

SERVICE MANUAL



Indoor unit	Outdoor unit
ASYG07KMCC	AOYG07KMCC
ASYG09KMCC	AOYG09KMCC
ASYG12KMCC	AOYG12KMCC
ASYG14KMCC	AOYG14KMCC

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Specifications (Indoor unit)

Model name				ASYG07KMCC	ASYG09KMCC	ASYG12KMCC	ASYG14KMCC	
Power supply				1Ø 230 V ~50 Hz				
Available voltage range				198—264 V				
Capacity		kW class		2.0	2.5	3.5	4.0	
Input power		W		23	27	27	33	
Running current		A		0.20	0.24	0.24	0.30	
Fan	Airflow rate	Cooling	HIGH	m³/h	650	700	700	770
			MED		540	560	560	600
			LOW		430	430	430	450
			QUIET		270	270	270	280
		Heating	HIGH		720	750	770	800
			MED		580	610	640	660
			LOW		460	470	520	520
			QUIET		330	330	330	340
	Type × Q'ty	Cross flow fan × 1						
	Motor output		W	30				49
Sound pressure level *1	Cooling	HIGH	dB (A)	38	40	40	43	
		MED		33	34	35	36	
		LOW		29	29	30	30	
		QUIET		21	21	21	21	
	Heating	HIGH		41	42	42	44	
		MED		35	36	38	39	
		LOW		31	31	33	33	
		QUIET		22	22	22	24	
Sound power level		Cooling	dB (A)	55	55	55	57	
Heating		56		57	58	59		
Heat exchanger type	Dimensions (H × W × D)		mm	Main1: 210 × 670 × 26.6 Main2: 112 × 670 × 20.0			Main1: 210 × 670 × 26.6 Main2: 112 × 670 × 20.0 Sub: 84 × 670 × 13.3	
	Fin pitch		mm	Main1: 1.2, Main2: 1.1			Main1: 1.2, Main2: 1.1 Sub: 1.4	
	Rows × Stages			Main1: 2 × 10, Main2: 2 × 7			Main1: 2 × 10 Main2: 2 × 7 Sub: 1 × 4	
	Pipe type			Copper tube				
	Fin type			Aluminum				
	Material			Polystyrene				
Enclosure	Color			White + Pearl white (painted) Approximate color of Munsell N 9.25/				
	Net		mm	270 × 834 × 222				
Dimensions (H × W × D)	Gross			277 × 914 × 332				
	Net		kg	10.0				
Weight	Gross			12.5				13.0
	Connection pipe	Size	Liquid	mm (in)	Ø6.35 (Ø1/4)			
Gas			Ø9.52 (Ø3/8)					
Method			Flare					
Drain hose	Material			PP + HDPE				
	Size		mm	Ø13.8 (I.D.), Ø15.8 to Ø16.7 (O.D.)				
Operation range	Cooling		°C	18 to 32				
	Heating		%RH	80 or less				
			16 to 30					
Remote controller type				Wireless (Option: Wired, Mobile app*2 [FGLair™])				
NOTES: - The protective function might work when using it outside the operation range. *1: Sound pressure level: - These are the measured values in the 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: Available on Google Play™ store or on App Store®. Optional WLAN adapter is also required. For details, refer to the setting manual.								

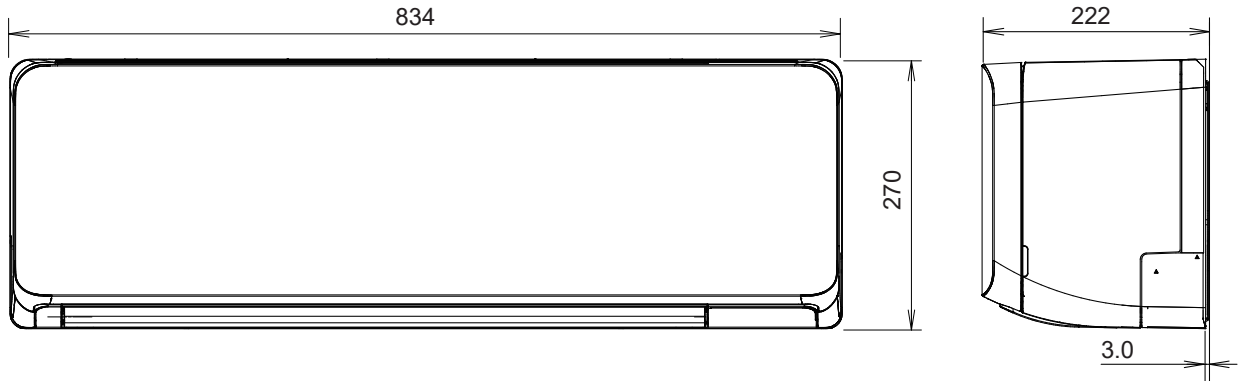
Specifications (Outdoor unit)

Type				Inverter heat pump			
Model name				AOYG07KMCC	AOYG09KMCC	AOYG12KMCC	AOYG14KMCC
Power supply				230 V ~ 50 Hz			
Available voltage range				198—264 V			
Starting current				3.0	3.4	5.1	6.8
Fan	Airflow rate	Cooling	m³/h	1,650	1,650	1,700	1,680
		Heating		1,450	1,450	1,470	1,580
	Type × Q'ty				Propeller fan × 1		
Motor output		W		23			
Sound pressure level *1		Cooling	dB (A)	46		50	
		Heating		46		50	
Sound power level		Cooling	dB (A)	61		65	
		Heating		61		65	
Heat exchanger type		Dimensions (H × W × D)	mm	504 × 650 × 18.2		504 × 630 × 36.4	504 × 881 × 36.4
		Fin pitch		1.3			
		Rows × Stages		1 × 24		2 × 24	
		Pipe type		Copper			
		Fin type	Type (Material)	Corrugate (Aluminum)			
				Corrosion resistance			
Compressor	Type × Q'ty			Rotary × 1			
	Motor output	W		550		900	
Refrigerant		Type (Global warming potential)		R32 (675)			
		Charge	g	600	700	850	
Refrigerant oil		Type		RB74AF			RB68A
		Amount	cm³	240			340
Enclosure		Material		Steel sheet			
		Color		Beige			
		Approximate color of Munsell 10YR 7.5/1.0					
Dimensions (H × W × D)	Net	mm	541 × 663 × 290				542 × 799 × 290
	Gross		602 × 804 × 375				602 × 940 × 375
Weight	Net	kg	23		25		31
	Gross		26		29		35
Connection pipe	Size	Liquid	mm (in)	Ø 6.35 (Ø 1/4)			
		Gas		Ø 9.52 (Ø 3/8)			
	Method		Flare				
	Pre-charge length		m	15			
	Max. length			20			
	Max. height difference			15			
Operation range		Cooling	°C	-10 to 46			
		Heating		-15 to 24			
Drain hose		Material		PP+LLDPE			
		Size	mm	Ø 13.0 (I. D.), Ø 16.0 to Ø 16.8 (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 m, Height difference: 0 m. - 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.							

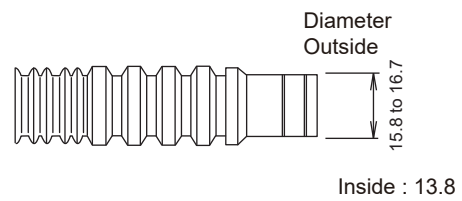
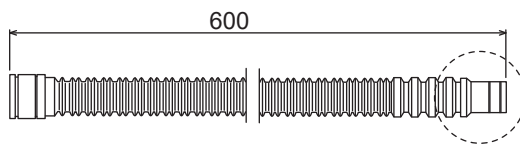
Dimensions

Models: ASYG07KMCC, ASYG09KMCC, ASYG12KMCC, and ASYG14KMCC

Unit: mm

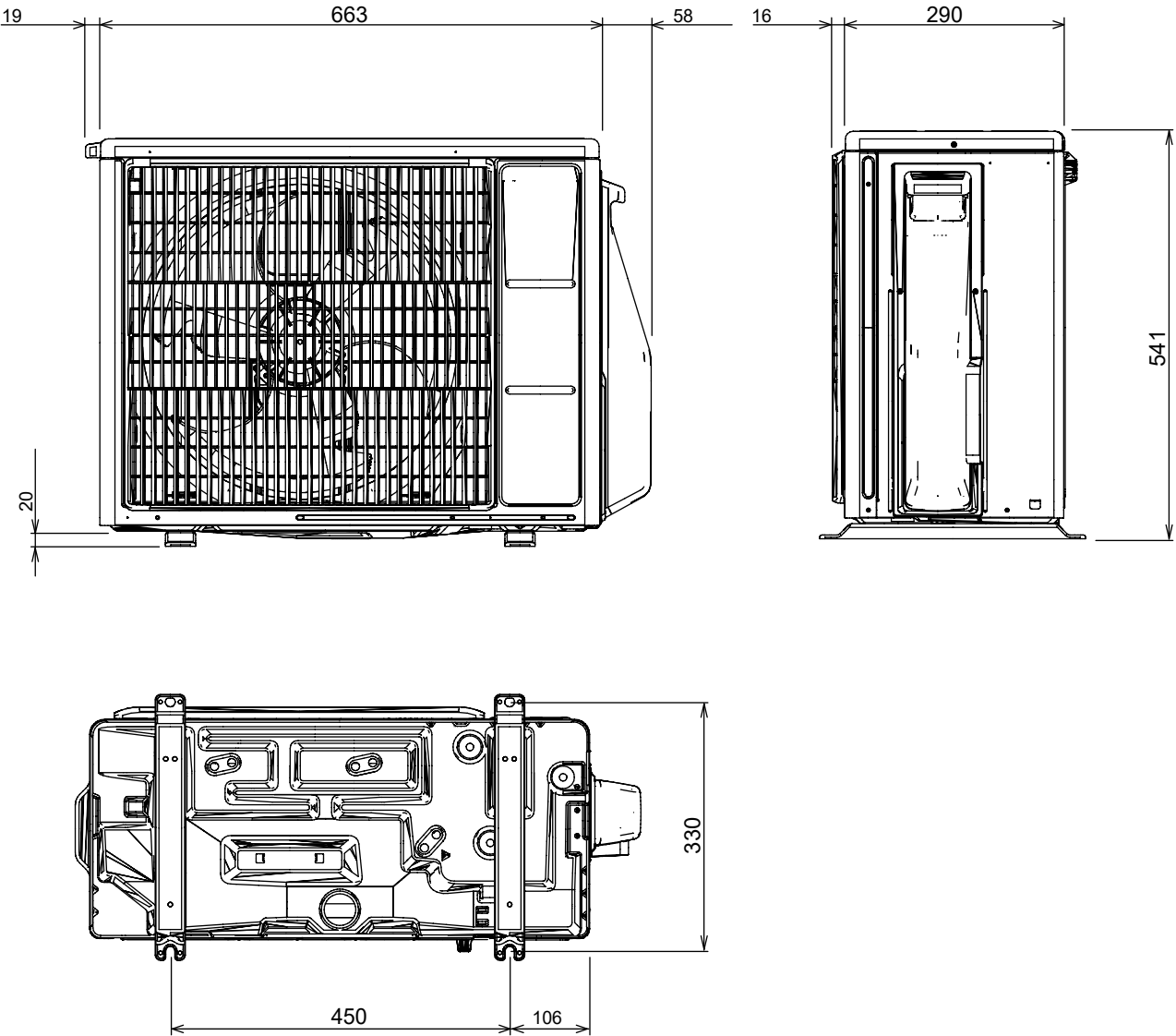


Drain hose



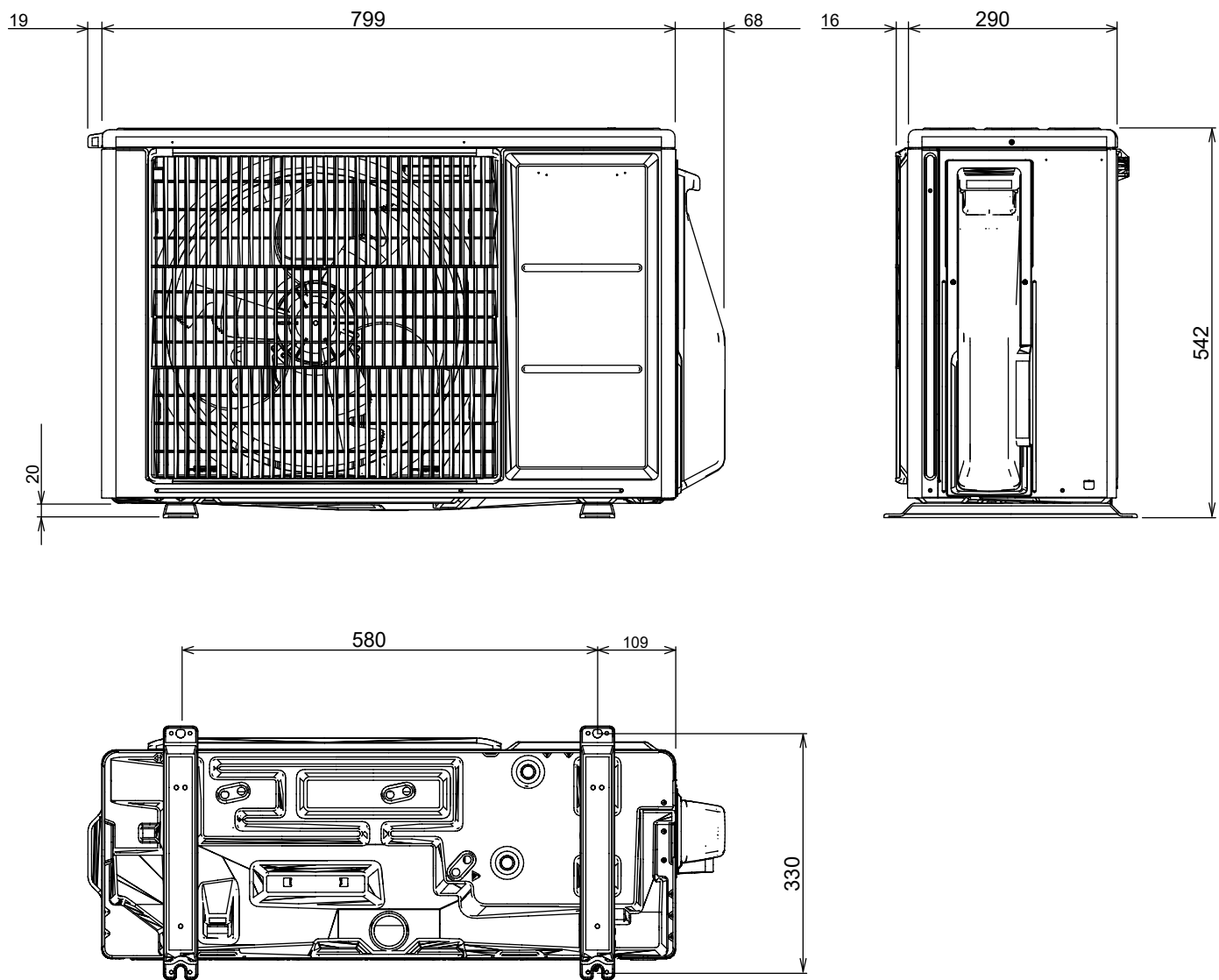
Models: AOYG07KMCC, AOYG09KMCC, and AOYG12KMCC

