

# SERVICE MANUAL



Indoor unit	Outdoor unit
ASYG07KGTA	AOYG07KGCA
ASYG09KGTA	AOYG09KGCA
ASYG12KGTA	AOYG12KGCA
ASYG14KGTA	AOYG14KGCA

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# SPECIFICATIONS

## ELECTRICAL DATA

INDOOR UNIT		ASYG07KGTA	ASYG09KGTA
OUTDOOR UNIT		AOYG07KGCA	AOYG09KGCA
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 <sup>3</sup> /h	700 m <sup>3</sup> /h
	Medium	540 m <sup>3</sup> /h	560 m <sup>3</sup> /h
	Low	430 m <sup>3</sup> /h	430 m <sup>3</sup> /h
	Quiet	270 m <sup>3</sup> /h	270 m <sup>3</sup> /h
INDOOR UNIT Heating	High	720 m <sup>3</sup> /h	750 m <sup>3</sup> /h
	Medium	580 m <sup>3</sup> /h	610 m <sup>3</sup> /h
	Low	460 m <sup>3</sup> /h	470 m <sup>3</sup> /h
	Quiet	330 m <sup>3</sup> /h	330 m <sup>3</sup> /h
OUTDOOR UNIT	Cooling	1,610 m <sup>3</sup> /h	1,610 m <sup>3</sup> /h
	Heating	1,560 m <sup>3</sup> /h	1,610 m <sup>3</sup> /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		ASYG12KGTA	ASYG14KGTA
OUTDOOR UNIT		AOYG12KGCA	AOYG14KGCA
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

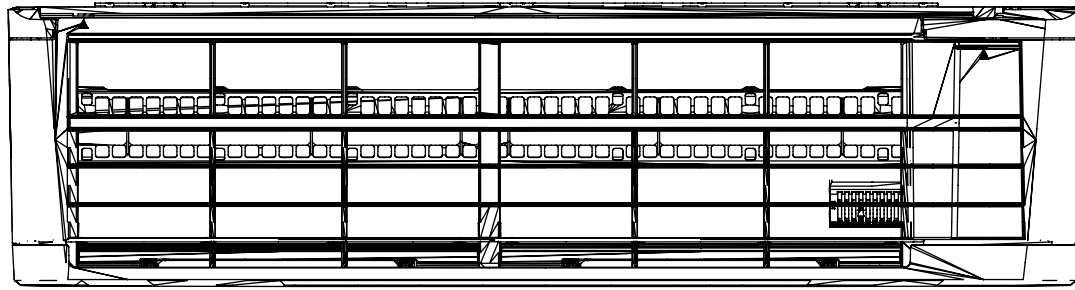
INDOOR UNIT Cooling	High	700 m <sup>3</sup> /h	770 m <sup>3</sup> /h
	Medium	560 m <sup>3</sup> /h	600 m <sup>3</sup> /h
	Low	430 m <sup>3</sup> /h	450 m <sup>3</sup> /h
	Quiet	250 m <sup>3</sup> /h	280 m <sup>3</sup> /h
INDOOR UNIT Heating	High	770 m <sup>3</sup> /h	800 m <sup>3</sup> /h
	Medium	640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

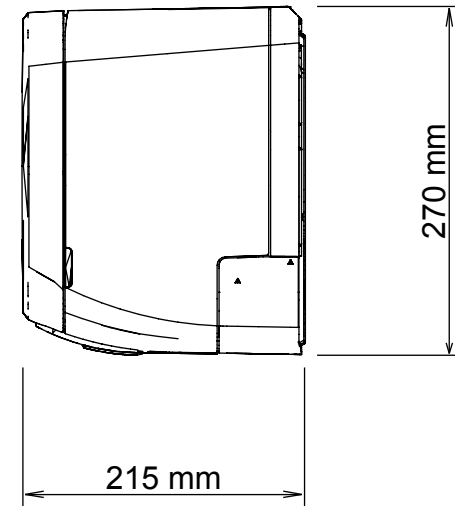
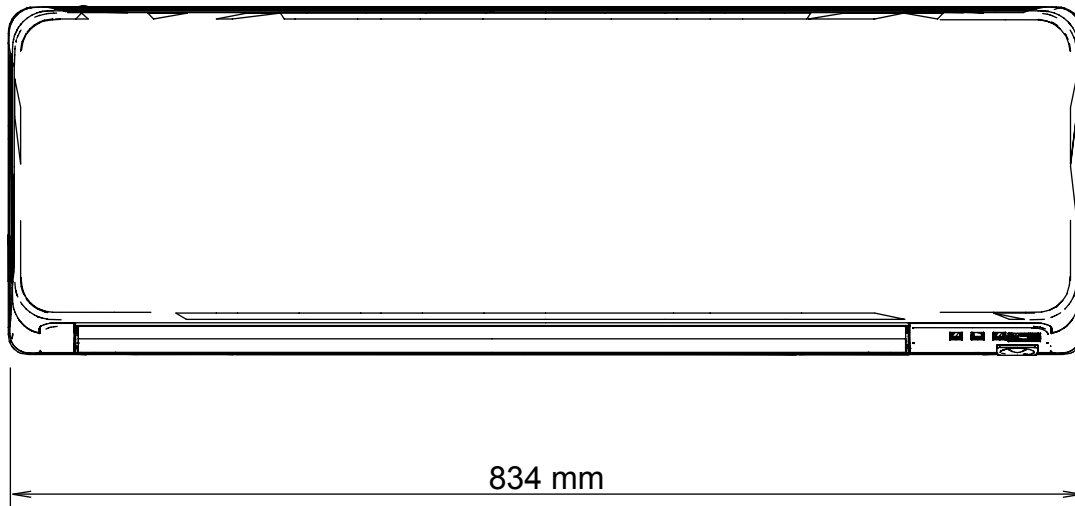
## COMPRESSOR AND REFRIGERANT

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	

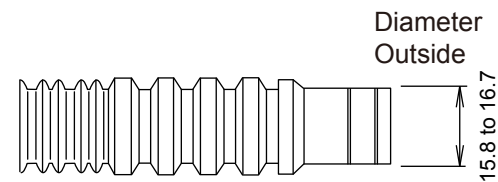
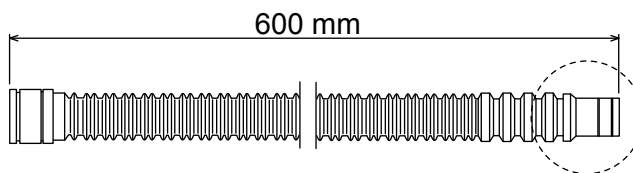


