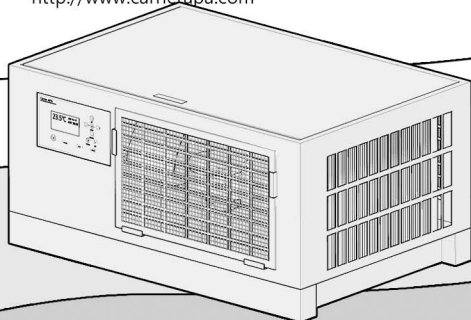


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Air-L Series

L13P/L17P/L24P/L36P
(EL070/EL090/EL120/EL135)

User Manual ver.2.0

First of all, please read this manual.

At first, please read this manual before driving the unit.

For further instructions, please refer to the manual.

Design and specifications of product could be changed by performance.

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Precaution for Safety

Do respect followings for safety precaution

Marks Meanings

- ✓ Caution) It indicates 'caution'.
- ⊘ Prohibition) It indicates 'prohibition' and presents 'not to do'.
- ! Compulsion) It indicates 'compulsion' and presents 'to do with obligation'.

On installation



- ▷ To read the instruction manual carefully to avoid the fault of unit.
(It may cause danger of electric shock ,leakage and fire)
- ▷ Be careful of water leakage, if drain hose not installed with stability.
(Condensed water fall into elevator interior, if installation is not stable.)



- ▷ Use exclusive circuit breaker and electric leakage interrupter according to installation conditions. (It may cause electric shock ,if not installed.)
- ▷ Do grounding properly.
(It may cause breakdown and electric shock, if not grounded.)

On Use



- ▷ Do not disassemble, repair or remodel.
(It may cause electric shock ,fire and breakdown .Contact with unit supplier in case of break down.)
- ▷ Do not step on or put heavy material on unit.
(It may cause electric shock or break down.)



- ▷ Do not put your finger or foreign material into supply/return air hole of unit.
(It may cause fire and breakdown of unit.)

On Check

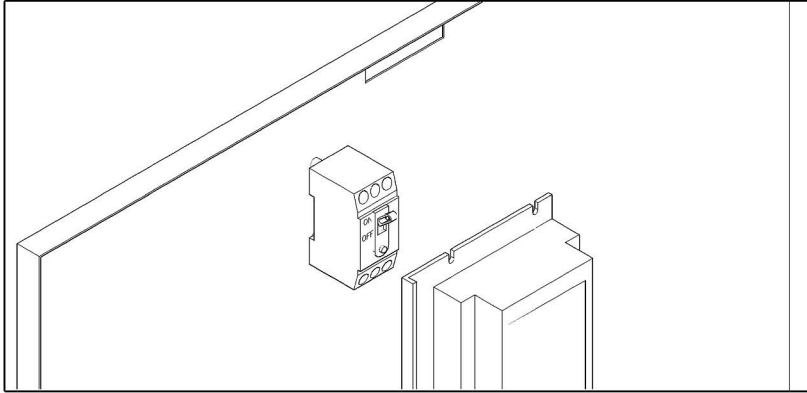


- ▷ after switching off the power and stopping fan operation ,Start cleaning.
(It may cause electric shock or danger of injuries.)
- ▷ clean air filter once in 4weeks.
(It may cause breakdown. Clean it more frequently in dusty environment.)
- ▷ Make inquiries to supplier, you should switch off power immediately, if there is any strange noise, burning smell or smoke found in operation.
(It may cause danger of electric shock and fire)
- ▷ Do not give severe shock to remote monitor or disassemble it.

How to Operate

When using at first

▷ It is check list when using at first.



- ▷ Check distribution box(or in CP) of machine room)and breaker switch-on of unit.
- ▷ Check air-con switch-on of OPB in the elevator.
(If switch is off, the unit doesn't drive.)