Unit: mm



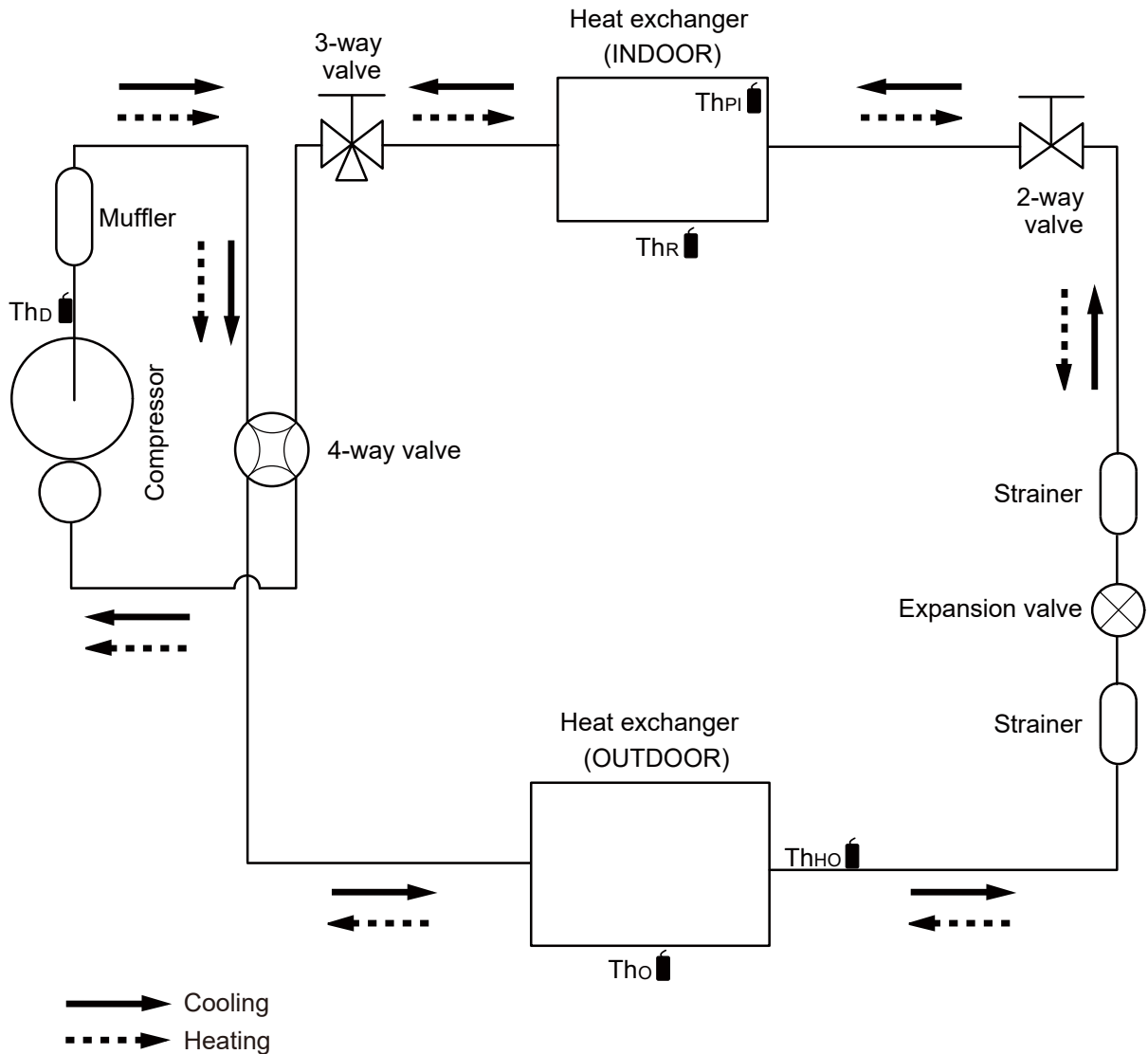
Model: AOYG14KMCC

Unit: mm



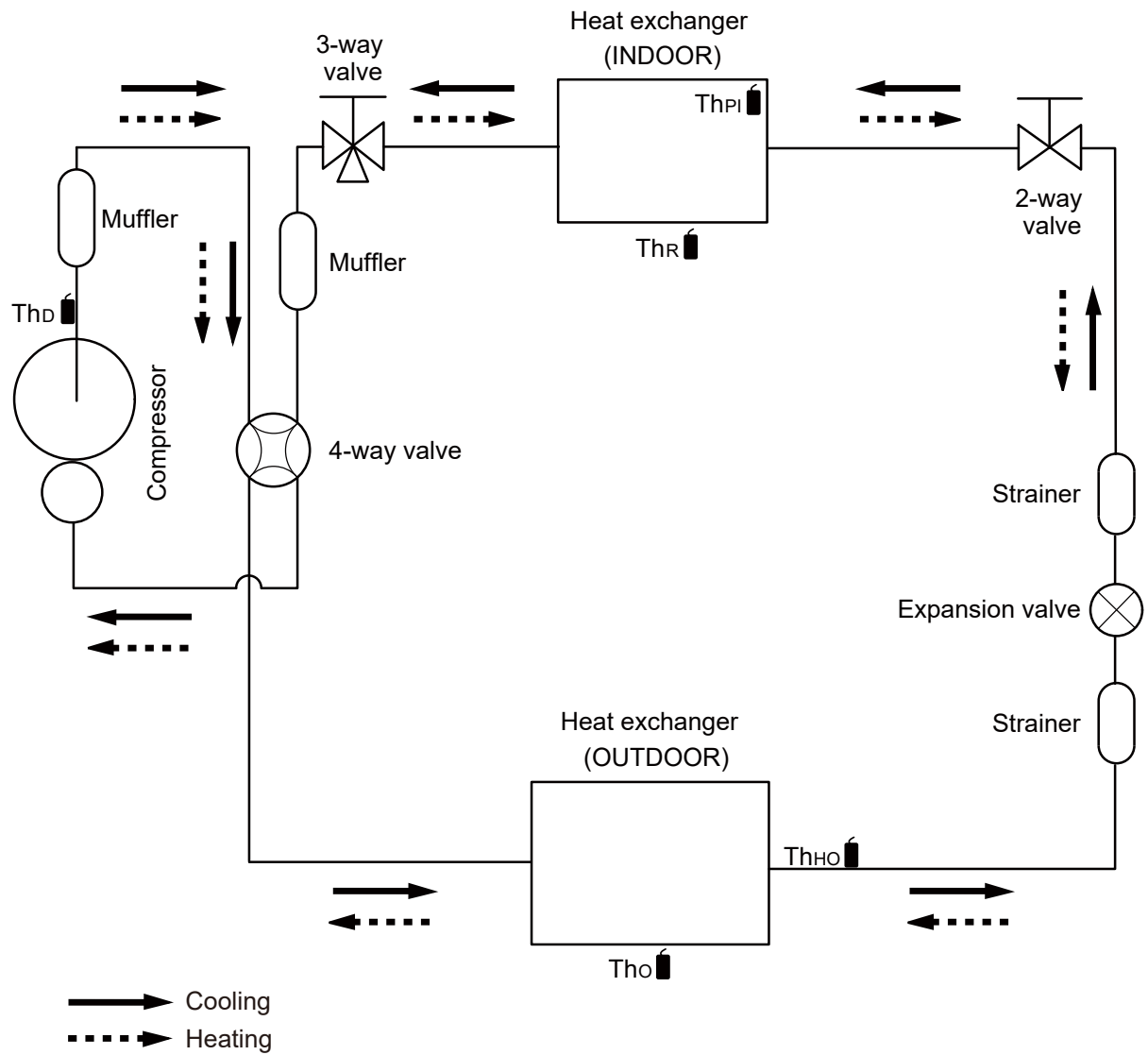
Refrigerant circuit

**Models: ASYG07KMCC/AOYG07KMCC,
ASYG09KMCC/AOYG09KMCC, and ASYG12KMCC/AOYG12KMCC**



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)

Models: ASYG14KMCC/AOYG14KMCC

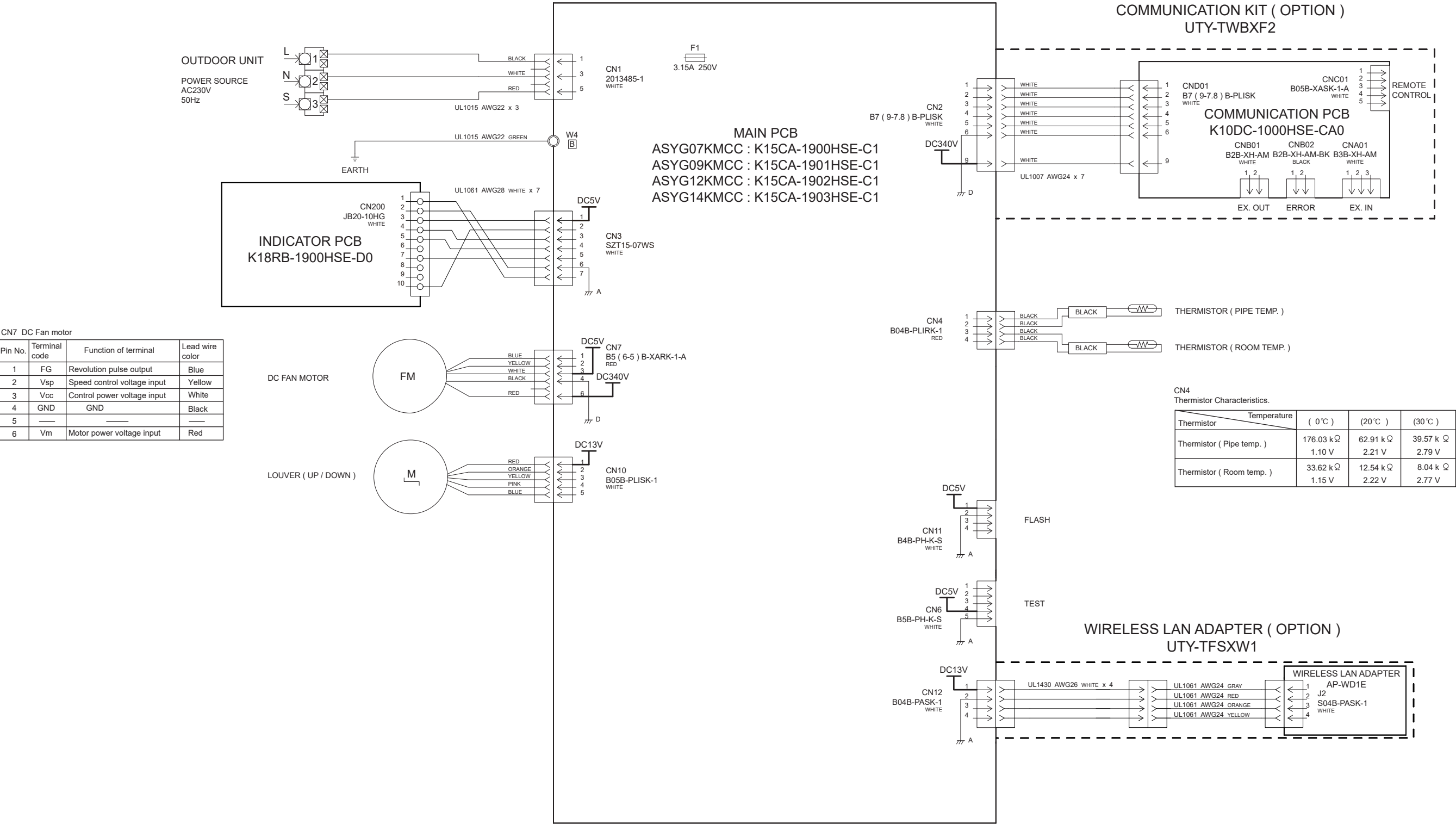


- Th_D : Thermistor (Discharge temperature)
 Th_O : Thermistor (Outdoor temperature)
 Th_{HO} : Thermistor (Heat exchanger out temperature)
 Th_R : Thermistor (Room temperature)
 Th_{PI} : Thermistor (Pipe temperature)

INDOOR PRINTED CIRCUIT BOARD
CIRCUIT DIAGRAM

Models : ASYG07KMCC
ASYG09KMCC
ASYG12KMCC
ASYG14KMCC

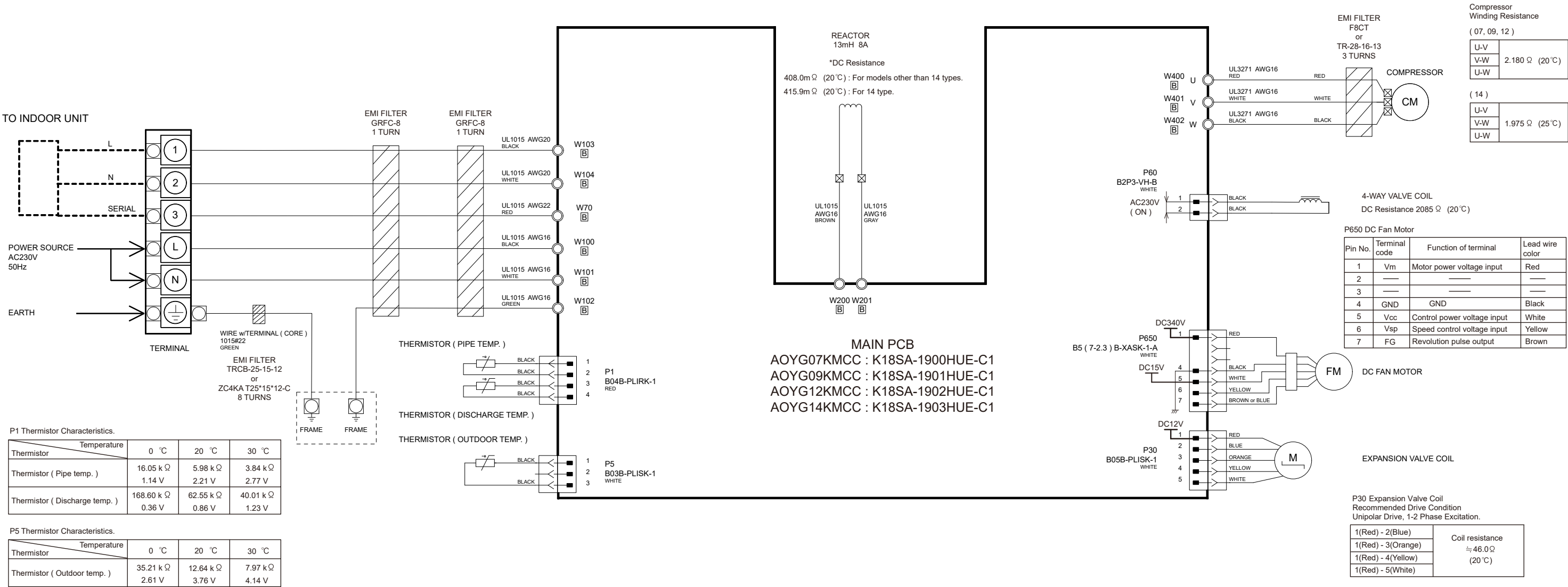
CONTROL UNIT
ASYG07KMCC : EZ-019CHSE
ASYG09KMCC : EZ-019DHSE
ASYG12KMCC : EZ-019EHSE
ASYG14KMCC : EZ-019FHSE



OUTDOOR PRINTED CIRCUIT BOARD
CIRCUIT DIAGRAM

Models : AOYG07KMCC
AOYG09KMCC
AOYG12KMCC
AOYG14KMCC

INVERTER ASSEMBLY
AOYG07KMCC : EZ-01909HUE
AOYG09KMCC : EZ-0190AHUE
AOYG12KMCC : EZ-0190BHUE
AOYG14KMCC : EZ-0190CHUE



Error detection

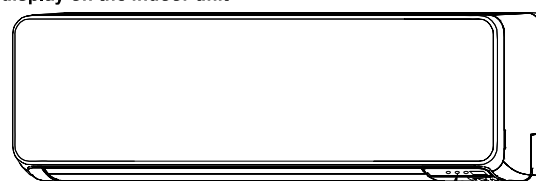
If you use a wireless remote controller, the lamp on the photo detector unit will output error codes by way of blinking patterns. If you use a wired remote controller, error codes will appear on the remote control display. Refer to the lamp blinking patterns and error codes in the table. An error display 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
●(6)	●(1)	◇	61	Outdoor unit reverse/missing phase and wiring error