## DIMENSIONS

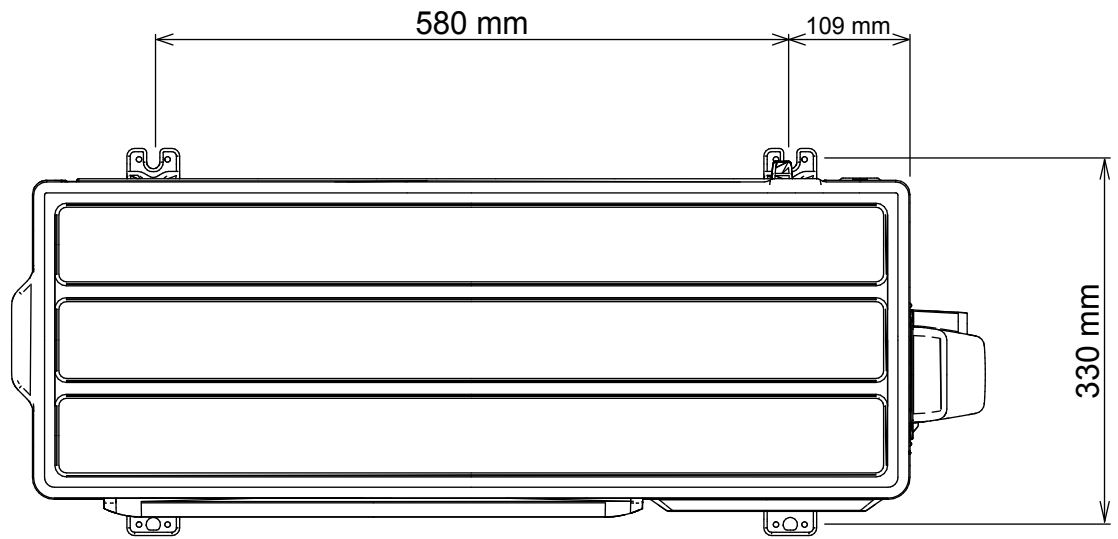
INDOOR UNIT  
ASYG07KGTA  
ASYG09KGTA  
ASYG12KGTA  
ASYG14KGTA



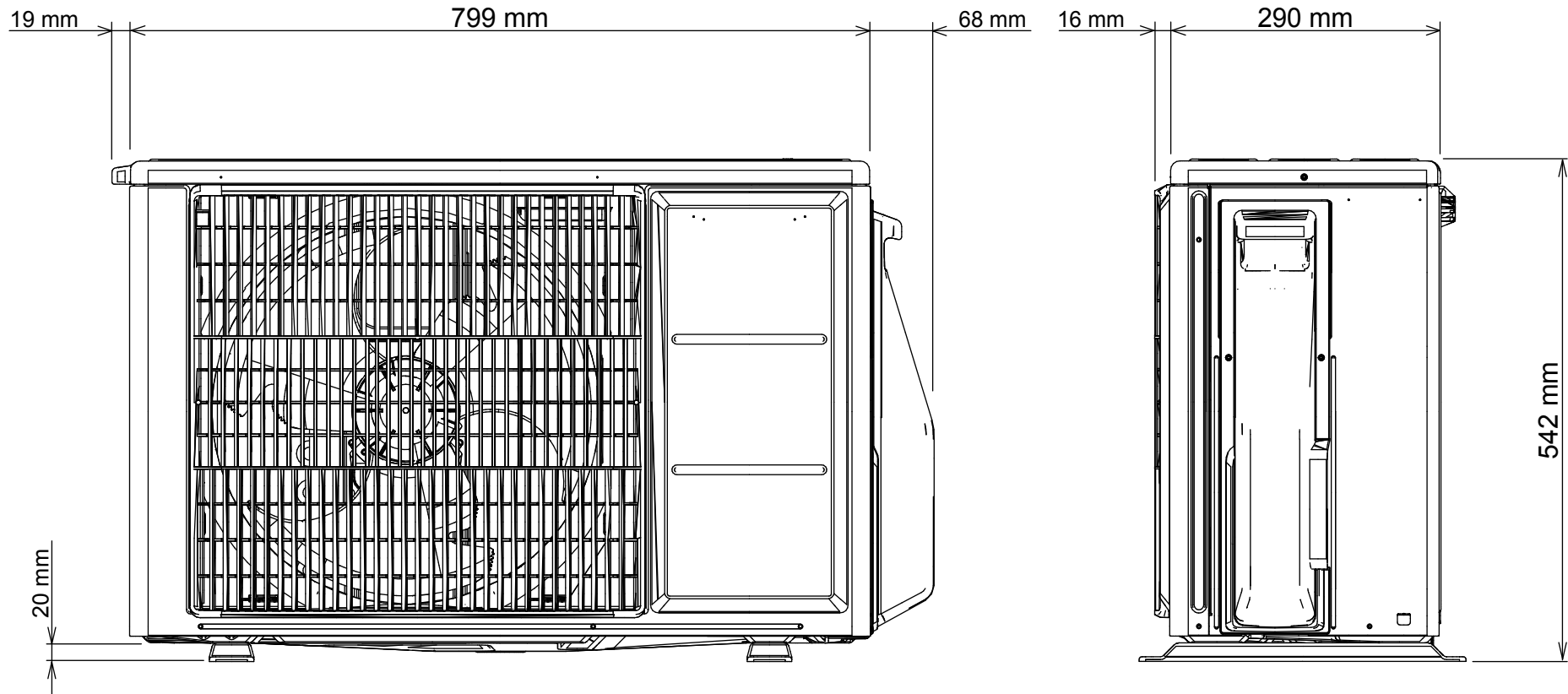
Drain hose



Inside : 13.8 mm



OUTDOOR UNIT  
AOYG07KGCA  
AOYG09KGCA  
AOYG12KGCA  
AOYG14KGCA



# REFRIGERANT SYSTEM DIAGRAM

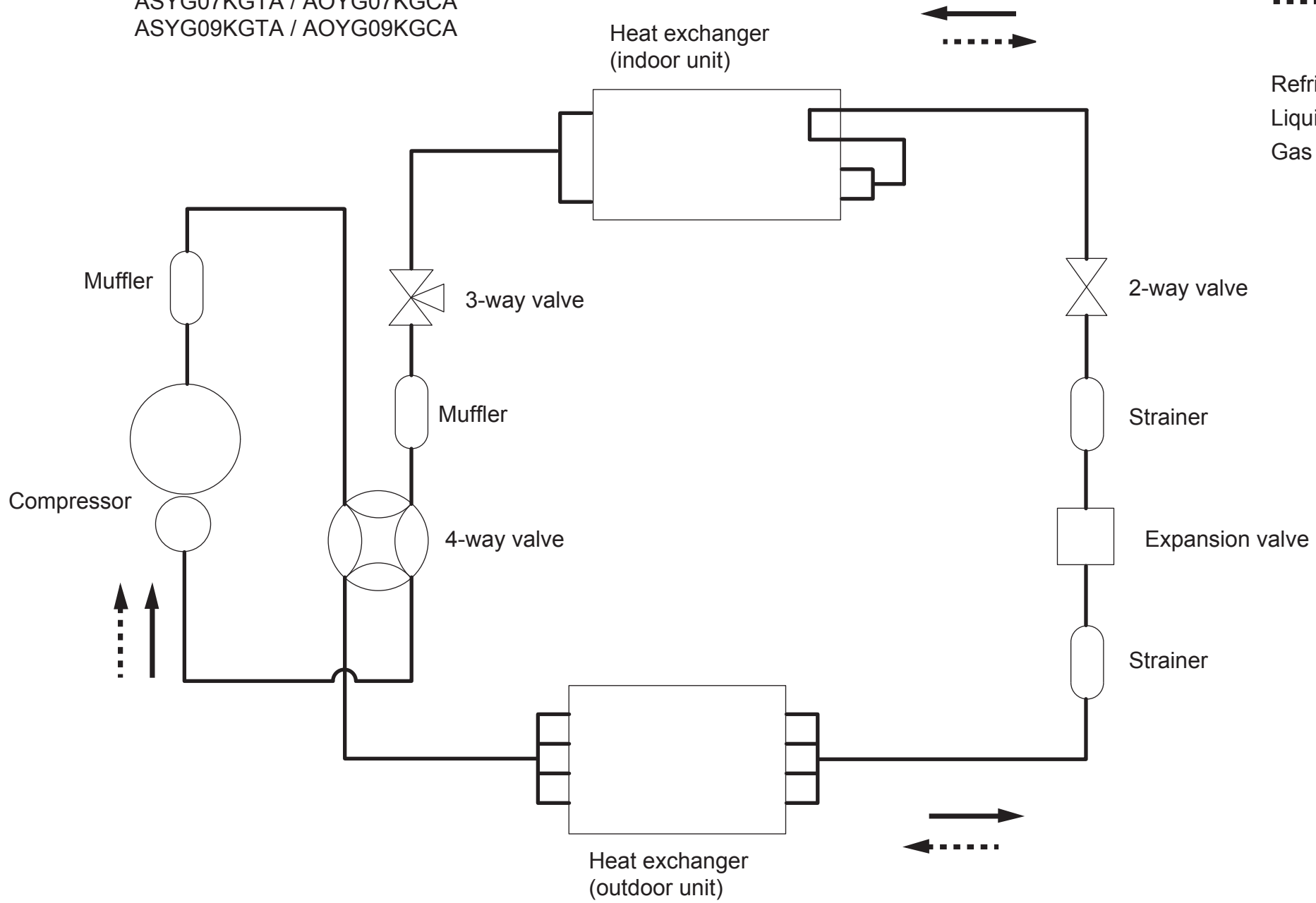
ASYG07KGTA / AOYG07KGCA  
ASYG09KGTA / AOYG09KGCA

Refrigerant direction

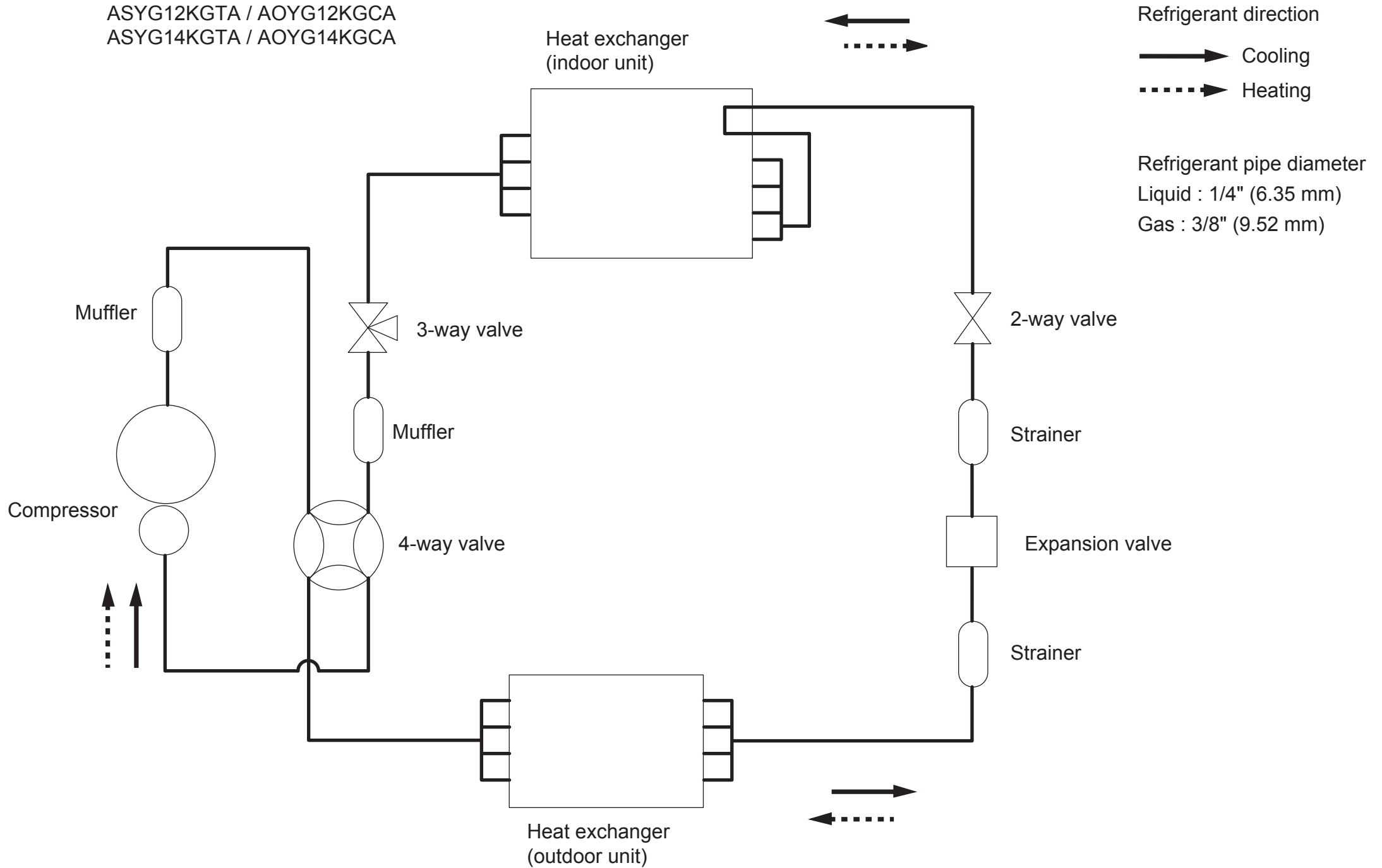


Refrigerant pipe diameter

Liquid : 1/4" (6.35 mm)  
Gas : 3/8" (9.52 mm)



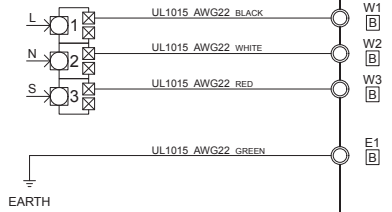
ASYG12KGTA / AOYG12KGCA  
ASYG14KGTA / AOYG14KGCA





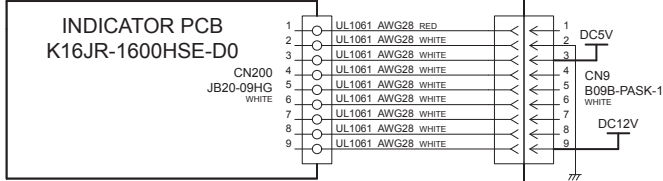
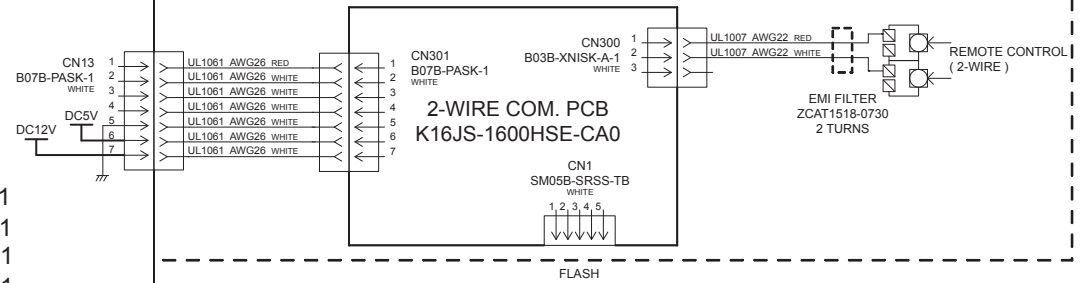


OUTDOOR UNIT  
POWER SOURCE  
AC230V  
50Hz

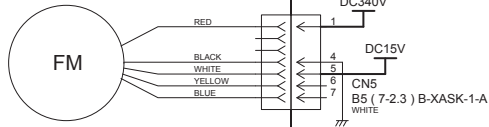


**MAIN PCB**  
 ASYG07KGTA : K16JQ-1600HSE-C1  
 ASYG09KGTA : K16JQ-1601HSE-C1  
 ASYG12KGTA : K16JQ-1602HSE-C1  
 ASYG14KGTA : K16JQ-1603HSE-C1

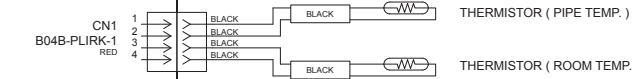
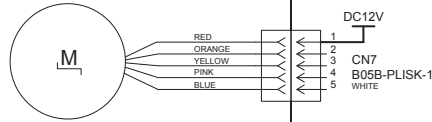
**OPTION UNIT ( 2-WIRE REMOTE CONTROL )**  
 UTY-TWRXZ2



DC FAN MOTOR

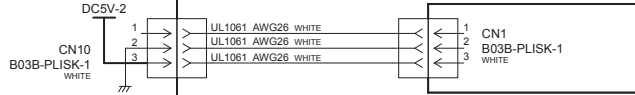


LOUVER ( UP / DOWN )

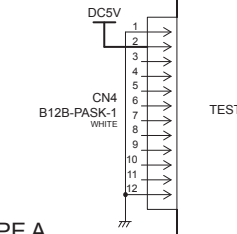


CN1 Thermistor Characteristics.

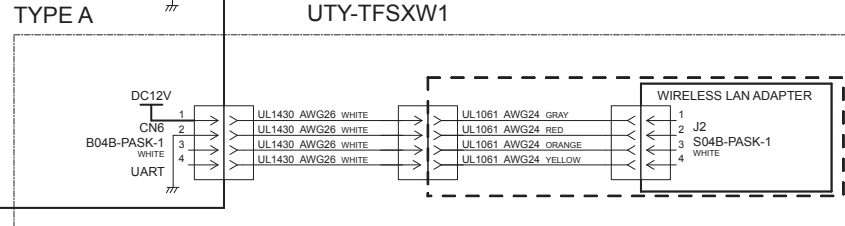
Thermistor	Temperature	( 0°C )	( 20°C )	( 30°C )
Thermistor ( Pipe temp. )		176.0 k Ω	62.9 k Ω	39.6 k Ω
		1.1 V	2.2 V	2.8 V
Thermistor ( Room temp. )		33.6 k Ω	12.5 k Ω	8.0 k Ω
		1.1 V	2.2 V	2.8 V



**PYROELECTRIC SENSOR**  
 FJZ-10 or FJZ-8



**OPTION UNIT ( WIRELESS LAN ADAPTER )**  
 UTY-TFSXW1



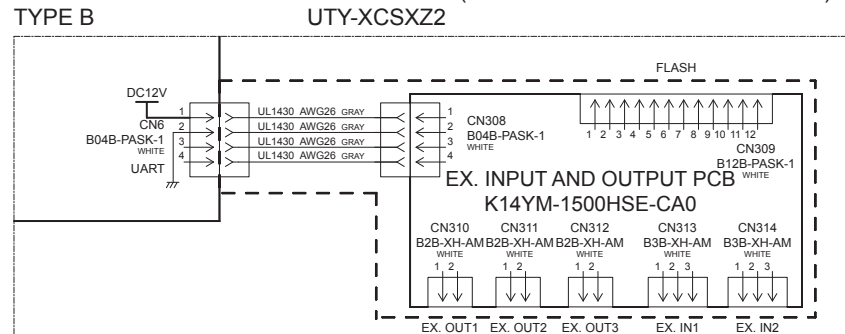
CN5 DC Fan motor

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

## PCB CIRCUIT DIAGRAM

**CONTROL UNIT**  
 ASYG07KGTA : EZ-0162SHSE  
 ASYG09KGTA : EZ-0162THSE  
 ASYG12KGTA : EZ-0162WHSE  
 ASYG14KGTA : EZ-0162YHSE

