Inverter Single

50Hz(R410A)

LG TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK

LG
Life's Good

Inverter Single

50Hz(R410A)

LG TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK

LG
Life's Good

Inverter Single

Inverter Single-50Hz(R410A)

1. Models line up
2. Nomenclature
3. Features & Benefits
4. Specifications
5. Dimensions
6. Wiring diagrams
7. Refrigerant cycle diagrams
8. Capacity tables
9. Capacity coefficient factor
10. Operation range
11. Air flow and temperature distributions(reference data)
12. Sound levels
13. Remote controller
14. Installation

Inverter Single

Test condition of international standard

CLASSIFICATION			KSC 9306	ISO 5151	ARI 210/240	AHAM	AS 1861.1	SSA 385
Cooling Capacity	Indoor	DB°C(°F)	27.0	27.0	26.7(80)	26.7(80)	27.0	29.0
		WB°C(°F)	19.5	19.0	19.4(67)	19.4(67)	19.0	19.0
	Outdoor	DB°C(°F)	35.0	35.0	35.0(95)	35.0(95)	35.0	46.0
		WB°C(°F)	24.0	24.0	23.9(75)	23.9(75)	24.0	24.0
Heating Capacity	Indoor	DB°C(°F)	20.0	20.0	21.1(70)	21.1(70)	20.0	21.0
		WB°C(°F)	15.0	15.0	15.6(60)	15.6(60)	15.0	15.5
	Outdoor	DB°C(°F)	7.0	7.0	8.3(47)	8.3(47)	7.0	7.0
		WB°C(°F))	6.0	6.0	6.1(43)	6.1(43)	6.0	6.0
Maximum Cooling Operating	Indoor	DB°C(°F)	32.0	32.0	26.7(80)	32.2(90)	32.0	29.0
		WB°C(°F)	23.0	23.0	19.4(67)	22.8(73)	23.0	19.0
	Outdoor	DB°C(°F)	43.0	43.0	46.1(115)	43.3(110)	43.0	54.0
		WB°C(°F)	26.0	26.0	23.9(75)	25.6(78)	26.0	24.0
Maximum Heating Operating	Indoor	DB°C(°F)	27.0	27.0	26.7(80)	26.7(80)	-	-
		WB°C(°F)	19.0	19.0	19.4(67)	22.8(73)	-	-
	Outdoor	DB°C(°F)	21.0	24.0	23.9(75)	23.9(75)	-	-
		WB°C(°F)	15.0	18.0	18.3(65)	18.3(65)	-	-
Enclosure Sweat / Condensate Disposal	Indoor	DB°C(°F)	27.0	27.0	26.7(80)	26.7(80)	27.0	27.0
		WB°C(°F)	24.0	24.0	23.9(75)	23.9(75)	24.0	24.0
	Outdoor	DB°C(°F)	27.0	27.0	26.7(80)	26.7(80)	27.0	27.0
		WB°C(°F)	24.0	24.0	23.9(75)	23.9(75)	24.0	24.0
Freeze-up/ Low Temperature	Indoor	DB°C(°F)	21.0	21.0	19.4(67)	21.1(70)	21.0	21.0
		WB°C(°F)	15.0	15.0	13.9(57)	15.6(60)	16.0	16.0
	Outdoor	DB°C(°F)	21.0	21.0	19.4(67)	21.1(70)	21.0	21.0
		WB°C(°F)	15.0	15.0	13.9(57)	15.6(60)	16.0	16.0

KS : Korea Standard
ISO : International Standard Organization
ARI : Airconditioning and Refrigeration Institute
AHAM : Association of Home Appliance Manufacturers
AS : Australia Standard
SSA : Saudi Arabian Standard

Inverter Single

General Description

Split type of Air conditioners are known by the category name of Wall Mounted Type of units.These units can be easily installed in a small space and have exceptional Cooling capacity.Designed for Low-noise operation,it ensures a pleasant air conditioned environment.

LG Offers various types of units to its customers to suit for the best application and requirement.The following are the important categories offered by LG :

1) General Wall Mounted Type Units : Units with Simplicity in design.
2) Art Cool Units : A new concept of cooling introduced by LG in the field of Air Conditioning.
3) Inverter Units : These units are capable of minimising the Power consumption with the unique inverter technology.

Some of the Important Features of these units are listed below :

1) Providing Health to the Customers : By having the Filters such as Plasma Filter which is capable of removing the Micro Organisms up to 0.1 microns.
2) Long Term Money Saving : By providing Features such as Gold Fin, Auto Clean etc. to maintain the same performance for the years.
3) Best Comfort : With Features such as Sleep Mode,Timer,Auto Restart etc.

The Units are available with many standard and optional features which gives our Customers the free choice to select the unit of their own desire.For details refer to the Detailed specification followed after this description.

LG Electronics Inc.

Air Conditioning Company

Inverter Single
1. Models Line up

1.1 Indoor Unit

Indoor Type \ kW (kBtu/h)	2.50(9)	3.50(12)	5.28(18)	7.03(24)
ART COOL Mirror 	ES-W096ERH2 (LG ARTCOOL INV 14)	ES-W126ERH2 (LG ARTCOOL INV 17)	ES-W1868RH3 (LG ARTCOOL INV 25)	ES-W2468RH2 (LG ARTCOOL INV 30)
Wall Mounted Type 	ES-W0964SW3 (S09AE) ES-W0964SG2 (LG INV 12)	ES-W1264SW3 (S12AE) ES-W1264SG2 (LG INV 15)		
Wall Mounted Type 	ES-W096E3G3 (S09AT) ES-W096E0G3 (S09AT)	ES-W126E3G3 (S12AT) ES-W126E0G3 (S12AT)	ES-W1865SH3 (S18AT) ES-W1865SH2 (LG INV 20)	ES-W2465SH2 (S24AT) ES-W2465SH2 (LG INV 25)

1.2 Outdoor Unit

		ES-W0964SW3 (S09AE) ES-W096E3G3 (S09AT) ES-W0964SG2 (LG INV 12) ES-W096ERH2 (LG ARTCOOL INV 14) ES-W096E0G3 (S09AT)	ES-W1264SW3 (S12AE) ES-W126E3G3 (S12AT) ES-W1264SG2 (LG INV 15) ES-W126ERH2 (LG ARTCOOL INV 17) ES-W126E0G3 (S12AT)
No. of connectable indoor units		Max.1	
Total capacity index of connectable indoor units	kW	2.50	3.50
	kBtu/h	9	12
Power supply		1ø, 220-240V, 50Hz	
Chassis			

Heat pump		ES-W1865SH3 (S18AT) ES-W1868RH3 (LG ARTCOOL INV 25) ES-W1865SH2 (LG INV 20)	ES-W2465SH2 (S24AT) ES-W2468RH2 (LG ARTCOOL INV 30) ES-W2465SH2 (LG INV 25)
No. of connectable indoor units		Max.1	
Total capacity index of connectable indoor units	kW	5.28	7.03
	kBtu/h	18	24
Power supply		1ø, 220-240V, 50Hz	
Chassis			

* Denotes the color or the picture used on the front grille of the unit (refer to the Nomenclature section)

2. Nomenclature

E	S		W	1	2	6	4	S	W	3
1	2	-	3	4	5	6	7	8	9	10

Code	Type	Code of Model	Meaning
1	Production Center, Refrigerant	A~Z	L: Chang-won R22 A: Chang-won R410A K: Turkey R22 E: Turkey R410A
2	Product Type	A~Z	S: Split Type Air Conditioner
3	Model Type	A~Z	C: Cooling only Q: DC Inverter C/O H: Heat pump W: DC Inverter H/P
4, 5	Capacity	0~9	Cooling/Heating Capacity Ex. "09" → 9,000 Btu/h
6	Electric Range	1~9 A~Z	1: 115V/60Hz, 2: 220V/60Hz 3: 208-230V/60Hz 5: 200-220V/50Hz 6: 220-240V/50Hz 7: 110V, 50/60Hz
7	Chassis	A~Z	Name of Chassis of Unit Ex. "5": S5, "4": S4, "8": S8, "E": SE
8	Look	A~Z	Looks : S – Look (Panel Type), R – Mirror (Black)
		0~9	SE Chassis :- (0) S – Look (1) D – Look (3) E – Look (4) P – Look
9, 10	Function	A~Z	

A	Basic
B	Basic+4Way
C	Plasma Filter
D	Plasma Filter+4 Way
E	Tele+LCD
F	Tele+LCD+Nano plasma+4Way
G	NBF F+(A/changeover)+A/clean+Low A
H	NBF F+(A/changeover)+A/clean+4way+Low A
I	Tele+LED+4way
J	Internet
K	Plasma F+4Way+Oxygen generator
L	NBF F+(A/changeover)+A/clean
M	NBF F+(A/changeover)+A/clean+4way
N	NBF F+(A/changeover)+A/clean+PTC
P	NBF F+(A/changeover)+Autoclean+4way+PTC
Q	NBF F+(A/changeover)+A/clean+4way+Low A+PTC
R	Negative ion+A/Clean
S	(Nano)Plasma+Negative ion+A/Clean
T	4way+(Nano)Plasma F+Negative ion+A/Clean
U	Nano Plasma F+4Way+(A/changeover)+A/clean+Oxygen generator
V	4way+(Nano)Plasma F+Negative ion+A/Clean+Oxygen generator
W	Allergy Filter + 2 way
Y	Basic + Low A

3. Features & Benefits

LG Air Conditioners are environment-friendly and future-oriented.

LG air conditioners are environment-friendly and future-oriented.

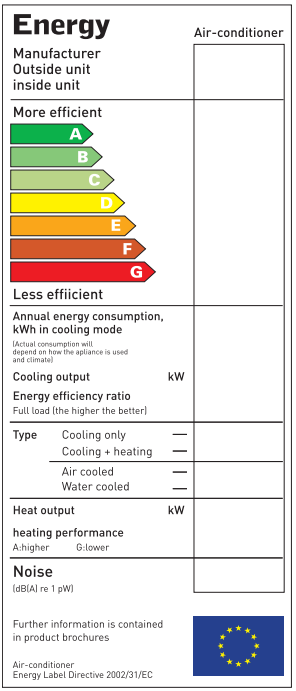
To reduce freon gas, a prime ozone destroyer, we adopted an alternative refrigerant R-410A, and neo plasma air-purifying system for powerful sterilization for health-conscious customers. Also, ARTCOOL series with outstanding designs have received International Forum Design Award and Reddot Design Award.

These air-conditioners have improved air flow innovatively to realize world's lowest noise, and provide a more pleasant and convenient indoor environment.

Environmental concern 2008

As the concern for environment increases day by day, EC Directive made it a regulation to put an indication on all air conditioning products. With the information regarding energy-saving, customers will easily understand products considering the environment.

Customers will have to purchase the products considering the energy label to meet their needs. Energy label shows the energy consumption of the unit classified with 7 different colors.



Energy Efficiency Class of The Unit In Cooling Mode :

A	EER > 3.20
B	3.20 ≥ EER > 3.00
C	3.00 ≥ EER > 2.80
D	2.80 ≥ EER > 2.60
E	2.60 ≥ EER > 2.40
F	2.40 ≥ EER > 2.20
G	2.20 ≥ EER

Energy Efficiency Class of The Unit In Heating Mode :

A	COP > 3.60
B	3.60 ≥ COP > 3.40
C	3.40 ≥ COP > 3.20
D	3.20 ≥ COP > 2.80
E	2.80 ≥ COP > 2.60
F	2.60 ≥ COP > 2.40
G	2.40 ≥ COP

Inverter Single
3. Features & Benefits

Inverter *DC Inverter?*

You may have heard the excitement about Inverter technology, LG Inverters are the pinnacle of energy efficiency due to the innovative operation. Rather than using a constant speed compressor, the LG Inverter system uses a variable speed compressor, which means the Cooling or Heating capacity of the Air Conditioning can be varied to suit Indoor conditions.

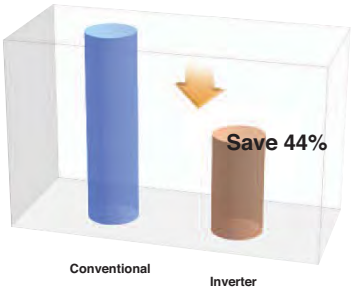
This makes the LG Inverter Units more economical & efficient to operate, produce less noise than standard counterparts and contain most superior features on the market. All LG Inverter units have the major benefits including premium features like

Economical

■ Energy Saving

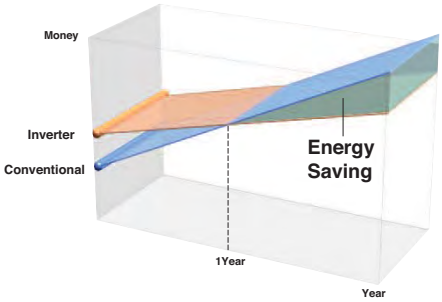
Unlike ordinary Conventional air conditioners, inverter air conditioners can control the speed of compressors to adjust cooling and heating.

When indoor temperatures reach your desired levels, inverter air conditioners can operate their compressors at low speeds and maintain desired temperatures, thus saving you electricity cost by about 44% compared to conventional.



■ Recouping the Initial Investment Cost

Though the initial purchase price is a little higher, in case you use an inverter air conditioner in the long term, you can reduce electricity cost to save on the whole investment and management costs.



Energy Saving!

Low Noise!

Powerful Cooling & Heating!

Inverter Single
3. Features & Benefits

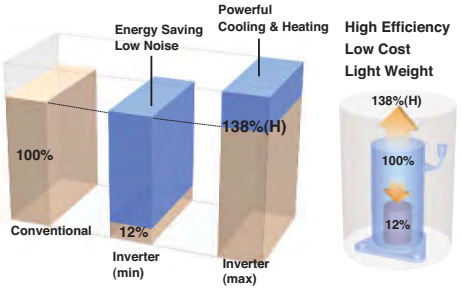
Strong

■ Powerful Cooling & Heating

You can change the power by changing the compressor frequency.

Operational power with a greater scope

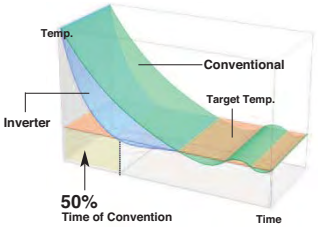
- When you return home from outside, in case you start the air conditioner to heat or cool the room, you can speed up the compressor, enhance the power and then operate it. Also, when indoor temperature reach your desired levels, you can reduce the speed of the compressor and lower the power. Thus, the product's operational power has a greater range from low to high levels.



■ Quick Cooling & Heating

Compared to conventional air conditioners, inverter air conditioners can operate their compressors faster, thus giving them powerful performance.

Therefore, on returning home from outside during hot summer days, you can speed up the compressor to enhance the performance and cool the room. In case outdoor temperatures are low in winter, inverters operate more powerfully than conventional, thus heating the room faster.



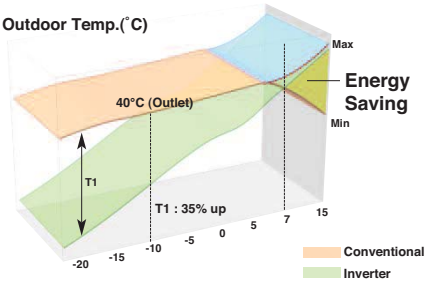
Capable

■ Powerful Heating Capacity (Chilly Area Available)

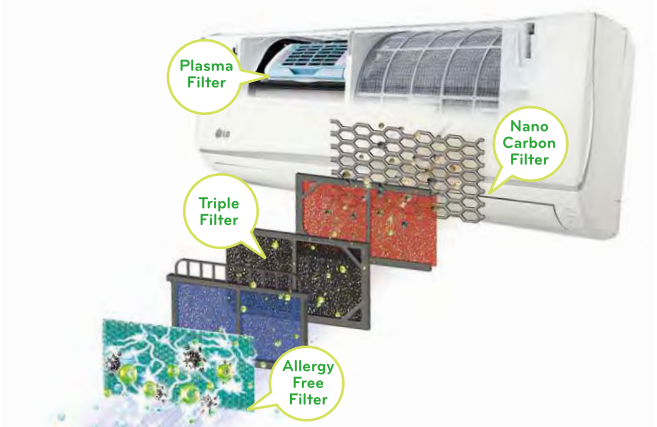
Provides the greatest heating performance in cold areas

- When outdoor temperatures fall to as low as -10°, you can faster increase the speed of the compressor, and simultaneously raise the quantity of refrigerant using the electronic expansion valve, thus further increasing the heating performance compared to ordinary conventional model.

You can heat the room even in cold areas using the air conditioner.

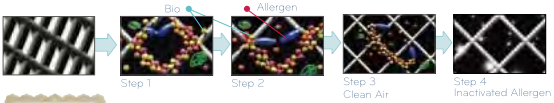


Inverter Single
3. Features & Benefits



Allergy Free Filter

Filter consists of enzyme that breaks down allergen, apatite, and organic/inorganic binder that attaches the enzyme to the filter. When the air passes the filter, allergen clings to the filter and like tiny pairs of scissors the enzymes cut allergen's protein to deactivate the allergen.

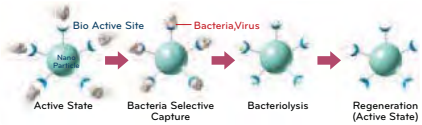


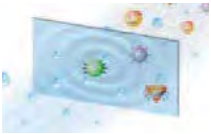
BAF Certification

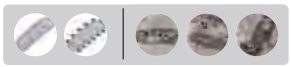
Recognised by the British Allergy Foundation and Allergy UK, the LG Air Conditioners have been proven to reduce allergens in the home,offering you healthy and comfortable climate control.

Nano Bio Fusion Filter

The Nano bio fusion filter allows its nano-size bio enzymes to directly penetrate through cell walls of bacteria and allergen to decompose into its cell nuclei.



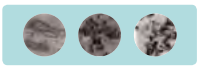




Conventional

Simply inactivation of bacteria

Destruction of bacteria but allowing part of them to survive



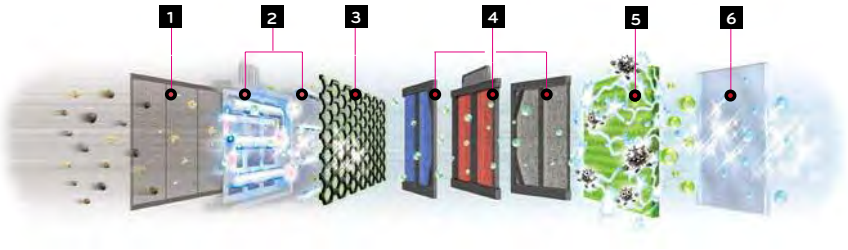
Nano Bio Fusion Filter

The bio enzyme destroys cell walls and nuclei of bacteria and allergens, thus completely kills bacteria

Inverter Single
3. Features & Benefits

Air Purifying System

LG's unique Air Purifying system is equipped with 7 specialized filters in 5 separate stages to enhance its cleaning power. It reduces fine dust and mould, unpleasant odors and cigarette smoke as air passes each filter.



NEO-Plasma

Pre Filter
The antibacterial pre-filter primarily reduces large dust, mold and quilt dust.

Plasma Filter
The Plasma air purifying system was initially developed by LG not only reduction of microscopic contaminants and dust, but also removal of house mites, micro dust, and pet fur in order to reduce allergy and asthma symptoms.

Nano Carbon Filter
The Nano-size carbon filter removes fine odor particles at home for more fresh environment. Therefore, active Carbon filter will be replaced by Nano Carbon Ball filter. This product was also developed by LGE as promotion of the Household & Health Care and it is the first product using Nano technology all around the world. The state of the art Nano technology controls pore size, shape, and their distribution for deodorant effects.

What is Nano Carbon Ball?
Microscopic sized (1/1000000000) filter to ensure optimal filtration of odors.

Triple Filter

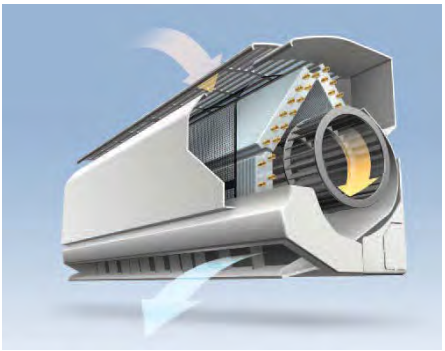
The triple filter consists of three specialized filters to reduce the symptoms associated with various organic compounds including formaldehyde. It also has the ability to remove unpleasant odors creating a more comfortable environment.

- Red filter removes stench in daily life such as smoke, fish-stink, food-smelling and foot-stink.
- Black filter removes the odor of construction ingredient such as formaldehyde.
- Blue filter removes the chemical substances such as a smell of fresh paint.

Inverter Single
3. Features & Benefits

Healthy Dehumidification

LG Wall Mounted Split models feature a Dehumidification mode to remove uncomfortable humidity from the room without over cooling.



Indoor Temperature Distribution Chart

Conventional
Since the surrounding temperature is measured after the air from the unit is widely distributed, an accurate assessment of the air is not possible.

Healthy Dehumidification
By increasing the Vane Angle, a better assessment of the actual temperature is possible to prevent over cooling.

Auto Clean

The main cause of air conditioner's odor is molds that breed in the heatexchanger. If you turn off the air conditioner as it is, molds and bacteria will breed in the wet heat exchanger.

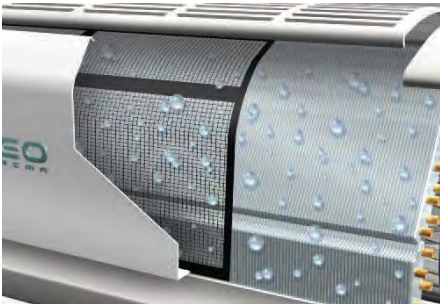
The automatic cleaning function will dry the wet heat exchanger to prevent molds and bacteria from breeding. It will eliminate air conditioner's odor and save you from frequent cleaning efforts.

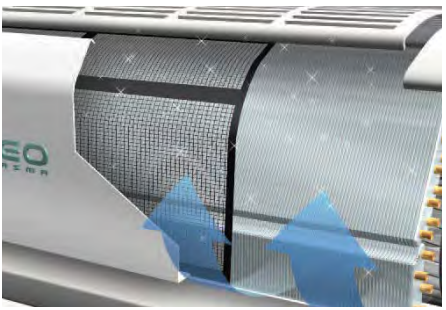
When you press "Auto Clean", Auto clean starts after cooling operation.

In 30 minutes, Auto clean" dries the inner part of Air conditioner.

1STEP : ***Dries the evaporator with super-weak, low-noise air blowing, and removes remaining moisture.***

2STEP : ***Fundamentally removes the sources of molds once again through the neo plasma system.***



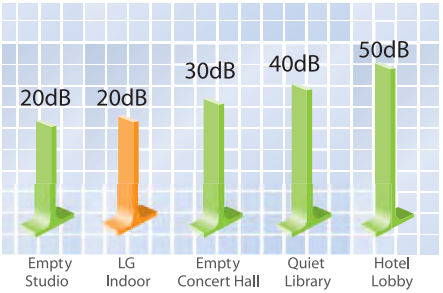


Inverter Single
3. Features & Benefits

Low Level Noise & Vibration

In the case of the inverter air conditioner's outdoor equipment, when indoor temperatures reach your desired levels, you can lower the speed of the compressor operating inside the outdoor equipment, thus further reducing noise compared to ordinary conventional air conditioners.

Also, the indoor equipment, which adopts a BLDC motor, can achieve even quieter and industry's lowest-level noise, compared to existing conventional air conditioner. Since even the outdoor equipment is quiet, though the air conditioner is hung on the wall, it has subdued noise, thus not disturbing your neighbors. It is perfect for sleeping, studying, and a quiet indoor ambience.



