

AIR CONDITIONER

Cassette type

SERVICE MANUAL

INDOOR



AUXG24KVLA

OUTDOOR



AOYG24KATA

FUJITSU GENERAL LIMITED

Notices:

- Product specifications and design are subject to change without notice for future improvement.
- For further details, please check with our authorized dealer.

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1. GENERAL INFORMATION

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1. GENERAL INFORMATION

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1. Specifications

1-1. Indoor unit

Type				Cassette			
				Inverter heat pump			
Model name				AUXG24KVLA			
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—7.40			
	Heating	Rated	Btu/h	3,100—25,200			
			kW	7.50			
		Min.—Max.	kW	0.90—8.60			
			Btu/h	3,100—29,300			
Input power	Cooling	Rated	kW	2.26			
		Max.		2.79			
	Heating	Rated		2.08			
		Max.		2.70			
Current	Cooling	Rated	A	10.0			
	Heating			9.1			
Power factor	Cooling			98.4			
	Heating			98.9			
EER	Cooling			3.01			
COP	Heating			3.61			
Moisture removal			L/h (pints/h)	2.7 (4.8)			
Maximum operating current *1	Cooling			12.6			
	Heating			12.6			
Fan	Airflow rate	Cooling	HIGH	m ³ /h	930		
			MED		830		
			LOW		600		
			QUIET		450		
			Heating		HIGH	930	
	MED	860					
	LOW	700					
	QUIET	530					
	Type × Q'ty				Turbo × 1		
	Motor output				W		
Sound pressure level *2	Cooling	HIGH	dB (A)	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		Main1: 1.45					
		Main2: 1.45					
		Main3: 1.45					
Rows × Stages		Main1: 1 × 10					
		Main2: 1 × 10					
		Main3: 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 (Ø 1/4)			
		Gas		Ø 12.70 (Ø 1/2)			
	Method			Flare			
Operation range	Cooling			°C			
				%RH			
	Heating			°C			
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		mm				
				VP25 [Ø 25(I.D.), Ø 32(O.D.)]			

Type	Cassette
	Inverter heat pump
Model name	AUXG24KVLA
<p>NOTES:</p> <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: 5.0 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)			5.4 (-10°C)
SEER	Cooling	kWh/kWh		5.90
SCOP	Heating (Average)			3.80
Annual energy consumption	QCE	kWh/a		403
	QHE (Average)			1,988
Sound power level	Cooling	HIGH	dB (A)	59
	Heating			61

1-2. Outdoor unit

Type				Inverter heat pump	
Model name				AOYG24KATA	
Power supply				230 V ~ 50 Hz	
Power supply intake				Outdoor unit	
Available voltage range				198–264 V	
Starting current			A	10.0	
Fan	Airflow rate	Cooling	m ³ /h	2,885	
		Heating		2,350	
	Type × Q'ty			Propeller × 1	
	Motor output		W	49	
Sound pressure level *1		Cooling	dB (A)	54	
		Heating		55	
Sound power level		Cooling	dB (A)	66	
		Heating		67	
Heat exchanger type		Dimensions (H × W × D)	mm	Main1: 588 × 881 × 18.19 Main2: 588 × 851 × 18.19	
		Fin pitch		Main1: 1.3 Main2: 1.3	
		Rows × Stages		Main1: 1 × 28 Main2: 1 × 28	
		Pipe type		Copper	
		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	632 × 799 × 290	
		Gross		692 × 940 × 375	
Weight		Net	kg	38	
		Gross		42	
Connection pipe		Size	Liquid	Ø 6.35 (Ø 1/4)	
			Gas	Ø 12.70 (Ø 1/2)	
		Method		Flare	
		Pre-charge length		m	20
		Max. length			25
		Max. height difference			20
Operation range		Cooling	°C	-10 to 46	
		Heating		-15 to 24	
Drain hose		Material	PP		
		Size	mm	Ø13.0 (I. D.), Ø16.0 to Ø16.8 (O. D.)	

NOTES:

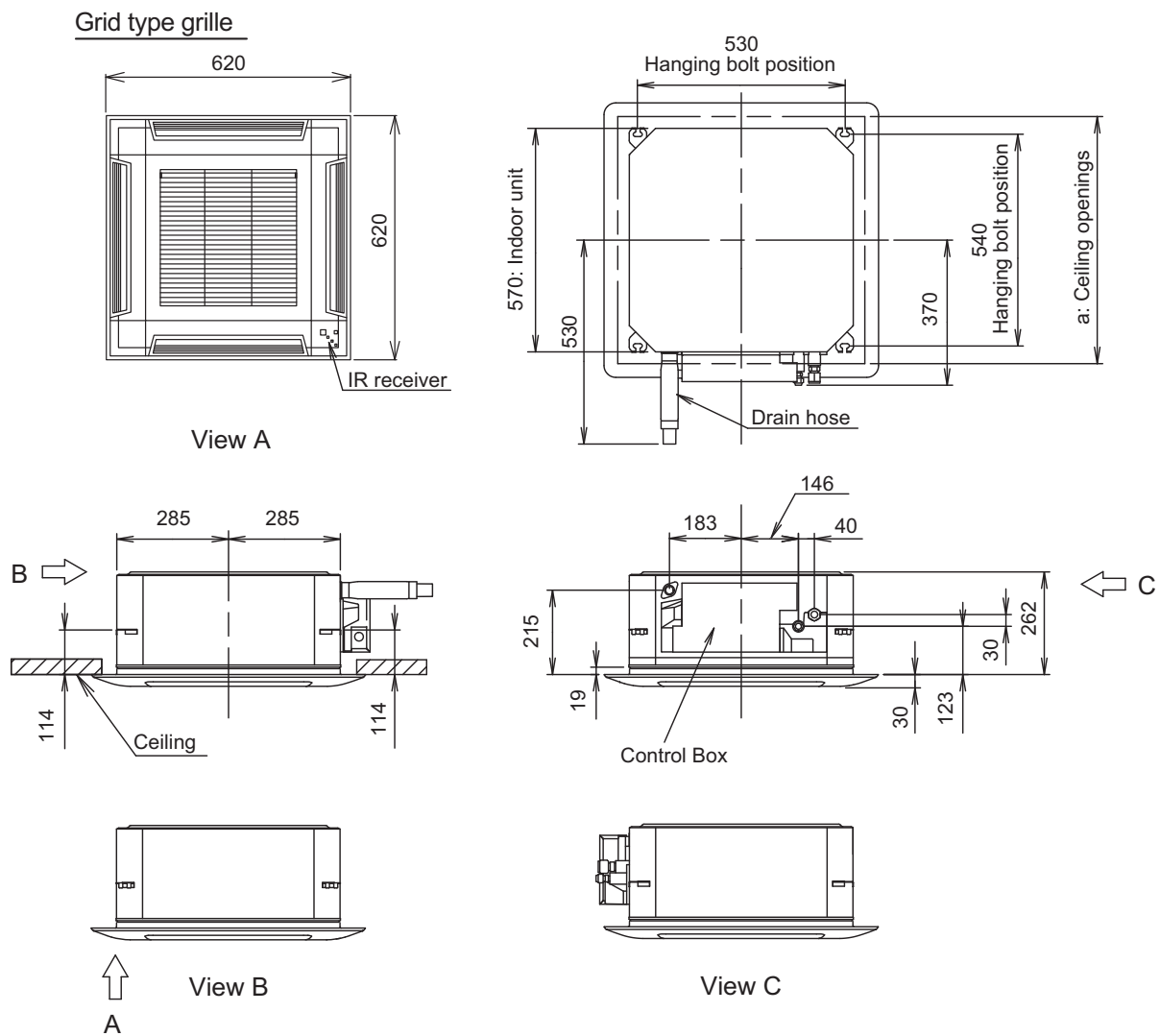
- Specifications are based on the following conditions:
 - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.
 - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.
 - Pipe length: 5.0 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *1: Sound pressure level
 - 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.

