

LG AIRCONDITIONER ENGINEERING PRODUCT DATA BOOK

General Wall Mounted
(60Hz/R410A)

6RMG0-01C



LG

Life's Good

General Wall Mounted

Publication history

Test condition of international standard

General Description

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Publication history

Pib.No	Outdoor Units	Notes	Publication in
6RMG0-01A	All models	Added N.A models	May. 2010
6RMG0-01B	All models	Change operation range	Sep. 2010
6RMG0-01C	All models	Change motor spec	Oct. 2010

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)	21.0	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

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 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 the Features such as Gold Fin, Auto Clean etc. to maintain the same performance for 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 give our Customers the 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





1. Models line up

General Wall Mounted

1.1 Indoor Unit

Indoor Unit	Type	Capacity [kW (kBTU/h)]	Model Name
	C/O	2.63(9)	ASNC0914DH1(LSN093CE)
		3.51(12)	ASNC121E1H0(LSN122CE)
		5.27(18)	ASNC1835SM1(LSN186CE)
	H/P	2.63(9)	ASNH091E1H1(LSN093HE)
		3.51(12)	ASNH121E1H0(LSN122HE)
		5.27(18)	ASNH1835SM1(LSN186HE)

1.2 Outdoor Unit

Outdoor Unit	Type	Capacity [kW(kBTU/h)]	Model Name
	C/O	2.63(9)	ASUC0914DH1(LSU093CE)
		3.51(12)	ASUC121E1H0(LSU122CE)
		5.27(18)	ASUC1835SM1(LSU186CE)
	H/P	2.63(9)	ASUH091E1H1(LSU093HE)
		3.51(12)	ASUH121E1H0(LSU122HE)
		5.27(18)	ASUH1835SM1(LSU186HE)

2. Nomenclature

• Identification Rule :

A	S	-	C	0	9	1	4	D	H	1
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
2	Product Type	A~Z	S: Split Type Air Conditioner
3	Cooling/Heating/Inverter	A~Z	C: Cooling Only H: Heat Pump
4, 5	Capacity	0~9	Capacity Ex. "09" ' 9,000 Btu/h Class
6	Electric Range	1~9	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
8	Look	A~Z	Looks : D – Look (Panel Type) G – Look (Grille Type)
9, 10	Function	A~Z	H : Plasma + (A/chageove) + A/Clean + 4Way + Low A M : Plasma + (A/chageove) + A/Clean + 4Way
11	Serial No.	1~9	LG Model Development Serial No.

3.Specifications

General Wall Mounted

Sales Model			LS093CE	LS122CE	LS186CE
Models		Unit	AS-C0914DH1	AS-C121E1H0	AS-C1835SM1
Cooling Capacity		kW	2.64	3.37	5.2/5.1
		Btu/h.	8900	11,500	17800/17500
Heating Capacity		kW	-	-	-
		Btu/h.	-	-	-
Power Input	Cooling/Heating	W	810	1,150	2000
Running Current	Cooling/Heating	A	7	10.5	C/O:10.4/9.4
EER		W/W	3.22	3	2.6
		Btu/h.W	11.0	10.0	8.9
SEER			13.0	13.0	13.0
HSPF			-	-	-
Power Supply		Ø / V / Hz	1/115/60	1/115/60	1, 230/208, 60
Power Factor		%	93	93	93
Air Flow Rate	Indoor,Max	m3/min(CFM)	7.1(250)	9.3(330)	15.8(560)
	Outdoor,Max	m3/min(CFM)	24(847)	24(847)	33(1164)
Dehumidification		pts/h	2.6	3.0	5.3
Sound Level	Indoor,H/M/L	dB(A)±3	36/31/28	41/36/34	46/43/41
	Outdoor,Max	dB(A)±3	48	48	53
Refrigerant & Charge (at 7.5 m)		g(oz)	R410A, 600(21.1)	R410A, 930(32.8)	R410A, 1300(45.9)
Additional Refrigerant charge		g/m(oz/ft)	20(0.22)	20(0.22)	20(0.22)
Compressor	Type		Rotary	Rotary	Rotary
	Model		GK086CAA	GK113CAA	GKS113KAE, GKS086KAD,
	Motor Type		PSC	PSC	PSC
	Oil Type		FVC68D	FVC68D	FVC68D
	Oil Charge	cc	330	330	330
	O.L.P. name		MRA12061-12026	MRA12053-12027	MRA98996-12026, MRA12130-12026
Fan(Indoor)	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Motor Output	W	21.5	21.5	21.5
Fan(Outdoor)	Type		Propeller	Propeller	Propeller
	Motor Type		BLDC	BLDC	AC Induction
	Motor Output	W	64.5	64.5	74.5
Circuit Breaker*		A	15	20	20
Power Supply Cable		No.*mm2	14:3*2.5	14:3*2.5	14:3*2.5
Power and Transmission Cable No.*mm2		No.*mm2	18:4*0.75	18:4*0.75	18:4*0.75
Piping Connections	Liquid Side	mm(in)	6.35(1/4)	6.35(1/4)	6.35(1/4)
	Gas Side	mm(in)	9.52(3/8)	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	840*270*153	895*282*165	1090*300*178
		inch	33-1/16*10-5/8*6-1/32	35-1/4*11-1/8*6-1/2	42-15/16*11-13/16*7-1/32
	Outdoor (W*H*D)	mm	770*541*244	770*541*244	871*655*320
		inch	30-5/16*21-5/16*9-5/18	30-5/16*21-5/16*9-5/8	34-5/16*25-13/16*12-5/8
Net Weight	Indoor	kg(lbs)	7.0(15.4)	9.3(20.5)	13.0(28.6)
	Outdoor	kg(lbs)	30(66.1)	33(72.8)	56.4(124.3)
Gross Weight	Indoor	kg(lbs)	8.2(18.0)	10.5(23.1)	16.0(35.3)
	Outdoor	kg(lbs)	33.3(73.4)	33.3(73.4)	60.8(134)
Operation Range	Cooling(Outdoor)	°C(°F)	21~46(70~115)	21~46(70~115)	21~46(70~115)
	Heating(Outdoor)	°C(°F)	-	-	-
Piping Length (Min/Max)		m(ft)	4(13.2) / 15(49.2)	4(13.2) / 15(49.2)	4(13.2) / 20(65.6)
Max. Elevation Difference		m(ft)	7.0(23)	7.0(23)	7.0(23)
Tool Code(Chassis)	Indoor + Outdoor		S4+UL	SE+UL	S5+UE
Features	Temperature Control		Thermistor	thermistor	thermistor
	Air Deflection		4-way	4-way	4-Way
	Steps, Fan/Cool		3/4/3	3/4/3	3/4/3
	Air Deflection Control(up&down)		Auto	Auto	Auto
	Air Deflection Control(left&right)		Auto	Auto	Auto
	Remocon Type		Wireless LCD	Wireless LCD	Wireless LCD
	Setting Temperature Range, Cooling Mode		64~86°F	64~86°F	64~86°F
	Heating Mode		-	-	-
	Temperature Increment		2°F(1°C)	2°F(1°C)	2°F(1°C)
	Auto Operation(electronic control)		Yes	Yes	Yes
	Self Diagnosis		Yes	Yes	Yes
	Timer		24hr , On/Off	24hr , on/off	24Hr, On/Off
	Sleep Operation		Yes	Yes	Yes
	Healthy Dehumidification Mode		Yes	Yes	Yes
	Restart Delay		3	3	3
	Defrost Control		-	-	-
	Hot Start		-	-	-

Note : ○ : applied

- : not applicable

• Filters are optional in some specific areas.

