

SERVICE MANUAL



Indoor unit	Outdoor unit
ASHG07KGTA	AOHG07KGCA
ASHG09KGTA	AOHG09KGCA
ASHG12KGTA	AOHG12KGCA
ASHG14KGTA	AOHG14KGCA

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SPECIFICATIONS

ELECTRICAL DATA

INDOOR UNIT		ASHG07KGTA	ASHG09KGTA
OUTDOOR UNIT		AOHG07KGCA	AOHG09KGCA
POWER SOURCE		230 V 50 Hz Single phase	
Cooling	CAPACITY	2.00 kW	2.50 kW
	POWER CONSUMPTION	0.40 kW	0.555 kW
	EER	5.00 kW/kW	4.50 kW/kW
	RUNNING CURRENT	2.3 A	3.0 A
	MAXIMUM CURRENT	6.5 A	6.5 A
	MOISTURE REMOVAL	1.0 L/h	1.3 L/h
Heating	CAPACITY	2.50 kW	2.80 kW
	POWER CONSUMPTION	0.50 kW	0.56 kW
	COP	5.00 kW/kW	5.00 kW/kW
	RUNNING CURRENT	2.8 A	3.5 A
	MAXIMUM CURRENT	9.0 A	9.0 A

DIMENSIONS

INDOOR UNIT H x W x D	270 x 834 x 215 mm
OUTDOOR UNIT H x W x D	542 x 799 x 290 mm

WEIGHT

INDOOR UNIT Net / Shipping	10 kg / 12.5 kg
OUTDOOR UNIT Net / Shipping	30 kg / 34 kg

FAN MOTOR AND FAN REVOLUTION

INDOOR UNIT'S Discrimination		MFD-Z30YA3N	
OUTDOOR UNIT'S Discrimination		MFE-W25VA2F	
INDOOR UNIT Cooling	High	1,040 rpm	1,100 rpm
	Medium	890 rpm	920 rpm
	Low	750 rpm	750 rpm
	Quiet	550 rpm	550 rpm
INDOOR UNIT Heating	High	1,130 rpm	1,160 rpm
	Medium	950 rpm	980 rpm
	Low	790 rpm	800 rpm
	Quiet	620 rpm	620 rpm
OUTDOOR UNIT	Cooling	800 rpm	800 rpm
	Heating	780 rpm	800 rpm

AIRFLOW

INDOOR UNIT Cooling	High	650 m ³ /h	700 m ³ /h
	Medium	540 m ³ /h	560 m ³ /h
	Low	430 m ³ /h	430 m ³ /h
	Quiet	270 m ³ /h	270 m ³ /h
INDOOR UNIT Heating	High	720 m ³ /h	750 m ³ /h
	Medium	580 m ³ /h	610 m ³ /h
	Low	460 m ³ /h	470 m ³ /h
	Quiet	330 m ³ /h	330 m ³ /h
OUTDOOR UNIT	Cooling	1,610 m ³ /h	1,610 m ³ /h
	Heating	1,560 m ³ /h	1,610 m ³ /h

NOISE LEVEL

INDOOR UNIT Cooling	High	38 dB	40 dB
	Medium	33 dB	34 dB
	Low	29 dB	29 dB
INDOOR UNIT Heating	High	41 dB	42 dB
	Medium	35 dB	36 dB
	Low	31 dB	31 dB
OUTDOOR UNIT	Cooling	46 dB	46 dB
	Heating	46 dB	48 dB

COMPRESSOR AND REFRIGERANT

COMPRESSOR TYPE		Hermetic motor compressor, Single rotary, BLDC motor, 6 pole	
DISCRIMINATION		DA092MJB	
WEIGHT (with oil)		7.65 kg	
PRECHARGED REFRIGERANT		750 g	
REFRIGERANT TYPE		R32	
FULL CHARGE	Pipe length 15 m	750 g	
	20 m	850 g	
ADDITIONAL CHARGE		20 g/m	
MAXIMUM PIPING HEIGHT		15 m	

ELECTRICAL DATA

INDOOR UNIT		ASHG12KGTA	ASHG14KGTA
OUTDOOR UNIT		AOHG12KGCA	AOHG14KGCA
POWER SOURCE		230 V 50 Hz Single phase	
Cooling	CAPACITY	3.40 kW	4.20 kW
	POWER CONSUMPTION	0.805 kW	1.175 kW
	EER	4.22 kW/kW	3.57 kW/kW
	RUNNING CURRENT	4.3 A	5.3 A
	MAXIMUM CURRENT	6.5 A	9.0 A
	MOISTURE REMOVAL	1.8 L/h	2.1 L/h
Heating	CAPACITY	4.00 kW	5.40 kW
	POWER CONSUMPTION	0.91 kW	1.350 kW
	COP	4.40 kW/kW	4.00 kW/kW
	RUNNING CURRENT	4.8 A	6.4 A
	MAXIMUM CURRENT	9.0 A	10.5 A

DIMENSIONS

INDOOR UNIT H x W x D	270 x 834 x 215 mm	
OUTDOOR UNIT H x W x D	542 x 799 x 290 mm	

WEIGHT

INDOOR UNIT Net / Shipping	10 kg / 13 kg	
OUTDOOR UNIT Net / Shipping	31 kg / 35 kg	32 kg / 36 kg

FAN MOTOR AND FAN REVOLUTION

INDOOR UNIT'S Discrimination		MFD-U50XA3F	
OUTDOOR UNIT'S Discrimination		MFE-W25VA2F	
INDOOR UNIT Cooling	High	1,130 rpm	1,220 rpm
	Medium	950 rpm	1,000 rpm
	Low	790 rpm	810 rpm
	Quiet	550 rpm	590 rpm
INDOOR UNIT Heating	High	1,220 rpm	1,260 rpm
	Medium	1,060 rpm	1,080 rpm
	Low	900 rpm	900 rpm
	Quiet	630 rpm	670 rpm
OUTDOOR UNIT	Cooling	920 rpm	920 rpm
	Heating	870 rpm	870 rpm

AIRFLOW

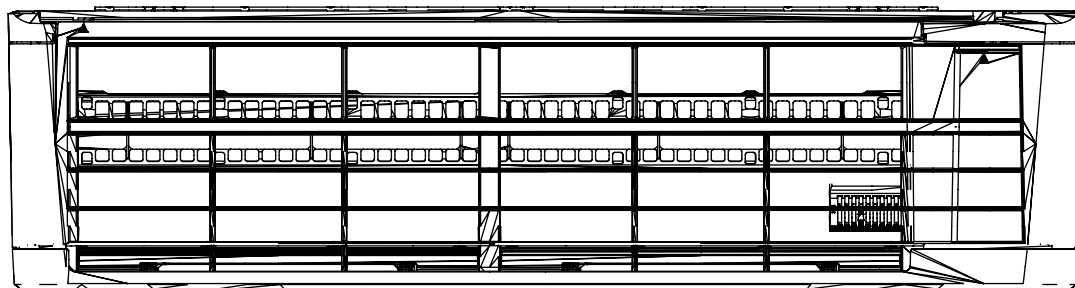
INDOOR UNIT Cooling	High	700 m ³ /h	770 m ³ /h
	Medium	560 m ³ /h	600 m ³ /h
	Low	430 m ³ /h	450 m ³ /h
	Quiet	250 m ³ /h	280 m ³ /h
INDOOR UNIT Heating	High	770 m ³ /h	800 m ³ /h
	Medium	640 m ³ /h	660 m ³ /h
	Low	520 m ³ /h	520 m ³ /h
	Quiet	310 m ³ /h	340 m ³ /h
OUTDOOR UNIT	Cooling	1,680 m ³ /h	1,680 m ³ /h
	Heating	1,580 m ³ /h	1,580 m ³ /h

NOISE LEVEL

INDOOR UNIT Cooling	High	40 dB	43 dB
	Medium	35 dB	36 dB
	Low	30 dB	30 dB
INDOOR UNIT Heating	High	42 dB	44 dB
	Medium	38 dB	39 dB
	Low	33 dB	33 dB
OUTDOOR UNIT	Cooling	50 dB	50 dB
	Heating	50 dB	50 dB

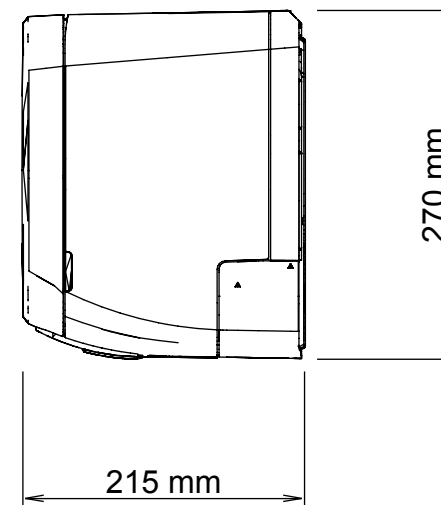
COMPRESSOR AND REFRIGERANT

COMPRESSOR TYPE		Hermetic motor compressor, Single rotary, BLDC motor, 6 pole	
DISCRIMINATION		DA092MJB	DA102MJC
WEIGHT (with oil)		7.65 kg	7.65 kg
PRECHARGED REFRIGERANT		850 g	
REFRIGERANT TYPE		R32	
FULL CHARGE	Pipe length 15 m	850 g	
	20 m	950 g	
ADDITIONAL CHARGE		20 g/m	
MAXIMUM PIPING HEIGHT		15 m	

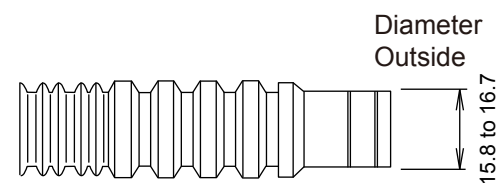
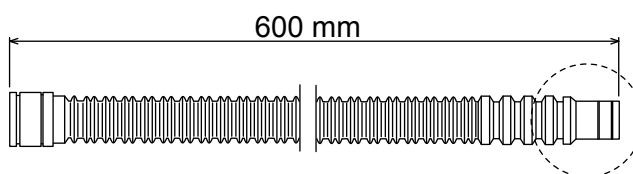