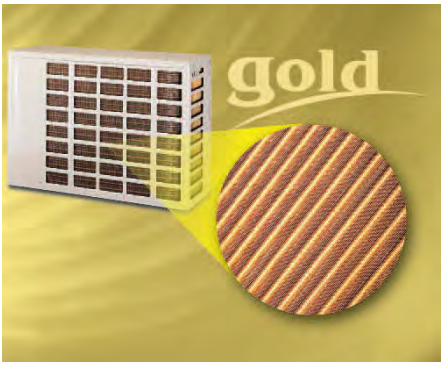
[Indoor equipment]
1. Uses low-noise BLDC motor and fan
2. Shuts off noise with an all-side panel design

[Outdoor equipment]
1. Low-noise inverter compressor and low-noise fan
2. Designed for optimizing compressor vibration

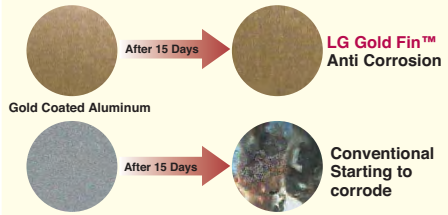
Low Noise Compressor

Anti Corrosion Gold Fin™

LG 's Outdoor Heat Exchanger is coated with a golden anti-corrosive epoxy treatment on the aluminum coil to minimized corrosion. This maintains heat transfer properties of the coil for an extended time where as non-Gold Fin coils progressively lose efficiency due to surface corrosion. Standard on every LG air conditioner, this assists in areas suffering from pollution or near the ocean where the unit may subjected to higher levels of salt.



Salt Spray Test for 15 Days

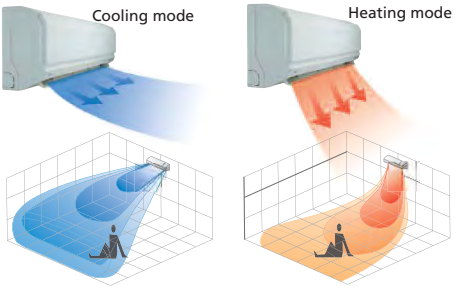


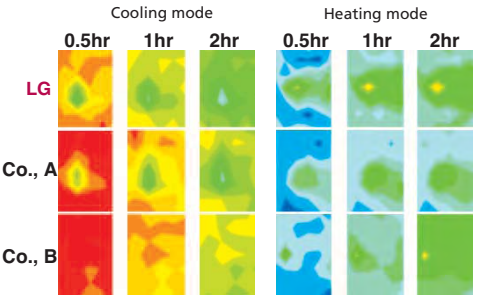
- **Gold Fin is long lasting, durable and makes the Outdoor Unit look prestigious.**

Inverter Single
3. Features & Benefits

Optimized Cooling & Heating Air Flow

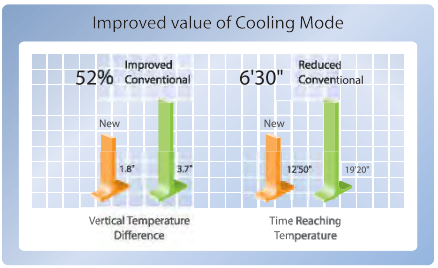
LG Electronics' air conditioner, which adopts the twin air vanes, blows winds horizontally far away in the cooling mode to prevent direct blowing. And, in the heating mode, the air conditioner pushes winds downwards to provide warm air evenly, thus offering pleasant air.

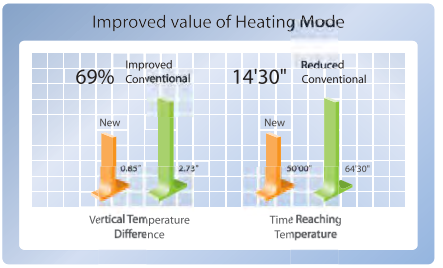




Even & Fast Air flow

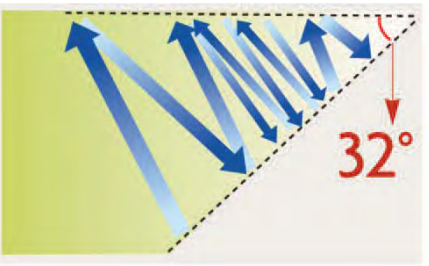
LG Electronics' air conditioner improves the difference between high and low indoor temperatures . It allows you to reach your desired temperatures even faster.





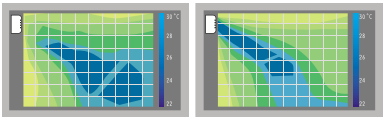
New Chaos Swing

The most comfortable airflow for the human body can be found in nature. After analysis,LG has applied the scientific Chaos theory to its air conditioners to effectively reproduce a natural breeze. The Chaos technology recreates the flow of natural air by controlling the angle speed and movement of the air vane. It also minimizes the temperature difference between high and low areas in the room,creating a more comfortably conditioned environment.



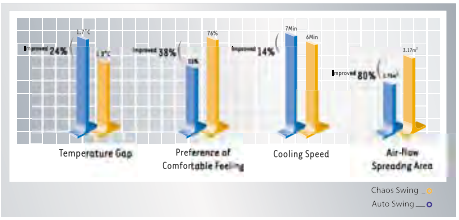
It swings with random angle speed (0ms~12ms) to reproduce a natural breeze

Indoor Temperature Distribution Chart



Chaos Swing Auto Swing

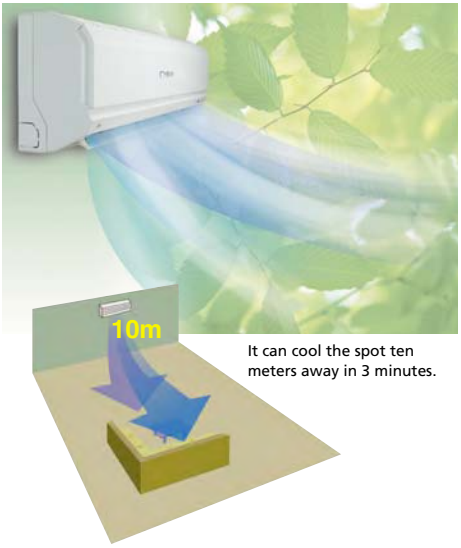
Chaos Swing Effect



Jet Cool™

The Jet cool function allows quick cooling.

In this mode, strong, cool air is blown at high speed for 30 minutes, until the room temperature reaches 18˚C.

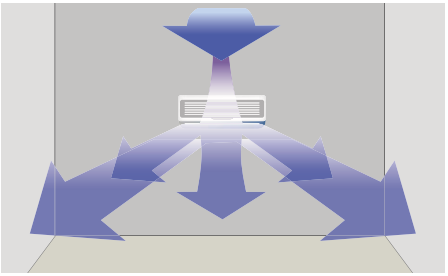


It can cool the spot ten meters away in 3 minutes.

4 Way Auto Swing

LG Air Conditioning units can now automatically distribute the air 4-ways.

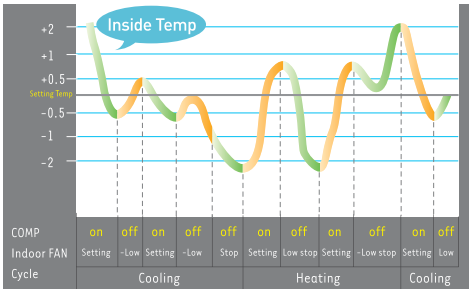
This effectively eliminates hot and cold patches, keeping the room at a more stable temperature.



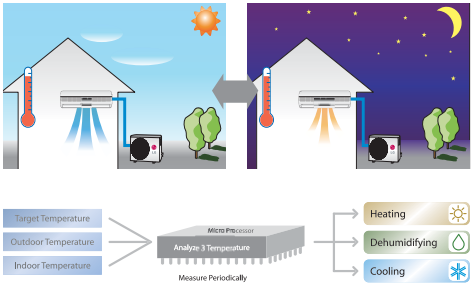
3. Features & Benefits

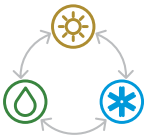
Auto Changeover

With heat pump model,cooling and heating operation is changed automatically on the base of setting temp.



• Initial Setting Temp:18˚C Memorize final setting temp.





Hot Start Function

During starting of the unit in the heating mode it prevents cold air blowing from the unit. It starts the indoor fan only after indoor unit pipe temperature reaches a preset value (28˚C).

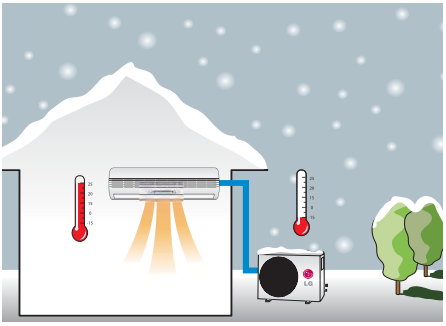
When indoor unit pipe temperature reaches 28˚C, then for initial 1 minute the indoor fan runs at a low speed and after that at the setting speed.

Low Ambient

Cools the room as is necessary, even in winter.

- In case you hold a party indoors in winter, you need to operate equipment in the computer server room for long hours, or you cannot open windows for the security's sake, you can cool the room using the Inverter air conditioner.

Under such circumstances, ordinary conventional air conditioners may have heat exchangers in indoor equipment frozen, thus not properly functioning to cool the room. However, in the case of inverter air conditioners, you can adjust the speed of compressors and outdoor equipment's fans to prevent heat exchangers in indoor equipment from being frozen, thus cooling the room more easily.



Auto Restart Function

In case of a sudden power failure, It automatically sets the A/C to settings before the power failure when power returns.

Sleep Mode Auto Control

With one touch of the Sleep mode button,

it automatically programs the Air Conditioning Unit to turn off, controls the fan speed and adjusts the set temperature for a more comfortable sleep.

4. Specifications

DC Inverter High Efficiency

Inverter Single, General Wall Mounted

Models		Unit	ES-W096E3G3 [S09AT] ES-W096E0G3 [S09AT]	ES-W0964SW3[S09AE]	ES-W0964SG2 [LG INV 12]	ES-W096ERH2 [LG ARTCOOL INV 14]
Cooling Capacity		kW	0.89~2.50~3.69	0.90 ~ 2.64 ~ 3.46	0.90~2.79~3.46	0.90~3.04~3.46
		Btu/h.	3,070~8,530~12,620	3,070 ~ 9,000 ~ 11,800	3,070~9,530~11,800	3,070~10,353~11,800
Heating Capacity		kW	0.89~3.25~5.00	0.90 ~ 3.17 ~ 3.87	0.90~3.23~3.87	0.90~3.94~3.87
		Btu/h.	3,070~11,080~17,060	3,070 ~ 10,800 ~ 13,200	3,070~11,031~13,200	3,070~13,432~13,200
Power Input	Cooling/Heating	W	610 / 760	820 / 930	798 / 951	673 / 1161
Running Current	Cooling/Heating	A	2.8 / 3.5	3.8 / 4.3	3.7 / 4.3	3.1 / 5.3
Starting Current	Cooling/Heating	A				
EER		W/W	4.1	3,22	3.5	4.51
		Btu/h.W	13.98	10,98	12	15.38
COP		W/W	4.28	3,41	3.4	3.39
Power Supply		Ø / V / Hz	1,220~240,50	1 / 220 ~ 240 / 50	1 / 220~240 / 50	1 / 220~240 / 50
Power Factor		%	94.2	93,8	93.8	93.8
Air Flow Rate	Indoor,Max	m^3/min(CFM)	10.5(371)	9.5(335)	9.5(335)	9.5(335)
	Outdoor,Max	m^3/min(CFM)	27(954)	33(1,165))	26(918)	26(918)
Moisture Removal		l/h.	1.2	1,0	1.3	1.3
Sound Level	Indoor,H/M/L/Sleep	dB(A)±3	37 / 29 / 25 / 20	36 / 29 / 25 / 22	32 / 28 / 25 /22	32 / 28 / 25 / 20
	Outdoor,Max	dB(A)±3	45	45	45	45
Refrigerant & Charge		g	R410A, 1,000	R410A, 630	R410A, 630	R410A, 1000
Additional Refrigerant charge	g/m(oz/ft)		20(0.22)	20(0.22)	20(0.22)	20(0.22)
Compressor	Type		Rotary	Rotary	Rotary	Rotary
	Model		GA102DBA	5RS102XAA21	5RS102XAA21	5RS102XAA21
	Motor Type		Brushless DC Motor	Brushless DC Motor	Brushless DC motor	Brushless DC motor
	Oil Type		FVC68D	FV50S	FV50S	FV50S
	Oil Charge	cc	310	320	320	320
	O.L.P. name		NO	NO	CS-7L 115	CS-7L 115
Fan(Indoor)	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Motor Output	W	20	20	20	20
Fan(Outdoor)	Type		Propeller	Propeller	Propeller	Propeller
	Motor Type		BLDC	AC Induction	AC Induction	AC Induction
	Motor Output	W	43	29	29	29
Circuit Breaker*		A	15	15	15	15
Power Supply Cable		No.*mm^2	3*1.0	3*1.0	3*1.0	3*1.0
Power and Transmission Cable	No.*mm^2		4*1.5(Including Earth)	4*1.0 (Including Earth)	4*1.0 (Including Earth)	4*1.0 (Including Earth)
Piping Connections	Liquid Side	mm(in)	6.35(1/4)	6.35(1/4)	6.35(1/4)	6.35(1/4)
	Gas Side	mm(in)	9.52(3/8)	9.52(3/8)	9.52(3/8)	9.52(3/8)
Drain Hose(O.D/ I.D.)		mm(in)	21.5 /16(0.85 / 0.63)	21.5 / 16.0(0.85 / 0.63)	21.5 / 16.0(0.85 / 0.63)	21.5 / 16.0(0.85 / 0.63)
Dimensions	Indoor (W*H*D)	mm	895*282*188	840*270*178	840*270*178	912 x 282 x 165
		inch	36.0*11.1*6.5	33.1*10.6*6.0	33.1*10.6*6.0	35.9 x 11.1 x 6.5
	Outdoor (W*H*D)	mm	770*545*245	770*545*245	770*545*245	770 x 540 x 245
		inch	30.3*21.5*9.6	30.3*21.3*9.7	30.3*21.3*9.7	30.3 x 21.4 x 9.6
Net Weight	Indoor	kg(lbs)	8(17.6)	7.5(16,5)	7.5(16.5)	10(22)
	Outdoor	kg(lbs)	32(71)	32(70.6)	32(70.6)	32(71)
Operation Range	Cooling(Outdoor)	°C(°F)	-5~43(23~109.4)	-5~43(23~109.4)	-5~43(23~109.4)	-5~43(23~109.4)
	Heating(Outdoor)	°C(°F)	-10~24(14.0~75.2)	-10~24(14.0~75.2)	-10~24(14.0~75.2)	-10~24(14.0~75.2)
Max. Piping Length		m(ft)	15(49)	15(49)	15(49)	15(49)
Max. Elevation Difference		m(ft)	7(23)	7(23)	7(23)	7(23)
Tool Code(Chassis)	Indoor + Outdoor		SE + UL	S4 + UL	S4 + UL	SEM + UL
Functions	Temperature Control		Thermistor	Thermistor	Thermistor	Thermistor
	Plasma Filter		Neo	Neo	Neo	Neo
	Prefilter(washable/anti-fungus)		O	O	O	O
	Auto Clean		O	O	O	O
	CHAOS Wind(Auto Wind)		O	O	O	O
	Steps, Fan/Cool/Heat		3 / 4	3 / 4 / 4	3 / 4 / 4	3 / 4 / 4
	Airflow Direction Control(up & Down)		Auto	Auto	Auto	Auto
	Airflow Direction Control(left & right)		Auto	Manual	Manual	Manual
	Remote Controller Type		Wireless LCD	Wireless LCD	Wireless LCD	Wireless LCD
	Setting Temperature Range	Cooling	18°C~30°C	18°C ~ 30°C	18°C~30°C	18°C~30°C
		Heating	16°C~30°C	16°C ~ 30°C	16°C~30°C	16°C~30°C
	Auto Operation (Micom Control)		-	-	-	-
	Auto Changeover (Micom Control)		O	O	O	O
	Self Diagnosis		O	O	O	O
	Timer		24h, On/Off	24h, On/Off	24h, On/Off	24h, On/Off
	Sleep Operation		O	O	O	O
	Soft Dry Operation		O	O	O	O
	Restart Delay(minute)		2	2	2	2
	Deice Control(Defrost)		O	O	O	O
	Hot Start		O	O	O	O
	Jet Cool		O	O	O	O
	Low Ambient Operation		O(Logic)	O	O	O
	Special Function		-	-	-	-

Note : O : Applie, X : Not applied, – : No relation
• Filters are optional in some specific areas.

* For Circuit Breaker Rating, please conform to local standards whenever necessary.

4. Specifications

Models		Unit	ES-W126E3G3 [S12AT] ES-W126E0G3 [S12AT]	ES-W1264SW3[S12AE]	ES-W1264SG2[LG 15 INV]	ES-W126ERH2 [LG ARTCOOL INV 17]
Cooling Capacity		kW	0.89~3.50~4.04	0.90 ~ 3.50 ~4.04	0.90~3.76 ~4.04	0.90~3.83 ~4.04
		Btu/h.	3,070~11,940~13,800	3,070 ~ 11,935 ~ 13,800	3,070~12,839~13,800	3,070~13,074~13,800
Heating Capacity		kW	0.89~4.20~5.486	0.90 ~ 4.00 ~ 4.86	0.90~3.95~4.86	0.90~4.37~4.86
		Btu/h.	3,070~14,330~18,720	3,070 ~ 13,650 ~ 16,570	3,070~13,487~16,600	3,070~14,909~16,600
Power Input	Cooling/Heating	W	1,030 / 1,130	1,090 / 1,170	1,141 / 1,198	1,076 / 1,392
Running Current	Cooling/Heating	A	4.7 / 5.1	5.0 / 5.3	5.2 / 5.5	4.9 / 6.3
EER		W/W	3.4	3,21	3.3	3.56
		Btu/h.W	11.59	10,95	11.25	11.54
COP		W/W	3.72	3,42	3.3	3.14
Power Supply		Ø / V / Hz	1 / 220~240 / 50	1 / 220 ~ 240 / 50	1 / 220~240 / 50	1 / 220~240 / 50
Power Factor		%	98.7	94,8	99.0	99.0
Air Flow Rate	Indoor,Max	m^3/min(CFM)	10.5(371)	10.8(381)	10.8(381)	10.8(381)
	Outdoor,Max	m^3/min(CFM)	27(954)	33(1,165))	26(918)	26(918)
Moisture Removal		l/h.	1.2	1,1	1.5	1.5
Sound Level	Indoor,H/M/L/Sleep	dB(A)±3	38 / 29 / 25 / 20	38 / 31/ 27 / 22	38 / 30 / 25	38 / 30 / 25
	Outdoor,Max	dB(A)±3	45	45	45	45
Refrigerant & Charge (at 7.5 m)		g(oz)	R410A, 1,000	R410A, 890	R410A, 1000	R410A, 1000
Additional Refrigerant charge	g/m(oz/ft)		20(0.22)	20(0.22)	20(0.22)	20(0.22)
Compressor	Type		Rotary	Rotary	Rotary	Rotary
	Model		GA102DBA	GA102DBA	5RS102XAA21	5RS102XAA21
	Motor Type		Brushless DC Motor	Brushless DC Motor	Brushless DC motor	Brushless DC motor
	Oil Type		PVE(FVC68D)	PVE(FVC68D)	FV50S	FV50S
	Oil Charge	cc	310	310	320	320
	O.L.P. name		-	-	CS-7L 115	CS-7L 115
Fan(Indoor)	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Motor Output	W	20	20	20	20
Fan(Outdoor)	Type		Propeller	Propeller	Propeller	Propeller
	Motor Type		BLDC	AC Induction	AC Induction	BLDC
	Motor Output	W	43	29	29	29
Circuit Breaker*		A	15	15	15	15
Power Supply Cable		No.*mm^2	3*1.0	3*1.0	3*1.0	3*1.0
Power and Transmission Cable No.*mm^2		No.*mm^2	4*1.0 (Including Earth)	4*1.0 (Including Earth)	4*1.0 (Including Earth)	4*1.0 (Including Earth)
Piping Connections	Liquid Side	mm(in)	6.35(1/4)	6.35(1/4)	6.35(1/4)	6.35(1/4)
	Gas Side	mm(in)	9.52(3/8)	9.52(3/8)	9.52(3/8)	9.52(3/8)
Drain Hose(O.D/ I.D.)		mm(in)	21.5 /16(0.85 / 0.63)	21.5 / 16.0(0.85 / 0.63)	21.5 / 16.0(0.85 / 0.63)	21.5 / 16.0(0.85 / 0.63)
Dimensions	Indoor (W*H*D)	mm	895*282*188	840*270*178	840*270*178	912 x 282 x 165
		inch	38.7*11.1*7.4	33.1*10.6*7.0	33.1*10.6*6.0	35.9 x 11.1 x 6.5
	Outdoor (W*H*D)	mm	770*545*245	770*545*245	770*545*245	770 x 540 x 245
		inch	30.3*21.5*9.6	30.3*21.3*9.6	30.3*21.3*9.7	30.3 x 21.4 x 9.6
Net Weight	Indoor	kg(lbs)	8(17.6)	7.5(16.5)	7.5(16.5)	10(22)
	Outdoor	kg(lbs)	32(71)	32(71)	32(71.6)	32(71)
Operation Range	Cooling(Outdoor)	°C(°F)	-5~43(23~109.4)	-5~43(23~109.4)	-5~43(23~109.4)	-5~43(23~109.4)
	Heating(Outdoor)	°C(°F)	-10~24(14.0~75.2)	-10~24(14.0~75.2)	-10~24(14.0~75.2)	-10~24(14.0~75.2)
Max. Piping Length		m(ft)	15(49)	15(49)	15(49)	15(49)
Max. Elevation Difference		m(ft)	7(23)	7(23)	7(23)	7(23)
Tool Code(Chassis)	Indoor + Outdoor		SE + UL	S4 + UL	S4 + UL	SEM + UL
Functions	Temperature Control		Thermistor	Thermistor	Thermistor	Thermistor
	Plasma Filter		Neo	-	Neo	Neo
	Prefilter(washable/anti-fungus)		O	O	O	O
	Auto Clean		O	O	O	O
	CHAOS Wind(Auto Wind)		O	O	O	O
	Steps, Fan/Cool/Heat		3 / 4	3 / 4 / 4	3 / 4 / 4	3 / 4 / 4
	Airflow Direction Control(up & Down)		Auto	Auto	Auto	Auto
	Airflow Direction Control(left & right)		Auto	Manual	Manual	Manual
	Remote Controller Type		Wireless LCD	Wireless LCD	Wireless LCD	Wireless LCD
	Setting Temperature Range	Cooling	18°C~30°C	18°C ~ 30°C	18°C~30°C	18°C~30°C
		Heating	16°C~30°C	16°C ~ 30°C	16°C~30°C	16°C~30°C
	Auto Operation (Micom Control)		-	-	-	-
	Auto Changeover (Micom Control)		O	O	O	O
	Self Diagnosis		O	O	O	O
	Timer		24h, On/Off	24h, On/Off	24h, On/Off	24h, On/Off
	Sleep Operation		O	O	O	O
	Soft Dry Operation		O	O	O	O
	Restart Delay(minute)		2	2	2	2
	Deice Control(Defrost)		O	O	O	O
	Hot Start		O	O	O	O
	Jet Cool		O	O	O	O
	Low Ambient Operation		O	O	O	O
	Special Function		-	-	-	-

Note : O : Applie, X : Not applied, – : No relation

- Filters are optional in some specific areas.

* For Circuit Breaker Rating, please conform to local standards whenever necessary.

