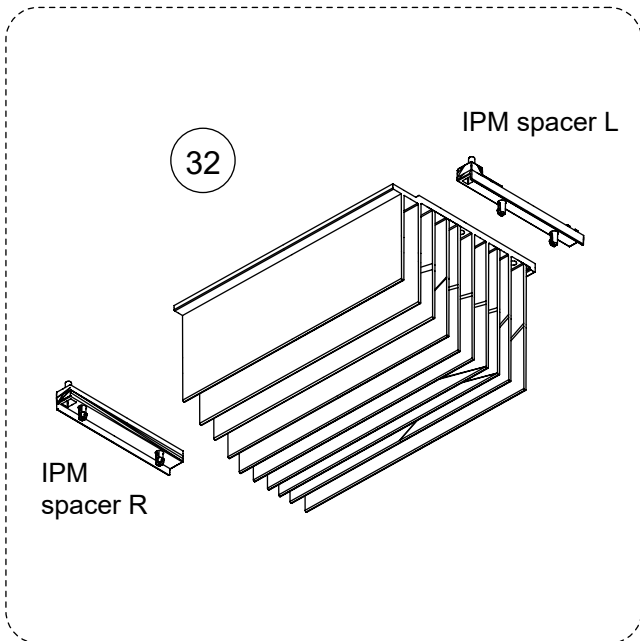
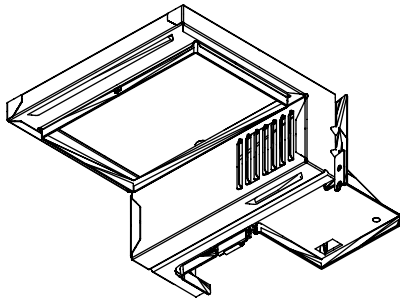
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34