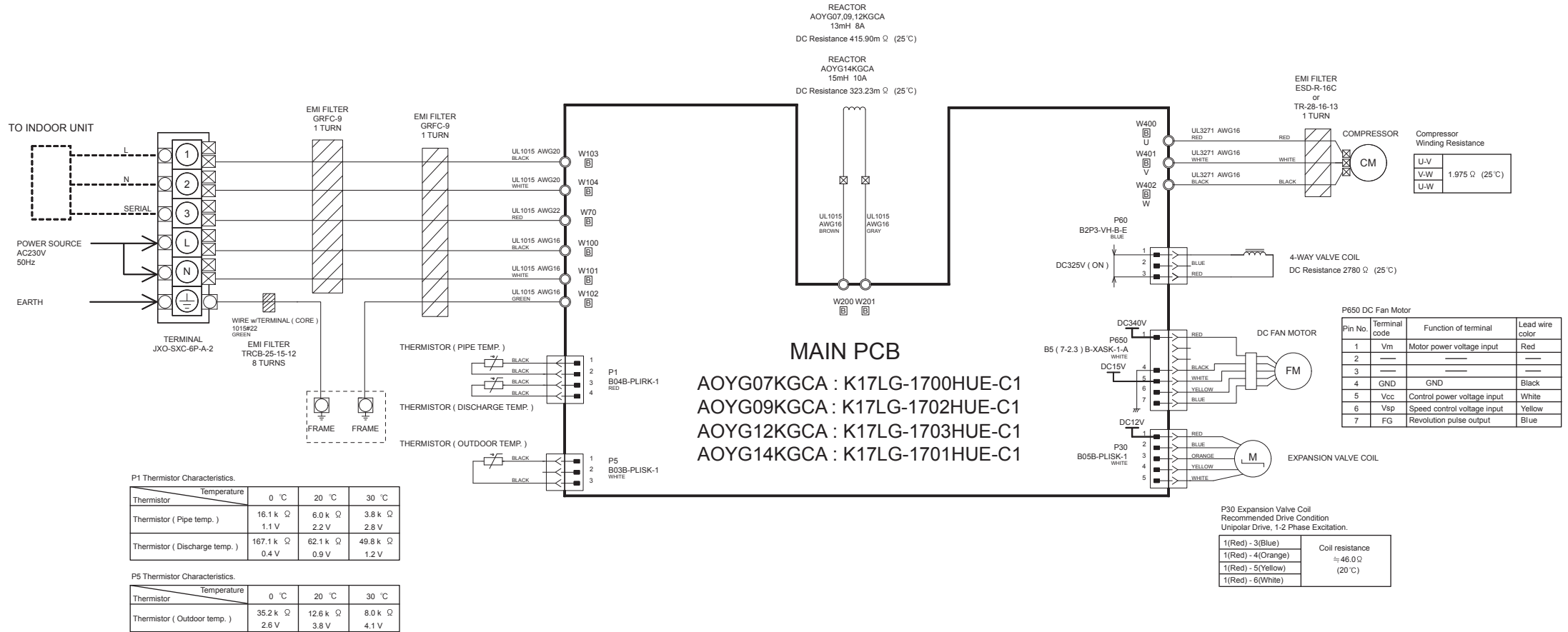
**OPTION UNIT ( EXTERNAL INPUT AND OUTPUT )**  
 UTY-XCSXZ2



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

# INVERTER ASSEMBLY

AOYG07KGCA : EZ-0161RHUE  
 AOYG09KGCA : EZ-0161SHUE  
 AOYG12KGCA : EZ-0161THUE  
 AOYG14KGCA : EZ-0161WHUE



# ERROR DETECTION

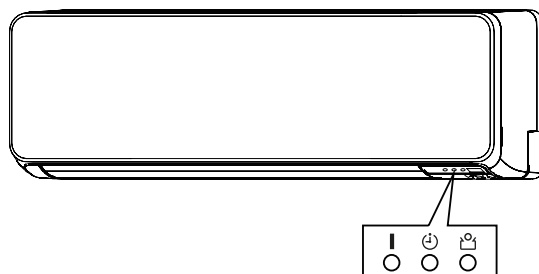
If you use a wireless remote controller, the lamp on the photo detector unit will output error codes by way of blinking patterns.

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)

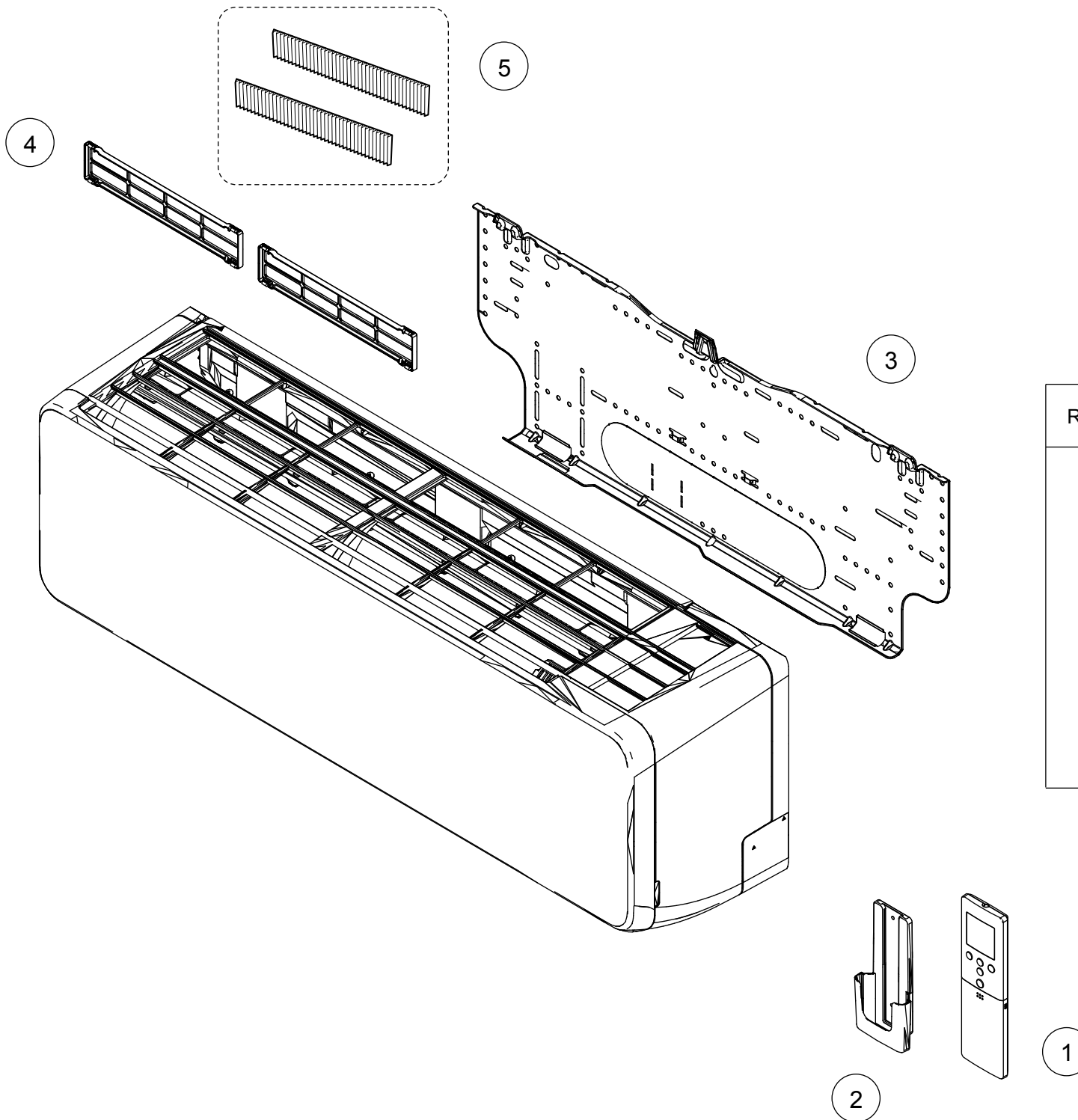
Error display			Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(1)	●(1)	◇	11	Serial communication error
●(1)	●(2)	◇	12	• Wired remote controller communication error • Server room control communication error
●(1)	●(5)	◇	15	Check run unfinished
●(1)	●(6)	◇	16	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)	◇	J2	Branch boxes error [Flexible Multi]

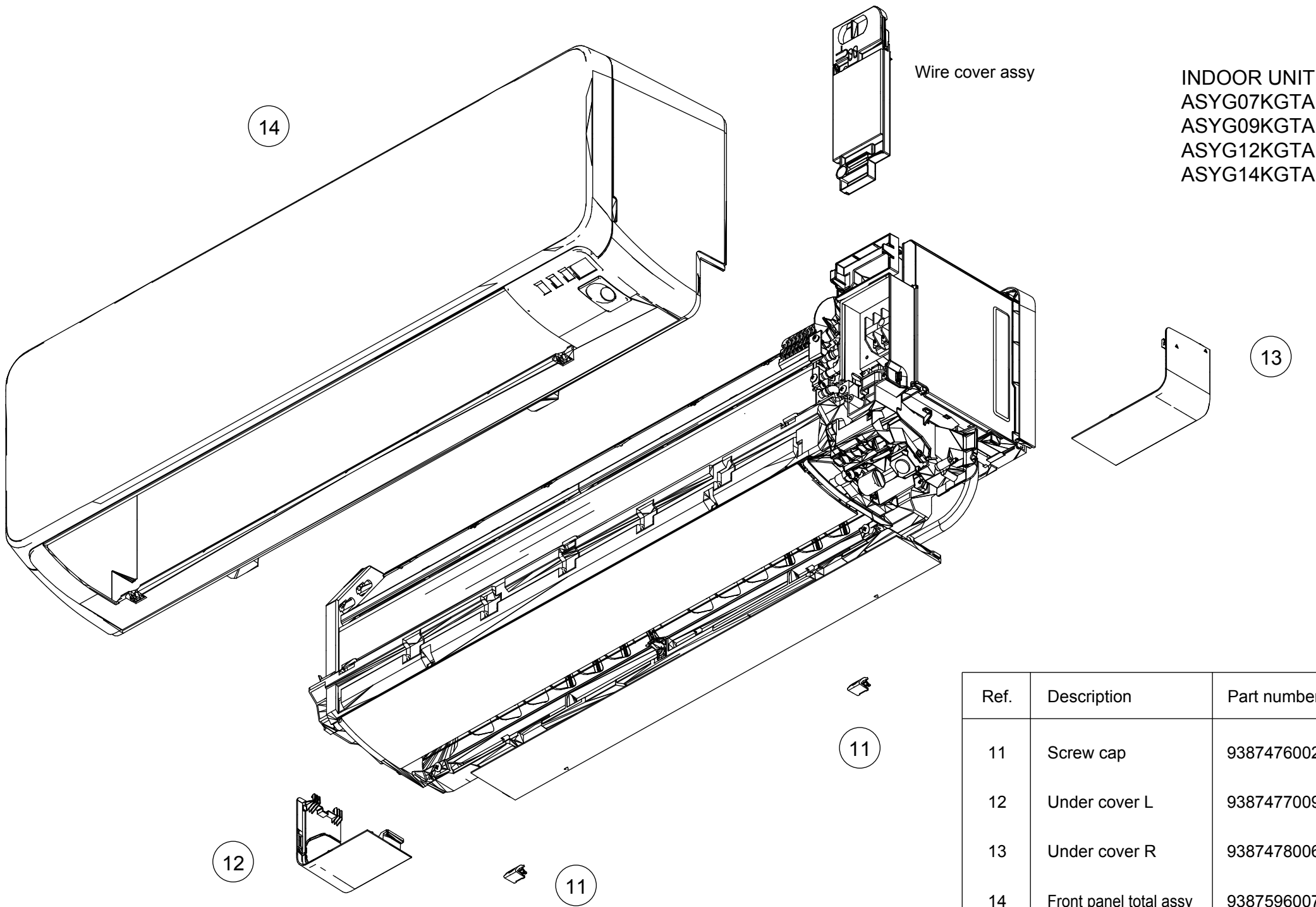
Display mode ● : 0.5s ON / 0.5s OFF  
◇ : 0.1s ON / 0.1s OFF  
( ) : Number of flashing