Error display			Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(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

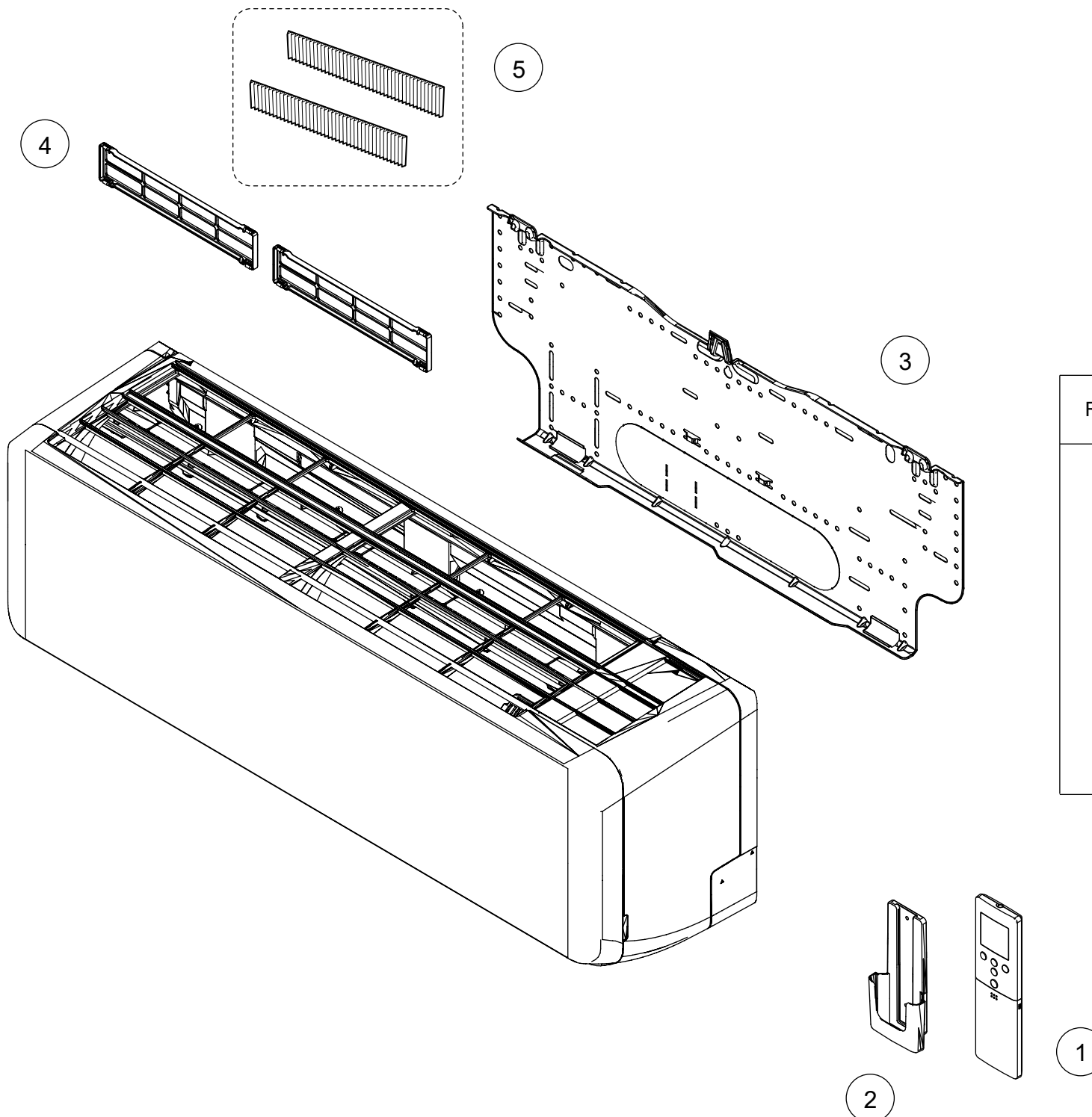
Error display on the indoor unit



OPERATION indicator lamp (green)

TIMER indicator lamp (orange)

ECONOMY indicator lamp (green)

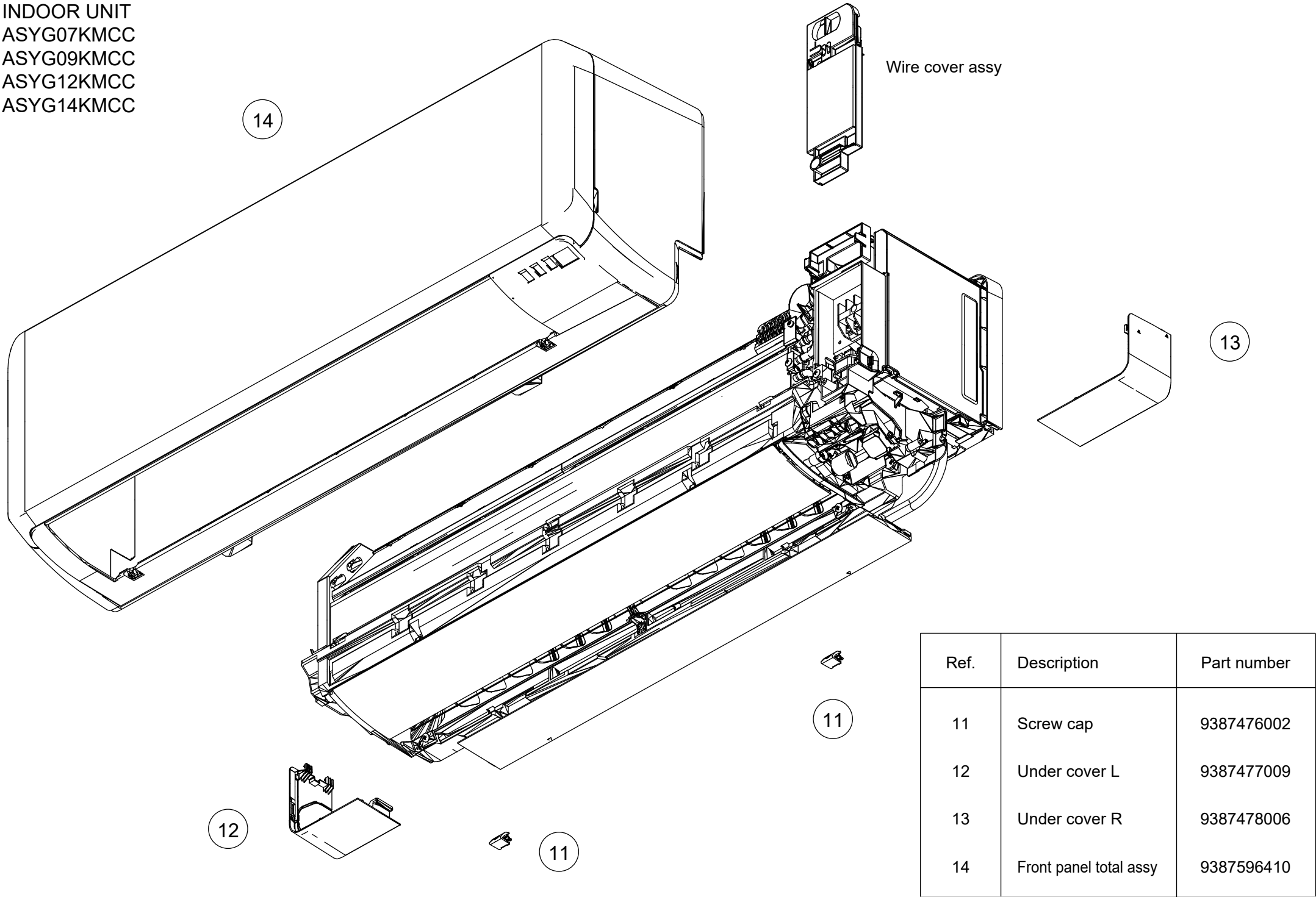


Parts

INDOOR UNIT
ASYG07KMCC
ASYG09KMCC
ASYG12KMCC
ASYG14KMCC

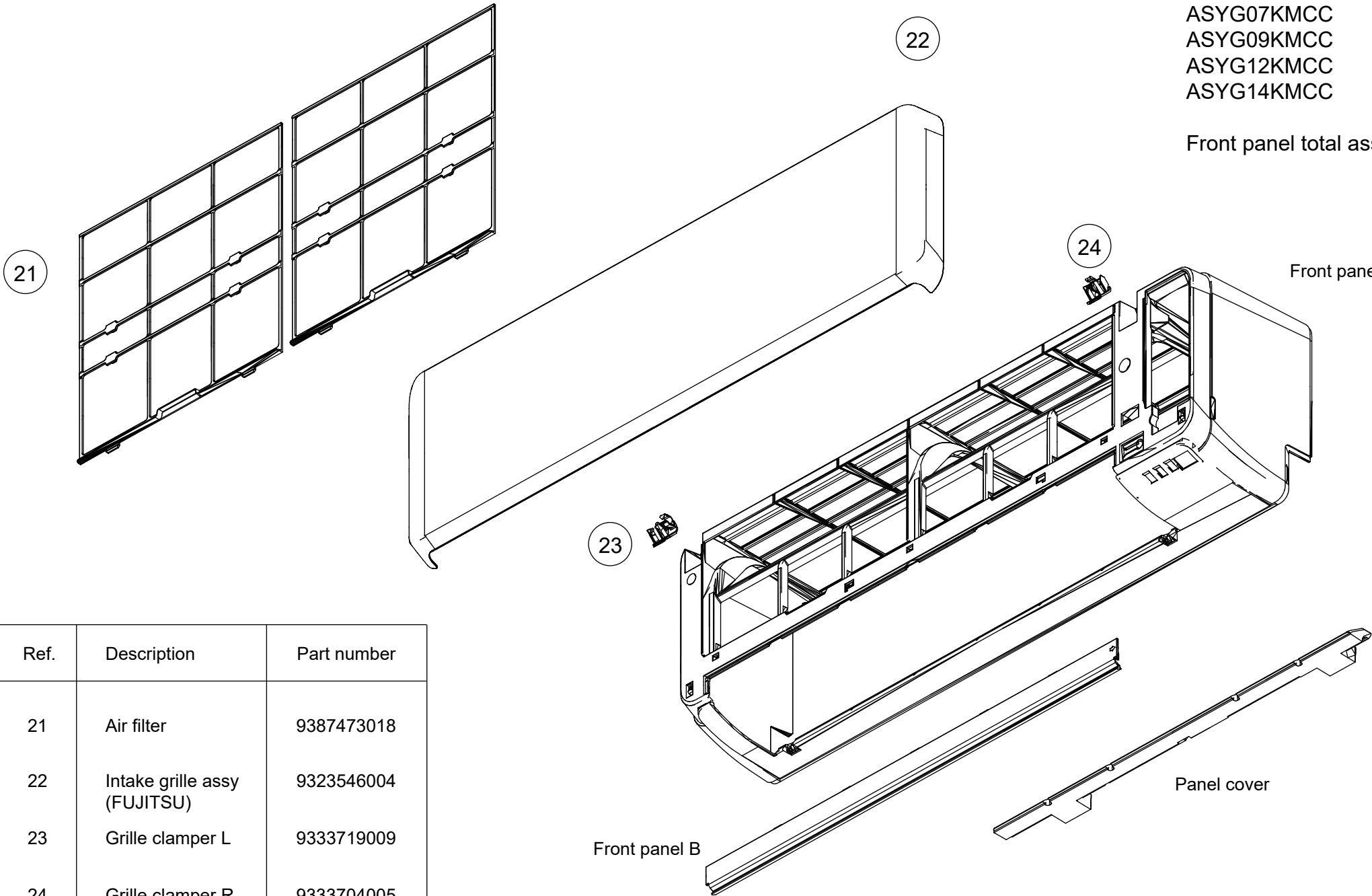
Ref.	Description	Part number
1	Remote control (no brand)	9319208008
2	Remote control holder	9318912005
3	Bracket panel	9387480030
4	Electric filter holder	9332911008
5	Air clean filter assy	9317250009

INDOOR UNIT
ASYG07KMCC
ASYG09KMCC
ASYG12KMCC
ASYG14KMCC



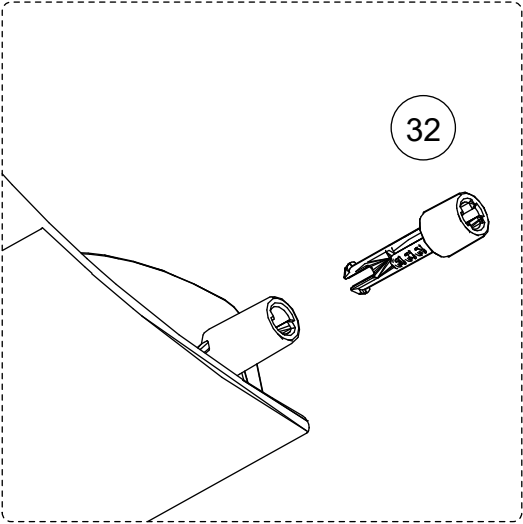
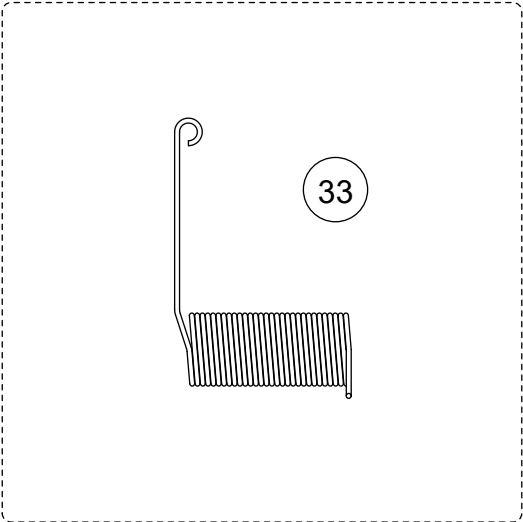
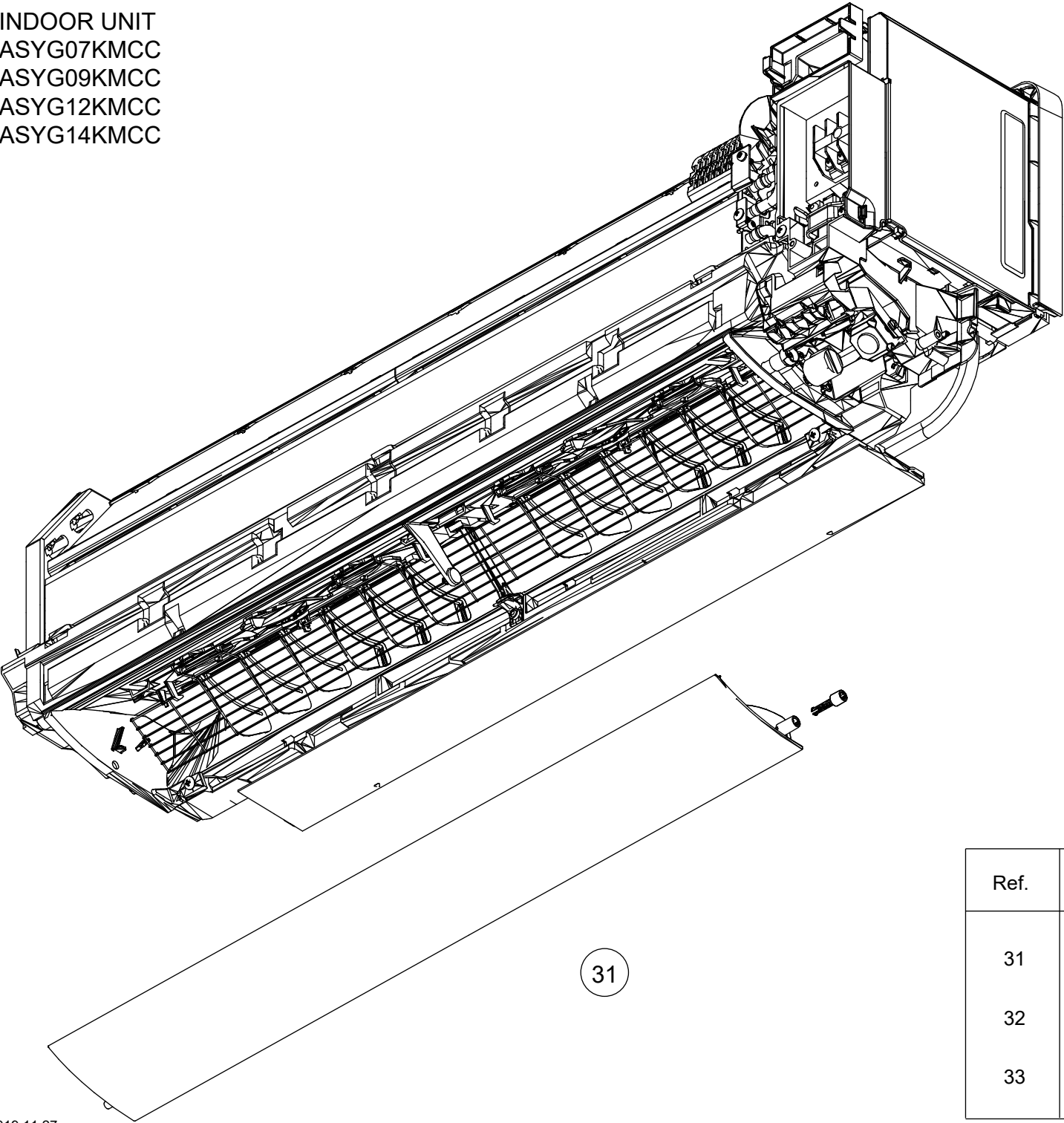
INDOOR UNIT
ASYG07KMCC
ASYG09KMCC
ASYG12KMCC
ASYG14KMCC