DIMENSIONS

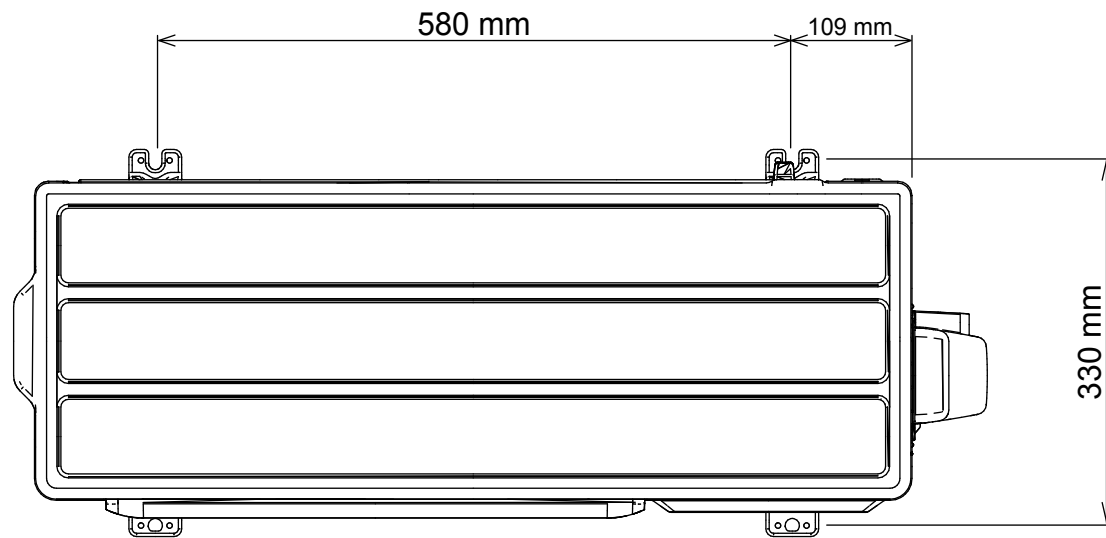
INDOOR UNIT
 ASHG07KGTA
 ASHG09KGTA
 ASHG12KGTA
 ASHG14KGTA



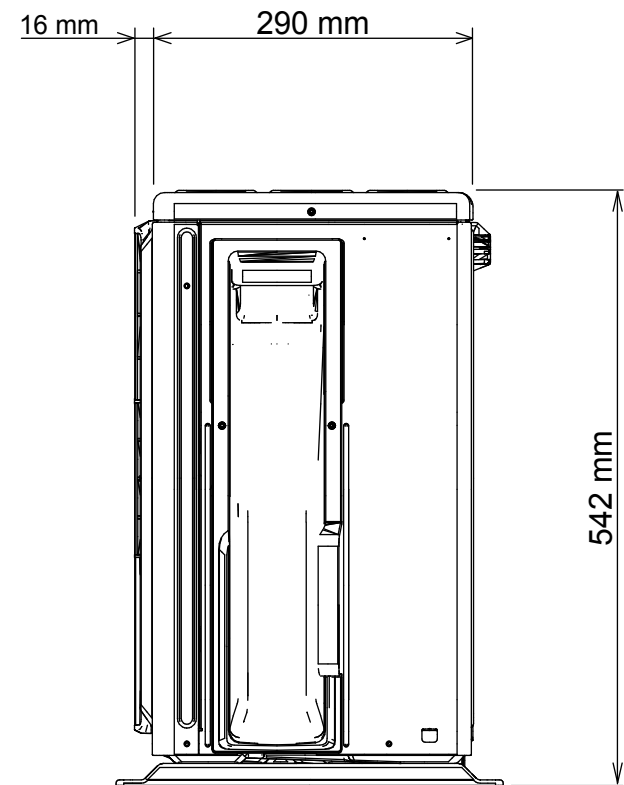
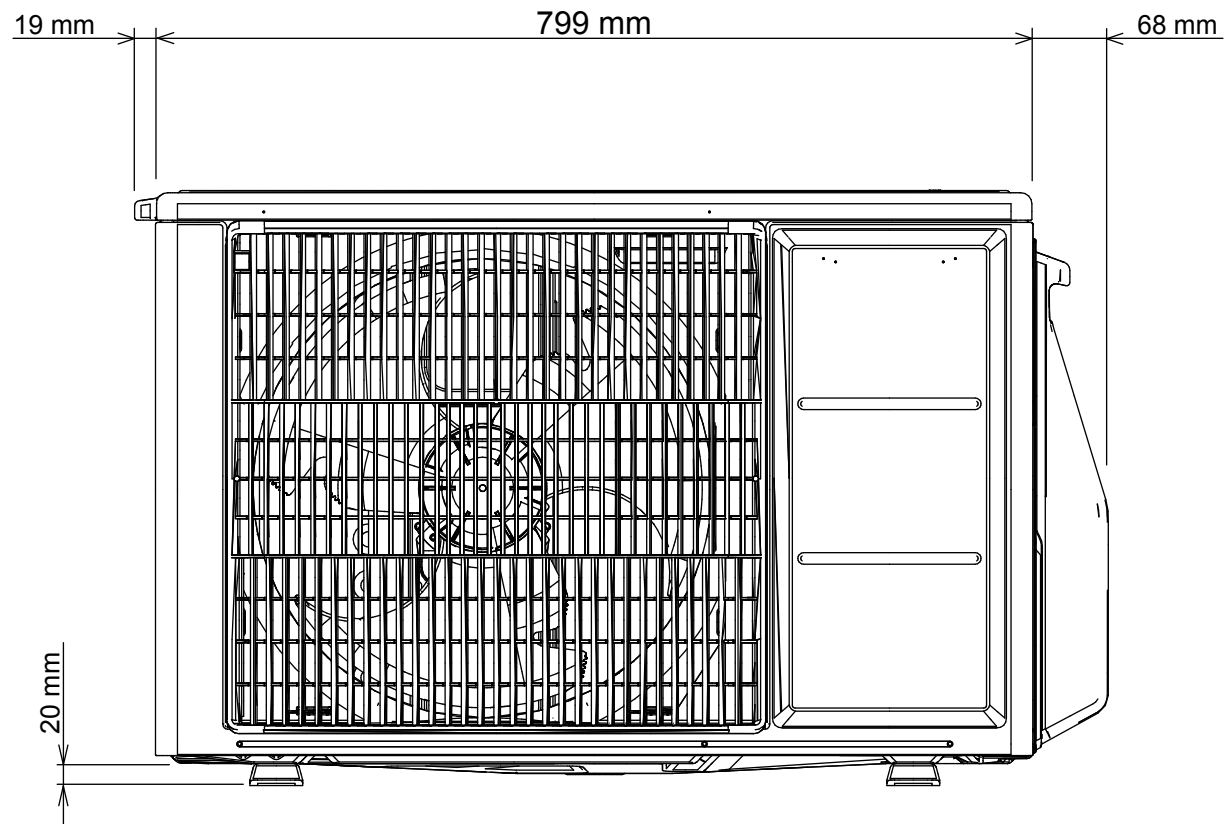
Drain hose



