Internal Use Only

http://biz.lgservice.com

Ceiling & Floor Type Air Conditioner

SVC MANUAL(Exploded View)

MODEL : LV-C362FLA0
LV-C422FLA0
LV-C482GLA0
LV-C602HLA0
LV-C48BGLA0
LV-C60BHLA0

CAUTION

Before Servicing the unit, read the safety precautions in General SVC manual.
Only for authorized service personnel.

Contents

Functions

Indoor Unit

Operation ON/OFF by Remote controller

Sensing the Room Temperature

• Room temperature sensor. (Thermistor)

Room temperature control

• Maintains the room temperature in accordance with the Setting Temp.

Starting Current Control

• Indoor fan is delayed for 5 seconds at the starting.

Time Delay Safety Control

• Restarting is inhibited for approx. 3 minutes.

Indoor Fan Speed Control

• High, Med, Low, Chaos

Soft Dry Operation Mode

• Intermittent operation of fan at low speed.

Sleep Mode Auto Control

• The fan is switched to low(Cooling) speed.
• The unit will be stopped after 1, 2, 3, 4, 5, 6, 7 hours.

Natural Air Control by CHAOS Logic

• The fan is switched to intermittent or irregular operation
• The fan speed is automatically switched from high to low speed.

Airflow Direction Control

• The louver can be set at the desired position or swing up and down automatically.

Auto Operation

• The setting temperature, indoor fan speed and desired operation made are automatically set by fuzzy rule.

Remote Controller

Operation ON/OFF

Operation Mode Selection

(Cooling model only)

Cooling Operation Mode.(❄) Auto Operation Mode.(A)

Soft Dry Operation Mode.(💧)

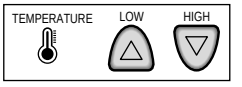
Fan Speed Selection

(Low) (Med) (High) (CHAOS)

Room Temperature Display

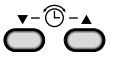
: High:39°C ↔ LOW:11°C

Temperature Setting

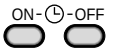


Cooling ┌ Down to 18°C
└ Up to 30°C,

Setting the Time or Timer



Timer Selection



: OFF, ON, OFF ↔ ON

Timer Setting

Timer Cancel

: Cancel Sleep Mode, Timer ON or Timer OFF.

Sleep Operation

: 1, 2, 3, 4, 5, 6, 7hr, Off Timer

Airflow Direction Control

Fan Operation Mode

: Fan Operates without cooling. (Cooling model only)

Reset

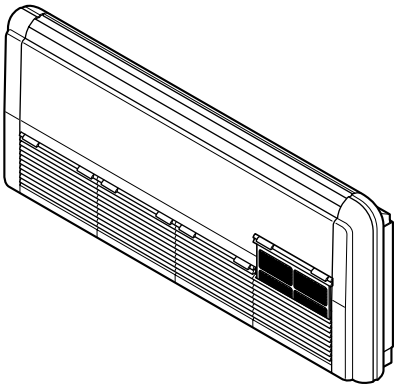
Product Specifications (Cooling & Heating)

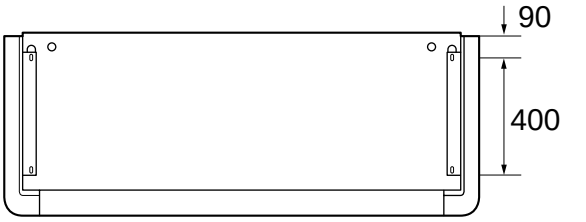
	Items		Unit	LV-C362FLA0	LV-C422FLA0	LV-C482GLA0
General	Cooling Capacity		kcal/hr(W)	9,072(10,551)	10,584(12,309)	12,096(1,4067)
			Btu/hr	36,000	42,000	48,000
	Heating Capacity		kcal/hr(W)	-	-	-
			Btu/hr	-	-	-
	Input	Cooling/Heating	W	3,950	4,400	5,100
	Running Current	Cooling/Heating	A	18.5	19.5	20
	Starting Current	Cooling/Heating	A	90	90	90
	Power Supply		Ø,V,Hz	1, 220, 60	1, 220, 60	1, 220, 60
	Power Factor		%	96.5	97	97
	E.E.R	Cooling	kcal/hr W(W/W)	2.29(2.66)	2.18(2.55)	2.27(2.64)
			Btu/hr W	9.1	8.5	9
	C.O.P	Heating	W/W(kcal/hr W)	-	-	-
			Btu/hr W	-	-	-
	Setting temperature range(cool/heat)			18~30/-	18~30/-	18~30/-
	Dehumidification Rate		l/h	4.26	4.91	4.96
	Refrigerant Control			Capillary Tube	Capillary Tube	Capillary Tube
	Refrigerant charge		g(oz), type	1,830(64.55),R22	2,650(93.4),R22	3,000(107.7),R22
Indoor	Indoor fan motor	Output	w			
		Model		KDE2FS0654	KDE2FS0654	KHF2G4001
		No. of Poles		4	4	4
		Input	W	250	260	380
		Running Current	A	1.17	1.17	1.73
		Capacitor	µF/Vac	5.0/370	7.5/370	7.5/370
	Indoor Fan	Type		Centrifugal	Centrifugal	centrifugal
		No. Used / Diameter	EA/inch(mm)	4/144	4/144	3/164
		Motor Step		3	3	3
	Indoor Fan RPM	Cooling(H/M/L)	rpm	1400/1200/1000	1450/1250/1050	1470/1240/1040
		Heating(H/M/L)	rpm	-	-	-
	Air Circulation	Indoor (H/M/L)	CMM(CFM)	31/27/22	33/29/24	36/32/27
	Noise Level(Sound Press,1m)	Indoor(H/M/L)	dB(A)±3	56/54/52	57/55/53	59/57/55
	Temperature Controller			Thermistor	Thermistor	Thermistor
	Indoor Coil	Tube Size (OD)	inch(mm)	9.7	9.7	9.7
		Fins per inch		13	13	13
		No. of Rows & Column		3R 10C	3R 10C	4R 10C
	Dimensions (W*H*D)	Indoor	inch(mm)	1550/650/208	1550/650/208	1550/650/272
	Net Weight	indoor	kg(lbs)	52(115)	52(115)	61(134)
Outdoor	Compressor	Locked Rotor Amp.	A	102	92 / 92	120
		Type		Reciprocating	Rotary / Rotary	Rotary
		Quantity	No	1	2	2
		Model		CR42K6-PFV-502	QP-306KC / QJ-278KC	QP-348KC
		Maker		Copeland	LG / LG	LG
		Capacity	Btu/hr	10,559(41,900)	22,600 / 19,200	25,700
		Motor Type		PCS	PSC / PSC	PSC
		Motor Input	W	3,850	2,152 / 1,980	2,424
		Oil Type		SUNISO 3GS	SUNISO 4GSI / SUNISO 4GSI	SUNISO 4GSI
		Oil Charge	cc	1,331	700 / 500	700
		O.L.P Type(model name)		Internal	Internal / Internal	Internal
	Outdoor Coil	Tube Size (OD)	inch(mm)	0.275(7.0)	0.375(9.52)	0.375(9.52)
		Fins per inch		18	17	17
		No. of Rows & Column		2R36C	1R 44C	1R 44C
	Outdoor fan motor	Output	W	125	90*2	90*2
		Model		ARE306B01	AMR071B9	AMR071B9
		No. of Poles		6	6	6
		Input	W	190	168*2	168*2
		Running Current	A		0.81*2	0.81*2
		Capacitor	µF/Vac	6/370	6.0/370	6.0/370
	Outdoor Fan	Type		Propeller	Propeller	Propeller
		No. Used / Diameter	EA/mm	1/460	2/460	2/460
		Discharge	Side/Top	Side Discharge	Side Discharge	Side Discharge
		Speed	rpm	1040	900	900
	Air Circulation	Outdoor	CMM(CFM)	58(2,048)	49(1,730)*2	49(1,730)*2
	Noise Level(Sound Press,1m)	Outdoor	dB(A)±3	58	58	58
	SVC Valve	Liquid	inch(mm)	3/8(9.52)	3/8(9.52)	1/2(12.7)
		Gas	inch(mm)	5/8(15.88)	3/4(19.05)	3/4(19.05)
	Dimensions (W*H*D)	Outdoor	inch(mm)	34.3*31.5*12.6(870*800*320)	35.43*48.23*14.57(900*1225*370)	35.43*48.23*14.57(900*1225*370)
	Net Weight	Outdoor	kg(lbs)	72(158.7)	90(198.3)	90(198.3)
Outdoor	Power Supply Cable		No.* mm^2	3*8.5	3*8.5	3*8.5
	Connecting Cable		No.* mm^2	4*0.75	4*0.75	4*0.75
	Connecting Tube (Ø. Socket Flare)	Liquid Side	inch(mm)	3/8(9.52)	3/8(9.52)	1/2(12.7)
		Gas Side	inch(mm)	5/8(15.88)	3/4(19.05)	3/4(19.05)
		Length, std	m	7.5	7.5	7.5
		Max length/elevation	m	15/12.5	15/12.5	15/12.5
	Drain hose(Inner Ø)	Indoor Unit/Outdoor Unit	mm	22.22	22.22	22.22/
	Packing Dimension	Indoor(W*H*D)	inch(mm)	1635/751/293	1635/751/293	1635/751/358
		Outdoor(W*H*D)	inch(mm)	40.2*34.2*17.3(1020*870*440)	42.1*52.1*19.5(1070*1300*495)	42.1*52.1*19.5(1070*1300*495)
	Stuffing Quantity	With(Without) S/Parts	20/40ft	34/76	22/48	21/45

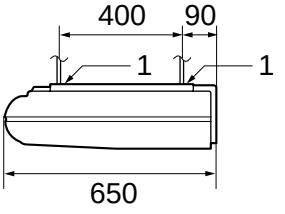
	Items		Unit	LV-C602HLA0	LV-C48BGLA0	LV-C60BHLA0
General	Cooling Capacity		kcal/hr(W)	15,120/(17,584)	12,096(14,067)	15,120(17,584)
			Btu/hr	60,000	48,000	60,000
	Heating Capacity		kcal/hr(W)	-	-	-
			Btu/hr	-	-	-
	Input	Cooling/Heating	W	6,300	5,200	6,300
	Running Current	Cooling/Heating	A	29	14.5	18.2
	Starting Current	Cooling/Heating	A	101	90	124
	Power Supply		Ø,V,Hz	1, 220, 60	3, 220, 60	3, 220, 60
	Power Factor		%	98.8	92.6	89.3
	E.E.R	Cooling	kcal/hr W(W/W)	2.33(2.72)	2.22(2.57)	2.14(2.48)
			Btu/hr W	9.25	8.8	8.5
	C.O.P	Heating	W/W(kcal/hr W)	-	-	-
			Btu/hr W	-	-	-
	Setting temperature range(cool/heat)			18~30/-	18~30/-	18~30/-
	Dehumidification Rate		l/h	7.67	5.2	7.1
	Refrigerant Control			Capillary Tube	Capillary Tube	Capillary Tube
	Refrigerant charge		g(oz), type	4,050(145.4),R22	3,800(134),R22	4,680(165),R22
Indoor	Indoor fan motor	Output	w			
		Model		KHF2G4002	KHF2G4001	KHF2G4002
		No. of Poles		4	4	4
		Input	W	450	380	450
		Running Current	A	2.1	1.73	2.1
		Capacitor	µF/Vac	10.0/370	7.5/370	10.0/370
	Indoor Fan	Type		Centrifugal	Centrifugal	Centrifugal
		No. Used / Diameter	EA/inch(mm)	4/164	3/164	4/164
		Motor Step		3	3	3
	Indoor Fan RPM	Cooling(H/M/L)	rpm	1,450/1,150/1,000	1,470/1,240/1,040	1,450/1,150/1,000
		Heating(H/M/L)	rpm	-	-	-
	Air Circulation	Indoor (H/M/L)	CMM(CFM)	37/31/27	36/32/27	37/31/27
	Noise Level(Sound Press,1m)	Indoor(H/M/L)	dB(A)±3	61/59/57	59/57/55	61/59/57
	Temperature Controller			Thermistor	Thermistor	Thermistor
	Indoor Coil	Tube Size (OD)	inch(mm)	9.7	9.7	9.7
		Fins per inch		13	13	13
		No. of Rows & Column		4R 12C	4R 10C	4R 12C
	Dimensions (W*H*D)	Indoor	inch(mm)	1,550/650/292	1,550/650/272	1,550/650/292
	Net Weight	indoor	kg(lbs)	63(137)	61(134)	63(137)
Outdoor	Compressor	Locked Rotor Amp.	A	142	92	124
		Type		Reciprocating	Reciprocating	Scroll
		Quantity	No	1	1	1
		Model		CRN5-0500-PFV	AVB5549EXT	SR061RAA
		Maker		Copeland	TECUMSEH	LG
		Capacity	Btu/hr	62,700	48,096	62,000
		Motor Type		Condenser Inducted	PSC	Three Phase Induction Motor
		Motor Input	W	6,270	4,610	5,535
		Oil Type		SUNISO 4GDID	WITCO LP200T	SUNISO 4GSI
		Oil Charge	cc	1,774	2,000	1,800
		O.L.P Type(model name)		Internal	Internal	Internal
	Outdoor Coil	Tube Size (OD)	inch(mm)	0.375(9.52)	0.375(9.52)	0.375(9.52)
		Fins per inch		16	17	16
		No. of Rows & Column		2R22C	2R 44C	2R 44C
	Outdoor fan motor	Output	W	90*2	90*2	90*2
		Model		AMR071B9	AMR071B9	AMR071B9
		No. of Poles		6	6	6
		Input	W	168*2	168*2	168*2
		Running Current	A	0.81*2	0.81*2	0.81*2
		Capacitor	µF/Vac	6.0/370	6.0/370	6.0/370
	Outdoor Fan	Type		Propeller	Propeller	Propeller
		No. Used / Diameter	EA/mm	2/382	2/382	2/382
		Discharge	Side/Top	Side Discharge	Side Discharge	Side Discharge
		Speed	rpm	900	900	900
	Air Circulation	Outdoor	CMM(CFM)	49(1,730)*2	49(1,730)*2	49(1,730)*2
	Noise Level(Sound Press,1m)	Outdoor	dB(A)±3	62	62	62
	SVC Valve	Liquid	inch(mm)	1/2(12.7)	1 / 2 (12.7)	1 / 2 (12.7)
		Gas	inch(mm)	3/4(19.05)	3 / 4 (19.05)	3 / 4 (19.05)
	Dimensions (W*H*D)	Outdoor	inch(mm)	35.43*48.23*14.57(900*1225*370)	35.43*48.23*14.57(900*1225*370)	35.43*48.23*14.57(900*1225*370)
	Net Weight	Outdoor	kg(lbs)	95(209)	95(209)	95(209)
Outdoor	Power Supply Cable		No.* mm^2	3*8.5	3*8.5	3*8.5
	Connecting Cable		No.* mm^2	4*0.75	4*0.75	4*0.75
	Connecting Tube (Ø. Socket Flare)	Liquid Side	inch(mm)	1/2(12.7)	1/2(12.7)	1/2(12.7)
		Gas Side	inch(mm)	3/4(19.05)	3/4(19.05)	3/4(19.05)
		Length, std	m	7.5	7.5	7.5
		Max length/elevation	m	15/12.5	15/12.5	15/12.5
	Drain hose(Inner Ø)	Indoor Unit/Outdoor Unit	mm	22.22/	22.22	22.22/
	Packing Dimension	Indoor(W*H*D)	inch(mm)	1635/751/378	1635/751/358	1635/751/378
		Outdoor(W*H*D)	inch(mm)	42.1*52.1*19.5(1070*1300*495)	42.1*52.1*19.5(1070*1300*495)	42.1*52.1*19.5(1070*1300*495)
	Stuffing Quantity	With(Without) S/Parts	20/40ft	21/44	21/45	21/44

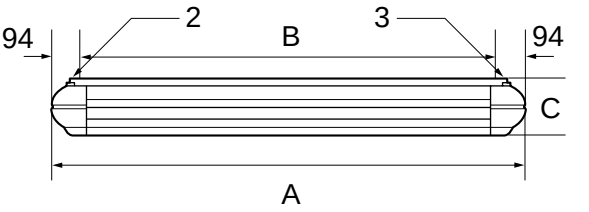
Dimensions

(1) Indoor Unit



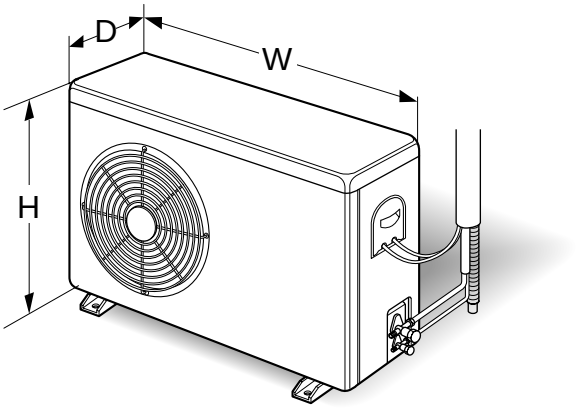




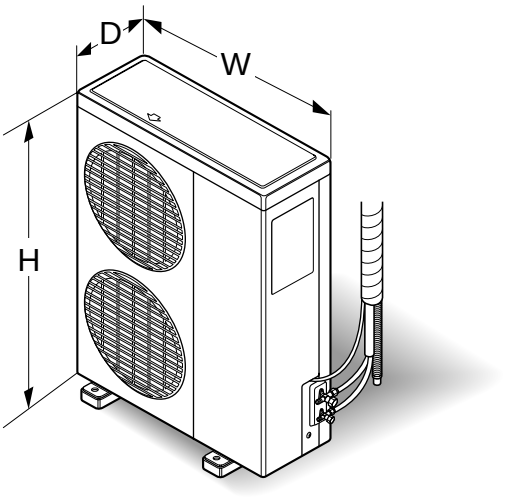


Dimension / Capacity	A	B	C
36K BTU/h	1550	1362	236
42K BTU/h	1550	1362	236
48K BTU/h	1550	1362	272
60K BTU/h	1550	1362	292

(2) Outdoor Unit



(36K)