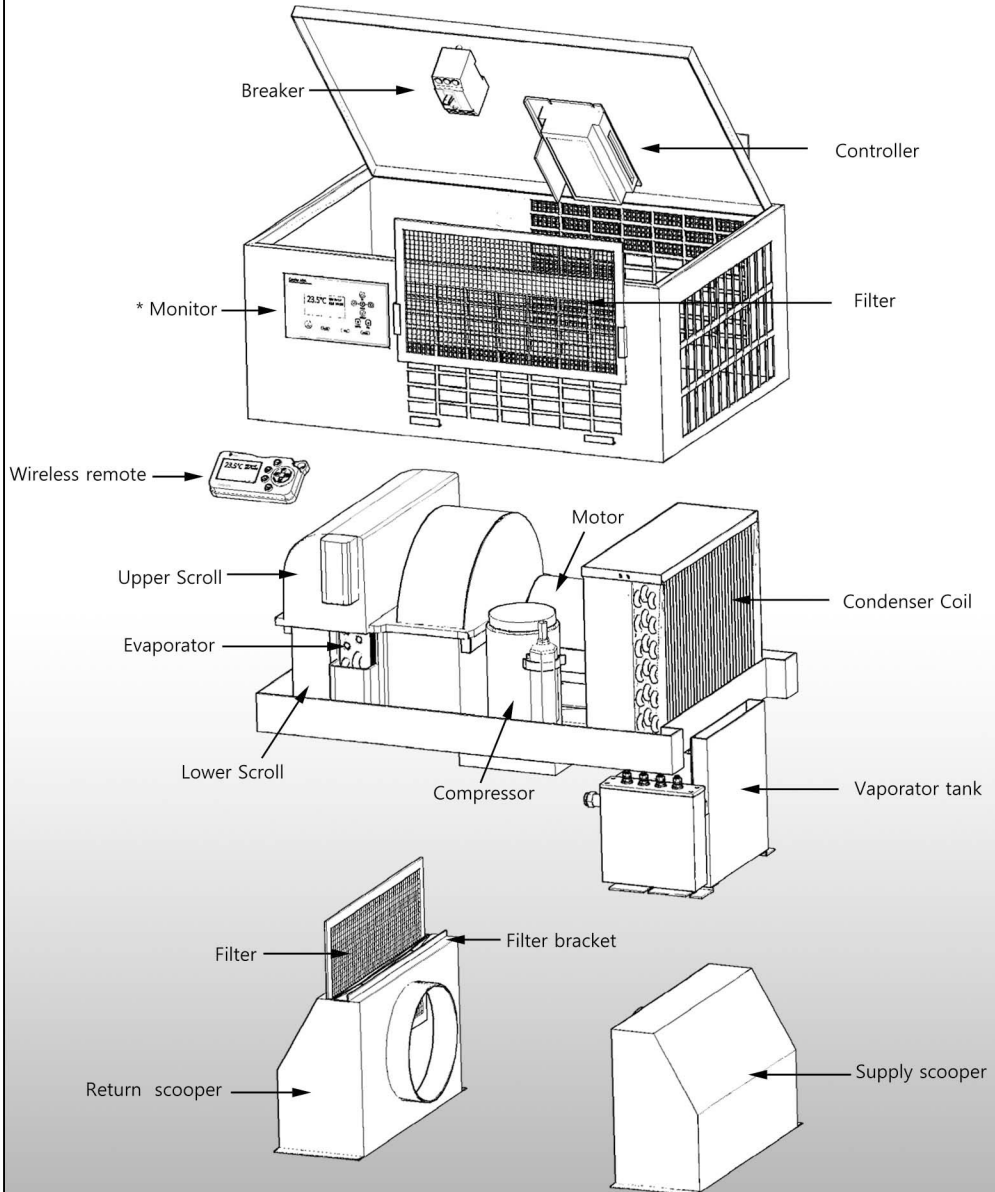
Unit property

- ▷ If cool wind is not blowed DIRECTLY, when the unit is driving.)
 - Cool wind will blow after 1min beacuse of protecting the compressor.
- ▷ If cool wind doesn't blows continously.
 - If temp of the elevator is lower than setting temp of the unit, automadically It is to be fan mode.
- ▷ If the unit's fan is driving continously, when stopping the unit by auto or manual.
 - Compressor protection operation: for 3min (please refer page21-parameter)
 - Vaporizer tank protection operation: for 10~30min (please refer page22 parameter)
- ▷ Condensation from air hole of the elevator ceiling - Please put aluminium lagging sheet to air guide plate.

Name and Function of each parts

Check the name of parts.

Design and specifications of product may have changed by performance.