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

Sales Model			LS093HE	LS122HE	LS186HE
Models			AS-H091E1H1	AS-H121E1H0	AS-H1835SM1
Cooling Capacity		kW	3.08	3.37	5.2/5.1
		Btu/h.	10,500	11,500	17800/17500
Heating Capacity		kW	3.08	3.37	5.2/5.1
		Btu/h.	10,500	11,500	17800/17500
Power Input	Cooling/Heating	W	1100/1100	1150/1150	2000/2000
Running Current	Cooling/Heating	A	9.5/9.5	10.5/10.5	C/O:10.4/9.4 H/P:10.4/9.4
EER		W/W	2.80	2.6	2.6
		Btu/h.W	9.5	10	8.9
SEER			13.0	13.0	13.0
HSPF			7.8	7.8	7.7
Power Supply		Ø / V / Hz	1/115/60	1/115/60	1, 230/208, 60
Power Factor		%	93	93	93
Air Flow Rate	Indoor,Max	m3/min(CFM)	9.3(330)	9.3(330)	15.8(560)
	Outdoor,Max	m3/min(CFM)	24(847)	24(847)	33(1164)
Dehumidification		pts/h	3.0	3.0	5.3
Sound Level	Indoor,H/M/L	dB(A)±3	41/36/34	41/36/34	46/43/41
	Outdoor,Max	dB(A)±3	48	48	53
Refrigerant & Charge (at 7.5 m)		g(oz)	R410A, 930(32.8)	R410A, 930(32.8)	R410A, 1300(45.9)
Additional Refrigerant charge		g/m(oz/ft)	20(0.22)	20(0.22)	20(0.22)
Compressor	Type		Rotary	Rotary	Rotary
	Model		GK113CAA	GK113CAA	GKS113KAE, GKS086KAD,
	Motor Type		PSC	PSC	PSC
	Oil Type		FVC68D	FVC68D	FVC68D
	Oil Charge	cc	330	330	330
	O.L.P. name		MRA12053-12027	MRA12053-12027	MRA98996-12026, MRA12130-12026
Fan(Indoor)	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Motor Output	W	21.5	21.5	21.5
Fan(Outdoor)	Type		Propeller	Propeller	Propeller
	Motor Type		BLDC	BLDC	AC Induction
	Motor Output	W	64.5	64.5	74.5
Circuit Breaker*		A	20	20	20
Power Supply Cable		No.*mm2	14:3*2.5	14:3*2.5	14:3*2.5
Power and Transmission Cable No.*mm2		No.*mm2	18:4*0.75	18:4*0.75	18:4*0.75
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	895*282*165	895*282*165	1090*300*178
		inch	35-1/4*11-1/8*6-1/2	35-1/4*11-1/8*6-1/2	42-15/16*11-13/16*7-1/32
	Outdoor (W*H*D)	mm	770*541*244	770*541*244	871*655*320
		inch	30-5/16*21-5/16*9-5/8	30-5/16*21-5/16*9-5/8	34-5/16*25-13/16*12-5/8
Net Weight	Indoor	kg(lbs)	9.3(20.5)	9.3(20.5)	13.0(28.6)
	Outdoor	kg(lbs)	33(72.8)	33(72.8)	56.4(124.3)
Gross Weight	Indoor	kg(lbs)	10.5(23.1)	10.5(23.1)	16.0(35.3)
	Outdoor	kg(lbs)	33.3(73.4)	33.3(73.4)	60.8(134)
Operation Range	Cooling(Outdoor)	°C(°F)	21~46(70~115)	21~46(70~115)	21~46(70~115)
	Heating(Outdoor)	°C(°F)	1~24(34~75)	1~24(34~75)	1~24(34~75)
Piping Length (Min/Max)		m(ft)	4(13.2) / 15(49.2)	4(13.2) / 15(49.2)	4(13.2) / 20(65.6)
Max. Elevation Difference		m(ft)	7.0(23)	7.0(23)	7.0(23)
Tool Code(Chassis)	Indoor + Outdoor		SE+UL	SE+UL	S5+UE
Features	Temperature Control		themistor	themistor	themistor
	Air Deflection		4-way	4-way	4-way
	Steps, Fan/Cool		3/4/3	3/4/3	3/4/3
	Air Deflection Control(up&down)		Auto	Auto	Auto
	Air Deflection Control(left&right)		Auto	Auto	Auto
	Remocon Type		Wireless LCD	Wireless LCD	Wireless LCD
	Setting Temperature Range, Cooling Mode		64~86°F	64~86°F	64~86°F
	Heating Mode		60~86°F	60~86°F	60~86°F
	Temperature Increment		2°F(1°C)	2°F(1°C)	2°F(1°C)
	Auto Operation(electronic control)		Yes	Yes	Yes
	Self Diagnosis		Yes	Yes	Yes
	Timer		24hr, on/off	24hr, on/off	24hr, on/off
	Sleep Operation		Yes	Yes	Yes
	Healthy Dehumidification Mode		Yes	Yes	Yes
	Restart Delay		3	3	3
	Defrost Control		Yes	Yes	Yes
	Hot Start		Yes	Yes	Yes

Note : ○ : applied

- : not applicable

• Filters are optional in some specific areas.

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

4. Dimensional Drawings

4.1 Indoor Units

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	

(Unit : mm)

Note

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

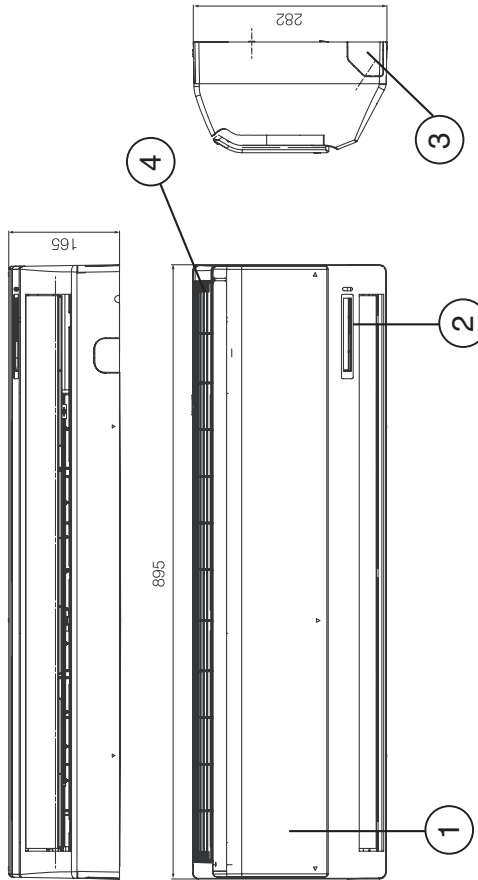
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CHASSIS CODE : S4

General Wall Mounted

Item No.	Part name	Remark
1	Front Panel	
2	Display & signal receiver	
3	Knockout hole	
4	Air suction grille	
5		



■ Note

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

(Unit : mm)


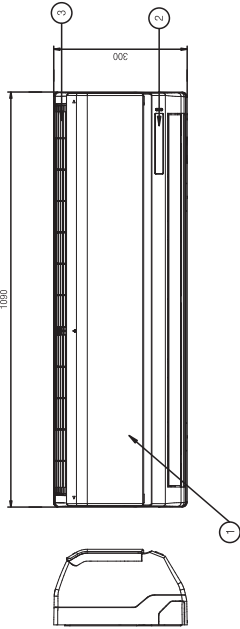
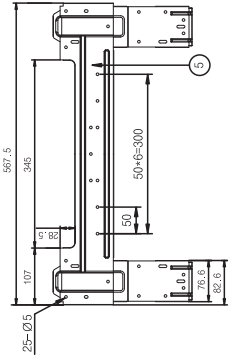
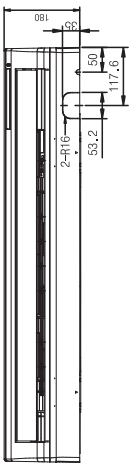


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CHASSIS CODE : SE


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.

(Unit : mm)



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CHASSIS CODE : S5

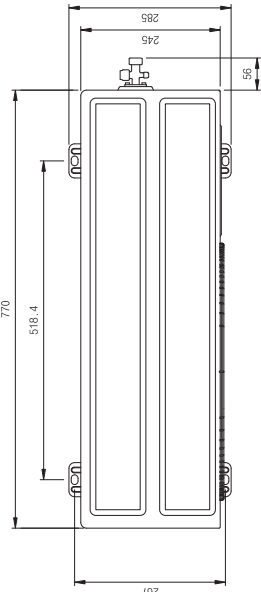
4.2 Outdoor Units

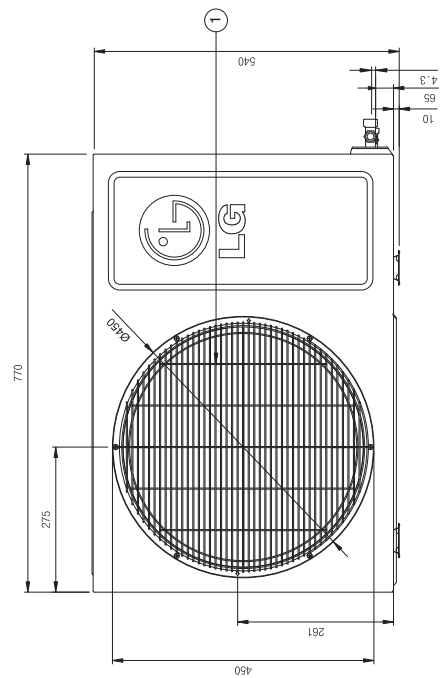
Outdoor Unit

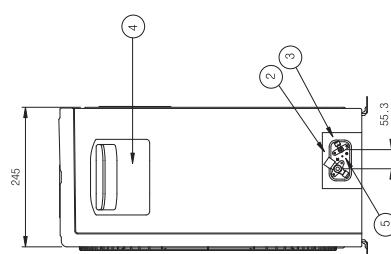
Item No	Part Name	Remark
1	Air Discharge Grille	
2	Gas Pipe Connection Port	
3	Liquid Pipe Connection Port	
4	Control Box	
5	Earth Screw	

Note


- The unit is not allowed to be installed in closed area.
- In an area or a space having no proper air circulation, an air guide should be installed in the outdoor unit.