Front panel total assy

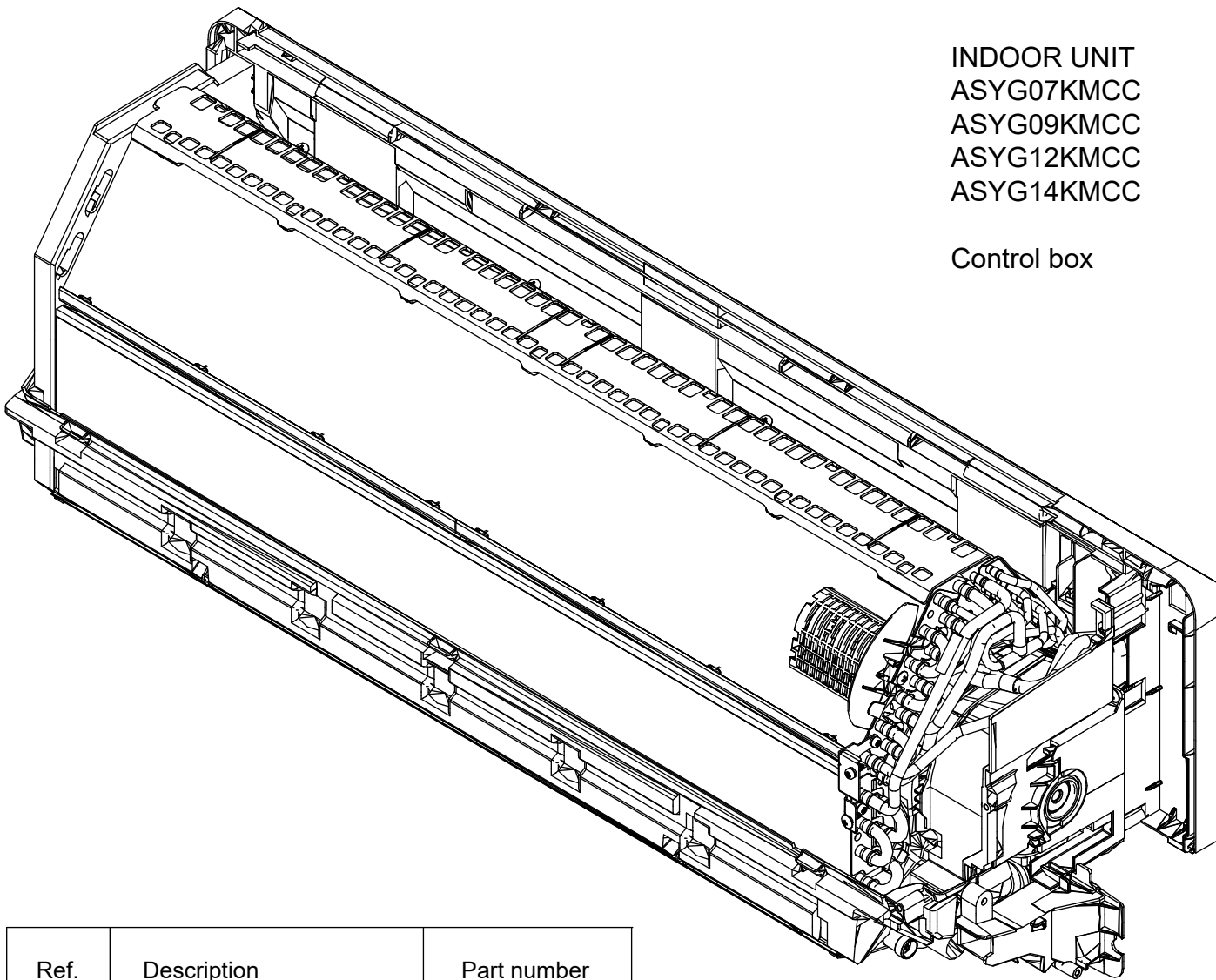


Ref.	Description	Part number
21	Air filter	9387473018
22	Intake grille assy (FUJITSU)	9323546004
23	Grille clamber L	9333719009
24	Grille clamber R	9333704005

INDOOR UNIT
ASYG07KMCC
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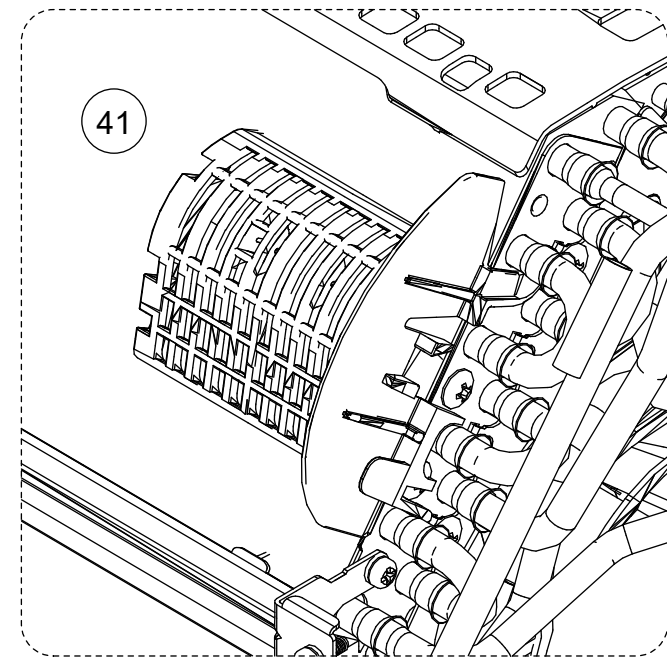


Ref.	Description	Part number
31	U/D louver assy	9387479041
32	Shaft cover	9332861006
33	Louver spring P	9333951003

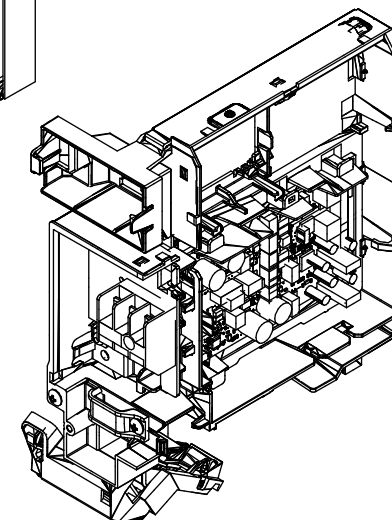
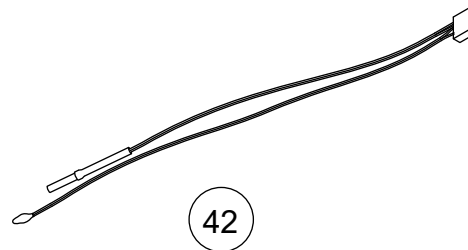


INDOOR UNIT
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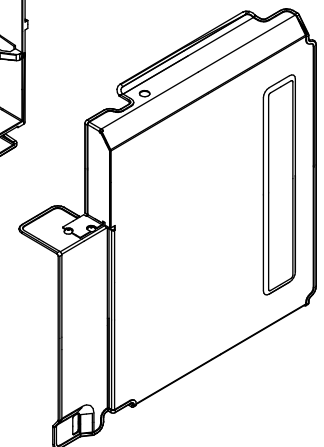
Control box



Ref.	Description	Part number
41	Room thermistor holder	9387467017
42	Thermistor assy	9900627027

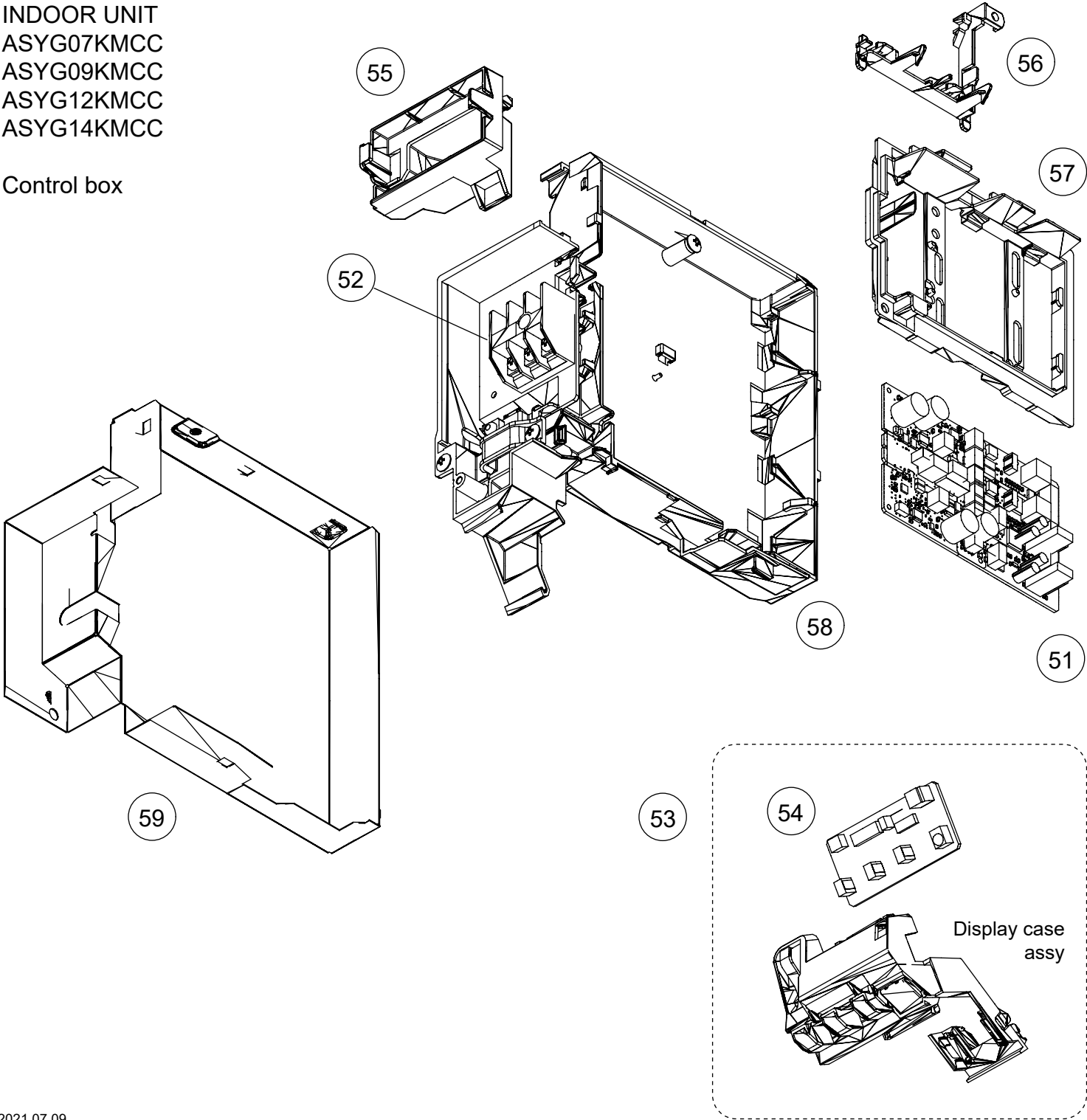


Control cover



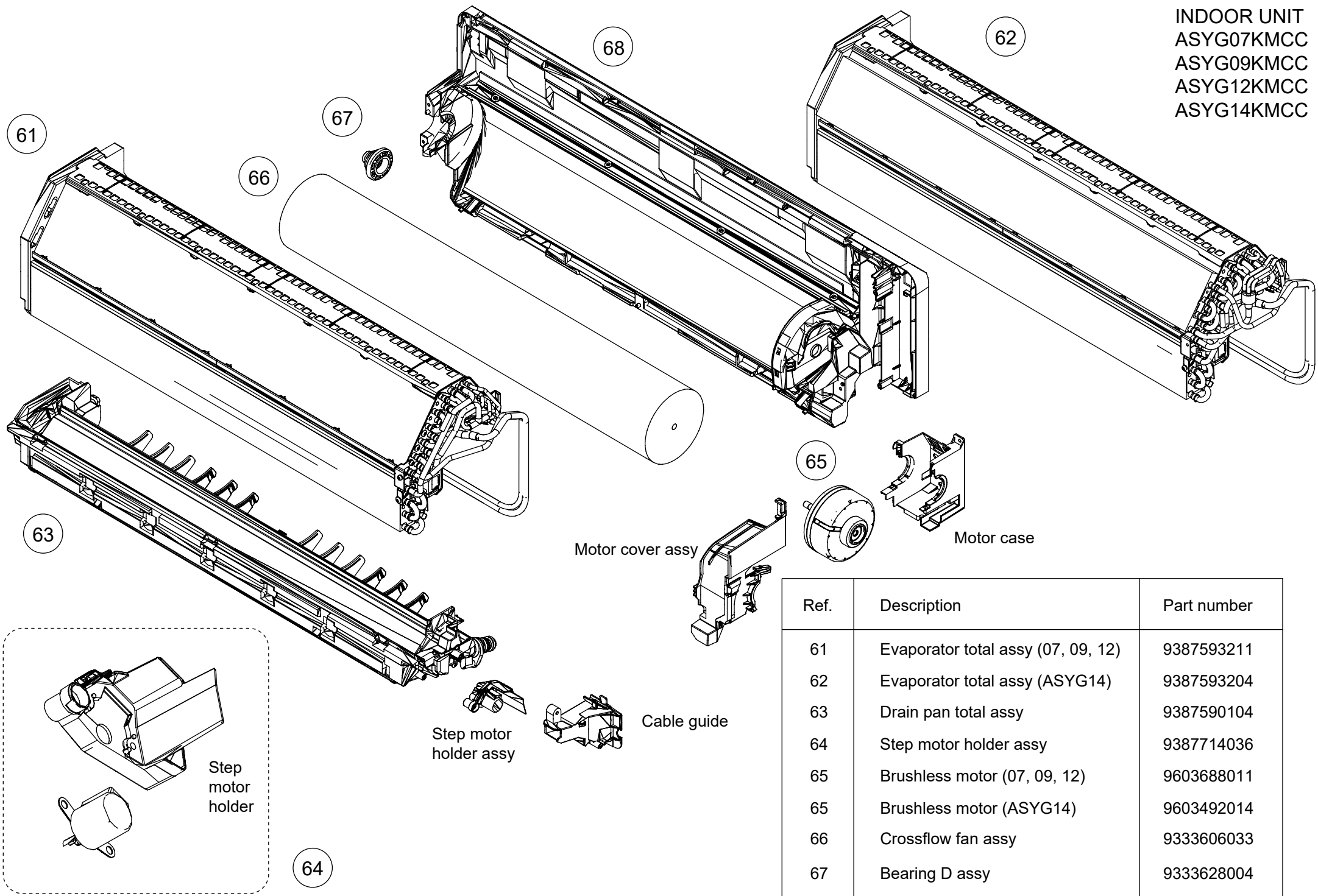
INDOOR UNIT
ASYG07KMCC
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Control box