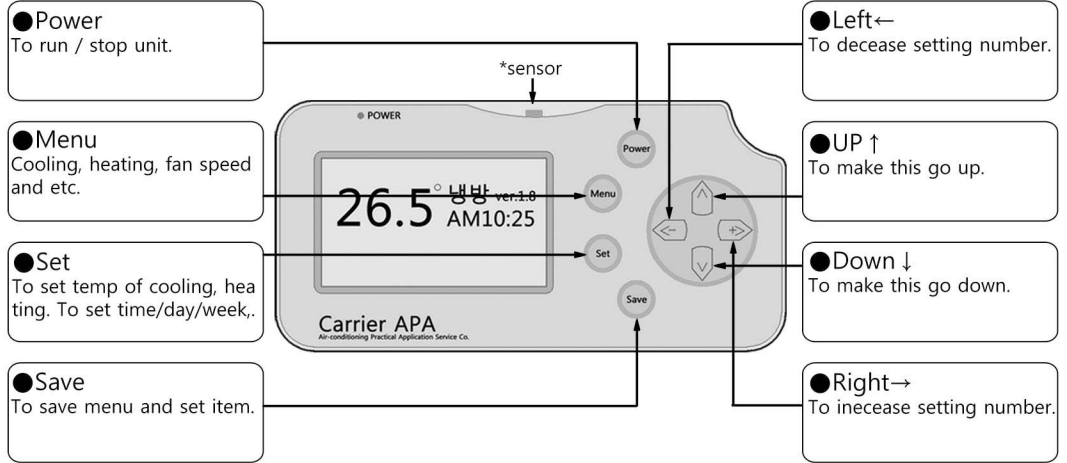
* It could be excepted if using wired remote.

Name and Function of each parts

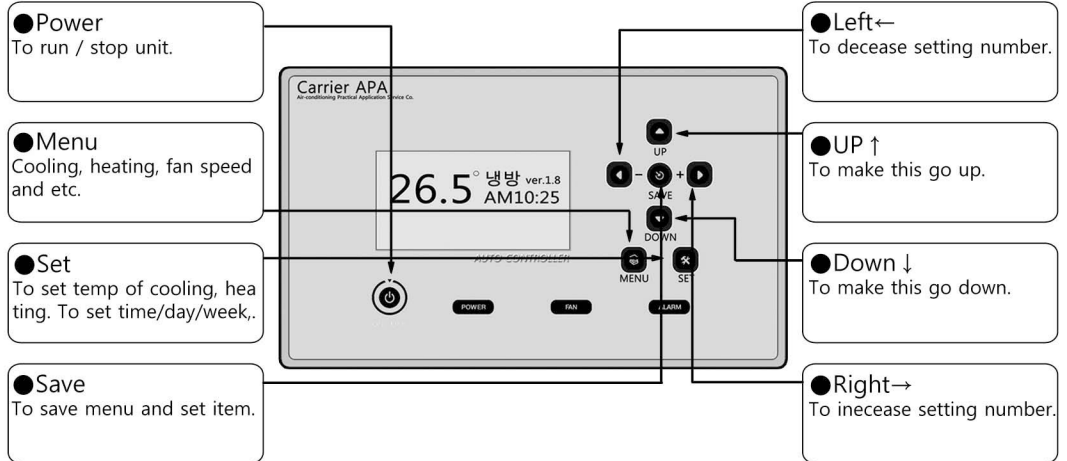
Check the name of parts.

▷ Monitor could be excepted if using wired remote.

Wireless remote



monitor

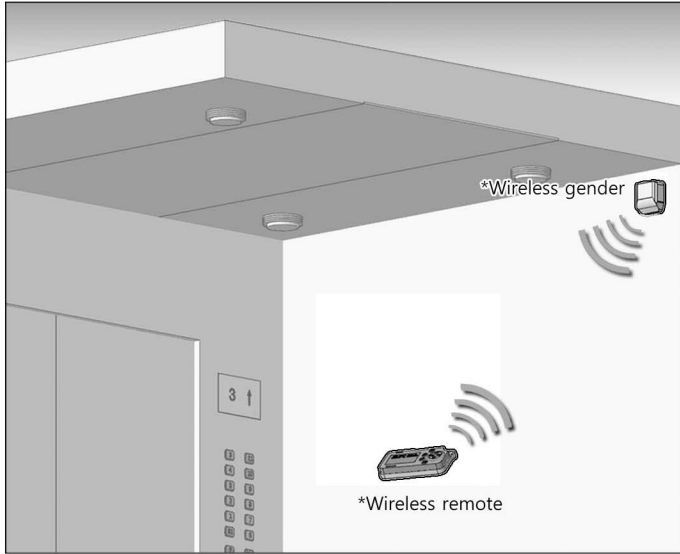


Wireless Remote

*유선 리모컨 사용시 제외될 수 있습니다.