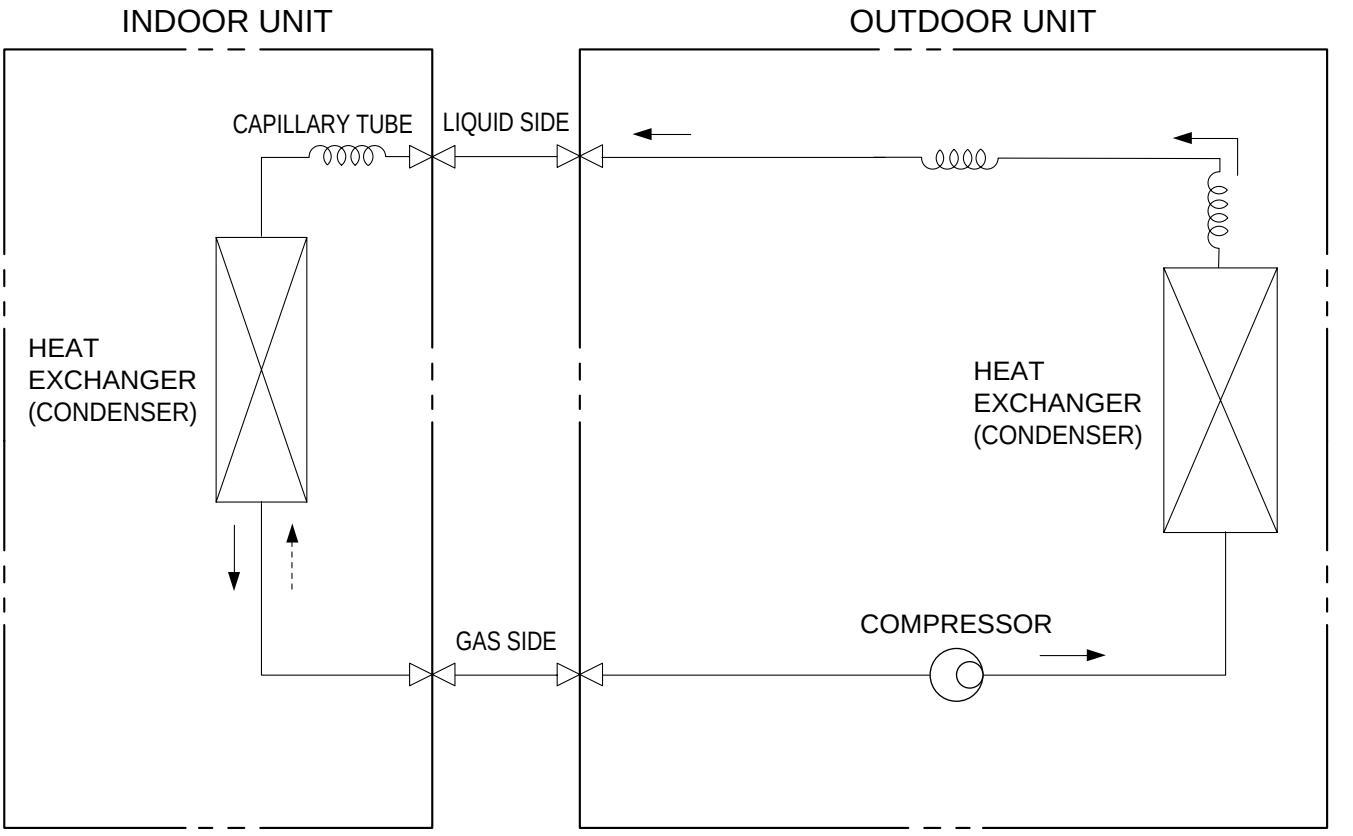


(42K/48K/60K)

MODEL / DIM	**36K**	**42K**	**48K**	**60K**
W(mm)	870	900	900	900
H(mm)	800	1,220	1,220	1,220
D(mm)	320	370	370	370

Refrigeration Cycle Diagram

• COOLING ONLY (LV-C362FLA0, LV-C422FLA0, LV-C482GLA0, LV-C602HLA0, LV-C48BGLA0, LV-C60BHLA0)



MODEL	Pipe size(Diameter: ø)		Piping length(m)		Elevation(m)		*Additional refrigerant (g/m)
	Gas	Liquid	Rated	Max.	Rated	Max.	
36K	5/8"	3/8"	7.5	15	5	10	30
42K	3/4"	3/8"	7.5	15	5	10	35
48K	3/4"	1/2"	7.5	15	5	10	40
60K	3/4"	1/2"	7.5	15	5	10	45

• Rated performance for refrigerant line length of: .7.5m

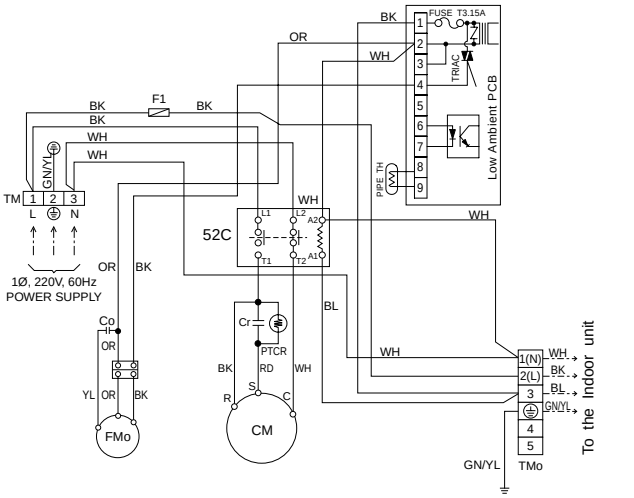
• If 36K Model is installed at a distance of 15m, 225g of refrigerant should be added (15-7.5)x30g=225g

Wiring Diagram

COOLING ONLY

Model : LV-C362FLA0

OUTDOOR WIRING DIAGRAM



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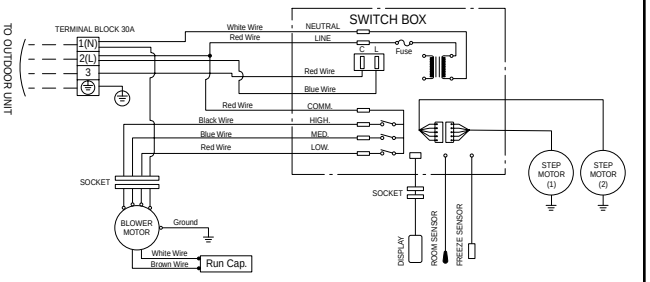
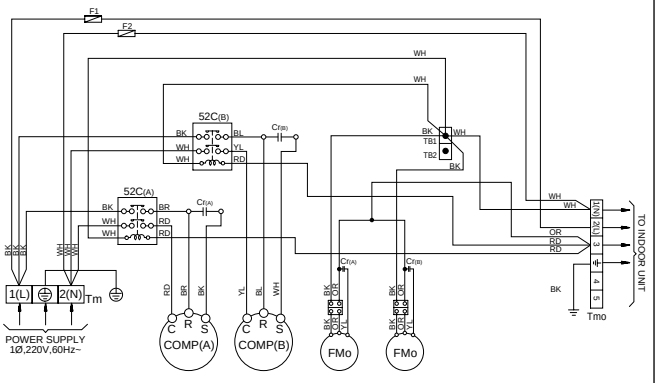
INDOOR WIRING DIAGRAM



Model : LV-C422FLA0 / LV-C482GLA0

OUTDOOR WIRING DIAGRAM



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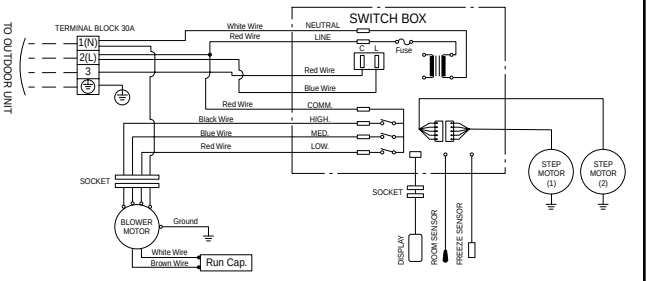
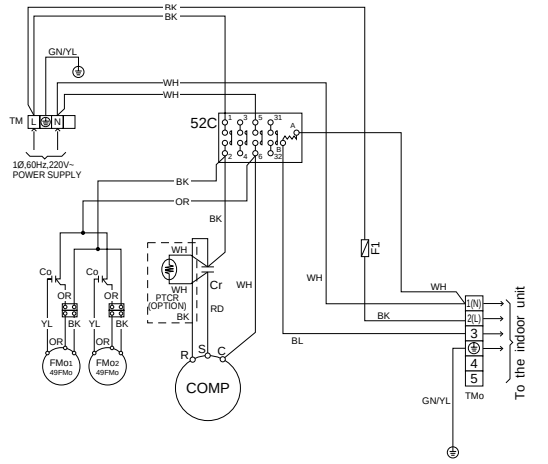
INDOOR WIRING DIAGRAM



COOLING ONLY

Model : LV-C602HLA0

OUTDOOR WIRING DIAGRAM



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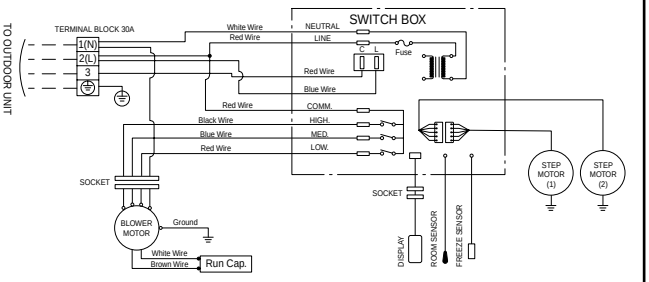
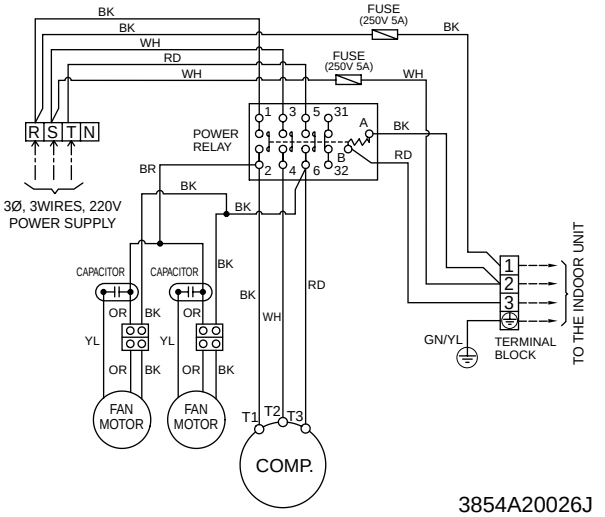
INDOOR WIRING DIAGRAM



COOLING ONLY

Model : LV-C488GLA0

OUTDOOR WIRING DIAGRAM



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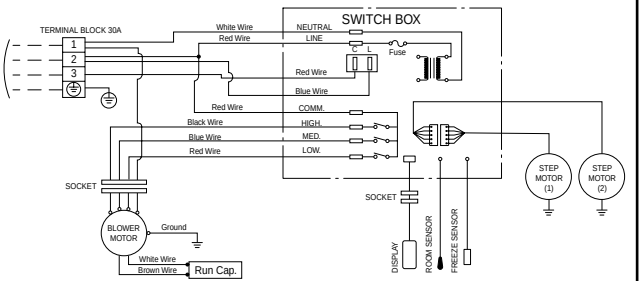
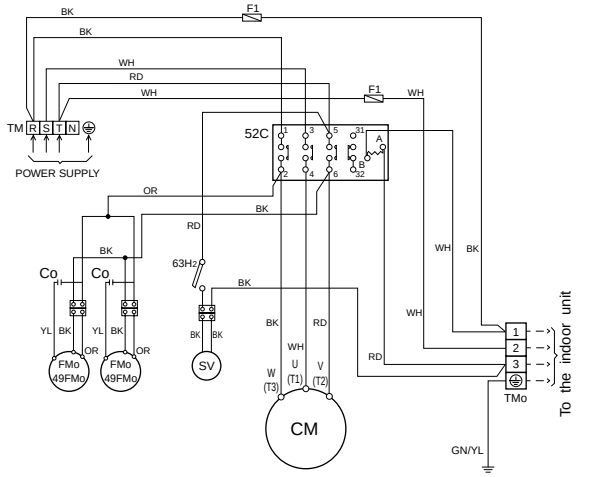
INDOOR WIRING DIAGRAM



COOLING ONLY

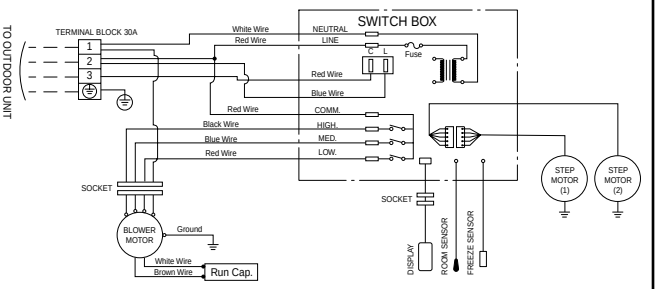
Model : LV-C608HLA0

OUTDOOR WIRING DIAGRAM



3854A20119T

INDOOR WIRING DIAGRAM



Operation Details

(1) The function of main control

1. Time Delay Safety Control

• 3min… The compressor is ceased for 3minutes to balance the pressure in the refrigeration cycle. (Protection of compressor)

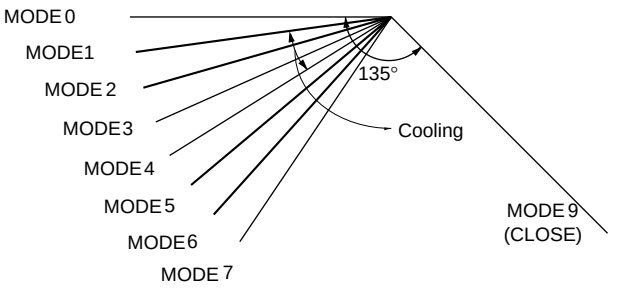
• 30sec… The 4-way valve is ceased for 30sec. to prevent the refrigerant-gas abnormal noise when the Heating operation is OFF or switched to the other operation mode while compress is off. While compressor is running, it takes 3~5 seconds to switch.

2. Airflow Direction Control

• This function is to swing the louver up and down automatically and to set it at the desired position.

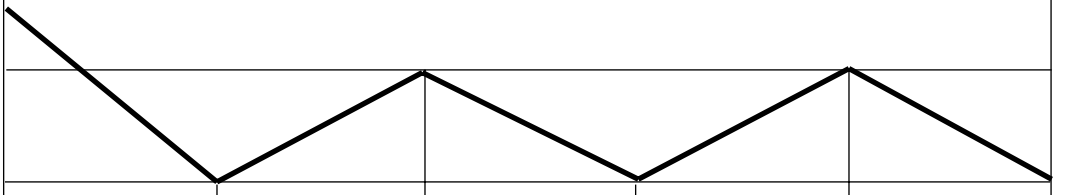
• The procedure is as the following.

1st ; Press the ON/OFF Button to operate the product.
2nd ; Press the Airflow Direction Control Button to swing the louver up and down automatically.
3nd ; Repress the Airflow Direction Control Button to set the louver as the desired position.



3. Cooling Mode Operation

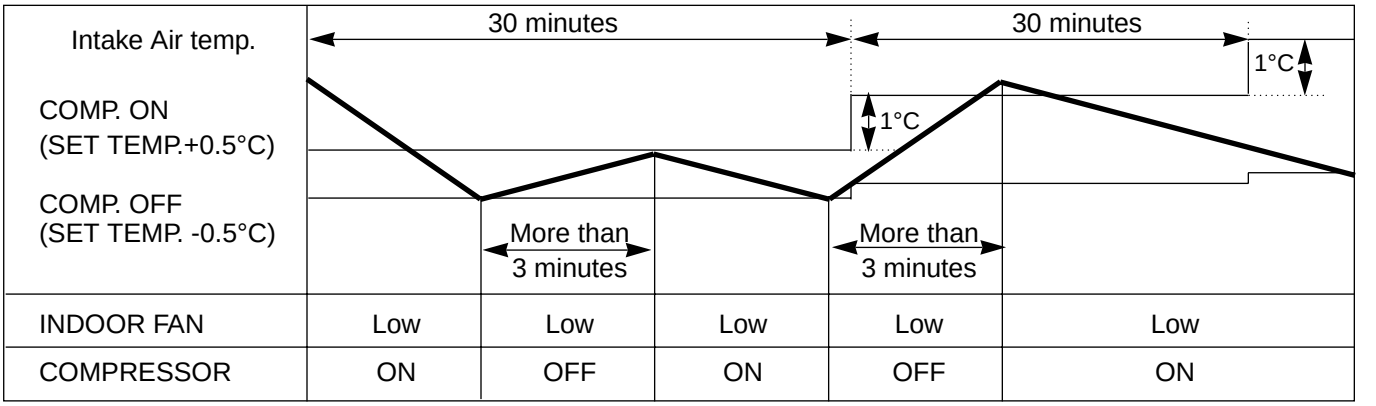
• When selecting the Cooling(❄) Mode Operation, the unit will operate according to the setting by the remote controller and the operation diagram is as following



INDOOR FAN	Selecting fan speed	Low	Selecting fan speed	Low	Selecting fan speed
COMPRESSOR	ON	OFF	ON	OFF	ON

4. Cooling Mode with Sleep Mode Auto Operation

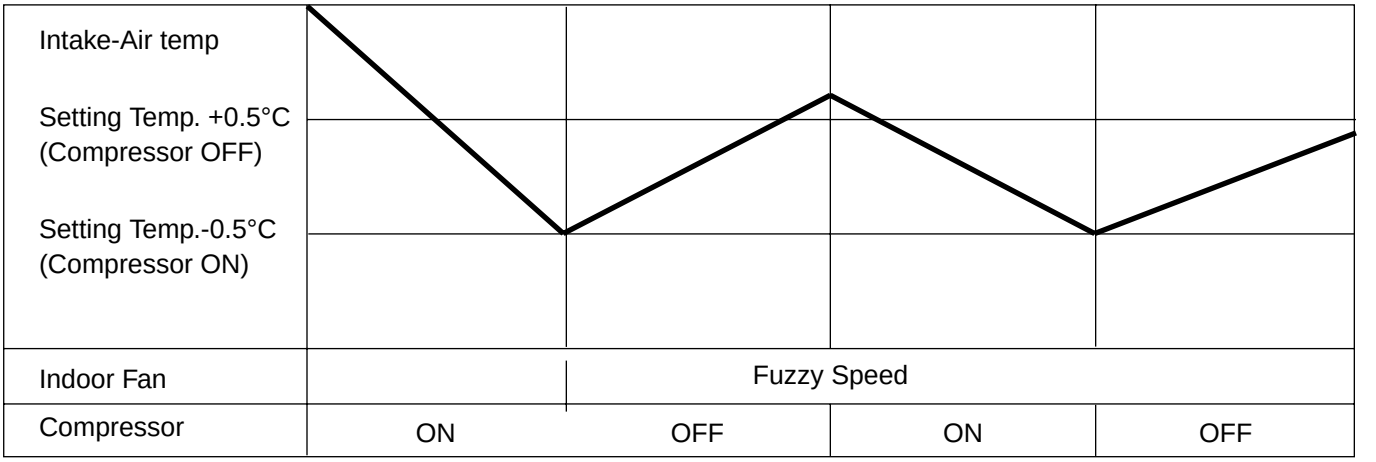
- When selecting the Cooling(❄) combined with the Sleep Mode Auto Operation(A), the operation diagram is as following.
- The setting temperature will be raised by 1°C 30minutes later and by 2°C 1 hour later.
- The operation will be stopped after 1, 2, 3, 4, 5, 6, 7 hours.