Inside : 13.8 mm

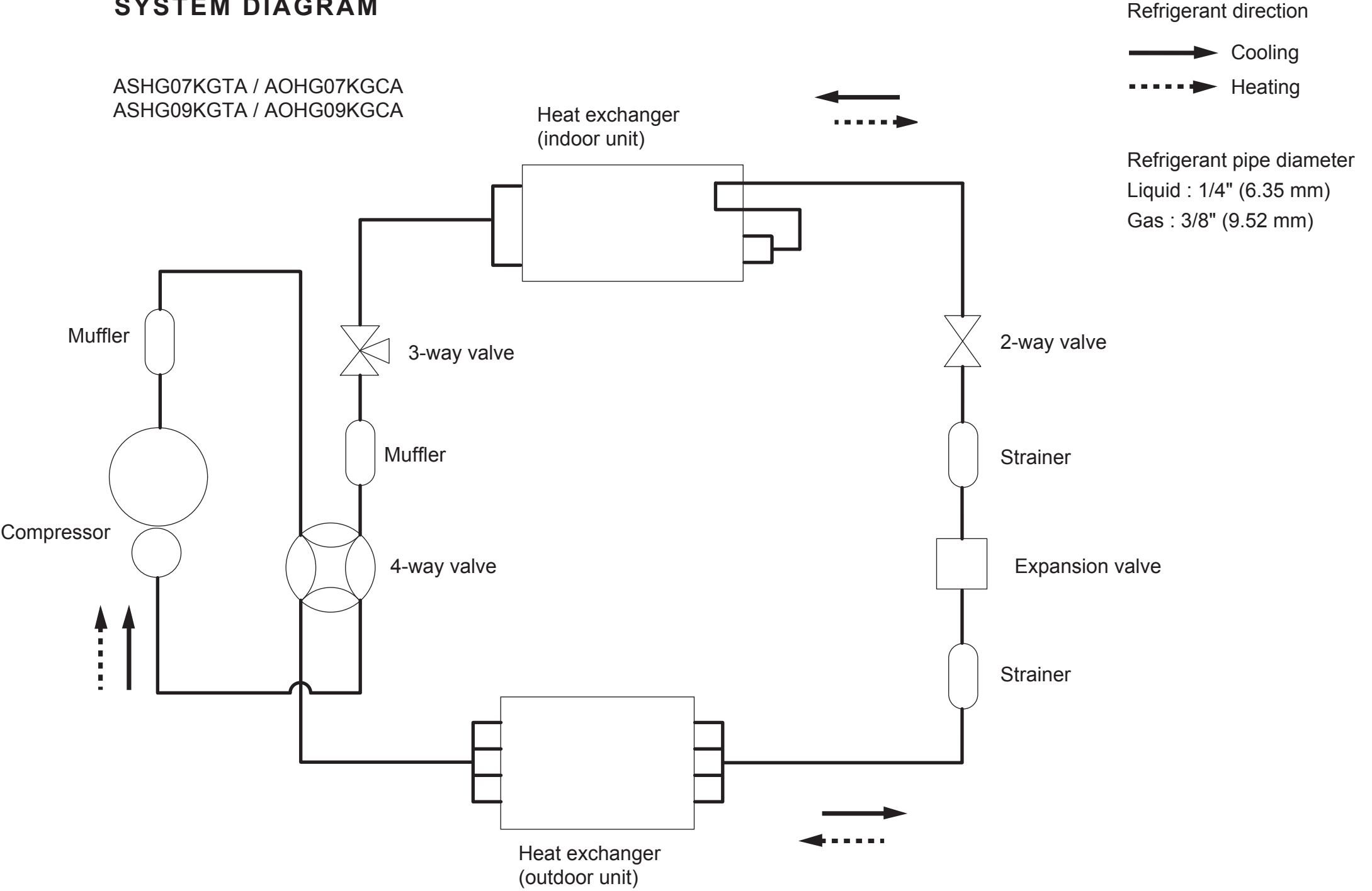


OUTDOOR UNIT
 AOHG07KGCA
 AOHG09KGCA
 AOHG12KGCA
 AOHG14KGCA

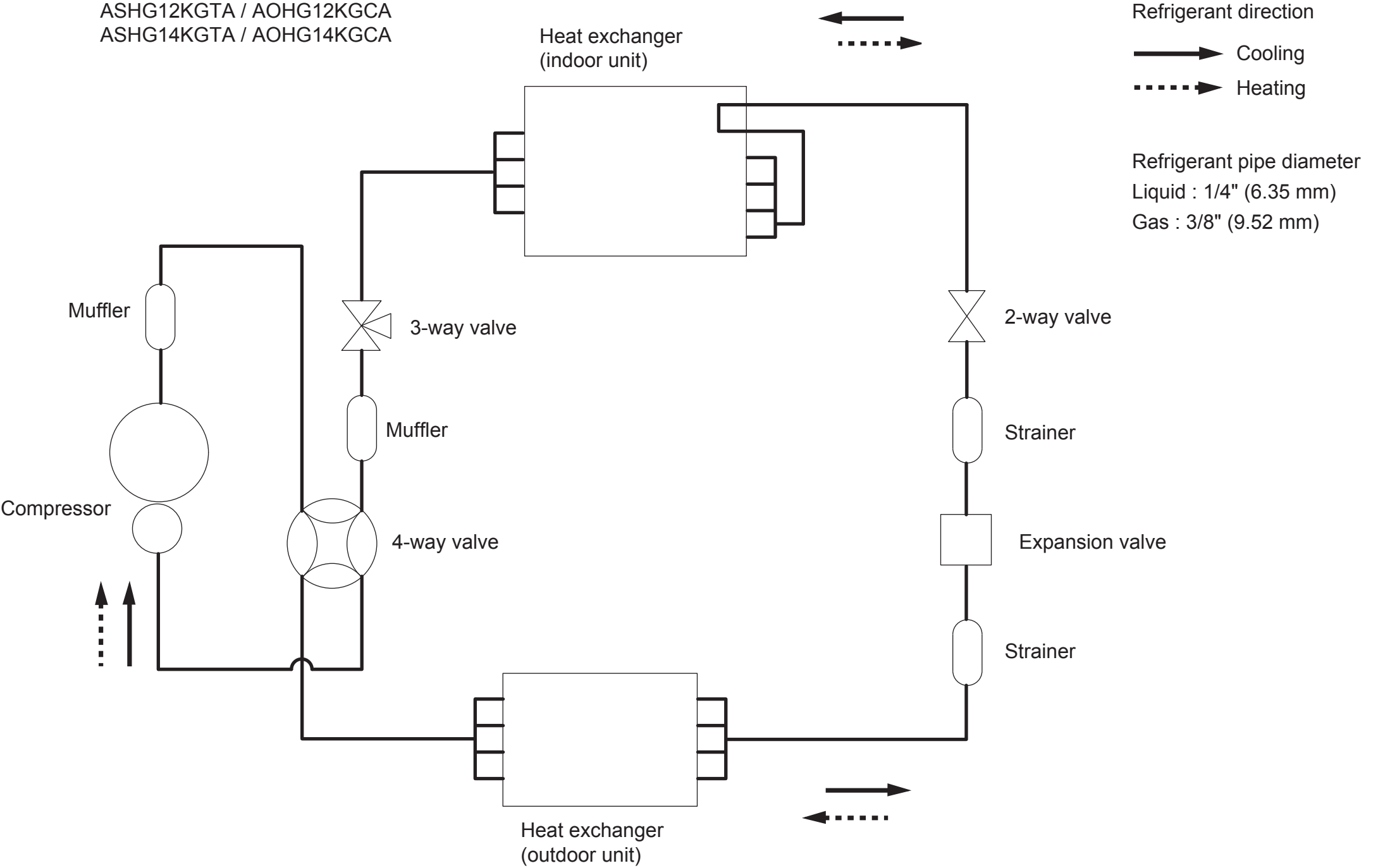


REFRIGERANT
SYSTEM DIAGRAM

ASHG07KGTA / AOHG07KGCA
ASHG09KGTA / AOHG09KGCA

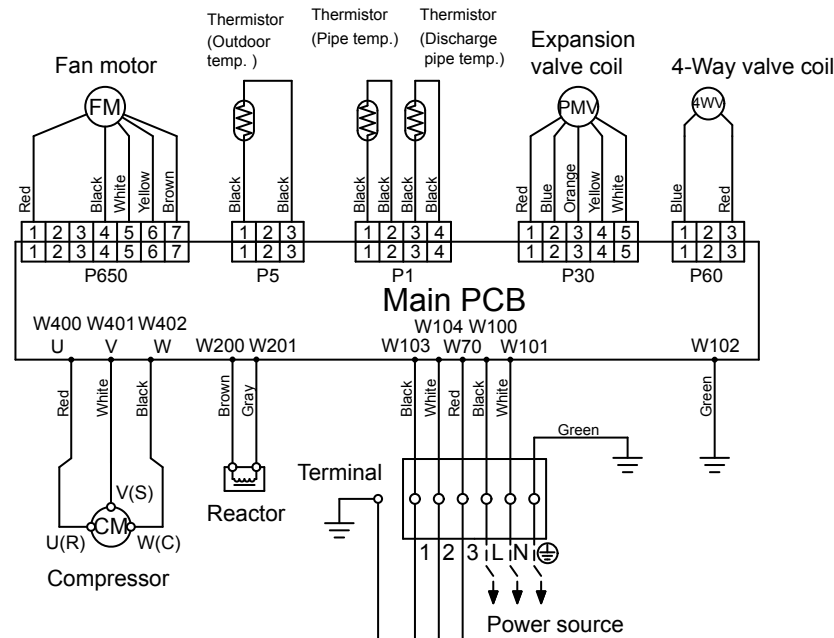


ASHG12KGTA / AOHG12KGCA
ASHG14KGTA / AOHG14KGCA

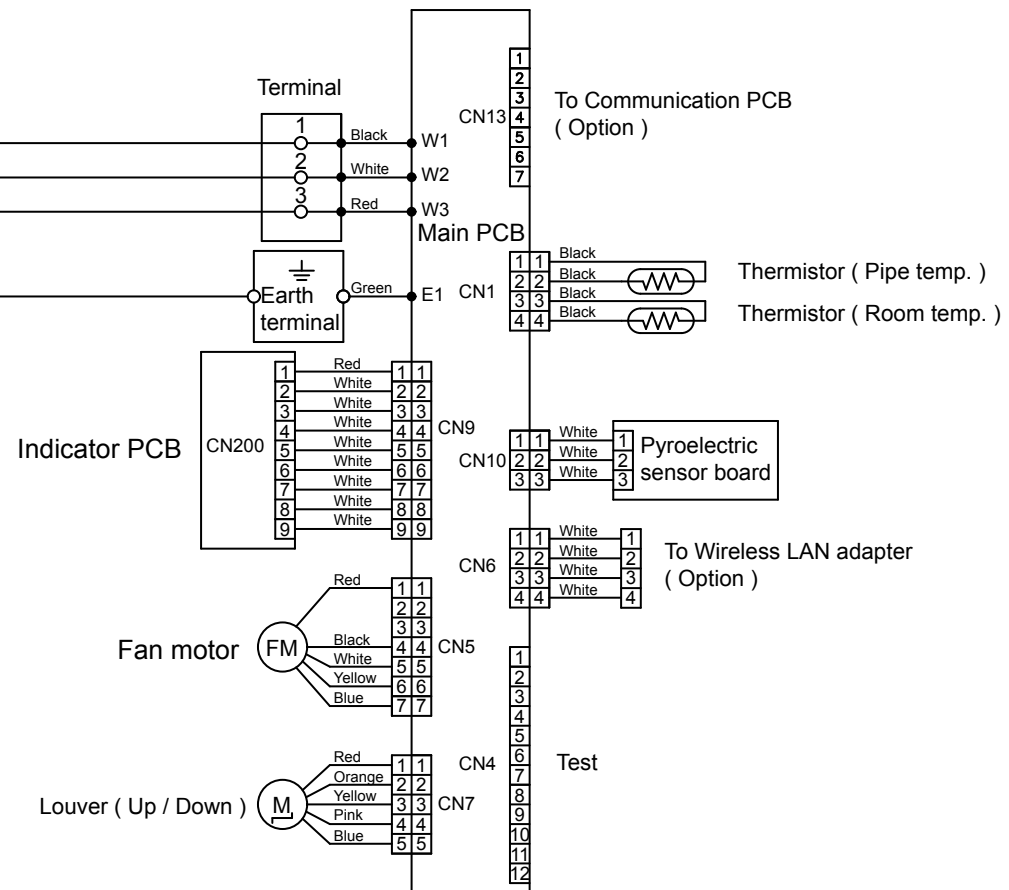


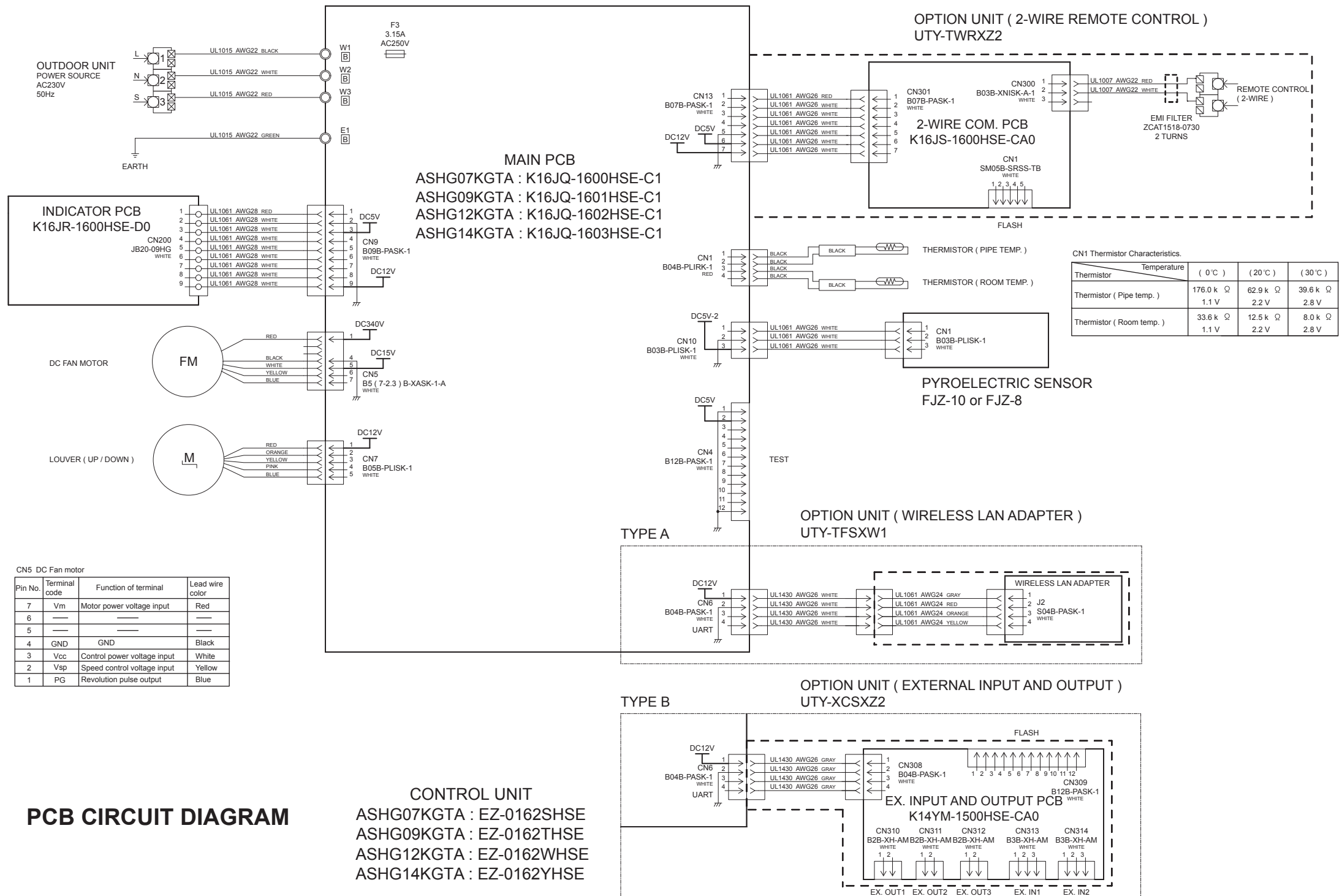
CIRCUIT DIAGRAM

OUTDOOR UNIT



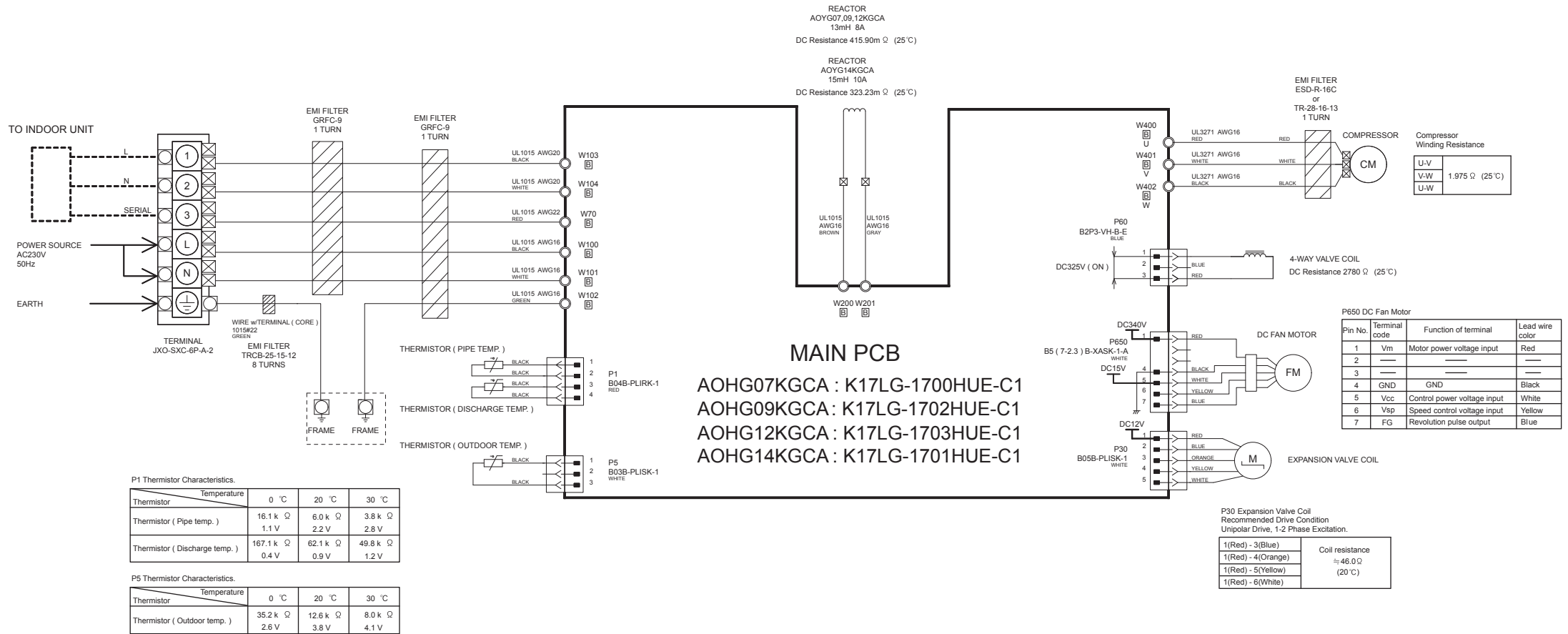
INDOOR UNIT





Option unit : One of the type A or the type B is chosen.

INVERTER ASSEMBLY AOHG07KGCA : EZ-0161RHUE AOHG09KGCA : EZ-0161SHUE AOHG12KGCA : EZ-0161THUE AOHG14KGCA : EZ-0161WHUE



ERROR DETECTION

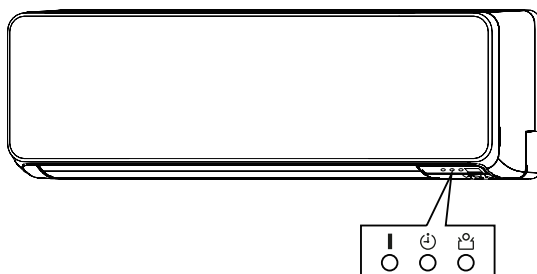
If you use a wireless remote controller, the lamp on the photo detector unit will output error codes by way of blinking patterns.

If you use a wired remote controller, error codes will appear on the remote control display.

See the lamp blinking patterns and error codes in the table.

An error display is displayed only during operation.

Troubleshooting with the indoor unit display



OPERATION indicator lamp (green)

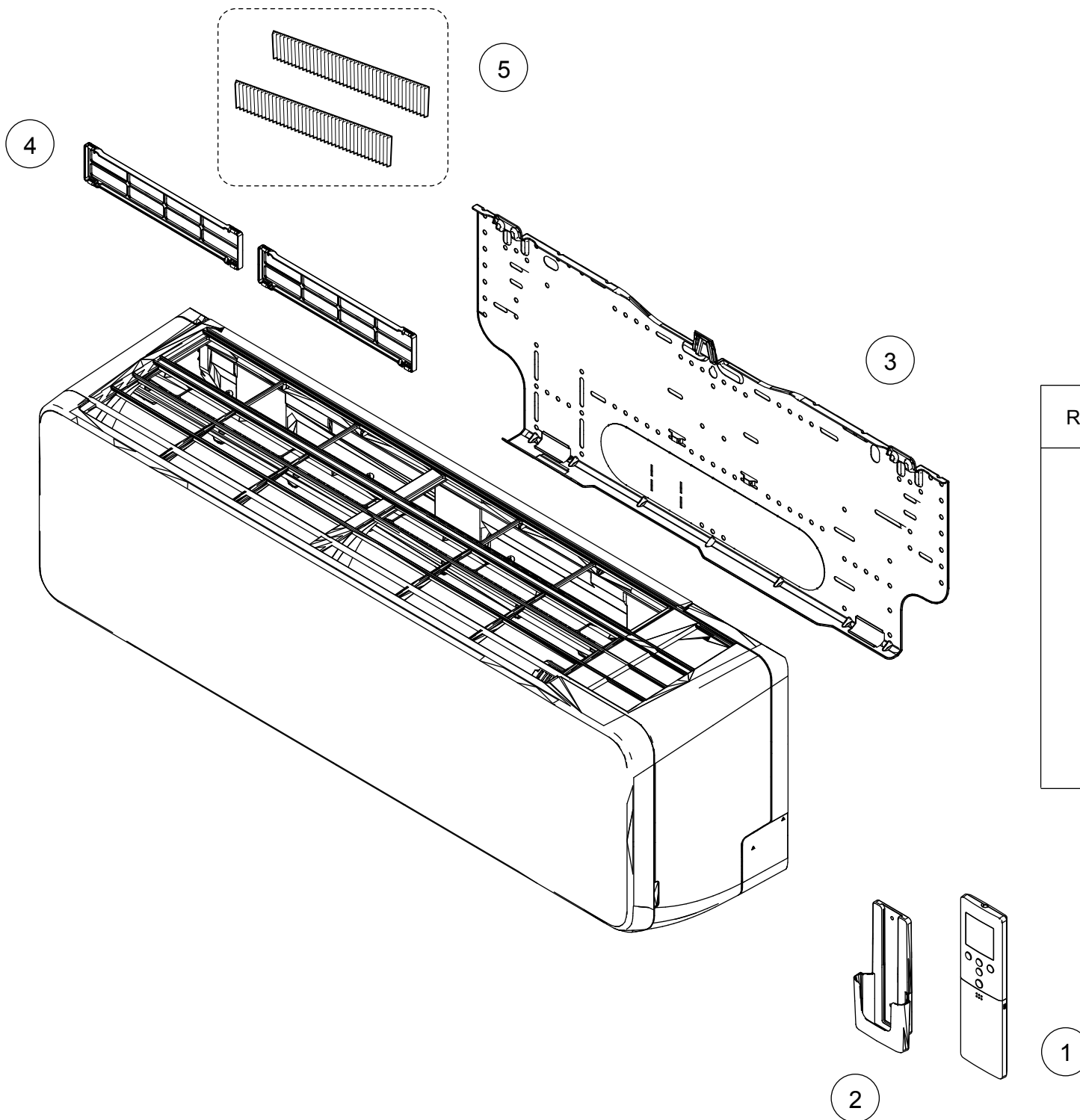
TIMER indicator lamp (orange)

ECONOMY indicator lamp (green)