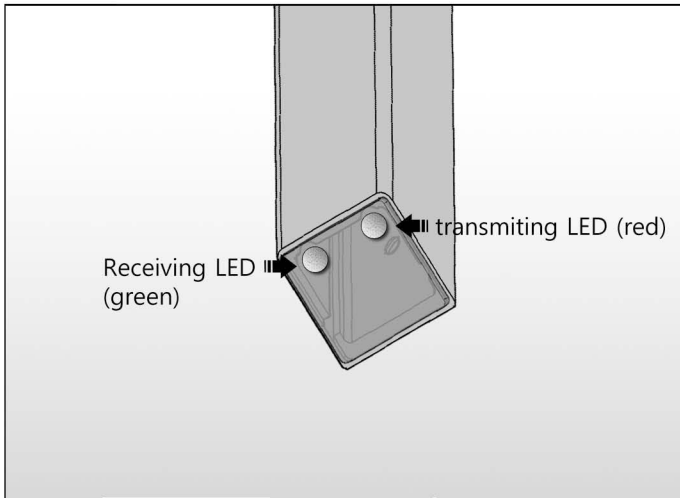
Wireless remote connection

▷It can control all of air-con function in the elevator as wireless.



※When saving data, each sensor have to be kept as above picture.

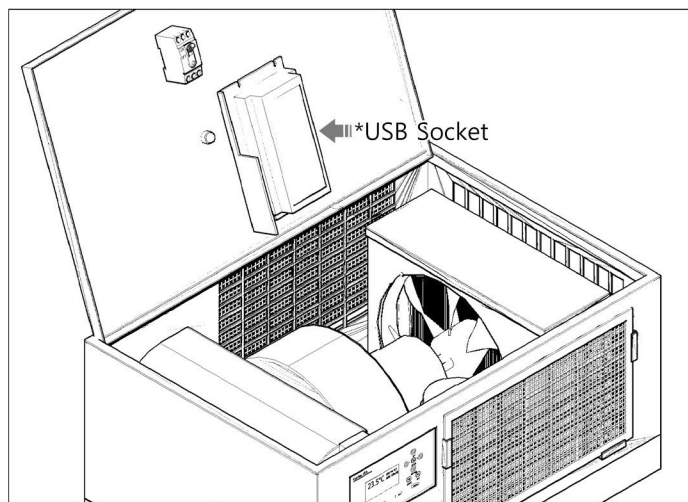
Transmitting, Receiving LED



Wireless remote

When using wireless remote to unit directly

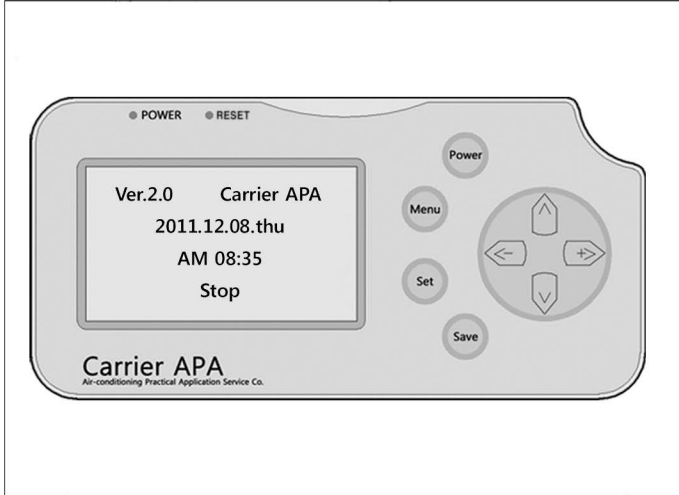
▷ Open the cover of unit, connect a usb cable to usb terminal of controller as below.



Wireless remote

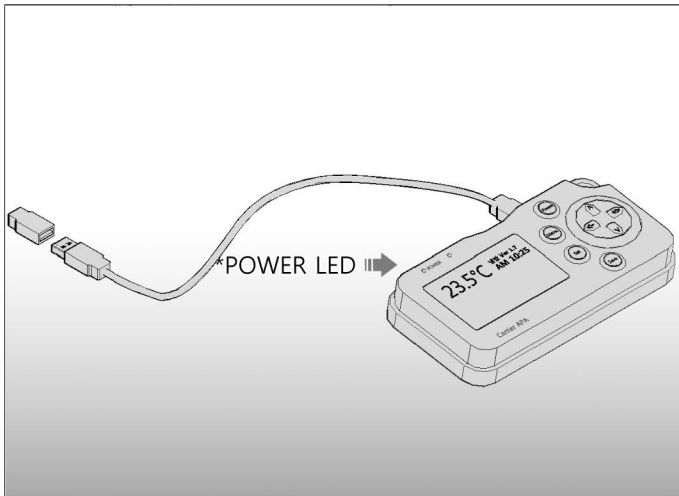
When using remote

- ▷ Wireless remote is two-way communication system(IR system).
- ▷ When saving data, remote control take a few seconds; 1~3sec.