INDOOR FAN	Low	Low	Low	Low	Low
COMPRESSOR	ON	OFF	ON	OFF	ON

5. Auto Operation

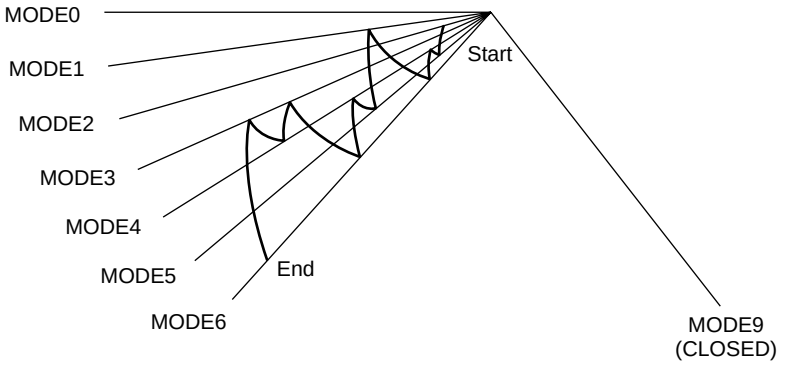
Operation Condition	Intake-air Temperature	Setting temperature	Fan speed	Air Direction Control
When Auto Operation initial start	Over 26°C	25°C	Controlled by Fuzzy logic	In this mode, when pressing the vertical air diretion control. Button, louvers moves to 1/f rhythm (refer to page 15)
	Over 24°C~below 26°C	Intake air -1°C		
	Over 22°C~below 24°C	Intake air -0.5°C		
	Over 20°C~below 22°C	intake air temperture		
	below 20°C	20°C		
When pressing room temperature setting button during Auto Operation	Over 20°C~below 30°C	Fuzzy control		
	below 20°C	20°C		
	over 30°C	30°C		



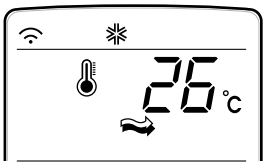
Indoor Fan	Fuzzy Speed			
Compressor	ON	OFF	ON	OFF

• **Auto Operation for Soft Dry**
The Setting temperature will be same as that of the current intake-air temperature.
- Compressor ON temperature; Setting temperature +1°C
- Compressor OFF temperature; Setting temperature -0.5°C

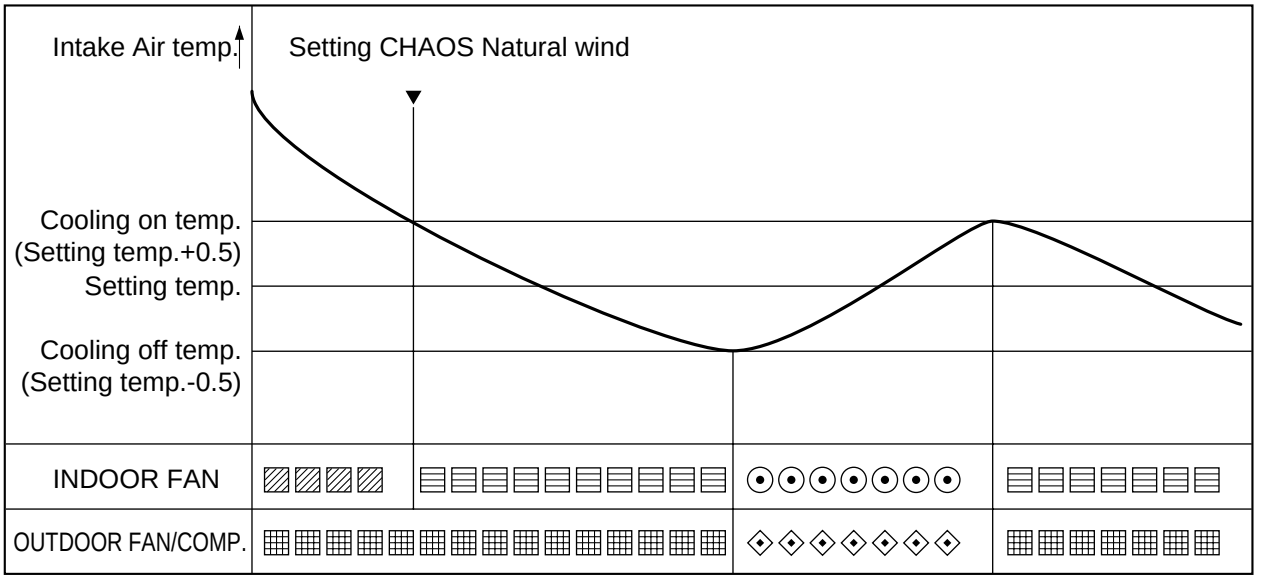
• 1/f rhythm louver operation : In Auto operation mode, when pressing the vertical air direction control button, louver moves as following cycle.



6. Natural wind by CHAOS logic



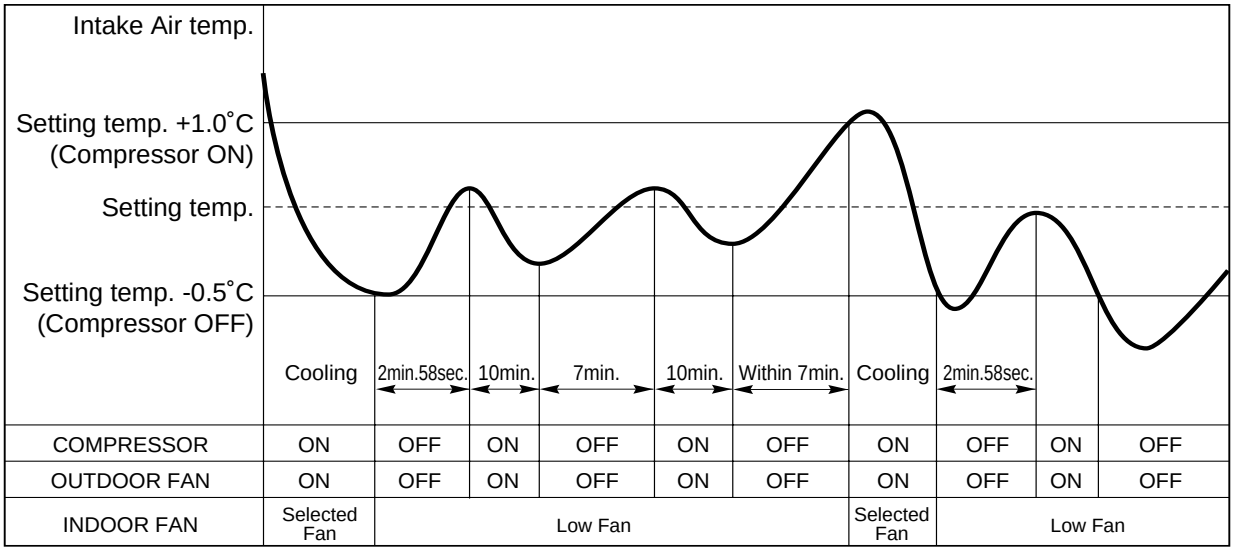
For more fresh feeling than other fan speed mode, press the indoor fan Speed Selector and set to CHAOS mode. In this mode, the wind blows like natural breeze by automatically changing fan speed according to the CHAOS logic.



GRAPH of Natural wind by the CHAOS logis (During Cooling operation)

7. Soft Dry Operation

- During Soft Dry Operation, the compressor ON temperature is the setting temperature plus 1°C, the compressor OFF temperature is the setting temperature minus 0.5°C.
- When the room temperature rises over the compressor ON temperature, the operation mode is switched to the cooling mode.
- When the room temperature falls between the compressor ON temperature and OFF temperature, the operation mode is switched to the Soft Dry Operation.
  In this temperature range, 10min. Dry Operation, 7min operation OFF. During 10min Dry operation, if the room temperature falls below compressor OFF temperature, Compressor OFF.
- In micom dehumidify mode, control of fan speed is as following.



COMPRESSOR	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
OUTDOOR FAN	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
INDOOR FAN	Selected Fan	Low Fan					Selected Fan	Low Fan		

8. Protection of the evaporator pipe from frosting

If the temperature of the indoor coil is below 0°C after 7 minutes from starting the compressor, the compressor and the outdoor fan is stopped, and then after 3 minute delay of the compressor and the temperature of the indoor coil is over 7°C, the compressor and the outdoor fan is reoperated.
Indoor fan operates at low speed (comp. OFF) or at selected speed (comp. ON)

9. Test Operation

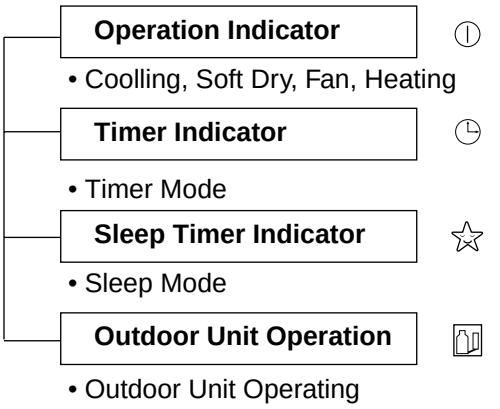
- When pressing forced operation switch about 3 seconds, the unit operates in cooling mode at high speed fan regardless of room temperature and resets in 18 min.
- During test operation, if remote controller signal is received, the unit operates as remote controller sets.

10. Auto Restarting Operation

- When the power is restored after a sudden power failure while in appliance operation, the mode before the power failure is kept on the memory and the appliance should be on the automatically operates in the mode on the memory.
- Operation Mode that is kept on the memory
  - State of Operation ON/OFF
  - Operation Mode/Setting Temp/Selected airflow Speed
  - Sleep Timer Mode/Remaining Time of Sleep Timer(unit of hour)
- If no input by the remote controller or no switching of the slide switch within 7 hr after the appliance operates by the Auto Restarting operation, the appliance is forced to stop at the moment of 7-hr elapse.

Display Function

Cooling Model



Note)

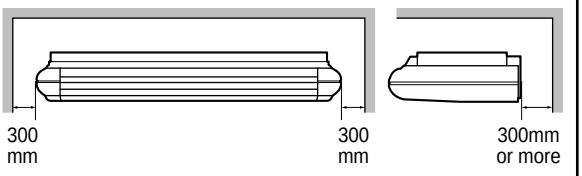
For normal operation after checking by test mode, you should press SW1 nine times for resetting or reconnect the power cord.

Installation of Indoor, Outdoor Unit

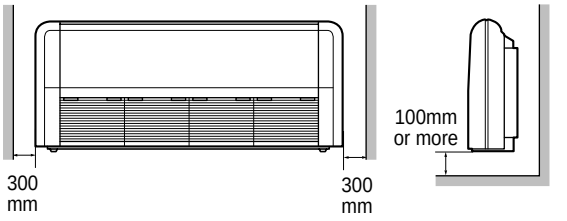
1. Selection of the best location

1) Indoor unit

- There should not be any heat source or steam near the unit.
- There should not be any obstacles to prevent the air circulation.
- A place where air circulation in the room will be good.
- A place where drainage can be easily obtained.
- A place where noise prevention is taken into consideration.
- Do not install the unit near the door way.
- Ensure the spaces indicated by arrows from the wall, ceiling, or other obstacles.



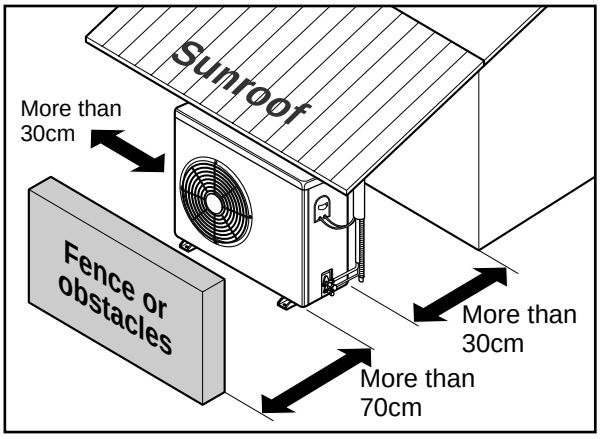
Service space when the unit is mounted under the celling.



Service space when the unit is mounted on the floor/wall.

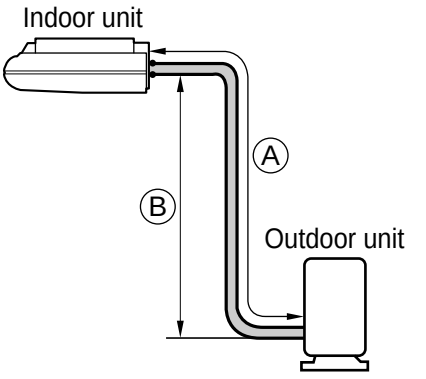
2) Outdoor unit

- If an awning is built over the unit to prevent direct sunlight or rain exposure, be careful that heat radiation from the condenser is not restricted.
- There should not be any animals or plants which could be affected by hot air discharged.
- Ensure the spaces indicated by arrows from the wall, ceiling, fence or other obstacles.



3) Piping length and the elevation

Capacity	Pipe Size (Diameter: Ø)		Length A(m)		Elevation B(m)		*Additional refrigerant (g/m)
	Gas	Liquid	Standard	Max.	Standard	Max.	
36K BTU/h	5/8"	3/8"	7.5	15	5	10	30
42K BTU/h	3/4"	3/8"	7.5	15	5	10	35
48K BTU/h	3/4"	1/2"	7.5	15	5	10	40
60K BTU/h	3/4"	1/2"	7.5	15	5	10	45



- If 36K Model is installed at a distance of 15m, 225g of refrigerant should be added (15-7.5) x 30g = 225g
- Capacity is based on standard length and maximun allowance length is on the basis of reliability.
- Improper refrigerant charge may result in abnormal cycle.

2. Indoor unit installation

■ **Installation of Unit**

Unit should be installed for horizontal and vertical discharge application only.

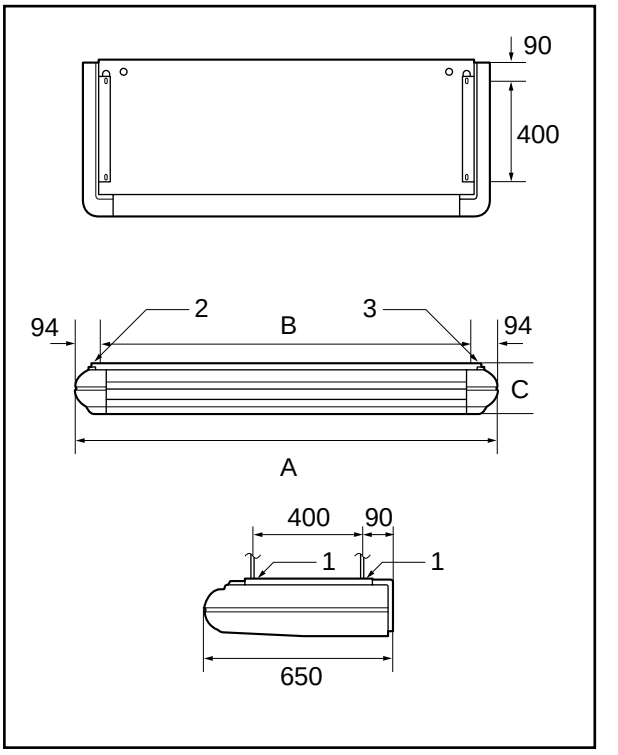
CASE 1

POSITION OF SUSPENSION BOLT

• Apply a joint-canvas between the unit and duct to absorb unnecessary vibration.

(Unit:mm)

Dimension / Capacity	A	B	C
36K BTU/h	1550	1362	236
42K BTU/h	1550	1362	236
48K BTU/h	1550	1362	272
60K BTU/h	1550	1362	292

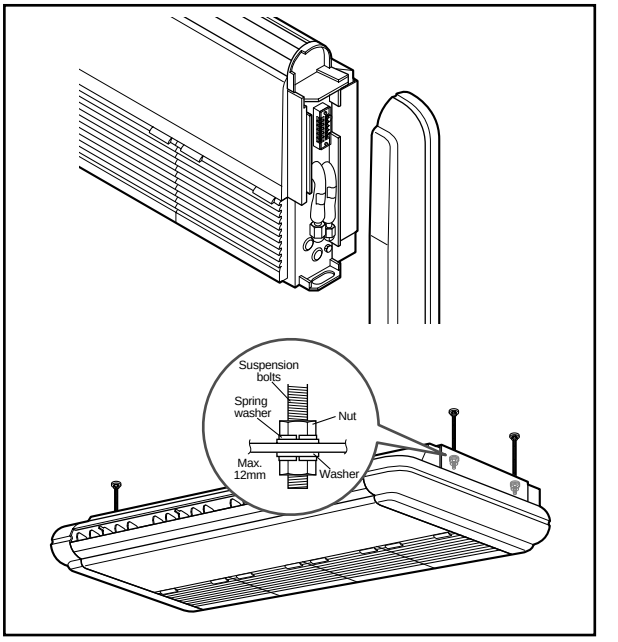


CASE 2

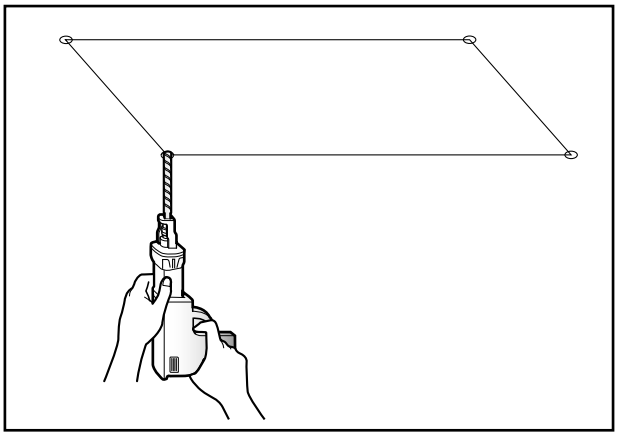
• Install the unit leaning to a drainage hole side as a figure for easy water drainage.

POSITION OF CONSOLE BOLT

• A place where the unit will be leveled and that can support the weight of the unit.
• A place where the unit can withstand its vibration.
• A place where service can be easily performed.



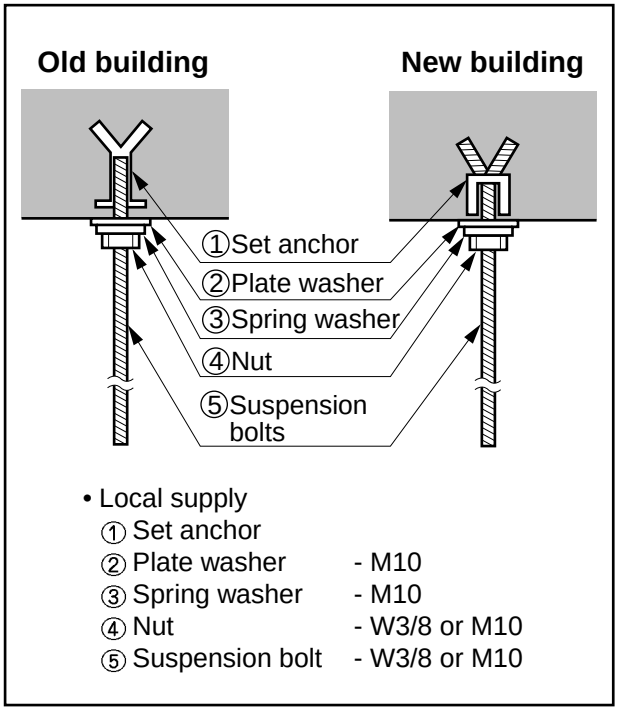
- Select and mark the position for fixing bolts.
- Drill the hole for set anchor on the face of ceiling.



- Insert the set anchor and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- Mount the suspension bolts to the set anchor firmly.
- Secure the installation plates onto the suspension bolts (adjust level roughly) using nuts, washers and spring washers.

⚠ CAUTION

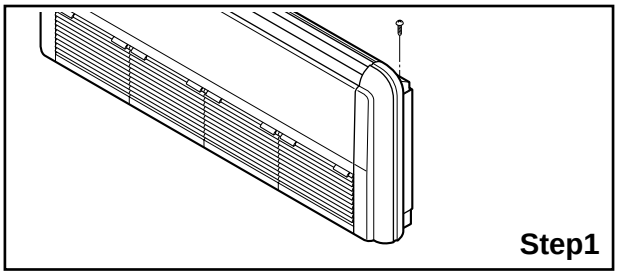
Tighten the nut and bolt to prevent unit falling



- Local supply
  - ① Set anchor
  - ② Plate washer - M10
  - ③ Spring washer - M10
  - ④ Nut - W3/8 or M10
  - ⑤ Suspension bolt - W3/8 or M10

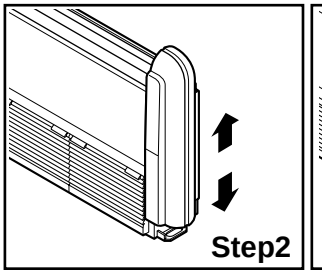
Opening the side panel method

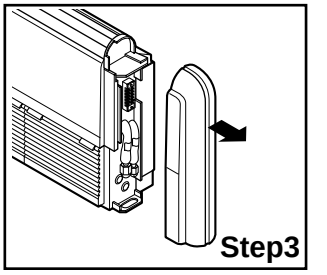
Step1: Remove screw



Step2: Lift side-panel upward slightly

Step3: To move side panel along arrow as shown.