2. Dimensions

2-1. Indoor unit

■ Model: AUXG24KVLA

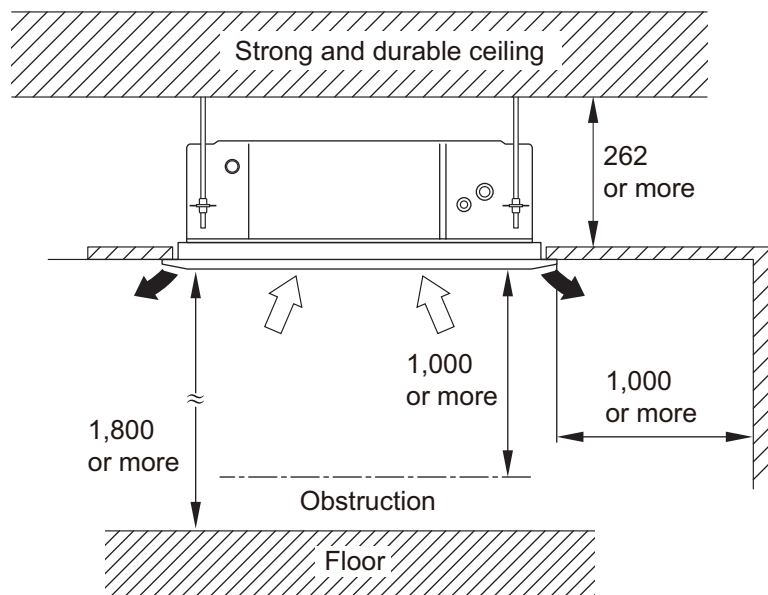
Unit: mm



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

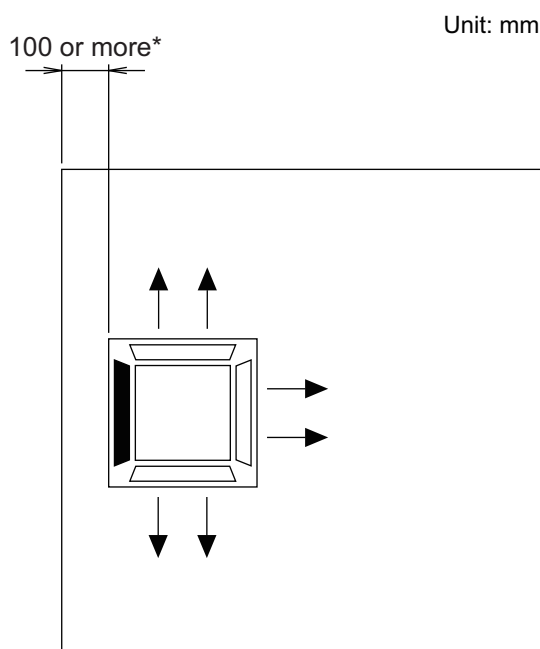
■ Installation space requirement

Unit: mm



Maximum height from floor to ceiling (Unit: mm)	
Standard	2,700
High ceiling	3,000

3-way direction setting:



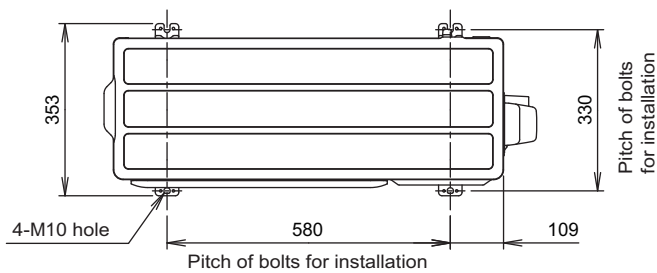
NOTES:

- To set "3-direction", optional Air outlet shutter plate (UTR-YDZB) must be installed, and the "outlet-direction" need to be switched to "3-way" by remote controller.
*When installing the indoor unit, be careful about the maintenance space.
- In 3-way outlet mode, changing of ceiling height setting by function setting 20 is prohibited.
(Ceiling height setting [function setting 20] is allowed to be changed only in 4-way outlet mode.)

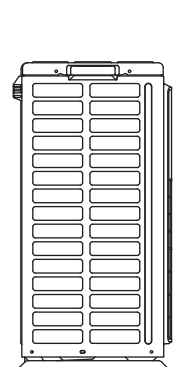
2-2. Outdoor unit

■ Model: AOYG24KATA

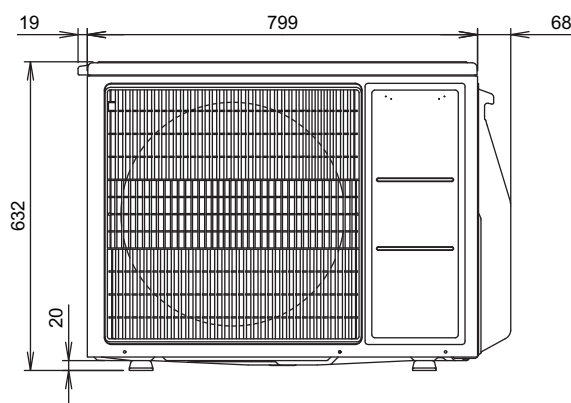
Unit: mm



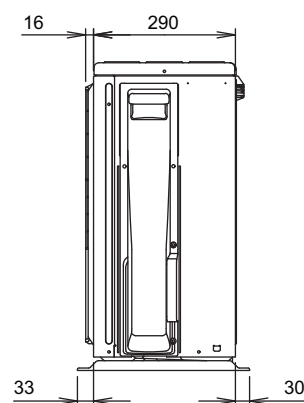
Top view



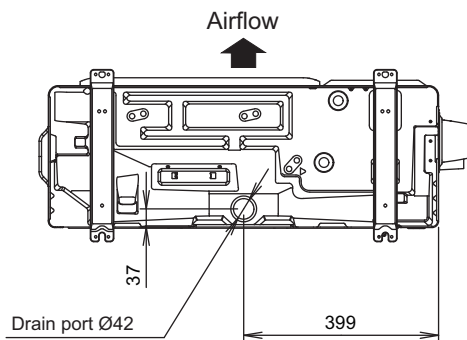
Side view



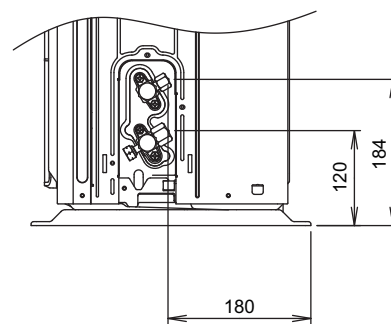
Front view



Side view



Bottom view



Side view (Valve part)

2. TECHNICAL DATA AND PARTS LIST

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2. TECHNICAL DATA AND PARTS LIST

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1. Precautions

When you start servicing, pay attention to the following points. For detailed precautions, refer to the installation manual of the products.