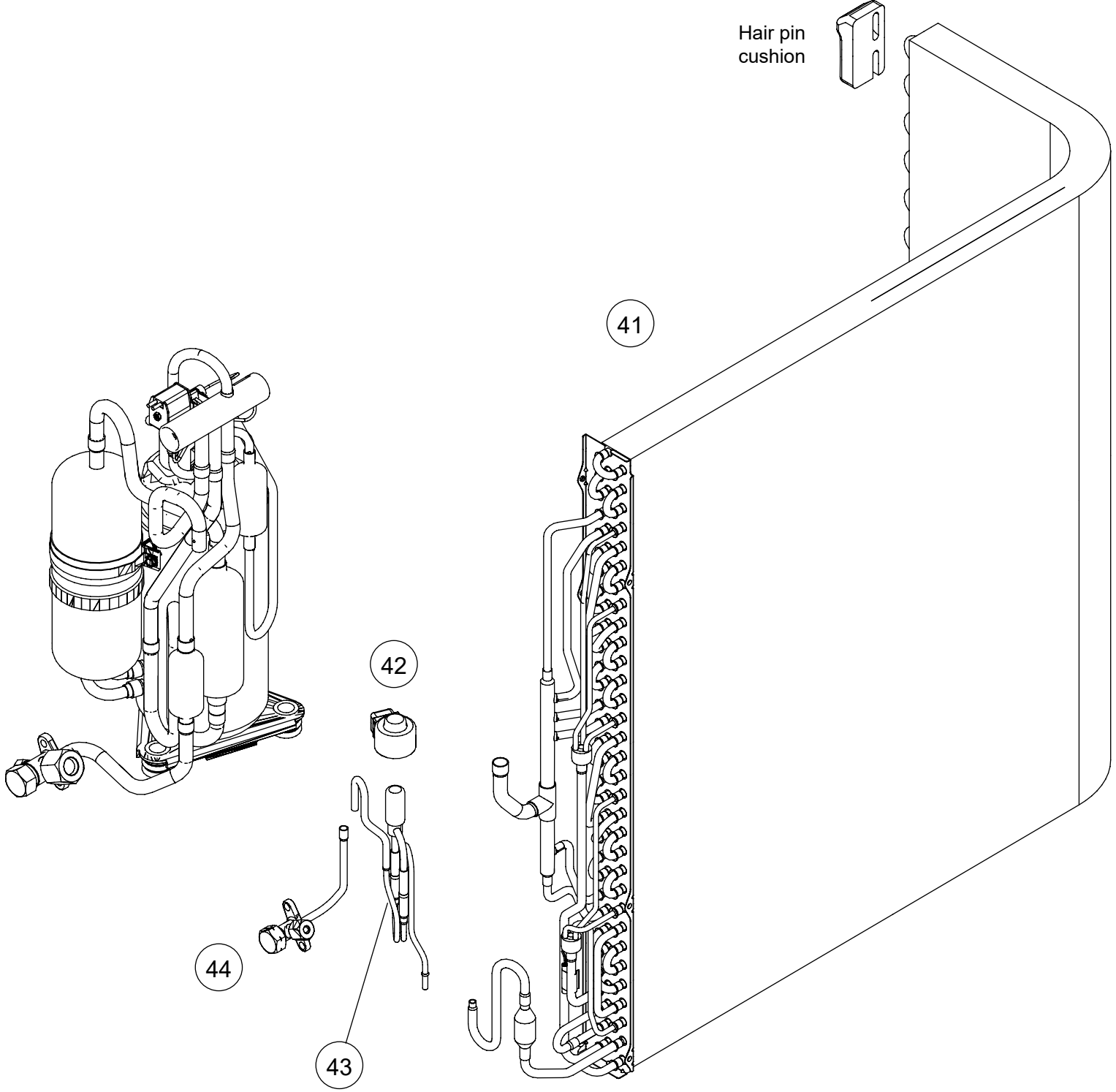
35



Ref.	Description	Part number
31	Main PCB, Service unit	9709683408
32	Heatsink	9322421043
33	Thermistor assy	9900727116
34	Heat exchanger thermistor	9900984014
35	Compressor thermistor	9900985011