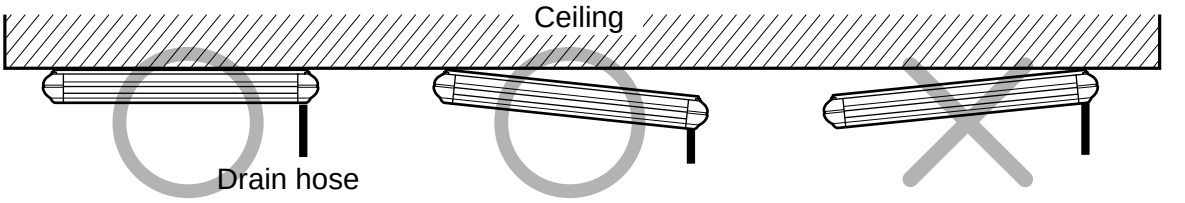


CAUTION

1. **Install declination** of the indoor unit is very **important for the drain** of the convertible type air conditioner.
2. Minimum thickness of the insulation for the connecting pipe shall be 7mm.
3. If the Installation Plates are fixed to horizontal line, the indoor unit after installing will be declined to the bottomside.

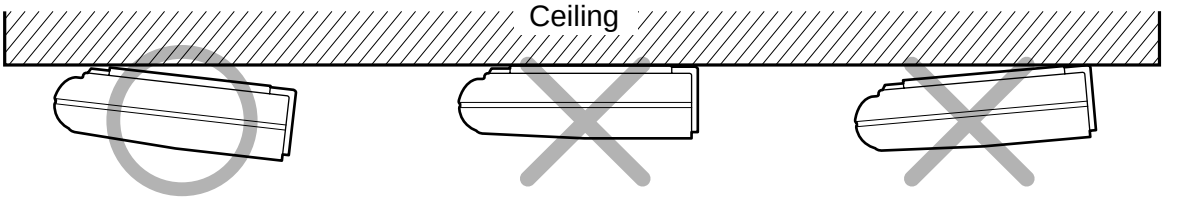
Front of view

• The unit must be horizontal or declined to the drain hose connected when finished installation.

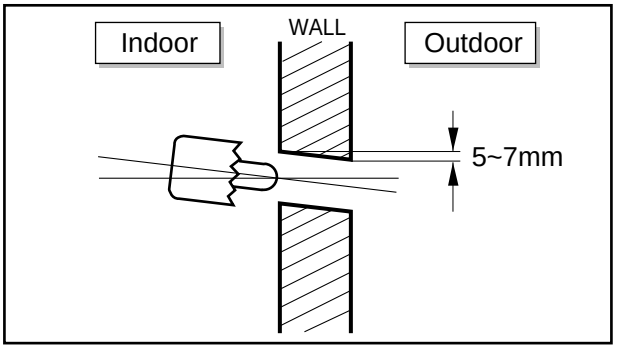


Side of view

• The unit must be declined to the bottomside of the unit when finished installation.



• Drill the piping hole with 70mm dia, hole core drill.
• Piping hole should be slightly slant to the outdoor side.



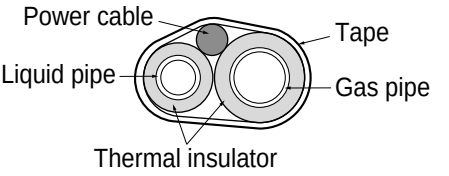
INSULATION, OTHERS

Insulate the joint and tubes completely.

THERMAL INSULATION All thermal insulation must comply with local requirement.

REFRIGERANT PIPE

• Insulate and tape both the gas piping and liquid piping.



TEST AND CHECK

■ *After all workings are finished, check the working and operation.*

• Air distribution .....Is the air circulation good?
• Drain .....Is the drainage smoothly and no sweating?
• Gas leakage .....Is the piping connection correctly?
• Wiring .....Is the wiring connection correctly?
• Lock-bolt.....Is the lock-bolt of compressor loosened?

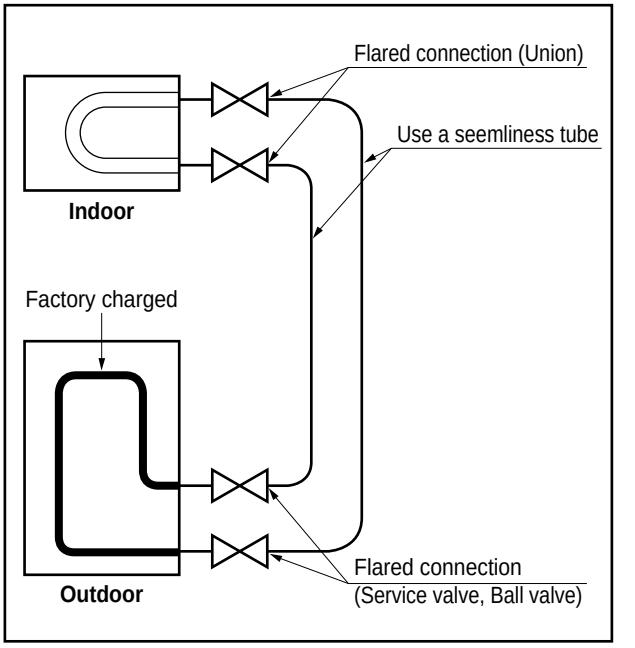
REFRIGERANT PIPING

Perform the work according to the Service Manual or Installation Guide.

- Use two spanners when connecting the refrigerant pipe to the unit.
- Make a bend with a radius as large as possible.
- Perform air purge with R-22 or vacuum drying.
- When piping work is finished, check all joints.

■ Add refrigerant if piping is over 7.5m.

Capacity	Addition volume
36K BTU/h	30 g/m
42K BTU/h	35 g/m
48K BTU/h	40 g/m
60K BTU/h	45 g/m



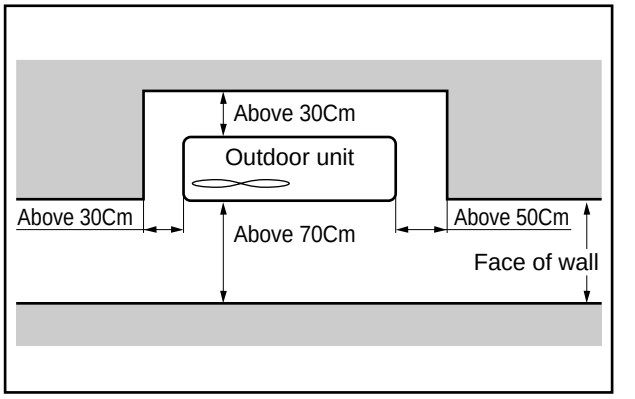
INSTALLATION OF OUT DOOR UNIT

Select a location that satisfies the following conditions. Install the unit firmly in place.

■ **Select the following location**

- A place where the air conditioner can get good ventilation.
- A place where it shall not annoy the neighbors.
- A place where the unit shall be leveled and that can support the weight of unit and withstand its vibrations.

■ **Keep a maintenance space**

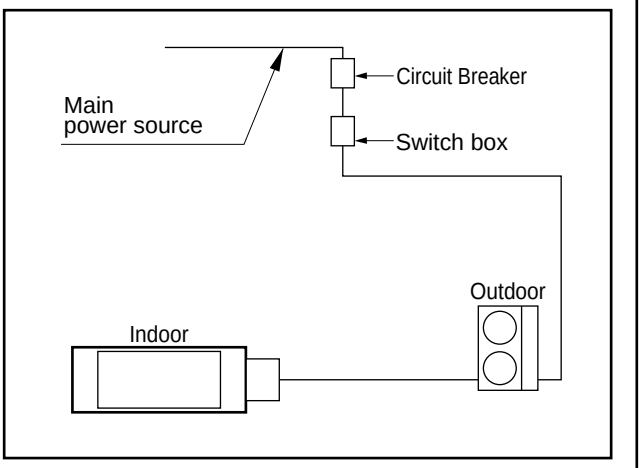


ELECTRICAL WIRING

Perform the electrical wiring work according to the electrical wiring connection.

- All wiring must comply with local requirements.
- Select a power source that is capable of supplying the current required by the air conditioner.
- Use a recognized circuit breaker between the power source and the unit. A disconnection device to adequately disconnect all supply lines must be fitted.
- Capacity of circuit breaker

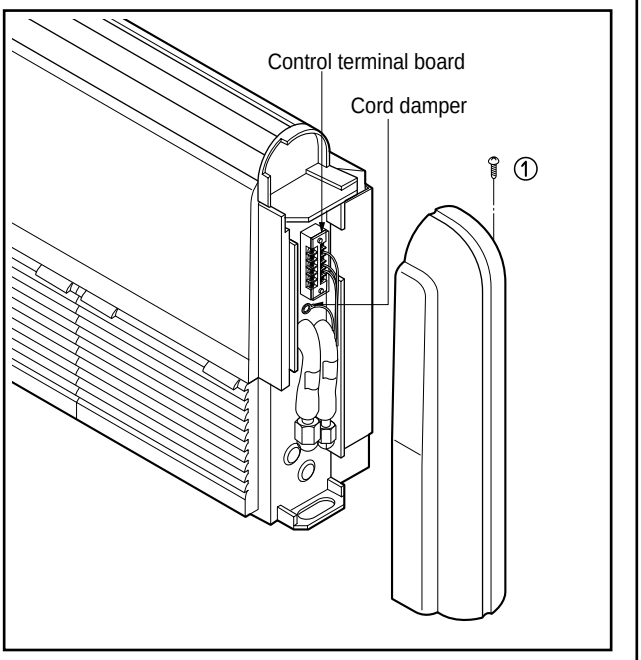
Capacity	1 Phase	3 Phase
36K BTU/h	35A	-
42K BTU/h	40A	-
48K BTU/h	50A	25A
60K BTU/h	50A	35A



WIRING CONNECTION

INDOOR UNIT

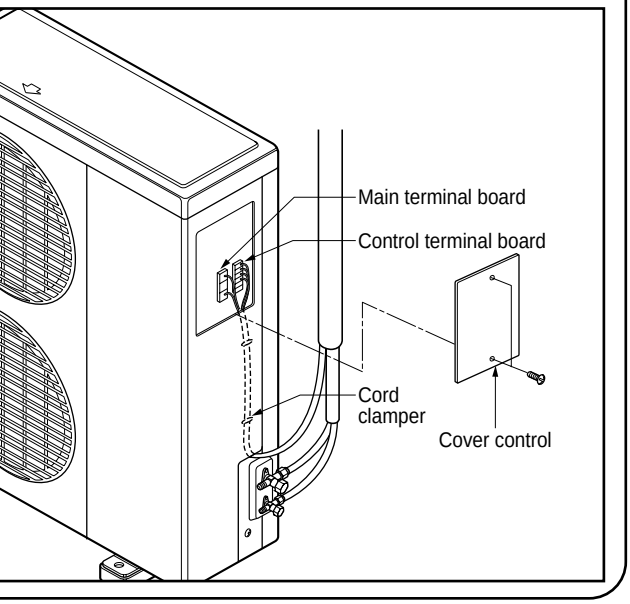
- Remove side panel cover for electrical connection between the indoor and outdoor unit. (Remove crews ①.)
- Use the cord clamper to fix the cord.



OUTDOOR UNIT

- Remove the control cover for wiring connection.
- Use the cord clamper to fix the cord.
- Earthing work
  Connect the cable of diameter 1.6mm² or more to the earthing terminal provided in the control box and do earthing.

※ **Please check !!**



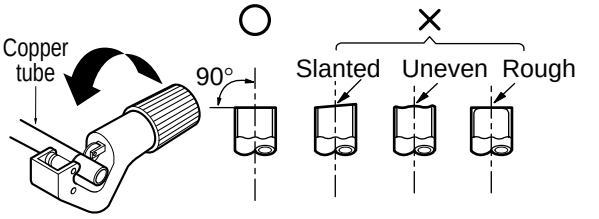
Connecting Pipes to the Indoor Unit

1. Preparation of Piping

Main cause of gas leakage is defect in flaring work. Carry out correct flaring work in the following procedure.

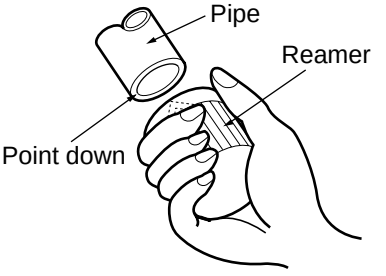
1) Cut the pipes and the cable.

- Use the accessory piping kit or the pipes purchased locally.
- Measure the distance between the indoor and the outdoor unit.
- Cut the pipes a little longer than measured distance.
- Cut the cable 1.5m longer than the pipe length.



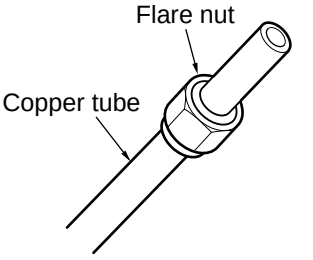
2) Burrs removal

- Completely remove all burrs from the cut cross section of pipe/tube.
- Put the end of the copper tube/pipe to downward direction as you remove burrs in order to avoid to let burrs drop in the tubing.



3) Putting nut on

- Remove flare nuts attached to indoor and outdoor units, than put them on pipe/tube having completed burr removal.
  (Not possible to put them on after flaring work)

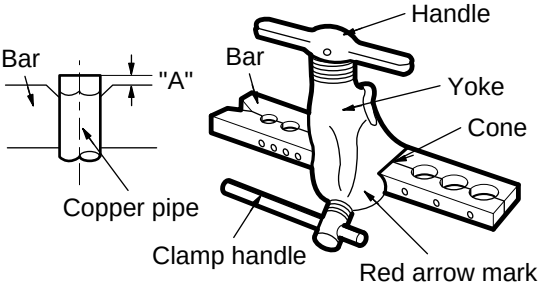


4) Flaring work

- Carry out flaring work using flaring tool as shown below.

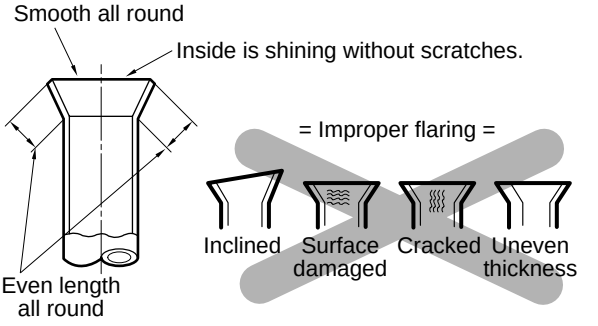
Outside Diameter	"A"
1/4"	0~0.5
3/8"	0.5~0.8
1/2"	0.5~0.8
5/8"	0.8~1.0
3/4"	1.0~1.3

Firmly hold copper tube in a bar(or die) as indicated dimension in the table above.



5) Check

- Compare the flared work with figure.
- If flare is noted to be defective, cut off the flared section and do flaring work again.



6) Pipe bending

Annealed copper pipe with small diameter (ø6.35 or ø9.52) can be easily bent manually. In this case, secure large R(radius) for the bend section and gradually bend pipe. If annealed copper pipe is large in diameter (ø15.88 or ø19.05), bend pipe with bender. Use bender appropriate for the pipe diameter.

7) Brazing

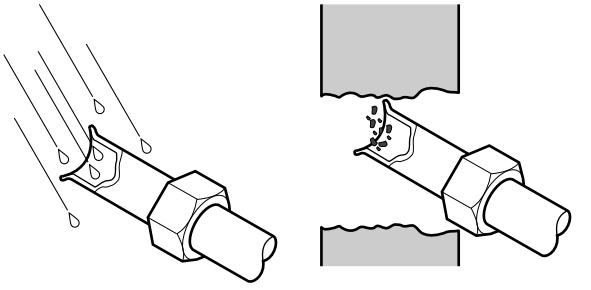
In refrigerant piping, bending (in particular, acute bending) must be minimized to reduce piping resistance. Bending is, however, necessary in some places by virtue of the installation position of devices auxiliary to the packaged air conditioner, or of the building structure, piping distance or finishing appearance. If a more acute bend is required than that attainable by pipe bender, perform brazing using ready-made elbow. Aside from this function, brazing also serves to connect straight pipes, generally using ready-made sockets. While brazing, protect piping against heat with wet cloth to avoid damaging valve packing or burning thermal insulator with burner heat. While brazing, blow inert gas (nitrogen gas or carbonic gas) to prevent formation of oxidation film in copper piping; otherwise, the refrigerant circuit will clog. The blowing of nitrogen gas (or carbonic gas) through 3-way valves is described in the following:

8) Refrigerant piping(Flare piping)

When connecting piping, be sure to keep piping dry(keep piping away from water), clean (keep piping away from dust) and airtight (avoid refrigerant leakage).
When connecting piping on rainy days or making a through-hole in wall, take due care to prevent water or plaster from entering piping.

CAUTION

a. This procedure is designed to prevent formation of oxidation film by filling piping with inert gas. Note that excessive gas pressure will generate pinholes at brazed points.
(Nitrogen gas: Supply pressure 0.05~0.1kg/cm^{2}G)
b. When supplying inert gas, be sure to open one end of piping.



Water enters Plaster enters

Connecting Pipes to the Outdoor Unit

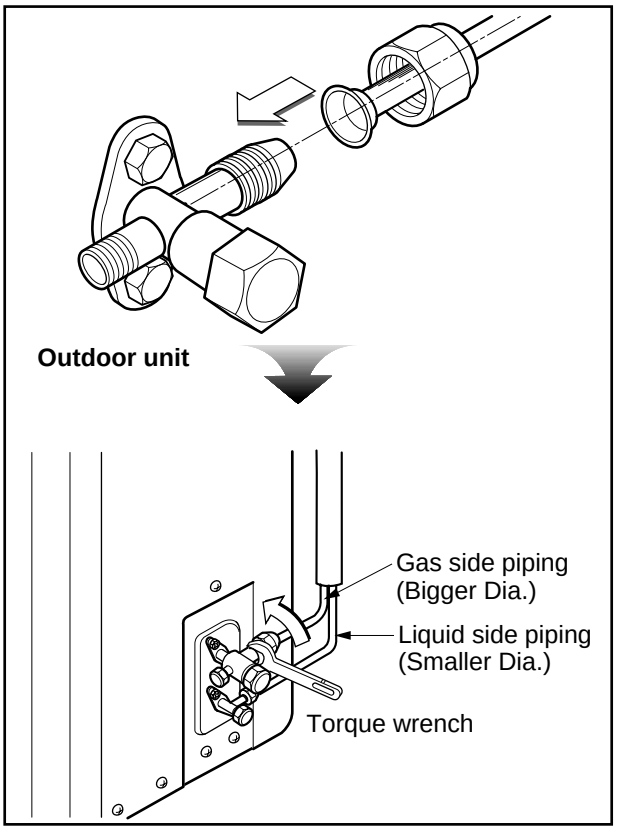
1) Connecting the pipes to the Outdoor unit

1. Align the center of the pipings and sufficiently tighten the flare nut with fingers.

2. Finally, tighten the flare nut with torque wrench until the wrench clicks.

- When tightening the flare nut with torque wrench, ensure the direction for tightening follows the arrow on the wrench.

Pipe size	Torque
1/4"	1.8kg.m
3/8"	4.2kg.m
1/2"	5.5kg.m
5/8"	6.6kg.m
3/4"	6.6kg.m

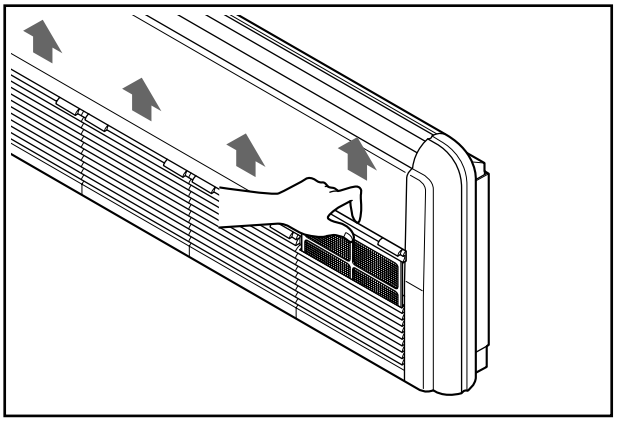


Checking the Drainage

1) Checking the Drainage

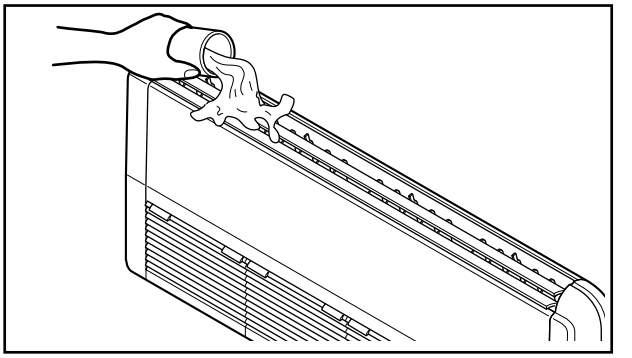
1. Remove the Air Filter.