# PARTS

INDOOR UNIT  
 ASYG07KGTA  
 ASYG09KGTA  
 ASYG12KGTA  
 ASYG14KGTA

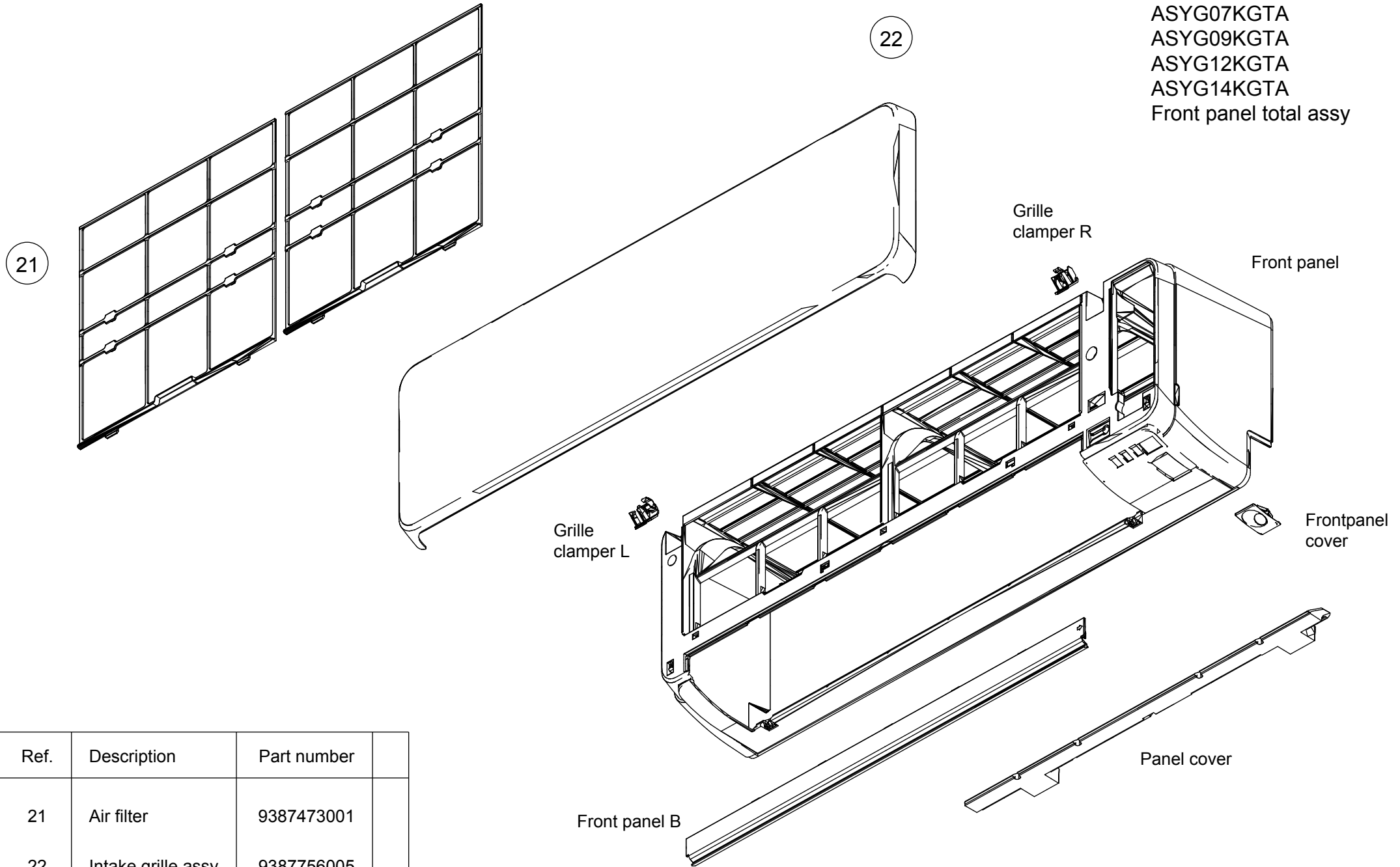


Ref.	Description	Part number
1	Remote control (no brand)	9382108045
2	Remote control holder	9318912005
3	Bracket panel	9387480009
4	Electric filter holder	9332911008
5	Air clean filter assy	9317250009



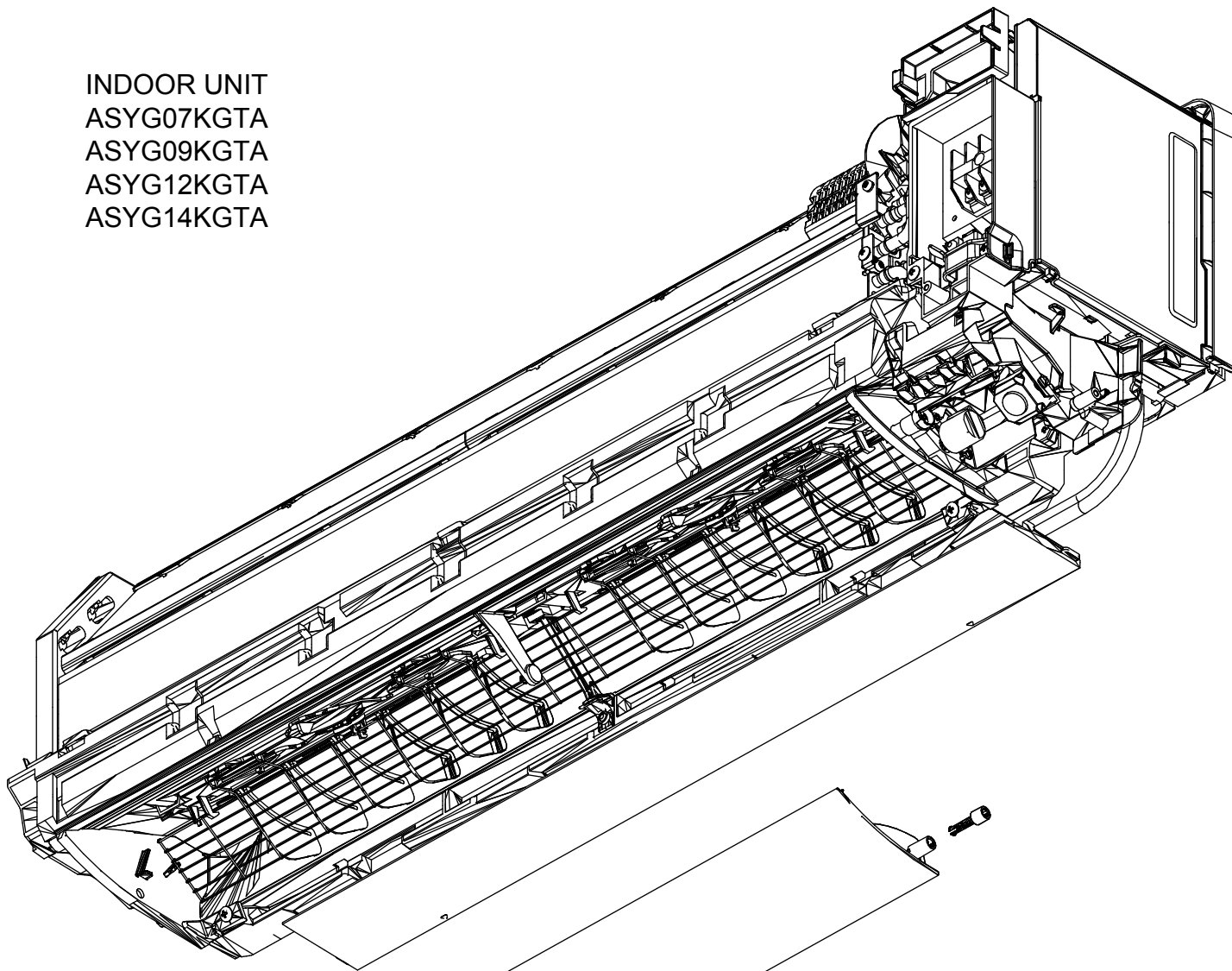
Ref.	Description	Part number
11	Screw cap	9387476002
12	Under cover L	9387477009
13	Under cover R	9387478006
14	Front panel total assy	9387596007

INDOOR UNIT  
 ASYG07KGTA  
 ASYG09KGTA  
 ASYG12KGTA  
 ASYG14KGTA  
 Front panel total assy

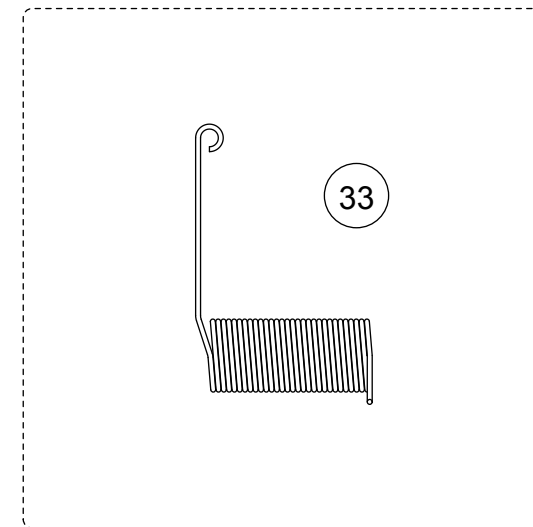


Ref.	Description	Part number	
21	Air filter	9387473001	
22	Intake grille assy (FUJITSU)	9387756005	

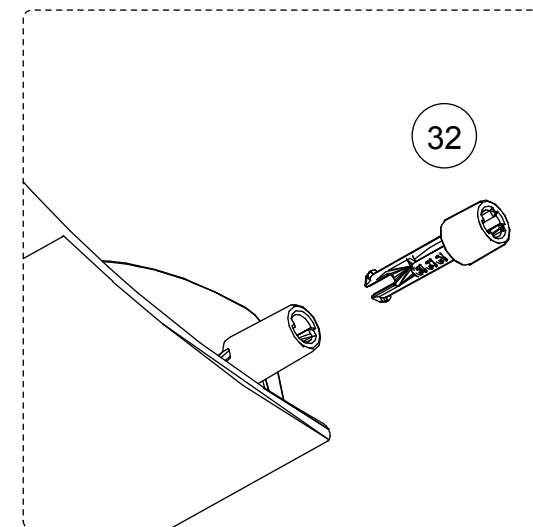
INDOOR UNIT  
 ASYG07KGTA  
 ASYG09KGTA  
 ASYG12KGTA  
 ASYG14KGTA