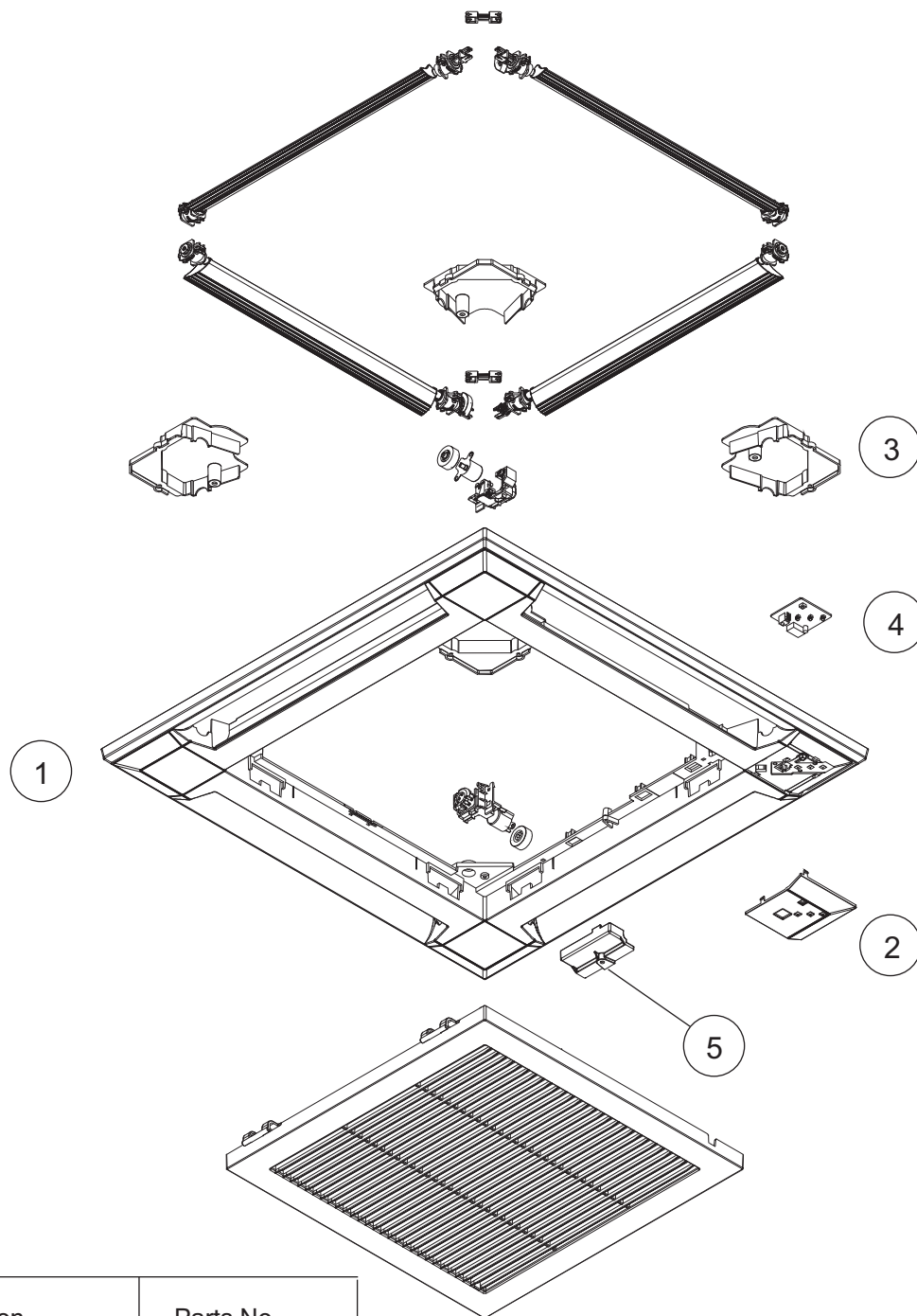
⚠ CAUTION

-
- Service personnel
 - Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.
 - Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
 - Servicing shall be performed only as recommended by the manufacturer.
 - Work
 - Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. When repairing the refrigerant system, refer to the precautions written in the installation manual of the products before you start servicing.
 - Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapor being present while the work is being performed.
 - All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out.
 - Work in confined spaces shall be avoided.
 - The area around the workspace shall be sectioned off.
 - Ensure that the conditions within the area have been made safe by control of flammable material.
 - Checking for presence of refrigerant
 - The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres.
 - Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.
-
- Service parts information and design are subject to change without notice for product improvement.
 - For the latest information of the service parts, refer to our Service Portal.
<https://fujitsu-general.force.com/portal/>
 - Precise figure of the service parts listed in this manual may differ from the actual service parts.

2. Cassette grille (optional part) parts list

2-1. Model: UTG-UFYF-W

■ Panels

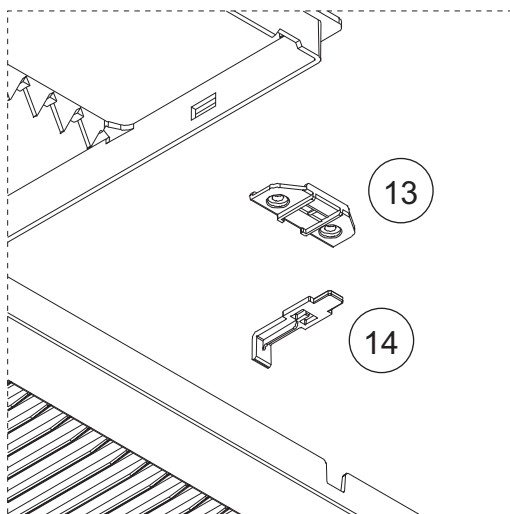
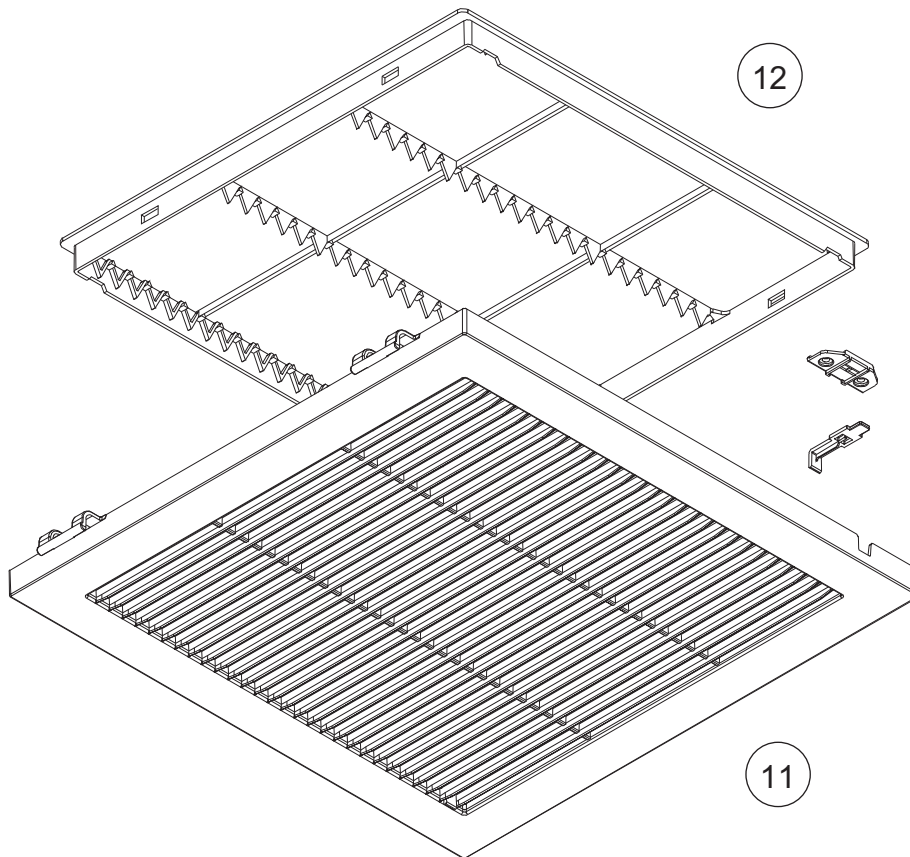


Ref	Description	Parts No.
1	Decoration Panel without Insulations	9382821005
2	Display panel assy	9383100031
3	Panel Cover without Insulations	9375530013
4	Indicator PCB	9711310002
5	Connector Cover	9375549015

■ Intake grille

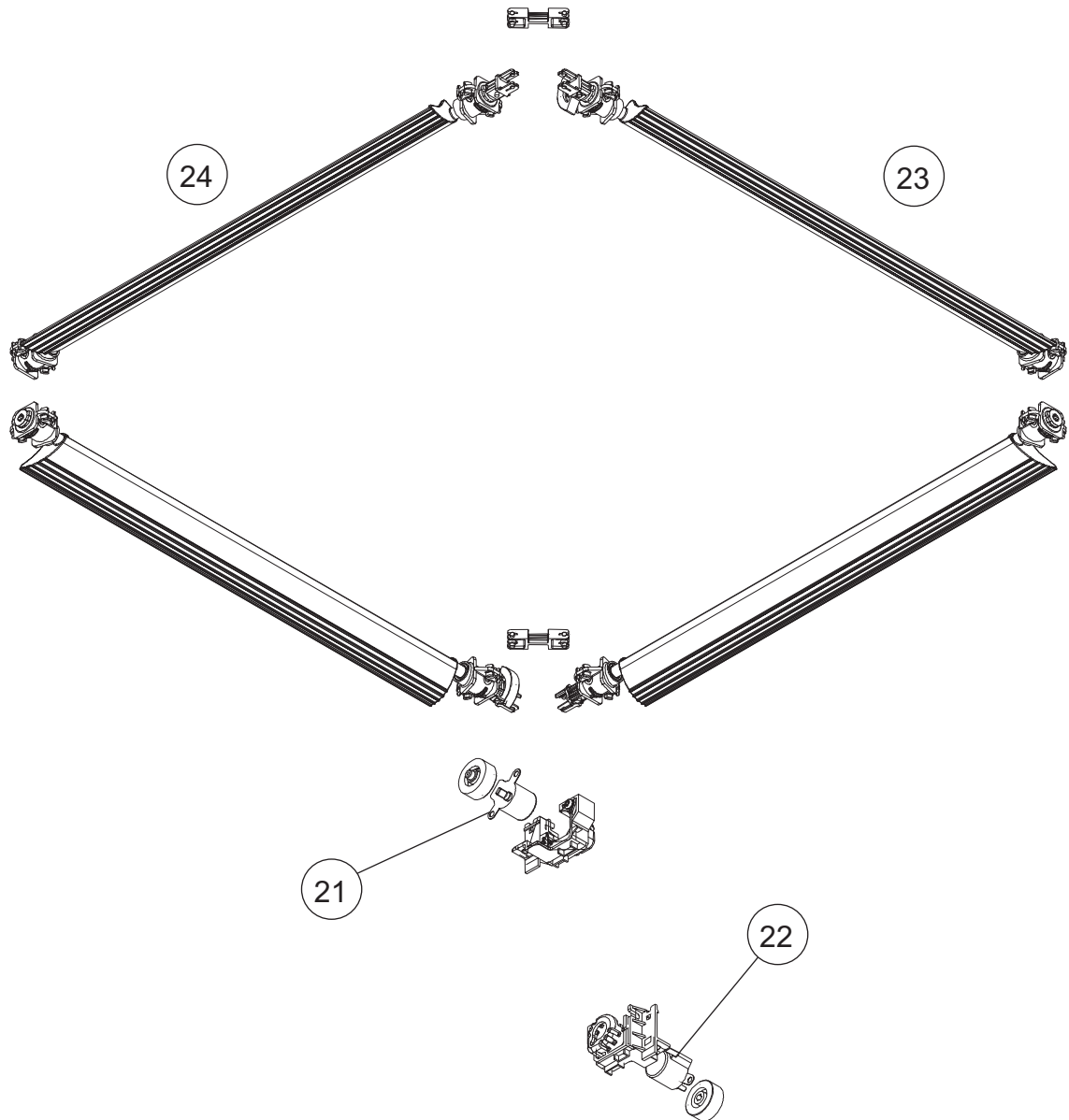
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Ref	Description	Parts No.
11	Intake grille	9382863005
12	Long Life Filter	9375533014
13	Hook bracket	9375546014
14	Grille hook	9375532031