- To remove air filter, take hold of tab and pull slightly upwards.



2. Check the drainage.

- Spray one or two glasses of water upon the evaporator.
- Ensure that water flows drain hose of indoor unit without any leakage.



Connecting Cables between Indoor Unit and Outdoor Unit

1) Connecting cables to the Indoor Unit

■ Connect the wires to the terminals on the control board individually according to the outdoor unit connection.

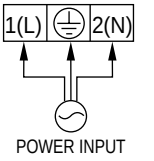
• Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively

■ 36K/42K/48K/60K Btu (1Ø, 220V)

• Cooling only type

Terminals on the indoor unit	1(N)	2(L)	3	⏚	4	5
Terminals on the outdoor unit	1(N)	2(L)	3	⏚	4	5

(1Ø, 220V)

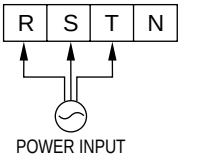


■ 48K/60K Btu (3Ø, 220V)

• Cooling only type

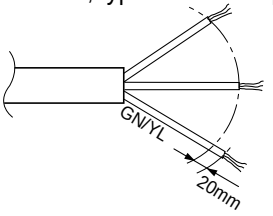
Terminals on the indoor unit	1	2	3	⏚
Terminals on the outdoor unit	1	2	3	⏚

(3Ø, 220V)



CAUTION

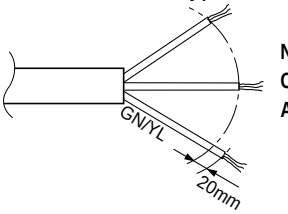
The power cord connected to the outdoor unit should be complied with the following specifications (Rubber insulation, type H05RN-F approved by HAR or SAA).



NORMAL CROSS-SECTIONAL AREA

Capacity	1 Phase	3 Phase
36K BTU/h	5.5mm²	-
42K BTU/h	8.5mm²	-
48K BTU/h	8.5mm²	3.5mm²
60K BTU/h	8.5mm²	5.5mm²

The connecting cable connected to the indoor and outdoor unit should be complied with the following specifications (Rubber insulation, type H05RN-F approved by HAR or SAA).

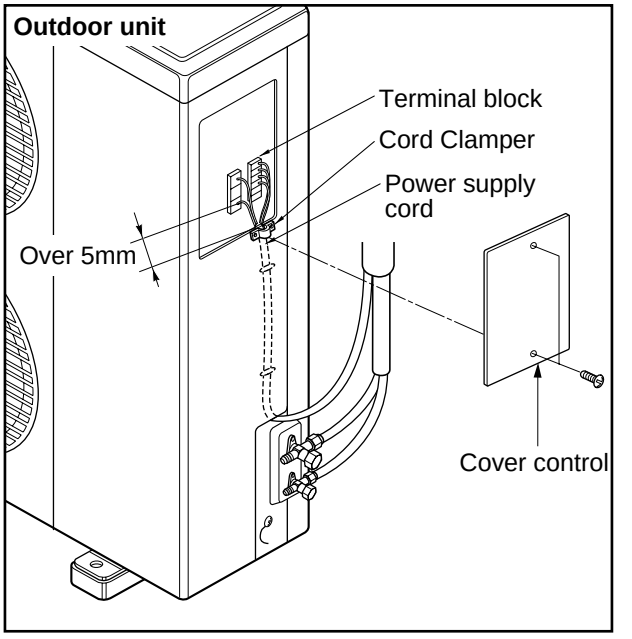


NORMAL CROSS-SECTIONAL AREA 0.75mm² (36K/42K)
1.25mm² (48K/60K)

If the supply cord is damaged, it must be replaced by a special cord or assembly availible from the manufacturer of its service agent.

3) Connecting the cable to the Outdoor Unit

1. Remove the Cover control from the unit by loosening a screw.
   Connect the wires to the terminals on the control board individually as following.
2. Secure the cable onto the control board with the holder (clamper).
3. Refix the cover control to the original position with the screw.



CAUTION

After the confirmation of the above conditions, prepare the wiring as follows:

1) Never fail to have an individual power specialized for the air conditioner. As for the method of wiring, be guided by the circuit diagram pasted on the inside of control box cover.

2) Provide a circuit breaker switch between power source and the unit.

3) The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could give rise to burn-out of the wires.)

4) Specification of power source

5) Confirm that electrical capacity is sufficient.

6) Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.

7) Confirm that the cable thickness is as specified in the power sources specification.
(Particularly note the relation between cable length and thickness.)

8) Never fail to equip a leakage breaker where it is wet or moist.

9) The following troubles would be caused by voltage drop-down.

- Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
- Proper starting power is not given to the compressor.

4) Form the pipings

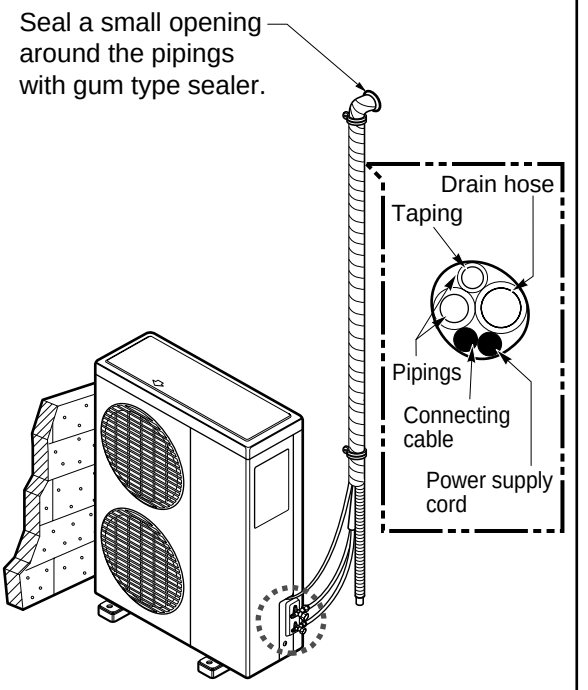
1. Wrap the connecting portion of indoor unit with the Insulation material and secure it with two Plastic Bands. (for the right pipings)

- If you want to connect an additional drain hose, the end of the drain-outlet should keep distance from the ground. (Do not dip it into water, and fix it on the wall to avoid swinging in the wind.)

In case of the Outdoor unit being installed below position of the Indoor unit.

2. Tape the Pipings, drain hose and Connecting Cable from bottom to top.

3. Form the pipings gathered by taping along the exterior wall and fix it onto the wall by saddle or equivalent.



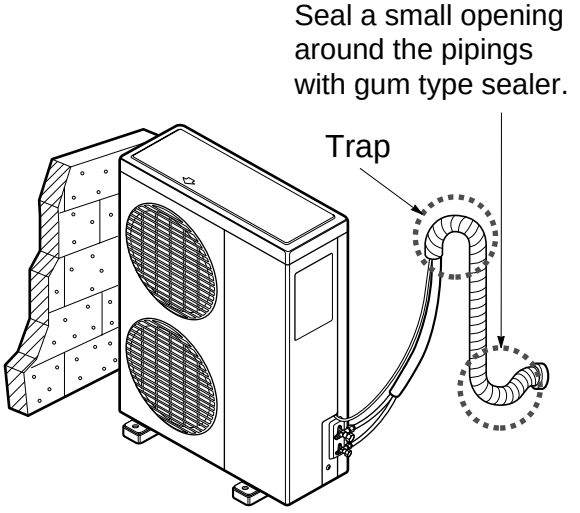
- Trap is required to prevent water from entering into electrical parts.

In case of the Outdoor Unit being installed above position of the Indoor Unit.

2. Tape the Pipings and Connecting cable from bottom to top.

3. Form the pipings gathered by taping along the exterior wall, and make the trap prevent water from entering into the room.

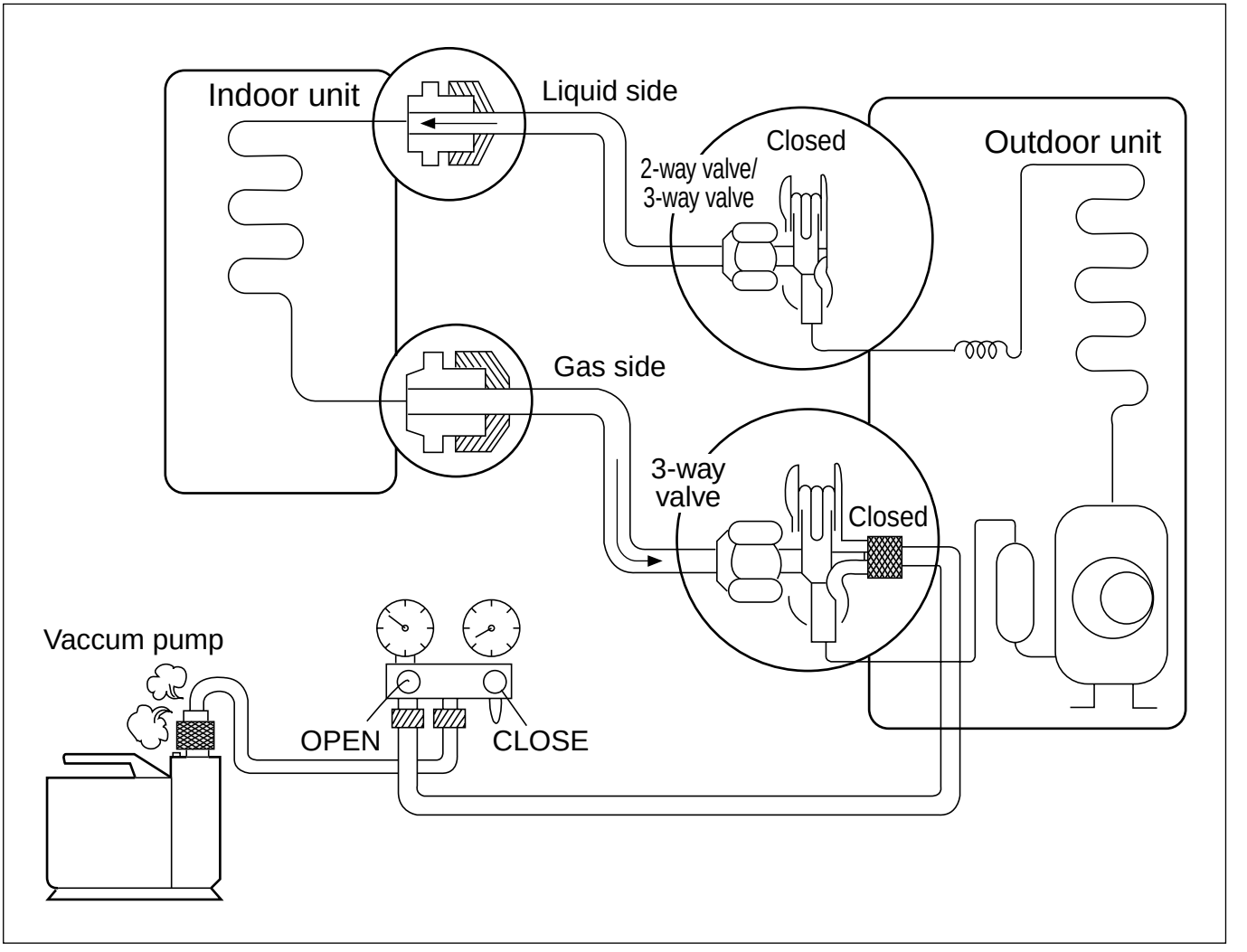
4. Fix the pipings onto the wall by saddle or equivalent.



Air Purging of the Connecting Pipes and the Indoor Unit

The air which contains moisture remaining in the refrigeration cycle may cause a malfunction on the compressor.

1. Confirm that both the liquid side valve and the gas side valve are set to the closed position.
2. After connecting the piping, check the joints for gas leakage with gas leak detector.
3. Remove the service port nut, and connect the gauge manifold and the vacuum pump to the service port by the charge hose.
4. Vacuum the indoor unit and the connecting pipes until the pressure in them lowers to below -76cmHg.
5. Remove the valve stem nuts, and fully open the stems of the 2-way and 3-way valves with a hexagon wrench.
6. Tighten the valve stem nuts of the 2-way valve and 3-way valve.
7. Disconnect the charge hose and fit the nut to the service port.
   (Tightening torque: 1.8kg.m)



Operation

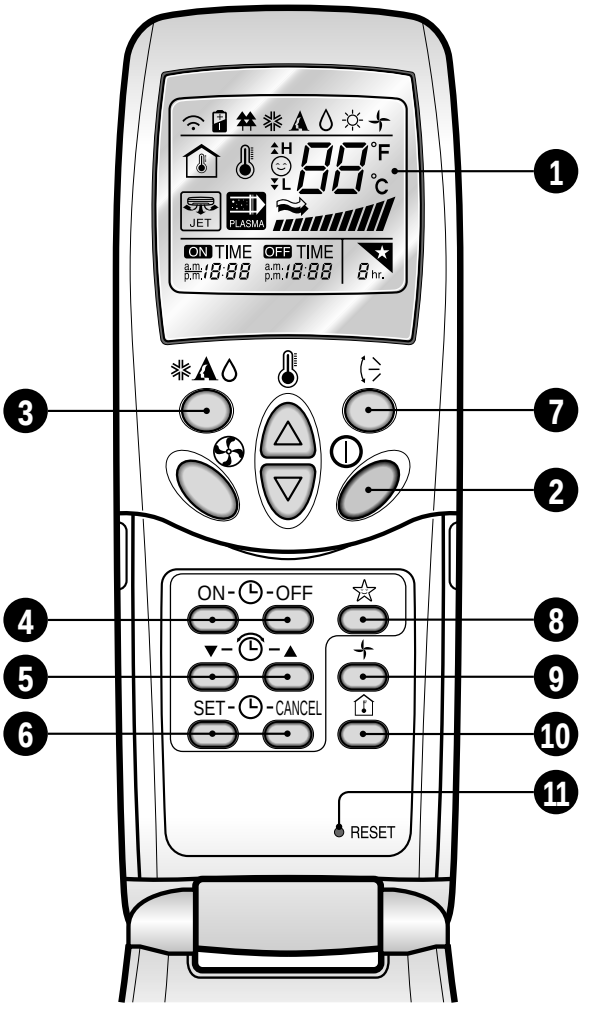
■ Name and Function-Remote controller

1) Cooling Model

Remote Controller

Signal transmitter.

Transmits the signals
to the room air conditioner.



1 **OPERATION DISPLAY**
Displays the operation conditions.

2 **START/STOP BUTTON**
Operation starts when this button is pressed and stops when the button is pressed again.

3 **OPERATION MODE SELECTION BUTTON**
Used to select the operation mode.

4 **ON/OFF TIMER BUTTONS**
Used to set the time of starting and stopping operation.

5 **TIME SETTING BUTTONS**
Used to adjust the time.

6 **TIMER SET/CANCEL BUTTONS**
Used to set the timer when the desired time is obtained and to cancel the Timer operation.

7 **AIR FLOW DIRECTION START/STOP BUTTON**
Used to stop or start louver movement and set the desired up/down airflow direction.

8 **SLEEP MODE AUTO BUTTON**
Used to set Sleep Mode Auto operation.

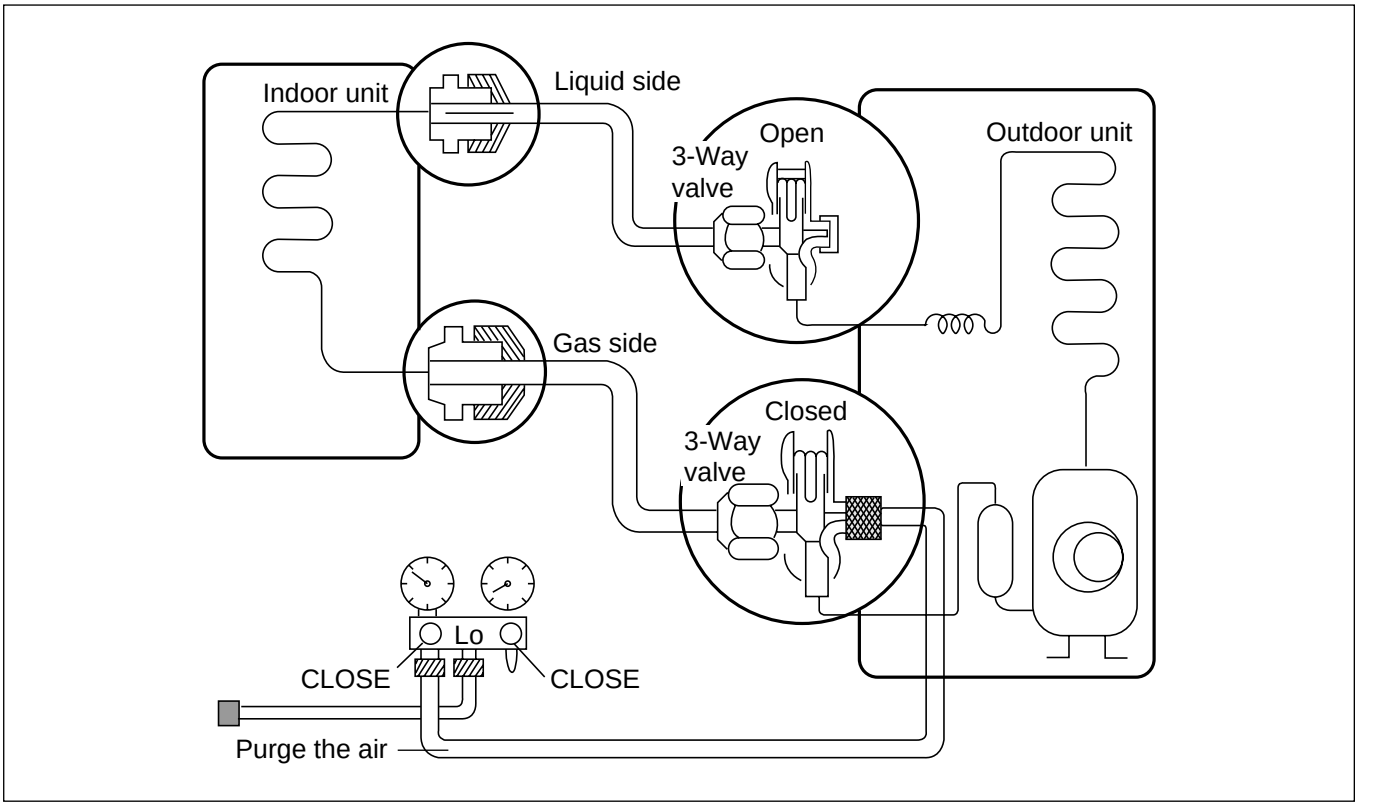
9 **AIR CIRCULATION BUTTON**
Used to circulate the room air without cooling or heating (turns indoor fan on/off).

10 **ROOM TEMPERATURE CHECKING BUTTON**
Used to check the room temperature.

11 **RESET BUTTON**
Used prior to resetting time or after replacing batteries.