(Unit : mm)



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CHASSIS CODE : UL

Outdoor Unit

Item No	Part Name	Remark
1	Air Discharge Grille	
2	Gas Pipe Connection Port	
3	Liquid Pipe Connection Port	
4	Control Box	
5	Earth Screw	

Note

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

(Unit : mm)

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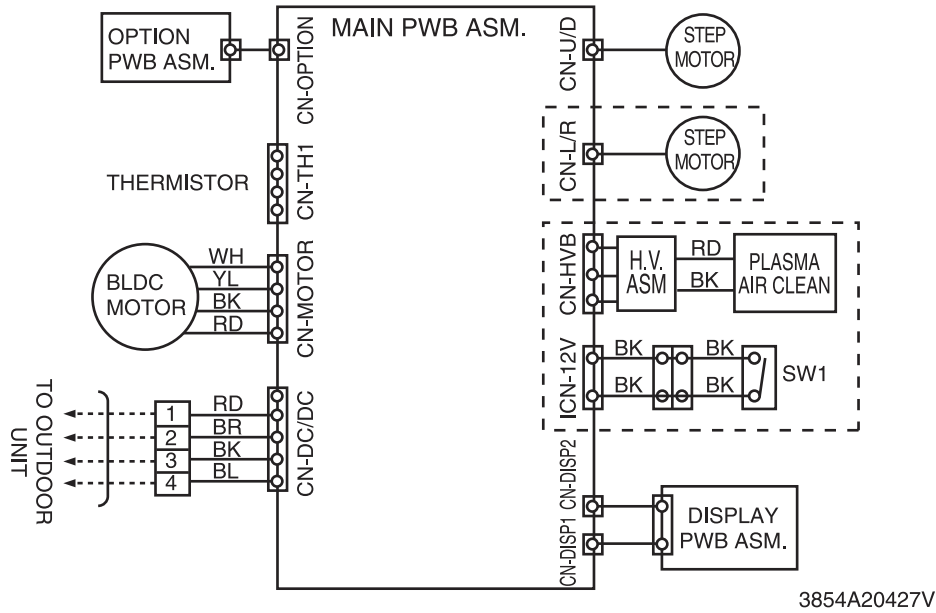
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CHASSIS CODE : UE

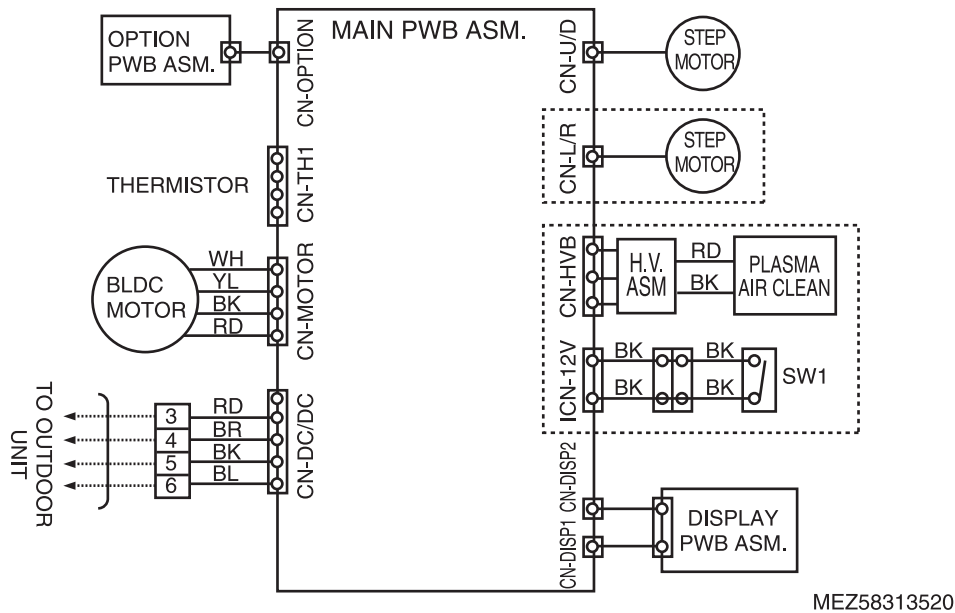
5. Wiring diagrams

5.1 Indoor Units

**Models : ASNC0914DH1(LSN093CE), ASNH091E1H1(LSN093HE)
ASNC121E1H0(LSN122CE), ASNH121E1H0(LSN122HE)**

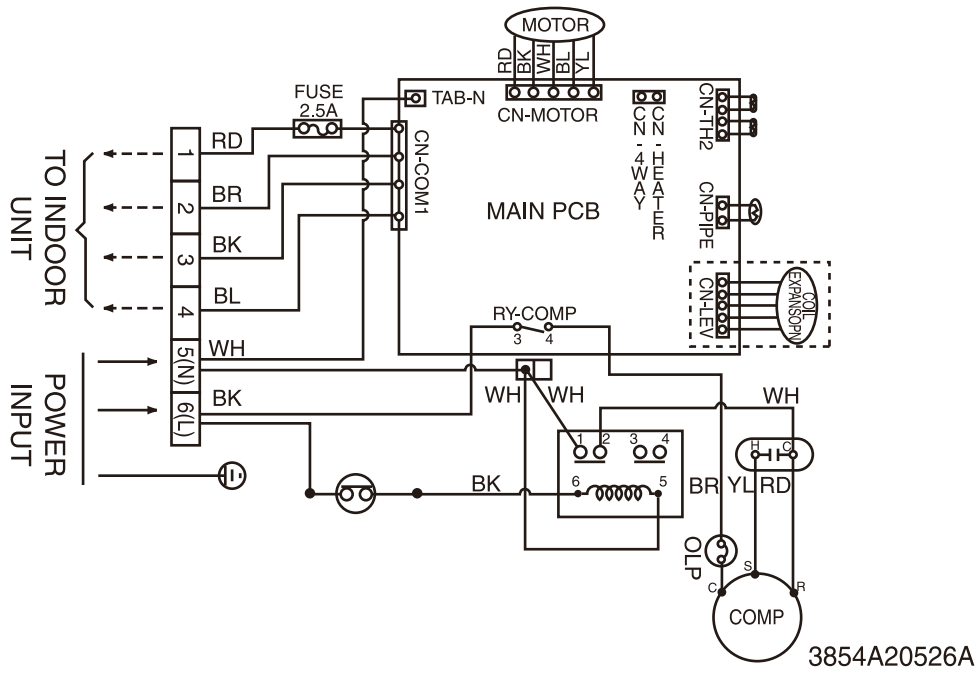


Models : ASNC1835SM1(LSN186CE), ASNH1835SM1(LSN186HE)