Charging

- ▷ Remote control is charged with USB charging cable to PC USB.
- ▷ When charging is done, *POWER LED will be Green.

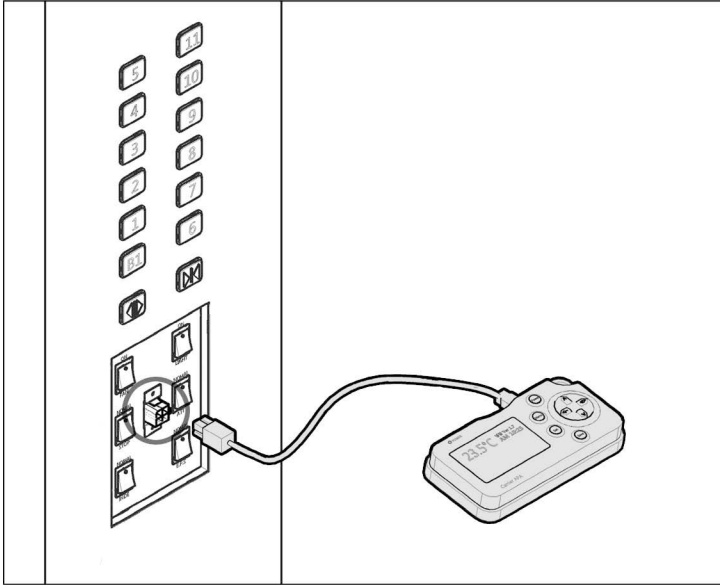


Name and Function of each parts

Check the name of parts.

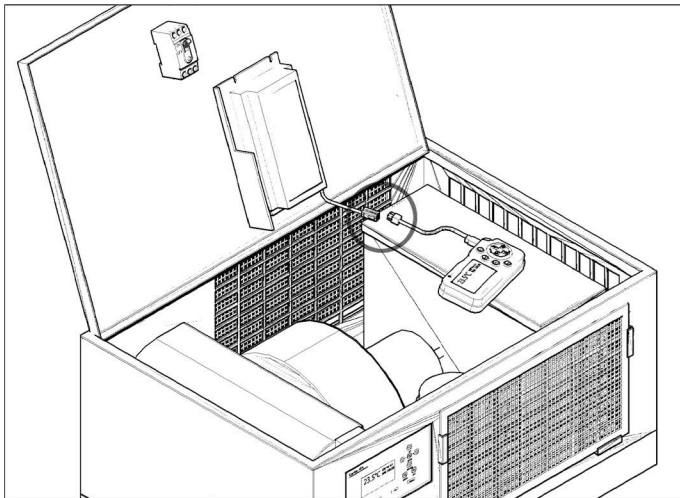
Wired remote connection

▷ Wired remote can control all functions of unit in the elevator.



When using wired remote to unit(repair or a/s)

▷ Open the cover of unit, disassemble a terminal(4pin) from controller, and assemble it with a terminal of wired remote as below the picture.



How to Operate

Stop Screen

▷ stop screen, when unit is not running.

Ver.2.0	←	Carrier APA	Current version
2011.12.08.thu			Current date, time.
AM 08:35	←		
Stop	←		Current status

▷ When air-con switch is Off in the OPB box.

Ver.2.0	Carrier APA	If switch is off, the air-con doesn't run.
2011.12.08.thu		
AM 08:35		
Switch OFF		

▷ When air-con is stopping, Air-con runs heat of vaporizer only within 60min.

Ver.2.0	Carrier APA	When within 60min or water level is Low, Air-con will be Off. If don't want this function, change parameter - eva enable.; unused.
2011.12.08.thu		
Protectiong vaporizer		
Remain time: 59min		

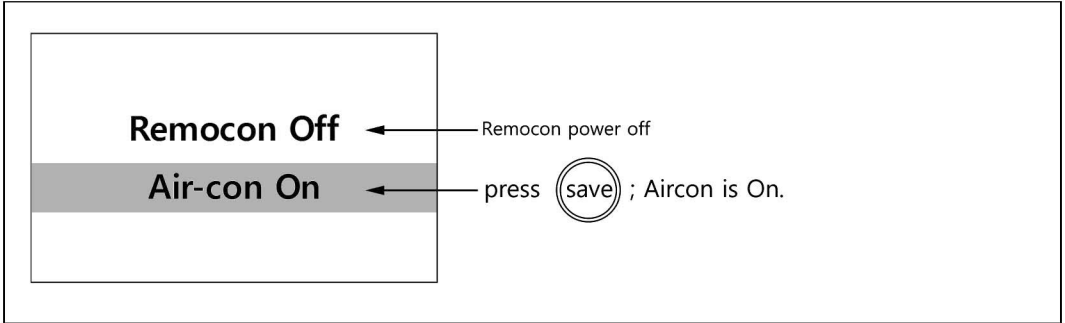
▷ When charging the remote.