4. Specifications

Inverter Single, ART COOL

Models		Unit	ES-W1865SH3 [S18AT]	ES-W1865SH2 [LG INV 20]	ES-W1868RH3 [LG ARTCOOL INV 25]
Cooling Capacity		kW	0.90~5.28~5.80	1.76~5.36~5.80	1.76~5.25~5.80
		Btu/h.	3,070~18,000~19,800	6,000~18,274~19,800	6,000~17,885~19,800
Heating Capacity		kW	0.90~5.80~6.65	1.41~4.72~6.65	1.41~4.20~6.65
		Btu/h.	3,070~19,790~22,700	4,800~16,095~22,700	4,800~14,339~22,700
Power Input	Cooling/Heating	W	1,610 / 1,570	1,595 / 1,439	1,551 / 1,240
Running Current	Cooling/Heating	A	7.2 / 7.0	7.3 / 6.7	7.0 / 5.6
Starting Current	Cooling/Heating	A			
EER		W/W	3.28	3.36	3.38
		Btu/h.W	11.20	11.46	11.53
COP		W/W	3.69	3.28	3.39
Power Supply		Ø / V / Hz	1 / 220~240 / 50	1 / 220~240 / 50	1 / 220~240 / 50
Power Factor		%	98.8	95	95
Air Flow Rate	Indoor,Max	m^3/min(CFM)	16(565)	16(565)	16(565)
	Outdoor,Max	m^3/min(CFM)	42(1,483)	42(1,483)	42(1,483)
Moisture Removal		l/h.	2.1	2.1	2.1
Sound Level	Indoor,H/M/L/Sleep	dB(A)±3	42 / 39 / 36 / 34	42 / 39 / 36 / 34	42 / 39 / 36 / 34
	Outdoor,Max	dB(A)±3	51	55	55
Refrigerant & Charge (at 7.5 m)		g	R410A, 1,350	R410A, 1,200	R410A, 1,200
Additional Refrigerant charge g/m(oz/ft)			20(0.22)	20(0.22)	20(0.22)
Compressor	Type		Twin Rotary	E-SCROLL	E-SCROLL
	Model		GKT141DAA	5CS130XCC03	5CS130XCC03
	Motor Type		Brushless DC Motor	Brushless DC Motor	Brushless DC Motor
	Oil Type		PVE(FVC68D)	RB68A	RB68A
	Oil Charge	cc	480	480	480
	O.L.P. name		NO	NO	NO
Fan(Indoor)	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Motor Output	W	20	20	20
Fan(Outdoor)	Type		Propeller	Propeller	Propeller
	Motor Type		BLDC	AC Induction	AC Induction
	Motor Output	W	65	65	65
Circuit Breaker*		A	15	15	15
Power Supply Cable		No.*mm^2	3*1.5	3*1.5	3*1.5
Power and Transmission Cable No.*mm^2		No.*mm^2	4*1.5 (Including Earth)	4*1.5 (Including Earth)	4*1.5 (Including Earth)
Piping Connections	Liquid Side	mm(in)	6.35(1/4)	6.35(1/4)	6.35(1/4)
	Gas Side	mm(in)	12.7(1/2)	12.7(1/2)	12.7(1/2)
Drain Hose(O.D/ I.D.)		mm(in)	21.5 / 16.0(0.85 / 0.63)	21.5 / 16.0(0.85 / 0.63)	21.5 / 16.0(0.85 / 0.63)
Dimensions	Indoor (W*H*D)	mm	1,090*300*200	1,090*300*200	1,107 x 299 x 200
		inch	42.9*11.8*7.9	42.9*11.8*7.9	43.6 x 11.8 x 7.9
	Outdoor (W*H*D)	mm	870*655*320	870*655*320	870 x 655 x 320
		inch	34.3*25.8*12.6	34.3*25.8*12.6	34.3 x 25.79 x 12.6
Net Weight	Indoor	kg(lbs)	13(28)	13(28.7)	15(33.1)
	Outdoor	kg(lbs)	46(101)	46(101.4)	51(111.4)
Operation Range	Cooling(Outdoor)	°C(°F)	-5~43(23~109.4)	-5~43(23~109.4)	-5~43(23~109.4)
	Heating(Outdoor)	°C(°F)	-10~24(14.0~75.2)	-10~24(14.0~75.2)	-10~24(14.0~75.2)
Max. Piping Length		m(ft)	15(49)	15(49)	15(49)
Max. Elevation Difference		m(ft)	7(23)	7(23)	7(23)
Tool Code(Chassis)	Indoor + Outdoor		S5 + UE	S5 + UE	S8 + UE
Functions	Temperature Control		Thermistor	Thermistor	Thermistor
	Plasma Filter		Neo	Neo	Neo
	Prefilter(washable/anti-fungus)		O	O	O
	Auto Clean		O	O	O
	CHAOS Wind(Auto Wind)		O	O	O
	Steps, Fan/Cool/Heat		3 / 4 / 4	3 / 4 / 4	3 / 4 / 4
	Airflow Direction Control(up & Down)		Auto	Auto	Auto
	Airflow Direction Control(left & right)		Auto	Auto	Auto
	Remote Controller Type		Wireless LCD	Wireless LCD	Wireless LCD
	Setting Temperature Range	Cooling	18°C~30°C	18°C~30°C	18°C~30°C
		Heating	16°C~30°C	16°C~30°C	16°C~30°C
	Auto Operation (Micom Control)		-	-	-
	Auto Changeover (Micom Control)		O	O	O
	Self Diagnosis		O	O	O
	Timer		24hr, On/Off	24hr, On/Off	24hr, On/Off
	Sleep Operation		O	O	O
	Soft Dry Operation		O	O	O
	Restart Delay(minute)		2	2	2
	Deice Control(Defrost)		O	O	O
	Hot Start		O	O	O
	Jet Cool		O	O	O
	Low Ambient Operation		O(Logic)	O(Logic)	O(Logic)
	Special Function		-	-	-

Note : O : Applie, X : Not applied, – : No relation
• Filters are optional in some specific areas.

* For Circuit Breaker Rating, please conform to local standards whenever necessary.

4. Specifications

Inverter Single, ART COOL

Models		Unit	ES-W2465SH2 [S24AT N52S]	ES-W2465SH2 [LG INV 25]	ES-W2468SH2 [LG ARTCOOL INV 30]
Cooling Capacity		kW	3.87~7.03~7.74	3.87~6.81~7.74	3.87~7.47~7.74
		Btu/h.	13,200~24,000~26,400	13,200~23,236~26,400	13,200~25,473~26,400
Heating Capacity		kW	3.37~8.08~8.88	3.37~6.67~8.88	3.37~7.51~8.88
		Btu/h.	11,500~27,570~30,300	11,500~22,731~30,300	11,500~25,606~30,300
Power Input	Cooling/Heating	W	2,500 / 2,880	1,962 / 1,837	2,263 / 2,518
Running Current	Cooling/Heating	A	11.0 / 13.0	8.9 / 8.2	10.3 / 11.0
Starting Current	Cooling/Heating	A			
EER		W/W	2.80	3.47	3.3
		Btu/h.W	9.6	11.8	11.7
COP		W/W	2.8	3.63	2.98
Power Supply		Ø / V / Hz	1 / 220~240 / 50	1 / 220~240 / 50	1 / 220~240 / 50
Power Factor		%	96.8	96.8	96.8
Air Flow Rate	Indoor,Max	m³/min(CFM)	18.0(636)	18.0(636)	20.3(717)
	Outdoor,Max	m³/min(CFM)	58(2,048)	58(2,048)	58(2,048)
Moisture Removal		l/h.	3.2	3.2	3.2
Sound Level	Indoor,H/M/L	dB(A)±3	44 / 41 / 37	44 / 41 / 37	44 / 41 / 37
	Outdoor,Max	dB(A)±3	56	56	56
Refrigerant & Charge (at 7.5 m)		g(oz)	R410A, 1,800	R410A, 1,800	R410A, 1,800
Additional Refrigerant charge	g/m(oz/ft)		30(0.32)	30(0.32)	30(0.32)
Compressor	Type		Rotary	Rotary	Rotary
	Model		5KD240XCA21	5KD240XCA21	5KD240XCA21
	Motor Type		Brushless DC Motor	Brushless DC Motor	Brushless DC Motor
	Oil Type		FV50S	FV50S	FV50S
	Oil Charge	cc	900	900	900
	O.L.P. name		NO	NO	NO
Fan(Indoor)	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Motor Output	W	20	20	20
Fan(Outdoor)	Type		Propeller	Propeller	Propeller
	Motor Type		AC Induction	AC Induction	AC Induction
	Motor Output	W	76.5	76.5	76.5
Circuit Breaker*		A	30	30	30
Power Supply Cable		No.*mm²	3*2.5	3*2.5	3*2.5
Power and Transmission Cable	No.*mm²	No.*mm²	4*2.5(Including Earth)	4*2.5(Including Earth)	4*2.5(Including Earth)
Piping Connections	Liquid Side	mm(in)	9.52(3/8)	9.52(3/8)	9.52(3/8)
	Gas Side	mm(in)	15.88(5/8)	15.88(5/8)	15.88(5/8)
Drain Hose(O.D/ I.D.)		mm(in)	21.5 / 16.0 (0.85 / 0.63)	21.5 / 16.0 (0.85 / 0.63)	21.5 / 16.0 (0.85 / 0.63)
Dimensions	Indoor (W*H*D)	mm	1,090*300*178	1,090*300*178	1,107*299*200
		inch	42.9*11.8*7.1	42.9*11.8*7.1	43.6*11.8*7.9
	Outdoor (W*H*D)	mm	870*808*320	870*808*320	870*808*320
		inch	34.25*31.5*12.6	34.25*31.5*12.6	34.3*31.8*12.6
Net Weight	Indoor	kg(lbs)	13(28.7)	13(28.7)	14.1(31.1)
	Outdoor	kg(lbs)	60(132.3)	60(132.3)	60(132)
Operation Range	Cooling(Outdoor)	°C(°F)	-5~43(23~109.4)	-5~43(23~109.4)	-5~43(23~109.4)
	Heating(Outdoor)	°C(°F)	-10~24(14.0~75.2)	-10~24(14.0~75.2)	-10~24(14.0~75.2)
Max. Piping Length		m(ft)	30(98)	30(98)	30(98)
Max. Elevation Difference		m(ft)	15(49)	15(49)	15(49)
Tool Code(Chassis)	Indoor + Outdoor		S5 + UE1	S5 + UE1	S8 + UE1
Functions	Temperature Control		Thermistor	Thermistor	Thermistor
	Plasma Filter		O	O	O
	Prefilter(washable/anti-fungus)		O	O	O
	Auto Clean		O	O	O
	CHAOS Wind(Auto Wind)		O	O	O
	Steps, Fan/Cool/Heat		3 / 4 / 4	3 / 4 / 4	3 / 4 / 4
	Airflow Direction Control(up & Down)		Auto	Auto	Auto
	Airflow Direction Control(left & right)		Auto	Auto	Auto
	Remote Controller Type		Wireless LCD	Wireless LCD	Wireless LCD
	Setting Temperature Range	Cooling	18°C~30°C	18°C~30°C	18°C~30°C
		Heating	16°C~30°C	16°C~30°C	16°C~30°C
	Auto Operation (Micom Control)		-	-	-
	Auto Changeover (Micom Control)		O	O	O
	Self Diagnosis		O	O	O
	Timer		24hr, On/Off	24hr, On/Off	24hr, On/Off
	Sleep Operation		O	O	O
	Soft Dry Operation		O	O	O
	Restart Delay(minute)		2	2	2
	Deice Control(Defrost)		O	O	O
	Hot Start		O	O	O
	Jet Cool		O	O	O
	Low Ambient Operation		O(Logic)	O(Logic)	O(Logic)
	Special Function		-	-	-

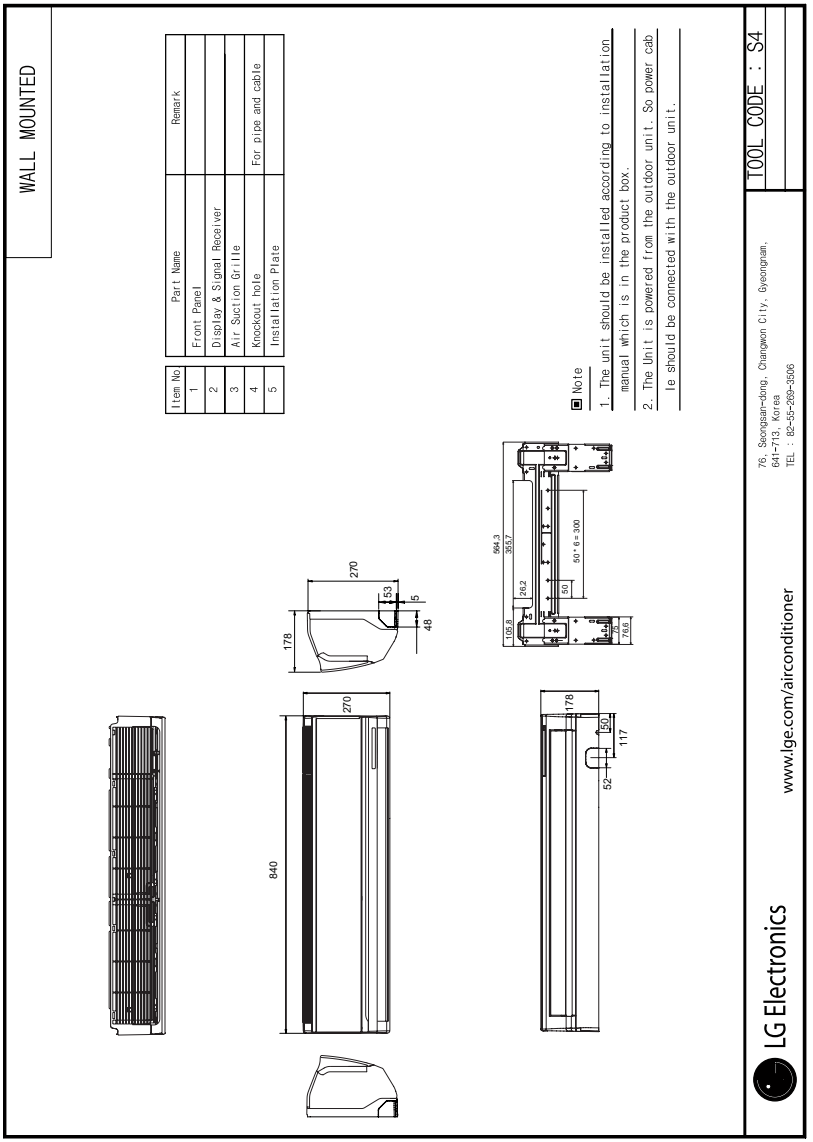
Note : O : Applie, X : Not applied, – : No relation
• Filters are optional in some specific areas.

* For Circuit Breaker Rating, please conform to local standards whenever necessary.

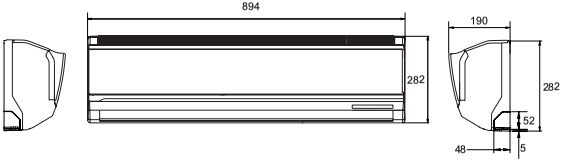
5. Dimensional drawings

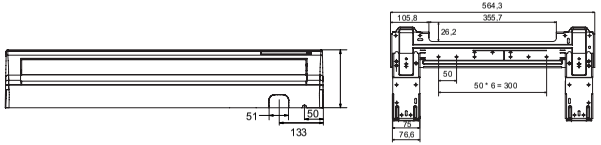
5.1 Indoor Units

S LOOK



WALL MOUNTED





Item No.	Part Name	Remark
1	Front Panel	
2	Display & Signal Receiver	
3	Air Suction Grille	
4	Knockout hole	For pipe and cable
5	Installation Plate	

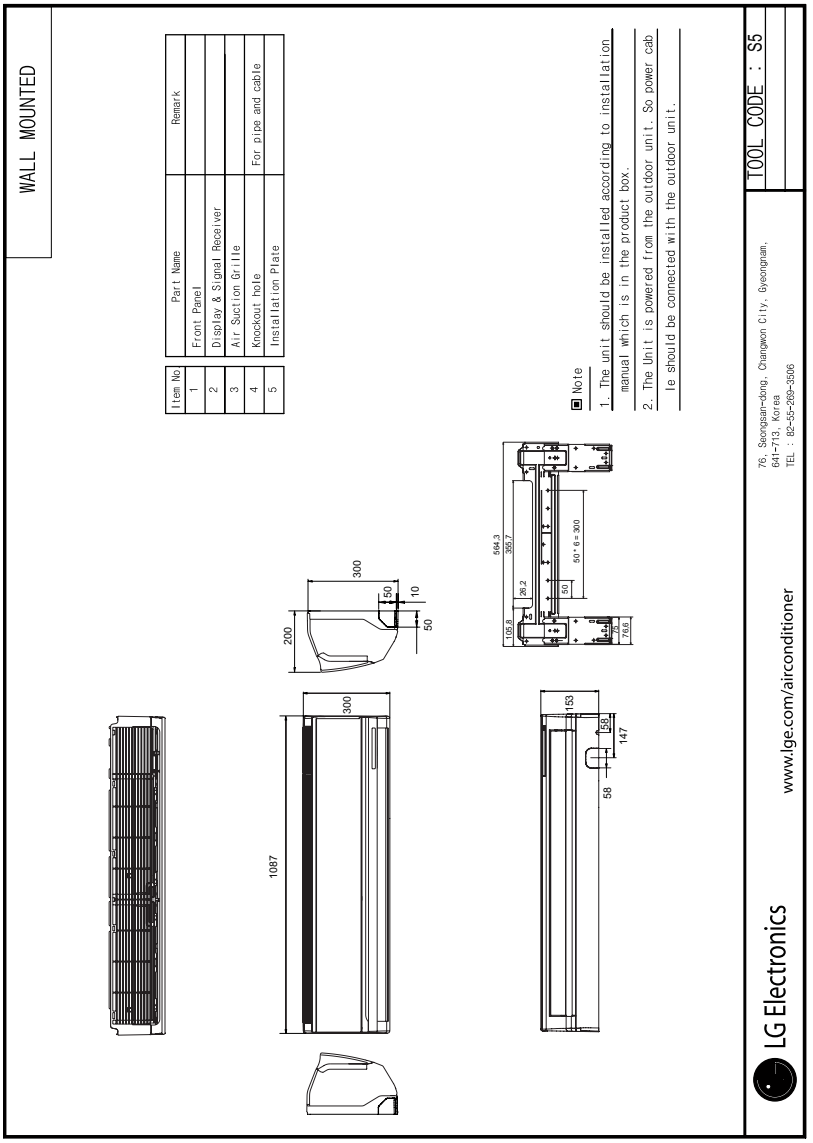
S LOOK

■ Note

1. The unit should be installed according to installation manual which is in the product box.
2. The Unit is powered from the outdoor unit. So power cable should be connected with the outdoor unit.

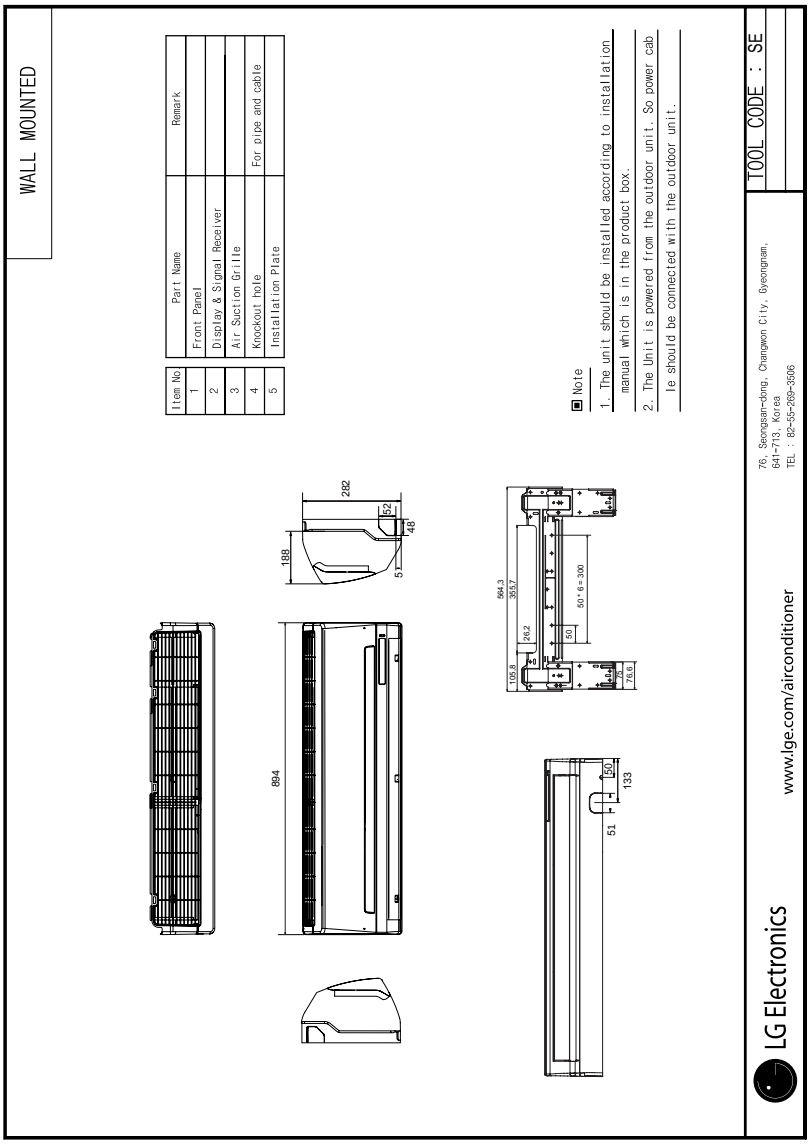
5. Dimensional drawings

S LOOK

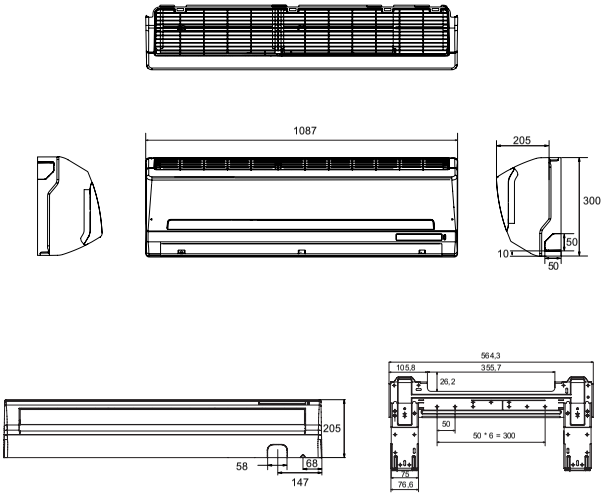


Inverter Single
5. Dimensional drawings

E LOOK



WALL MOUNTED



Item No.	Part Name	Remark
1	Front Panel	
2	Display & Signal Receiver	
3	Air Suction Grille	
4	Knockout hole	For pipe and cable
5	Installation Plate	

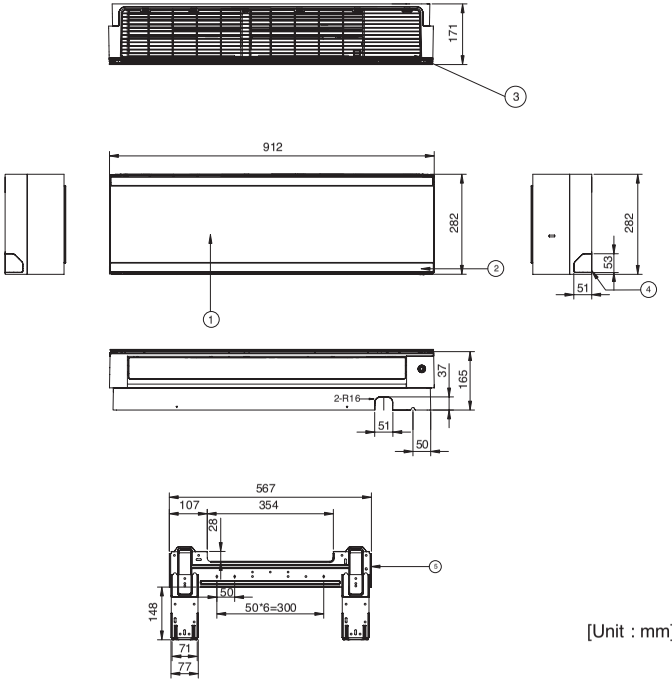
▣ Note

1. The unit should be installed according to installation manual which is in the product box.
2. The Unit is powered from the outdoor unit. So power cable should be connected with the outdoor unit.