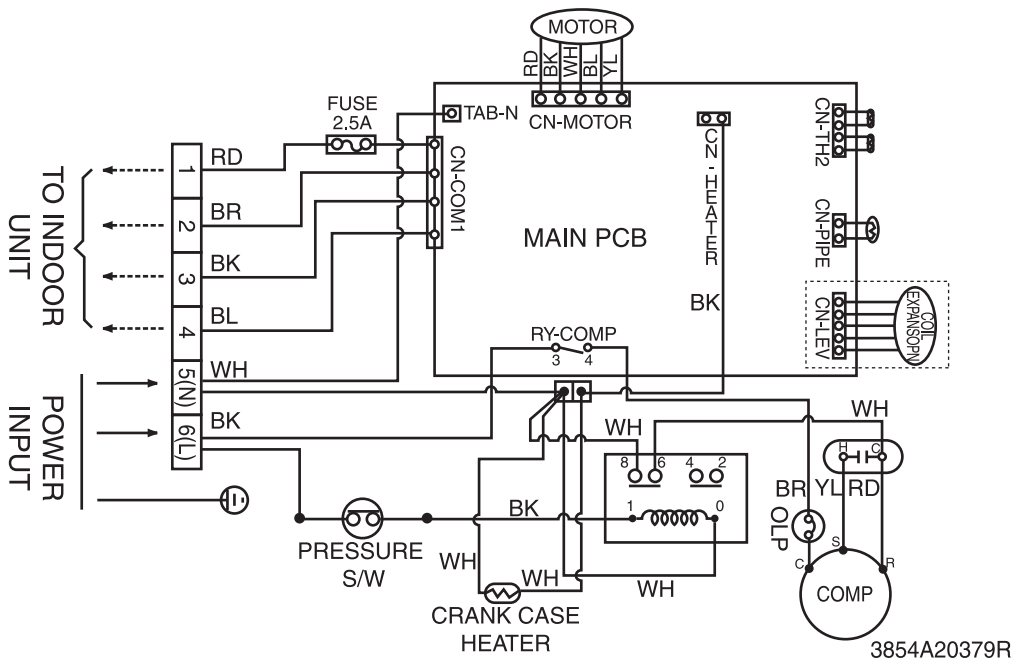


5.2 Outdoor Unit

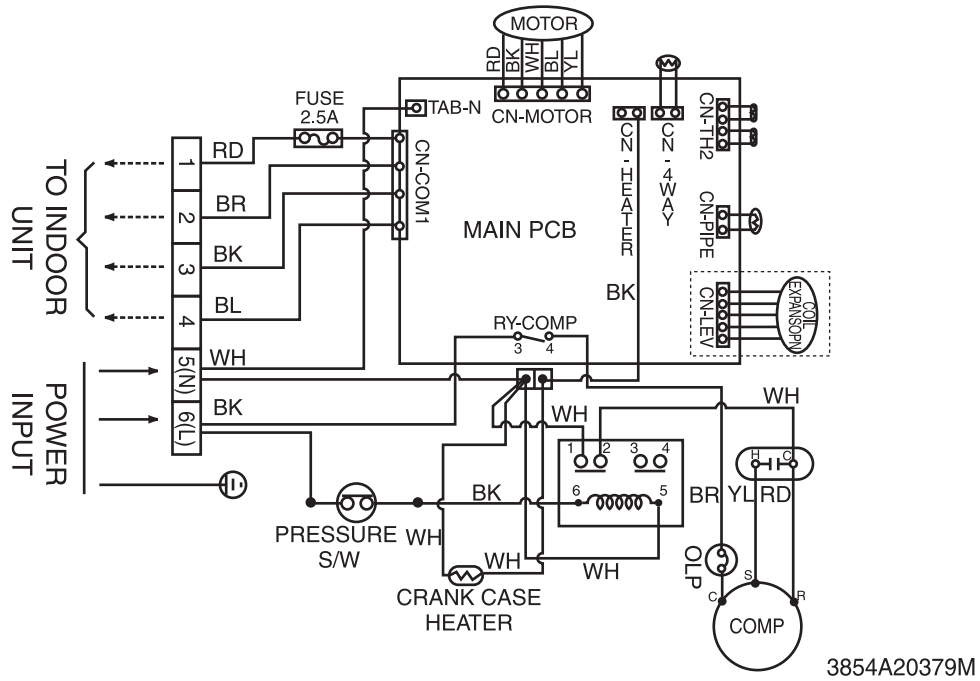
Models : ASUC0914DH1(LSU093CE)



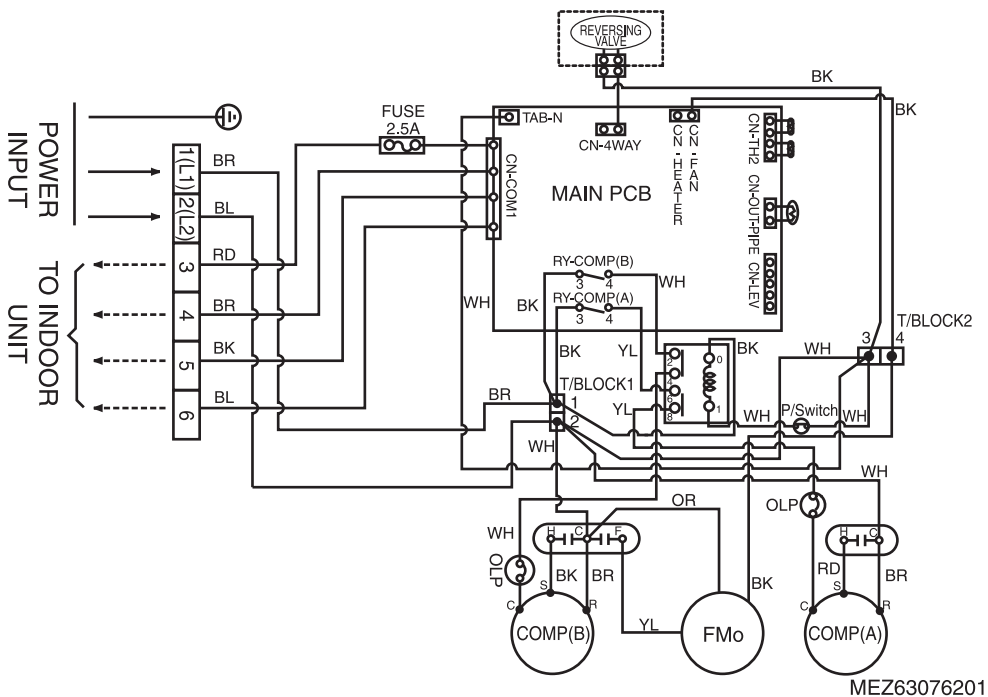
Models : ASUC121E1H0(LSU122CE)



Models : ASUH091E1H1(LSU093HE), ASUH121E1H0(LSU122HE)

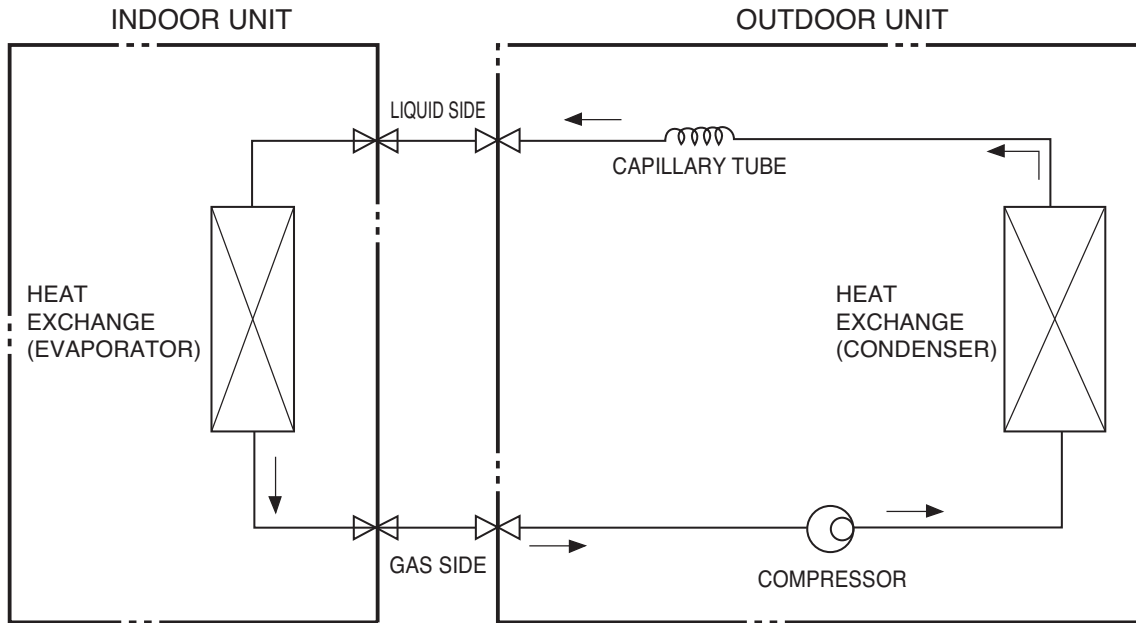


Models : ASUC1835SM1(LSU186CE), ASUH1835SM1(LSU186HE)