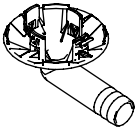
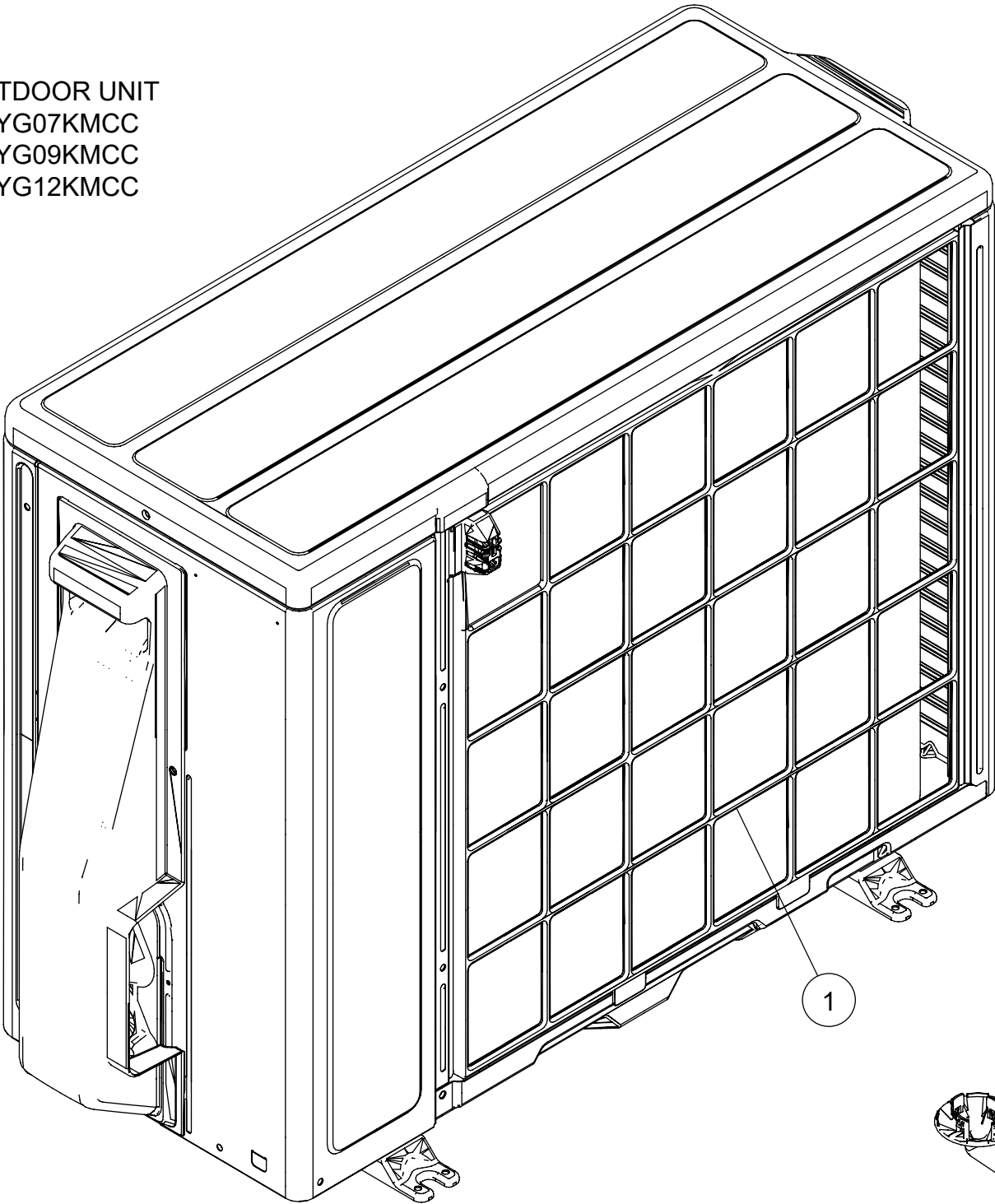
Ref.	Description	Part number
51	Main PCB (ASYG07)	9710368370
51	Main PCB (ASYG09)	9710368387
51	Main PCB (ASYG12)	9710368394
51	Main PCB (ASYG14)	9710368400
52	Terminal	9901013027
53	Display assy (KMCC) Includes all parts enclosed by the dashed lin.	9711146069
54	Indicator PCB	9711147042
55	Wi-Fi folder	9387485004
56	PWB holder A	9387464009
57	PWB holder B	9387795011
58	Control box	9387463026
59	Box shield	9323537002

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ASYG14KMCC



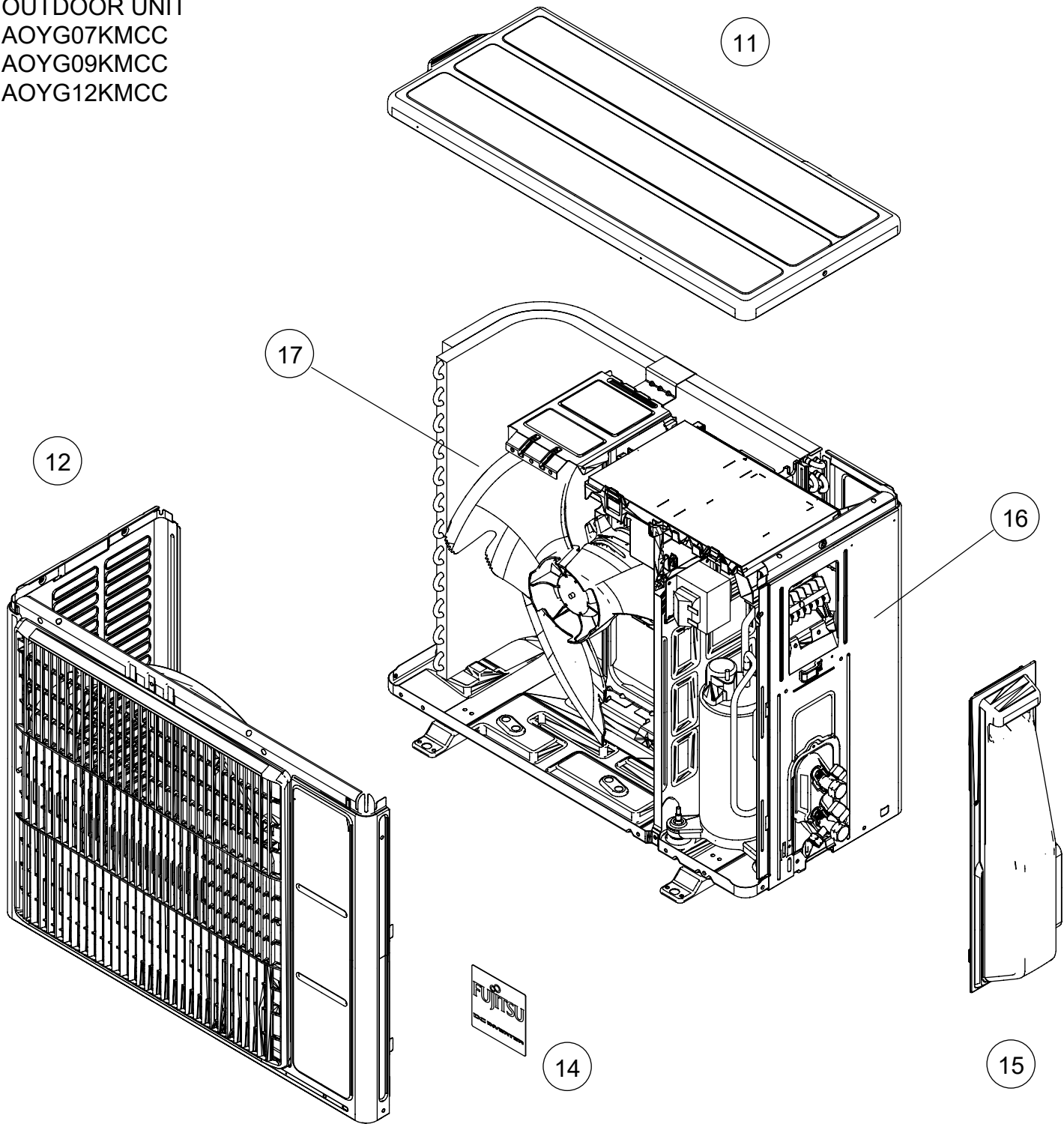
Ref.	Description	Part number
61	Evaporator total assy (07, 09, 12)	9387593211
62	Evaporator total assy (ASYG14)	9387593204
63	Drain pan total assy	9387590104
64	Step motor holder assy	9387714036
65	Brushless motor (07, 09, 12)	9603688011
65	Brushless motor (ASYG14)	9603492014
66	Crossflow fan assy	9333606033
67	Bearing D assy	9333628004
68	Base assy	9387587074

OUTDOOR UNIT
AOYG07KMCC
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AOYG12KMCC



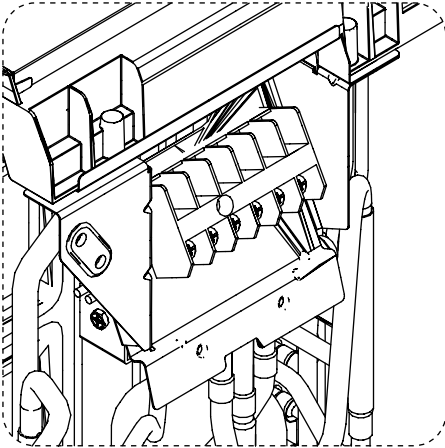
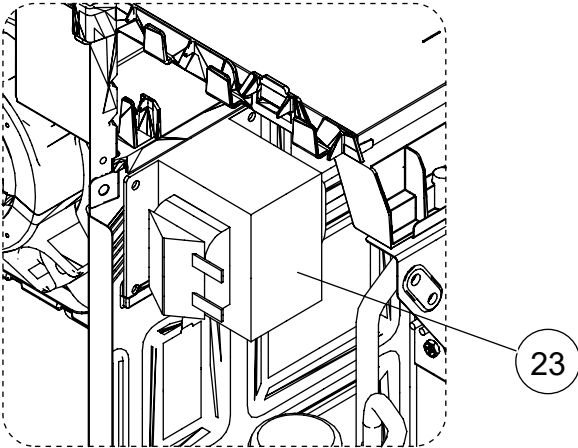
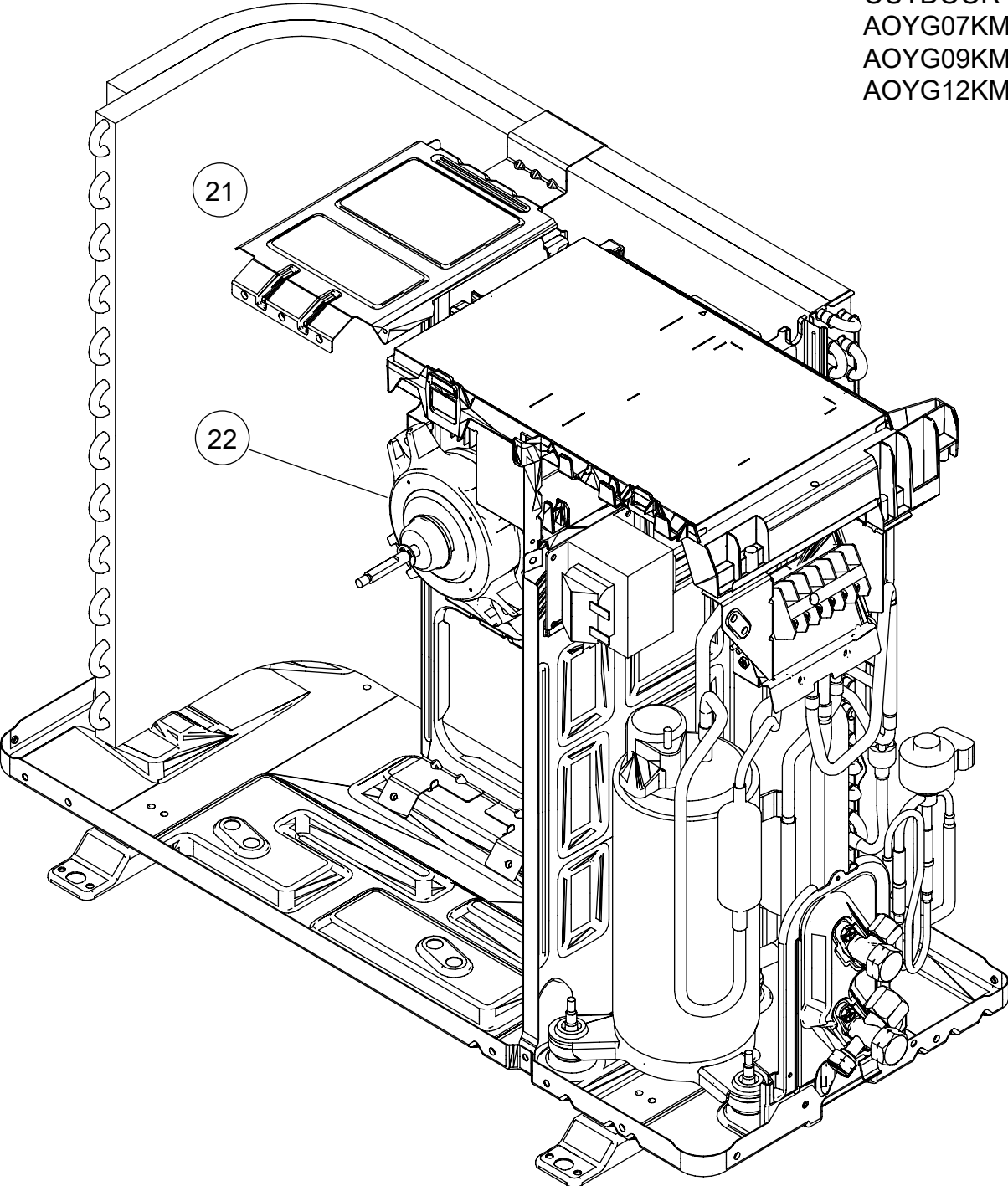
Ref.	Description	Part number
1	Protective net assy	9322811059
2	Outdoor thermistor	9900565053
3	Drain pipe	9322144003