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
●(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 slave unit) [Simultaneous Multi] • Connection unit number error (indoor unit or branch unit) [Flexible Multi]
●(2)	●(6)	◇	26	Address setting error in wired remote controller system
●(2)	●(7)	◇	27	Master unit, slave unit set-up error [Simultaneous Multi]
●(3)	●(2)	◇	32	Indoor unit PCB model information error
●(3)	●(5)	◇	35	Manual auto switch error
●(4)	●(1)	◇	41	Room temp. sensor error
●(4)	●(2)	◇	42	Indoor unit Heat Ex. Middle temp. sensor error
●(5)	●(1)	◇	51	Indoor unit fan motor 1 error (Main fan)
●(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)	●(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

Error display			Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(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
●(9)	●(7)	◇	97	Outdoor unit fan motor error
●(9)	●(9)	◇	99	4-way 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)	◇	12	Branch boxes error [Flexible Multi]

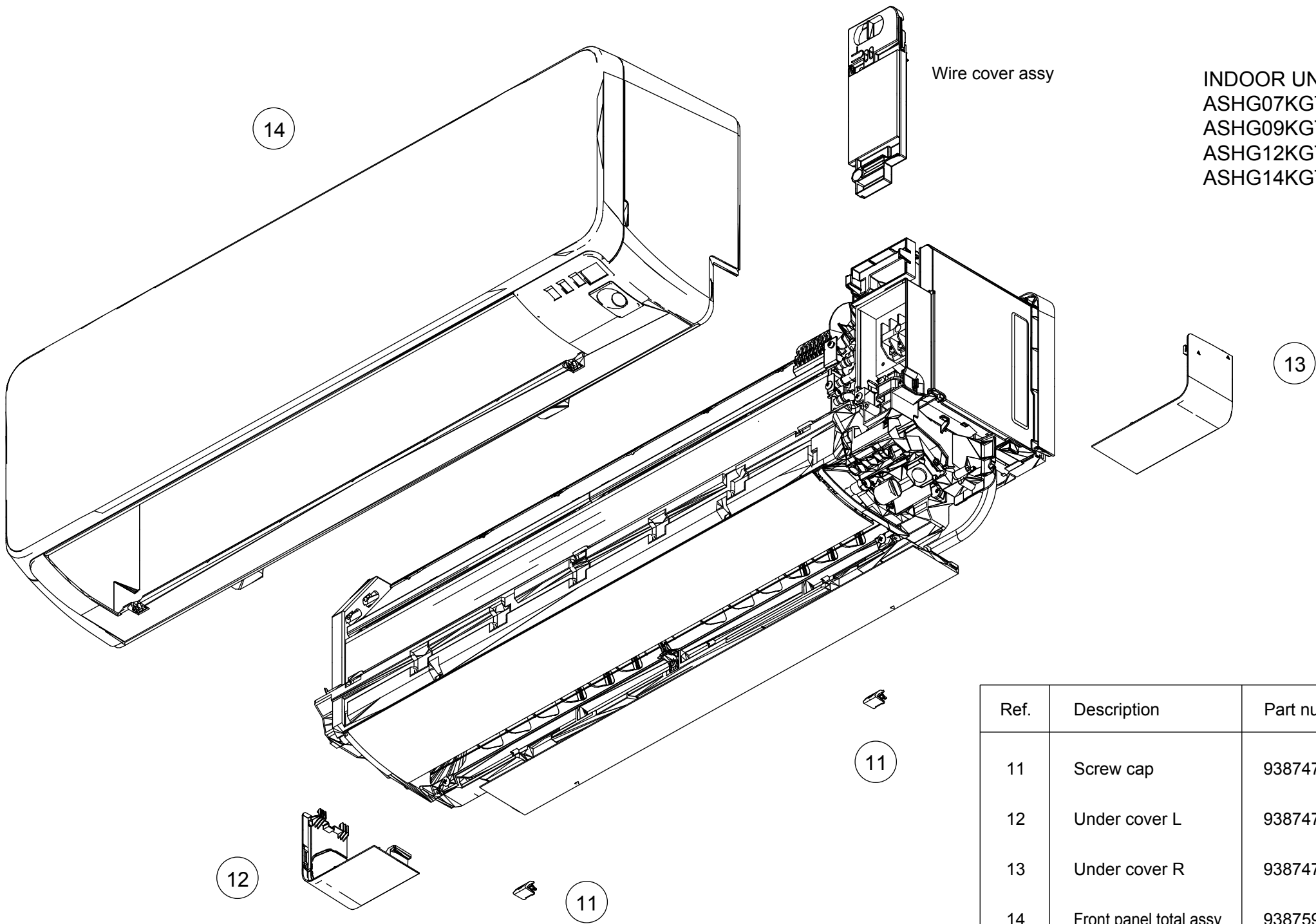
Display mode ● : 0.5s ON / 0.5s OFF
◇ : 0.1s ON / 0.1s OFF
() : Number of flashing



PARTS

INDOOR UNIT
 ASHG07KGTA
 ASHG09KGTA
 ASHG12KGTA
 ASHG14KGTA

Ref.	Description	Part number
1	Remote control (no brand)	9382108045
2	Remote control holder	9318912005
3	Bracket panel	9387480009
4	Electric filter holder	9332911008
5	Air clean filter assy	9317250009

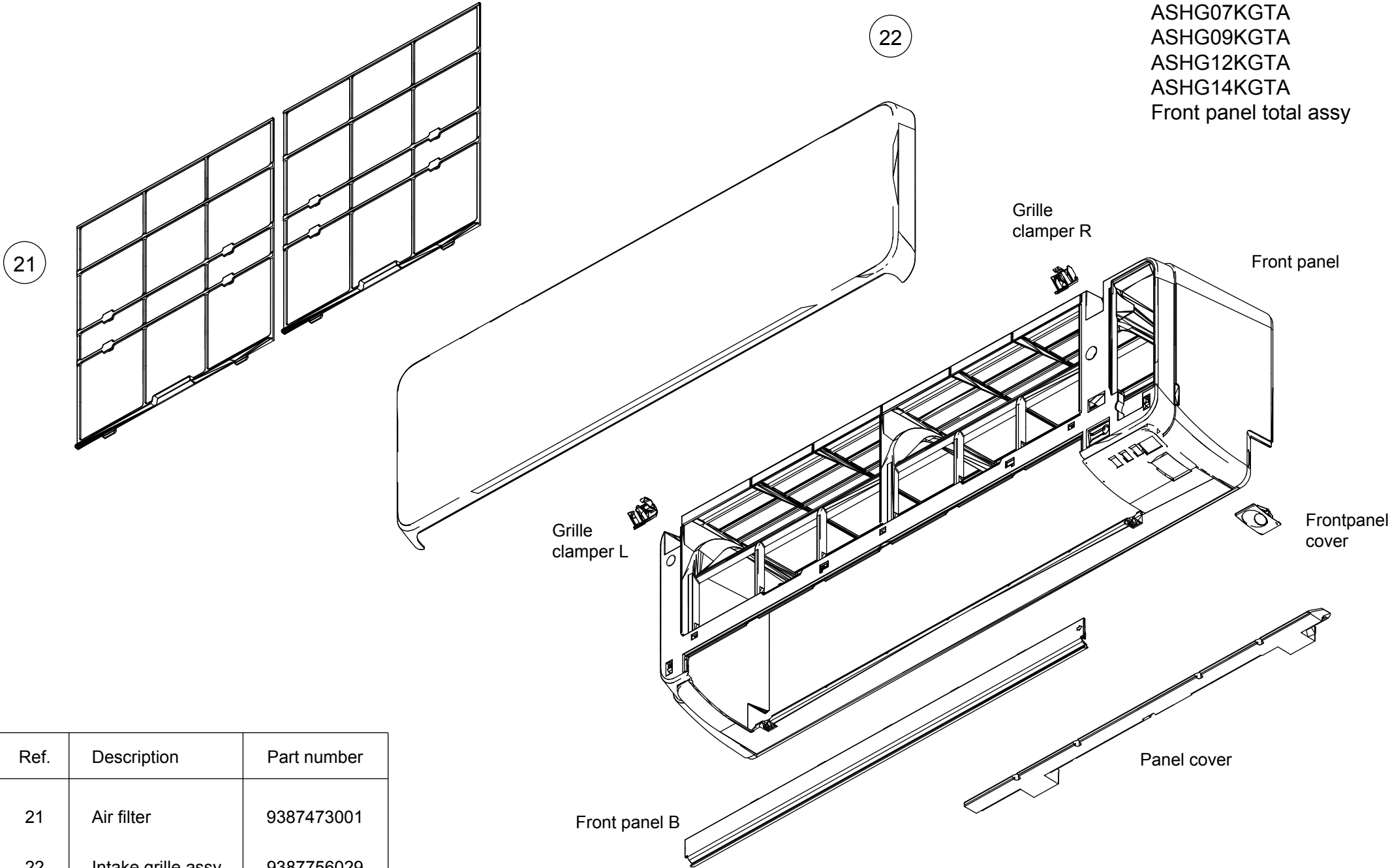


Wire cover assy

INDOOR UNIT
ASHG07KGTA
ASHG09KGTA
ASHG12KGTA
ASHG14KGTA

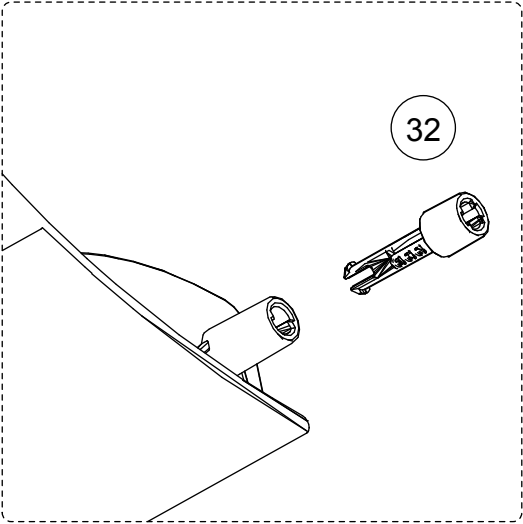
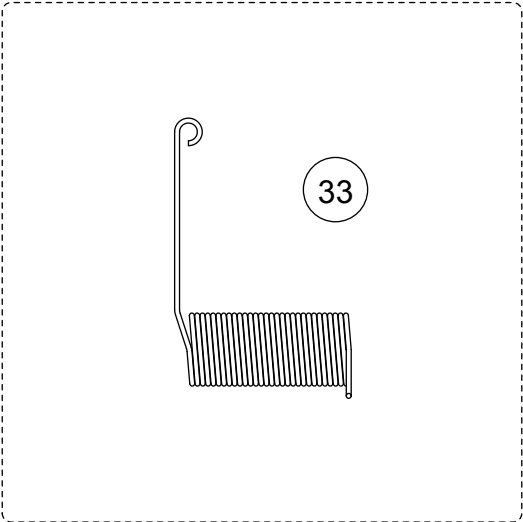
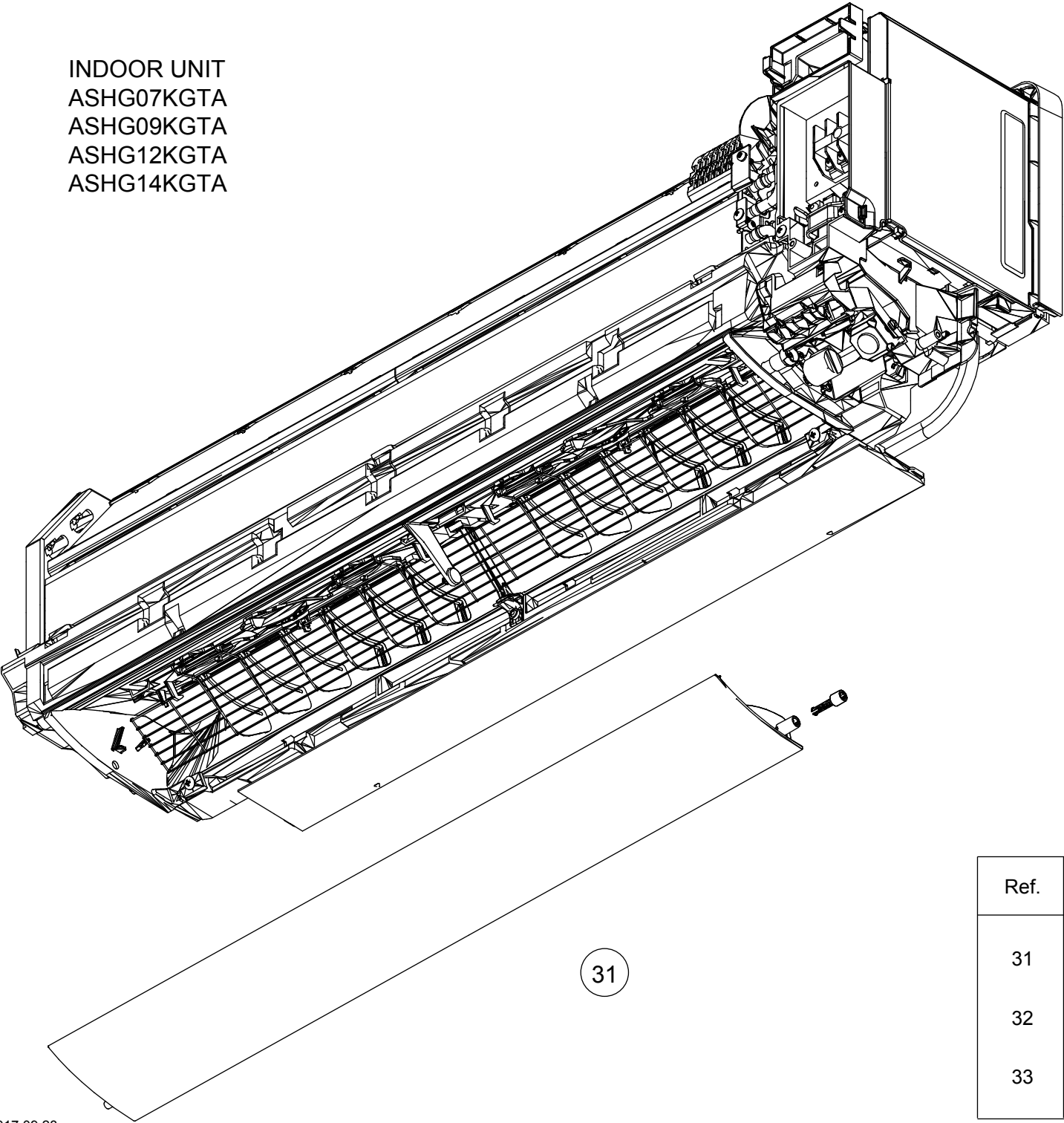
Ref.	Description	Part number
11	Screw cap	9387476002
12	Under cover L	9387477009
13	Under cover R	9387478006
14	Front panel total assy	9387596014