31

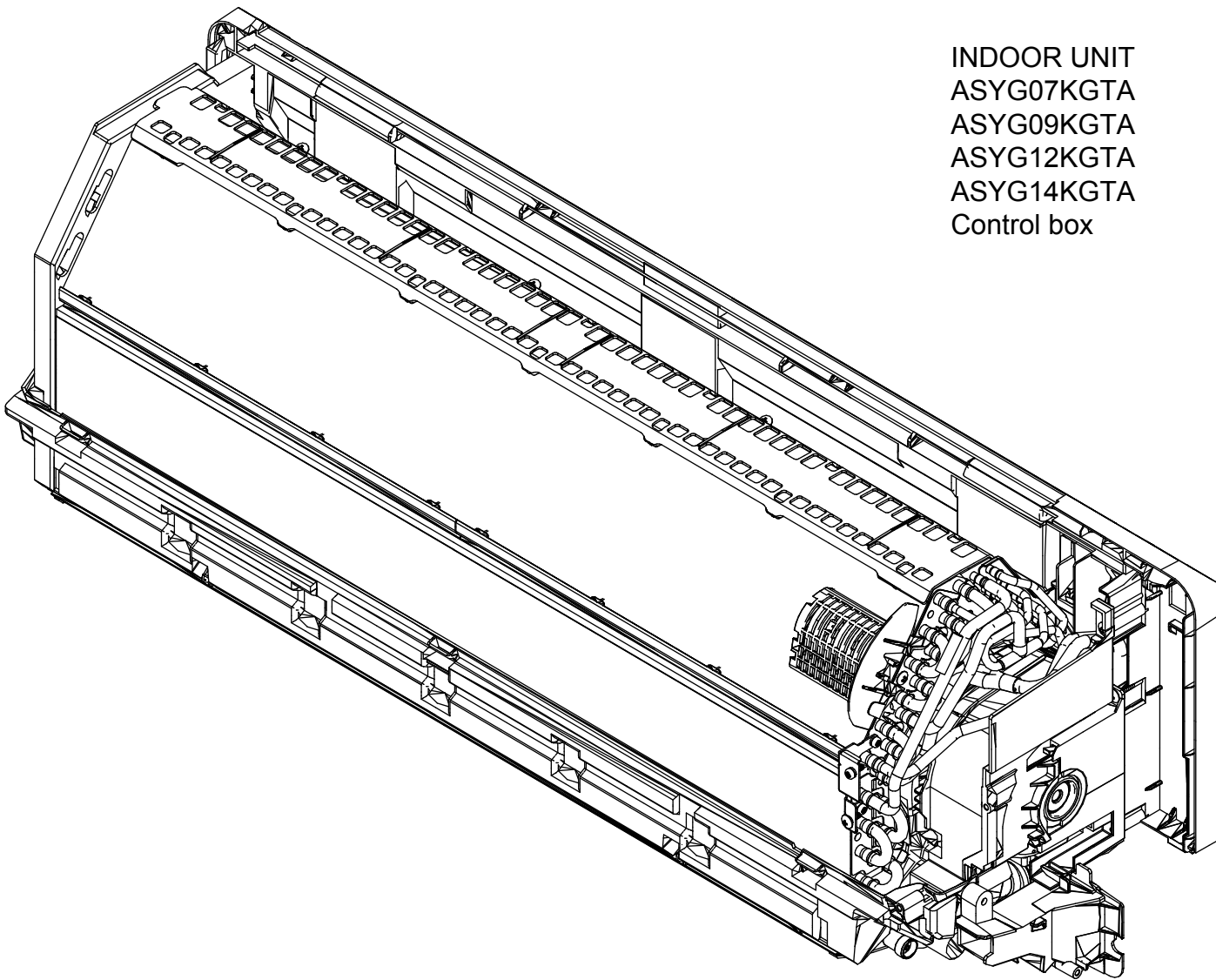


33

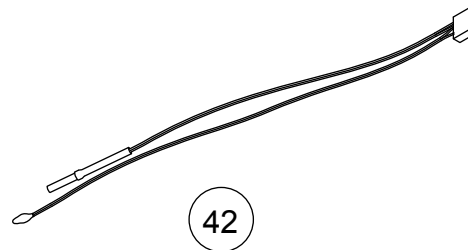
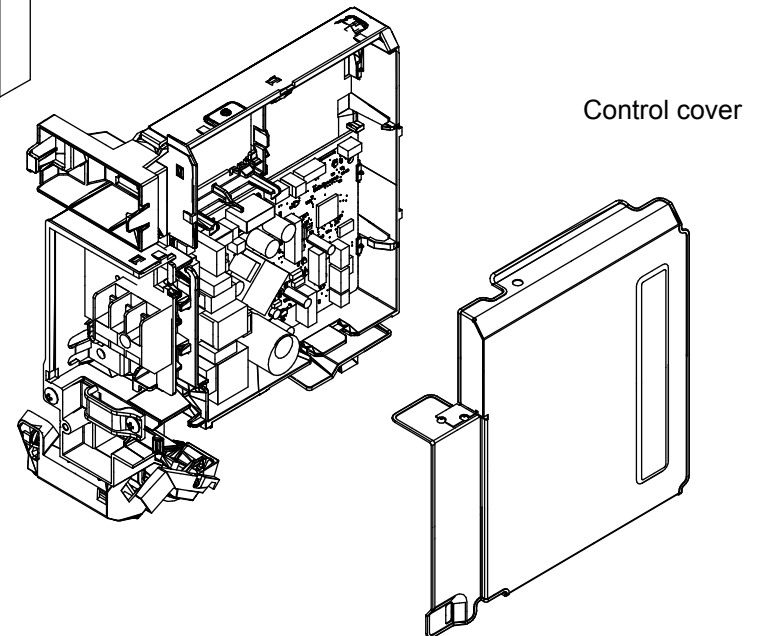
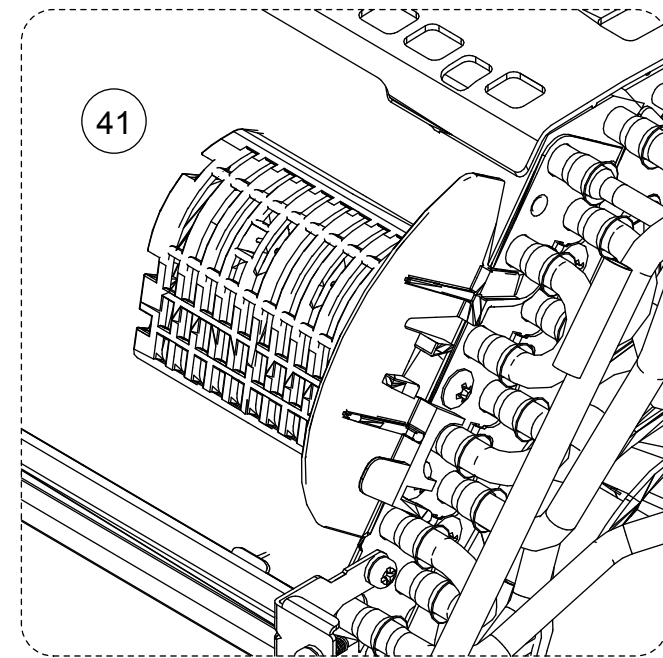


32

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



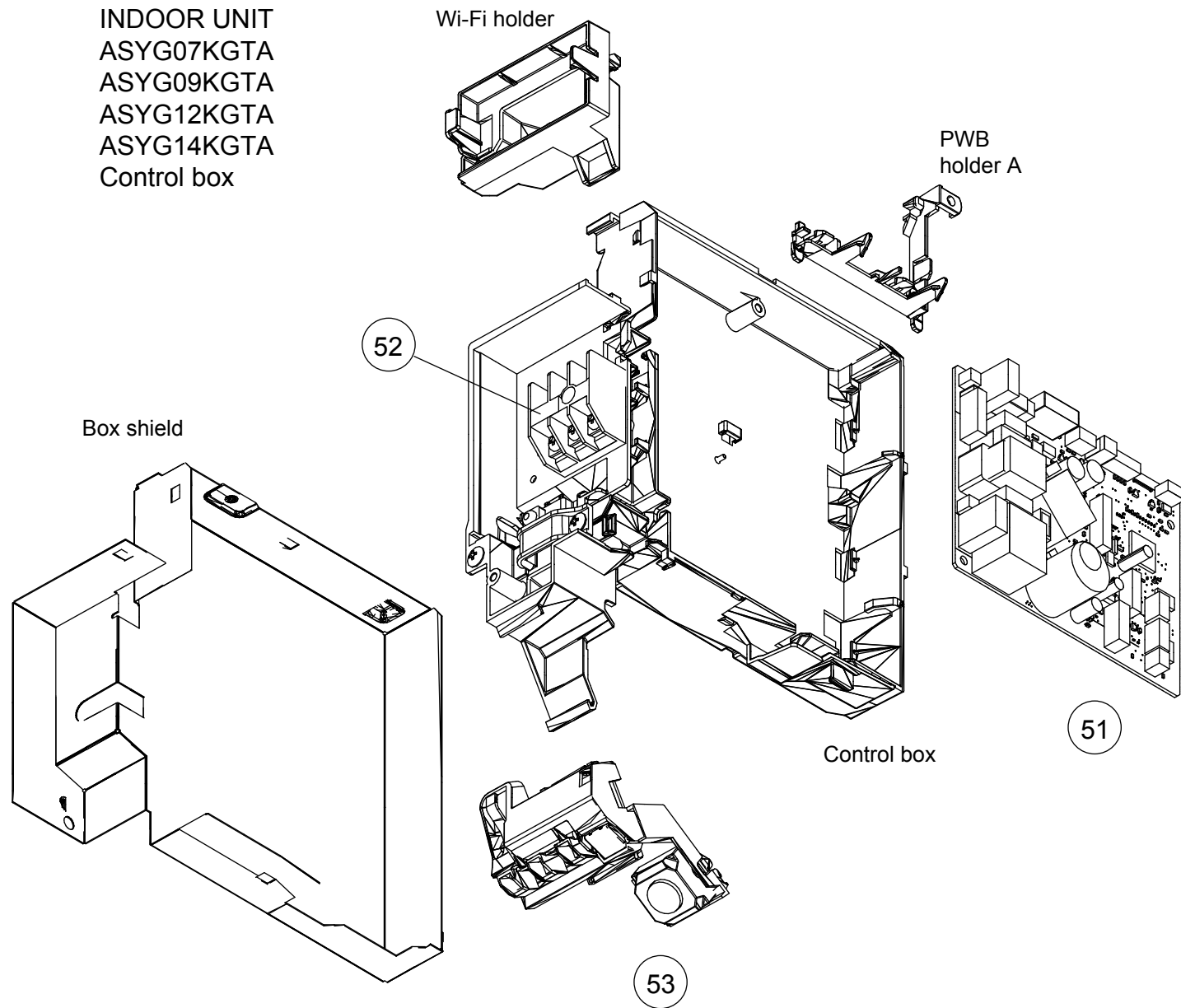
INDOOR UNIT  
 ASYG07KGTA  
 ASYG09KGTA  
 ASYG12KGTA  
 ASYG14KGTA  
 Control box



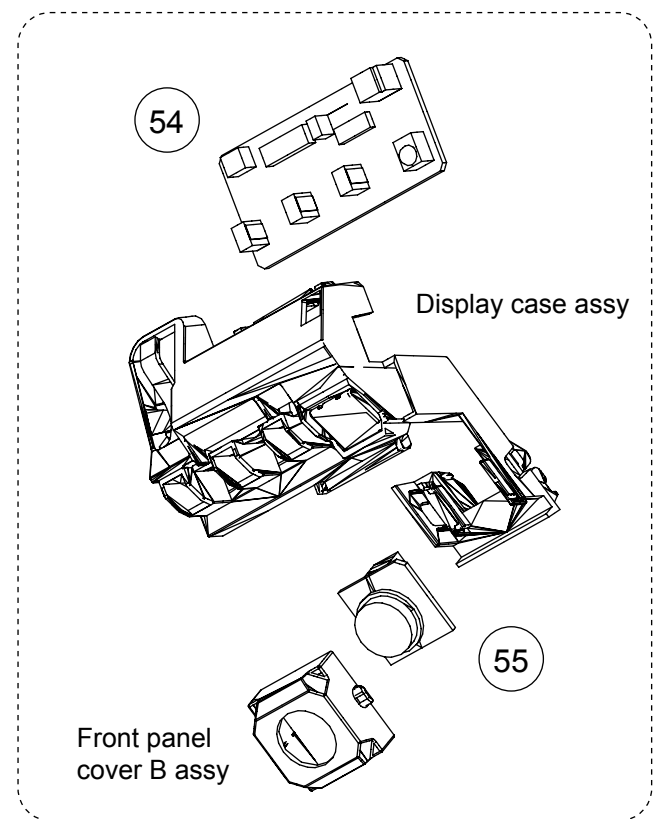
Ref.	Description	Part number
41	Room Thermistor Holder	9387467000
42	Thermistor Assy	9900627041

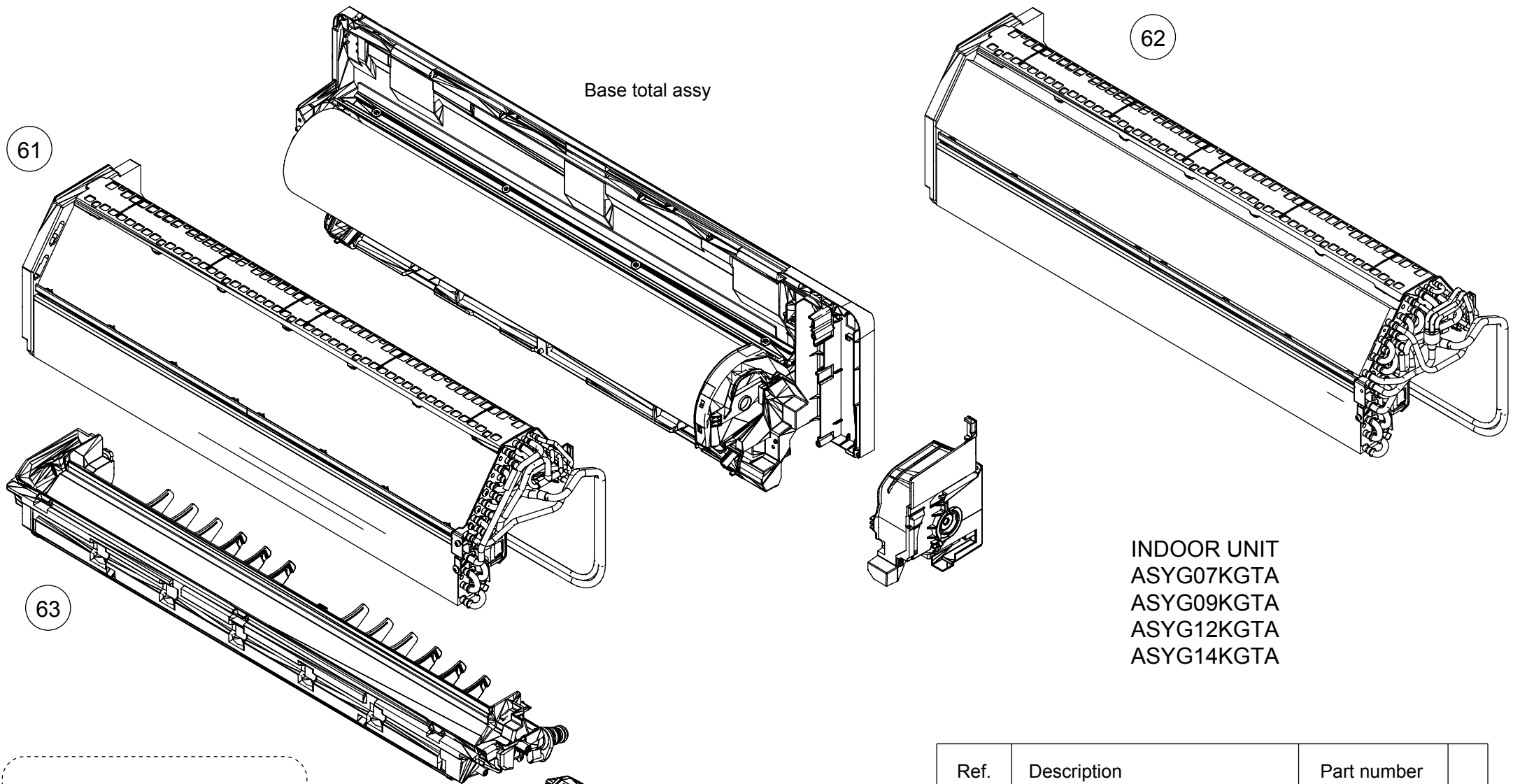


INDOOR UNIT  
 ASYG07KGTA  
 ASYG09KGTA  
 ASYG12KGTA  
 ASYG14KGTA  
 Control box

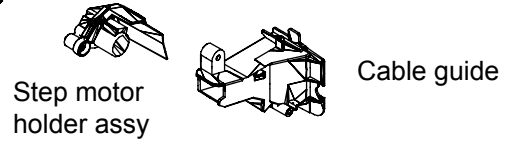
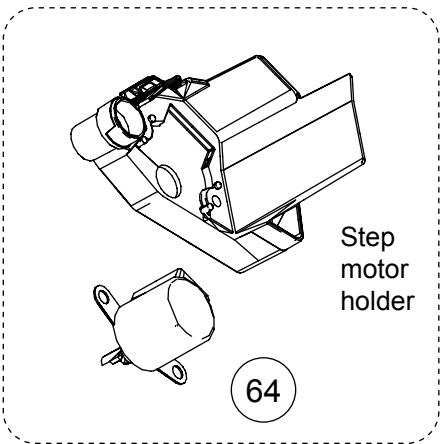