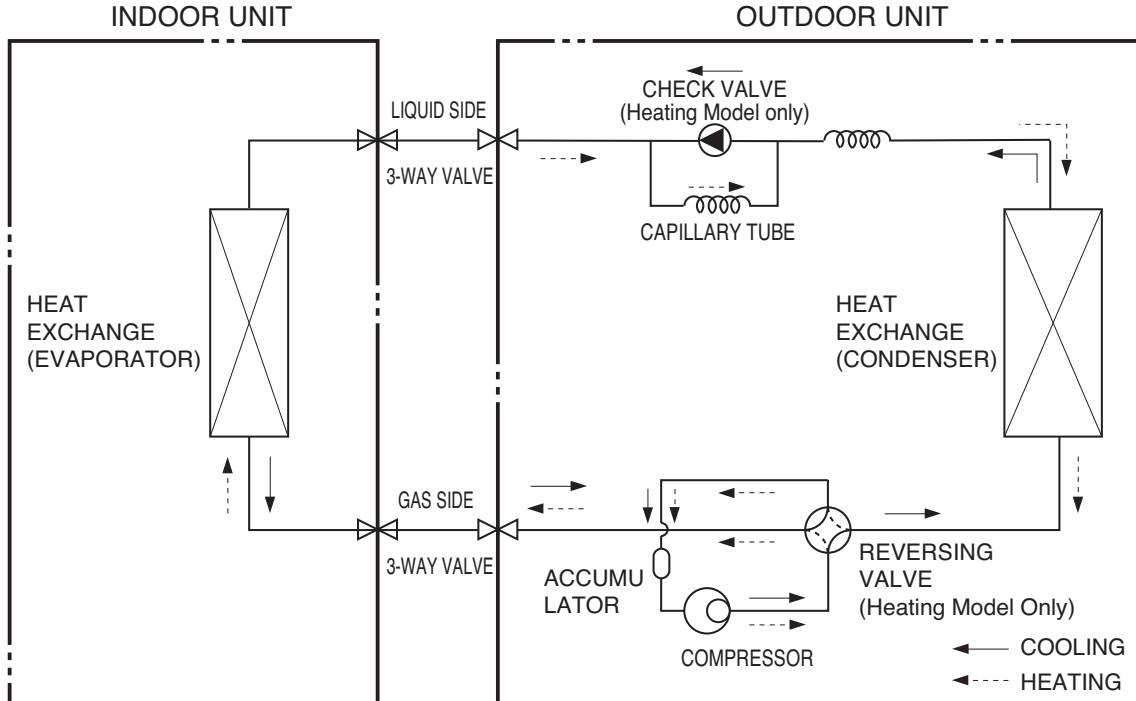


6. Refrigerant cycle diagram

- For Cooling only models,



- For Heat Pump models,



7. Capacity tables

7.1 Cooling Capacity

AS-C0914DH1(LS093CE)

Indoor Air Temperature		Outdoor Air Temperature : DB°C(°F)																	
		20(68)			25(77)			32(89.6)			35(95)			40(104)			43(109.4)		
WB°C(°F)	DB°C(°F)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14(57.2)	20(68)	2.59	1.75	0.45	2.48	1.77	0.47	2.32	1.81	0.63	2.25	1.84	0.70	2.16	1.83	0.77	2.10	1.85	0.75
16(60.8)	22(71.6)	2.75	1.72	0.61	2.63	1.74	0.61	2.48	1.77	0.74	2.41	1.80	0.79	2.31	1.79	0.83	2.25	1.82	0.79
18(64.4)	25(77)	2.91	1.68	0.66	2.79	1.70	0.66	2.64	1.74	0.78	2.57	1.76	0.82	2.47	1.75	0.84	2.41	1.78	0.79
19(66.2)	27(80.6)	2.99	1.68	0.66	2.87	1.69	0.67	2.72	1.73	0.79	2.64	1.76	0.81	2.55	1.75	0.84	2.49	1.78	0.79
22(71.6)	30(86)	3.23	1.58	0.66	3.11	1.60	0.68	2.96	1.63	0.80	2.88	1.66	0.85	2.78	1.65	0.86	2.72	1.68	0.79
24(75.2)	32(89.6)	3.39	1.54	0.66	3.27	1.55	0.69	3.11	1.59	0.82	3.04	1.61	0.87	2.94	1.60	0.87	2.88	1.63	0.81

AS-H091E1H1(LS093HE)

Indoor Air Temperature		Outdoor Air Temperature : DB°C(°F)																	
		20(68)			25(77)			32(89.6)			35(95)			40(104)			43(109.4)		
WB°C(°F)	DB°C(°F)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14(57.2)	20(68)	3.02	2.47	0.61	2.89	2.50	0.63	2.71	2.56	0.85	2.63	2.60	0.95	2.51	2.58	1.04	2.45	2.61	1.02
16(60.8)	22(71.6)	3.21	2.43	0.82	3.07	2.46	0.83	2.90	2.51	1.01	2.81	2.55	1.08	2.70	2.54	1.13	2.63	2.58	1.07
18(64.4)	25(77)	3.39	2.38	0.89	3.26	2.40	0.90	3.08	2.46	1.06	3.00	2.50	1.12	2.88	2.48	1.14	2.81	2.52	1.07
19(66.2)	27(80.6)	3.48	2.37	0.90	3.35	2.40	0.91	3.17	2.45	1.07	3.08	2.49	1.10	2.97	2.48	1.14	2.90	2.52	1.07
22(71.6)	30(86)	3.76	2.24	0.90	3.63	2.26	0.92	3.45	2.31	1.09	3.36	2.35	1.15	3.25	2.34	1.16	3.18	2.38	1.08
24(75.2)	32(89.6)	3.95	2.17	0.90	3.81	2.20	0.93	3.63	2.25	1.11	3.55	2.28	1.18	3.43	2.27	1.19	3.36	2.31	1.10

AS-C121E1H0(LS122CE)/AS-H121E1H0(LS122HE)

Indoor Air Temperature		Outdoor Air Temperature : DB°C(°F)																	
		20(68)			25(77)			32(89.6)			35(95)			40(104)			43(109.4)		
WB°C(°F)	DB°C(°F)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14(57.2)	20(68)	3.30	2.49	0.64	3.16	2.52	0.66	2.97	2.58	0.89	2.88	2.62	0.99	2.75	2.60	1.09	2.68	2.63	1.07
16(60.8)	22(71.6)	3.51	2.45	0.86	3.36	2.48	0.87	3.17	2.53	1.05	3.08	2.57	1.13	2.95	2.56	1.18	2.88	2.60	1.12
18(64.4)	25(77)	3.71	2.40	0.93	3.57	2.42	0.94	3.37	2.48	1.10	3.28	2.52	1.17	3.15	2.50	1.19	3.08	2.54	1.12
19(66.2)	27(80.6)	3.81	2.39	0.94	3.67	2.42	0.95	3.47	2.47	1.12	3.37	2.51	1.15	3.25	2.50	1.20	3.18	2.54	1.12
22(71.6)	30(86)	4.12	2.26	0.94	3.97	2.28	0.97	3.77	2.33	1.14	3.68	2.37	1.21	3.55	2.36	1.21	3.48	2.40	1.13
24(75.2)	32(89.6)	4.32	2.19	0.94	4.17	2.22	0.97	3.97	2.26	1.16	3.88	2.30	1.23	3.75	2.29	1.24	3.68	2.33	1.15

AS-C1835SM1(LS186CE)/AS-H1835SM1(LS186HE)

Indoor Air Temperature		Outdoor Air Temperature : DB°C(°F)																	
		20			25			32			35			40			43		
WB°C(°F)	DB°C(°F)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14(57.2)	20(68)	5.10	3.88	1.10	4.88	3.93	1.15	4.58	4.01	1.55	4.44	4.08	1.73	4.24	4.06	1.90	4.13	4.10	1.86
16(60.8)	22(71.6)	5.41	3.81	1.50	5.19	3.86	1.51	4.89	3.94	1.83	4.75	4.01	1.96	4.55	3.98	2.05	4.44	4.05	1.95
18(64.4)	25(77)	5.73	3.73	1.62	5.50	3.77	1.63	5.20	3.86	1.92	5.06	3.92	2.03	4.86	3.90	2.07	4.75	3.96	1.94
19(66.2)	27(80.6)	5.88	3.72	1.64	5.66	3.76	1.65	5.36	3.85	1.94	5.20	3.91	2.00	5.02	3.89	2.08	4.90	3.95	1.94
22(71.6)	30(86)	6.35	3.52	1.64	6.13	3.56	1.68	5.82	3.63	1.99	5.68	3.69	2.10	5.48	3.67	2.11	5.37	3.73	1.96
24(75.2)	32(89.6)	6.67	3.41	1.63	6.44	3.45	1.70	6.13	3.53	2.02	5.99	3.58	2.14	5.79	3.56	2.16	5.67	3.62	2.00

n Symbol

- AFR:** Air flow rate.....[m3/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)

n Notes :

1. All capacities are net, evaporator fan motor heat is deducted.
2. ■ Indicates nominal 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.