LG Electronics
www.lge.com/airconditioner
76, Seongsan-dong, Changwon City, Gyeongnam, 641-713, Korea
TEL : 82-55-269-3506

TOOL CODE : S5

ART COOL Mirror



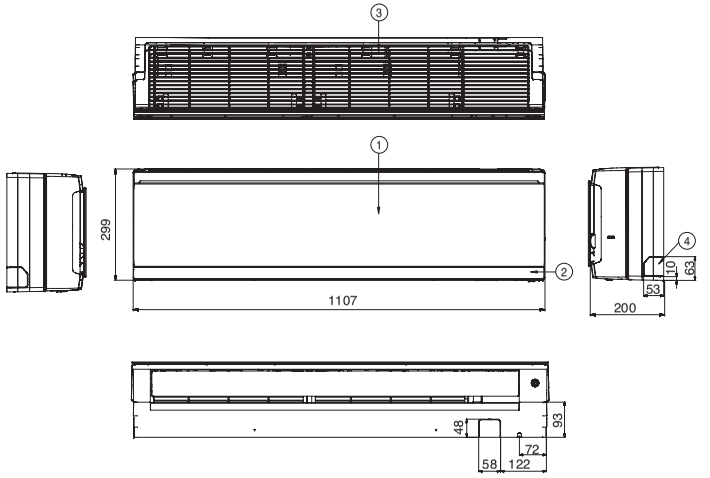
No.	Part Name	Remark
1	Front panel	
2	Display & signal receiver	
3	Air suction grille	
4	Knockout hole	For pipe and cable
5	Installation plate	

▣ Note

1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit shall be grounded in accordance with the local regulations or applicable national codes.
3. The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.

[Unit : mm]

ART COOL Mirror



No.	Part Name	Remark
1	Front panel	
2	Display & signal receiver	
3	Air suction grille	
4	Knockout hole	For pipe and cable
5	Installation plate	

▣ Note

1. The unit should not be installed in a closed area.
2. In an area or space having no proper circulation, an air guide should be installed on the outdoor side.

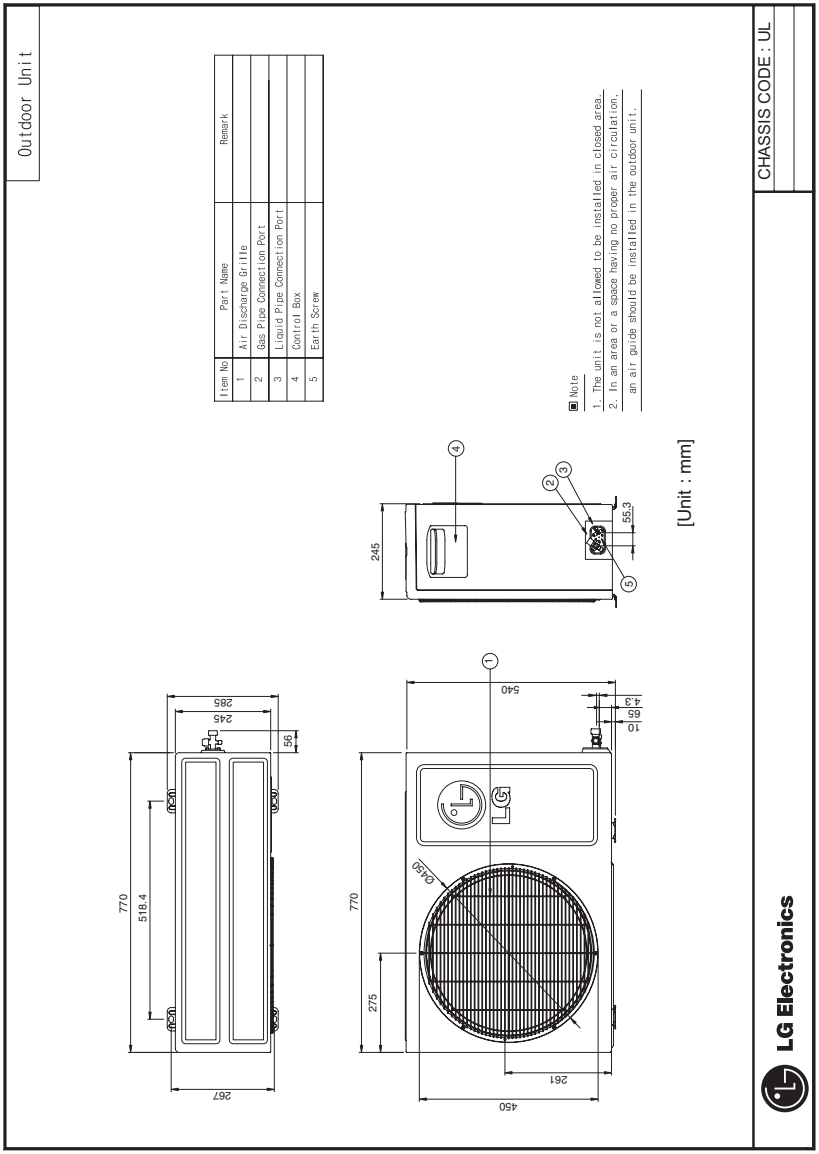
[Unit : mm]

LG Electronics

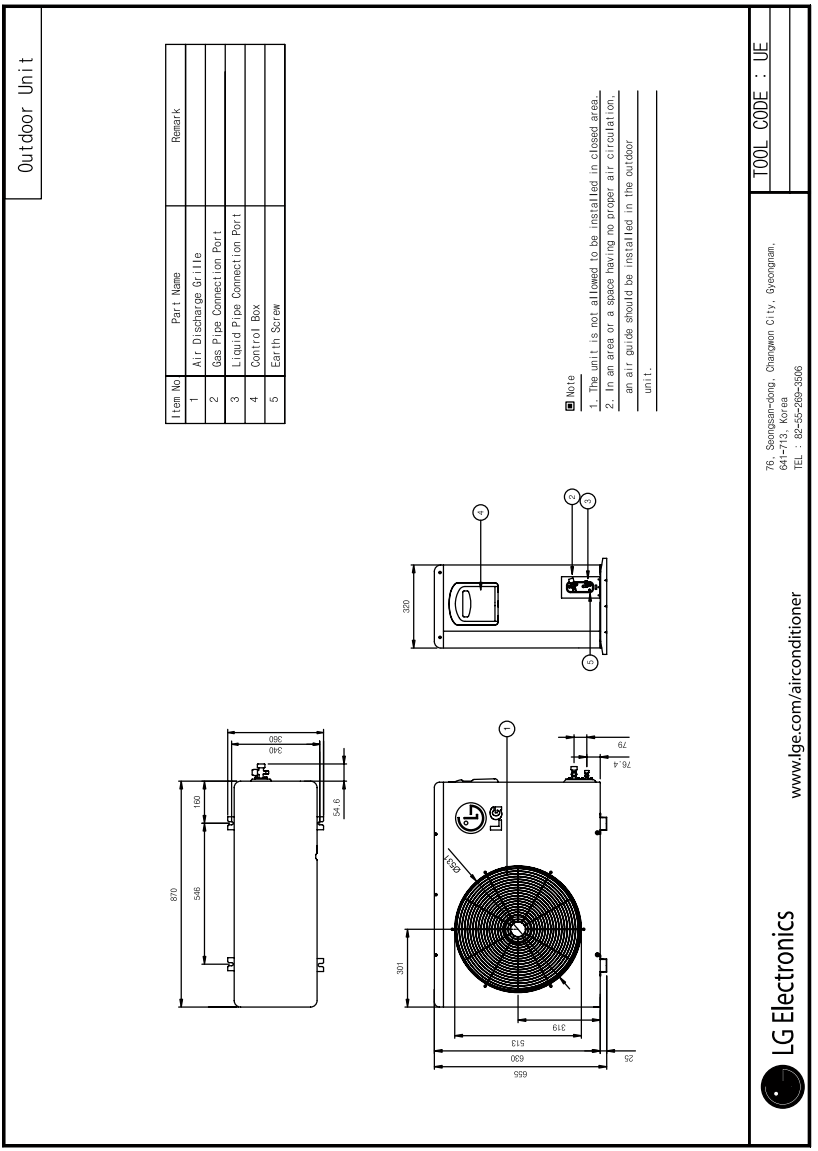
CHASSIS CODE: S8

5. Dimensional drawings

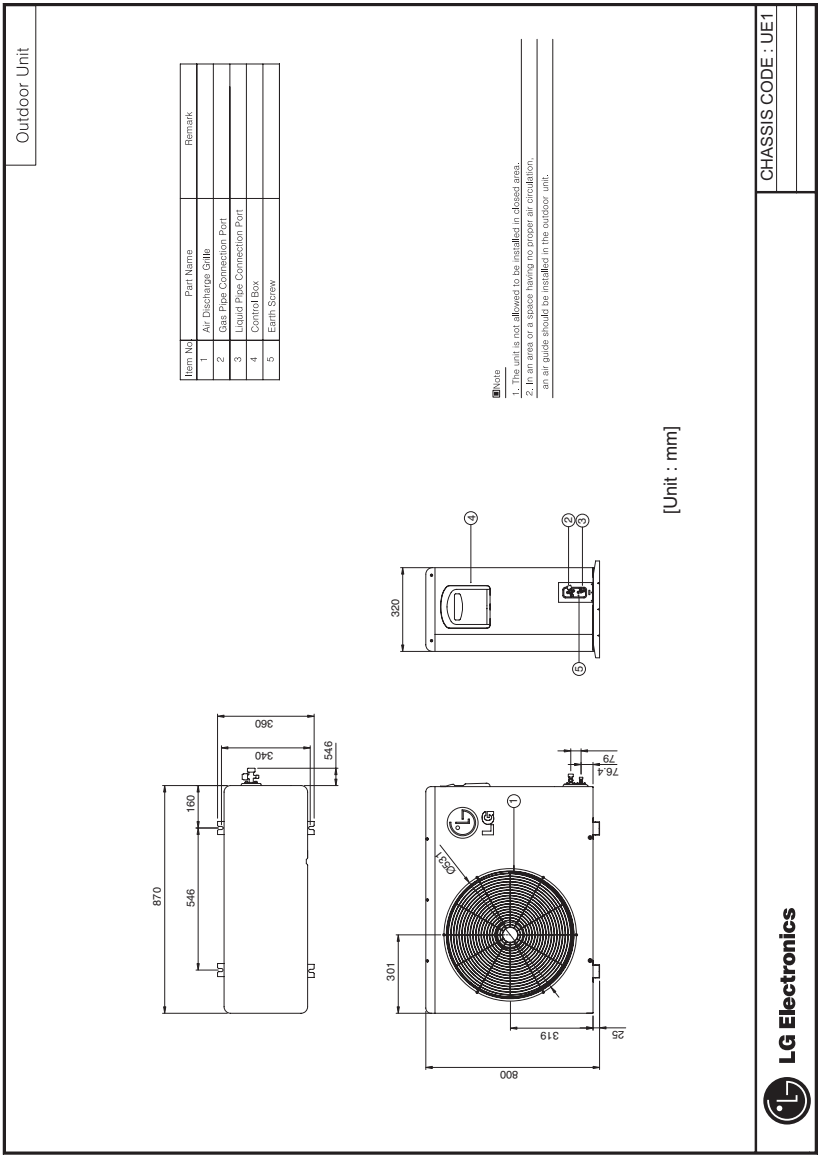
5.2 Outdoor Units



5. Dimensional drawings

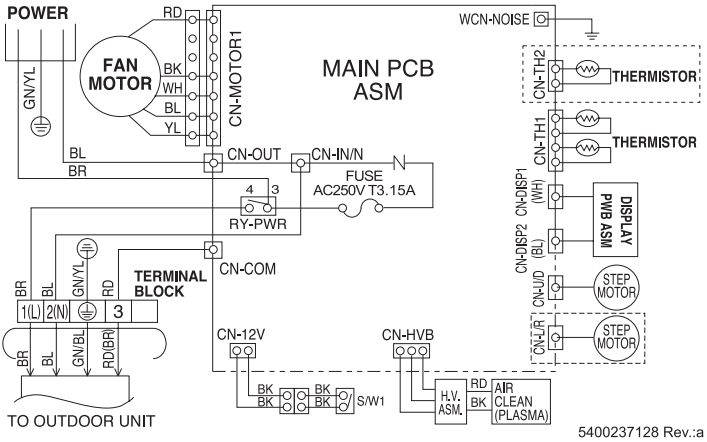


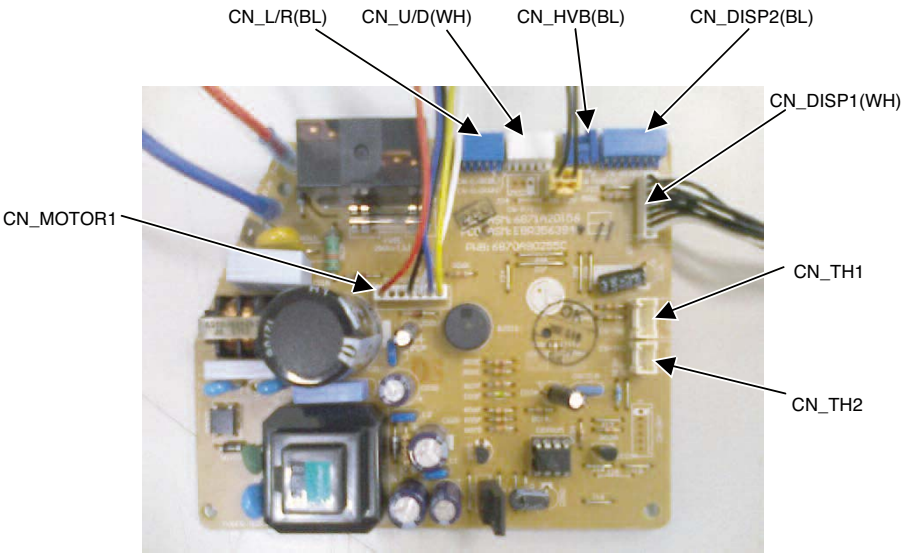
5. Dimensional drawings



6. Wiring diagrams

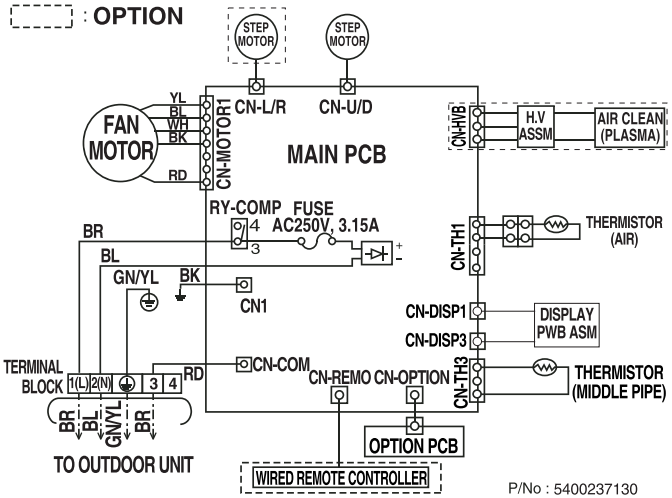
Models: ESNW0964SG2, ESNW0964SW3, ESNW1264SG2, ESNW1865SH2, ESNW2465SH2

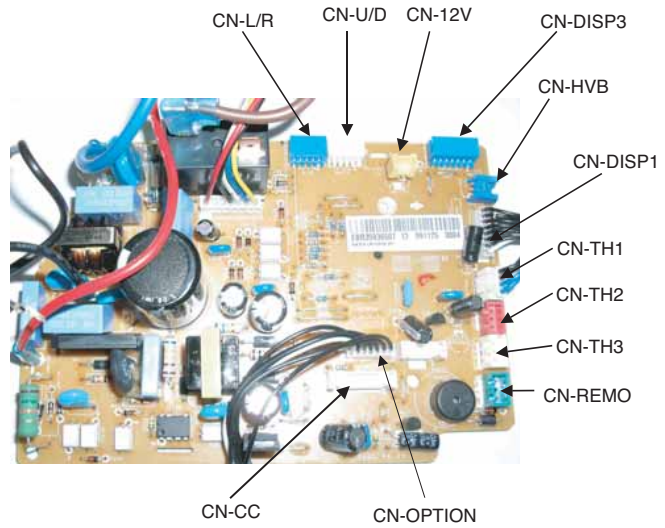




6. Wiring diagrams

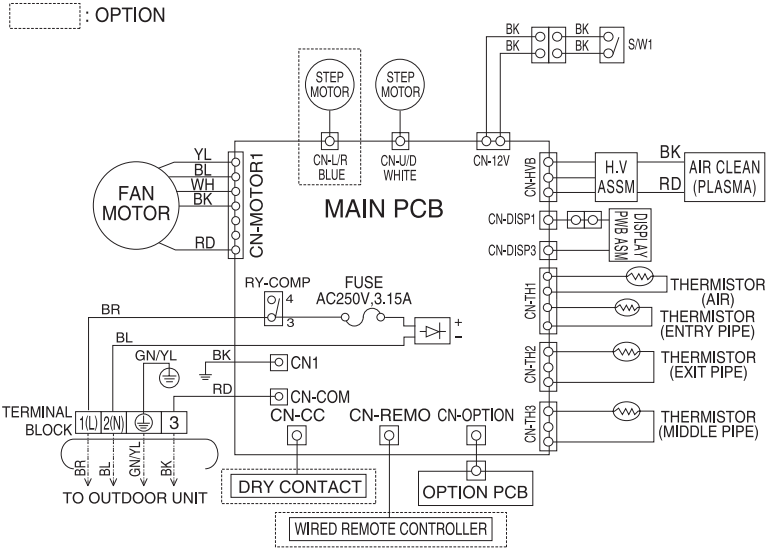
Models: ESNW096E3G3, ESNW126E3G3, ESNW1264SW3, ESNW126E0G3,ESNW096E0G3



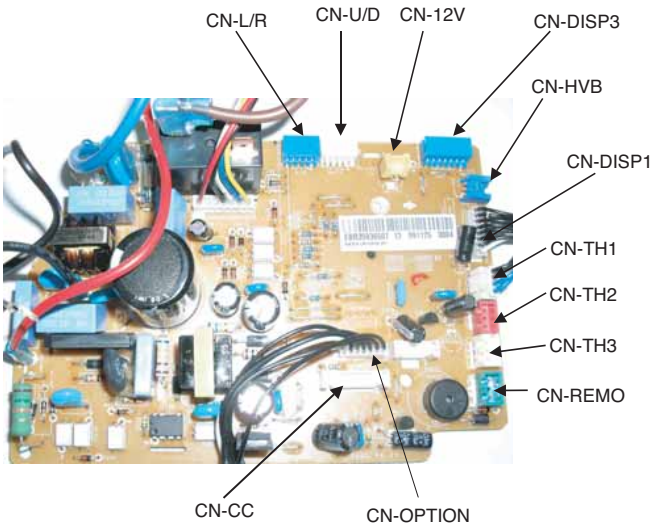


6. Wiring diagrams

Models: ESNW1865SH3

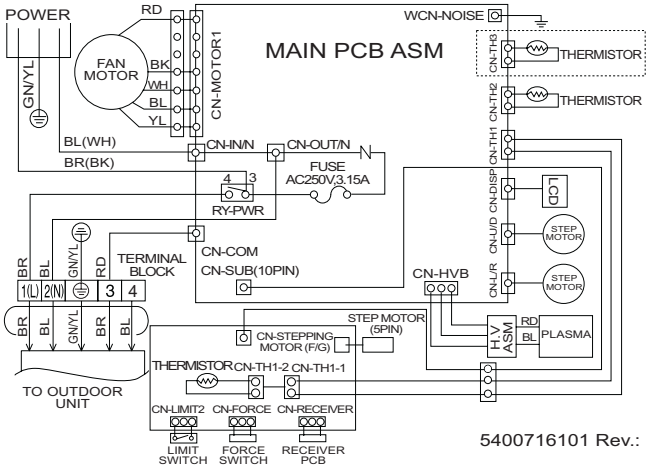


P/No : MEZ42763610

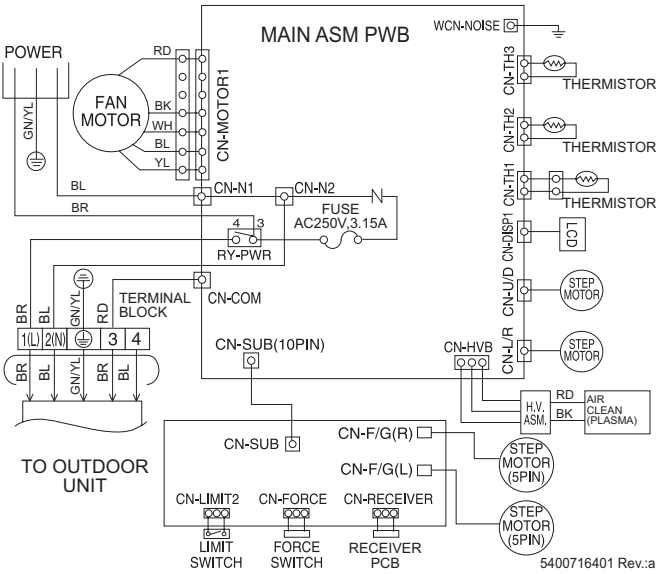


6. Wiring diagrams

Models: ESNW096ERH2, ESNW126ERH2

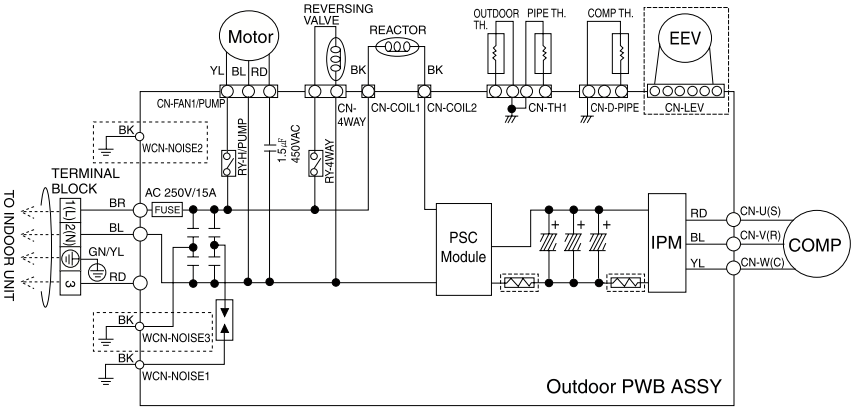


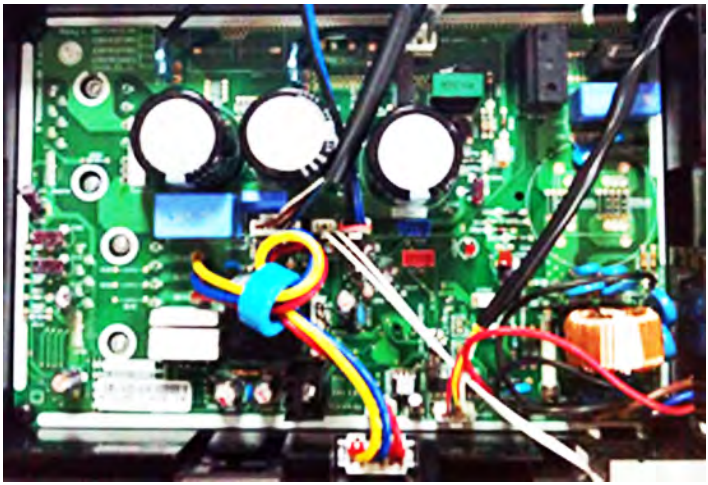
Models: ESNW1868RH3, ESNW2468RH2



6. Wiring diagrams

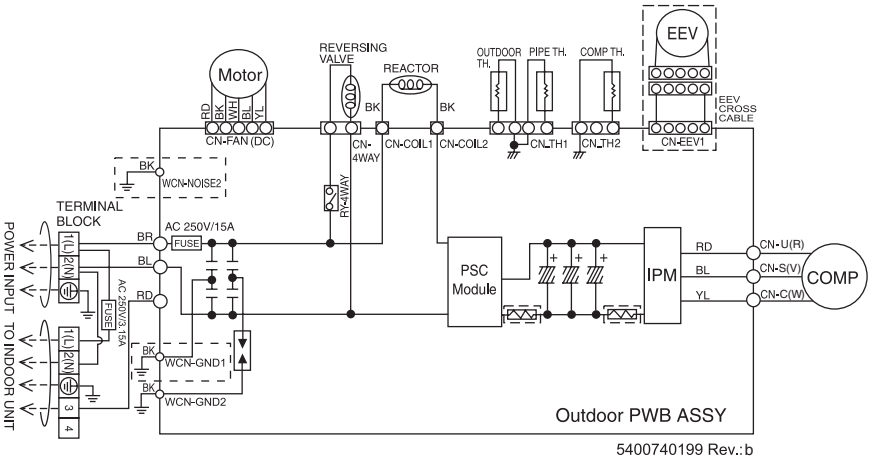
Models: ESUW0964SG2, ESUW1264SG2, ESUW0964SW3, ESUW096ERH2, ESUW126ERH2