OUTDOOR UNIT
AOYG07KMCC
AOYG09KMCC
AOYG12KMCC



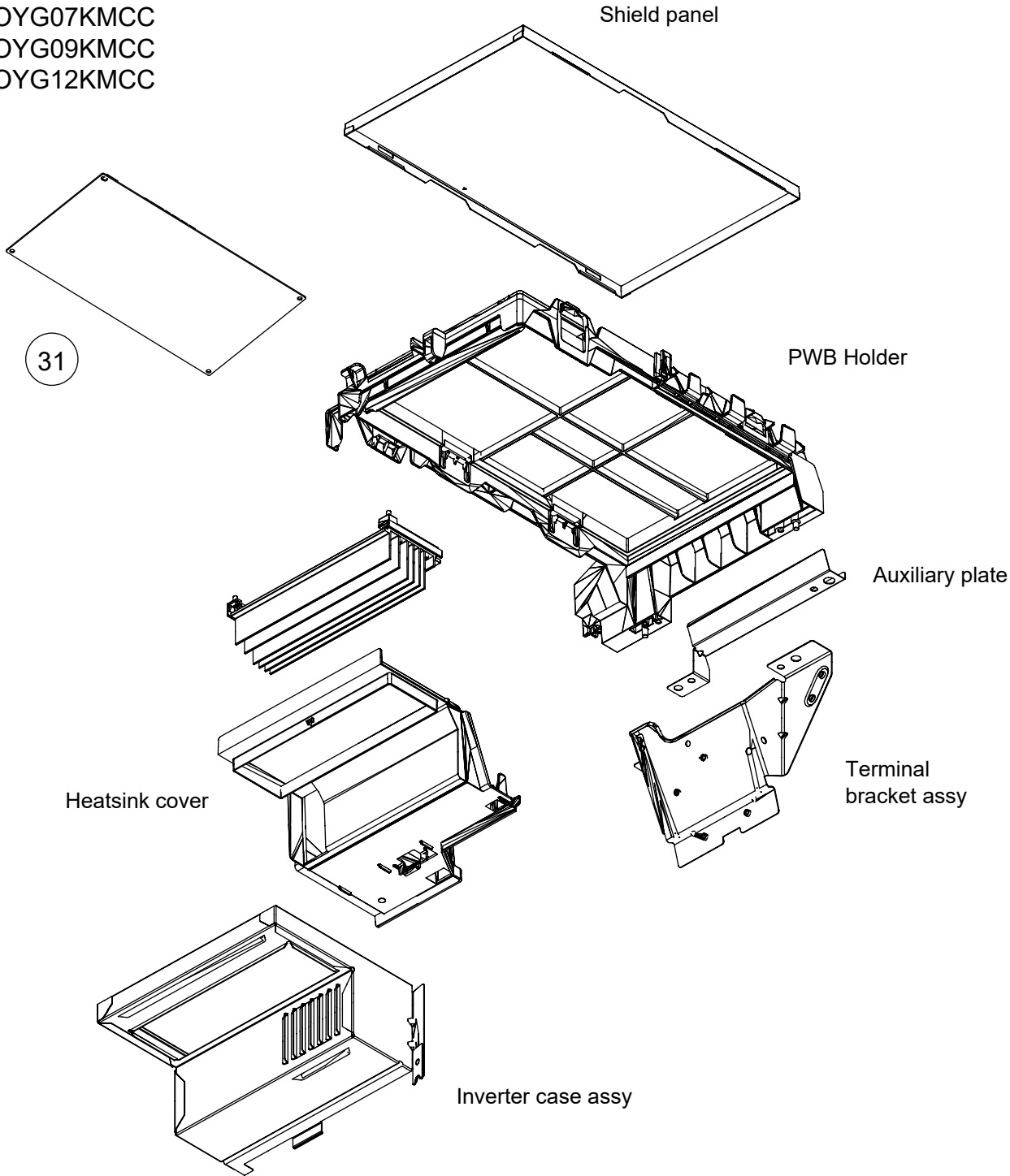
Ref.	Description	Part number
11	Top panel assy	9322556103
12	Front panel assy	9322555106
13	Blow grille	9322135001
14	Emblem	9387859003
15	Switch cover assy	9322570000
16	Cabinet right assy	9322552112
17	Propeller Fan	9322136008

OUTDOOR UNIT
AOYG07KMCC
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Ref.	Description	Part number
21	Motor bracket assy (07, 09)	9322553089
21	Motor bracket assy (AOYG12)	9322553096
22	Brushless motor	9603553005
23	Reactor assy	9901012013

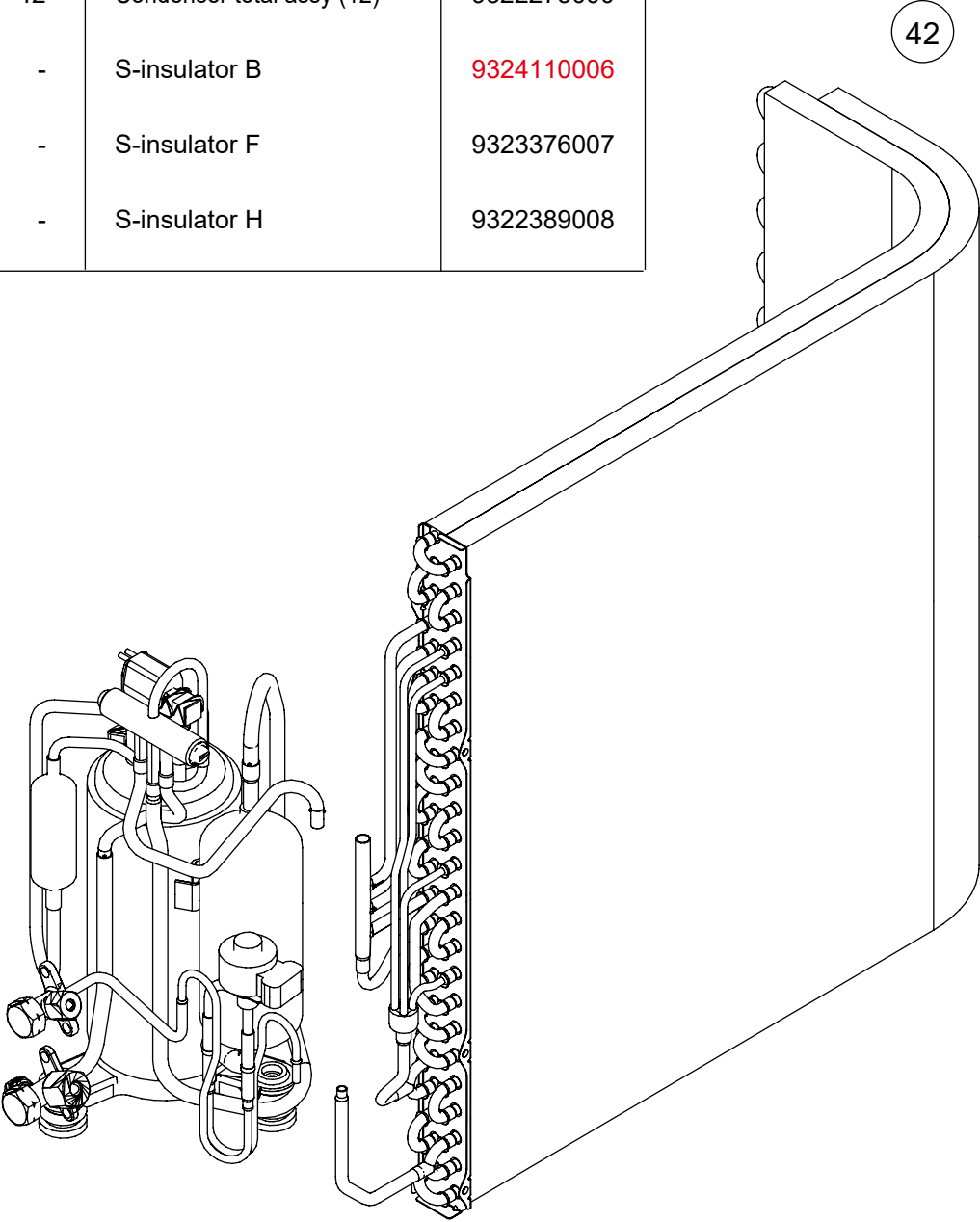
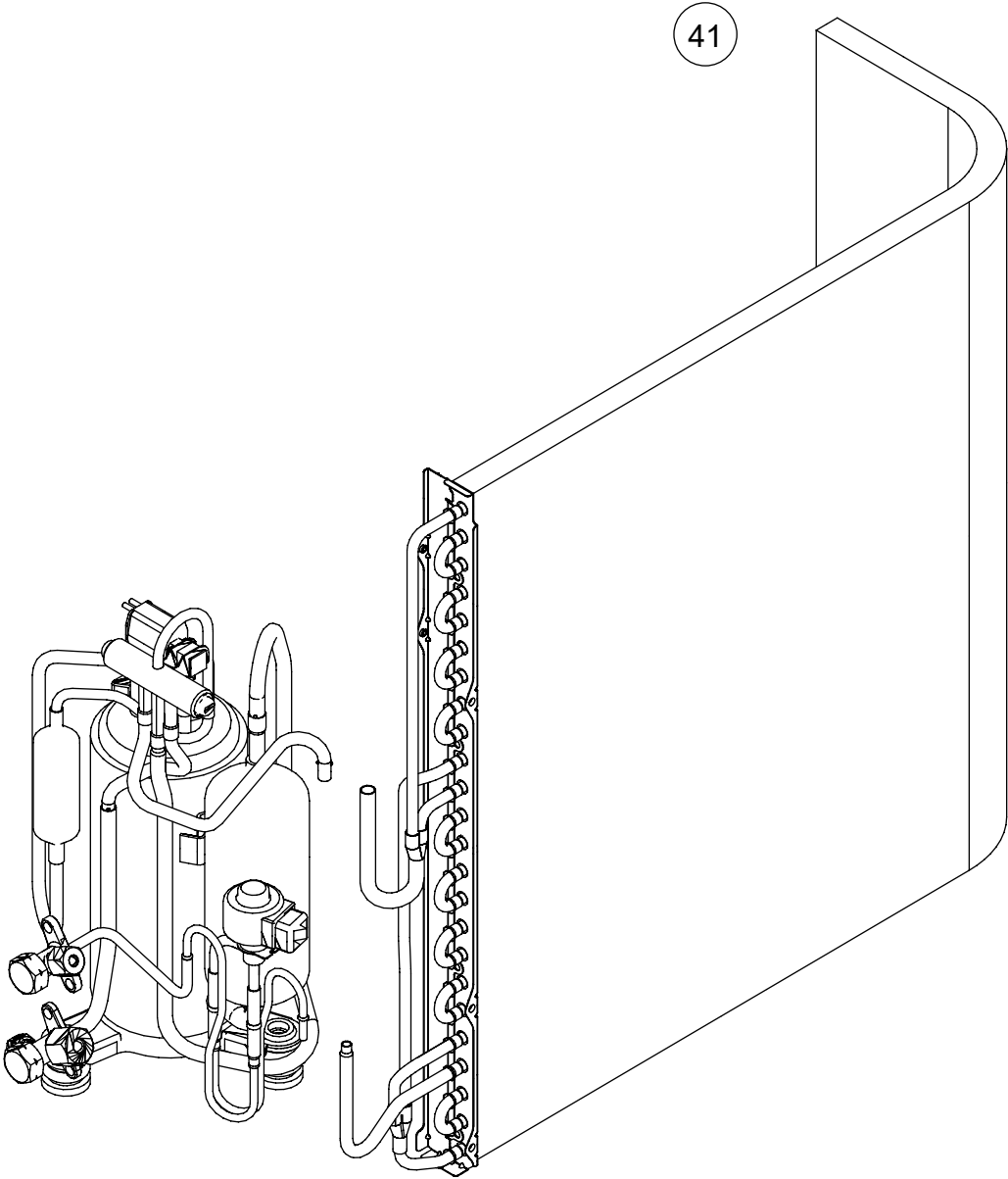
OUTDOOR UNIT
AOYG07KMCC
AOYG09KMCC
AOYG12KMCC



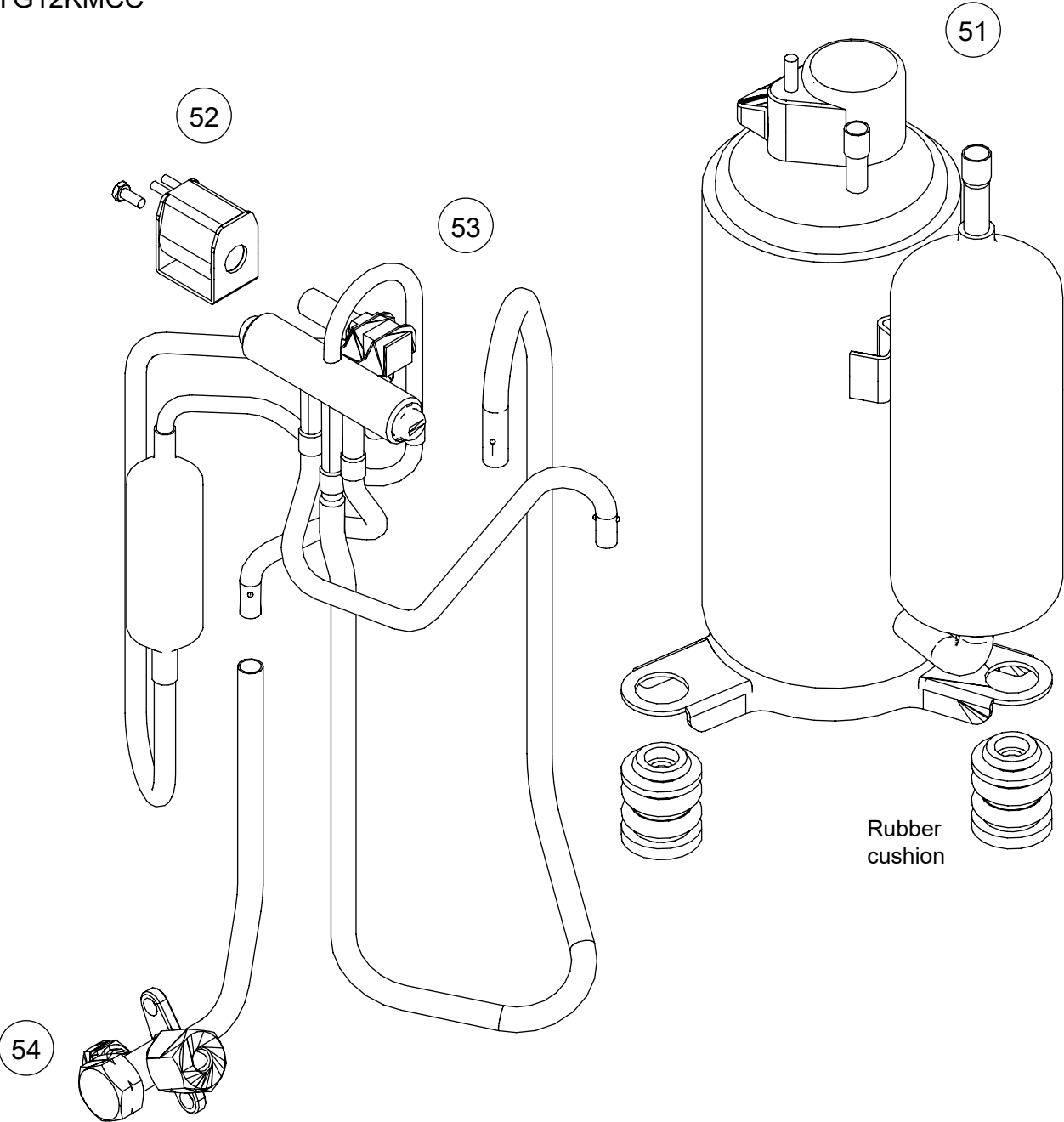
Ref.	Description	Part number
31	Main PCB (07) with terminal	9709684177
31	Main PCB (09) with terminal	9709684184
31	Main PCB (12) with terminal	9709684191
32	Heatsink	9333787008
33	Thermistor assy	9900727062