7.2 Heating Capacity

AS-H091E1H1(LS093HE)

Indoor Air Temperature	Outdoor Air Temperature : DB°C(°F)											
	-10(14)		-5(23)		0(32)		6(42.8)		10(50)		15(59)	
DB°C(°F)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16(60.8)	2.44	0.88	2.64	0.92	2.82	0.98	3.13	1.05	3.31	1.10	3.59	1.17
18(64.4)	2.43	0.90	2.64	0.94	2.82	1.01	3.11	1.08	3.27	1.12	3.58	1.18
20(68)	2.43	0.92	2.65	0.97	2.81	1.04	3.08	1.10	3.25	1.13	3.59	1.19
21(69.8)	2.43	0.93	2.65	0.98	2.81	1.05	3.06	1.11	3.25	1.14	3.56	1.19
22(71.6)	2.43	0.95	2.64	1.00	2.80	1.06	3.04	1.12	3.24	1.15	3.53	1.19
24(75.2)	2.41	0.97	2.61	1.02	2.78	1.09	3.01	1.14	3.19	1.16	3.49	1.20

AS-H121E1H0(LS122HE)

Indoor Air Temperature	Outdoor Air Temperature : DB°C(°F)											
	-10(14)		-5(23)		0(32)		6(42.8)		10(50)		15(59)	
DB°C(°F)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16(60.8)	2.67	0.91	2.89	0.96	3.09	1.03	3.43	1.10	3.62	1.15	3.93	1.22
18(64.4)	2.66	0.94	2.89	0.99	3.08	1.06	3.40	1.13	3.57	1.17	3.92	1.23
20(68)	2.66	0.96	2.89	1.01	3.08	1.09	3.37	1.15	3.55	1.19	3.92	1.24
21(69.8)	2.66	0.97	2.89	1.03	3.07	1.10	3.35	1.16	3.55	1.19	3.90	1.24
22(71.6)	2.66	0.99	2.89	1.04	3.06	1.11	3.32	1.17	3.55	1.20	3.86	1.24
24(75.2)	2.64	1.02	2.86	1.07	3.04	1.14	3.30	1.19	3.49	1.21	3.82	1.25

AS-H1835SM1(LS186HE)

Indoor Air Temperature	Outdoor Air Temperature : DB°C(°F)											
	-10(14)		-5(23)		0(32)		6(42.8)		10(50)		15(59)	
DB°C(°F)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16(60.8)	4.11	1.59	4.46	1.66	4.76	1.79	5.29	1.91	5.59	1.99	6.06	2.12
18(64.4)	4.11	1.63	4.46	1.71	4.76	1.84	5.25	1.96	5.52	2.03	6.04	2.15
20(68)	4.11	1.67	4.47	1.76	4.75	1.89	5.20	2.00	5.48	2.06	6.05	2.16
21(69.8)	4.11	1.70	4.47	1.79	4.74	1.91	5.17	2.02	5.48	2.07	6.01	2.16
22(71.6)	4.11	1.72	4.46	1.81	4.72	1.94	5.13	2.04	5.47	2.09	5.96	2.16
24(75.2)	4.07	1.77	4.41	1.86	4.69	1.98	5.09	2.07	5.38	2.10	5.90	2.18

Correction Factor for Heating Capacity due to Frost on Heat Exchanger and Defrosting Operation.

The heating capacity in the "Heating Capacity Table" above indicates the actual heating capacity excluding the effect of frost on the heat exchanger and the defrosting operation. Therefore, use the following factor to calculate the average heating capacity including capacity reduction by frost on the exchanger and defrosting operation.

Correction Factor

Outdoor Air Temperature(°CWB, RH=85%)	-10	-6	-4	-2	0	2	4	6
Correction Factor	0.95	0.95	0.89	0.87	0.87	0.89	0.91	1

n Notes :

- All capacities are net, indoor fan motor heat is deducted.
- Capacities are based on the following conditions.
Outdoor air : 85%RH. However, the condition on nominal capacity is 7°CDB/6°CWB
- TC=Total heating capacity(Unit : kW)
- PI=Power Input (Comp.+indoor fan motor+outdoor fan motor) (kW)

8. Capacity coefficient factor

• Model: 5k~24kBtu/h Cooling Only

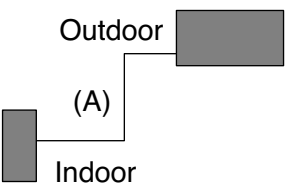
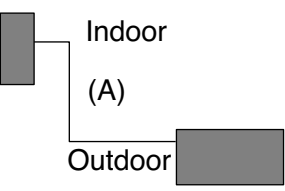
Classification	Height (A)	Capacity coefficient factor Total Pipe Length(m)				
		5	7.5	10	12.5	15
 Outdoor (A) Indoor	10	-	-	-	(0.94)	(0.93)
	7	-	0.97	0.96	(0.95)	(0.94)
	5	0.99	0.98	0.97	(0.96)	(0.95)
	0	1.0	0.99	0.98	(0.97)	(0.96)
 Indoor (A) Outdoor	0	1.0	0.99	0.98	(0.97)	(0.96)
	5	0.99	0.98	0.97	(0.96)	(0.95)
	7	-	0.97	0.96	(0.95)	(0.94)
	10	-	-	-	(0.94)	(0.93)

The values in parentheses () are valid only for 18 ~ 24 kBtu models.

• Model: 5k~12kBtu/h Heat Pump

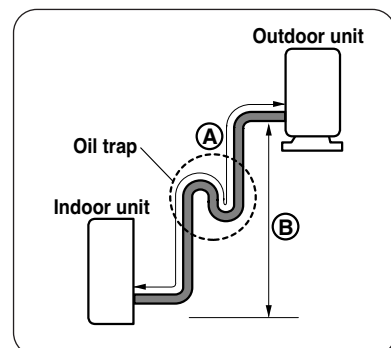
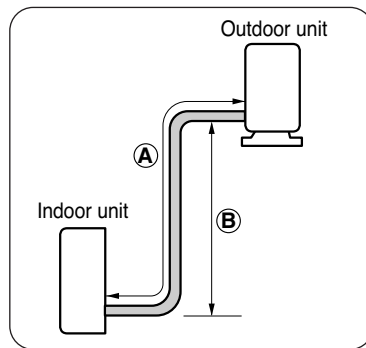
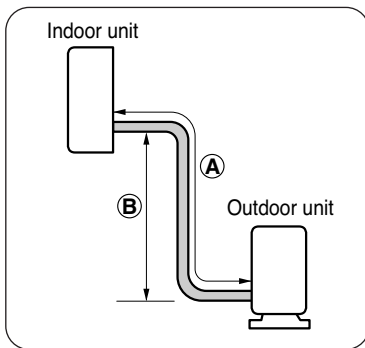
Classification	Height (A)	Capacity coefficient factor Total Pipe Length(m)				
		5	7.5	10	12.5	15
 Outdoor (A) Indoor	10	-	-	-	-	-
	7	-	0.97	0.97	-	-
	5	0.99	0.98	0.97	-	-
	0	1.0	0.99	0.98	-	-
 Indoor (A) Outdoor	0	1.0	0.99	0.98	-	-
	5	0.99	0.98	0.97	-	-
	7	-	0.97	0.97	-	-
	10	-	-	-	-	-

• Model: 18k~24kBtu/h Heat Pump

Classification	Height (A)	Capacity coefficient factor Total Pipe Length(m)				
		5	7.5	10	12.5	15
 Outdoor (A) Indoor	10	-	-	-	0.94	0.93
	7	-	0.97	0.96	0.95	0.94
	5	0.99	0.98	0.97	0.96	0.95
	0	1.0	0.99	0.98	0.97	0.96
 Indoor (A) Outdoor	0	1.0	0.99	0.98	0.97	0.96
	5	0.99	0.98	0.97	0.96	0.95
	7	-	0.97	0.96	0.95	0.94
	10	-	-	-	0.94	0.93

Piping Length And Elevation

Capacity [BTU/h]	Pipe Size [mm(in)]		Standard Length [m(ft)]	Max. Elevation [m(ft)]	Max. length [m(ft)]	Additional Refrigerant [g/m(oz/ft)]
	Liquid side	Gas side				
9K(C/O)	6.35(1/4)	9.52(3/8)	7.5(25)	7.0(23)	15(49.2)	20(0.22)
9K(H/P), 12K	6.35(1/4)	12.7(1/2)	7.5(25)	7.0(23)	15(49.2)	20(0.22)
18K	6.35(1/4)	12.7(1/2)	7.5(25)	7.0(23)	20(65.6)	20(0.22)