INDOOR UNIT
ASHG07KGTA
ASHG09KGTA
ASHG12KGTA
ASHG14KGTA
Front panel total assy

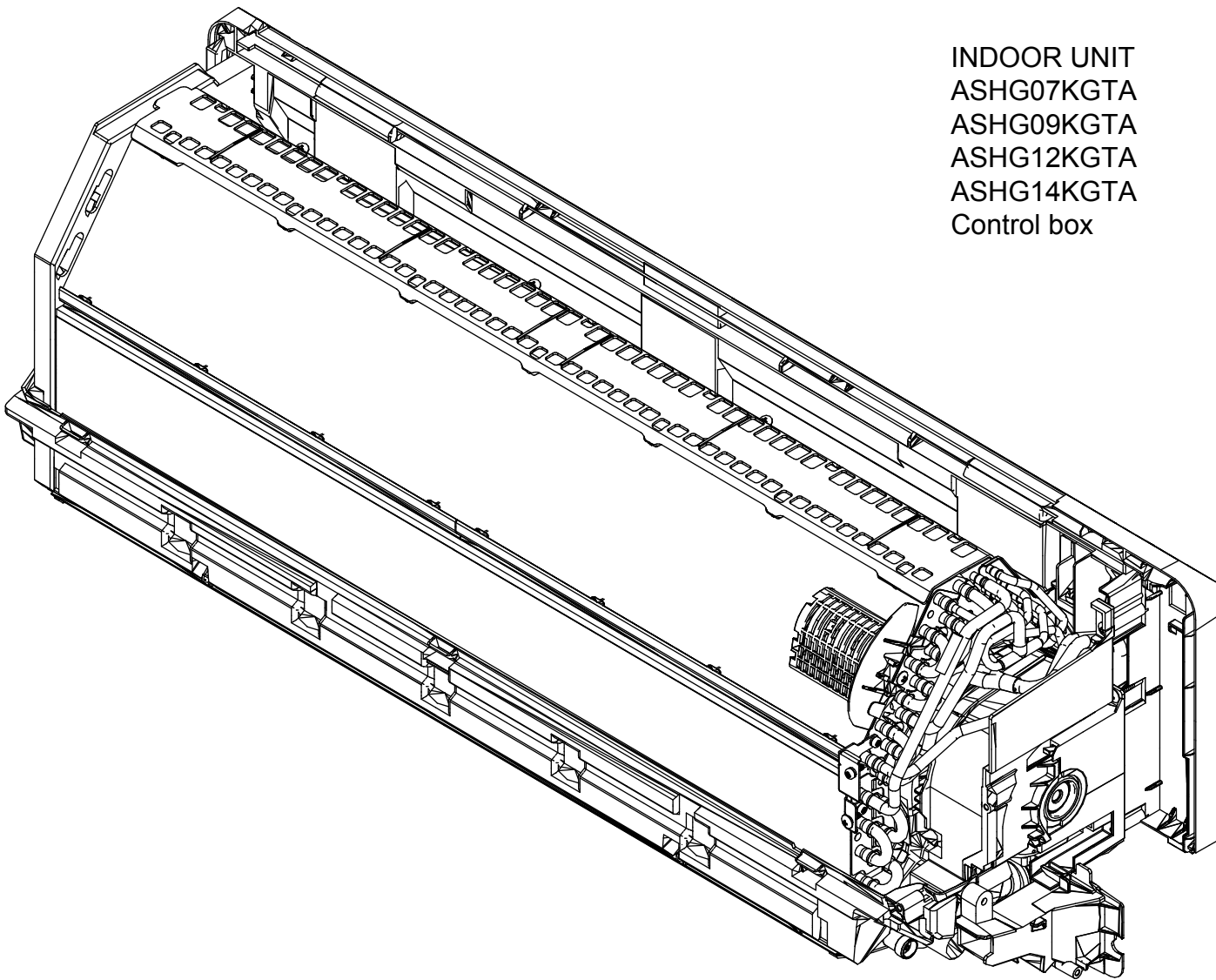


Ref.	Description	Part number
21	Air filter	9387473001
22	Intake grille assy (GENERAL)	9387756029

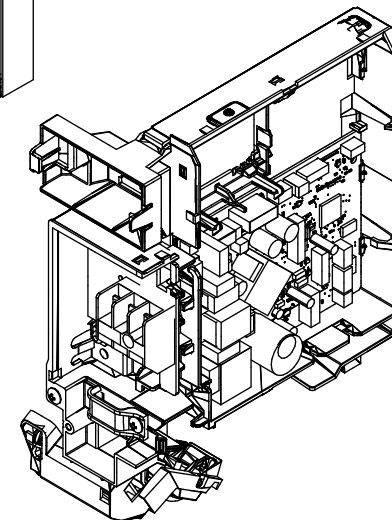
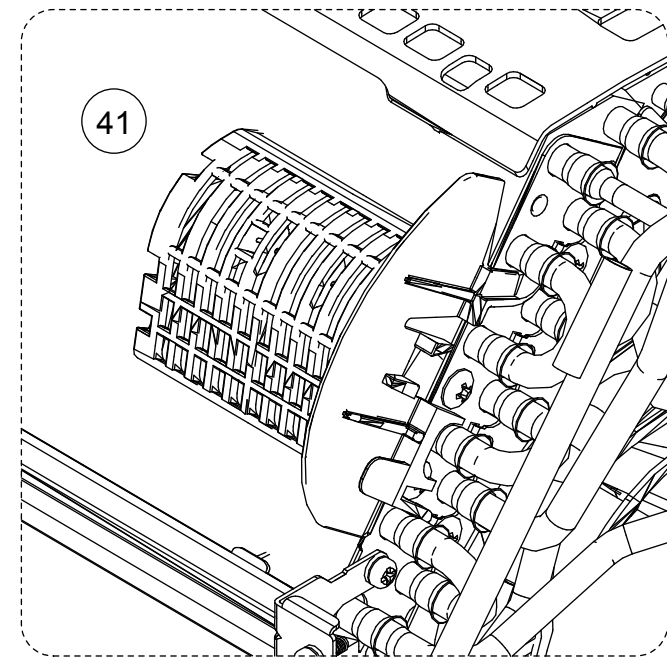
INDOOR UNIT
ASHG07KGTA
ASHG09KGTA
ASHG12KGTA
ASHG14KGTA



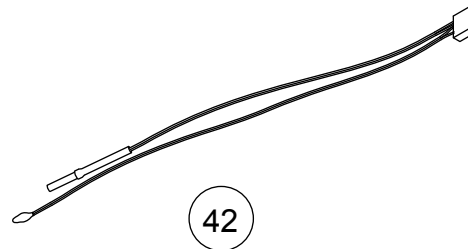
Ref.	Description	Part number
31	U/D louver assy	9387479003
32	Shaft cover	9332861006
33	Louver spring	9387471007