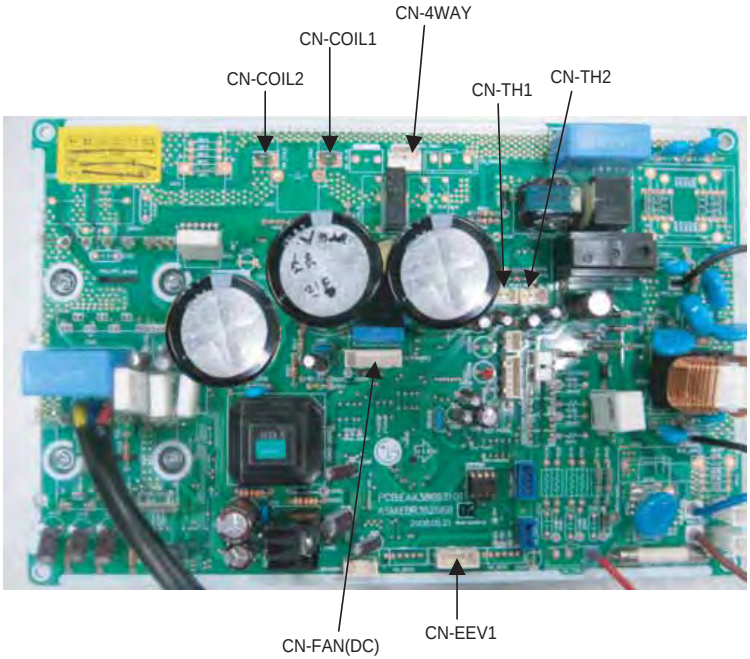




6. Wiring diagrams

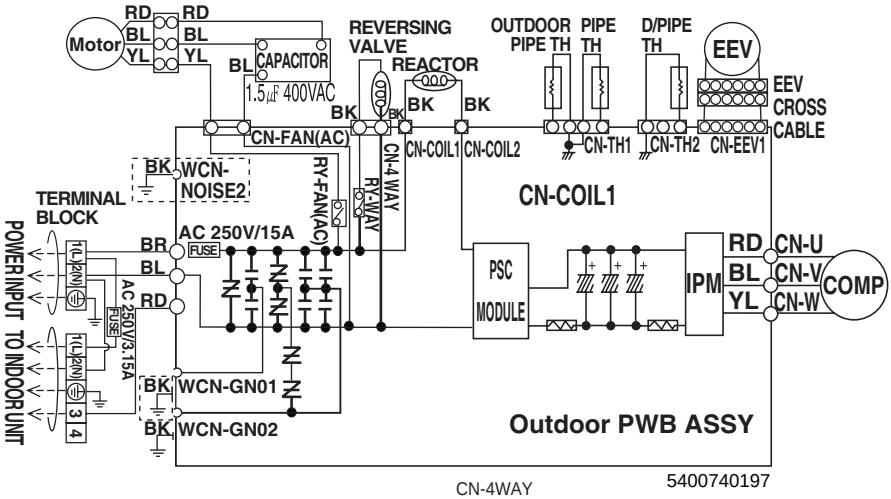
Models: ESUW096E3G3, ESUW126E3G3, ESUW096E0G3, ESUW126E0G3

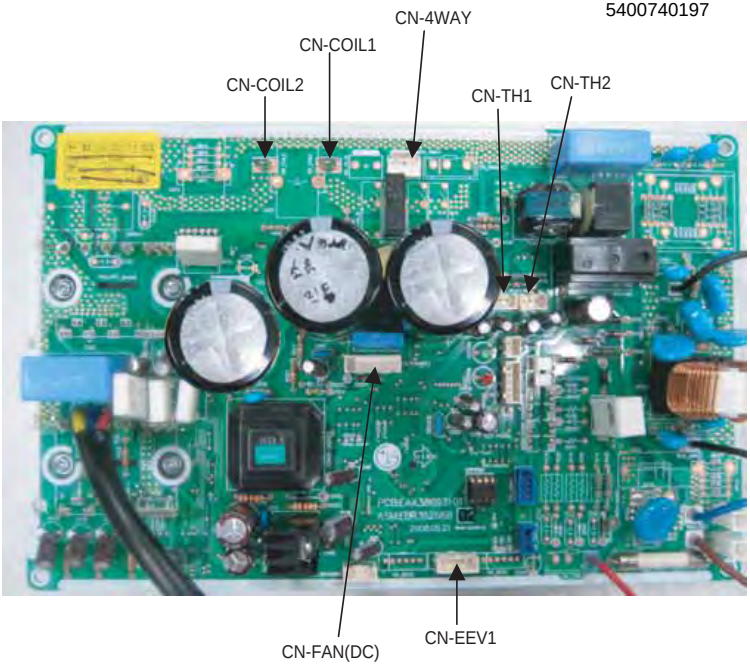




6. Wiring diagrams

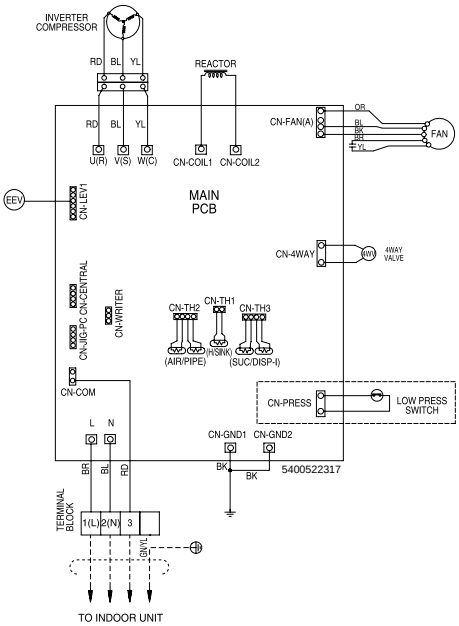
Models: ESUW1264SW3

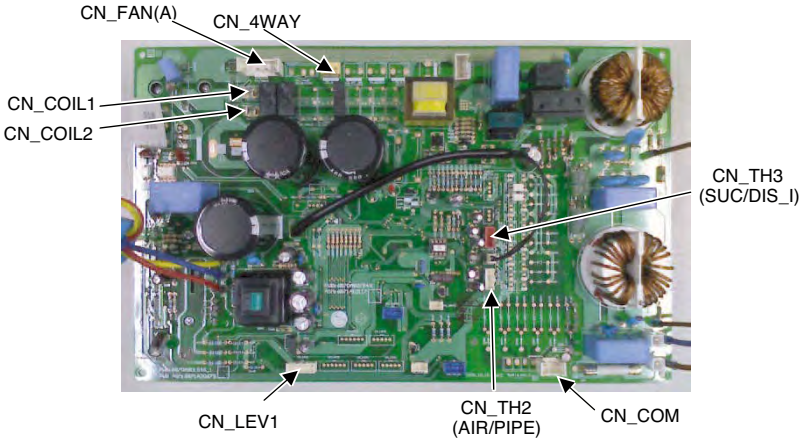




6. Wiring diagrams

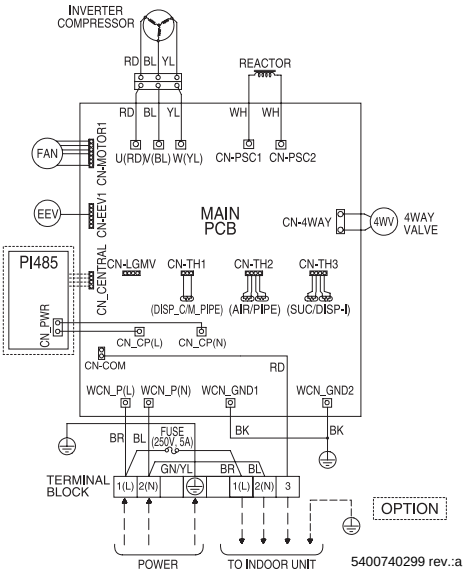
Models: ESUW1865SH2, ESUW1868RH3

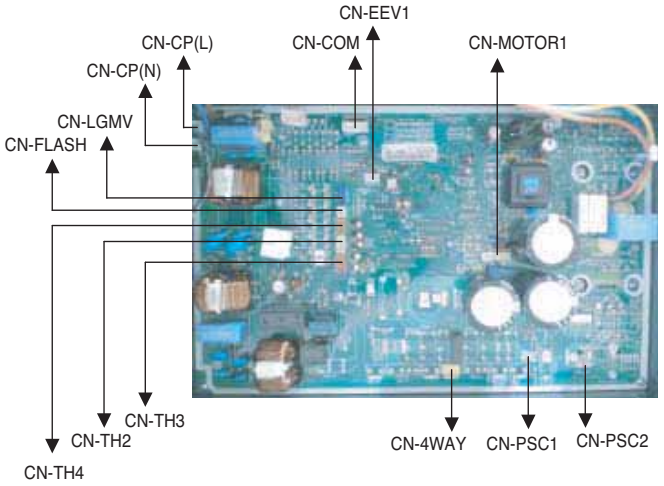




6. Wiring diagrams

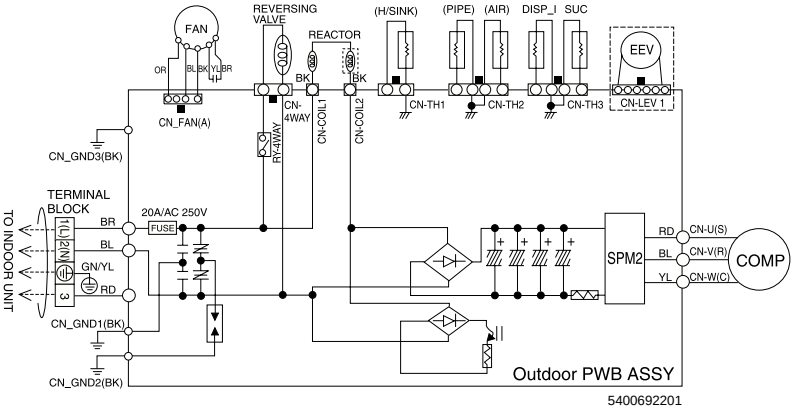
Models: ESUW1865SH3





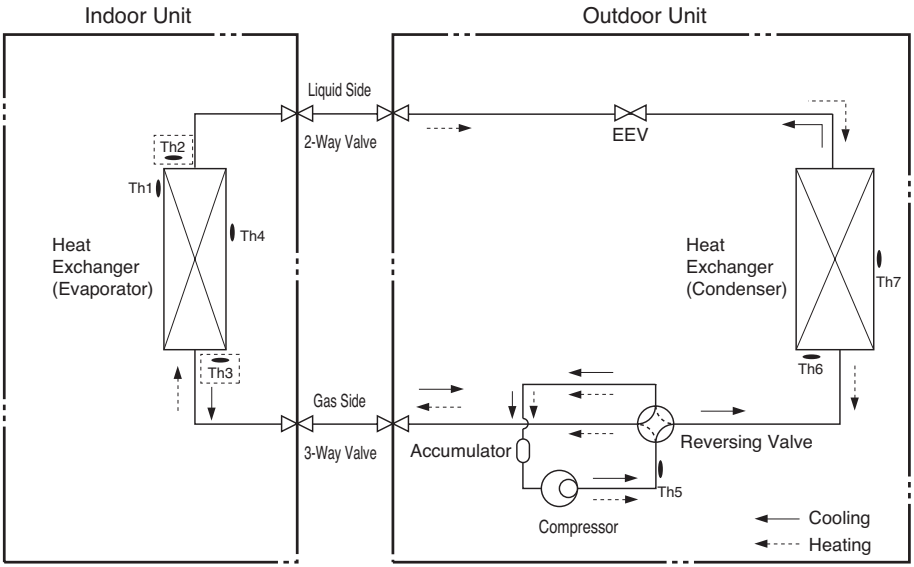
6. Wiring diagrams

Models: ESUW2465SH2, ESUW2468RH2



7. Refrigerant cycle diagrams

Model No : ES-W096E3G3, ES-W096E0G3, ES-W0964SW3, ES-W0964SG2, ES-W096ERH2
ES-W126E0G3, ES-W126E3G3, ES-W1264SW3, ES-W1264SG2, ES-W126ERH2

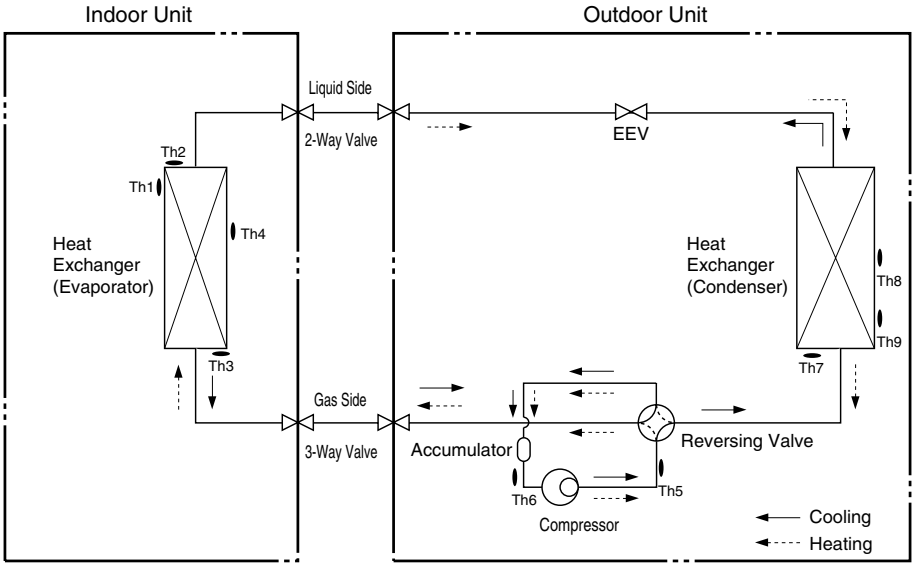


LOC.	Description	PCB Connector
Th1	Thermistor for sunction air temperature	CN-TH1(Indoor)
Th2	Thermistor for evaporator inlet temperature	
Th3	Thermistor for evaporator outlet temperature	CN-TH2(Indoor)
Th4	Thermistor for evaporator middle temperature	CN-TH3(Indoor)
Th5	Thermistor for discharge pipe temperature	CN-TH2(Outdoor)
Th6	Thermistor for condensing temperature	CN-TH1(Outdoor)
Th7	Thermistor for outdoor air temperature	

※ EEV : Electronic Expansion Valve

7. Refrigerant cycle diagrams

Model No : ES-W1865SH3, ES-W1865SH2, ES-W1868RH3
ES-W2465SH2, ES-W2468RH2



LOC.	Description	PCB Connector
Th1	Thermistor for suction air temperature	CN-TH1(Indoor)
Th2	Thermistor for evaporator inlet temperature	
Th3	Thermistor for evaporator outlet temperature	CN-TH2(Indoor)
Th4	Thermistor for evaporator middle temperature	CN-TH3(Indoor)
Th5	Thermistor for discharge pipe temperature	CN-TH3(Outdoor)
Th6	Thermistor for suction pipe temperature	
Th7	Thermistor for condensing temperature	CN-TH2(Outdoor)
Th8	Thermistor for outdoor air temperature	
Th9	Thermistor for condensing middle temperature	CN-TH4(Outdoor)

※ EEV : Electronic Expansion Valve

8. Capacity tables

8.1 Cooling Capacity

ES-W096E3G3, ES-W096ERH2

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		20			25			32		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.45	2.00	0.34	2.34	1.93	0.35	2.20	1.85	0.47
16.0	22.0	2.60	2.02	0.46	2.49	1.96	0.46	2.35	1.89	0.56
18.0	25.0	2.75	2.04	0.49	2.65	1.98	0.50	2.50	1.92	0.59
19.0	27.0	2.83	2.06	0.50	2.72	2.00	0.50	2.58	1.94	0.59
22.0	30.0	3.05	2.10	0.50	2.95	2.05	0.51	2.80	1.99	0.61
24.0	32.0	3.21	2.14	0.50	3.10	2.09	0.52	2.95	2.03	0.62

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		35			40			43		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.13	1.79	0.53	2.04	1.74	0.58	1.98	1.68	0.57
16.0	22.0	2.28	1.83	0.60	2.19	1.78	0.62	2.13	1.72	0.59
18.0	25.0	2.43	1.86	0.61	2.34	1.81	0.63	2.28	1.75	0.59
19.0	27.0	2.50	1.88	0.61	2.41	1.83	0.63	2.36	1.78	0.59
22.0	30.0	2.73	1.93	0.64	2.64	1.89	0.64	2.58	1.84	0.60
24.0	32.0	2.88	1.98	0.65	2.78	1.94	0.66	2.73	1.89	0.61

ES-W0964SG2, ES-W0964SW3

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		20			25			32		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.14	1.67	0.54	2.09	1.65	0.64	2.00	1.61	0.74
16.0	22.0	2.50	1.89	0.55	2.44	1.88	0.65	2.33	1.82	0.75
18.0	25.0	2.79	2.06	0.55	2.73	2.04	0.66	2.60	1.98	0.77
19.0	27.0	2.91	2.13	0.56	2.85	2.11	0.67	2.72	2.04	0.78
22.0	30.0	3.20	2.26	0.57	3.13	2.23	0.68	2.98	2.16	0.79
24.0	32.0	3.32	2.30	0.58	3.25	2.27	0.69	3.10	2.19	0.80

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		35			40			43		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	1.94	1.58	0.78	1.86	1.54	0.83	1.82	1.52	0.86
16.0	22.0	2.26	1.78	0.79	2.17	1.74	0.84	2.12	1.71	0.87
18.0	25.0	2.52	1.93	0.81	2.43	1.88	0.86	2.37	1.85	0.89
19.0	27.0	2.64	1.99	0.82	2.54	1.94	0.87	2.48	1.91	0.90
22.0	30.0	2.89	2.10	0.83	2.79	2.05	0.88	2.72	2.01	0.91
24.0	32.0	3.00	2.13	0.84	2.89	2.07	0.90	2.83	2.03	0.93

Symbol

AFR : Air Flow Rate [m^3/min]
DB : Dry Bulb Temperature [°C]
WB : Wet Bulb Temperature [°C]
TC : Total Capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor + outdoor fan motor)

Notes

1. All capacities are net, evaporator fan motor heat is deducted.
2. Indicates nominal maximum capacity.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 7.5m
   - Level Difference of Zero.

ES-W126E3G3, ES-W126E0G3

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		20			25			32		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	3.43	2.83	0.57	3.28	2.74	0.59	3.08	2.63	0.80
16.0	22.0	3.64	2.87	0.77	3.49	2.78	0.78	3.29	2.68	0.94
18.0	25.0	3.85	2.90	0.83	3.70	2.81	0.84	3.50	2.72	0.99
19.0	27.0	3.96	2.92	0.84	3.81	2.84	0.85	3.61	2.75	1.00
22.0	30.0	4.28	2.98	0.84	4.12	2.91	0.87	3.92	2.82	1.02
24.0	32.0	4.49	3.03	0.84	4.33	2.96	0.87	4.13	2.89	1.04

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		35			40			43		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.99	2.54	0.89	2.86	2.46	0.98	2.78	2.38	0.96
16.0	22.0	3.20	2.60	1.01	3.07	2.52	1.05	2.99	2.44	1.00
18.0	25.0	3.40	2.64	1.03	3.27	2.57	1.07	3.19	2.49	1.00
19.0	27.0	3.50	2.66	1.03	3.38	2.60	1.07	3.30	2.52	1.00
22.0	30.0	3.82	2.74	1.08	3.69	2.69	1.09	3.61	2.61	1.01
24.0	32.0	4.03	2.81	1.10	3.90	2.75	1.11	3.82	2.68	1.03

ES-W126ERH2

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		20			25			32		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.85	2.22	0.71	2.79	2.21	0.85	2.66	2.14	0.99
16.0	22.0	3.33	2.53	0.73	3.26	2.50	0.86	3.10	2.43	1.00
18.0	25.0	3.71	2.75	0.74	3.63	2.72	0.87	3.46	2.63	1.02
19.0	27.0	3.89	2.84	0.75	3.80	2.81	0.89	3.63	2.72	1.03
22.0	30.0	4.27	3.01	0.76	4.17	2.97	0.90	3.98	2.87	1.05
24.0	32.0	4.43	3.06	0.77	4.33	3.02	0.91	4.13	2.92	1.06

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		35			40			43		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.58	2.10	1.04	2.49	2.05	1.11	2.43	2.03	1.14
16.0	22.0	3.01	2.38	1.06	2.90	2.32	1.12	2.83	2.28	1.16
18.0	25.0	3.36	2.57	1.07	3.24	2.51	1.14	3.16	2.47	1.18
19.0	27.0	3.52	2.66	1.09	3.39	2.59	1.16	3.31	2.55	1.20
22.0	30.0	3.86	2.81	1.10	3.72	2.73	1.17	3.63	2.68	1.21
24.0	32.0	4.01	2.84	1.12	3.86	2.76	1.19	3.77	2.71	1.23

Symbol

AFR : Air Flow Rate	[m³/min]
DB : Dry Bulb Temperature	[°C]
WB : Wet Bulb Temperature	[°C]
TC : Total Capacity	[kW]
SHC : Sensible Heating Capacity	[kW]
PI : Power Input	[kW]
(Comp.+ indoor fan motor + outdoor fan motor)	

Notes

1. All capacities are net, evaporator fan motor heat is deducted.
2. Indicates nominal maximum capacity.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 7.5m
   - Level Difference of Zero.

ES-W1264SW3, ES-W1264SG2

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		20			25			32		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.85	2.22	0.71	2.79	2.21	0.85	2.66	2.14	0.99
16.0	22.0	3.33	2.53	0.73	3.26	2.50	0.86	3.10	2.43	1.00
18.0	25.0	3.71	2.75	0.74	3.63	2.72	0.87	3.46	2.63	1.02
19.0	27.0	3.89	2.84	0.75	3.80	2.81	0.89	3.63	2.72	1.03
22.0	30.0	4.27	3.01	0.76	4.17	2.97	0.90	3.98	2.87	1.05
24.0	32.0	4.43	3.06	0.77	4.33	3.02	0.91	4.13	2.92	1.06

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		35			40			43		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.58	2.10	1.04	2.49	2.05	1.11	2.43	2.03	1.14
16.0	22.0	3.01	2.38	1.06	2.90	2.32	1.12	2.83	2.28	1.16
18.0	25.0	3.36	2.57	1.07	3.24	2.51	1.14	3.16	2.47	1.18
19.0	27.0	3.52	2.66	1.09	3.39	2.59	1.16	3.31	2.55	1.20
22.0	30.0	3.86	2.81	1.10	3.72	2.73	1.17	3.63	2.68	1.21
24.0	32.0	4.01	2.84	1.12	3.86	2.76	1.19	3.77	2.71	1.23

Symbol

AFR : Air Flow Rate	[m^3/min]
DB : Dry Bulb Temperature	[°C]
WB : Wet Bulb Temperature	[°C]
TC : Total Capacity	[kW]
SHC : Sensible Heating Capacity	[kW]
PI : Power Input (Comp.+ indoor fan motor + outdoor fan motor)	[kW]

Notes

1. All capacities are net, evaporator fan motor heat is deducted.
2. Indicates nominal maximum capacity.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 7.5m
   - Level Difference of Zero.