Ver.2.0	Carrier APA
11.12.08.thu	
AM 08:35	
Charging >>>>	

How to Operate

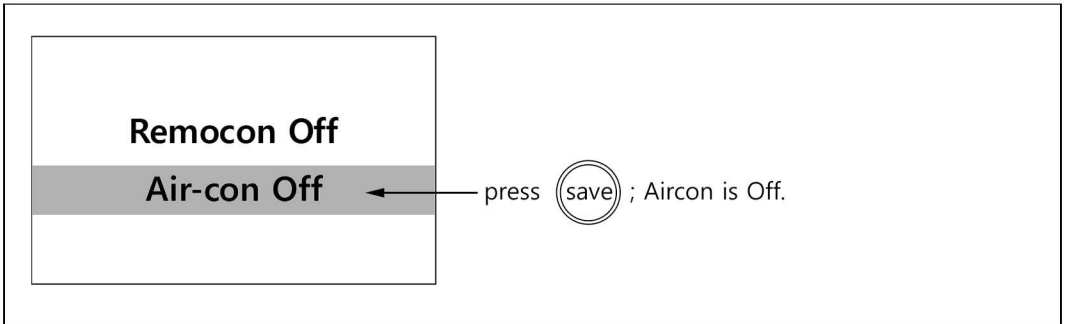
Running Air-con

▷ Press Power button, when air-con is off.



Stopping Air-con

▷ Press Power button, when air-con is on.



Changing schedule-mode

▷ When schedule-mode is On, running or Stopping of Air-con can't control.
At that time, change schedule mode; Menu - Schedule mode - Mode set : Off.



How to Operate


Running screen

▷ Running screen, when unit is running.

Ver.2.0	21.0°C	← Setting Temp
11.12.08.thu	middle	← Water level
AM 08:35	vaporizer	← heating of vaporizer
Cool Low	Week run	← Mode / Fan speed / reservation driving

Mode


▷ Press menu button.

1)Mode set:	Cool	← Select "Cool—Fan—Heat" and press  button. (←, → select button)
2)Cool set:	21.0°C	
3)Fan speed:	Low	
4)Schedule Set	+ >	

※If schedule driving is using, Mode doesn't change.
At first, Change schedule mode. ; menu-schedule set - off


Setting temperature

▷ Press menu button.

1)Mode set:	Cool	
2)Cool set:	21.0°C	← Select temp and press  button. (←, → select button)
3)Fan speed:	Low	
4)Schedule Set	+ >	

Fan speed

▷ Press menu button.

2)Cool set:	21.0°C	
3)Fan speed:	Low	← Select "Low—High" and press  button. (←, → select button)
4)Schedule Set	+ >	

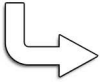
How to Operate

Resevation driving

▷ Press menu button.

- 1) Mode set: Cool
- 2) Cool set: 21.0°C
- 3) Fan speed: Low
- 4) Schedule Set + >

← Press "→" button.



- 1) Schedule: On
- 2) Day Set: Weekday
- 3) Weekdays Set
: Cool
- 4) Start Time Set
: 08H
- 5) Stop Time Set
: 20H

← Select "On - Off."

← Select day of the week

← Select Mode "stop-cool-fan-heat"

← Start time

← Stop time

(←, → Select button)

※After select, press  button.

※"Weekday" means from monday to friday.

※If start time is ahead of stop time, Aircon can't driving.

ex) Start time 13H, Stop time 12H -> Aircon running (X)

How to Operate

Alarm List

▷ press Set button.

1)Alarm list	+ >
2)Option:	unused
3)Time Set	+ >
Parameter	

← Press "→" button.

<Check Alarm>
check Alarm list.

Alarm List

1)Temperature Alarm
2012.11.12. AM08:39

2)Fiter clean Al-


<Alarm List>

Alarm	contents	remarks
Temperature Sensor Alarm	To incorrect sensor wire connection	check sensor wire connection
Full Water Level Alarm	When water of condensate evaporator rises to high level	Compressor stopped
High Temp. Alarm	Higher room temperature than high temperature alarm setted.	Only fan operating
Sensor Alarm	Incorrect connection of level wires.	Check wire connection
Fan Alarm	When power input short circuit 5 seconds above in fan operation.	Check wire connection
Over Current Alarm	Higher electric current Higher than setting value continued 5 seconds above.	Check wire connection
Filter clean alarm	When filter cycle is arised.	Clean Filter and evaporator

Option

▷ Press set button.