INDOOR UNIT
 ASHG07KGTA
 ASHG09KGTA
 ASHG12KGTA
 ASHG14KGTA
 Control box

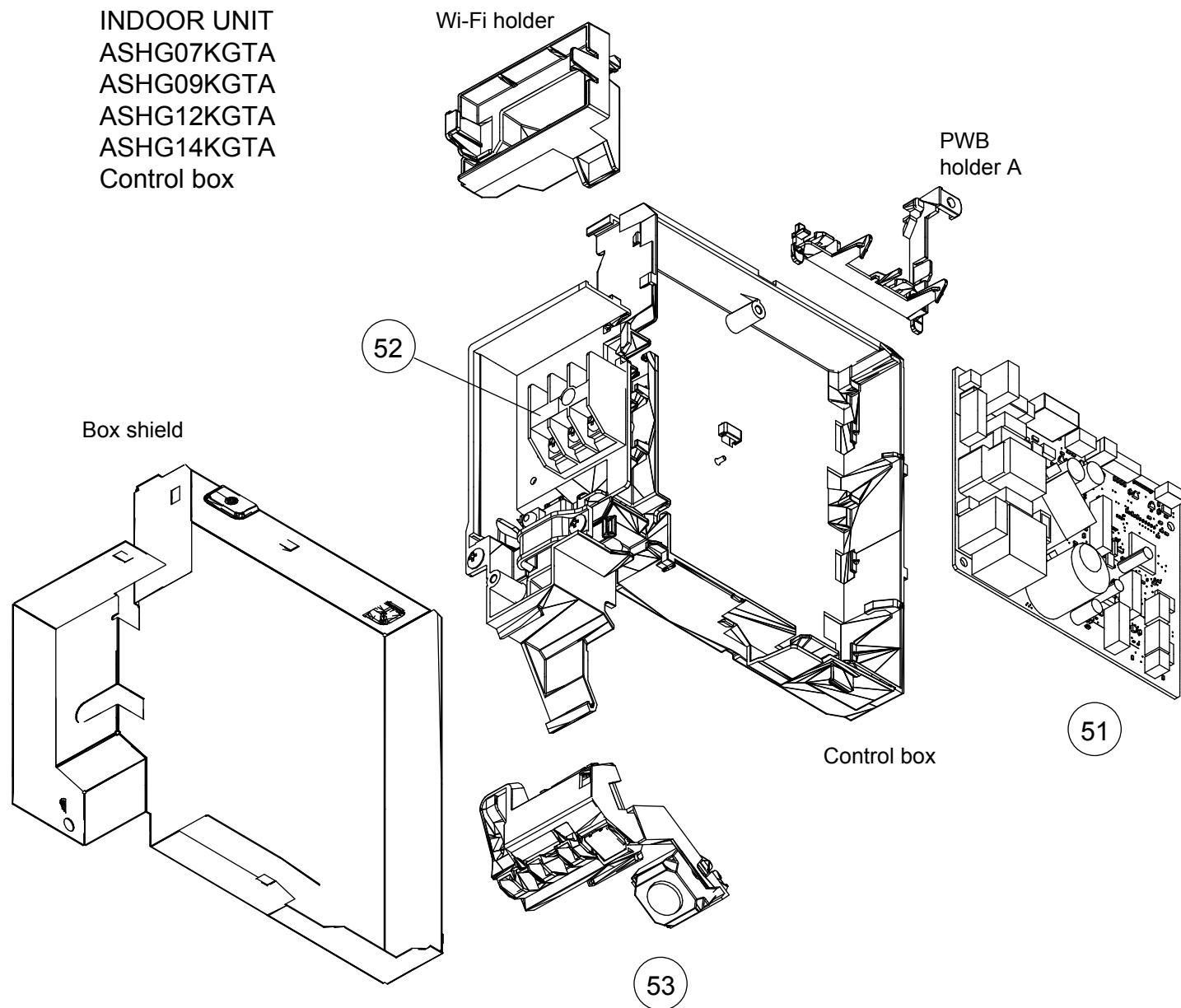


Control cover

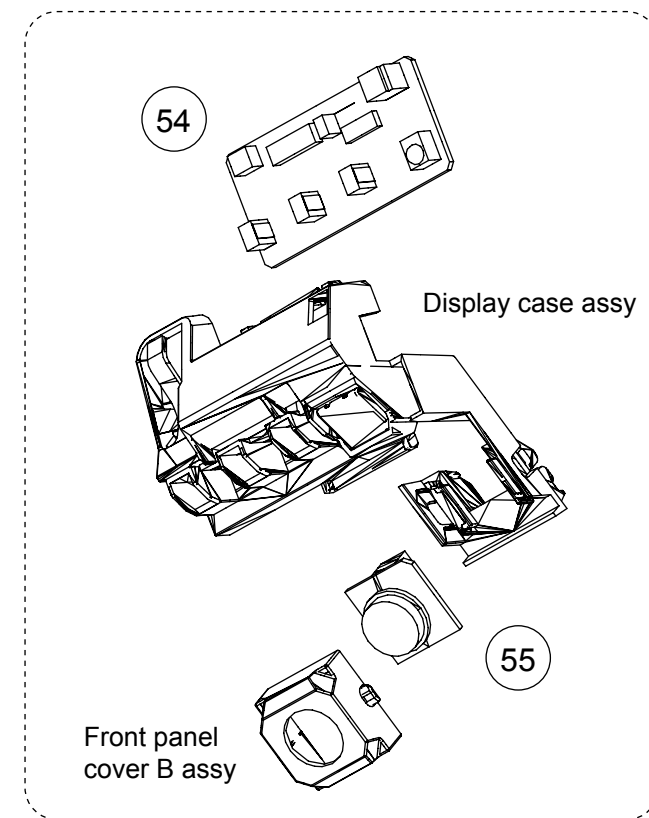


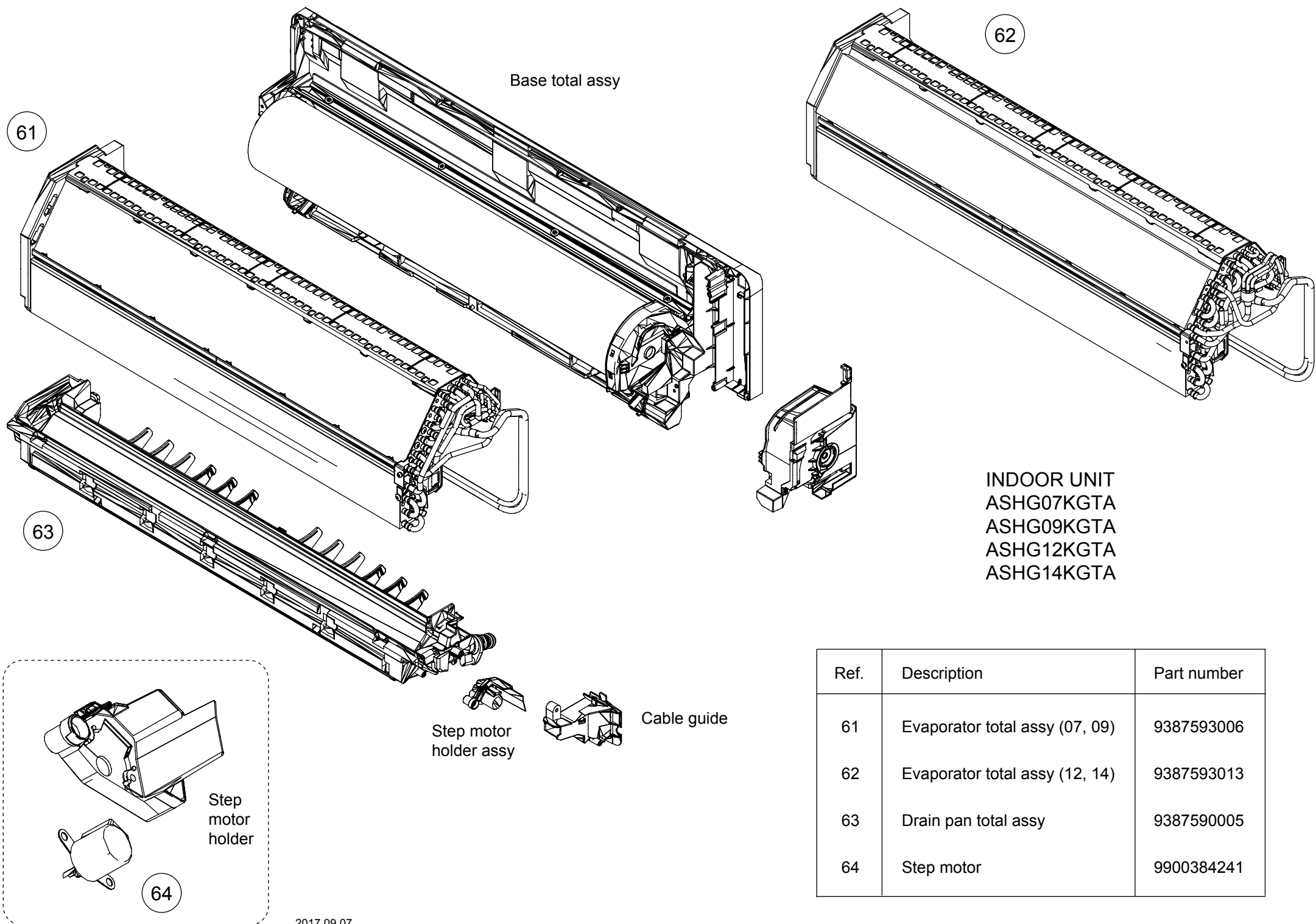
Ref.	Description	Part number
41	Room thermistor holder	9387467000
42	Thermistor assy	9900627041

INDOOR UNIT
ASHG07KGTA
ASHG09KGTA
ASHG12KGTA
ASHG14KGTA
Control box

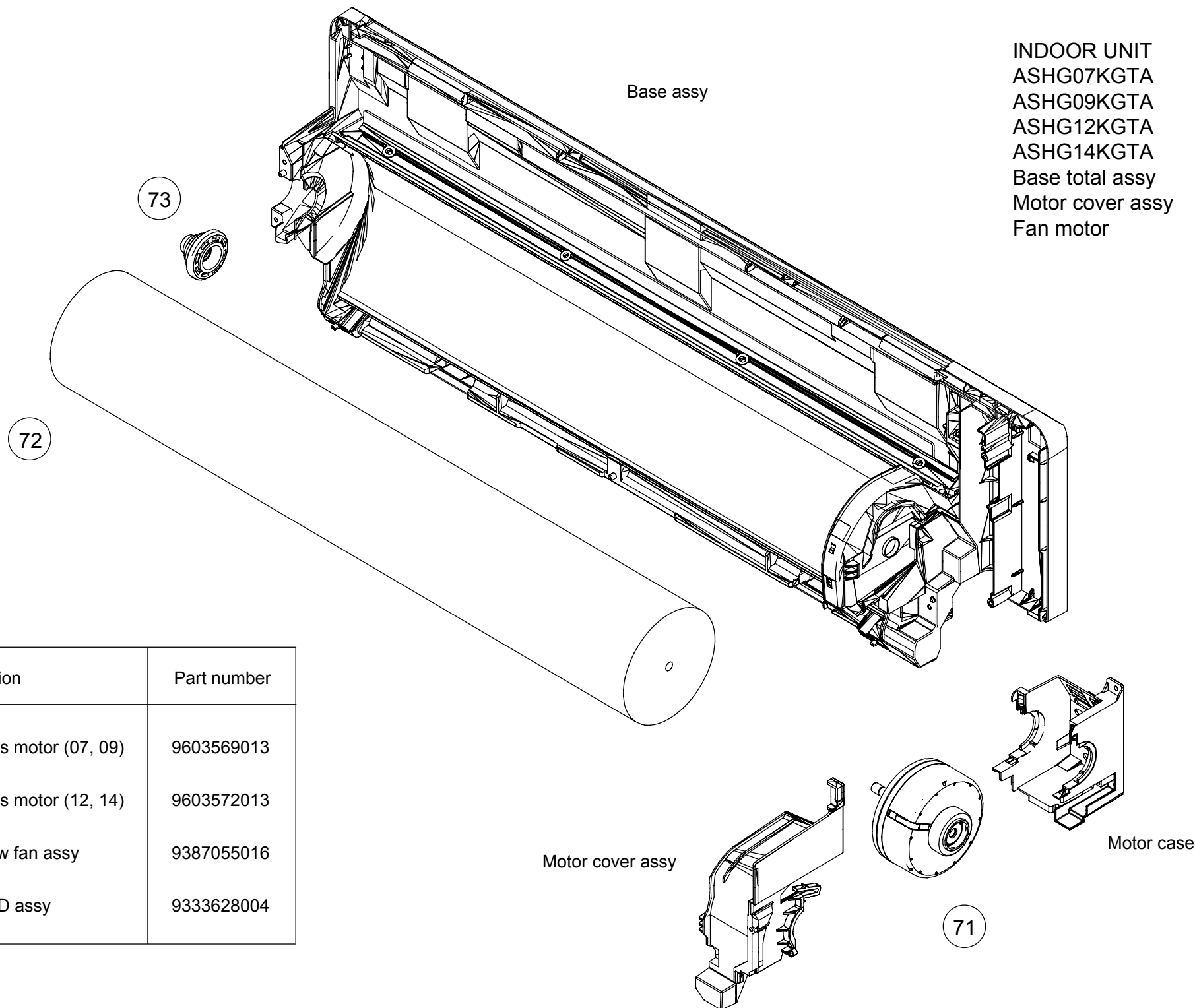


Ref.	Description	Part number
51	Main PCB (ASHG07)	9710782015
51	Main PCB (ASHG09)	9710782022
51	Main PCB (ASHG12)	9710782039
51	Main PCB (ASHG14)	9710782046
52	Terminal	9306489045
53	Display assy	9710858017
54	Indicato PCB	9710786013
55	Pyroelectric sensor	9317755061





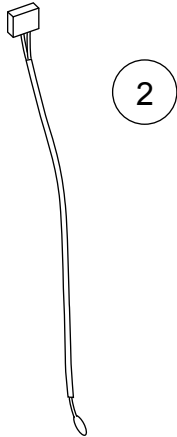
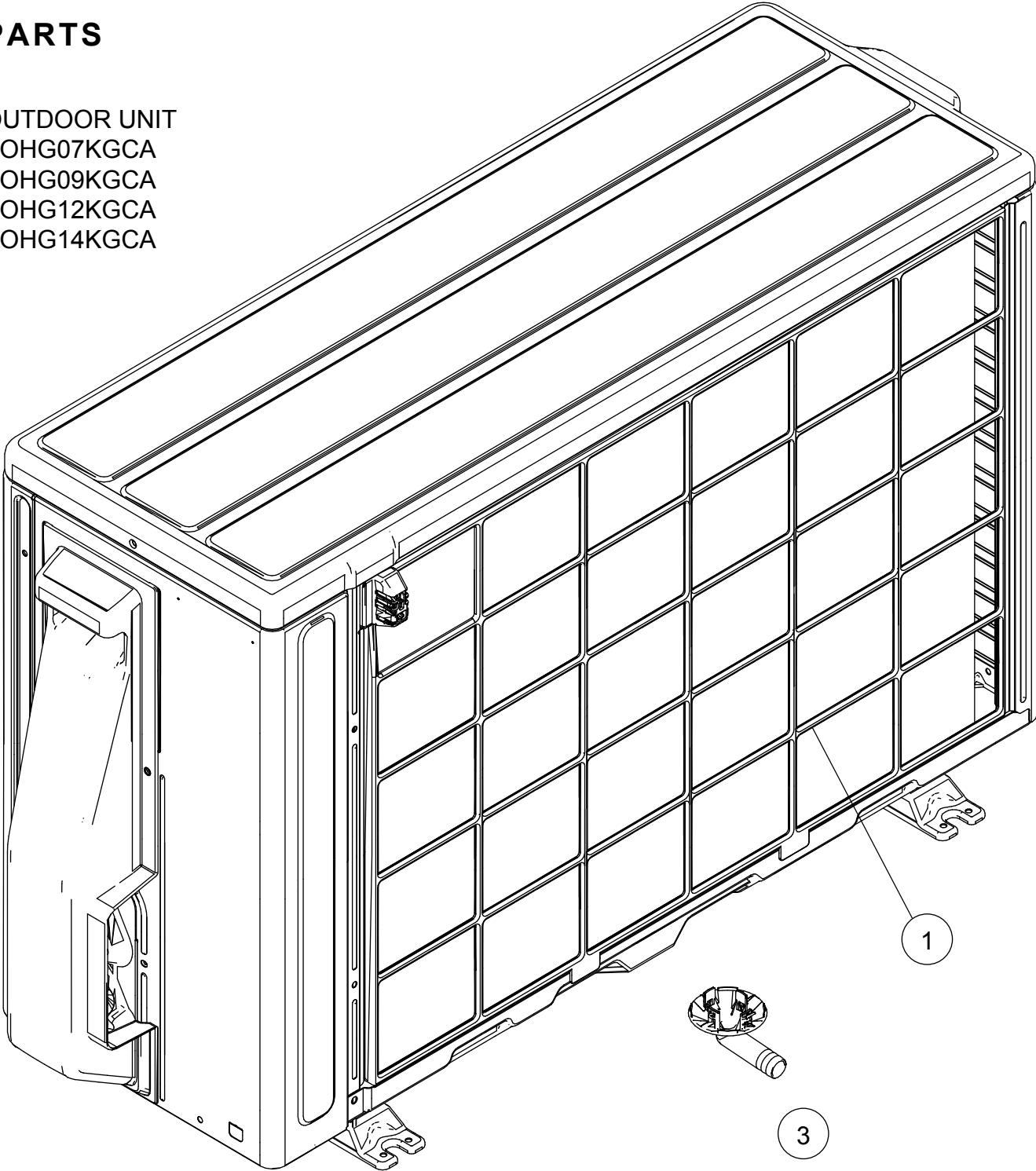
INDOOR UNIT
 ASHG07KGTA
 ASHG09KGTA
 ASHG12KGTA
 ASHG14KGTA
 Base total assy
 Motor cover assy
 Fan motor



Ref.	Description	Part number
71	Brushless motor (07, 09)	9603569013
71	Brushless motor (12, 14)	9603572013
72	Crossflow fan assy	9387055016
73	Bearing D assy	9333628004