■ Louvers and motors

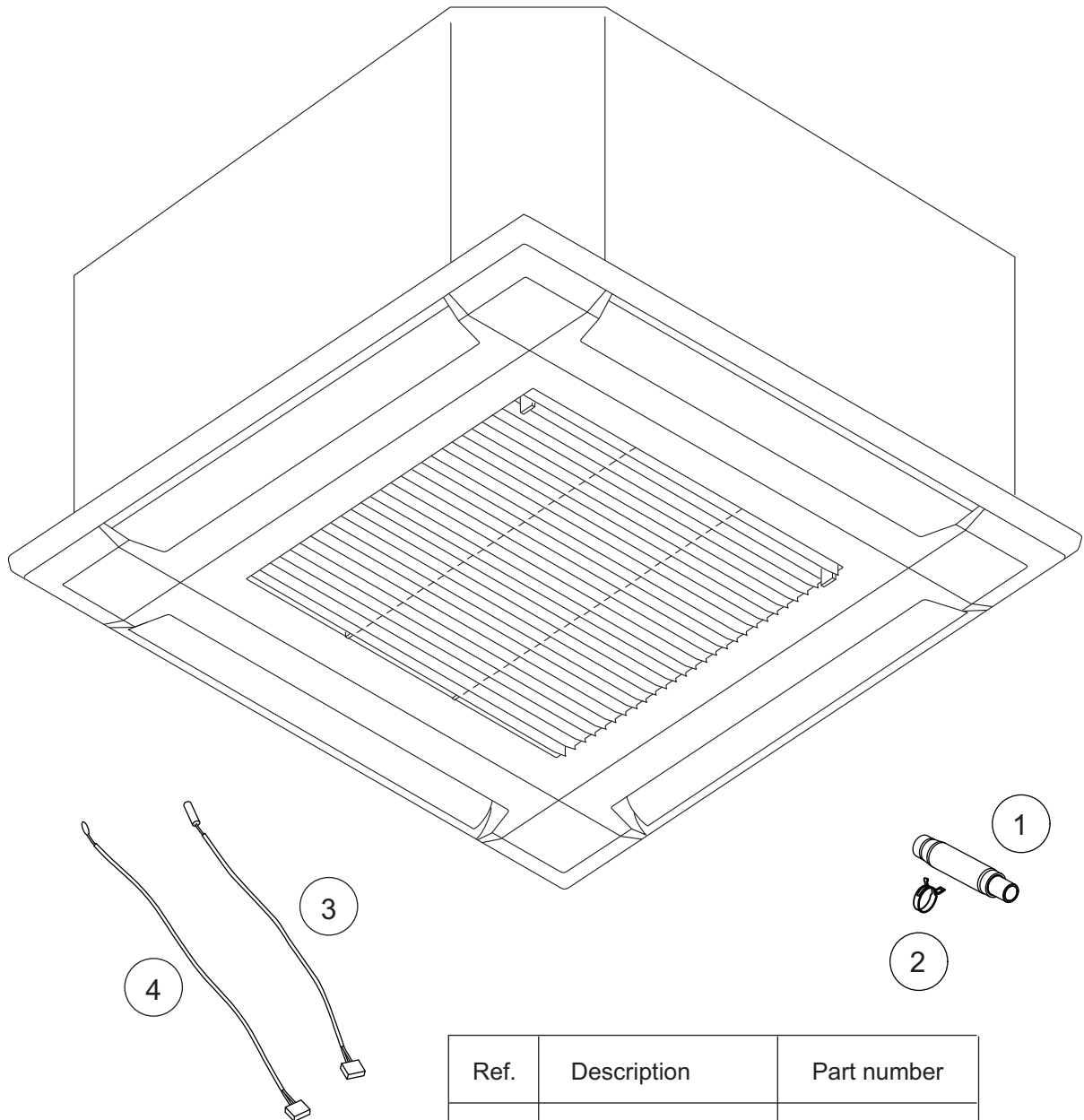


Ref	Description	Parts No.
21	Step Motor (White connector)	9900139070
22	Step Motor (Red connector)	9900139087
23	Flap assy A	9375727048
24	Flap assy B	9377759047

3. Indoor unit parts list

3-1. Model: AUXG24KVLA

■ Thermistors

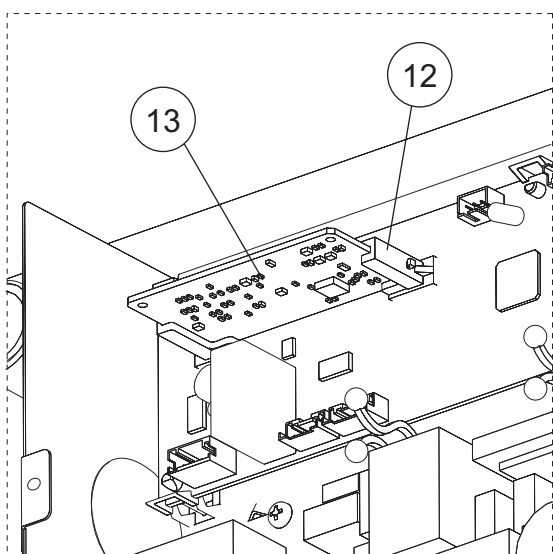
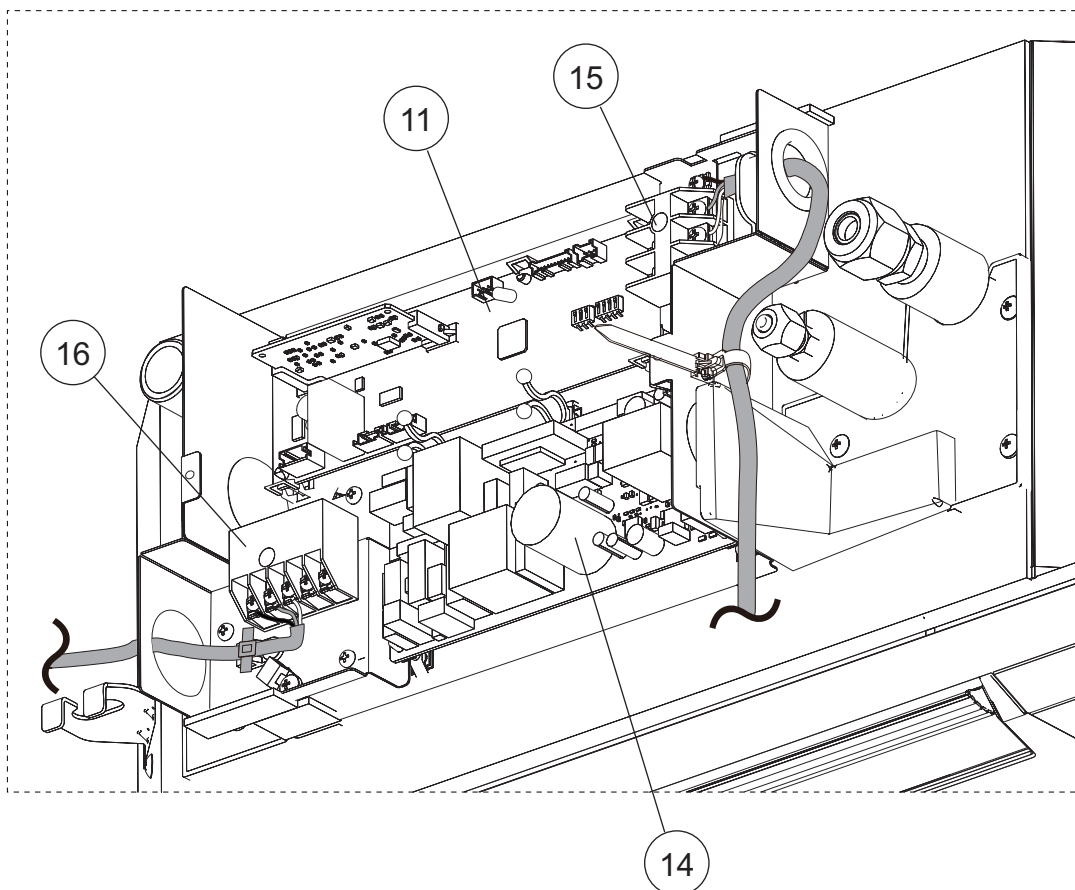