Ref.	Description	Part number
51	Main PCB (ASYG07)	9710782015
51	Main PCB (ASYG09)	9710782022
51	Main PCB (ASYG12)	9710782039
51	Main PCB (ASYG14)	9710782046
52	Terminal	9306489045
53	Display assy	9710858017
54	Indicato PCB	9710786013
55	Pyroelectric sensor	9317755061



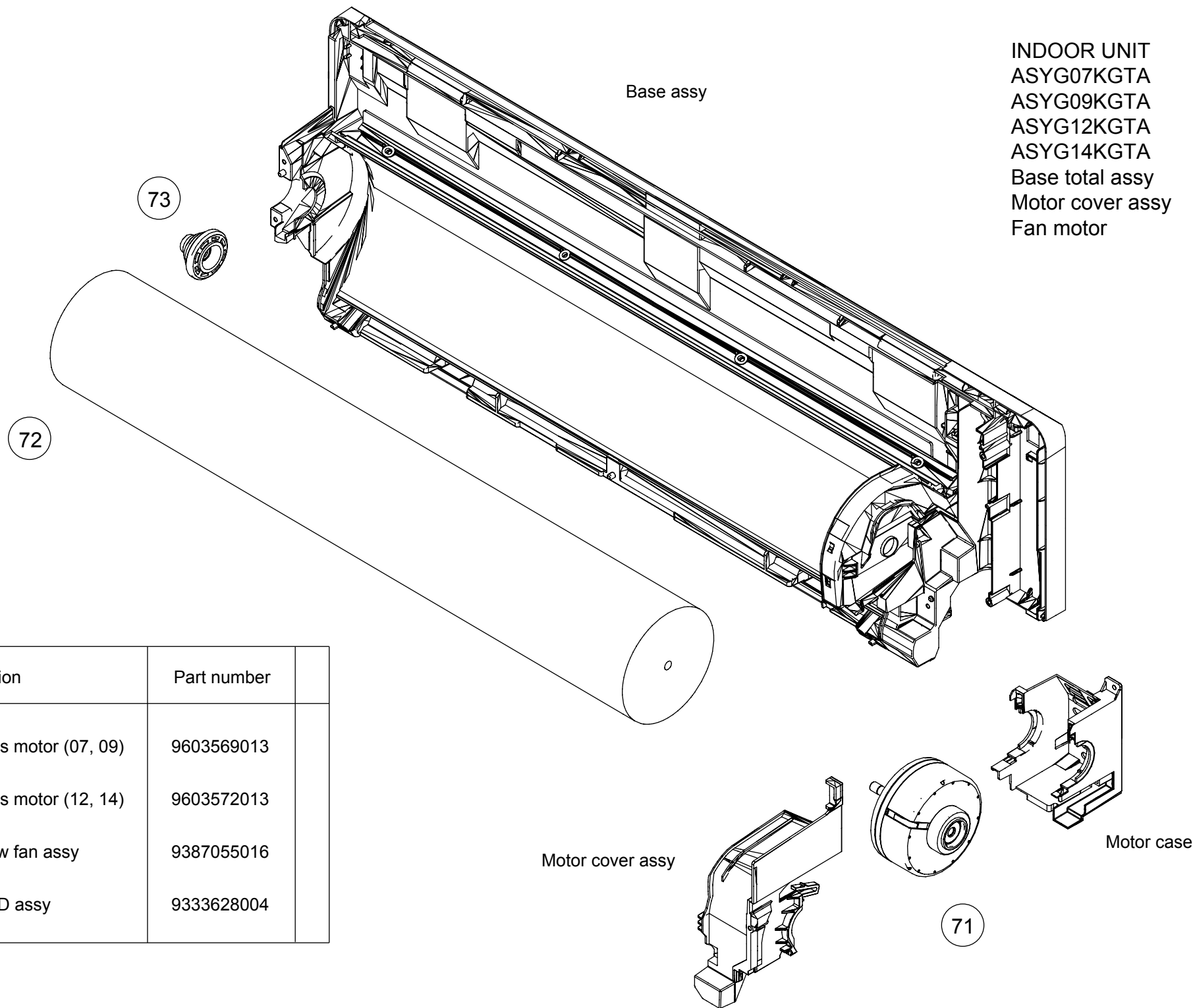


INDOOR UNIT  
 ASYG07KGTA  
 ASYG09KGTA  
 ASYG12KGTA  
 ASYG14KGTA



Ref.	Description	Part number	
61	Evaporator total assy (07, 09)	9387593006	
62	Evaporator total assy (12, 14)	9387593013	
63	Drain pan total assy	9387590005	
64	Step motor	9900384241	

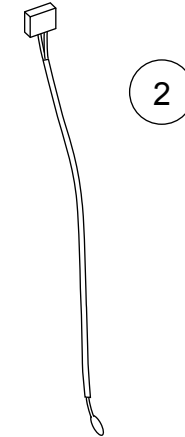
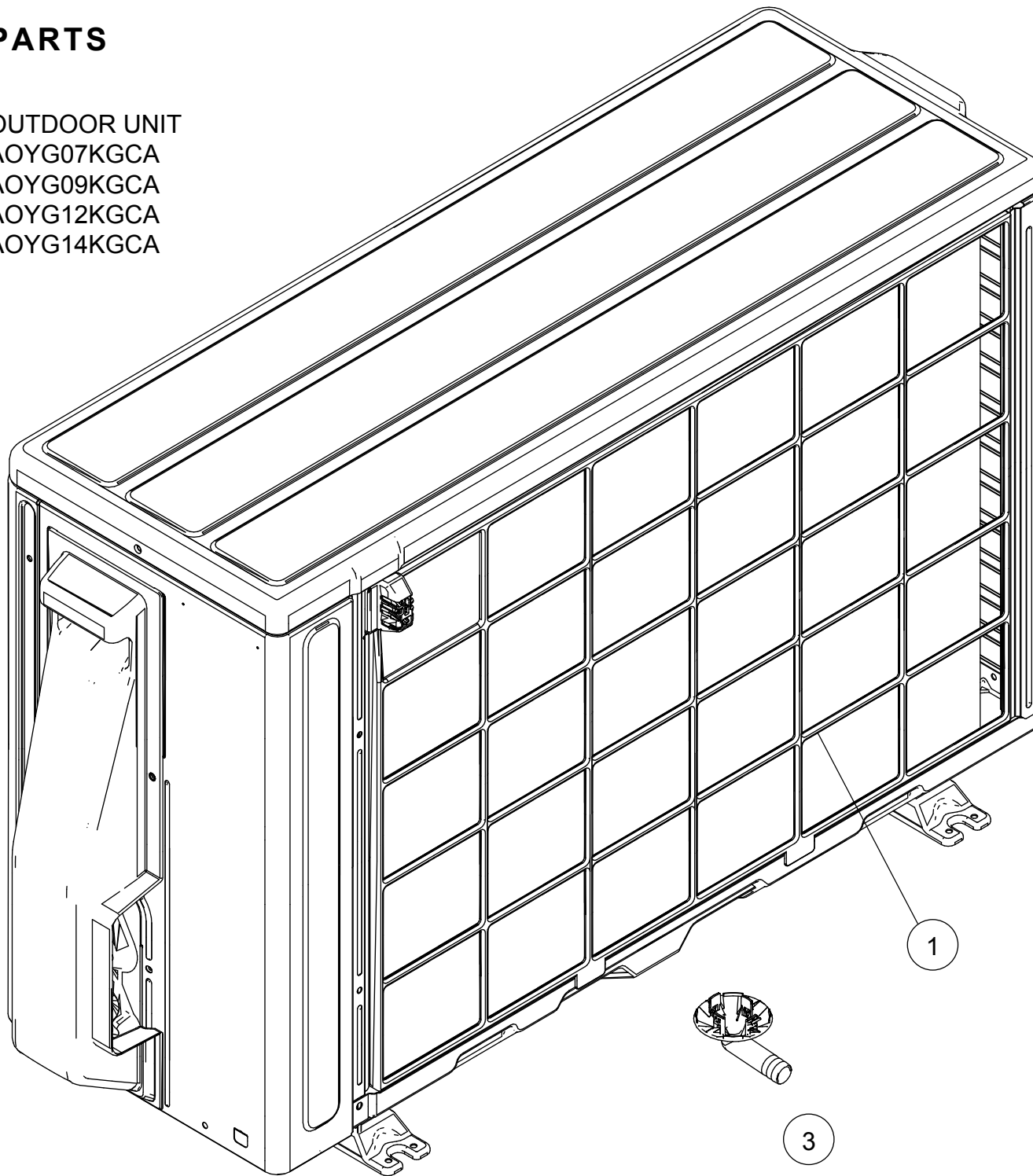
INDOOR UNIT  
 ASYG07KGTA  
 ASYG09KGTA  
 ASYG12KGTA  
 ASYG14KGTA  
 Base total assy  
 Motor cover assy  
 Fan motor