3-way Valve

1. Pumping down



• Procedure

(1) Confirm that both liquid side and gas side valves are set to the open position.
- Remove the valve stem caps and confirm that the valve stems are in the raised position.
- Be sure to use a hexagonal wrench to operate the valve stems.

(2) Operate the unit for 10 to 15 minutes.

(3) Stop operation and wait for 3 minutes, then connect the charge set to the service port of the 3-way valve.
- Connect the charge hose to the service port.

(4) Air purging of the charge hose.
- Open the low-pressure valve on the charge set slightly to air purge from the charge hose.

(5) Set the liquid side valve to the closed position.

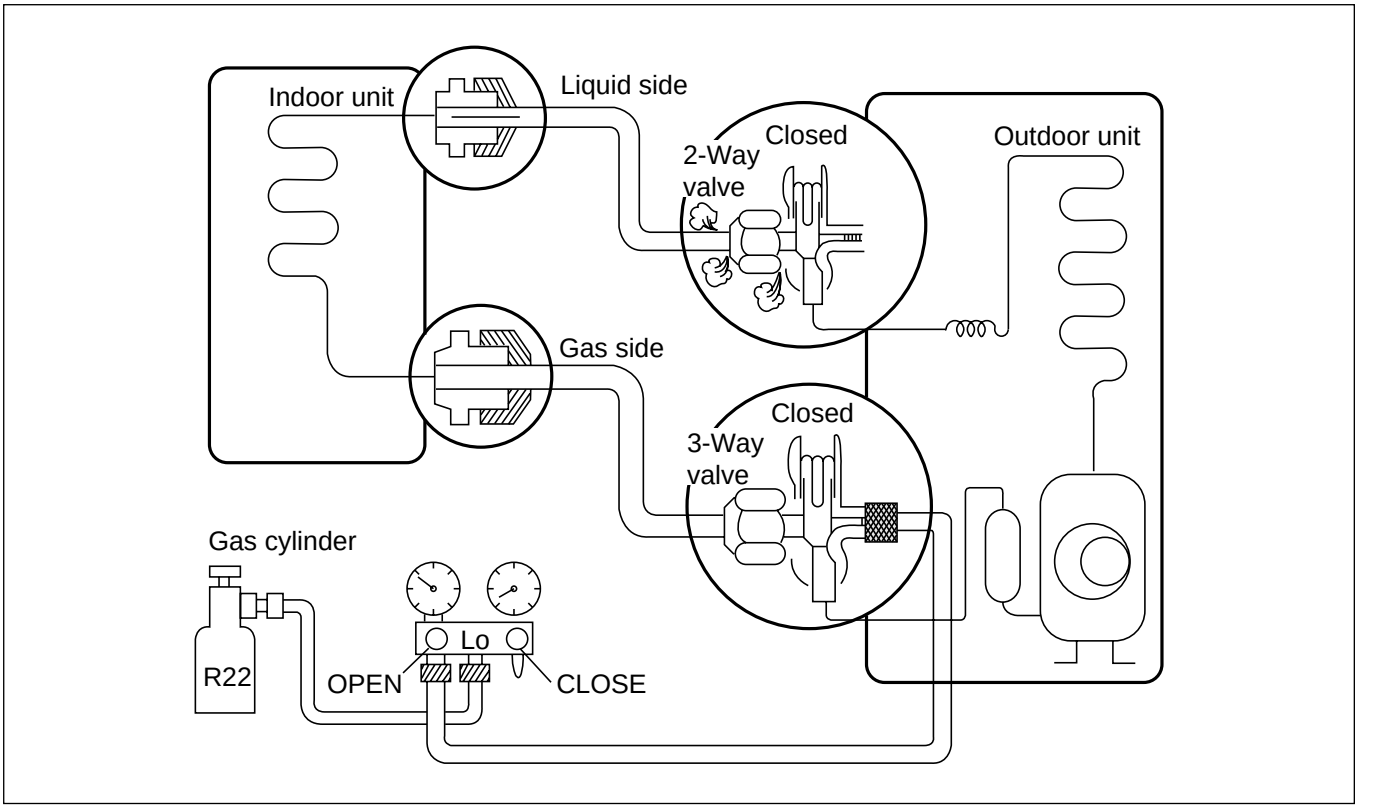
(6) Operate the air conditioner in cooling mode and stop it when the gauge indicates 1kg/cm²g.

(7) Immediately set the 3-way valve to the closed position.
- Do this quickly so that the gauge ends up indicating 3 to 5kg/cm²g.

(8) Disconnect the charge set, and mount the 2-way and 3-way valve's stem nuts and the service port nut.
- Use torque wrench to tighten the service port nut to a torque of 1.8 kg.m.
- Be sure to check for gas leakage.

1) Re-air purging

(Re-installation)



• Procedure

(1) Confirm that both the liquid side valve and the gas side valve are set to the closed position.

(2) Connect the charge set and a gas cylinder to the service port of the 3-way valve.
- Leave the valve on the gas cylinder closed.

(3) Air purging.
- Open the valves on the gas cylinder and the charge set. Purge the air by loosening the flare nut on the liquid side valve approximately 45° for 3 seconds then closing it for 1 minute; repeat 3 times.
- After purging the air, use a torque wrench to tighten the flare nut on liquid side valve.

(4) Check for gas leakage.
- Check the flare connections for gas leakage.

(5) Discharge the refrigerant.
- Close the valve on the gas cylinder and discharge the refrigerant until the gauge indicates 3 to 5 kg/cm^{2}g.

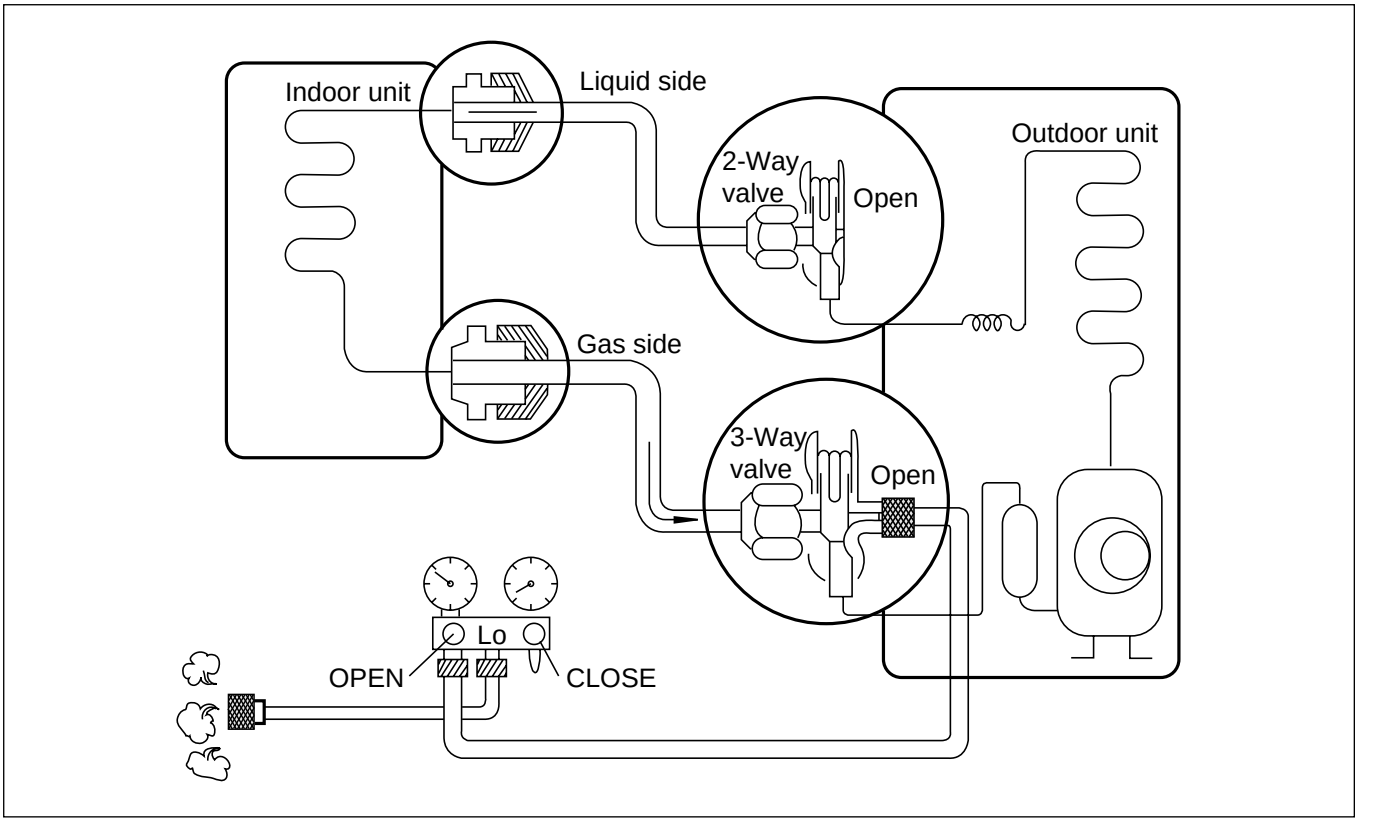
(6) Disconnect the charge set and the gas cylinder, and set the 2-way and 3-way valves to the open position.
- Be sure to use a hexagonal wrench to operate the valve stems.

(7) Mount the valve stem nuts and the service port nut.
- Use torque wrench to tighten the service port nut to a torque of 1.8 kg.m.
- Be sure to check for gas leakage.

*** CAUTION:**
Do not leak the gas in the air during Air Purging.

2) Balance refrigerant of the 3-way valve

(Gas leakage)



• Procedure

(1) Confirm that both the liquid side and gas side valves are set to the back seat.

(2) Connect the charge set to the 3-way valve's port.

– Leave the valve on the charge set closed.

– Connect the charge hose to the service port.

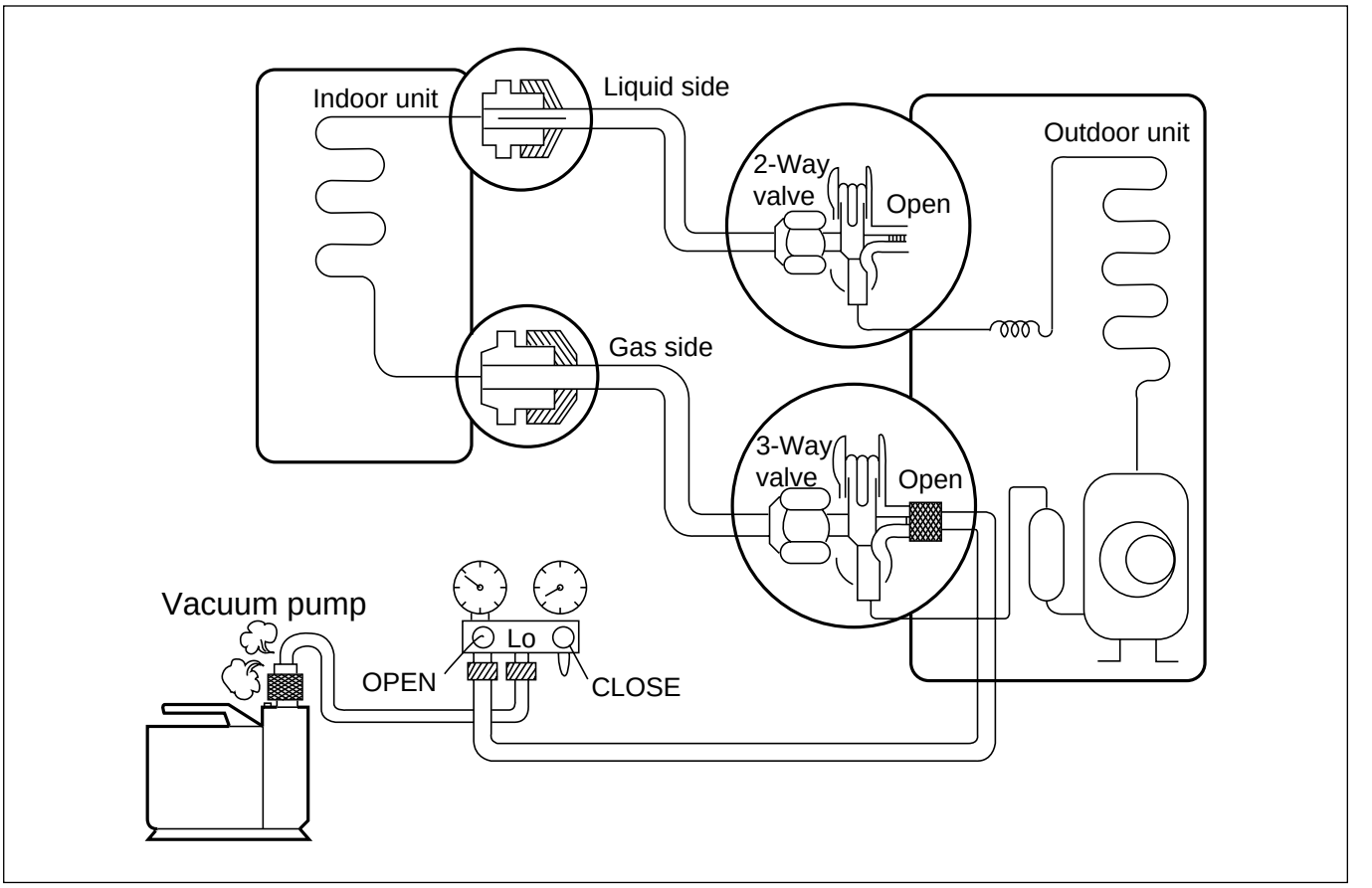
(3) Open the valve (Lo side) on the charge set and discharge the refrigerant until the gauge indicates 0 kg/cm²G.

– If there is no air in the refrigerant cycle (the pressure when the air conditioner is not running is higher than 1 kg/cm²G), discharge the refrigerant until the gauge indicates 0.5 to 1 kg/cm²G. if this is the case, it will not be necessary to apply a evacuatin.

– Discharge the refrigerant gradually; if it is discharged too suddenly, the refrigeration oil will also be discharged.

2. Evacuation

(All amount of refrigerant leaked)



• Procedure

(1) Connect the vacuum pump to the center hose of charge set center hose

(2) Evacuation for approximately one hour.

– Confirm that the gauge needle has moved toward -76 cmHg (vacuum of 4 mmHg or less).

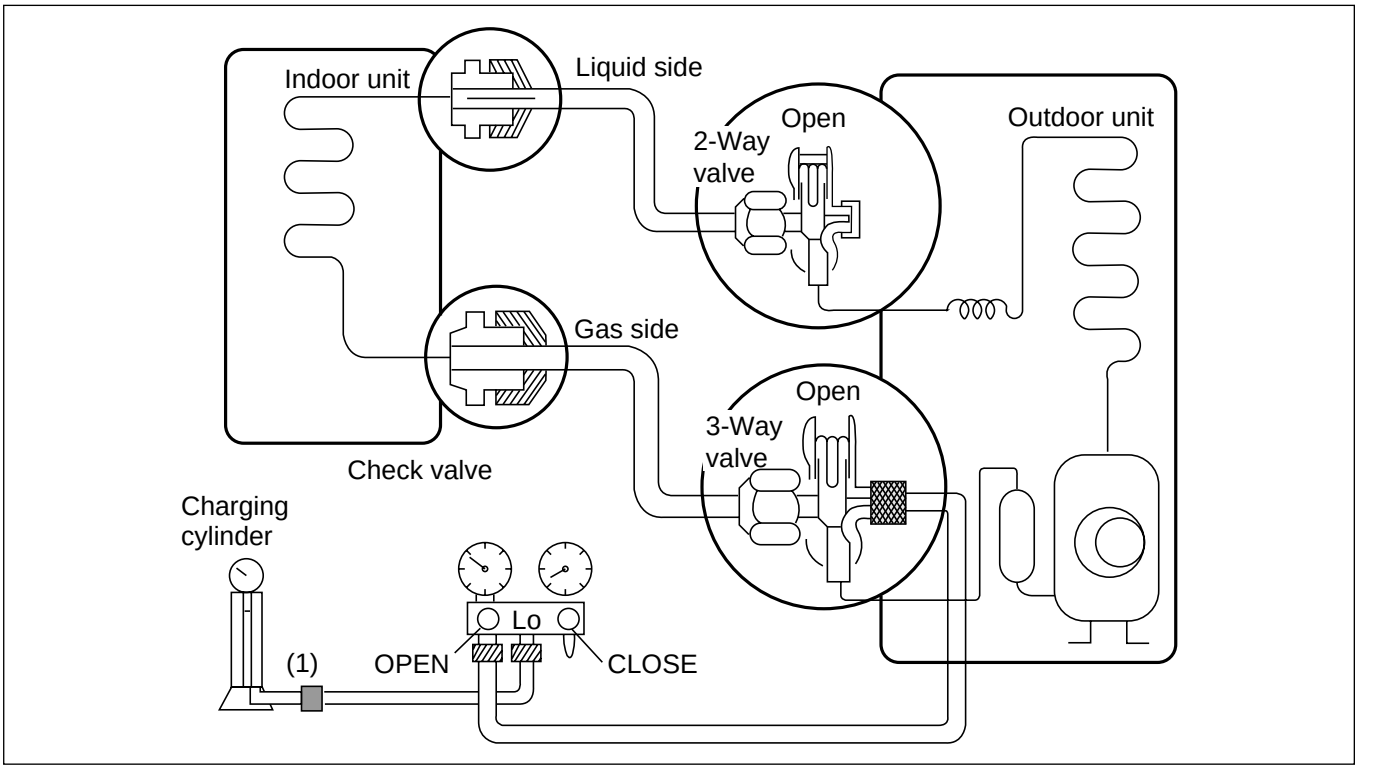
(3) Close the valve (Lo side) on the charge set, turn off the vacuum pump, and confirm that the gauge needle does not move (approximately 5 minutes after turning off the vacuum pump).

(4) Disconnect the charge hose from the vacuum pump.

– Vacuum pump oil.
If the vacuum pump oil becomes dirty or depleted, replenish as needed.

3. Gas Charging

(After Evacuation)



• Procedure

(1) Connect the charge hose to the charging cylinder.

– Connect the charge hose which you disconnected from the vacuum pump to the valve at the bottom of the cylinder.

– If you are using a gas cylinder, also use a scale and reverse the cylinder so that the system can be charged with liquid.

(2) Purge the air from the charge hose.

– Open the valve at the bottom of the cylinder and press the check valve on the charge set to purge the air. (Be careful of the liquid refrigerant). The procedure is the same if using a gas cylinder.

(3) Open the valve (Lo side on the charge set and charge the system with liquid refrigerant.

– If the system can not be charged with the specified amount of refrigerant, it can be charged with a little at a time (approximately 150g each time) while operating the air conditioner in the cooling cycle; however, one time is not sufficient, wait approximately 1 minute and then repeat the procedure (pumping down-pin).

This is different from previous procedures. Because you are charging with liquid refrigerant from the gas side, absolutely do not attempt to charge with larger amounts of liquid refrigerant while operating the air conditioner.

(4) Immediately disconnect the charge hose from the 3-way valve's service port.

– Stopping partway will allow the gas to be discharged.

– If the system has been charged with liquid refrigerant while operating the air conditioner turn off the air conditioner before disconnecting the hose.