Ref.	Description	Part number
1	Drain hose	9379665001
2	Hose band	9379757010
3	Pipe Thermistor	9900942038
4	Room Thermistor	9900826000

■ Main PC board

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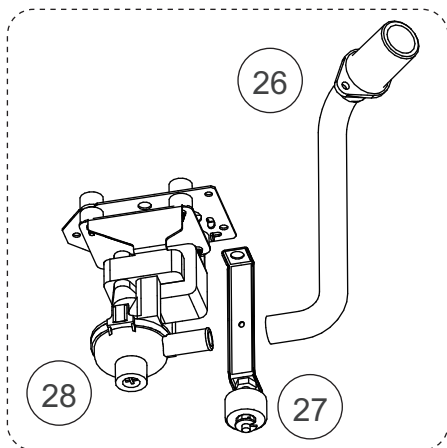
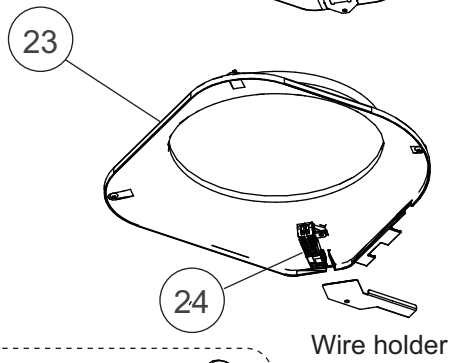
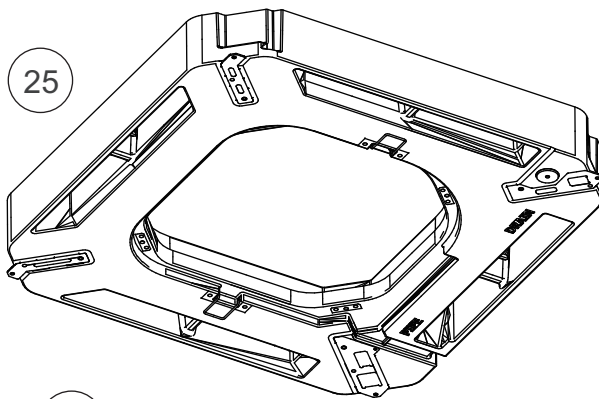
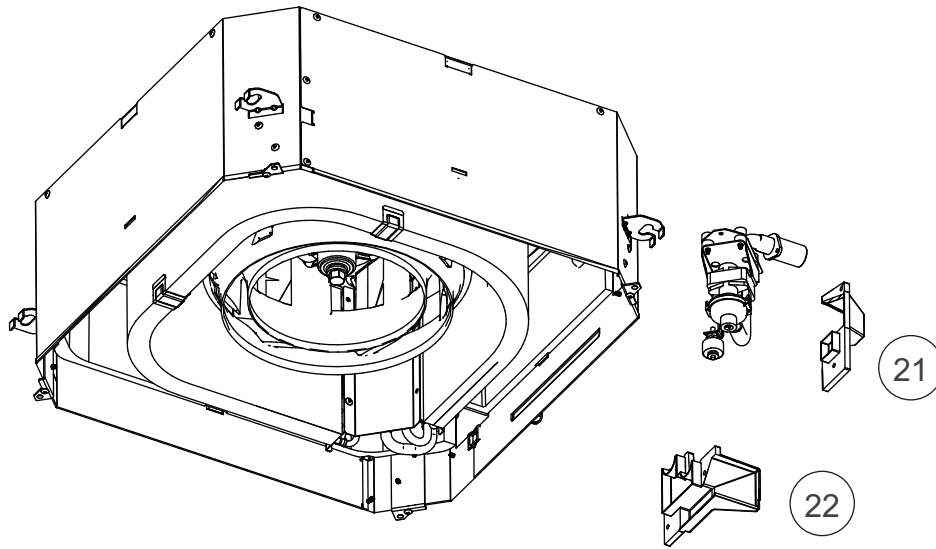


Ref.	Description	Part number
11	Main PCB	9710995866
12	Holder	0600063023
13	Communication PCB	9710019005
14	Power supply PCB	9710661006
15	Terminal	9900568009
16	Terminal	9900896003

■ Drain pump

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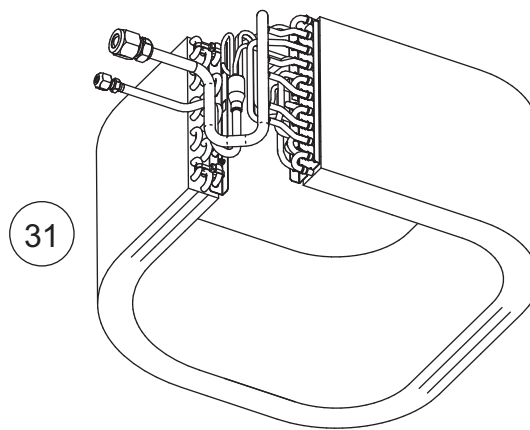
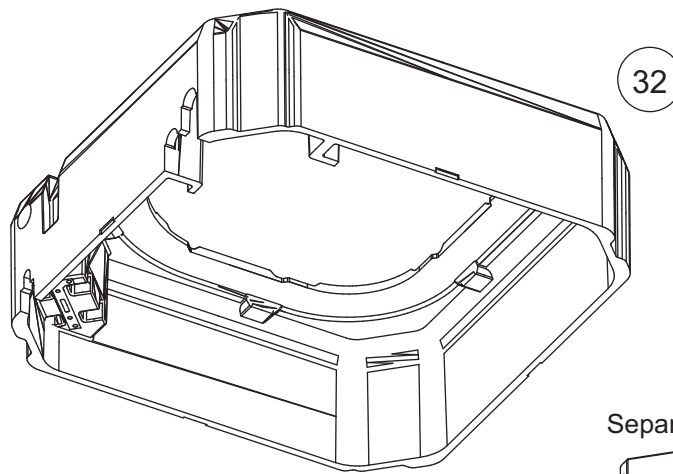
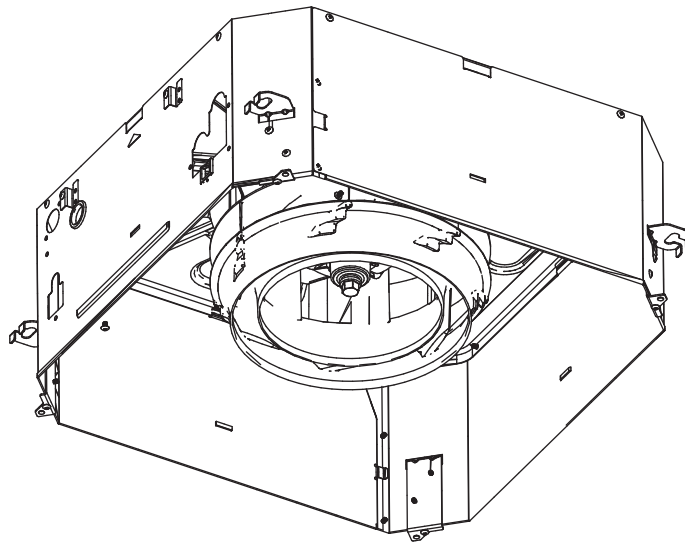


Ref.	Description	Part number
21	Wire cover	9375516017
22	Pipe cover	9375515010
23	Bellmouth	9375503017
24	Thermistor holder	9375477011
25	Drain pan sub assy	9377765017
26	Drain port sub assy	9375718015
27	Float switch sub assy	9375721046
28	Drain pump sub assy	9375717025