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	

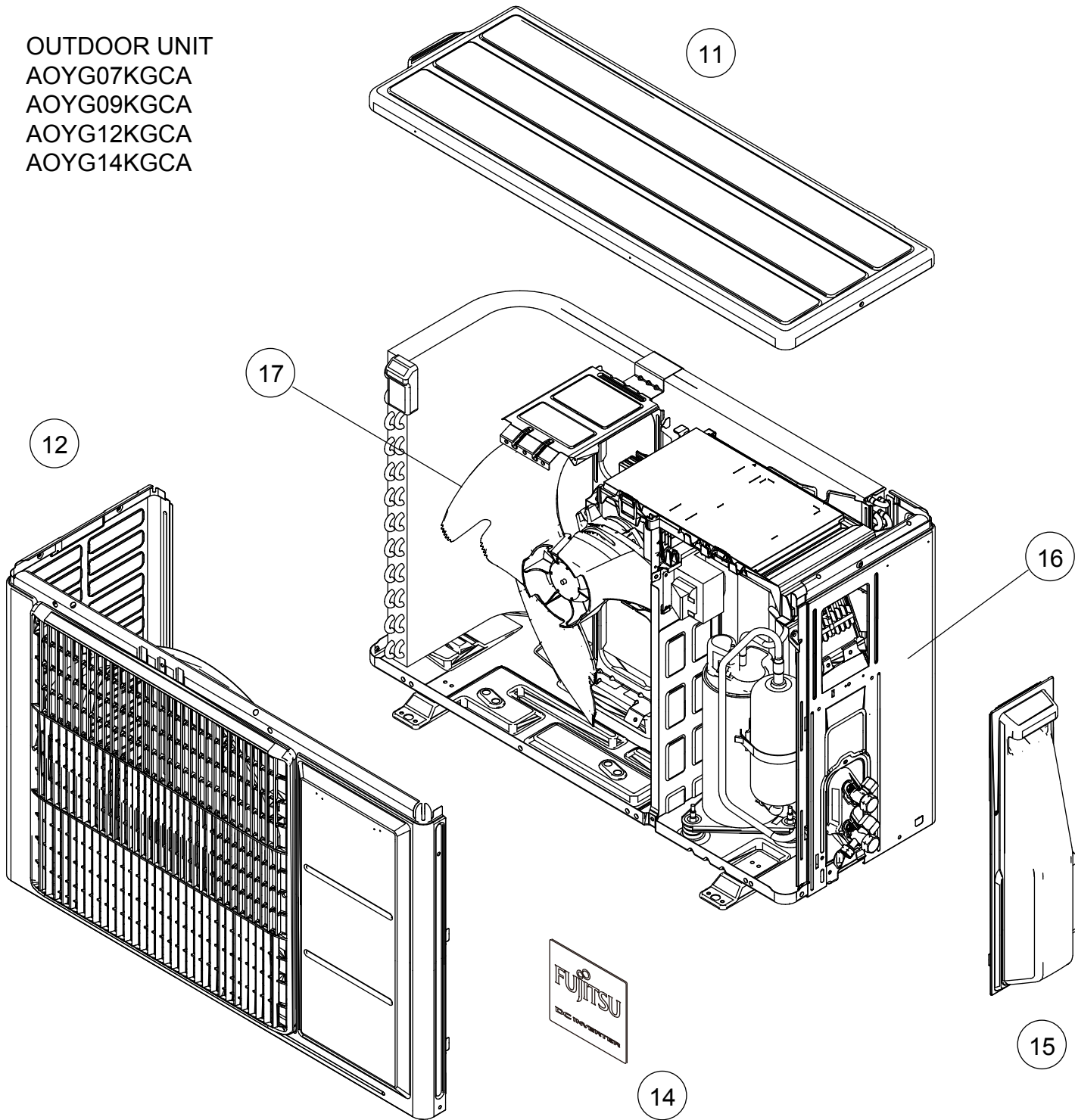
# PARTS

OUTDOOR UNIT  
 AOYG07KGCA  
 AOYG09KGCA  
 AOYG12KGCA  
 AOYG14KGCA

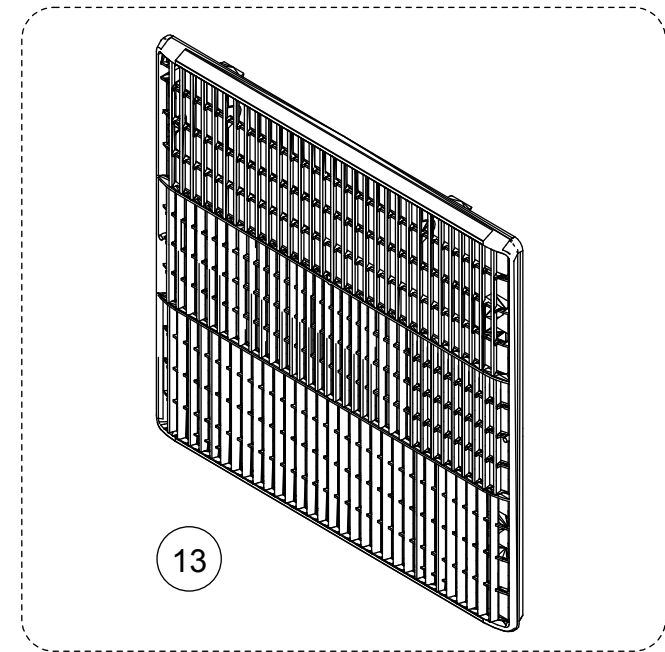


Ref.	Description	Part number
1	Protective net assy	9322811011
2	Outdoor thermistor (07, 09)	9900565060
2	Outdoor thermistor (12, 14)	9900580012
3	Drain pipe	9322144003

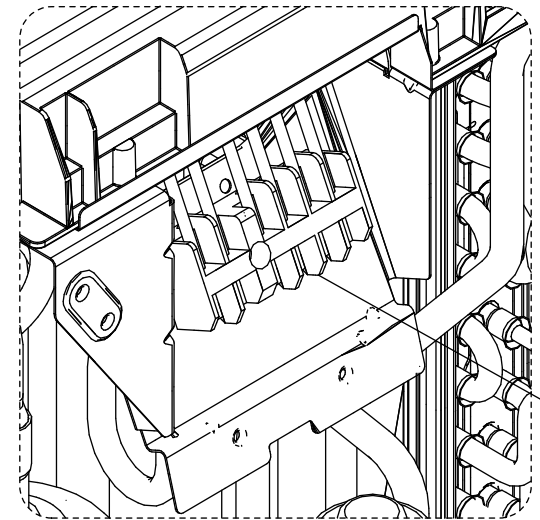
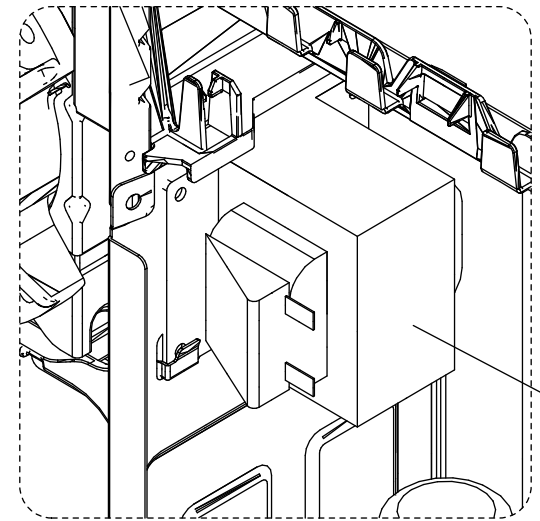
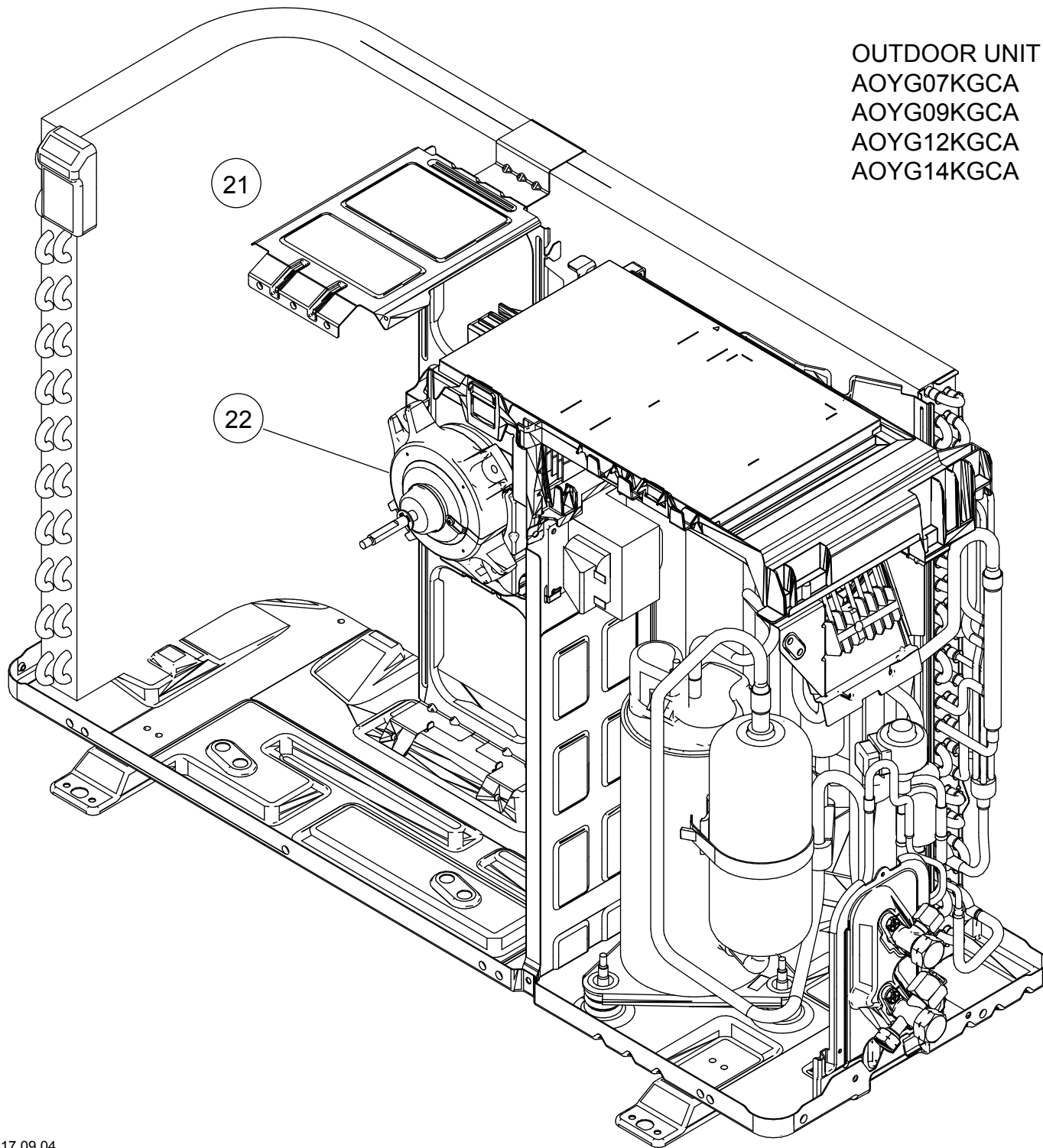
OUTDOOR UNIT  
 AOYG07KGCA  
 AOYG09KGCA  
 AOYG12KGCA  
 AOYG14KGCA



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

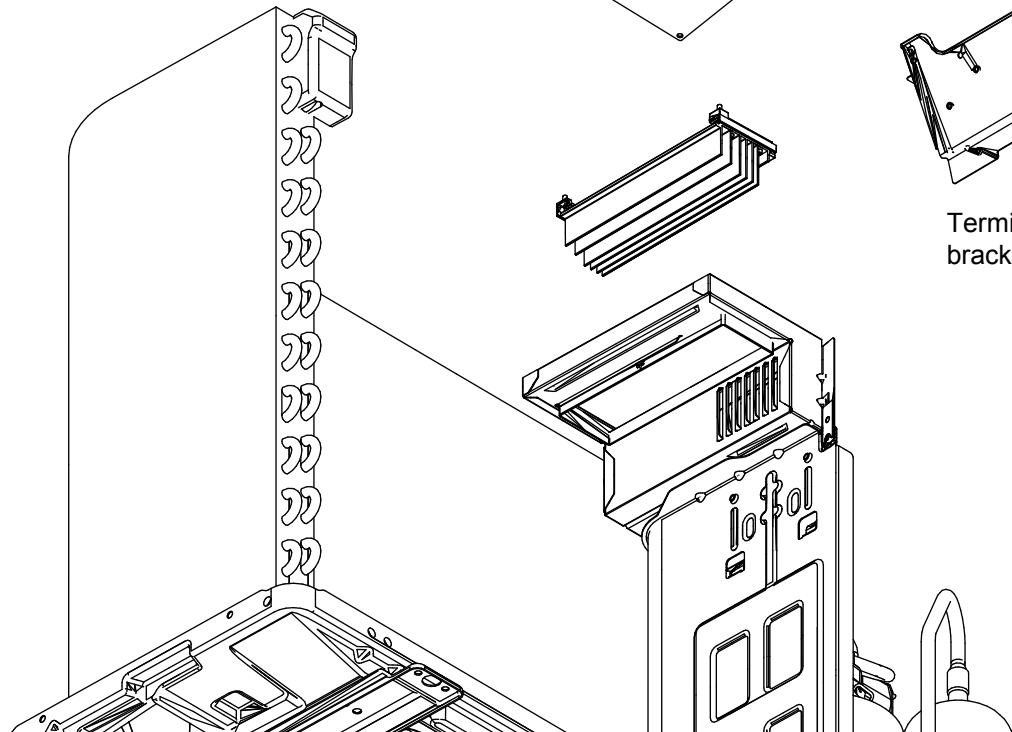
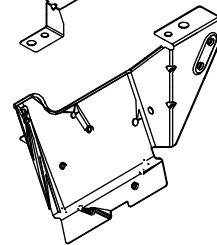
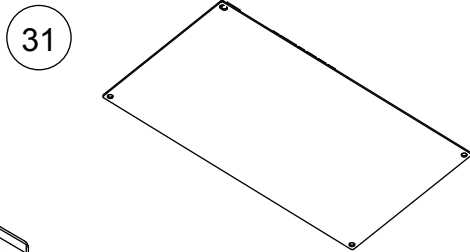
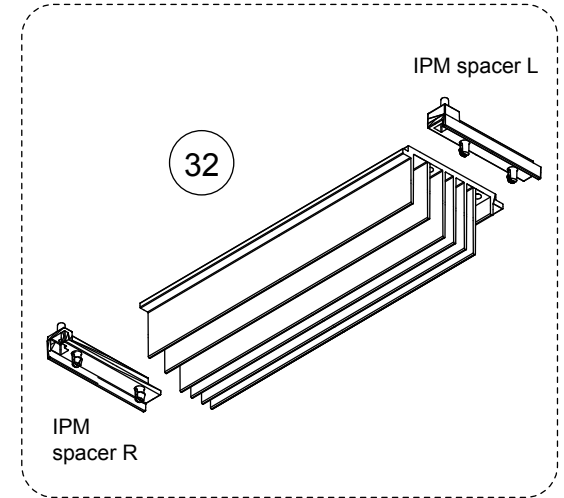
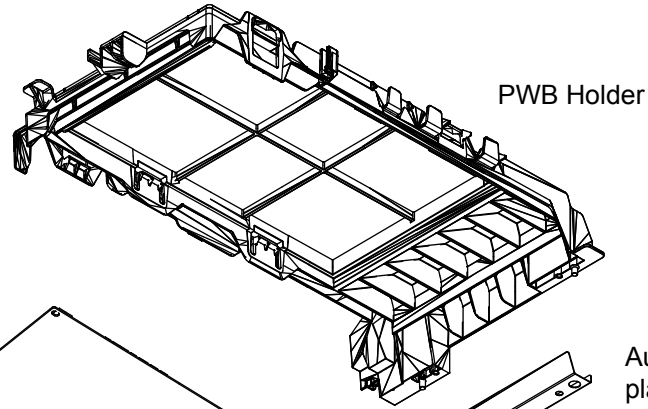
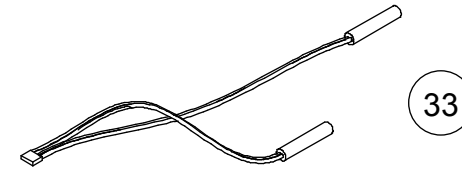
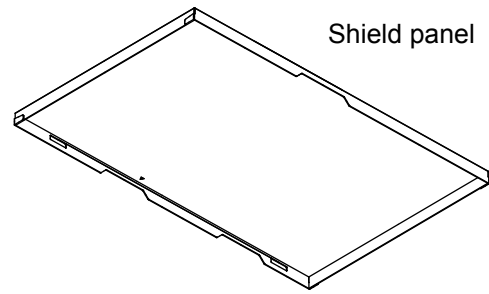