OUTDOOR UNIT
AOYG07KMCC
AOYG09KMCC
AOYG12KMCC

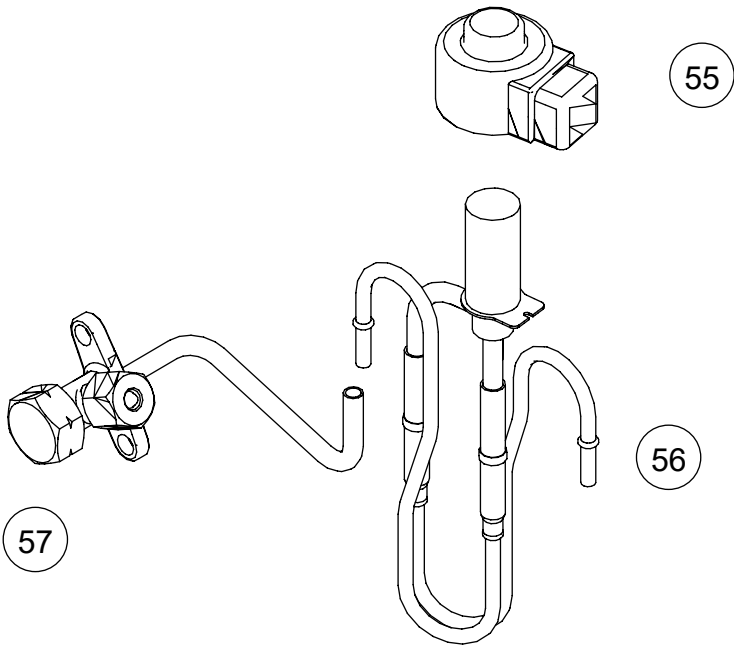
Ref.	Description	Part number
41	Condenser total assy (07, 09)	9322272003
42	Condenser total assy (12)	9322273000
-	S-insulator B	9324110006
-	S-insulator F	9323376007
-	S-insulator H	9322389008



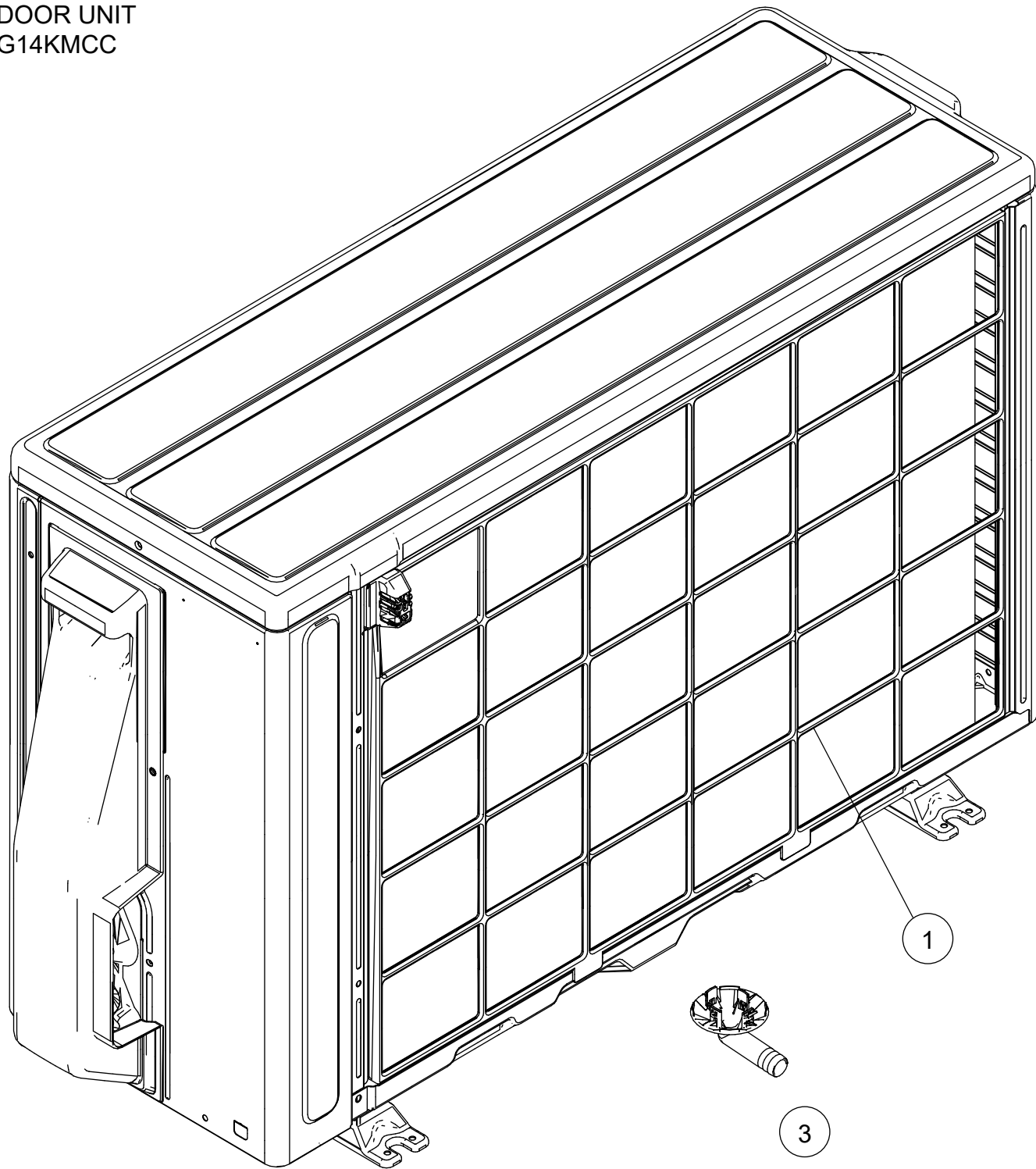
OUTDOOR UNIT
AOYG07KMCC
AOYG09KMCC
AOYG12KMCC



Ref.	Description	Part number
51	Compressor assy (07, 09)	9322423009
51	Compressor assy (12)	9322425003
52	Solenoid	9970110153
53	4-way valve assy	9322392008
54	3-way valve assy	9322473004
55	Expansion valve coil	9970173011
56	Pulse motor valve assy	9322403001
57	2-way valve assy	9322472007

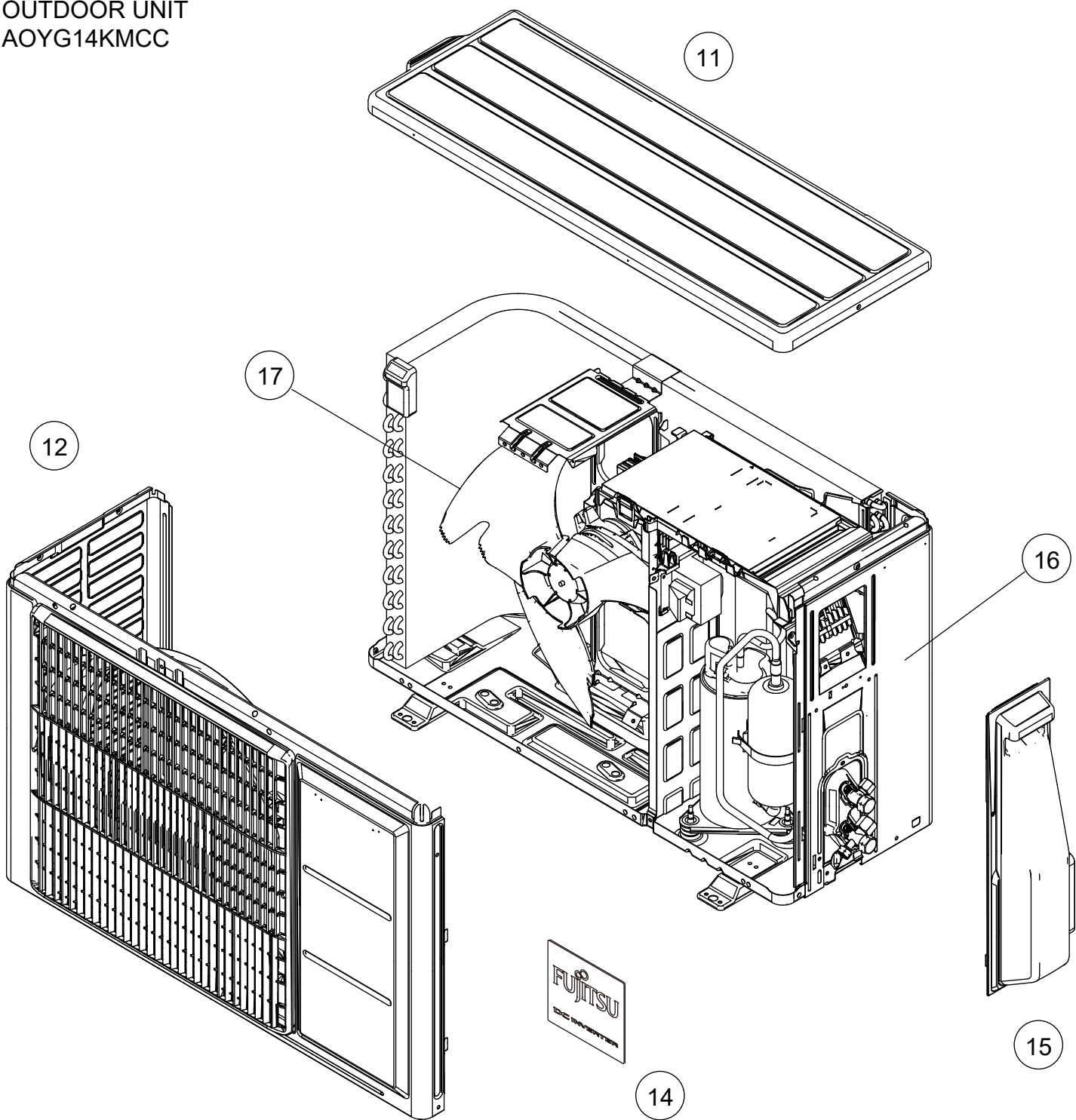


OUTDOOR UNIT
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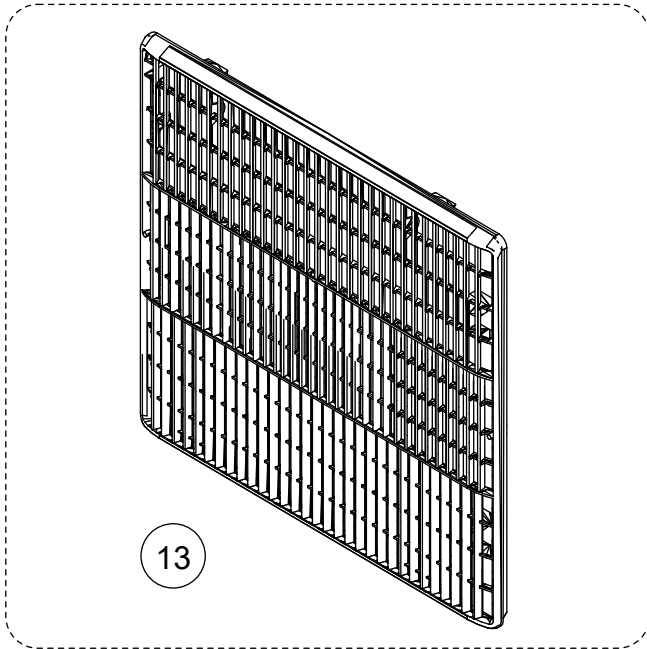


Ref.	Description	Part number
1	Protective net assy	9322811011
2	Outdoor thermistor	9900850012
3	Drain pipe	9322144003

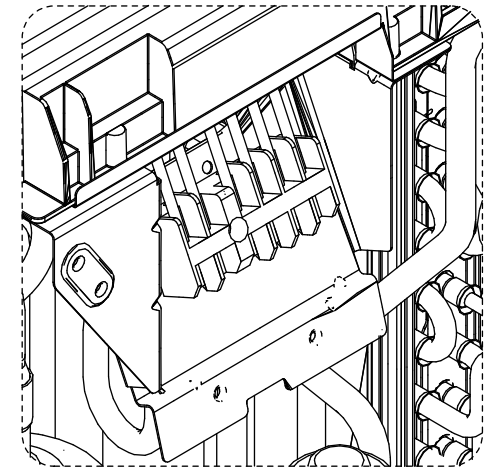
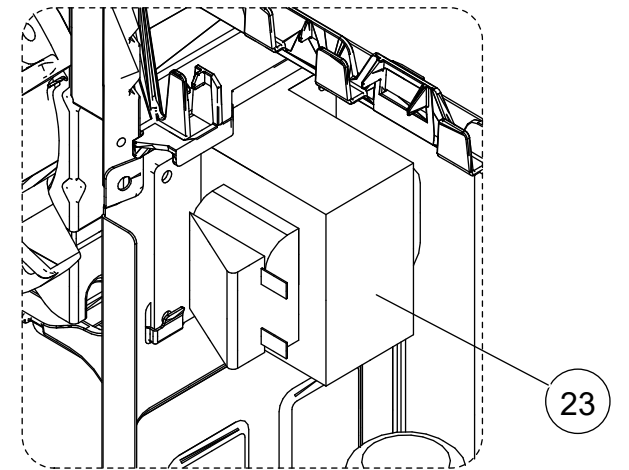
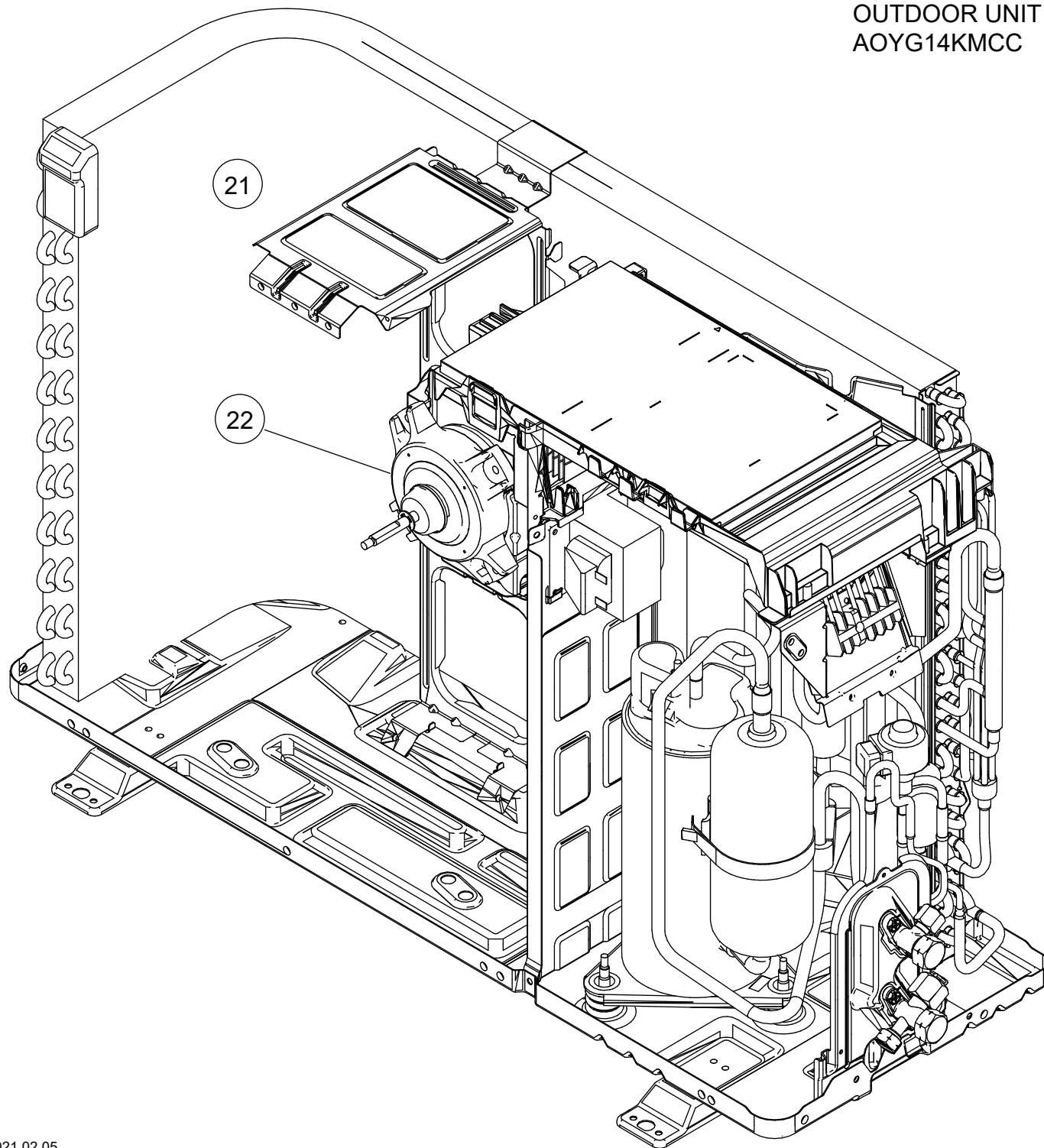
OUTDOOR UNIT
AOYG14KMCC