ES-W1865SH3

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		20			25			32		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	5.18	4.27	0.89	4.95	4.14	0.93	4.65	3.97	1.25
16.0	22.0	5.50	4.33	1.21	5.27	4.20	1.22	4.97	4.04	1.47
18.0	25.0	5.81	4.37	1.30	5.59	4.24	1.31	5.28	4.10	1.54
19.0	27.0	5.97	4.41	1.32	5.75	4.29	1.33	5.44	4.15	1.56
22.0	30.0	6.45	4.49	1.32	6.22	4.38	1.35	5.91	4.26	1.60
24.0	32.0	6.77	4.58	1.31	6.54	4.47	1.36	6.23	4.35	1.63

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		35			40			43		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	4.51	3.83	1.39	4.31	3.72	1.53	4.19	3.59	1.50
16.0	22.0	4.82	3.91	1.58	4.62	3.81	1.65	4.51	3.68	1.57
18.0	25.0	5.14	3.98	1.61	4.94	3.88	1.67	4.82	3.75	1.56
19.0	27.0	5.28	4.01	1.61	5.10	3.93	1.67	4.98	3.81	1.56
22.0	30.0	5.76	4.14	1.69	5.57	4.05	1.70	5.45	3.93	1.58
24.0	32.0	6.08	4.23	1.72	5.88	4.15	1.74	5.76	4.04	1.61

ES-W1865SH2, ES-W1868RH3

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		20			25			32		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	5.18	4.27	0.91	4.95	4.13	0.95	4.65	3.96	1.27
16.0	22.0	5.50	4.32	1.23	5.27	4.19	1.24	4.97	4.04	1.50
18.0	25.0	5.81	4.36	1.33	5.59	4.24	1.34	5.28	4.10	1.57
19.0	27.0	5.97	4.40	1.34	5.75	4.28	1.36	5.44	4.14	1.59
22.0	30.0	6.45	4.49	1.34	6.22	4.38	1.38	5.91	4.25	1.63
24.0	32.0	6.77	4.57	1.34	6.54	4.47	1.39	6.23	4.35	1.66

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		35			40			43		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	4.51	3.83	1.42	4.31	3.71	1.56	4.19	3.58	1.53
16.0	22.0	4.82	3.91	1.61	4.62	3.80	1.68	4.51	3.68	1.60
18.0	25.0	5.14	3.97	1.64	4.94	3.87	1.70	4.82	3.75	1.59
19.0	27.0	5.28	4.01	1.64	5.10	3.92	1.71	4.98	3.80	1.59
22.0	30.0	5.76	4.13	1.72	5.57	4.05	1.73	5.45	3.93	1.61
24.0	32.0	6.08	4.23	1.75	5.88	4.15	1.77	5.76	4.03	1.64

Symbol

AFR : Air Flow Rate	[m^3/min]
DB : Dry Bulb Temperature	[°C]
WB : Wet Bulb Temperature	[°C]
TC : Total Capacity	[kW]
SHC : Sensible Heating Capacity	[kW]
PI : Power Input (Comp.+ indoor fan motor + outdoor fan motor)	[kW]

Notes

1. All capacities are net, evaporator fan motor heat is deducted.
2. Indicates nominal maximum capacity.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 7.5m
   - Level Difference of Zero.

8. Capacity tables

ES-W2465SH2, ES-W2468RH2

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		20			25			32		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	5.70	4.45	1.64	5.58	4.41	1.94	5.32	4.29	2.26
16.0	22.0	6.66	5.05	1.66	6.52	5.00	1.97	6.21	4.86	2.30
18.0	25.0	7.43	5.50	1.69	7.27	5.43	2.00	6.93	5.27	2.33
19.0	27.0	7.77	5.68	1.72	7.61	5.62	2.04	7.25	5.44	2.37
22.0	30.0	8.53	6.03	1.74	8.35	5.95	2.06	7.96	5.75	2.40
24.0	32.0	8.85	6.13	1.76	8.67	6.04	2.09	8.26	5.83	2.44

Indoor Air Temperature		Outdoor Air Temperature : °CDB								
		35			40			43		
°CWB	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	5.16	4.20	2.38	4.97	4.11	2.54	4.86	4.05	2.62
16.0	22.0	6.02	4.75	2.42	5.80	4.64	2.58	5.66	4.57	2.66
18.0	25.0	6.72	5.15	2.46	6.47	5.02	2.61	6.32	4.94	2.70
19.0	27.0	7.03	5.31	2.50	6.77	5.18	2.66	6.62	5.09	2.75
22.0	30.0	7.72	5.61	2.53	7.43	5.46	2.69	7.26	5.36	2.78
24.0	32.0	8.01	5.69	2.57	7.71	5.53	2.73	7.53	5.42	2.82

Symbol

AFR : Air flow rate [m^3/min]
DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

Notes

1. All capacities are net, evaporator fan motor heat is deducted.
2. Indicates nominal maximum capacity.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 7.5m
   - Level Difference of Zero.

8.2 Heating Capacity

ES-W096E3G3, ES-W096E0G3

Indoor Air Temperature (°C)	Outdoor Air Temperature : °CWB													
	-15		-10		-5		0		6		10		15	
°CDB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16.0	2.44	0.62	2.57	0.60	2.79	0.63	2.98	0.68	3.30	0.73	3.49	0.76	3.79	0.81
18.0	2.42	0.63	2.57	0.62	2.79	0.65	2.97	0.70	3.28	0.74	3.45	0.77	3.78	0.82
20.0	2.40	0.64	2.57	0.64	2.79	0.67	2.97	0.72	3.25	0.76	3.42	0.78	3.78	0.82
21.0	2.40	0.65	2.57	0.64	2.79	0.68	2.96	0.73	3.23	0.77	3.42	0.79	3.76	0.82
22.0	2.39	0.65	2.57	0.65	2.79	0.69	2.95	0.74	3.21	0.77	3.42	0.79	3.73	0.82
24.0	2.36	0.67	2.54	0.67	2.76	0.71	2.93	0.75	3.18	0.79	3.36	0.80	3.68	0.83

ES-W0964SG2, ES-W0964SW3

Indoor Air Temperature (°C)	Outdoor Air Temperature : °CWB													
	-15		-10		-5		0		6		10		15	
°CDB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16.0	2.38	0.76	2.51	0.74	2.72	0.77	2.90	0.83	3.22	0.89	3.41	0.93	3.70	0.99
18.0	2.36	0.77	2.50	0.76	2.72	0.80	2.90	0.86	3.20	0.91	3.36	0.94	3.68	1.00
20.0	2.34	0.78	2.50	0.78	2.72	0.82	2.89	0.88	3.17	0.93	3.34	0.96	3.69	1.00
21.0	2.34	0.79	2.50	0.79	2.72	0.83	2.89	0.89	3.15	0.94	3.34	0.96	3.67	1.01
22.0	2.33	0.80	2.50	0.80	2.72	0.84	2.88	0.90	3.13	0.95	3.34	0.97	3.64	1.01
24.0	2.31	0.82	2.48	0.82	2.69	0.87	2.86	0.92	3.10	0.96	3.28	0.98	3.59	1.01

ES-W096ERH2

Indoor Air Temperature (°C)	Outdoor Air Temperature : °CWB													
	-15		-10		-5		0		6		10		15	
°CDB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16.0	2.71	0.71	2.85	0.69	3.09	0.72	3.30	0.78	3.66	0.83	3.87	0.87	4.20	0.92
18.0	2.68	0.72	2.84	0.71	3.09	0.75	3.30	0.80	3.64	0.85	3.82	0.88	4.18	0.93
20.0	2.66	0.73	2.84	0.73	3.09	0.77	3.29	0.82	3.60	0.87	3.79	0.90	4.19	0.94
21.0	2.66	0.74	2.84	0.74	3.09	0.78	3.28	0.83	3.58	0.88	3.79	0.90	4.16	0.94
22.0	2.65	0.75	2.84	0.75	3.09	0.79	3.27	0.84	3.55	0.89	3.79	0.91	4.13	0.94
24.0	2.62	0.77	2.82	0.77	3.05	0.81	3.24	0.86	3.52	0.90	3.72	0.92	4.08	0.95

Symbol

AFR : Air Flow Rate [m^3/min]
DB : Dry Bulb Temperature [°C]
WB : Wet Bulb Temperature [°C]
TC : Total Capacity [kW]
PI : Power Input [kW]
(Comp.+ Indoor fan motor + Outdoor fan motor)

Notes

1. All capacities are net, evaporator fan motor heat is deducted.
2. Indicates nominal maximum capacity.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 7.5m
   - Level Difference of Zero.
   - Outdoor air : 85%RH. However, the condition on nominal capacity is 7°CDB/6°CWB

ES-W126E3G3, ES-W126E0G3

Indoor Air Temperature (°C)	Outdoor Air Temperature : °CWB													
	-15		-10		-5		0		6		10		15	
°CDB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16.0	3.16	0.92	3.32	0.90	3.60	0.94	3.85	1.01	4.27	1.08	4.51	1.13	4.90	1.20
18.0	3.13	0.93	3.32	0.92	3.61	0.97	3.84	1.04	4.24	1.11	4.46	1.15	4.88	1.21
20.0	3.10	0.95	3.32	0.95	3.61	1.00	3.83	1.07	4.20	1.13	4.43	1.16	4.89	1.22
21.0	3.10	0.96	3.32	0.96	3.61	1.01	3.83	1.08	4.17	1.14	4.43	1.17	4.86	1.22
22.0	3.09	0.97	3.32	0.97	3.61	1.02	3.82	1.09	4.14	1.15	4.42	1.18	4.82	1.22
24.0	3.05	1.00	3.29	1.00	3.56	1.05	3.79	1.12	4.11	1.17	4.35	1.19	4.76	1.23

ES-W126ERH2

Indoor Air Temperature (°C)	Outdoor Air Temperature : °CWB													
	-15		-10		-5		0		6		10		15	
°CDB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16.0	3.44	1.03	3.62	1.00	3.92	1.05	4.19	1.13	4.65	1.21	4.91	1.25	5.33	1.34
18.0	3.40	1.04	3.61	1.03	3.92	1.08	4.18	1.16	4.62	1.23	4.85	1.28	5.31	1.35
20.0	3.38	1.06	3.61	1.05	3.93	1.11	4.17	1.19	4.57	1.26	4.82	1.30	5.32	1.36
21.0	3.37	1.07	3.61	1.07	3.93	1.13	4.16	1.20	4.54	1.27	4.82	1.31	5.29	1.36
22.0	3.36	1.08	3.61	1.08	3.92	1.14	4.15	1.22	4.51	1.28	4.81	1.31	5.24	1.36
24.0	3.32	1.11	3.57	1.11	3.88	1.17	4.12	1.25	4.47	1.30	4.73	1.33	5.18	1.37

ES-W1264SG2

Indoor Air Temperature (°C)	Outdoor Air Temperature : °CWB													
	-15		-10		-5		0		6		10		15	
°CDB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16.0	3.01	0.95	3.16	0.93	3.43	0.97	3.66	1.05	4.07	1.12	4.30	1.17	4.66	1.24
18.0	2.98	0.97	3.16	0.95	3.43	1.00	3.66	1.08	4.04	1.15	4.24	1.19	4.65	1.25
20.0	2.96	0.99	3.16	0.98	3.44	1.03	3.65	1.10	4.00	1.17	4.21	1.21	4.66	1.26
21.0	2.95	1.00	3.16	0.99	3.44	1.05	3.64	1.12	3.97	1.18	4.21	1.21	4.63	1.26
22.0	2.94	1.01	3.16	1.01	3.43	1.06	3.63	1.13	3.95	1.19	4.21	1.22	4.59	1.26
24.0	2.91	1.03	3.13	1.03	3.39	1.09	3.61	1.16	3.91	1.21	4.14	1.23	4.53	1.27

ES-W1264SW3

Indoor Air Temperature (°C)	Outdoor Air Temperature : °CWB													
	-15		-10		-5		0		6		10		15	
°CDB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16.0	3.16	0.95	3.32	0.92	3.60	0.97	3.85	1.04	4.27	1.11	4.51	1.16	4.90	1.23
18.0	3.13	0.96	3.32	0.95	3.61	0.99	3.84	1.07	4.24	1.14	4.46	1.18	4.88	1.24
20.0	3.10	0.98	3.32	0.97	3.61	1.02	3.83	1.10	4.20	1.16	4.43	1.20	4.89	1.25
21.0	3.10	0.99	3.32	0.98	3.61	1.04	3.83	1.11	4.17	1.17	4.43	1.20	4.86	1.25
22.0	3.09	1.00	3.32	1.00	3.61	1.05	3.82	1.12	4.14	1.18	4.42	1.21	4.82	1.25
24.0	3.05	1.02	3.29	1.03	3.56	1.08	3.79	1.15	4.11	1.20	4.35	1.22	4.76	1.26

Symbol

AFR : Air Flow Rate [m³/min]
DB : Dry Bulb Temperature [°C]
WB : Wet Bulb Temperature [°C]
TC : Total Capacity [kW]
PI : Power Input [kW]
(Comp.+ Indoor fan motor + Outdoor fan motor)

Notes

1. All capacities are net, evaporator fan motor heat is deducted.
2. Indicates nominal maximum capacity.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 7.5m
   - Level Difference of Zero.
   - Outdoor air : 85%RH. However, the condition on nominal capacity is 7°CDB/6°CWB

8. Capacity tables

Heating

ES-W1865SH3

Indoor Air Temperature (°C)	Outdoor Air Temperature : °CWB													
	-15		-10		-5		0		6		10		15	
°CDB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16.0	4.36	1.28	4.59	1.25	4.97	1.31	5.31	1.40	5.90	1.50	6.23	1.56	6.76	1.67
18.0	4.32	1.30	4.58	1.28	4.98	1.34	5.31	1.44	5.86	1.54	6.15	1.59	6.74	1.68
20.0	4.29	1.32	4.58	1.31	4.98	1.38	5.30	1.48	5.80	1.57	6.11	1.62	6.75	1.69
21.0	4.28	1.34	4.58	1.33	4.98	1.40	5.28	1.50	5.76	1.58	6.11	1.63	6.71	1.70
22.0	4.27	1.35	4.58	1.35	4.98	1.42	5.27	1.52	5.72	1.60	6.10	1.64	6.65	1.70
24.0	4.22	1.38	4.54	1.39	4.92	1.46	5.23	1.56	5.68	1.62	6.00	1.65	6.58	1.71

ES-W1865SH2, ES-W1868RH3

Indoor Air Temperature (°C)	Outdoor Air Temperature : °CWB													
	-15		-10		-5		0		6		10		15	
°CDB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16.0	4.56	1.44	4.80	1.41	5.20	1.47	5.56	1.58	6.17	1.69	6.52	1.76	7.08	1.88
18.0	4.52	1.46	4.79	1.44	5.21	1.52	5.56	1.63	6.13	1.73	6.44	1.80	7.05	1.90
20.0	4.49	1.49	4.79	1.48	5.21	1.56	5.54	1.67	6.07	1.77	6.40	1.82	7.07	1.91
21.0	4.48	1.51	4.79	1.50	5.21	1.58	5.53	1.69	6.03	1.79	6.40	1.84	7.02	1.91
22.0	4.47	1.52	4.79	1.52	5.21	1.60	5.51	1.71	5.99	1.80	6.39	1.85	6.96	1.91
24.0	4.42	1.56	4.75	1.57	5.15	1.65	5.47	1.75	5.94	1.83	6.28	1.86	6.88	1.93

Symbol

AFR : Air Flow Rate [m³/min]
DB : Dry Bulb Temperature [°C]
WB : Wet Bulb Temperature [°C]
TC : Total Capacity [kW]
PI : Power Input [kW]
(Comp.+ Indoor fan motor + Outdoor fan motor)

Notes

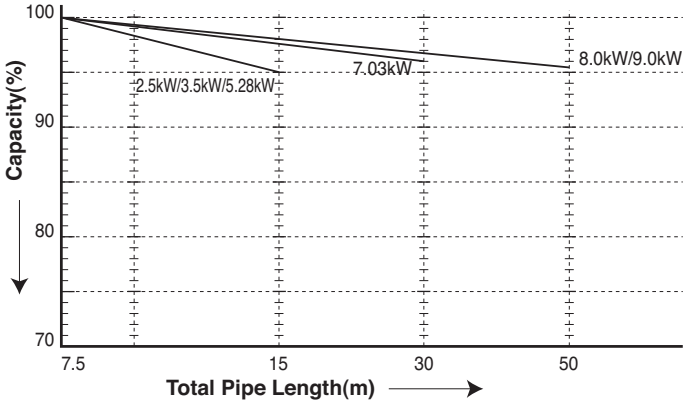
1. All capacities are net, evaporator fan motor heat is deducted.
2. Indicates nominal maximum capacity.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 7.5m
   - Level Difference of Zero.
   - Outdoor air : 85%RH. However, the condition on nominal capacity is 7°CDB/6°CWB

ES-W2465SH2, ES-W2468RH2

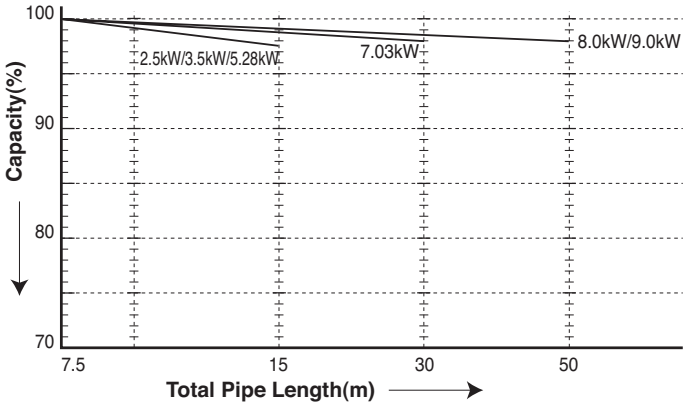
Indoor Air Temperature (°C)	Outdoor Air Temperature : °CWB													
	-15		-10		-5		0		6		10		15	
°CDB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16.0	6.08	2.35	6.39	2.29	6.93	2.40	7.40	2.58	8.21	2.76	8.68	2.87	9.42	3.06
18.0	6.01	2.38	6.38	2.35	6.94	2.47	7.40	2.65	8.16	2.82	8.57	2.92	9.39	3.09
20.0	5.97	2.43	6.38	2.41	6.94	2.54	7.38	2.72	8.08	2.88	8.51	2.97	9.41	3.11
21.0	5.96	2.45	6.38	2.44	6.94	2.57	7.36	2.75	8.03	2.91	8.51	2.99	9.34	3.11
22.0	5.95	2.48	6.38	2.48	6.94	2.61	7.34	2.79	7.97	2.93	8.50	3.00	9.27	3.11
24.0	5.88	2.54	6.32	2.55	6.85	2.68	7.28	2.86	7.91	2.98	8.36	3.03	9.16	3.14

9. Capacity coefficient factor

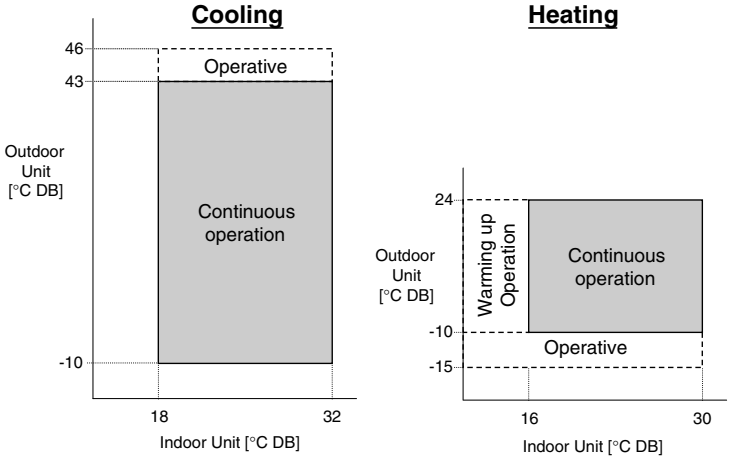
Cooling



Heating



10. Operation range



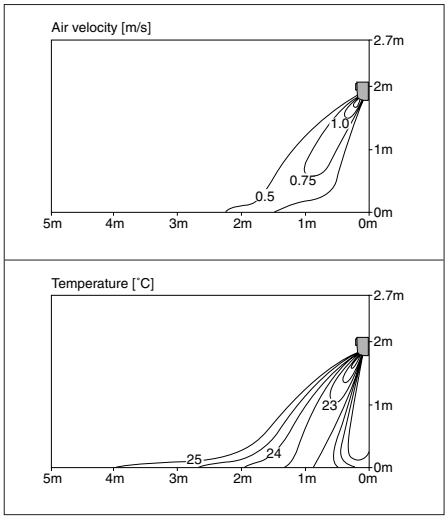
Operative: Intermittent operation due to the operational conditions (indoor/outdoor temperature, humidity, load etc.) can cause the heating capacity to decrease.