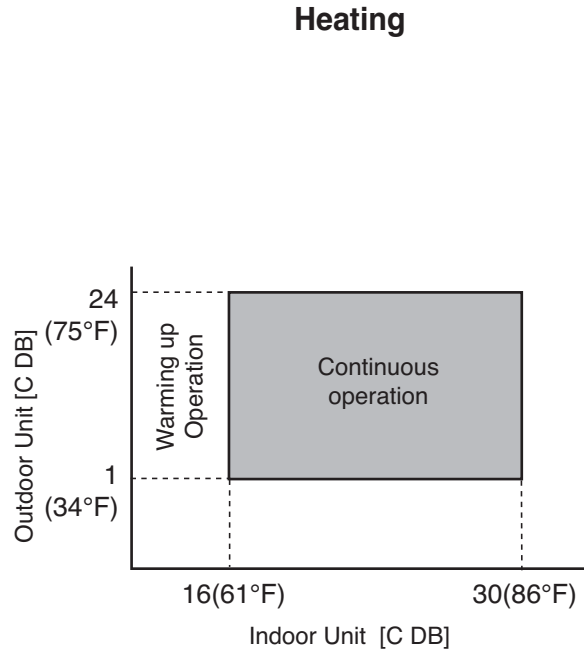
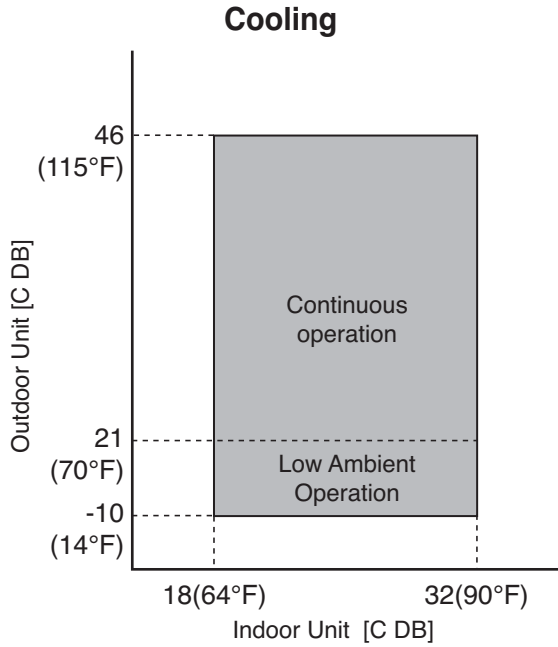
In case more than 5m(16.4ft)

▲ CAUTION

- Capacity is based on standard length and maximum allowance length is on the basis of reliability.
- Oil trap should be installed every 5~7meters (16.4~23.0ft).

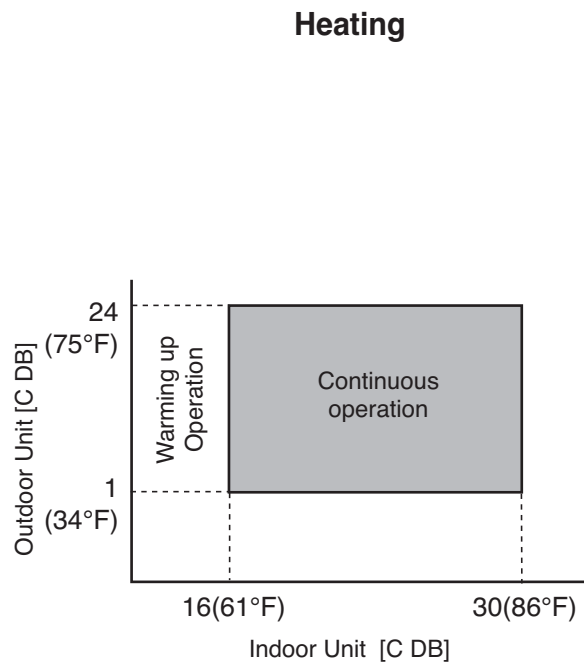
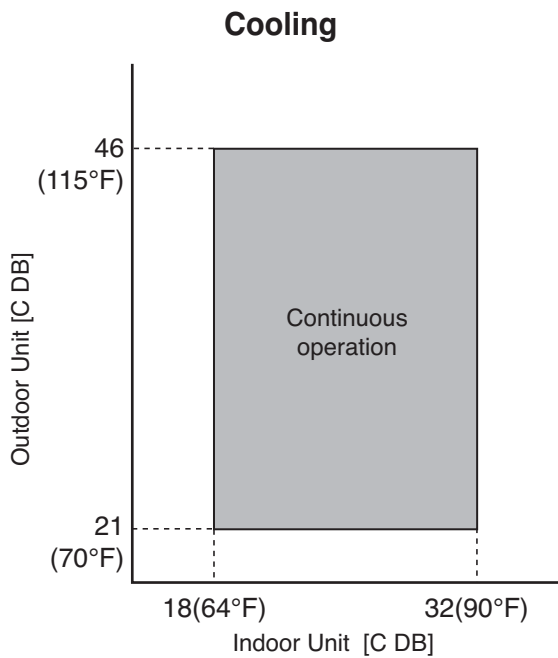
9. Operation range