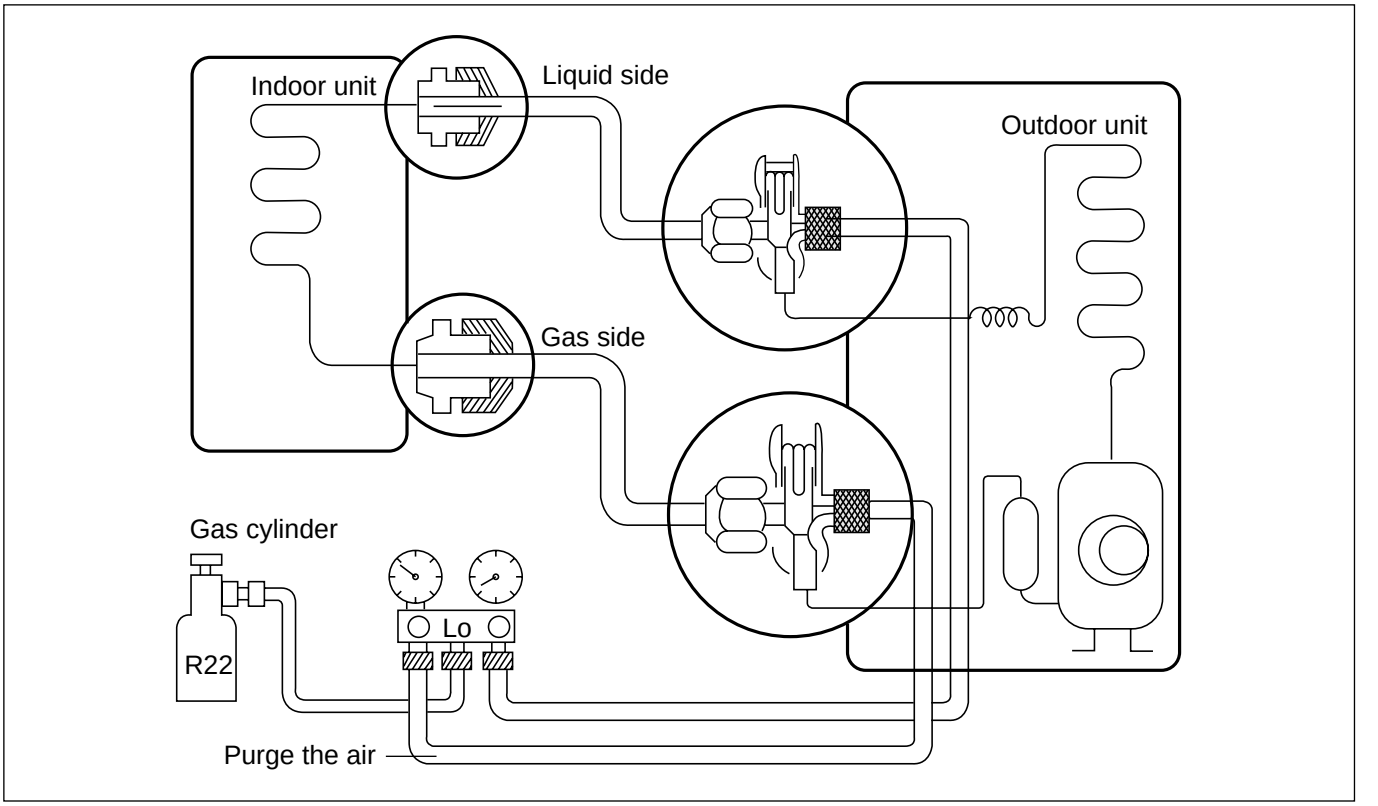
(5) Mount the valve stem nuts and the service port nut.

– Use torque wrench to tighten the service port nut to a torque of 1.8 kg.m.

– Be sure to check for gas leakage.

Cycle

1. Installation (Connecting the piping between indoor and outdoor unit)



• Installation

(1) Connect the piping between the indoor and outdoor unit firmly.
- Incorrect connection may cause the leakage and incomplete vacuuming.

(2) Attach the charging hose (manifold gage) to the service port.
- Charging hose is necessary to check the pressure and to inject R22 for leakage test.
- The valve of charging hose must be closed before being connected.

(3) Inject the 100~300g R22 through the charging hose opening the valve.

(4) Check the joint part using a gas detector or soapy water for leakage.
- On checking, the service valve of main service port must be closed, this test is only for checking whether pipe connection is ok or not.

(5) If there is no leakage, discharge R22 in piping completely into tank for retrieving.
- Complete discharge is needed for vacuuming.
- If leakage is found, please fasten the joint more tightly.

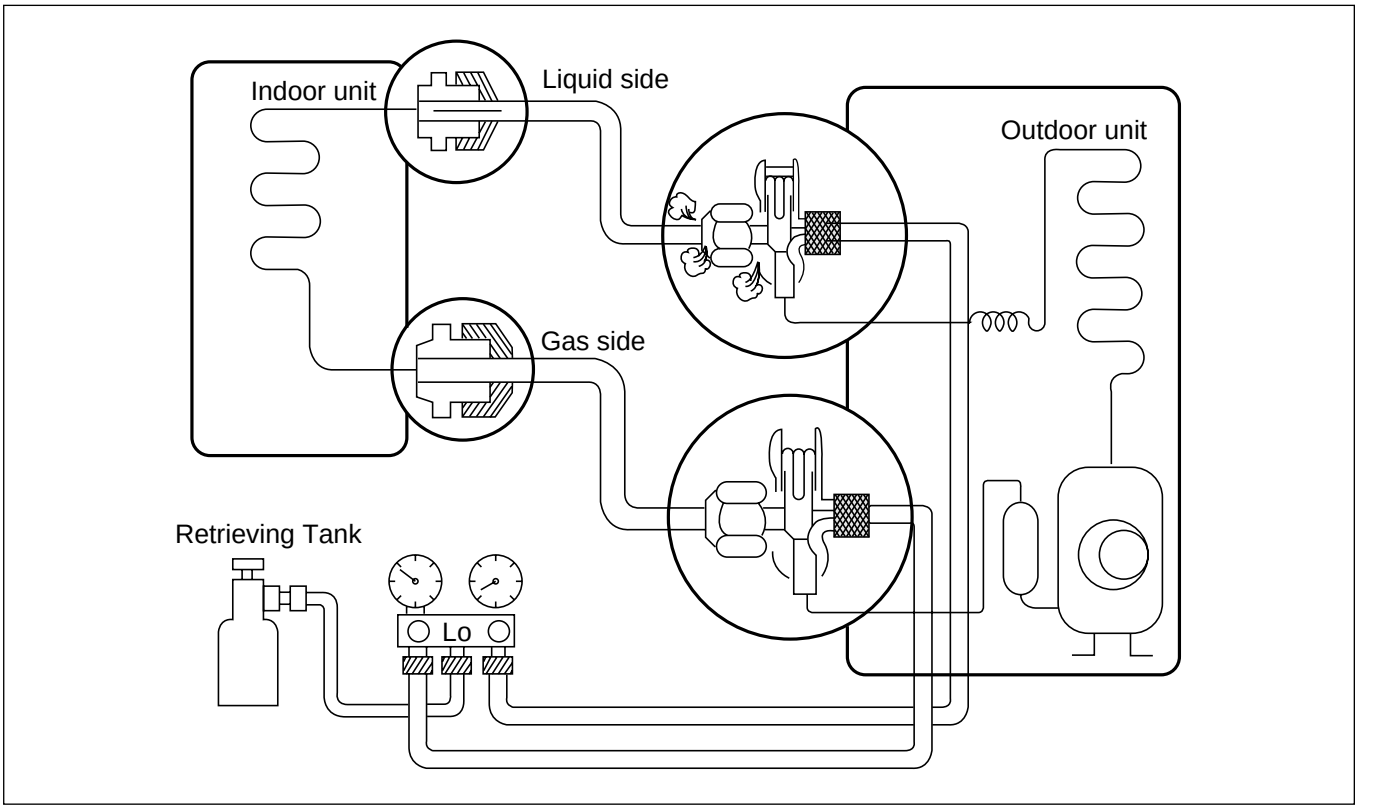
(6) After closing the valve of charging hose, disconnect the tank and connect the vacuum pump to charging hose and open the valve again for vacuuming.

(7) Turn on the vacuum pump until the pressure drops below 0kg/cm^2.

(8) After vacuuming, disconnect the vacuum pump and open the spindle of service port (liquid-side) slightly for 30 sec and then open the spindle of (gas side) with hexagonal wrench.

(9) Open the liquid side completely first and then the gas side fully in order.

2. Disconnection (on moving)



• Disconnection

(1) Attach the charging hose (manifold gage) to the service port.

– Connect the manifold gage once to the service port not stopping. Stopping in the middle of process may cause the leakage.

(2) Purge the air in hose into special device such as retrieving tank opening the valve of charging- hose (gas side) slightly and then close it tightly.

(3) Operate the air conditioner for 10~15 min until cycle is stabilized.

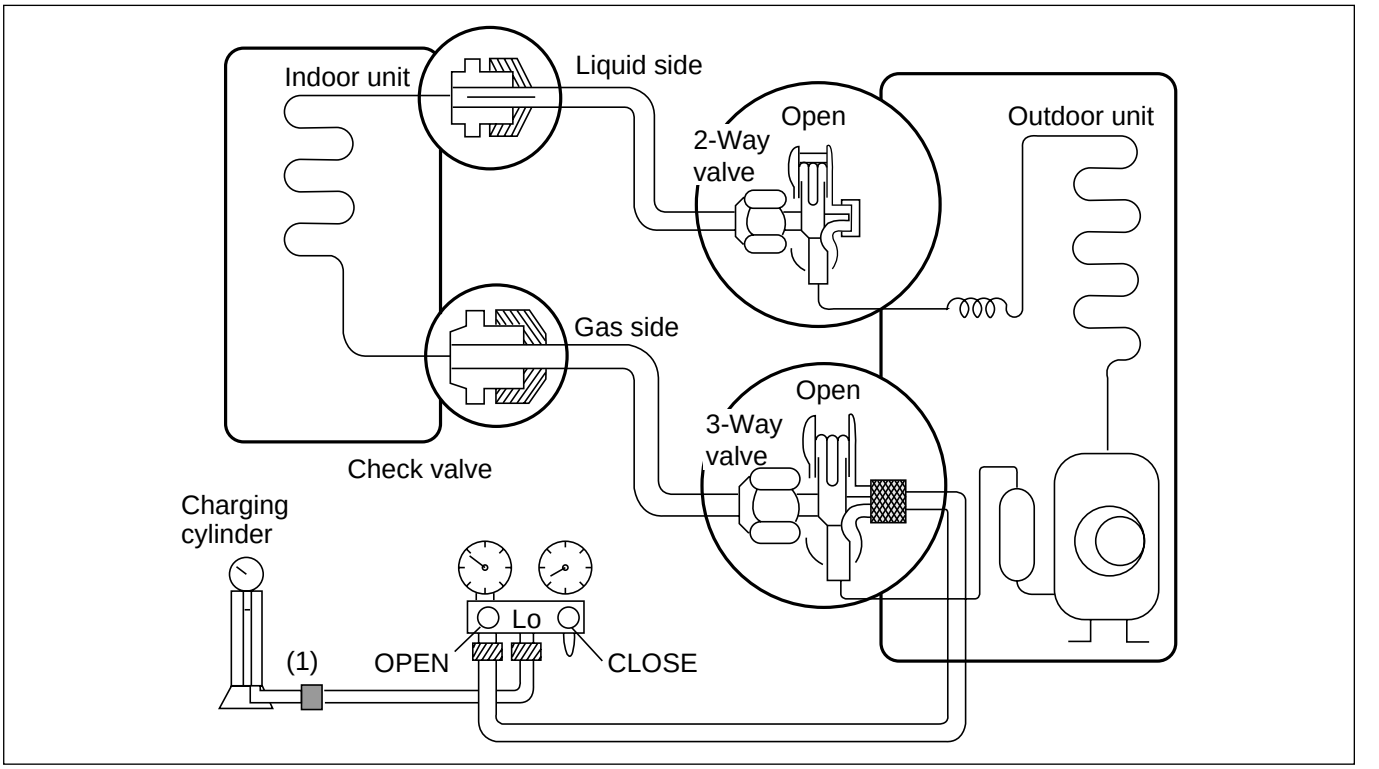
(4) Close the spindle of service port (liquid side- high pressure) and wait till pressure of gas side (low pressure) drops below 0kgf/cm^2.

(5) After the needle of gage indicates below 0 kgf/cm^2, close the valve of gas side quickly and turn off the power.

(6) Disconnect the piping between indoor and outdoor unit and then put on service cap to the service port.

3. Gas Charging

(After Evacuation)



• Procedure

(1) Connect the charge hose to the charging cylinder.

– Connect the charge hose which you disconnected from the vacuum pump to the valve at the bottom of the cylinder.

– If you are using a gas cylinder, also use a scale and reverse the cylinder so that the system can be charged in liquid state.

(2) Purge the air from the charge hose.

– Open the valve at the bottom of the cylinder and press the check valve on the charge set to purge the air. (Be careful of the liquid refrigerant). The procedure is the same if using a gas cylinder.

(3) Open the valve (Lo side on the charge set and charge the system with liquid refrigerant.

– If the system can not be charged with the specified amount of refrigerant, it can be charged with a little at a time (approximately 150g each time) while operating the air conditioner in the cooling cycle; however, one time is not sufficient, wait approximately 1 minute and then repeat the procedure.

This is different from previous procedures.
Because you are charging with liquid refrigerant from the gas side, absolutely do not attempt to charge with larger amounts of liquid refrigerant while operating the air conditioner.

(4) Immediately disconnect the charge hose from the 3-way valve's service port.

– Stopping partway will allow the gas to be discharged.

– If the system has been charged with liquid refrigerant while operating the air conditioner, turn off the air conditioner before disconnecting the hose.

(5) Mount the valve stem nuts and the service port nut.

– Use torque wrench to tighten the service port nut to a torque of 1.8 kg.m.

– Be sure to check for gas leakage.

Troubleshooting

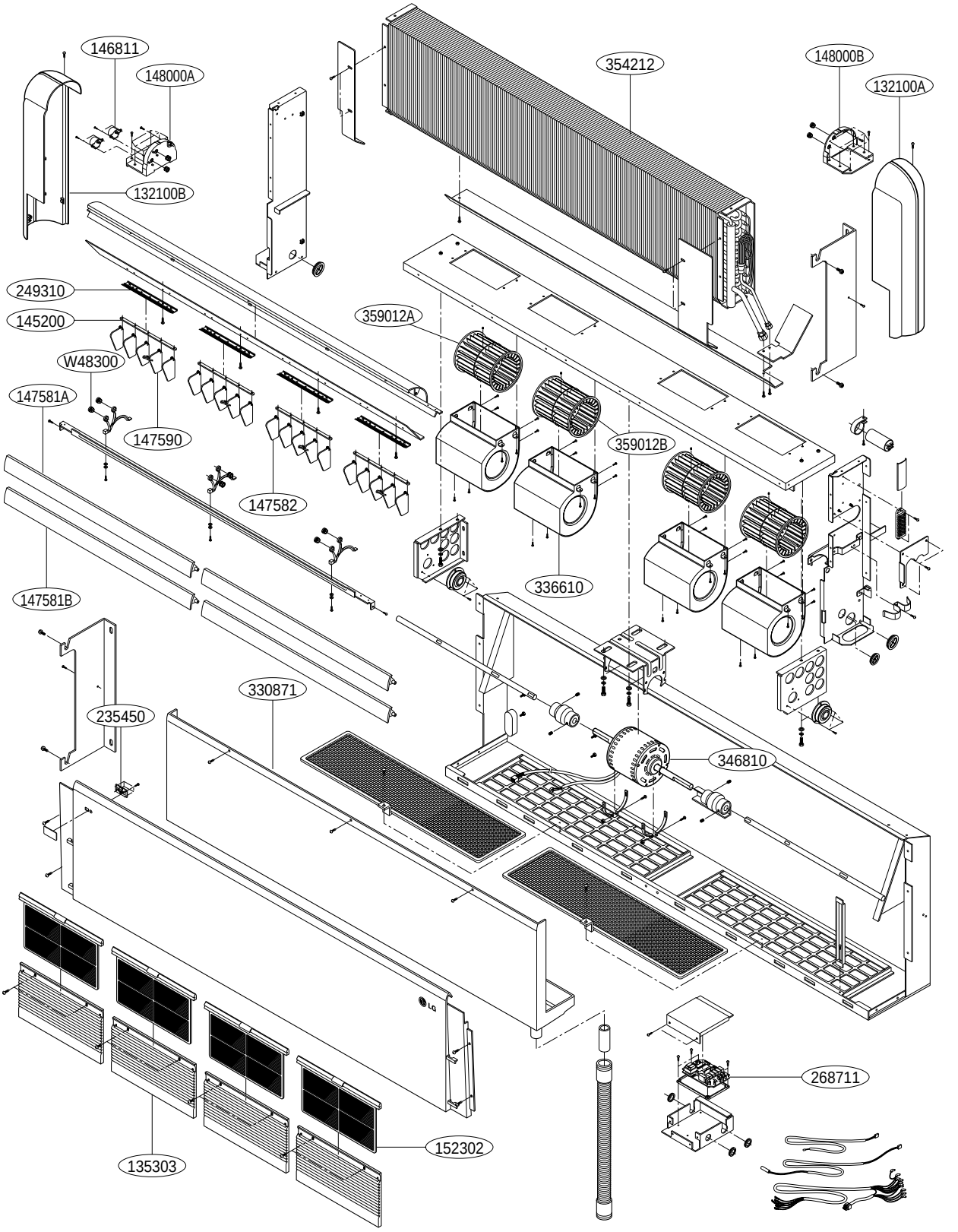
Problem	Checklist	Remedy List
1. Nothing works	Power supply to unit	Re-set circuit breaker or change fuse
	PCB fuse	Change fuse
	Interconnecting wiring	Look for break in cable or loose connection
	PCB varistor	Replace PCB
	Transformer	Replace PCB
2. Power on but system will not function	Re-set control switch	Re-set
	Handset control	Change batteries (or hand set)
3. Power on but indoor will not function	Mode on hand set	Change function
	Power on fan terminal (pcb)	No power check relay, if faulty replace
	Evaporator sensor	If short circuit, replace
	Connector plug	Repair or replace
	Motor overload	Wait to reset and check amps
	Faulty motor	Replace
	Evaporator frozen	Defrost and check filter / gas charge & de-ice sensor
	Motor capacitor	Replace
4. Power on but compressor will not function	Room temp set point	Adjust on hand set
	Relay on PCB	Replace relay or PCB
	Comp contactor	If power on contactor coil, replace contactor
	Comp overload	Re set, check amps and set point
	Indoor sensor(de-ice)	See control functions
	Comp internal overload	Allow comp to cool down, check gas
	Compressor terminals	Check for good connection
5. Power on but outdoor fan will not function	De-ice sensor (heating)	Wait for defrost to terminate
	Ambient temp low	Check gas pressure
	Outdoor sensor	See control functions
	Indoor coil too hot	Clean filter
	Fan relay on PCB	Replace relay or PCB
	Faulty motor	Replace motor
6. Power on but indoor manual key will not function	Connector plug	Replace or repair
	Faulty switch	Replace switch or PCB
7. Power on but indoor display will not function	Connector plug	Replace or repair
	Faulty display	Replace display or PCB
	Reset switch position	Correct or operate once
8. Indoor up-down louver will not function	Handset control	Change function
	Faulty stepping motor	Replace
	Connector plug	Replace or repair

Problem	Checklist	Remedy List
9. Indoor left-right swing will not function	Handset control	Change function
	Faulty swing motor	Replace
	Connector plug	Replace or repair
	Relay on PCB	Replace relay or PCB
10. Power on but indoor fan lost Hi or Med or Low speed	Handset control	Change function
	Faulty motor	Replace
	Connector plug	Replace or repair
	3 relays on PCB	Replace relay
11. Condenser fan short cycles on cooling	Outdoor sensor	See control functions
	Unit location	Check for air recirculation
12. High discharge pressure cooling cycle	Indoor sensor faulty	Replace
	Dirty condenser coil	Clean
	Gas overcharge	Reduce charge
	Air recirculation	Move unit
	Faulty motor	Replace
	Cap tube blocked	Replace
16. System not cooling	PCB relay	Replace or change PCB
	Low gas charge	Add gas and leak test
17. High suction / low discharge pressure	Reversing valve sticking	Replace
18. Outdoor coil icing up	Ambient temp low	Wait for de - ice initiation
	Dirty condenser coil	Clean
	Outdoor de - ice sensor faulty	Replace
	PCB faulty	Replace
	Low gas charge (heating)	Add gas and leak test
19. Indoor coil icing up	Indoor set point too low	Adjust temperature
	Dirty filter	Clean filter
	Faulty indoor sensor	Replace
	PCB faulty	Replace
	Indoor fan not working	Replace
	Low gas charge	Replace
		Add gas and leak test