11. Air flow and temperature distributions(reference data)

General Wall Mouted 2.5 kW

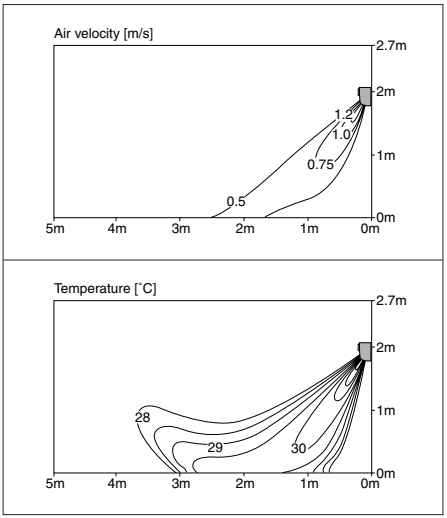
Cooling

Discharge angle:45°



Heating

Discharge angle:50°

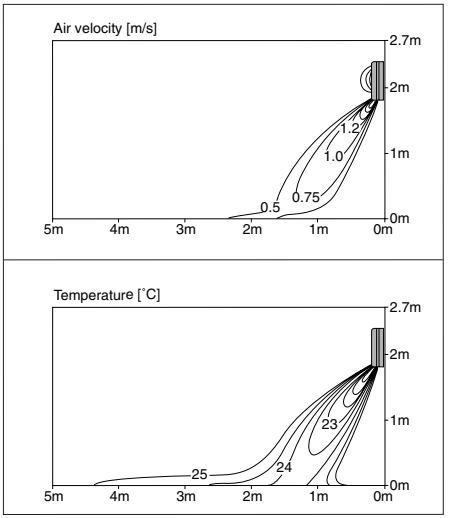


11. Air flow and temperature distributions(reference data)

ART COOL Standard 3.5 kW

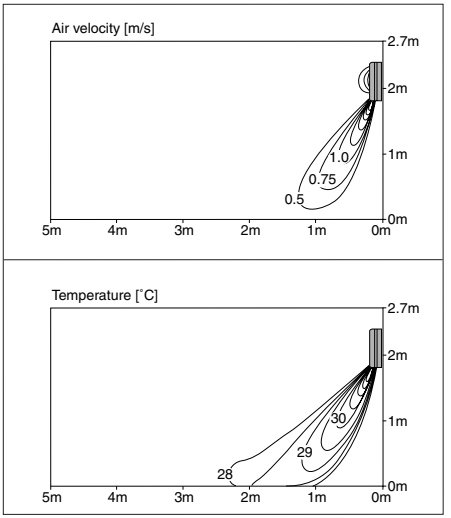
Cooling

Discharge angle:45°



Heating

Discharge angle:45°

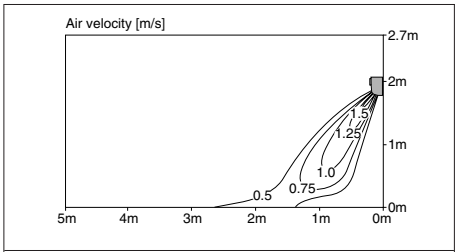


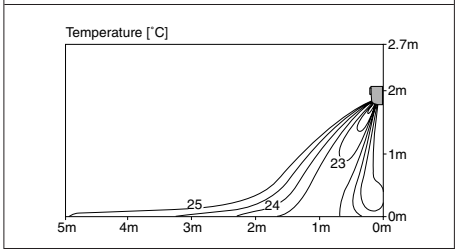
11. Air flow and temperature distributions(reference data)

General Wall Mouted 3.5 kW

Cooling

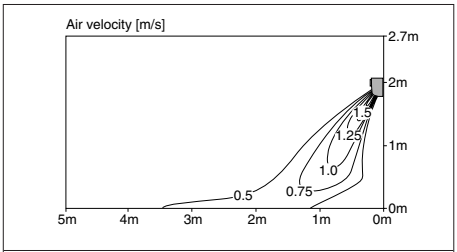
Discharge angle:45°

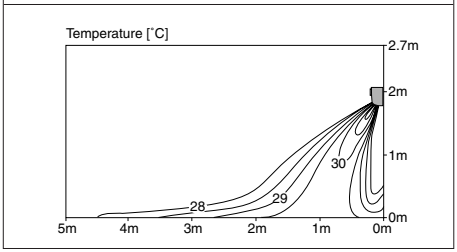




Heating

Discharge angle:50°

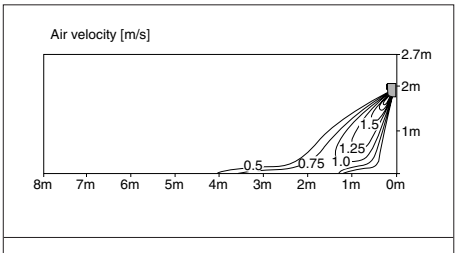


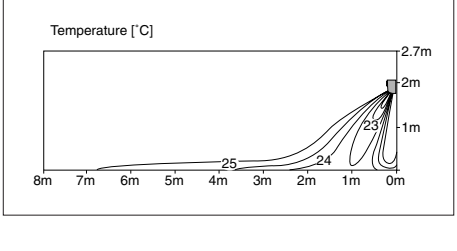


General Wall Mouted 5.28 kW

Cooling

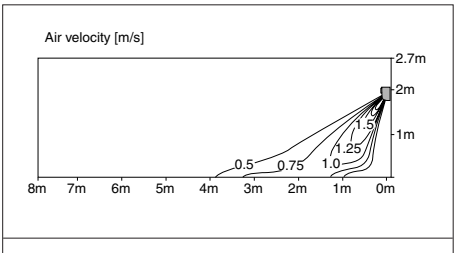
Discharge angle:45°

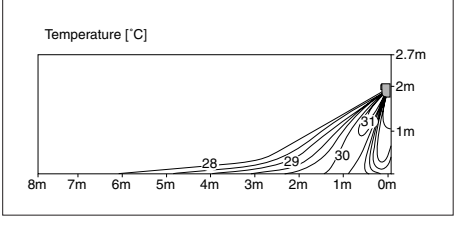




Heating

Discharge angle:50°

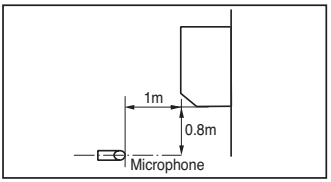




12. Sound levels

12.1 Indoor Units

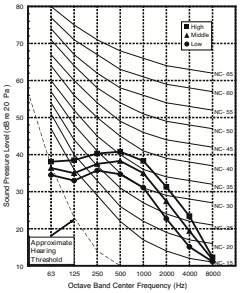
Overall



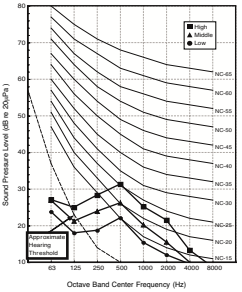
Notes:
- Sound measured at 1m away from the center of the unit.
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Reference accoustic pressure 0dB=20Pa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to be standard.

Sound Pressure Level

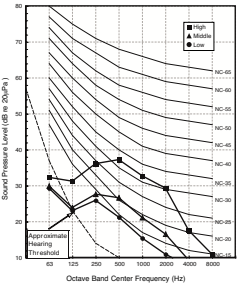
ES-W0964SG2 ES-W0964SW3



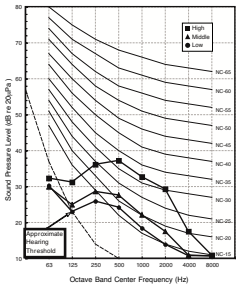
ES-W096E0G3, ES-W096E3G3
ES-W096E0G2, ES-W096ERH2



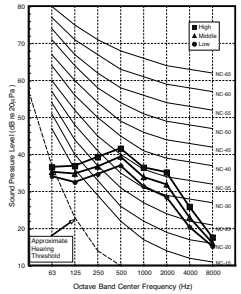
ES-W126E3G2, ES-W126E3G3
ES-W126E0G2, ES-W126ERH2



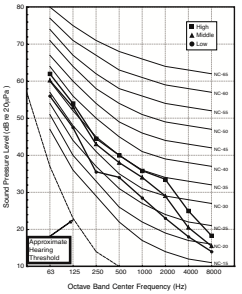
ES-W1264SG2,ES-W1264SW3



ES-W1865SH2, ES-W1865SH3
ES-W1868RH3



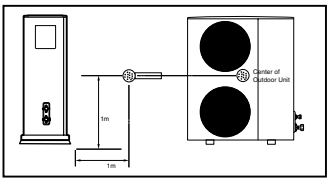
ES-W2465SH2, ES-W2468RH2



12. Sound levels

12.2 Outdoor Units

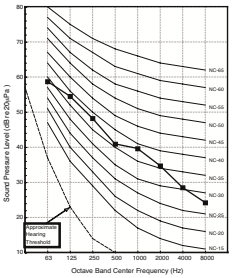
Overall



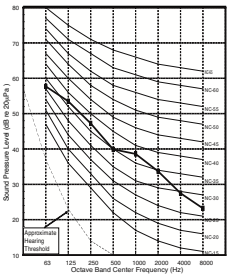
Notes:
- Sound measured at 1m away from the center of the unit.
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Reference accoustic pressure 0dB=20Pa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to be standard.

Sound Pressure Level

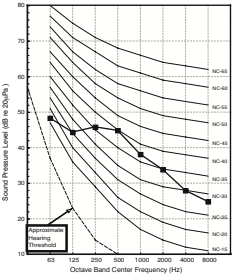
ES-W0964SG2 ES-W0964SW3



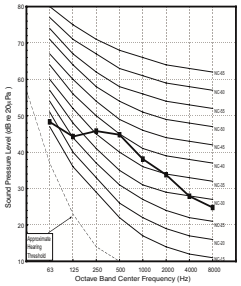
ES-W096E0G3, ES-W096E3G3
ES-W096E0G2, ES-W096ERH2



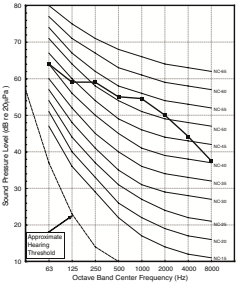
ES-W126E3G2, ES-W126E3G3
ES-W126E0G2, ES-W126ERH2



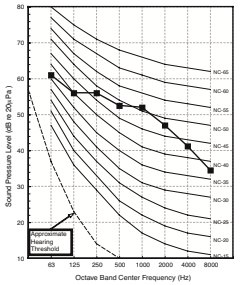
ES-W1264SG2,ES-W1264SW3



ES-W1865SH2, ES-W1865SH3
ES-W1868RH3



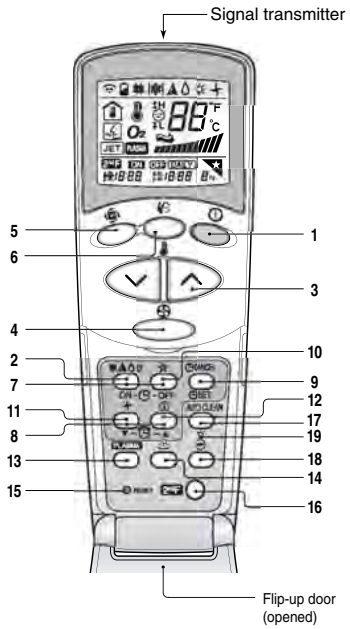
ES-W2465SH2, ES-W2468RH2



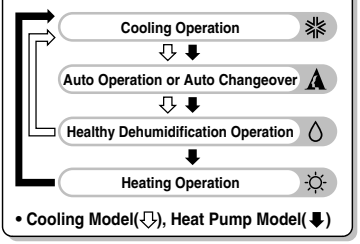
13. Remote controller

Wireless Remote Controller

The controls will look like the following.



Operation Mode



• Cooling Model(⇩), Heat Pump Model(⬇)

1. START/STOP BUTTON
Used to turn off/on the unit.

2. OPERATION MODE SELECTION BUTTON
Used to select the operation mode.

3. ROOM TEMPERATURE SETTING BUTTONS
Used to select the room temperature.

4. INDOOR FAN SPEED SELECTOR BUTTON
Used to select fan speed in four steps
low, medium, high and CHAOS.

5. JET COOL BUTTON
Used to start or stop the speed cooling.
(It operates fan in super high speed in cooling mode)

6. CHAOS SWING BUTTON
Used to stop or start louver movement and set the desired up/down airflow direction.

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

8. TIME SETTING BUTTONS
Used to adjust the time.

9. TIMER SET/CANCEL BUTTON
Used to set and to cancel the timer operation.

10. SLEEP MODE AUTO BUTTON
Used to set sleep mode auto operation.

11. AIR CIRCULATION BUTTON(OPTIONAL)
Used to circulate the room air without cooling or heating.
ENERGY-SAVING COOLING MODE BUTTON (OPTIONAL) For inverter type models

12. ROOM TEMPERATURE CHECKING BUTTON
Used to check the room temperature.

13. PLASMA BUTTON(OPTIONAL)
Used to start or stop the plasma-purification function.

14. HORIZONTAL AIRFLOW DIRECTION CONTROL BUTTON (OPTIONAL)
Used to set the desired horizontal airflow direction.

15. RESET BUTTON
Used prior to resetting time.

16. 2nd F BUTTON
Used prior to using modes printed in blue at the bottom of buttons.

17. AUTO CLEAN BUTTON(OPTIONAL)
Used to set auto clean mode.
In some models this button has a 2nd function of LED luminosity control.

18. HEATER BUTTON(OPTIONAL)
(Not available in all models)

19. LCD LUMINOSITY BUTTON(OPTIONAL)
Used to adjust LCD luminosity.

NOTE

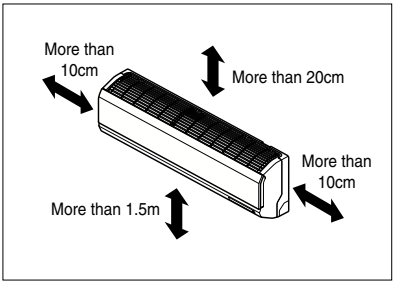
To use the functions printed in blue at the bottom of the buttons press 2nd F button first and then the required function button. Pressing the 2nd F button activates the blue printed function of the respective button. To cancel the function press the 2nd F button again else it will automatically cancel if remains idle after 10 seconds.

14. Installation

Select the best Location

Indoor unit

1. Do not have any heat or steam near the unit.
2. Select a place where there are no obstacles in front of the unit.
3. Make sure that condensation drainage can be conveniently routed away.
4. Do not install near a doorway.
5. Ensure that the interval between a wall and the left (or right) of the unit is more than 10cm. The unit should be installed as high as possible on the wall, allowing a minimum of 20cm from ceiling.
6. Use a stud finder to locate studs to prevent unnecessary damage to the wall.

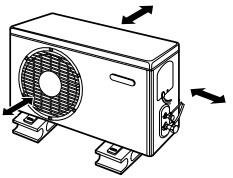


⚠ CAUTION

Install the indoor unit on the wall where the height from the floor is more than 1.5 meters.

Outdoor unit

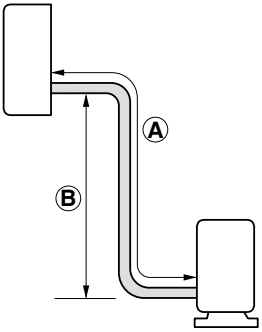
1. If an awning is built over the unit to prevent direct sunlight or rain exposure, make sure that heat radiation from the condenser is not restricted.
2. Ensure that the space around the back and sides is more than 30cm. The front of the unit should have more than 70cm of space.
3. Do not place animals and plants in the path of the warm air.
4. Take the weight of the air conditioner into account and select a place where noise and vibration are minimum.
5. Select a place where the warm air and noise from the air conditioner do not disturb neighbors.

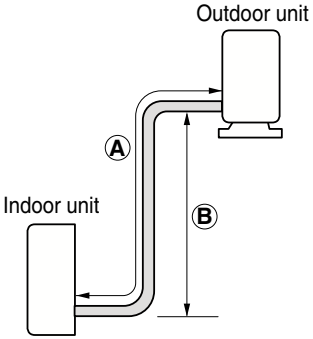


14. Installation

Piping Length and Elevation

Capacity (Btu/h)	Pipe Size		Standard Length (m)	Max. Elevation B (m)	Max. Length A (m)	Additional Refrigerant (g/m)
	GAS	LIQUID				
7k, 8k, 9k	3/8"	1/4"	4 or 7.5	7	15	20
11k, 12k, 14k	3/8"	1/4"	4 or 7.5	7	15	20
	1/2"	1/4"	4 or 7.5	7	15	20
18k, 24k, 26k	1/2"	1/4"	4 or 7.5	15	30	20
	5/8"	1/4"	4 or 7.5	15	30	20
	5/8"	3/8"	4 or 7.5	15	30	30





⚠ CAUTION

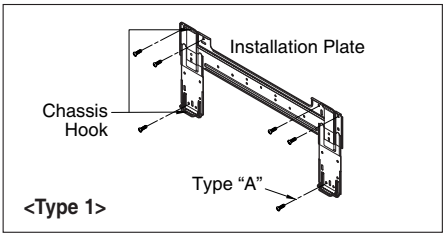
Capacity is based on standard length and maximum allowance length is on the basis of reliability.
Oil trap should be installed every 5~7 meters.

14. Installation

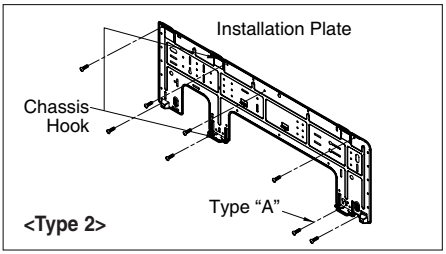
Fixing Installation Plate

The wall you select should be strong and solid enough to prevent vibration

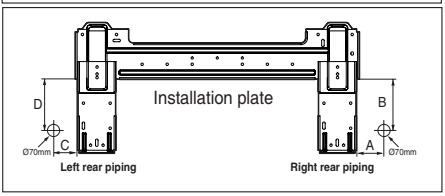
1. Mount the installation plate on the wall with type "A" screws. If mounting the unit on a concrete wall, use anchor bolts.
   • Mount the installation plate horizontally by aligning the centerline using a level.

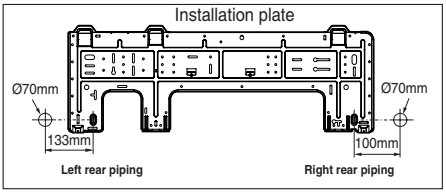


2. Measure the wall and mark the centerline. It is also important to use caution concerning the location of the installation plate-routing of the wiring to power outlets is through the walls typically. Drilling the hole through the wall for piping connections must be done safely.



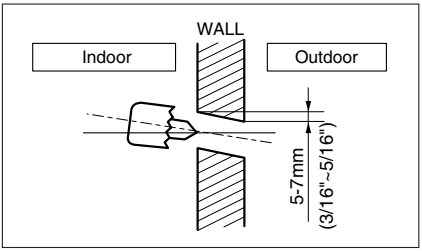
CHASSIS (Grade)	Distance (mm)			
	A	B	C	D
S4	55	105	65	105
SE	70	110	90	110
S5	100	122	240	122





Drill a Hole in the Wall

• Drill the piping hole with a ø70mm hole core drill. Drill the piping hole at either the right or the left with the hole slightly slanted to the outdoor side.

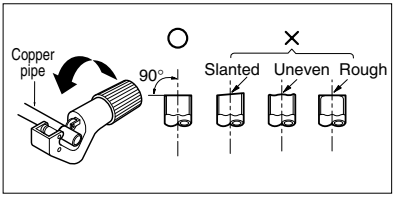


Flaring Work

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

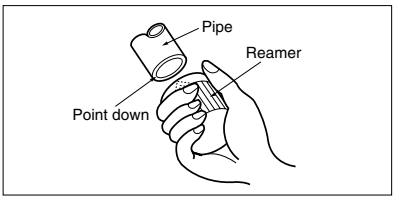
Cut the pipes and the cable.

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



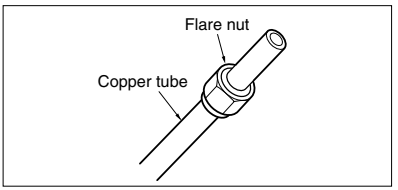
Burrs removal

1. Completely remove all burrs from the cut cross section of pipe/tube.
2. Put the end of the copper tube/pipe in a downward direction as you remove burrs in order to avoid dropping burrs into the tubing.



Putting nut on

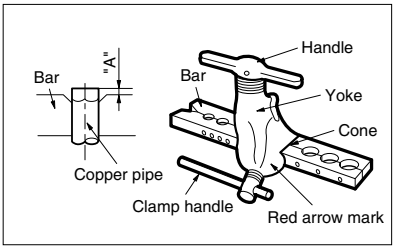
- Remove flare nuts attached to indoor and outdoor unit, then put them on pipe/tube having completed burr removal. (not possible to put them on after flaring work)



Flaring work

1. Firmly hold copper pipe in a die in the dimension shown in the table below.
2. Carry out flaring work with the flaring tool.

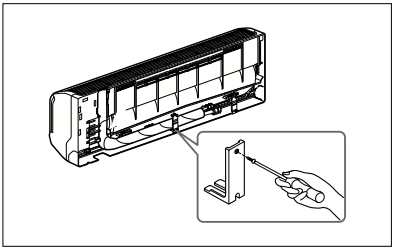
Outside diameter		A
mm	inch	mm
Ø6.35	1/4"	1.1~1.3
Ø9.52	3/8"	1.5~1.7
Ø12.7	1/2"	1.6~1.8
Ø15.88	5/8"	1.6~1.8
Ø19.05	3/4"	1.9~2.1



Connecting the Piping

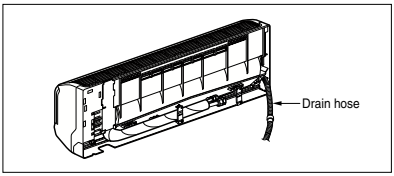
Indoor

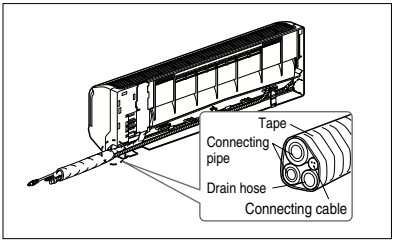
1. Prepare the indoor unit's piping and drain hose for installation through the wall.
2. Remove the plastic tubing retainer(see the illustration by) and pull the tubing and drain hose away from chassis.
3. Replace only the plastic tubing holder 1, not the holder 2 in the original position.



For right rear piping

1. Route the indoor tubing and the drain hose in the direction of rear right.
2. Insert the connecting cable into the indoor unit from the outdoor unit through the piping hole.
   - Do not connect the cable to the indoor unit.
   - Make a small loop with the cable for easy connection later.
3. Tape the tubing, drain hose, and the connecting cable. Be sure that the drain hose is located at the lowest side of the bundle. Locating at the uper side can cause drain pan to overflow inside the unit.



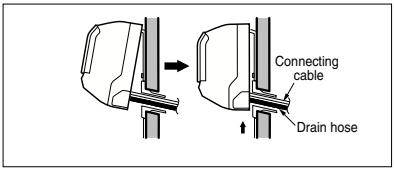


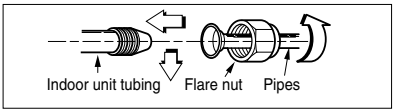
⚠ CAUTION

If the drain hose is routed inside the room, insulate the hose with an insulation material* so that dripping from "sweating"(condensation) will not damage furniture or floors.

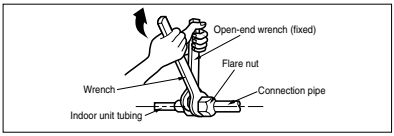
*Foamed polyethylene or equivalent is recommended.

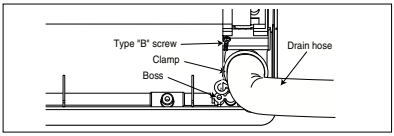
14. Installation

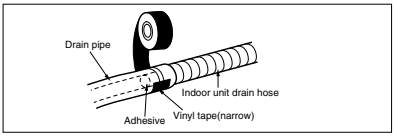


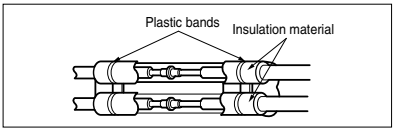


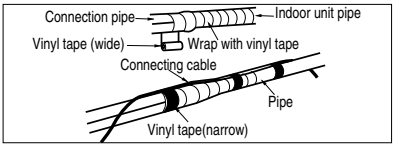
Outside diameter		Torque
mm	inch	kg·m
Ø6.35	1/4"	1.1~1.3
Ø9.52	3/8"	1.5~1.7
Ø12.7	1/2"	1.6~1.8
Ø15.88	5/8"	1.6~1.8
Ø19.05	3/4"	1.9~2.1

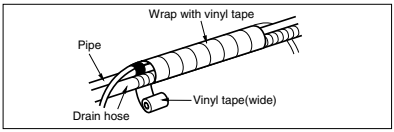






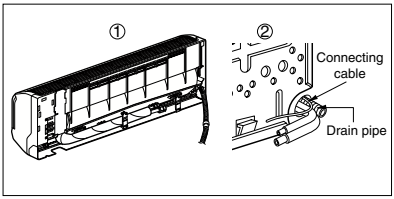


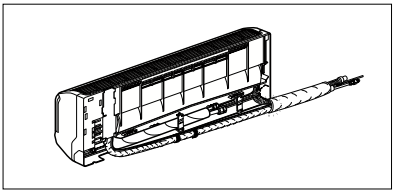


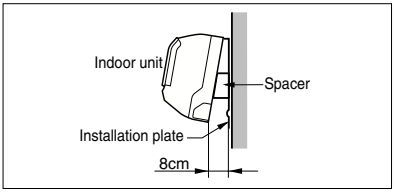


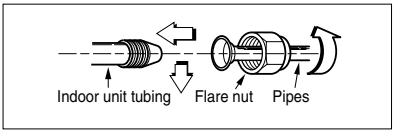
14. Installation

For left rear piping

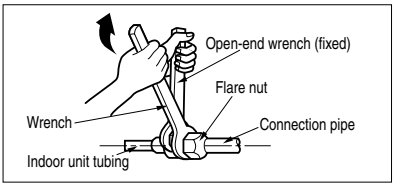


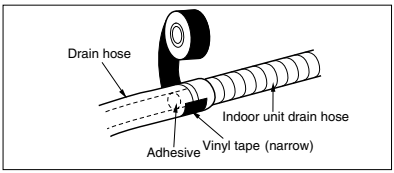






Outside diameter		Torque
mm	inch	kg·m
Ø6.35	1/4"	1.1~1.3
Ø9.52	3/8"	1.5~1.7
Ø12.7	1/2"	1.6~1.8
Ø15.88	5/8"	1.6~1.8
Ø19.05	3/4"	1.9~2.1

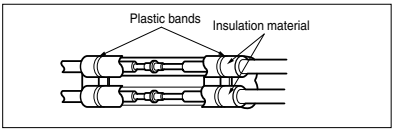


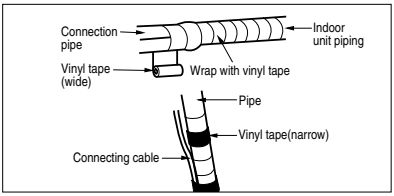


14. Installation

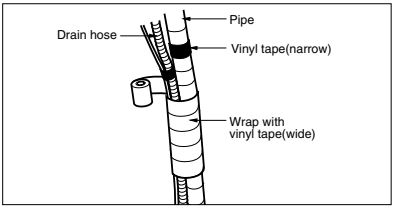
Wrap the insulation material around the connecting portion.