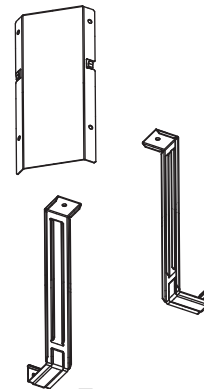
Evaporator

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Separate wall



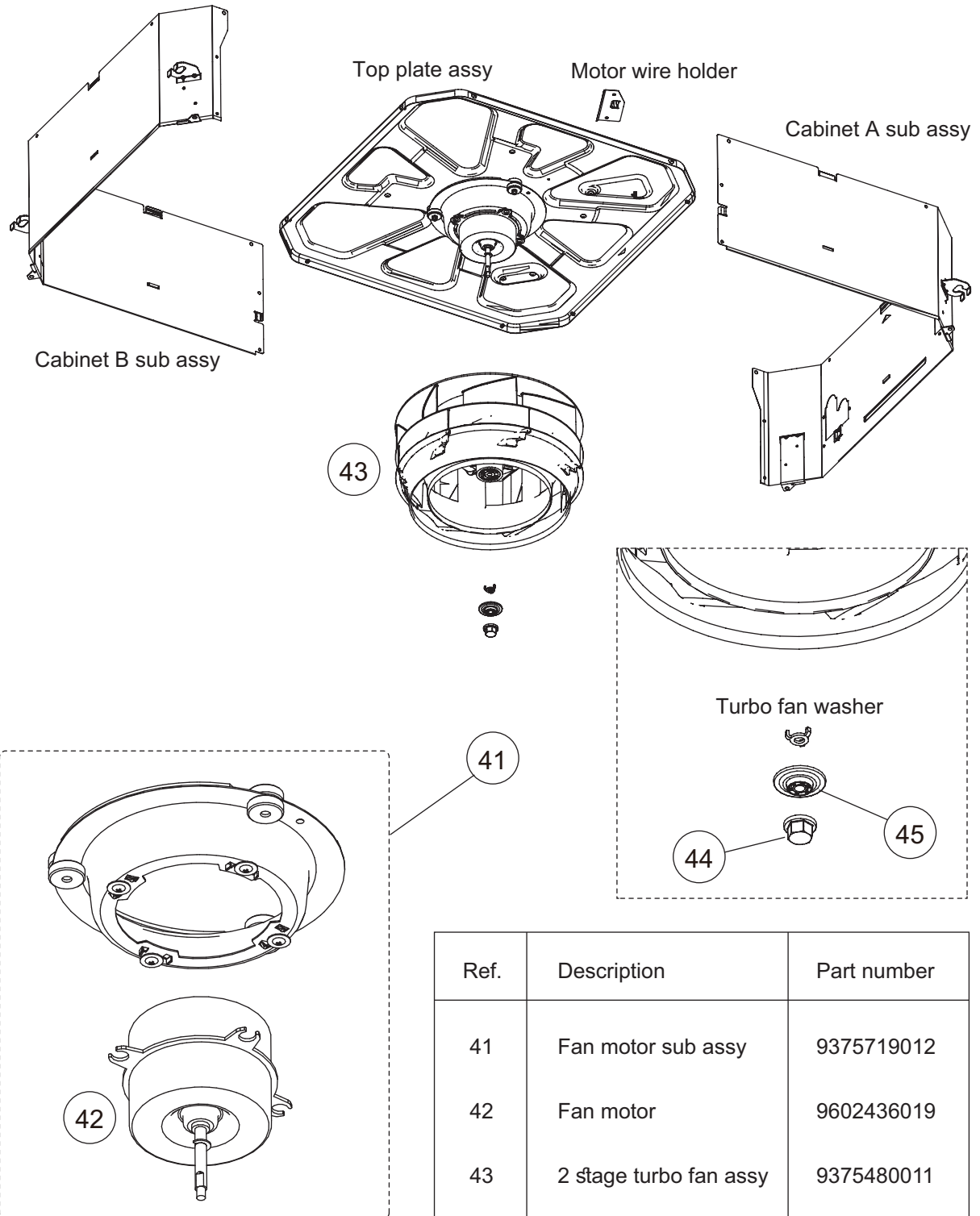
Evaporator holder

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

■ Fan and motor

TECHNICAL DATA
AND PARTS LIST

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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