Exploded View

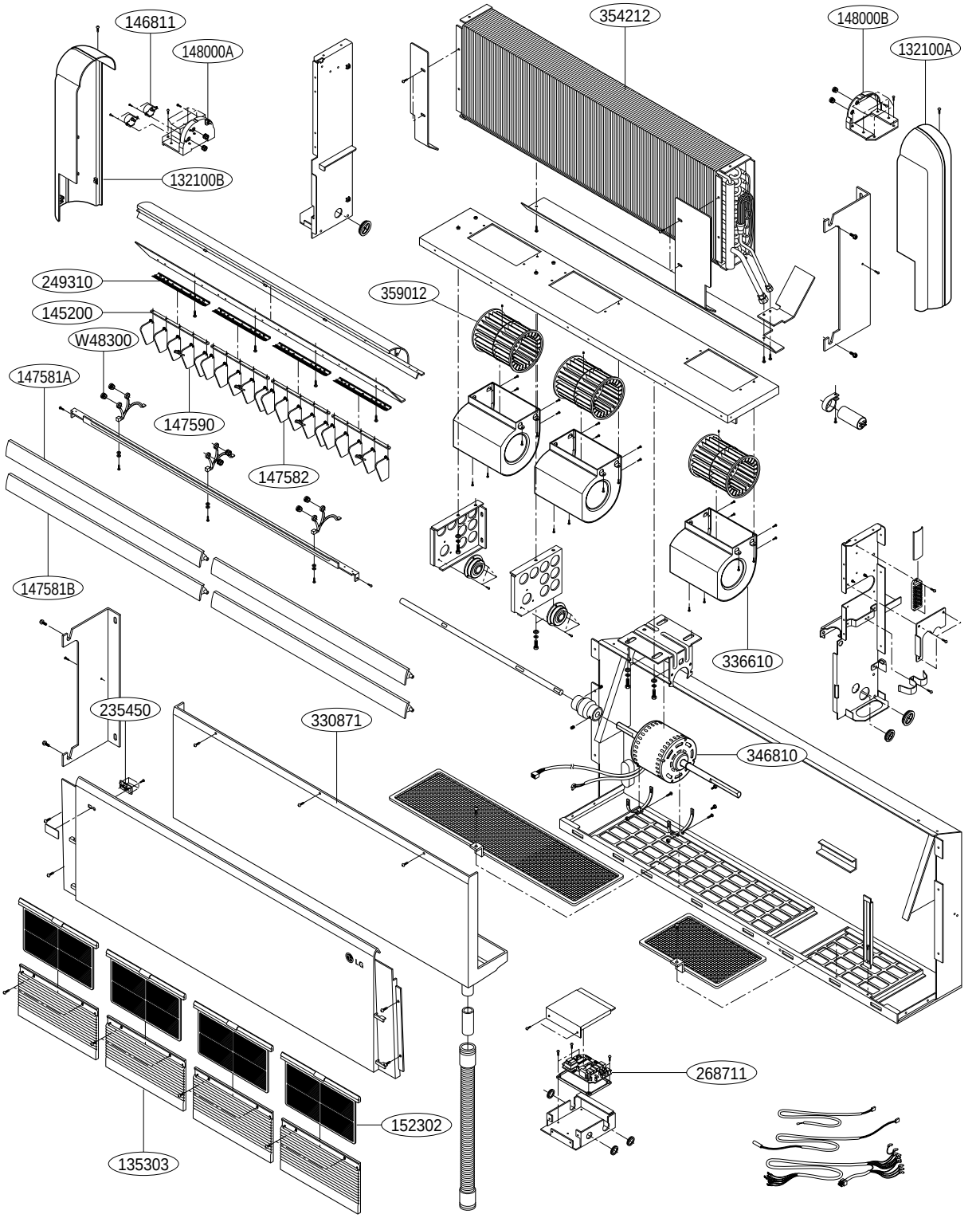
1. Indoor Unit

- **Models: LV-C362FLA0, LV-C422FLA0, LV-C602HLA0, LV-C60BHLA0**



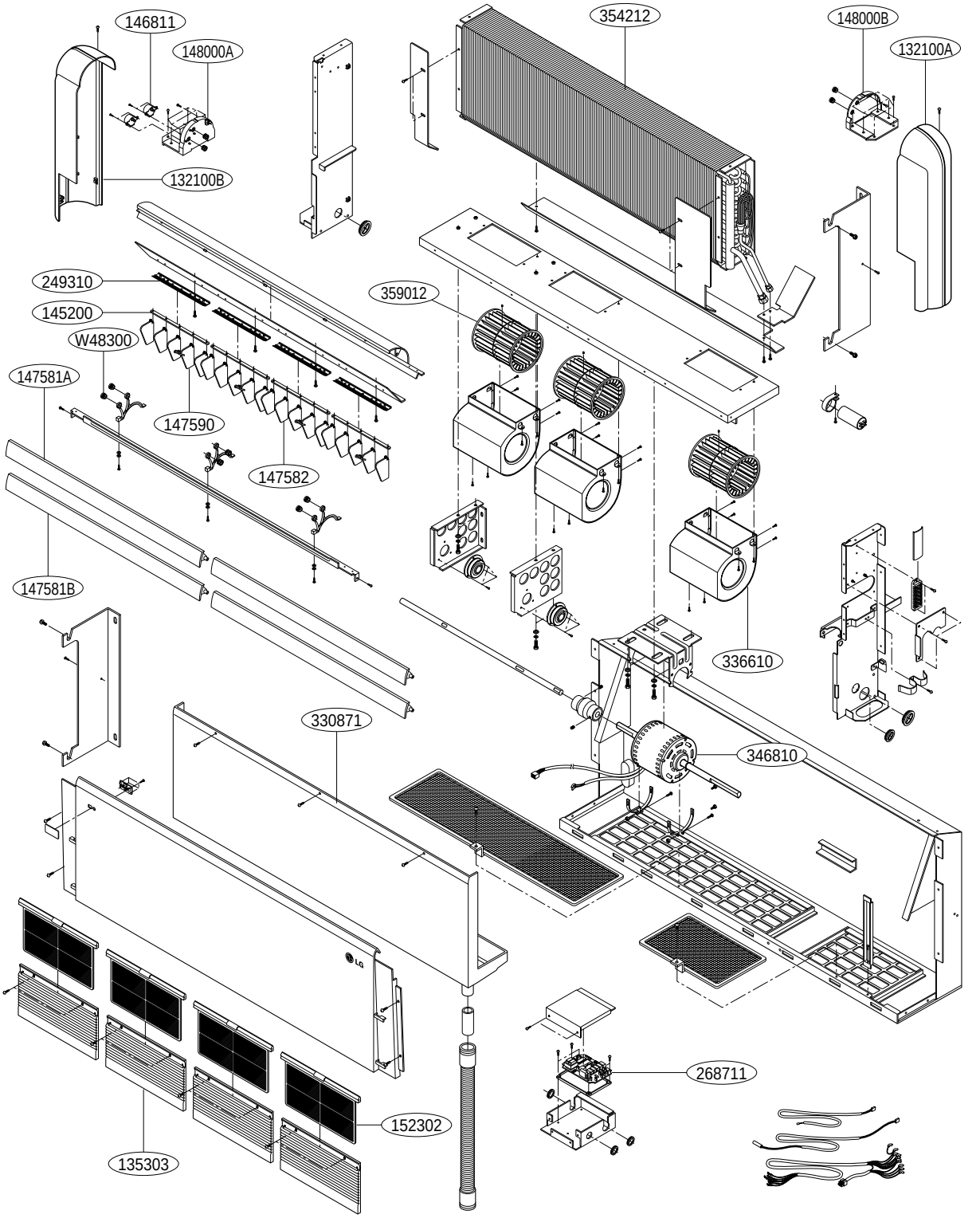
2. Indoor Unit

- **Models: LV-C482GLA0, LV-C48BGLA0**



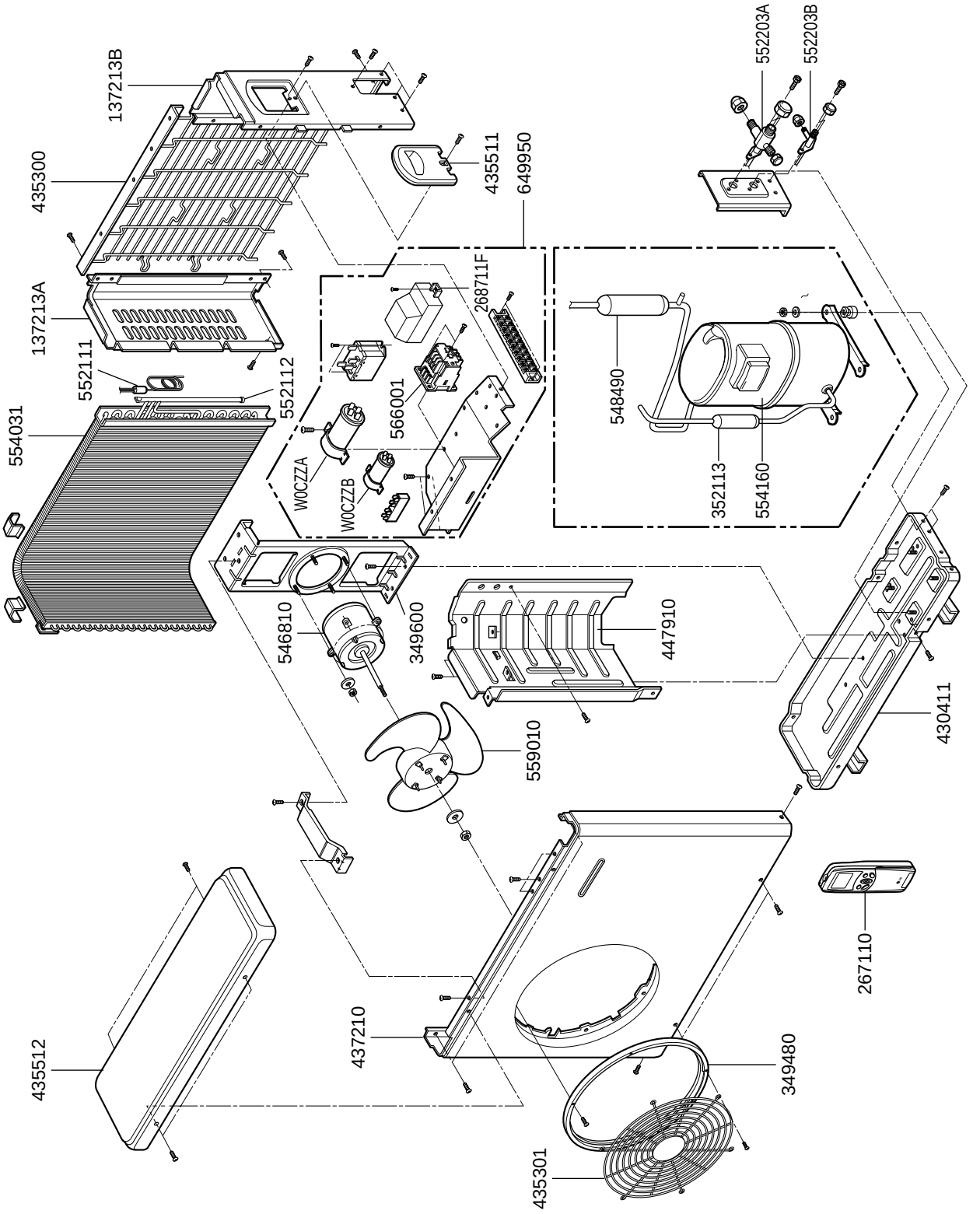
3. Indoor Unit

- **Models: LV-C482GLA0, LV-C48BGLA0**



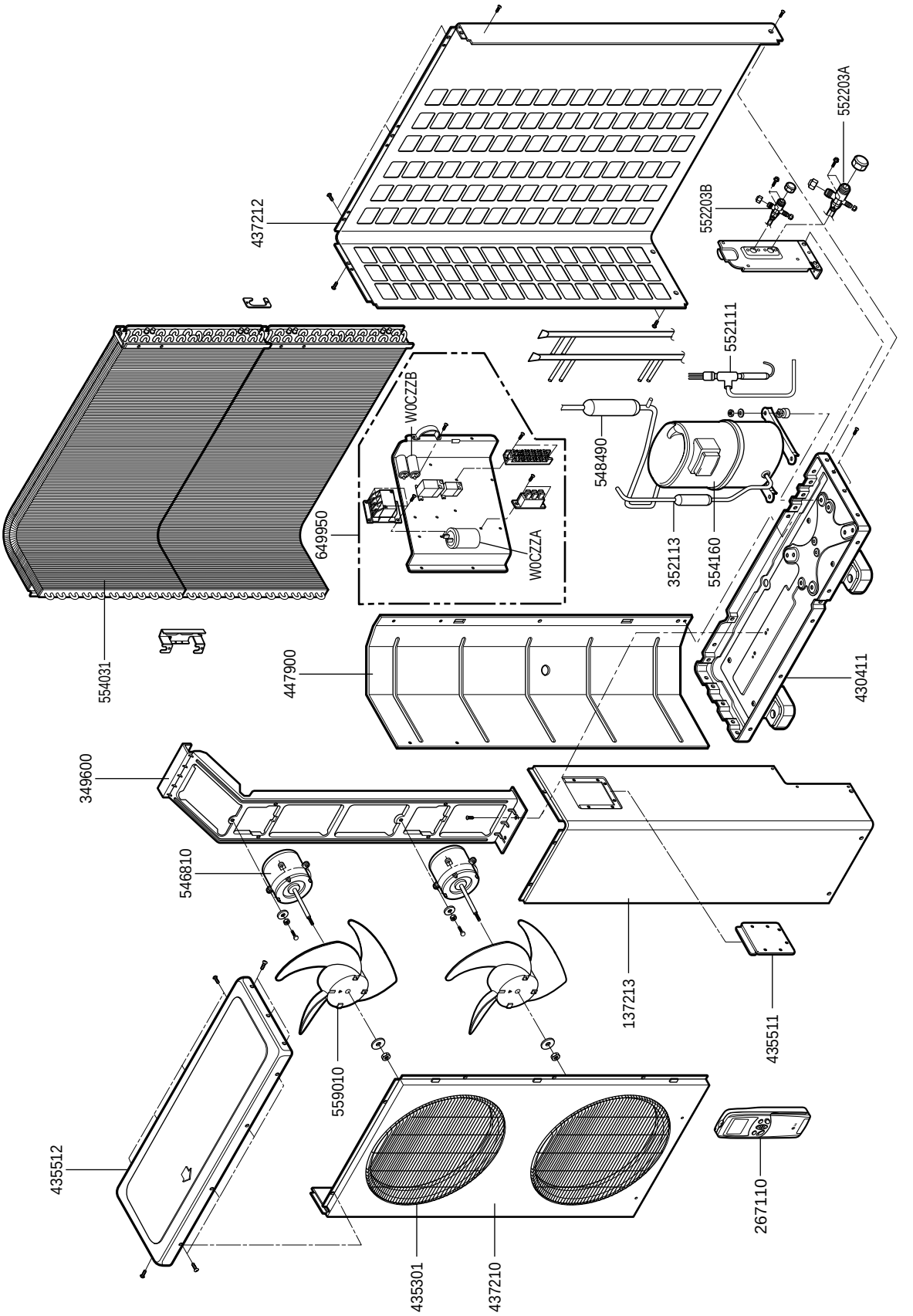
4. Outdoor Unit

- **Models: LV-C362FLA0**



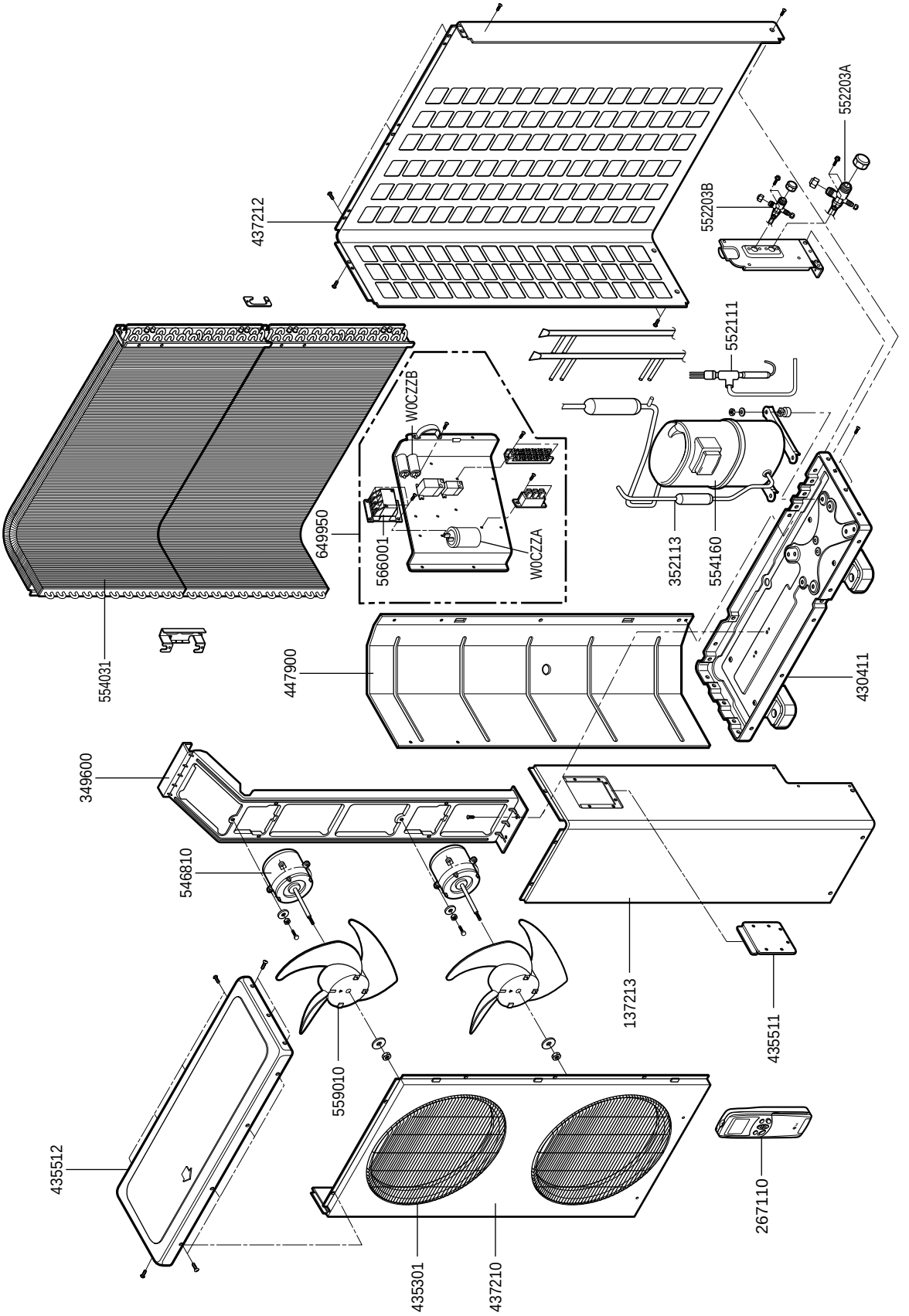
5. Outdoor Unit

- **Models: LV-C422FLA0, LV-C482GLA0, LV-C602HLA0, LV-C48BGLA0, LV-C60BHLA0**



6. Outdoor Unit

- **Models: LV-C422FLA0, LV-C482GLA0, LV-C602HLA0, LV-C48BGLA0, LV-C60BHLA0**



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