OUTDOOR UNIT  
 AOYG07KGCA  
 AOYG09KGCA  
 AOYG12KGCA  
 AOYG14KGCA



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

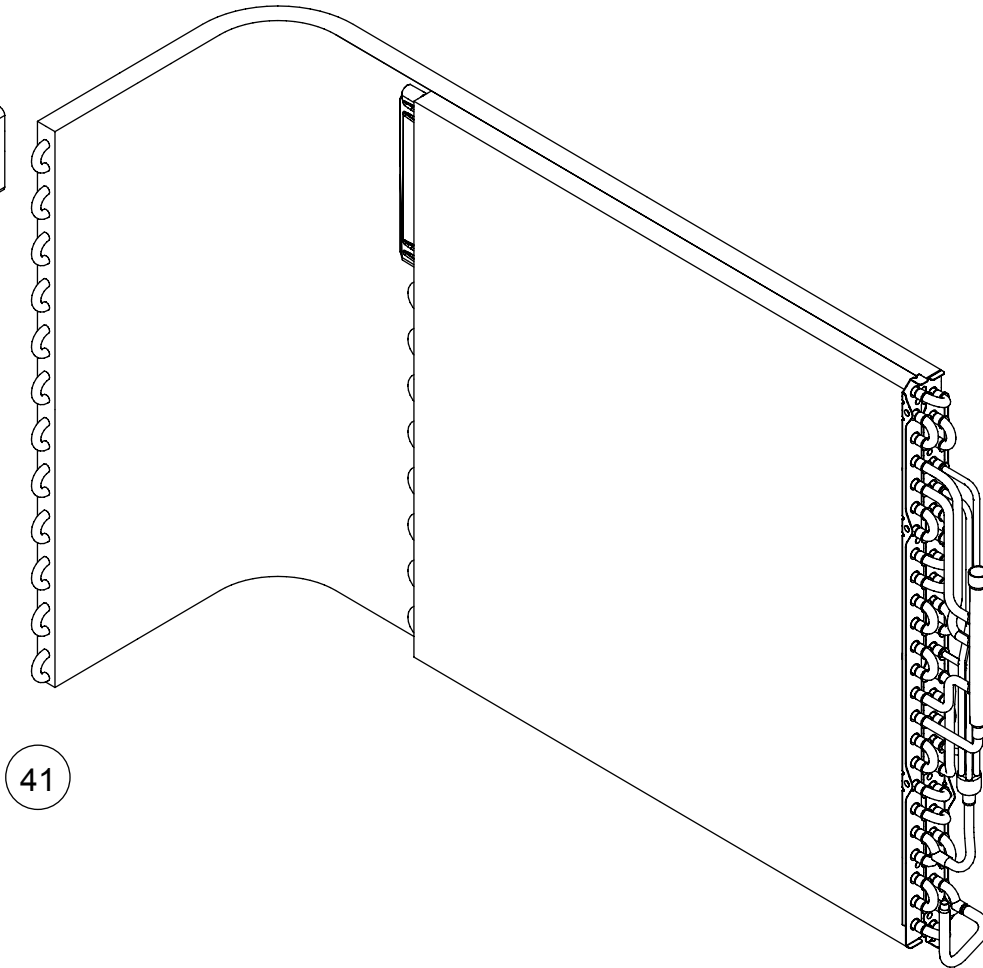
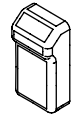
OUTDOOR UNIT  
 AOYG07KGCA  
 AOYG09KGCA  
 AOYG12KGCA  
 AOYG14KGCA



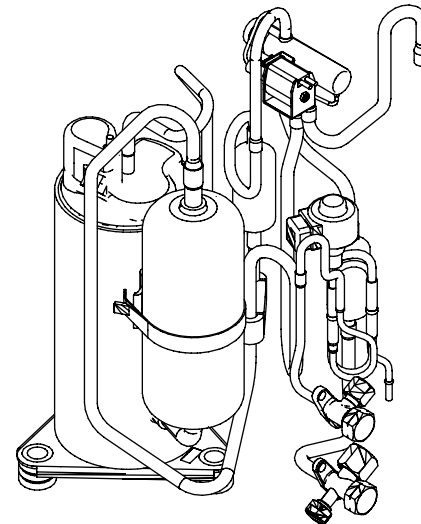
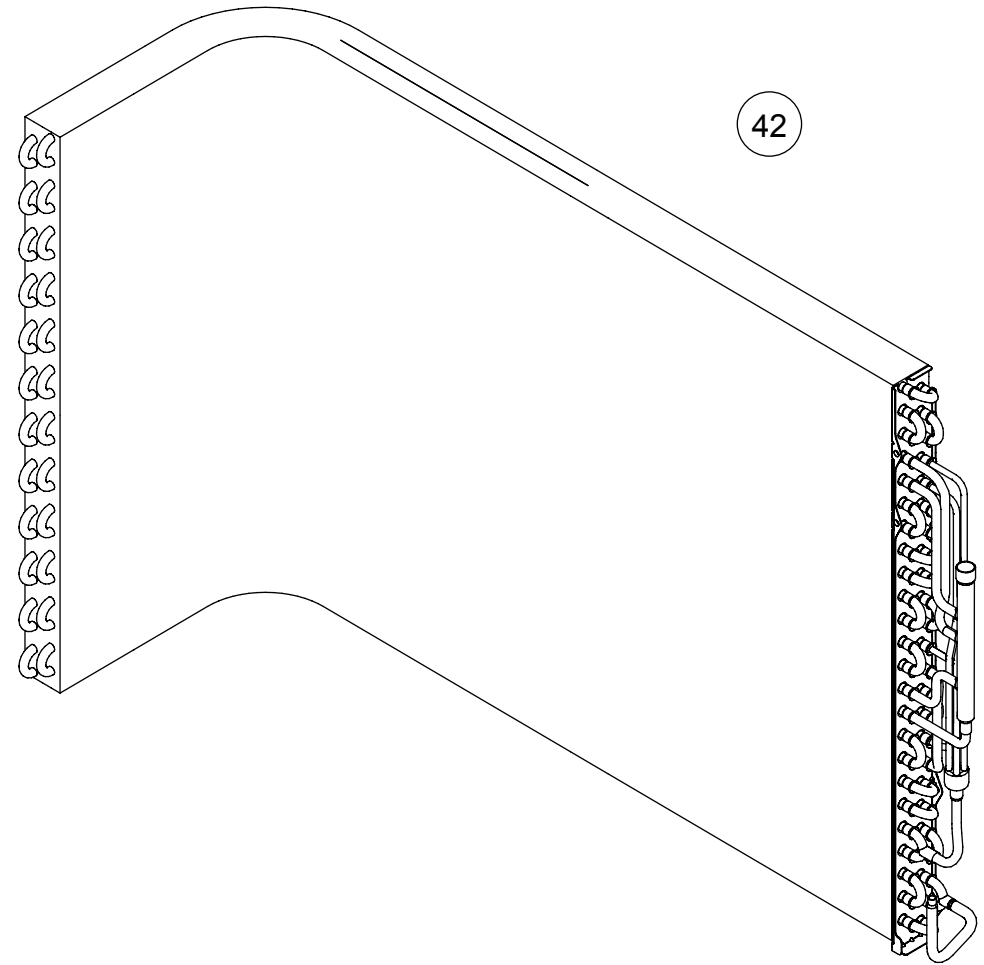
Ref.	Description	Part number
31	Service unit, Main PCB (07)	9709682104
31	Service unit, Main PCB (09)	9709682111
31	Service unit, Main PCB (12)	9709682128
31	Service unit, Main PCB (14)	9709682135
32	Heatsink	9322418005
33	Thermistor assy (AOYG07, 09)	9900727062
33	Thermistor assy (AOYG12, 14)	9900849016

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



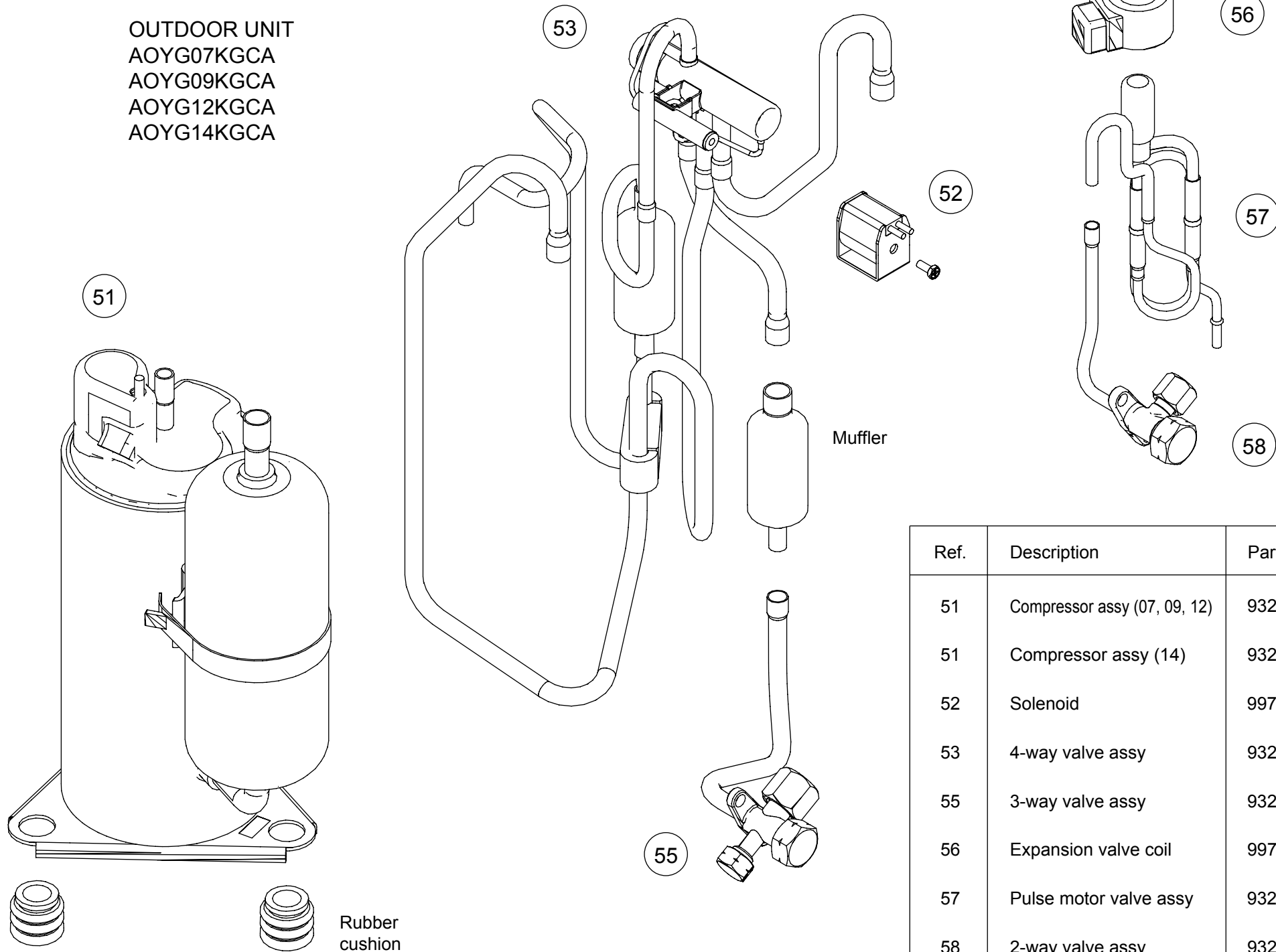
Hair pin cushion



OUTDOOR UNIT  
 AOYG07KGCA  
 AOYG09KGCA  
 AOYG12KGCA  
 AOYG14KGCA






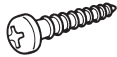



OUTDOOR UNIT  
 AOYG07KGCA  
 AOYG09KGCA  
 AOYG12KGCA  
 AOYG14KGCA



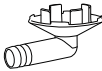
Ref.	Description	Part number
51	Compressor assy (07, 09, 12)	9322427007
51	Compressor assy (14)	9322429001
52	Solenoid	9970195006
53	4-way valve assy	9322444004
55	3-way valve assy	9322475008
56	Expansion valve coil	9970095122
57	Pulse motor valve assy	9322463005
58	2-way valve assy	9322474001

# 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

1709G4642