1. Overlap the connection pipe heat insulation and the indoor unit pipe heat insulation material. Bind them together with vinyl tape so that there may be no gap.
2. Wrap the area which accommodates the rear piping housing section with vinyl tape.

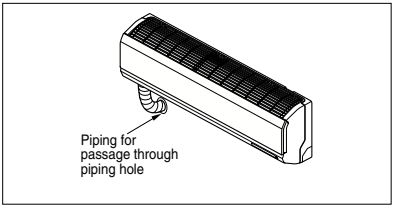




3. Bundle the piping and drain hose together by wrapping them with cloth tape over the range within which they fit into the rear piping housing section.

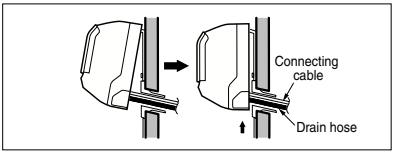


Reroute the pipings and the drain hose across the back of the chassis.



Indoor unit installation

1. Remove the spacer.
2. Ensure that the hooks are properly seated on the installation plate by moving it left and right.
3. Press the lower left and right sides of the unit against the installation plate until the hooks engage into their slots(clicking sound).



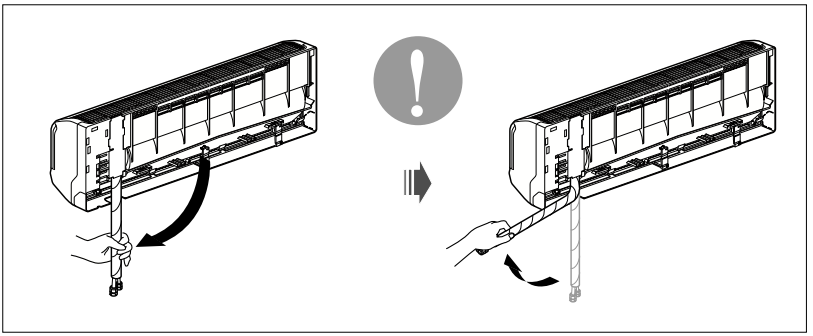
14. Installation

⚠ CAUTION

Installation Information. For left piping. Follow the instruction below.

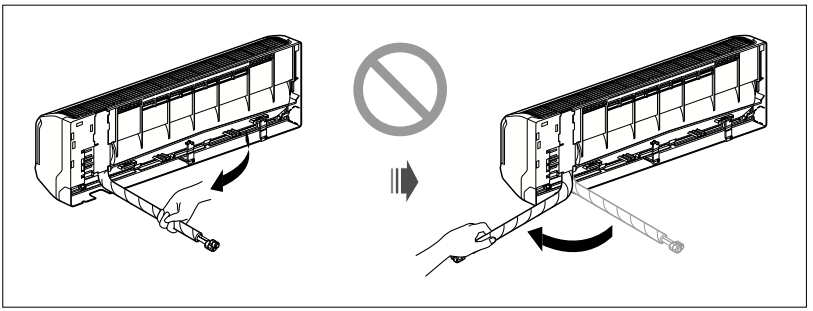
Good case

• Press on the upper side of clamp and unfold the tubing to downward slowly.



Bad case

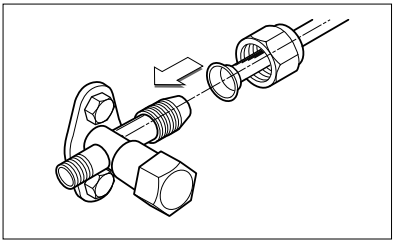
• Following bending type from right to left may cause damage to the tubing.



14. Installation

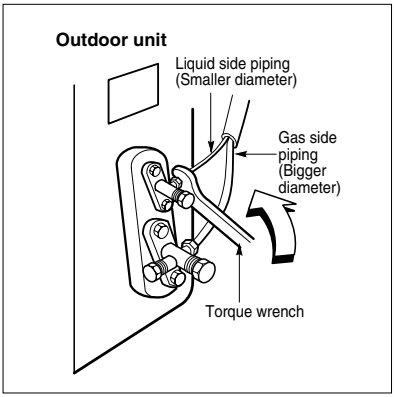
Outdoor

Align the center of the pipings and sufficiently tighten the flare nut by hand.



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.



Outside diameter		Torque
mm	inch	kgf.m
Ø6.35mm	1/4"	1.8~2.5
Ø9.52mm	3/8"	3.4~4.2
Ø12.7mm	1/2"	5.5~6.6
Ø15.88mm	5/8"	6.3~8.2
Ø19.05mm	3/4"	9.9~12.1

Connect the cable to the Indoor unit.

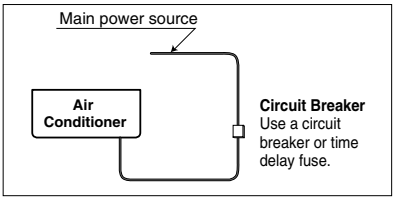
Connect the cable to the indoor unit by connecting the wires to the terminals on the control board individually according to the outdoor unit connection. (Ensure that the color of the wires of the outdoor unit and the terminal No. are the same as those of the indoor unit.)

⚠ CAUTION

- The above circuit diagram is subject to change without notice.
- The earth wire should be longer than the common wires.
- When installing, refer to the circuit diagram behind the panel front of the indoor unit.
- Connect the wires firmly so that they may not be pulled out easily.
- Connect the wires according to color codes, referring to the wiring diagram.

⚠ CAUTION

If a power plug is not used, provide a circuit breaker between power source and the unit as shown by.

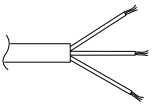


⚠ CAUTION

The power cord connected to the "A" unit should be selected according to the following specifications(Type "B" approved by HAR or SAA).

(mm²)

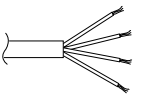
NORMAL CROSS -SECTIONAL AREA	Grade			
	7k	9k~14k	18k	24k
	0.75	1.0	1.5	2.5
Unit(A)	Indoor	Indoor	Indoor	Indoor
Cable Type(B)	H05VV-F	H05VV-F	H05VV-F	H05VV-F



The power connecting cable connecting the indoor and outdoor unit should be selected according to the following specifications (Type "B" approved by HAR or SAA).

(mm²)

NORMAL CROSS -SECTIONAL AREA	Grade			
	7k	9k~14k	18k	24k
	0.75	1.0	1.5	2.5
Cable Type(B)	H07RN-F	H07RN-F	H07RN-F	H07RN-F



14. Installation

Connect the cable to the outdoor unit

Remove the control cover from the unit by loosening the screw.

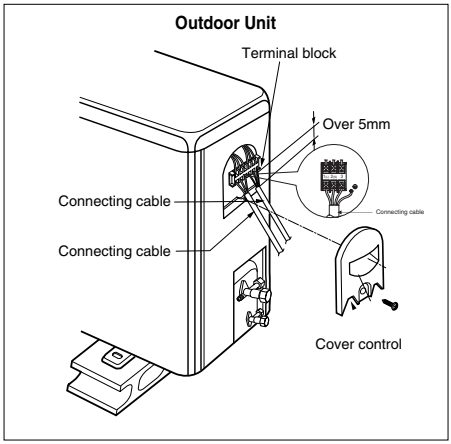
Connect the wires to the terminals on the control board individually.

Secure the cable onto the control board with the cord clamp.

Refix the control cover to the original position with the screw.

Use a recognized circuit breaker "A" between the power source and the unit.
A disconnecting device to adequately disconnect all supply lines must be fitted.

Circuit Breaker (A)	Grade				
	5k~14k	18k	24k~28k	30k, 32k	36k, 38k
	15	20	30	30	40



⚠ CAUTION

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

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

2) 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 cause burn-out of the wires.)

3) Specification of power source.

4) Confirm that electrical capacity is sufficient.

5) See to that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.

6) Confirm that the cable thickness is as specified in the power source specification.
(Particularly note the relation between cable length and thickness. (Refer to page 21))

7) Always install an earth leakage circuit breaker in a wet or moist area.

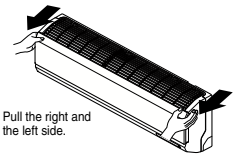
8) The following would be caused by voltage drop.
- Vibration of a magnetic switch, which will damage the contact point, fuse breaking, disturbance of the normal function of the overload.

9) The means for disconnection from a power supply shall be incorporated in the fixed wiring and have an air gap contact separation of at least 3mm in each active(phase) conductors.

Checking the drainage

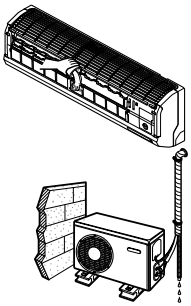
To remove the front panel from the indoor unit.

- Set the air direction louvers up-and-down to the position(horizontally)by hand.
- Remove the securing screws that retain the front panel. Pull the lower left and right sides of the grille toward you and lift it off.



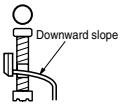
To check the drainage.

- Pour a glass of water on the evaporator.
- Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.

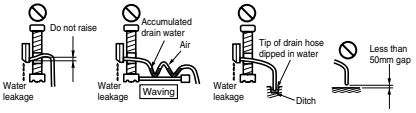


Drain piping

- The drain hose should point downward for easy drain flow.



- Do not make drain piping.



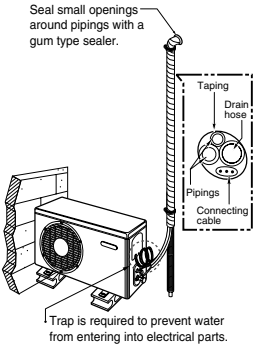
Form the piping

Form the piping by wrapping the connecting portion of the indoor unit with insulation material and secure it with two kinds of vinyl tapes.

- If you want to connect an additional drain hose, the end of the drain outlet should be routed above the ground. Secure the drain hose appropriately.

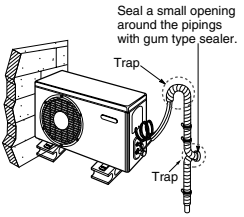
In cases where the outdoor unit is installed below the indoor unit perform the following.

- Tape the piping, drain hose and connecting cable from down to up.
- Secure the tapped piping along the exterior wall using saddle or equivalent.



In cases where the Outdoor unit is installed above the Indoor unit perform the following.

- Tape the piping and connecting cable from down to up.
- Secure the taped piping along the exterior wall. Form a trap to prevent water entering the room.
- Fix the piping onto the wall by saddle or equivalent.



Air purging

Air and moisture remaining in the refrigerant system have undesirable effects as indicated below.

- Pressure in the system rises.
- Operating current rises.
- Cooling(or heating) efficiency drops.
- Moisture in the refrigerant circuit may freeze and block capillary tubing.
- Water may lead to corrosion of parts in the refrigeration system.

Therefore, the indoor unit and tubing between the indoor and outdoor unit must be leak tested and evacuated to remove any noncondensables and moisture from the system.

Air purging with vacuum pump

Preparation

- Check that each tube(both liquid and gas side tubes) between the indoor and outdoor units have been properly connected and all wiring for the test run has been completed. Remove the service valve caps from both the gas and the liquid side on the outdoor unit. Note that both the liquid and the gas side service valves on the outdoor unit are kept closed at this stage.

Leak test

- Connect the manifold valve(with pressure gauges) and dry nitrogen gas cylinder to this service port with charge hoses.

⚠ CAUTION

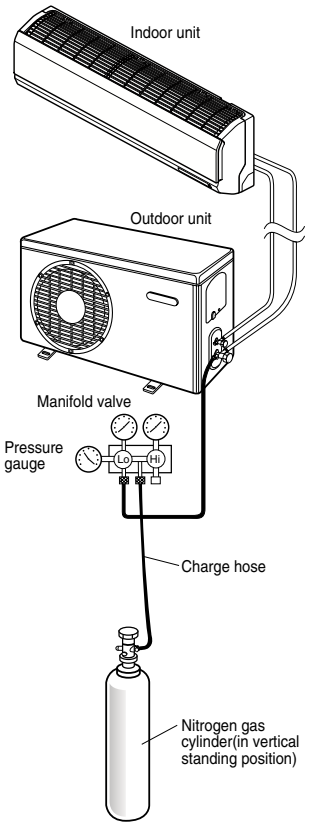
Be sure to use a manifold valve for air purging. If it is not available, use a stop valve for this purpose. The "Hi" knob of the manifold valve must always be kept close.

- Pressurize the system to no more than 150 P.S.I.G. with dry nitrogen gas and close the cylinder valve when the gauge reading reached 150 P.S.I.G. Next, test for leaks with liquid soap.

⚠ CAUTION

To avoid nitrogen entering the refrigerant system in a liquid state, the top of the cylinder must be higher than its bottom when you pressurize the system. Usually, the cylinder is used in a vertical standing position.

- Do a leak test of all joints of the tubing(both indoor and outdoor) and both gas and liquid side service valves. Bubbles indicate a leak. Be sure to wipe off the soap with a clean cloth.
- After the system is found to be free of leaks, relieve the nitrogen pressure by loosening the charge hose connector at the nitrogen cylinder. When the system pressure is reduced to normal, disconnect the hose from the cylinder.



Soap water method

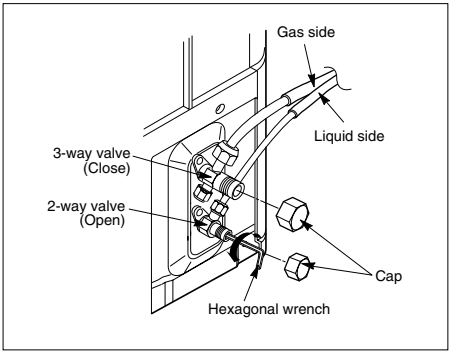
(1) Remove the caps from the 2-way and 3-way valves.

(2) Remove the service-port cap from the 3-way valve.

(3) To open the 2-way valve turn the valve stem counter-clockwise approximately 90°, wait for about 2~3 sec, and close it.

(4) Apply a soap water or a liquid neutral detergent on the indoor unit connection or outdoor unit connections by a soft brush to check for leakage of the connecting points of the piping.

(5) If bubbles come out, the pipes have leakage.

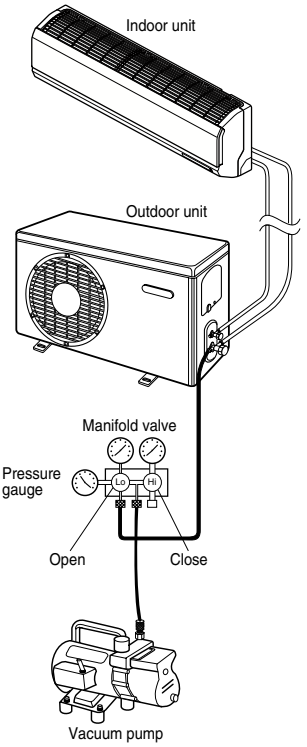


Evacuation

- Connect the charge hose end described in the preceding steps to the vacuum pump to evacuate the tubing and indoor unit.
  Confirm the "Lo" knob of the manifold valve is open. Then, run the vacuum pump.
  The operation time for evacuation varies with tubing length and capacity of the pump. The following table shows the time required for evacuation.

Required time for evacuation when 30 gal/h vacuum pump is used	
If tubing length is less than 10m (33 ft)	if tubing length is longer than 10m (33 ft)
10 min. or more	15 min. or more

- When the desired vacuum is reached, close the "Lo" knob of the manifold valve and stop the vacuum pump.



Finishing the job

- With a service valve wrench, turn the valve stem of liquid side valve counter-clockwise to fully open the valve.
- Turn the valve stem of gas side valve counter-clockwise to fully open the valve.
- Loosen the charge hose connected to the gas side service port slightly to release the pressure, then remove the hose.
- Replace the flare nut and its bonnet on the gas side service port and fasten the flare nut securely with an adjustable wrench. This process is very important to prevent leakage from the system.
- Replace the valve caps at both gas and liquid side service valves and fasten them tight.

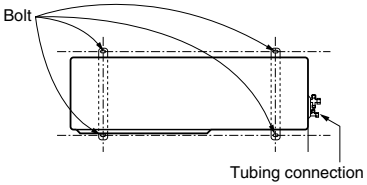
This completes air purging with a vacuum pump.
The air conditioner is now ready to test run.

Test Running

1. Check that all tubing and wiring have been properly connected.
2. Check that the gas and liquid side service valves are fully open.

Settlement of outdoor unit

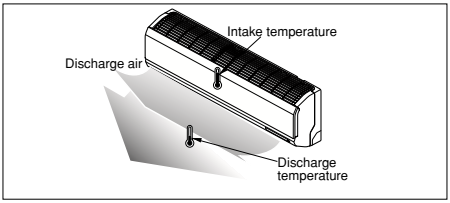
- Anchor the outdoor unit with a bolt and nut(ø10mm) tightly and horizontally on a concrete or rigid mount.
- When installing on the wall, roof or rooftop, anchor the mounting base securely with a nail or wire assuming the influence of wind and earthquake.
- In the case when the vibration of the unit is conveyed to the hose, secure the unit with an anti-vibration bushing.



Evaluation of the performance

Operate unit for 15~20 minutes, then check the system refrigerant charge:

1. Measure the pressure of the gas side service valve.
2. Measure the temperature of the intake and discharge of air.
3. Ensure the difference between the intake temperature and the discharge is more than 8°C(46°F) (Cooling) or (Heating).



4. For reference; the gas side pressure of optimum condition is as below.(Cooling)

Refrigerant	Outside ambient TEMP.	The pressure of the gas side service valve.
R-22	35°C (95°F)	4~5kg/cm²G(56.8~71.0 P.S.I.G.)
R-410A	35°C (95°F)	8.5~9.5kg/cm²G(120~135 P.S.I.G.)

NOTE: If the actual pressure is higher than shown, the system is most likely over-charged, and charge should be removed. If the actual pressure are lower than shown, the system is most likely undercharged, and charge should be added.

The air conditioner is now ready for use.

PUMP DOWN

This is performed when the unit is to be relocated or the refrigerant circuit is serviced.
Pump Down means collecting all refrigerant in the outdoor unit without loss in refrigerant gas.

CAUTION:
Be sure to perform Pump Down procedure with the unit cooling mode.

Pump Down Procedure

1. Connect a low-pressure gauge manifold hose to the charge port on the gas side service valve.
2. Open the gas side service valve halfway and purge the air from the manifold hose using the refrigerant gas.
3. Close the liquid side service valve(all the way in).
4. Turn on the unit's operating switch and start the cooling operation.
5. When the low-pressure gauge reading becomes 1 to 0.5kg/cm2 G(14.2 to 7.1 P.S.I.G.), fully close the gas side valve stem and then quickly turn off the unit. At that time, Pump Down has been completed and all refrigerant gas will have been collected in the outdoor unit.

Power-Failure Compensation Function User Selection ON/OFF

1) Operation Sequence

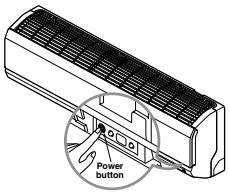
① Press the forced switch until BUZZER sounds 2 times (beep~beep~).

② Release the forced switch if BUZZER sounds.

③ Check the function selection ON/OFF with the operation LED.

2) Checking function-selection ON/OFF

- Function-Selection ON: One time blinking of operation LED would repeat 4 times.
- Function-Selection OFF: Two times blinking of operation LED would repeat 4 times.



14. Installation

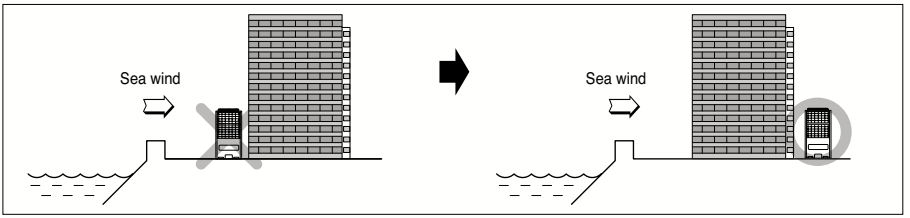
14.1. Installation Guide at the Seaside

CAUTION

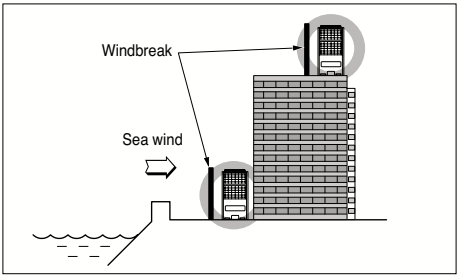
1. **Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.**
2. **Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient performance.**
3. **If outdoor unit is installed close to the seaside, it should avoid direct exposure to the sea wind. Otherwise it needs additional anticorrosion treatment on the heat exchanger.**

Selecting the location(Outdoor Unit)

1) If the outdoor unit is to be installed close to the seaside, direct exposure to the sea wind should be avoided. Install the outdoor unit on the opposite side of the sea wind direction.



2) In case, to install the outdoor unit on the seaside, set up a windbreak not to be exposed to the sea wind.



- It should be strong enough like concrete to prevent the sea wind from the sea.
- The height and width should be more than 150% of the outdoor unit.
- It should be keep more than 70 cm of space between outdoor unit and the windbreak for easy air flow.

3) Select a well-drained place.

1. If you can't meet above guide line in the seaside installation, please contact LG Electronics for the additional anticorrosion treatment.
2. Periodic (more than once/year) cleaning of the dust or salt particles stuck on the heat exchanger by using water

15.1 Rust resisting gold paint

1) Specifications

Model Name	AQAKB04	AQAKS0T
TYPE	BULK	SPRAY CAN
Shape		
Quantity	4 Cans/box, 4 *l* /Can	30 Cans/box, Aerosol 420 *ml* /Can

2) Features

- Excellent antirust, water-resistant effects.
- Excellent adhesiveness on heat exchanger's aluminum fin.
- Tack-free time is below 3 minutes. (→ Good work efficiency)
- Film thickness is below 10 μm. (→ Minimum Heat resistance)

3) Uses

- Condenser of outdoor unit of cooling only air conditioner.

❉ For more information, refer to '**Rust Resisting Gold Paint Usage Manual**'.

LG
Life's Good

P/No.: 5400704003

LG Electronics

Air Conditioner
20 Yeouido-dong, Yeongdeungpo-gu,
Yeouido P.O.Box 335 Seoul,
150-721, Korea.
http://www.lgeaircon.com

Printed in Korea February/2010
The specifications, designs, and information in this brochure are subject to change without notice.

The air conditioners manufactured by LG have received ISO9001 certificate for quality assurance and ISO14001 certificate for environmental management system.