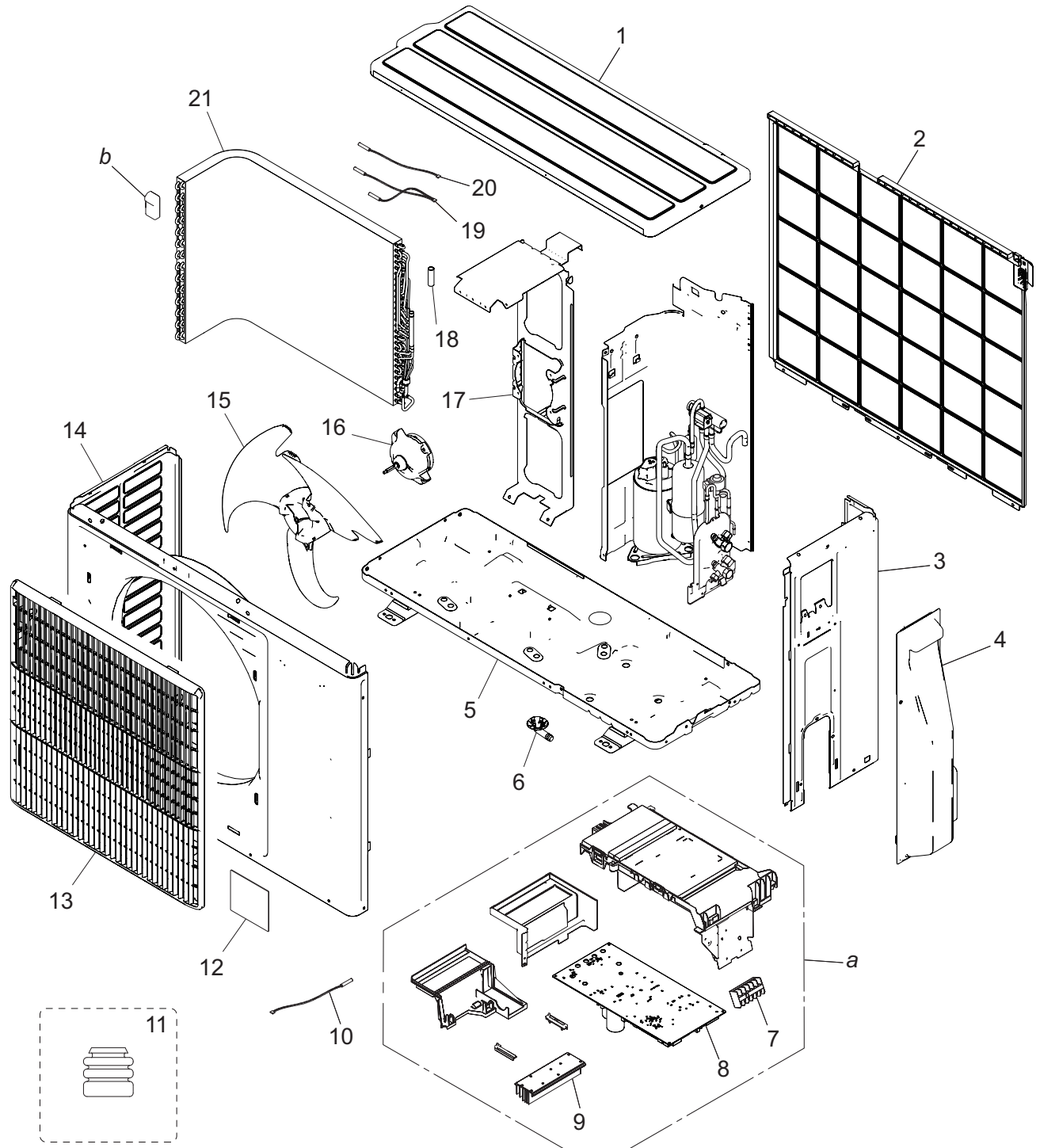
4. Outdoor unit parts list

4-1. Model: AOYG24KATA

■ Exterior parts and Chassis

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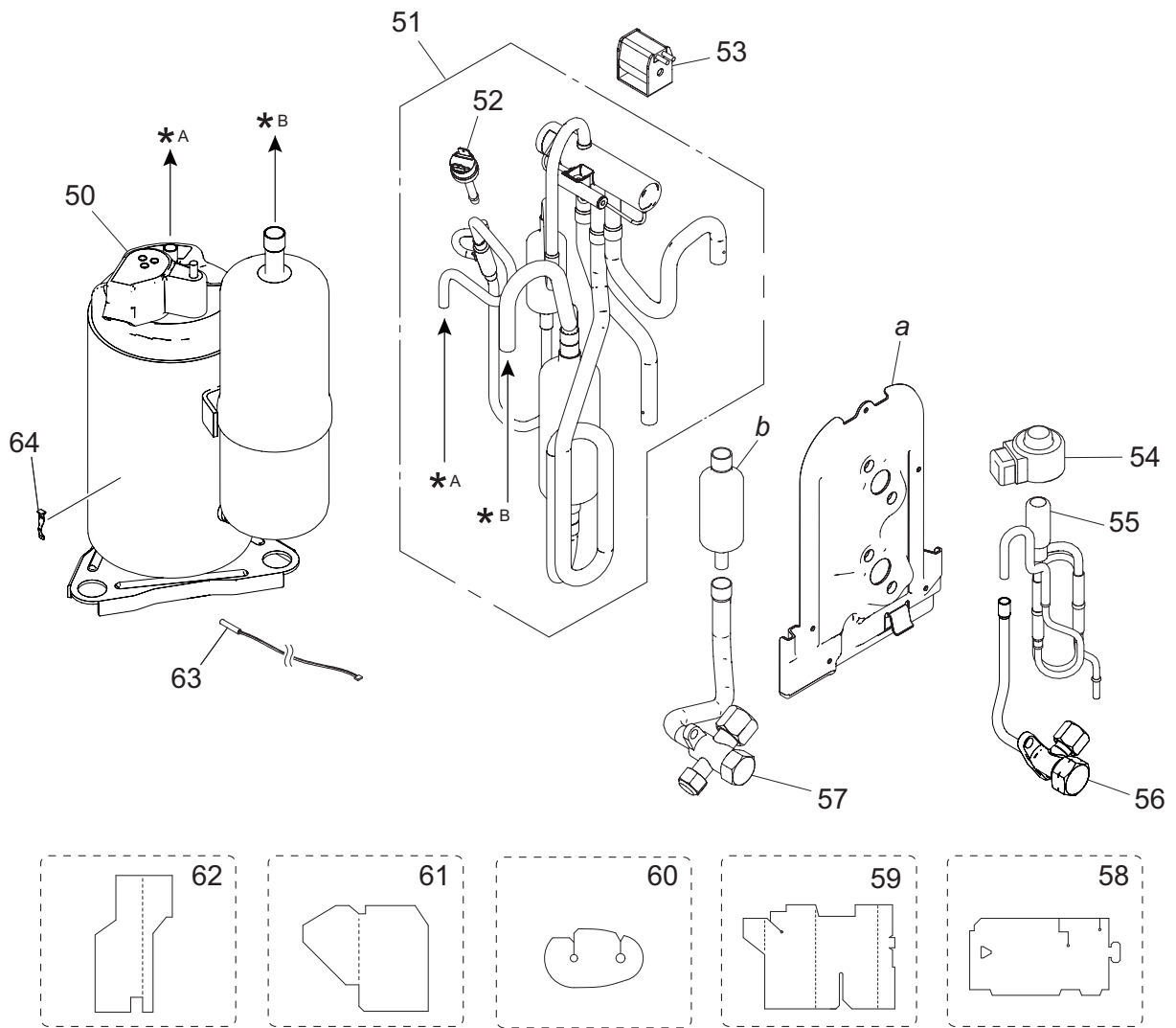


Item no.	Part no.	Part name	Service part
1	9322556028	Top panel assy	◆
2	9322811028	Protective net assy	◆
3	9322552099	Cabinet right assy	◆
4	9322570024	Switch cover assy	◆
5	9322314024	Base assy	◆
6	9322144003	Drain pipe	◆
7	9900435028	Terminal	◆
8	9709683859	Main PCB	◆
9	9322420039	Heat sink	◆
10	9900565060	Thermistor assy (Outdoor temp.)	◆
11	9322386007	Cushion rubber	◆
12	9319151007	Emblem	◆
13	9322149008	Blow grille	◆
14	9322555021	Front panel assy	◆
15	9322150004	Propeller fan	◆
16	9603601003	Brushless motor	◆
17	9322553027	Motor bracket assy	◆
18	9331404006	Thermistor holder pipe	◆
19	9900984014	Heat exchanger thermistor	◆
20	9900727079	Thermistor assy	◆
21	9317089654	Condenser total assy	◆
<i>a</i>	—	Inverter assy	—
<i>b</i>	—	Hair pin cushion	—

Compressor

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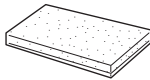
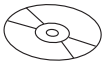


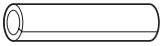
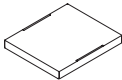
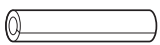




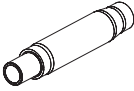


Item no.	Part no.	Part name	Service part
50	9810521002	Compressor	◆
51	9383129032	4-way valve assy	◆
52	9900186029	Pressure switch	◆
53	9970110160	Solenoid	◆
54	9970173028	Expansion valve coil	◆
55	9322463029	Pulse motor valve assy	◆
56	9322474001	2-way valve assy	◆
57	9387831016	3-way valve assy	◆
58	9322503008	S-insulator B	◆
59	9322847003	S-insulator F	◆
60	9322501004	S-insulator H	◆
61	9323045002	S-insulator V	◆
62	9322824004	S-insulator K	◆
63	9900985011	Thermistor (Compressor temp.)	◆
64	9810028006	Thermistor stopper	◆
<i>a</i>	—	Valve bracket	—
<i>b</i>	—	Muffler	—

5. Accessories


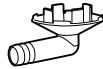
5-1. Indoor unit

■ 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			

5-2. Outdoor unit

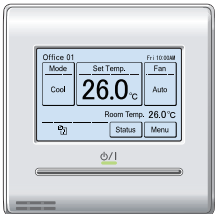
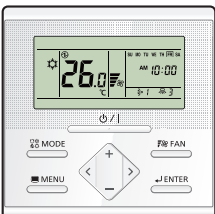
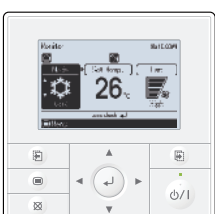
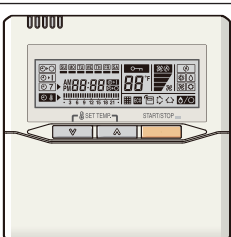

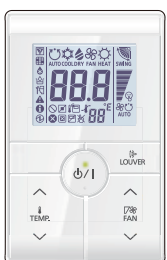
■ Model: AOYG24KATA



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

6. Optional parts

6-1. Indoor unit

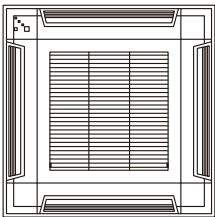
■ Controllers

Exterior	Part name	Model name	Summary
	Wired remote controller	UTU-RNRYZ*	Easy finger touch operation with LCD panel. Backlit LCD enables easy operation in a dark room. Wire type: Non-polar 2-wire
	Wired remote controller	UTU-RLRY	High visibility and easy operation. Room temperature can be accurately controlled using the built-in thermo sensor. Wire type: Non-polar 2-wire
	Wired remote controller	UTU-RVNYM	Large and full-dot liquid crystal screen, wide and large keys easy to press, user-intuitive arrow key. Wire type: Polar 3-wire
	Wired remote controller	UTU-RNNYM	Room temperature can be controlled by detecting the temperature accurately with built-in thermo sensor. Wire type: Polar 3-wire
	Simple remote controller	UTU-RSRY	Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, temperature setting, and operation mode. Wire type: Non-polar 2-wire
	Simple remote controller	UTU-RHRY	Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, and temperature setting. Wire type: Non-polar 2-wire



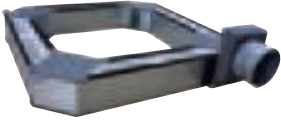
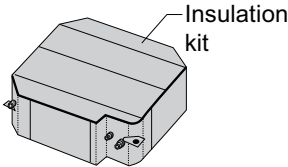




Exterior	Part name	Model name	Summary
	Simple remote controller	UTY-RSNYM	Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, temperature setting, and operation mode. Wire type: Polar 3-wire
	Wireless remote controller	UTY-LNTY	Unit control is performed by wireless remote controller.

NOTE: Available functions may differ by the remote controller. For details, refer to the operation manual.

■ Cassette grille

Exterior	Part name	Model name	Summary
	Cassette grille	UTG-UFYF-W	This cassette grille can be installed appropriately on the grid type ceiling common in the office.