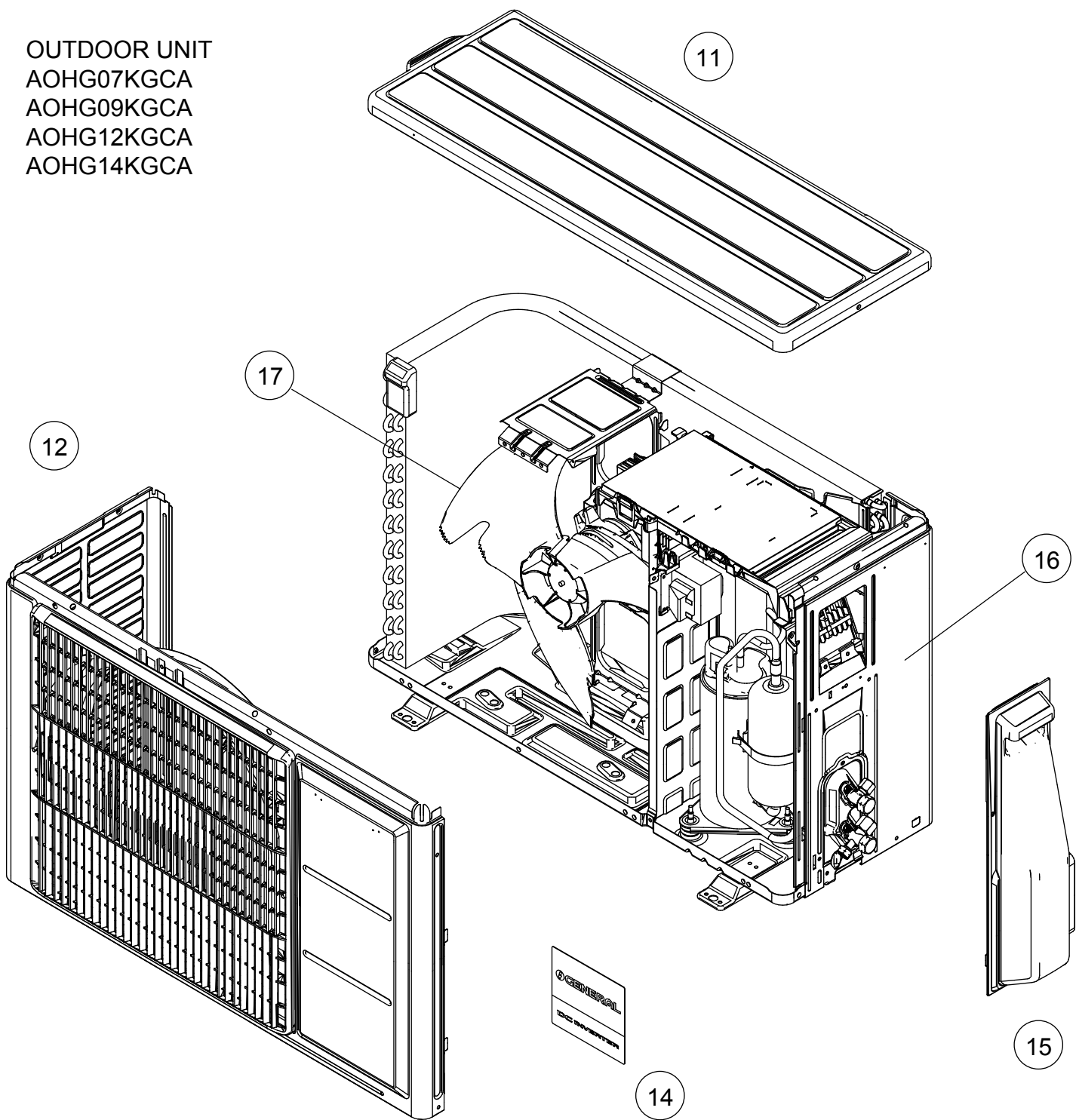
PARTS

OUTDOOR UNIT
AOHG07KGCA
AOHG09KGCA
AOHG12KGCA
AOHG14KGCA

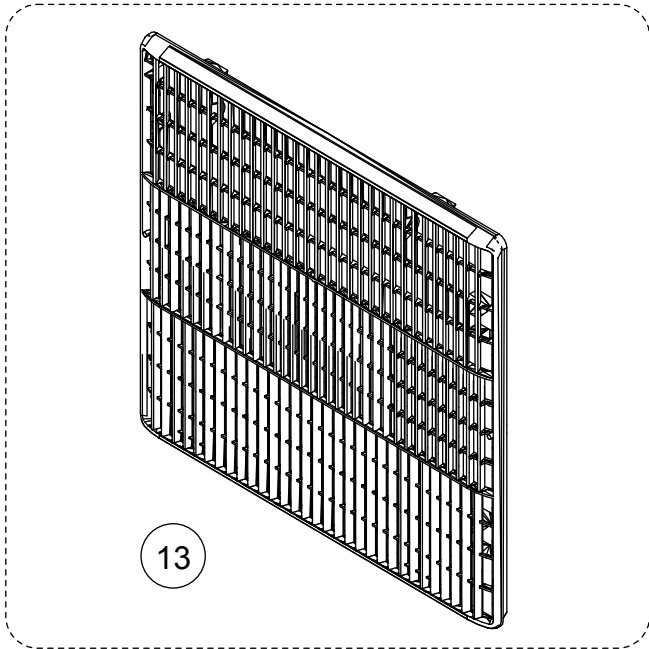


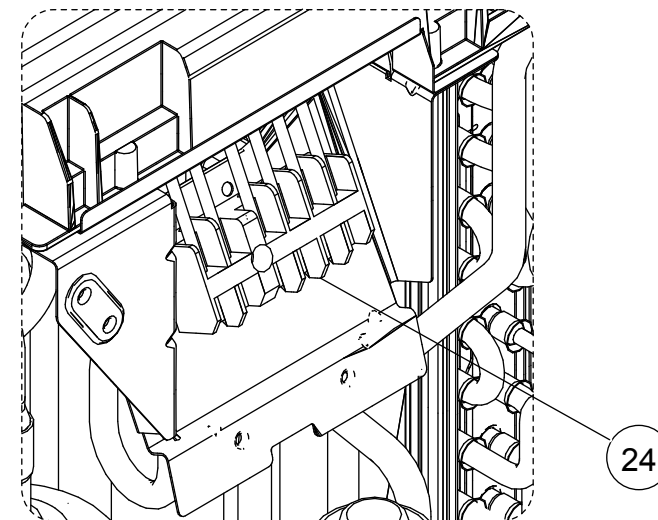
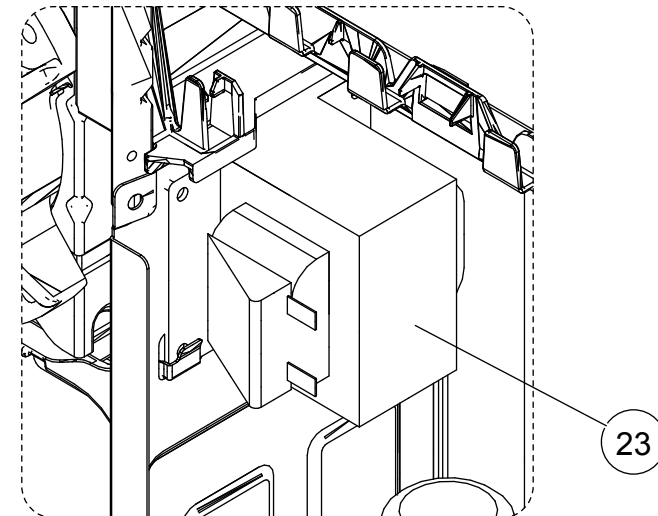
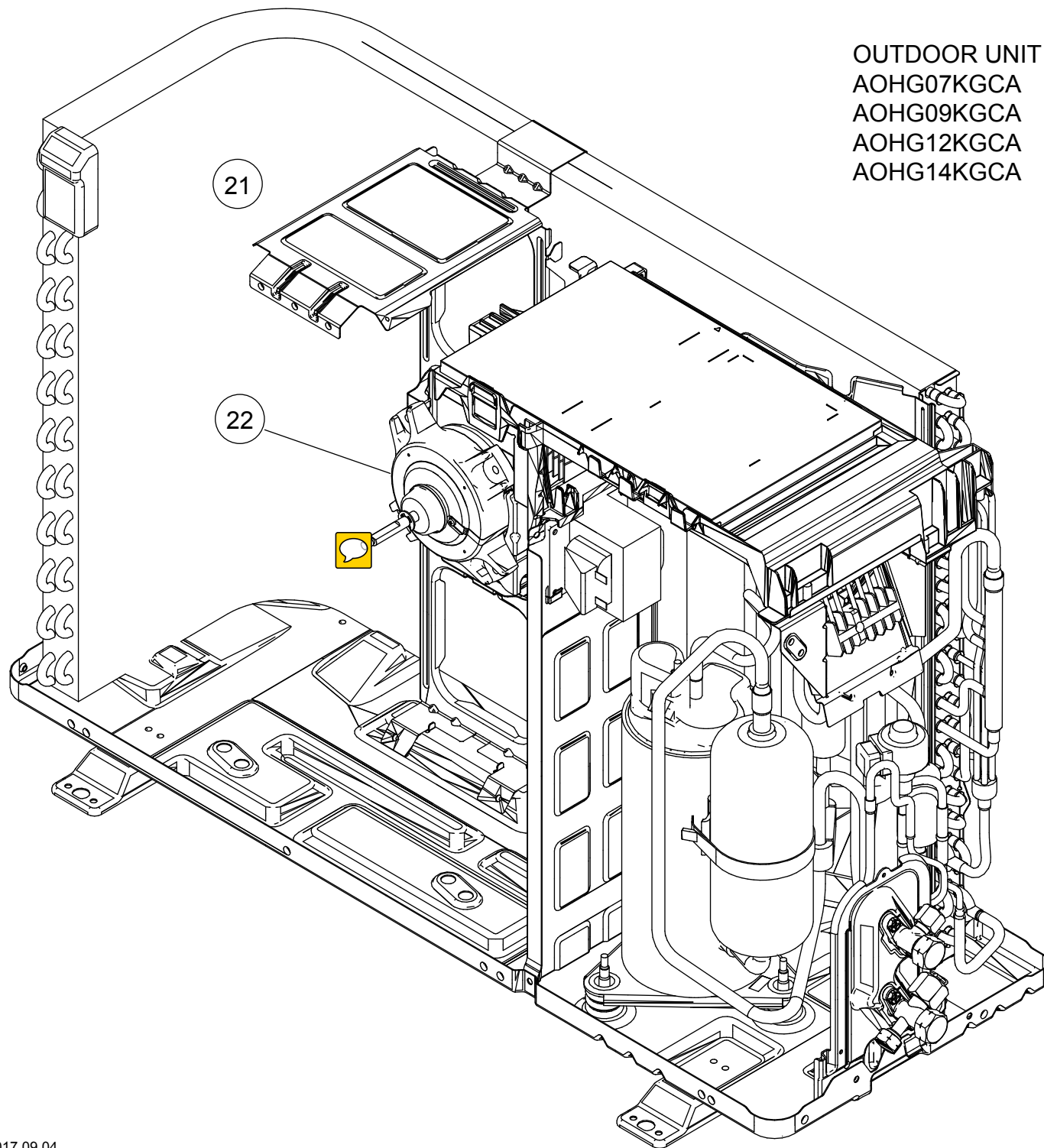
Ref.	Description	Part number
1	Protective net assy	9322811011
2	Outdoor thermistor (07, 09)	9900565060
2	Outdoor thermistor (12, 14)	9900580012
3	Drain pipe	9322144003

OUTDOOR UNIT
AOHG07KGCA
AOHG09KGCA
AOHG12KGCA
AOHG14KGCA



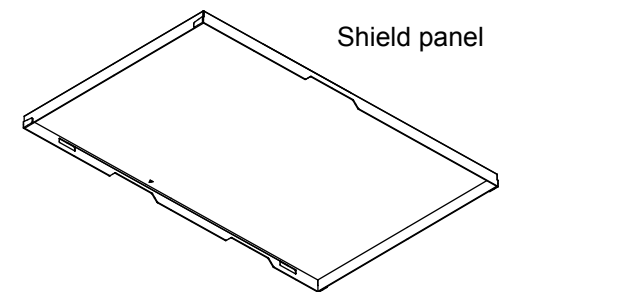
Ref.	Description	Part number
11	Top panel assy	9322556028
12	Front panel assy	9322555014
13	Blow grille	9322135001
14	Emblem	9319157009
15	Switch cover assy	9322570000
16	Cabinet right Assy	9322552020
17	Propeller Fan	9322136008



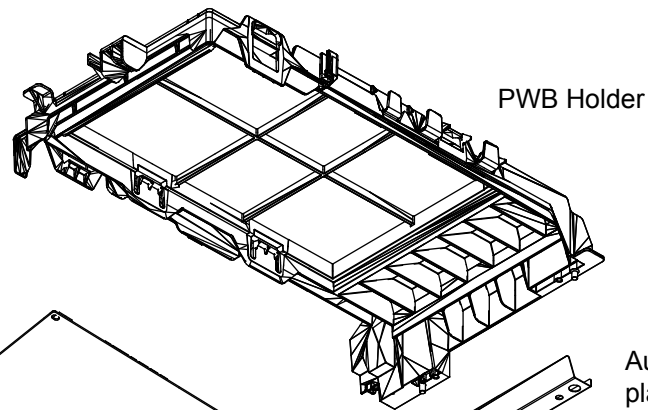


Ref.	Description	Part number
21	Motor bracket assy	9322553010
22	Brushless motor	9603553005
23	Reactor assy (07, 09, 12)	9900583019
23	Reactor assy (14)	9900963019
24	Terminal	9900435028