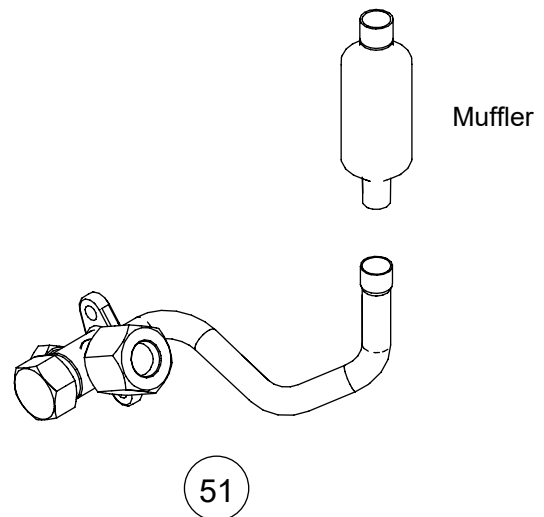
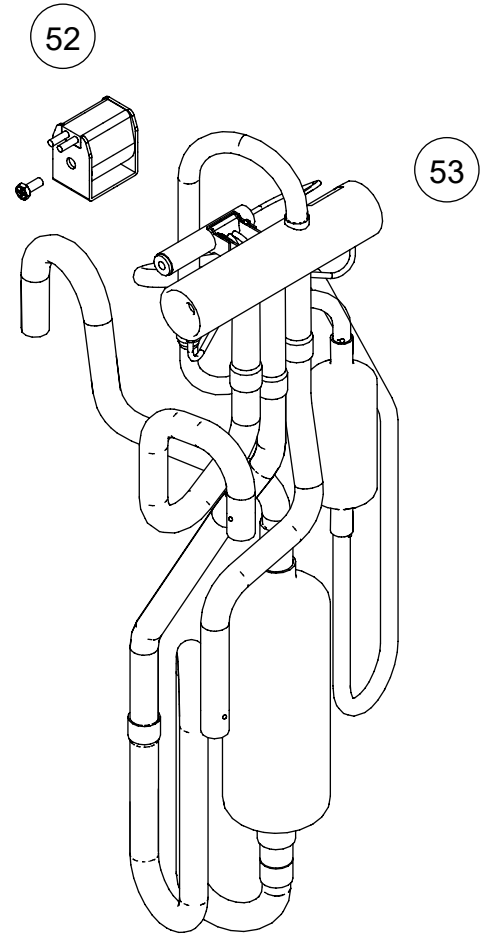
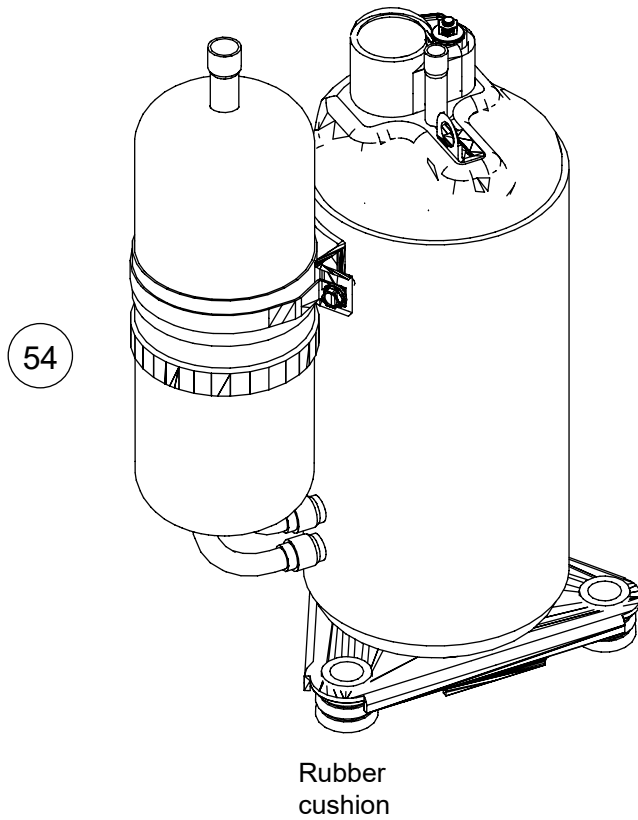
OUTDOOR UNIT
AOYG24KBTB

Hair pin
cushion



Ref.	Description	Part number
41	Condenser total assy	9317089630
42	Expansion valve coil	9970173028
43	Pulse motor valve assy	9322463029
44	2-way valve assy	9322474001


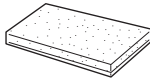
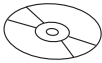


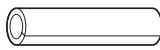
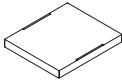
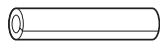




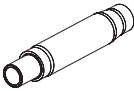
OUTDOOR UNIT
AOYG24KBTB





Ref.	Description	Part number
51	3-way valve assy	9387831016
52	Solenoid	9970206009
53	4-way valve assy	9383129025
54	Compressor	9810521002
-	S-insulator B	9322503008
-	S-insulator F	9322529008
-	S-insulator H	9322501004
-	S-insulator V	9323045002
-	S-insulator K	9322824004

Accessories

Model: AUXG24KVLA

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Operating manual		1	Drain hose insulation		1
Operating manual (CD-ROM)		1	Hose band		1
Installation manual		1	Coupler heat insulation (large)		1
Template (Carton top)		1	Coupler heat insulation (small)		1
M10 nut A (with flange)		4	Cable tie		2
M10 nut B (with spring lock washer)		4	Wire crammer		1
Drain hose		1			

Model: AOYG24KBTB

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Installation manual		1	Drain pipe		1

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