1)Alarm list	+ >
2)Option:	unused
3)Time Set	+ >
Parameter	

← select "unused—O2—UV—O2+OV"
and press  button.

How to Operate

Current time setting

▷ Press set button.

1)Alarm list	+ >	
2)Option:	unused	
3)Time Set	+ >	← Select "→" button
Parameter		

(Time Setting)

1)Year 2012Y

2)Month: 09M

3)Day: 23D

4)Week: Sun

5)Hour: AM 08H

6)Min: 10M

7)Second: 15S

Select Time and press button.

Parameter Setting

▷ press set button.

Parameter	Set value	-	-	
Cool/Dif	1.0°C	1.0°C~3.0°C		Cool temp Deviation
Heat/Dif	1.0°C	1.0°C~3.0°C		Heat temp Deviation
Com/Set	Monitor	Monitor—PC		Monitor : remote control / Pc : Pc system
Eva Enable:	Use	Use—used		After unit stopping, Running heat of vaporizer within 60min
Language:	English	Korean—English		Language
F/Alarm	500h	500hr~1500hr, Stop		Filter clean time / stop
M/C No	1No	1~99		Unit name of Number
P/reset	3초	0초~180초		If unit is running, Stop time is run for this time.
P/delay	0초	0초~180초		If unit is stopping, Fan mode is run for this time.
H/Temp	50°C	40°C~60°C		If current temp is higher than this value
C/setting	25A	25A~35A		If current is higher than this value
Temp Dif	0°C	0°C~3°C		Corrention of Setting temp
Curr Dif	0A	0A~5A		Corrention of current

Maintenance Guide

Periodical maintenance

▷ Following items should be checked on periodically to extend the life span of machinery and to avoid in advance the troubles during its use.

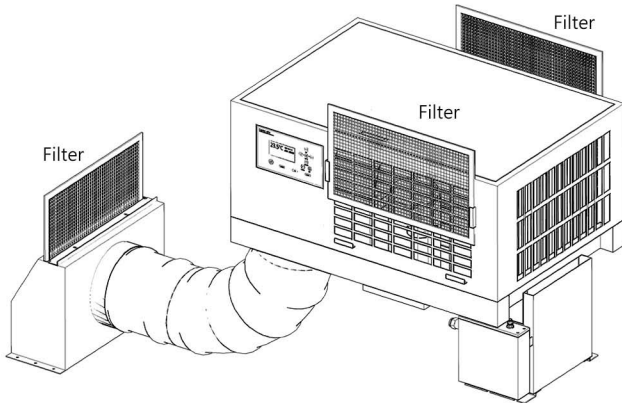
Items	Maintenance period
Cleaning Filters (unit filter 2 EA, return scooper filter 1 EA)	once a month
dust of coil in Evaporator/Condenser coil (Removal by brushing, after opening each cover of coil)	more than once a year
Removal of foreign material in vaporizer tank	once a year
state of motor, compressor, fan	once per 3 years
Inspection of Control Kit	once per 3 years

How to clean chloride filter

▷ Cleaning of chloride filter should be done, with operation stopped.

▷ Washing of chloride filter depends on air pollution and operating time, but it should be cleaned one month of cleaning period.

- ① Filter consists of three in total, with two of unit and one of return scooper.
- ② Take filter out of unit and return scooper.
- ③ Remove foreign material by vacuum cleaner or soft brush using water.
(If the dirt is severe, wash it with neutral detergent.)
- ④ After washing with neutral detergent, dry it out in shadow of good ventilation.



Maintenance Guide

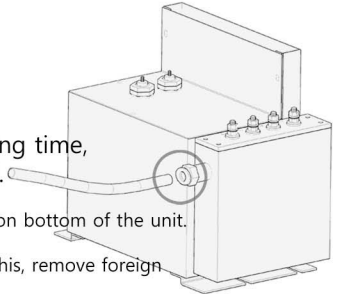
How to clean vaporizer tank

▷ Please power off of unit.

▷ Cleaning of evaporator depends on air pollution and operating time, but it can be done every year before cooling operation started.

- ① Condensate evaporator (disposal equipment for condensed water) is installed on bottom of the unit.
- ② Separate condensate evaporator from its unit.
- ③ Open condensate evaporator cover and clean its inside parts with water. On this, remove foreign material with brushing.
- ④ Separate level pad of condensate evaporator and remove foreign material fixed to electrode pole.