Others

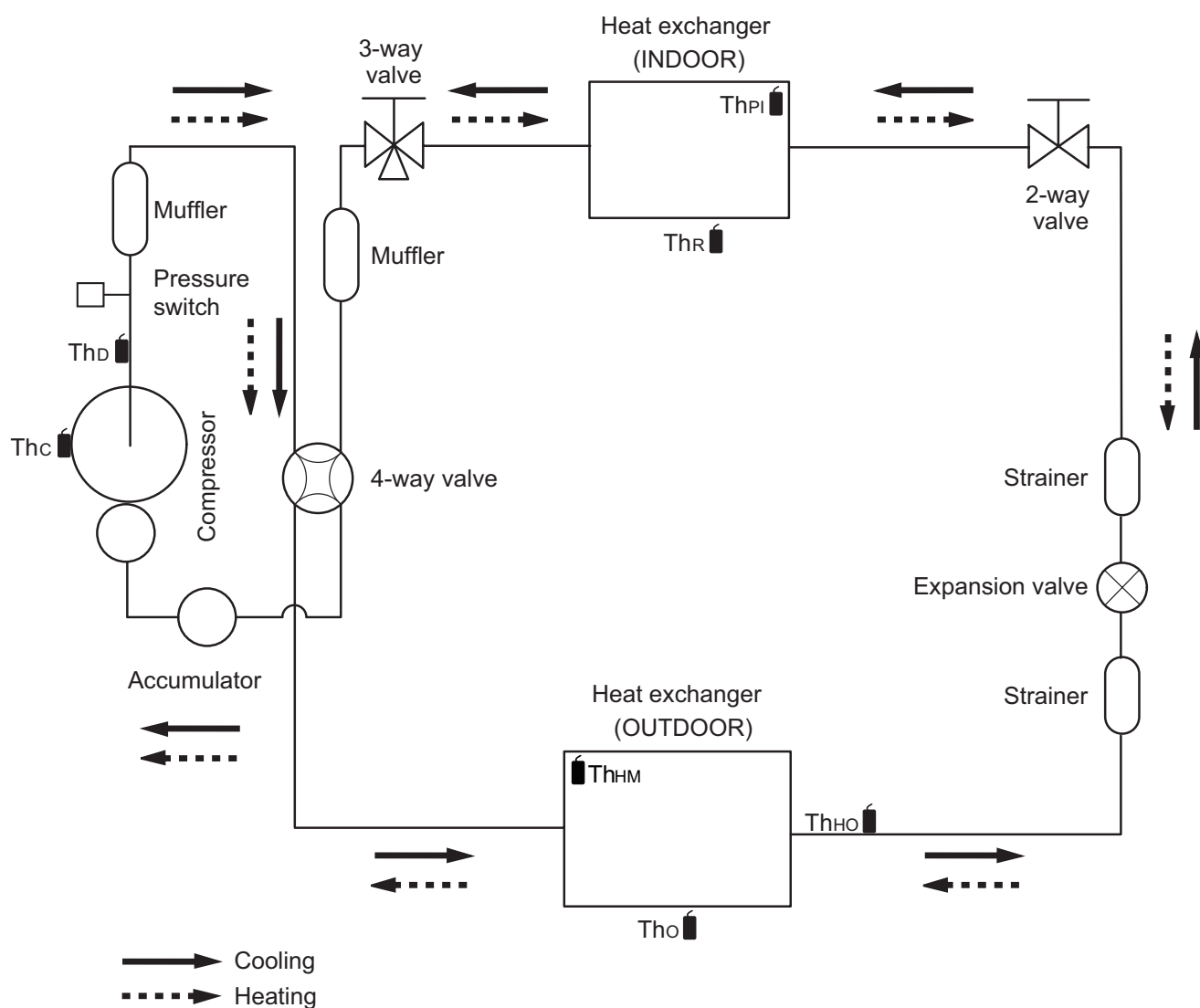
Exterior	Part name	Model name	Summary
	External connect kit	UTY-XWZXZG	Use to connect with various peripheral devices and air conditioner PCB. For control output port.
	Air outlet shutter plate	UTR-YDZB	Installed at the air outlet when 3-directions mode is performed.
	Fresh-air intake kit	UTZ-VXAA	By attaching Fresh-air intake kit to the indoor unit, it can be taken in fresh air of up to 10% of "high" air volume of the indoor unit.
	Insulation for high humidity	UTZ-KXGC	Install when the under-roof condition is expected to be the humidity of over 80% and the temperature of over 30 °C.
	Wireless LAN adapter	UTY-TFSXZ1	Remotely manage an air conditioning system using mobile devices such as smartphones and tablets. For connection indoor unit with UART interface.
	Modbus converter	UTY-VMSX	For connection between indoor unit with UART interface and a Modbus open network.
	KNX converter	UTY-VKSX	For connection between indoor unit with UART interface and a KNX open network.
	External switch controller	UTY-TERX	Air conditioner switching can be controlled by connecting other external sensor switches.

NOTE: Combined use of following optional parts and Wireless LAN adapter (UTY-TFSXZ1) is not allowed.

- Modbus converter
- KNX converter

7. Refrigerant system diagrams

7-1. Model: AOYG24KATA



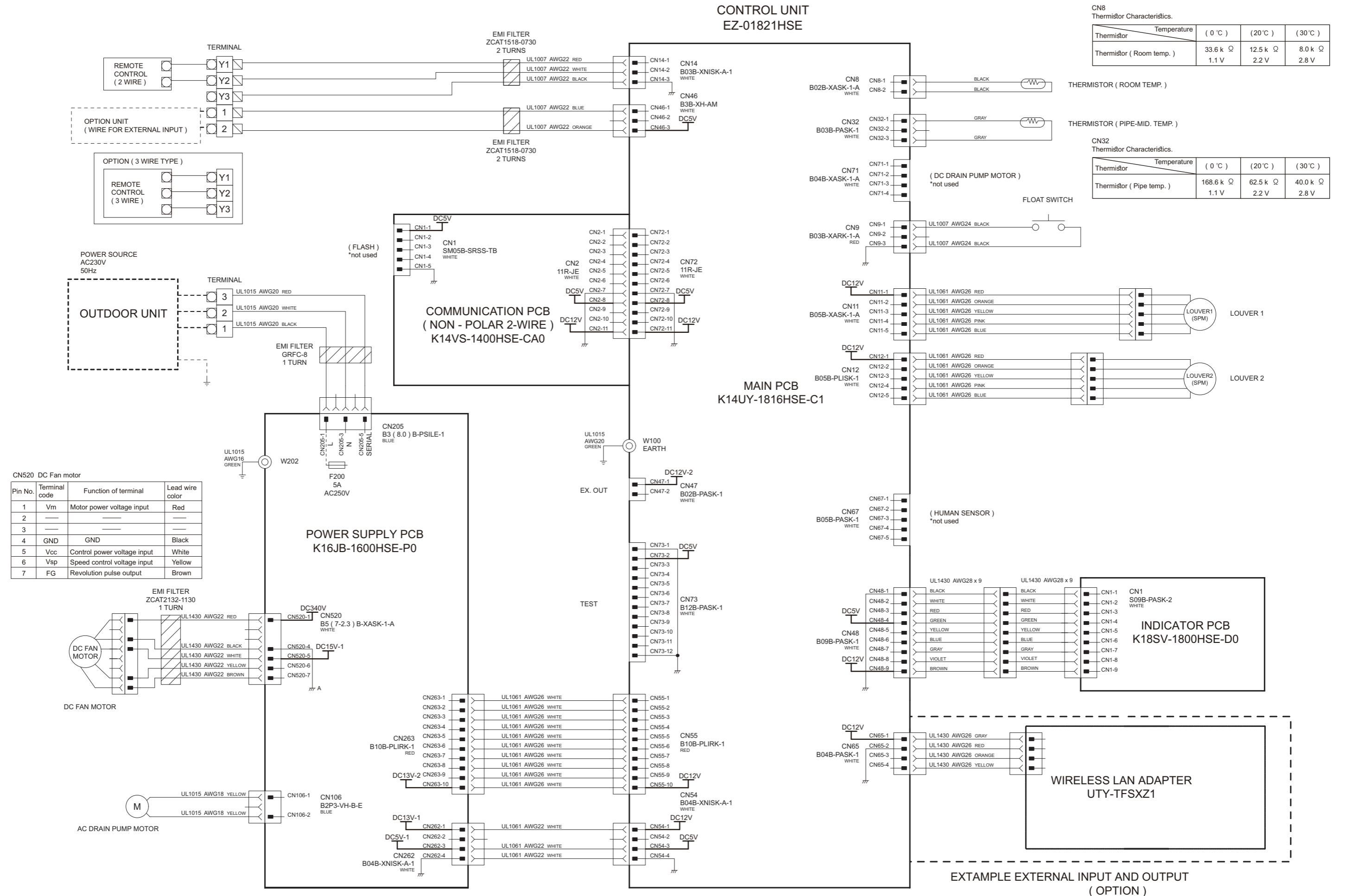
- Th_c : Thermistor (Compressor temperature)
 Th_D : Thermistor (Discharge temperature)
 Th_o : Thermistor (Outdoor temperature)
 Th_{HO} : Thermistor (Heat exchanger out temperature)
 Th_{HM} : Thermistor (Heat exchanger middle temperature)
 Th_R : Thermistor (Room temperature)
 Th_{PI} : Thermistor (Pipe temperature)

8. PC board diagrams

8-1. Model: AOYG24KATA

TECHNICAL DATA AND PARTS LIST

TECHNICAL DATA AND PARTS LIST



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

8-2. Model: AOYG24KATA

INVERTER ASSEMBLY EZ-019FHUE

TECHNICAL DATA
AND PARTS LIST

TECHNICAL DATA
AND PARTS LIST