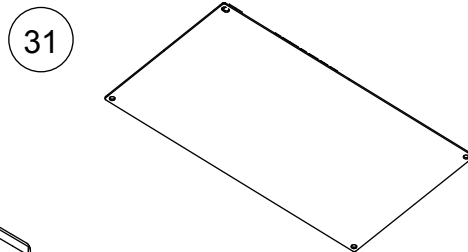
OUTDOOR UNIT
 AOHG07KGCA
 AOHG09KGCA
 AOHG12KGCA
 AOHG14KGCA



Shield panel

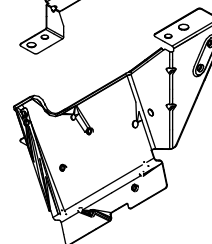


PWB Holder

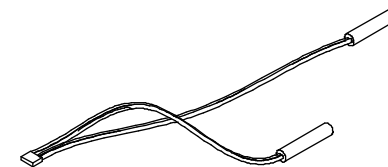


31

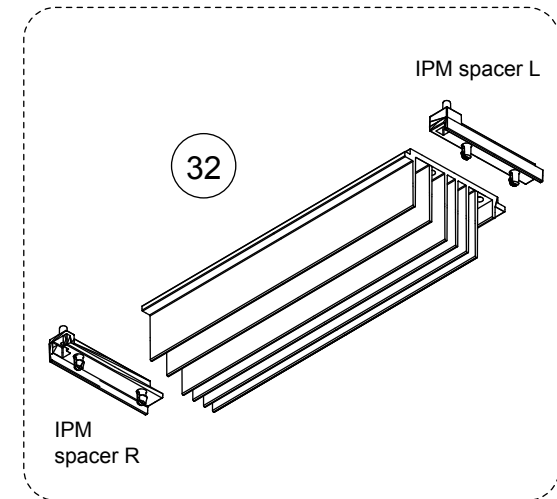
Auxiliary plate



Terminal bracket assy



33



32

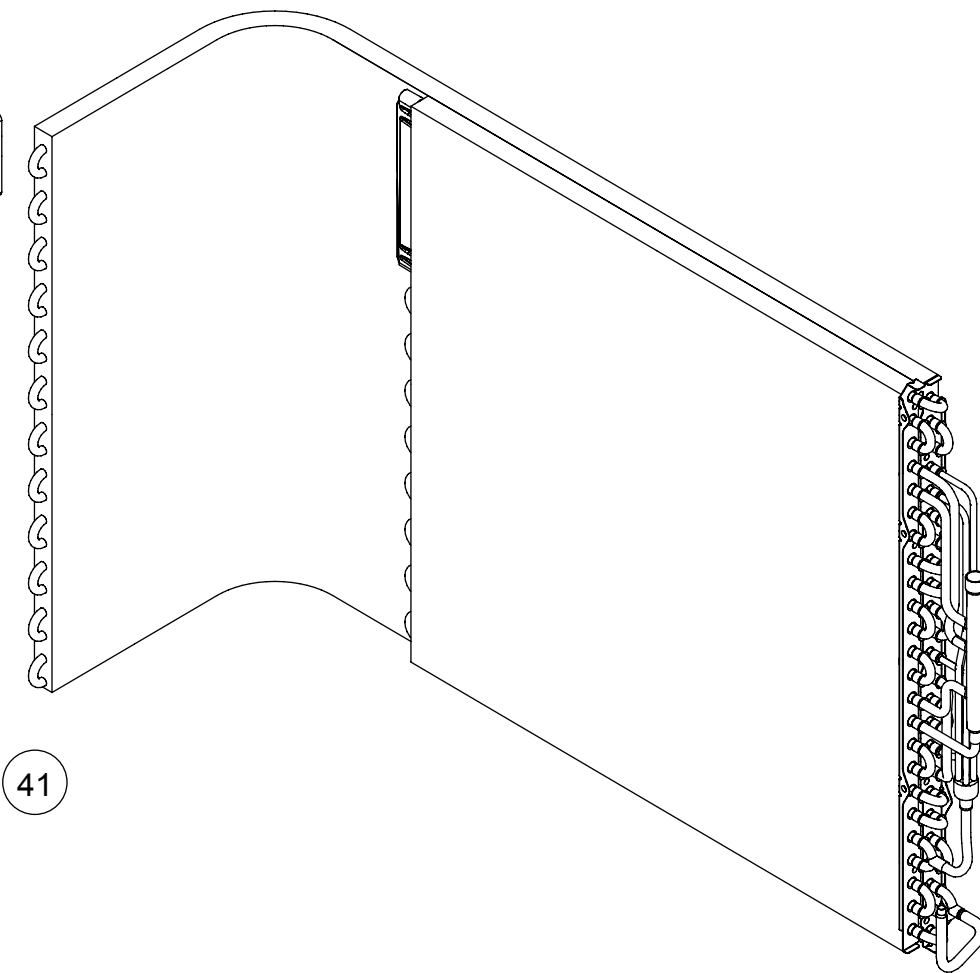
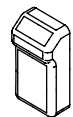
IPM spacer L

IPM spacer R

Ref.	Description	Part number
31	Service unit, Main PCB (07)	9709682104
31	Service unit, Main PCB (09)	9709682111
31	Service unit, Main PCB (12)	9709682128
31	Service unit, Main PCB (14)	9709682135
32	Heatsink	9322418005
33	Thermistor assy (AOHG07, 09)	9900727062
33	Thermistor assy (AOHG12, 14)	9900849016

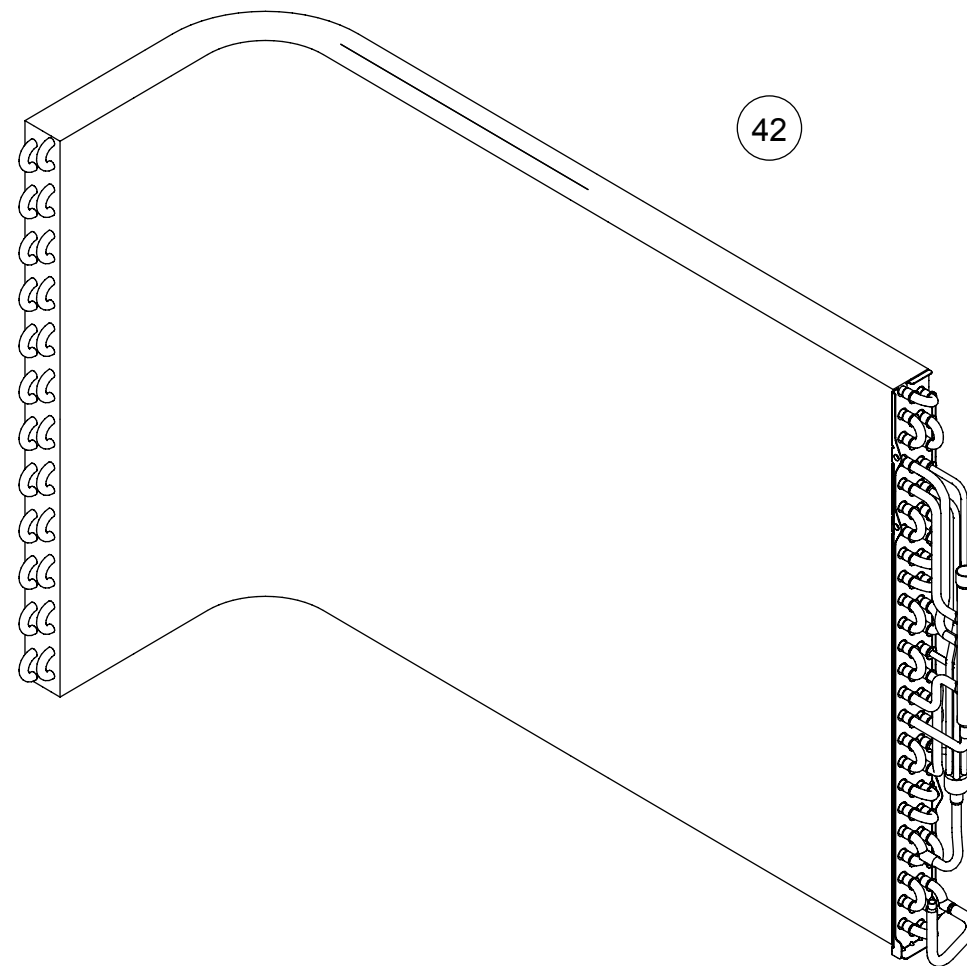
Ref.	Description	Part number
41	Condenser total assy (07, 09)	9322274007
42	Condenser total assy (12, 14)	9322275004
-	S-insulator B	9322535009
-	S-insulator F	9322536006
-	S-insulator H	9322537003
-	S-insulator V	9322731005

Hair pin
cushion

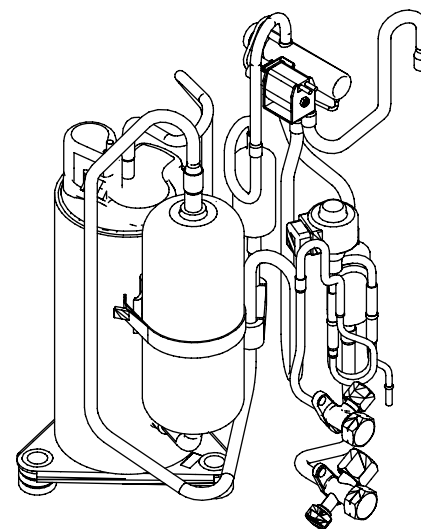


41

Hair pin
cushion

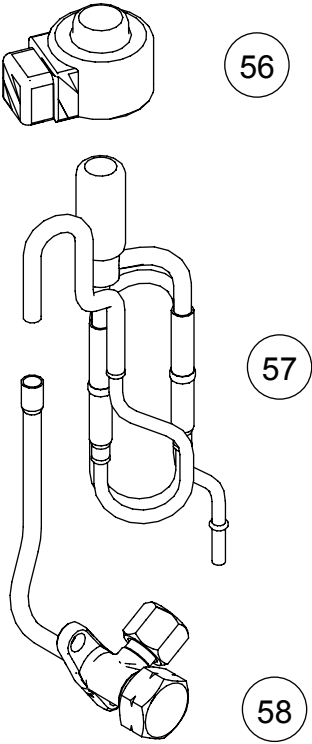
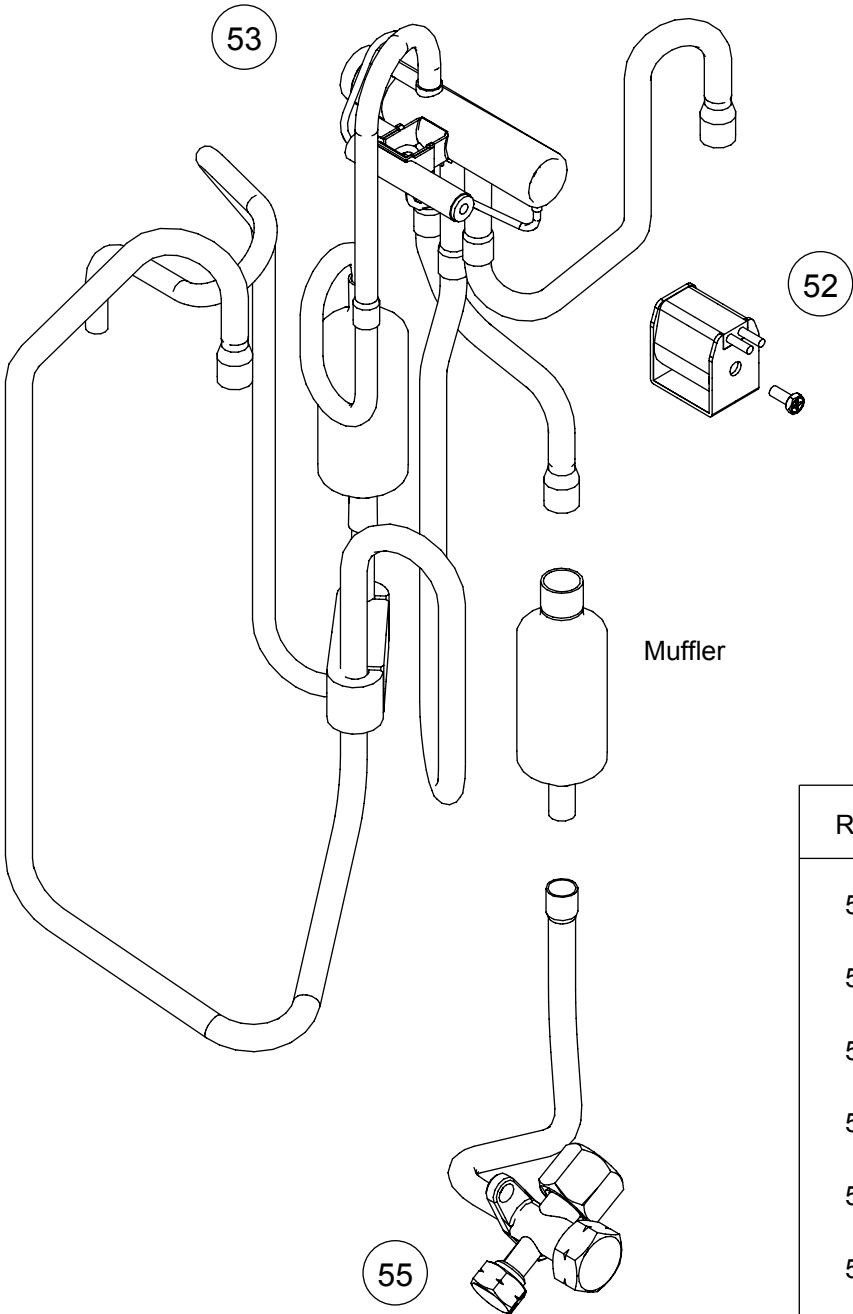
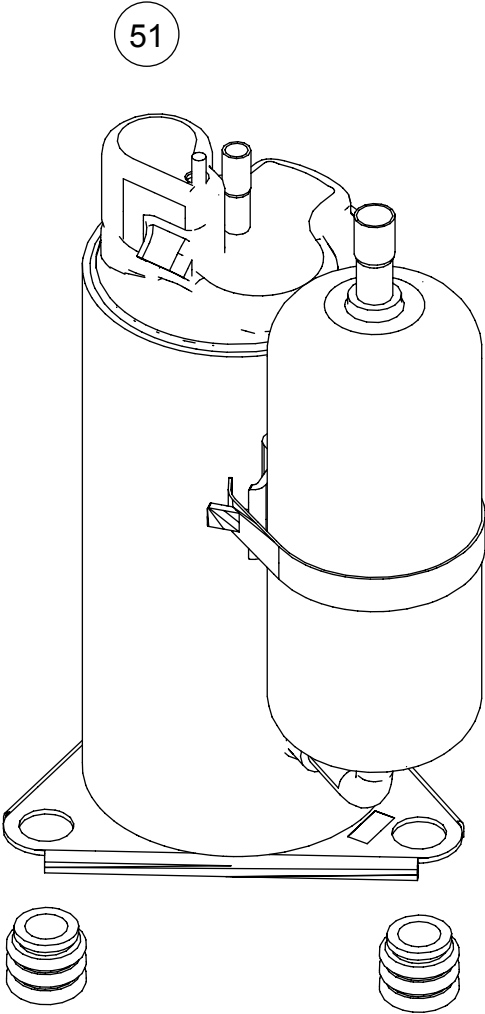


42



OUTDOOR UNIT
AOHG07KGCA
AOHG09KGCA
AOHG12KGCA
AOHG14KGCA

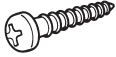
OUTDOOR UNIT
AOHG07KGCA
AOHG09KGCA
AOHG12KGCA
AOHG14KGCA



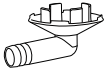
Ref.	Description	Part number
51	Compressor assy (07, 09, 12)	9322427007
51	Compressor assy (14)	9322429001
52	Solenoid	9970195006
53	4-way valve assy	9322444004
55	3-way valve assy	9322475008
56	Expansion valve coil	9970095122
57	Pulse motor valve assy	9322463005
58	2-way valve assy	9322474001

ACCESSORIES

INDOOR UNIT

Name and Shape	Q'ty
Remote controller 	1
Remote controller holder 	1
Cloth tape 	1
Tapping screws (Large) 	5
Tapping screws (Small) 	2
Battery 	2
Wall hook bracket 	1

OUTDOOR UNIT

Name and Shape	Q'ty
Drain pipe  For outdoor unit drain piping work	1

1710G4652