▷ Removal way of drain hose: It is removed by pushing back its flange of one touch fitting and pulling hose. For its coupling, it can be pushed firmly on and pulled out to be hooked by inner flange teeth.

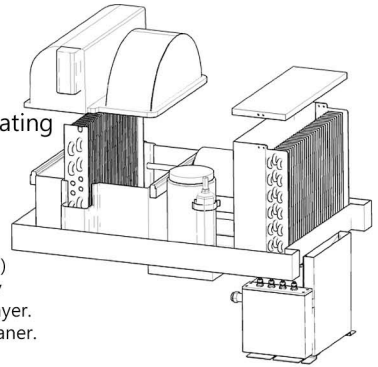


Handling mode of heat exchanger

▷ Please power off of unit.

▷ Cleaning of heat exchanger depends on air pollution, operating time, but it can be done periodically once a year.

- ① Open cover, pulling out cover handler of unit.
- ② Dismantle Evaporator and Condenser cover.
- ③ Check dusty obstruction of heat exchanger coil.
(Cooling capacity is widely decreased in case with serious dusty obstruction.)
- ④ As for heat exchanger filled with dust and foreign material, wash it out by brushing from upper direction to downward, after wetting it with water sprayer.
- ⑤ Clean dust and foreign material of heat exchanger around by vacuum cleaner.
- ⑥ Assemble it by opposite way to dismantle unit after cleaning.



- ▷ Clean heat exchanger pin, only equipped with protection tools to avoid any injury due to its much thinness.
- ▷ Use soft type of brush. It can be cleaned by nylon brush for general washing.
- ▷ As for brush washing, keep careful not to bend or damage heat exchanger pin by force.
- ▷ Wetting of the heat exchanger coil dust by water sprayer shouldn't be spilled on.

Trouble Shooting Guide

If you have problems with your elevator air conditioner, check this guide before contacting your service representative.

Problem	Check	Solution
Decreasing of Cooling efficiency	※Check return scooper filter to be air flow, blocked by dust	Re-installation after washing out the filter with water
	※Obstruction of condenser and Evaporator coil by dust	The dust is removed by brush or others After opening of unit cover.
	※Check refrigerant leakage	Check the refrigerant fill up or not through refrigerant injection valve.
	※Compressor operation	Check graphic indication of comp. operation on control monitor.
	※Evaporator operation	Check graphic indication of comp. operation on control monitor.
	※check ice stack in evaporator coil lateral	Dust removal of filters(3EA) and evaporator / condenser coil.
Noise	※General noise ※Compressor operating noise and some fan noise	There noises are normal during the operation Of the unit.
	※Mechanically vibration noise	check if compressor and each coil tube contacted with unit cover or compressor level is not correct.
	※Noise due to compressor breakdown	The noise occurred inside damage by over heating due to dust obstruction of filter coils.
Dew drop & leakage	※Dew drop at both end parts of cooling air supply duct	Setting temperature over 20 °C ,after checking if temperature setted is too low. check dusty obstruction of return scooper filter and wash out with water. check air guider of ceiling exist between duct ceiling and car interior.
	※Water leakage from air supply scooper	check dusty obstruction of return duct and wash out with water check return duct installed longer than supply duct check drain hose hang too long and re-installing with shortened length.
Decreasing of heating efficiency	※Heating resistance value is 0 [Ω] ※Fan operation stopped ※Excess heating prevent setted is lower temperature	Change Heater Check motor wiring Temperature of excess heating prevent re-set as 50 °C

Warranty

Product	Air-L Air-con	Model	L13P/L17P/L24P
Installation date		Warranty period	2years
consumer	Name		
	Address	□□□-□□□	
	Contact		

- This product is assumed the responsibility from our company in all route.
- This product is accepted by technical team who has a strict and close inspection test.
- Under the terms of the warranty, a product found to have defects due to poor quality materials or substandard workmanship will be replaced.

Consumer Indemnification Due

Consumer indemnification type	Indemnification contents	
	Within warranty period	Since warranty period
poor quality materials	Product exchange	
breakdown from normal status	Repair free	Repair at a cost
breakdown from consumer	Repair at a cost	Repair at a cost

Non-free Services

1.Not breakdown

(First of all, please read the user manual. If not breakdown and ask our services, it is caused a cost.)

- To impede unit ability from dust obstruction of filter coils.
- Ice stack in evaporator coil lateral
(please refer page 23 'Checklist before contacting a/s'.)

2.Breakdown from consumer

- unit remodeling illegal
- Incorrect electric power using(ex. 220v-110v)
- repair from unidentifiable person not our company.

3.etc

- Filter clean or coil dust clean
- product re-install
- breakdown from natural disaster

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