Ref.	Description	Part number
11	Top panel assy	9322556028
12	Front panel assy	9322555014
13	Blow grille	9322135001
14	Emblem	9319151007
15	Switch cover assy	9322570000
16	Cabinet right assy	9322552020
17	Propeller fan	9322136008

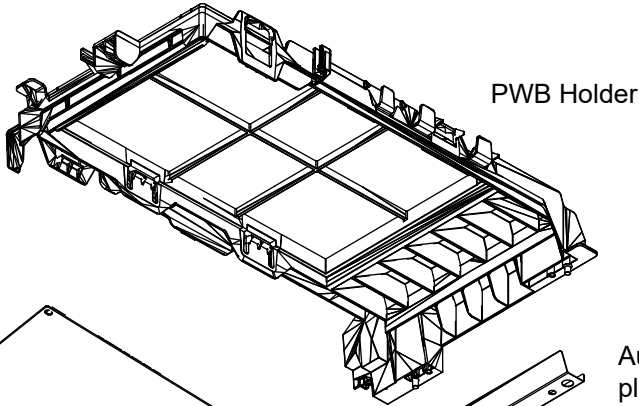
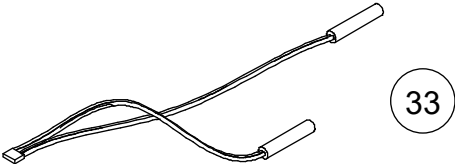
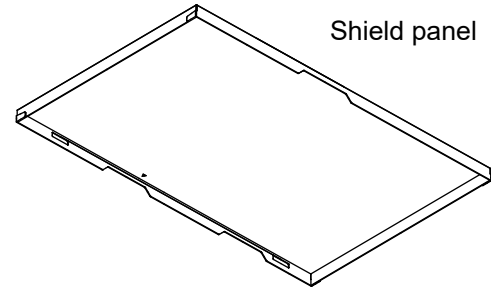


OUTDOOR UNIT AOYG14KMCC

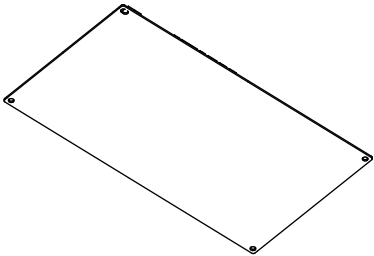


Ref.	Description	Part number
21	Motor bracket assy	9322553010
22	Brushless motor	9603553005
23	Reactor assy	9900583019

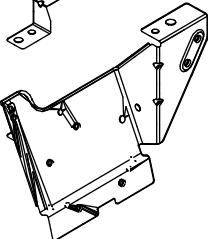
OUTDOOR UNIT
AOYG14KMCC



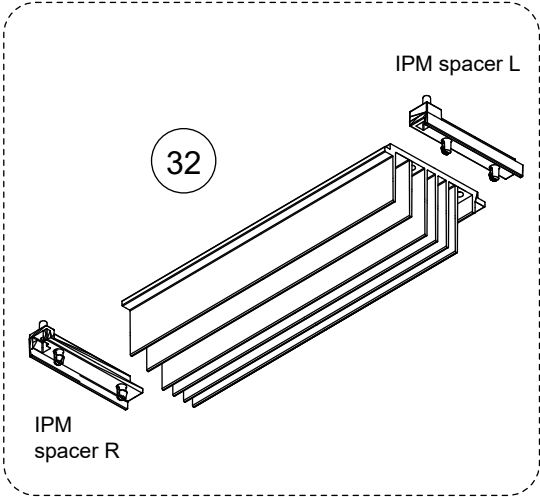
31



Auxiliary plate

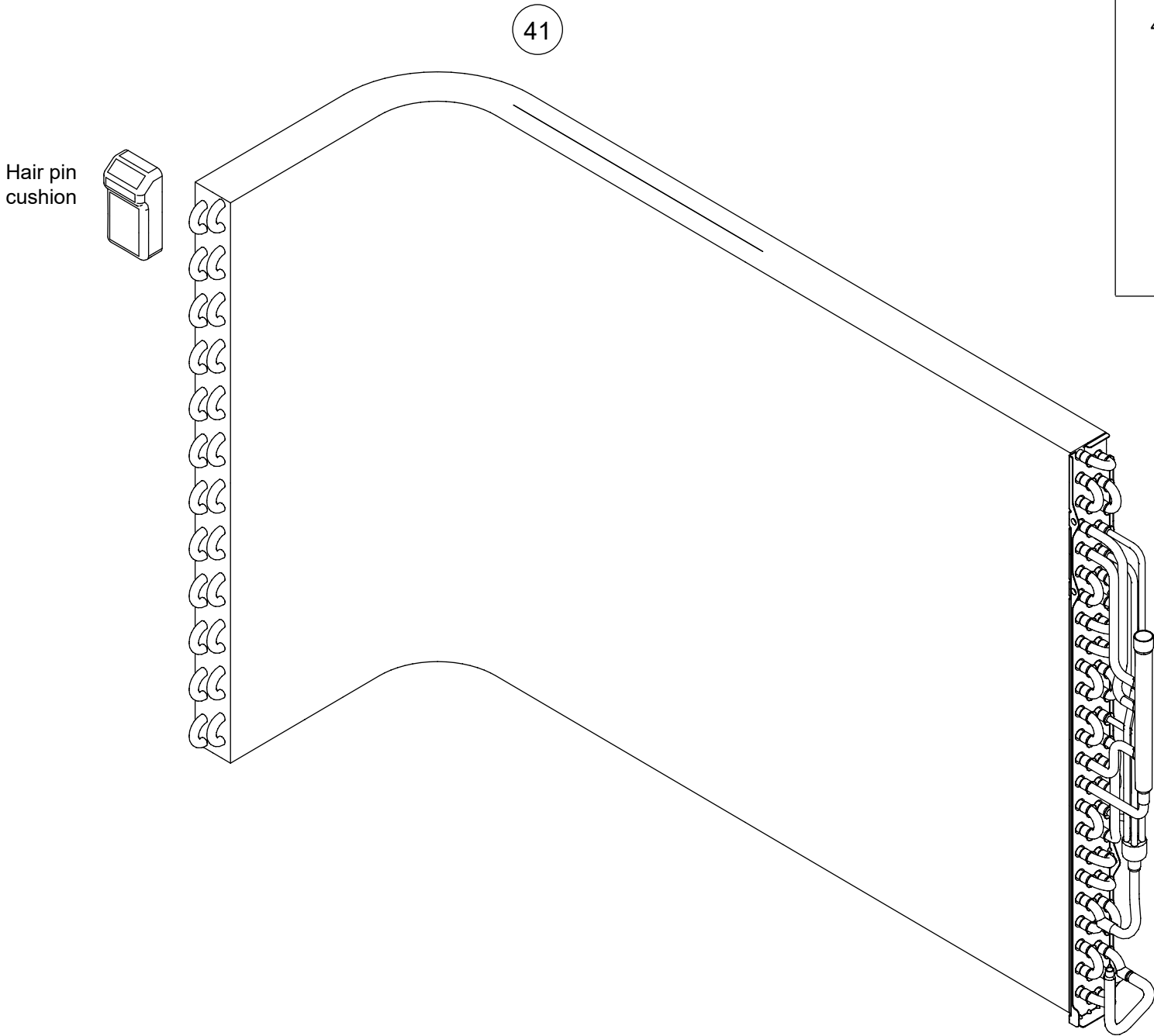


Terminal bracket assy

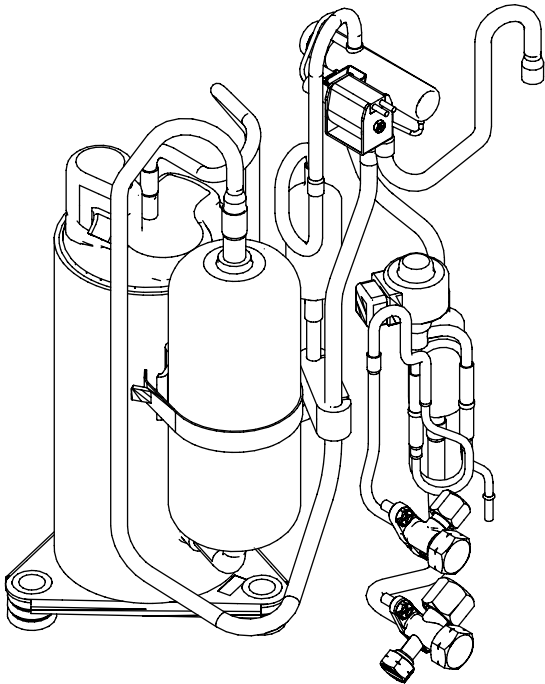


Ref.	Description	Part number
31	Main PCB with terminal	9709684207
32	Heatsink	9322419002
33	Thermistor assy	9900727062

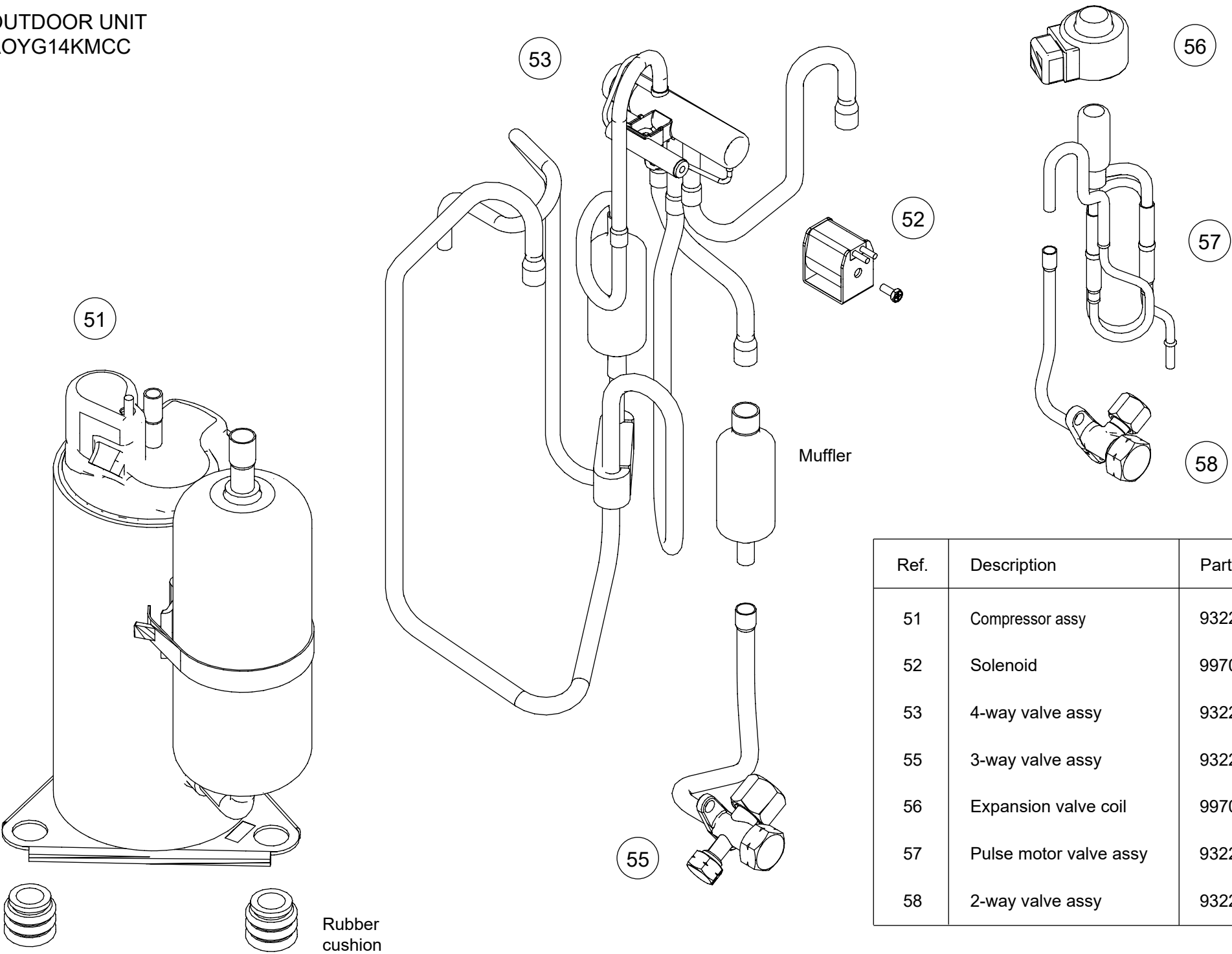
OUTDOOR UNIT
AOYG14KMCC



Ref.	Description	Part number
41	Condenser total assy	9322275004
-	S-insulator B	9324024006
-	S-insulator F	9322536006
-	S-insulator H	9322537003
-	S-insulator V	9323045002



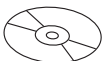
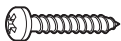
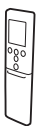
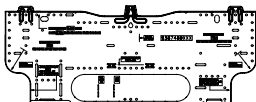
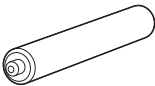
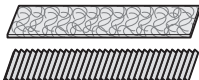
OUTDOOR UNIT
AOYG14KMCC



Ref.	Description	Part number
51	Compressor assy	9322427007
52	Solenoid	9970110160
53	4-way valve assy	9322444011
55	3-way valve assy	9322475008
56	Expansion valve coil	9970095122
57	Pulse motor valve assy	9322463005
58	2-way valve assy	9322474001

Accessories

Models: ASYG07, 09, 12 and 14KMCC

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Operating manual		1	Cloth tape		1
Operating manual (CD-ROM)		1	Tapping screw (large)		5
Installation manual		1	Tapping screw (small)		2
Remote controller		1	Wall hook bracket		1
Battery		2	Filter holder		2
Remote controller holder		1	Air cleaning filters		1

Models: AOYG07, 09, 12 and 14KMCC

Part name	Exterior	Q'ty
Drain pipe (For outdoor unit drain piping work.)		1