- Applied Model : LS093CE, LS122CE, LA096HNP, LS093HE, LS122HE, LA126HNP



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

- Applied Model : LS186CE, LS186HE

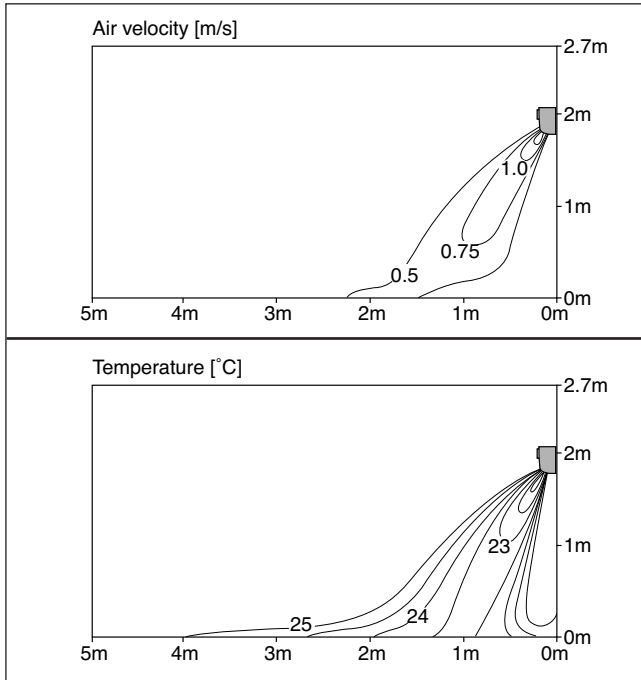


10. Air velocity and temperature distribution(reference data)

General Wall Mouted 9kBtu/h

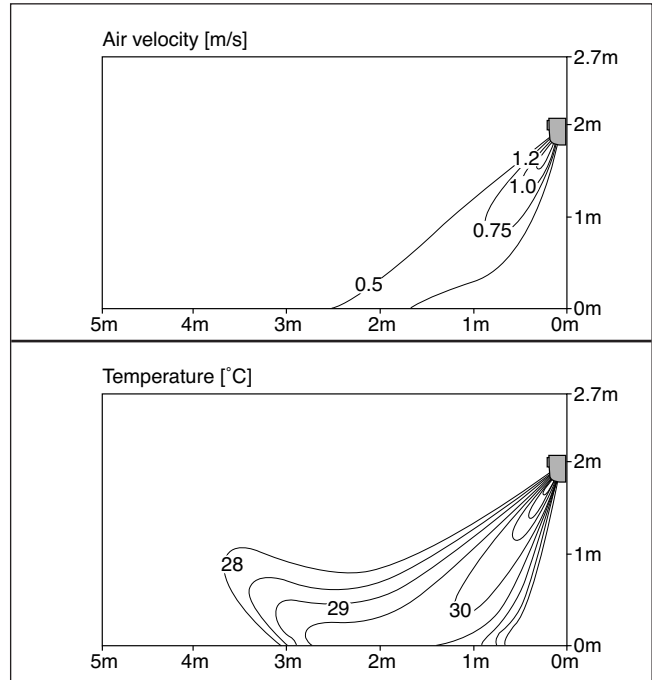
Cooling

Discharge angle:45°



Heating

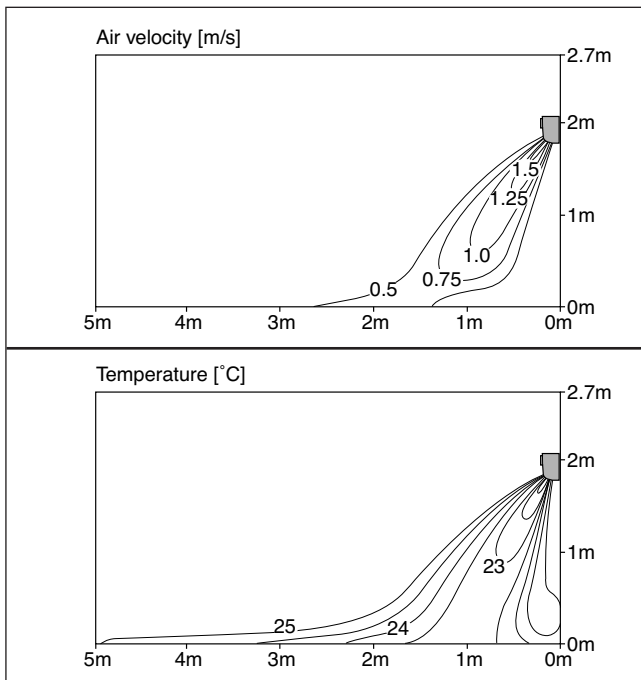
Discharge angle:50°



General Wall Mouted 12kBtu/h

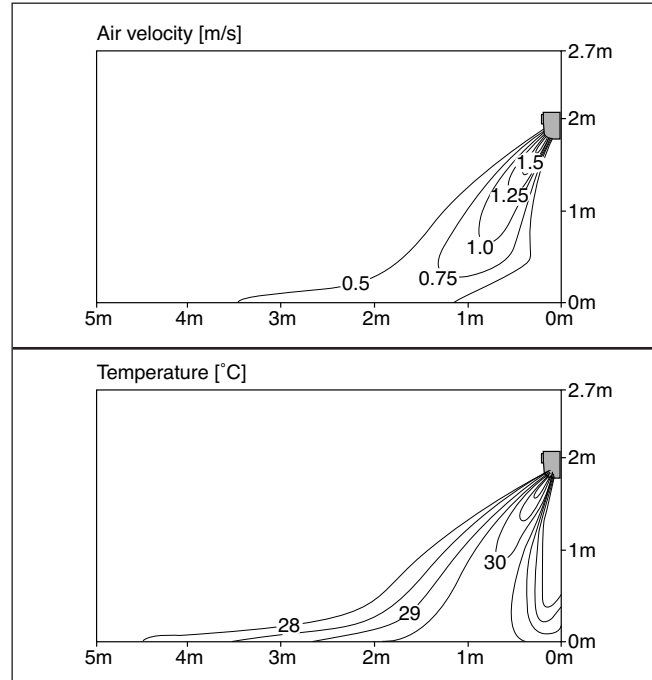
Cooling

Discharge angle:45°



Heating

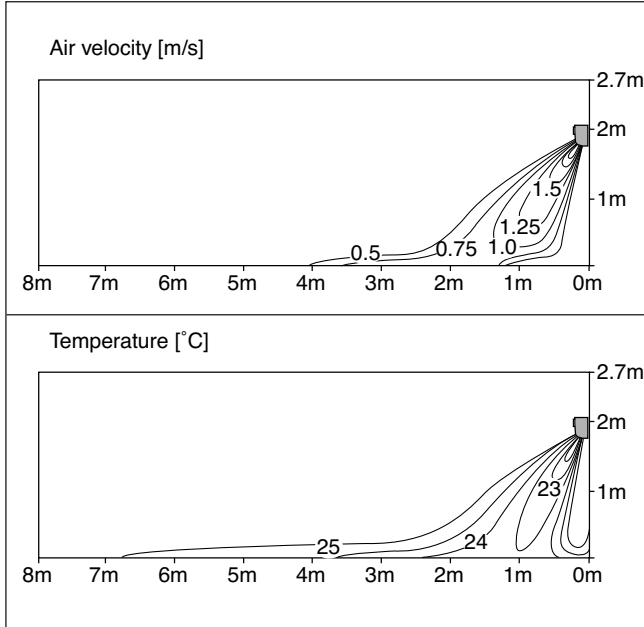
Discharge angle:50°



General Wall Mounted 18kBtu/h

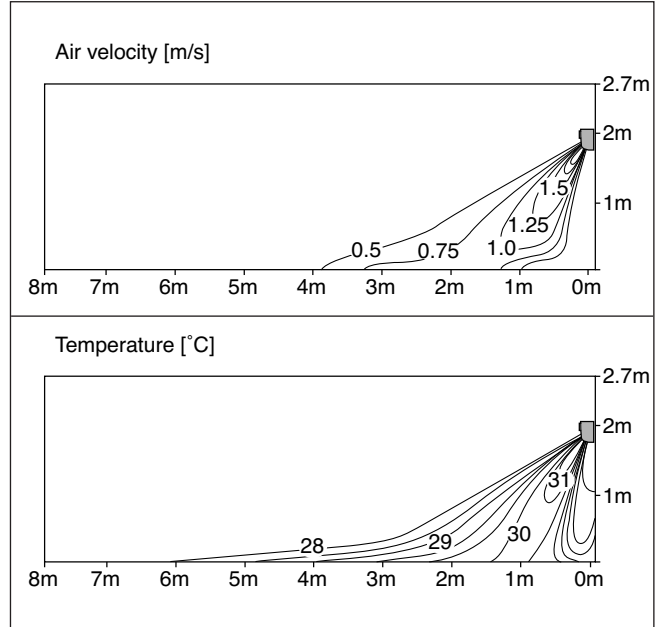
Cooling

Discharge angle:45°



Heating

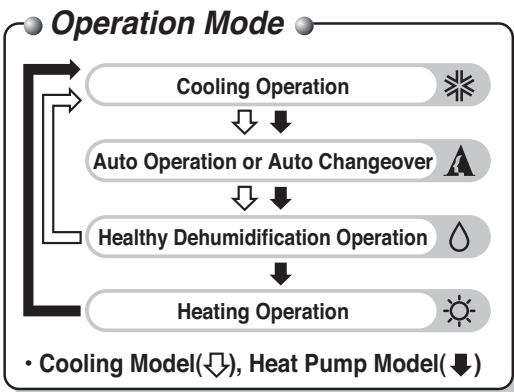
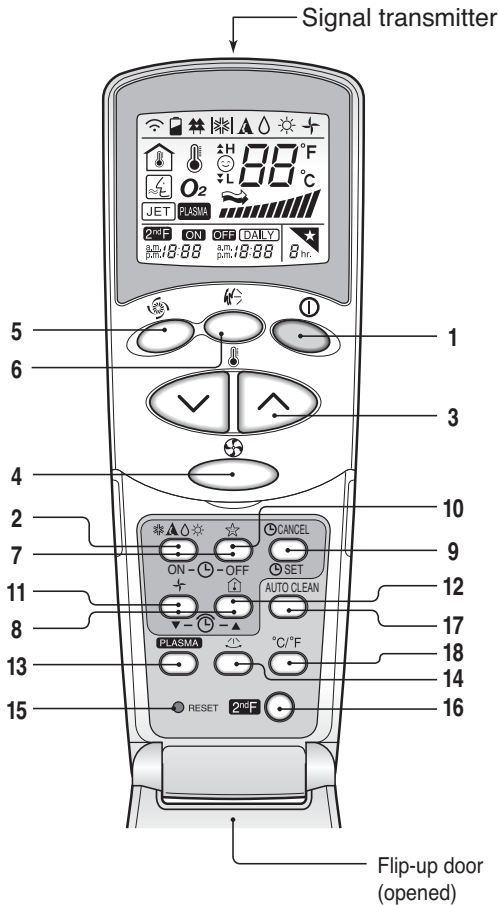
Discharge angle:50°



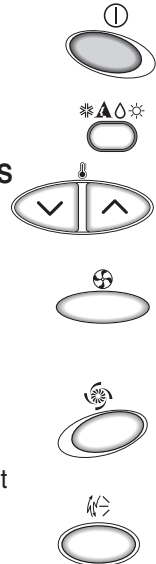
11. Controller

Remote Control Operations

Controls



- 1. START/STOP BUTTON**
Operation starts when this button is pressed and stops when the button is pressed again.
- 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**
Used to select fan speed in four steps low, medium, high and CHAOS.
- 5. JET COOL**
Used to start or stop the speed cooling.(speed cooling operates super high fan 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. (See page 22)
- 8. TIME SETTING BUTTONS**
Used to adjust the time. (See page 22)
- 9. TIMER SET/CANCEL BUTTON**
Used to set the timer when the desired time is obtained and to cancel the Timer operation. (See page 22)
- 10. SLEEP MODE AUTO BUTTON**
Used to set Sleep Mode Auto operation. (See page 22)
- 11. AIR CIRCULATION BUTTON**
Used to circulate the room air without cooling or heating. (See page 23)
- 12. ROOM TEMPERATURE CHECKING BUTTON**
Used to check the room temperature.
- 13. NEO PLASMA(OPTIONAL)**
Used to start or stop the plasma-purification function. (See page 20)
- 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. (See page 21)
- 17. AUTO CLEAN (OPTIONAL)**
Used to set Auto Clean mode.
- 18. °C TO °F SWITCHING BUTTON**
Used to switch temperature reading from Centigrade to Fahrenheit.

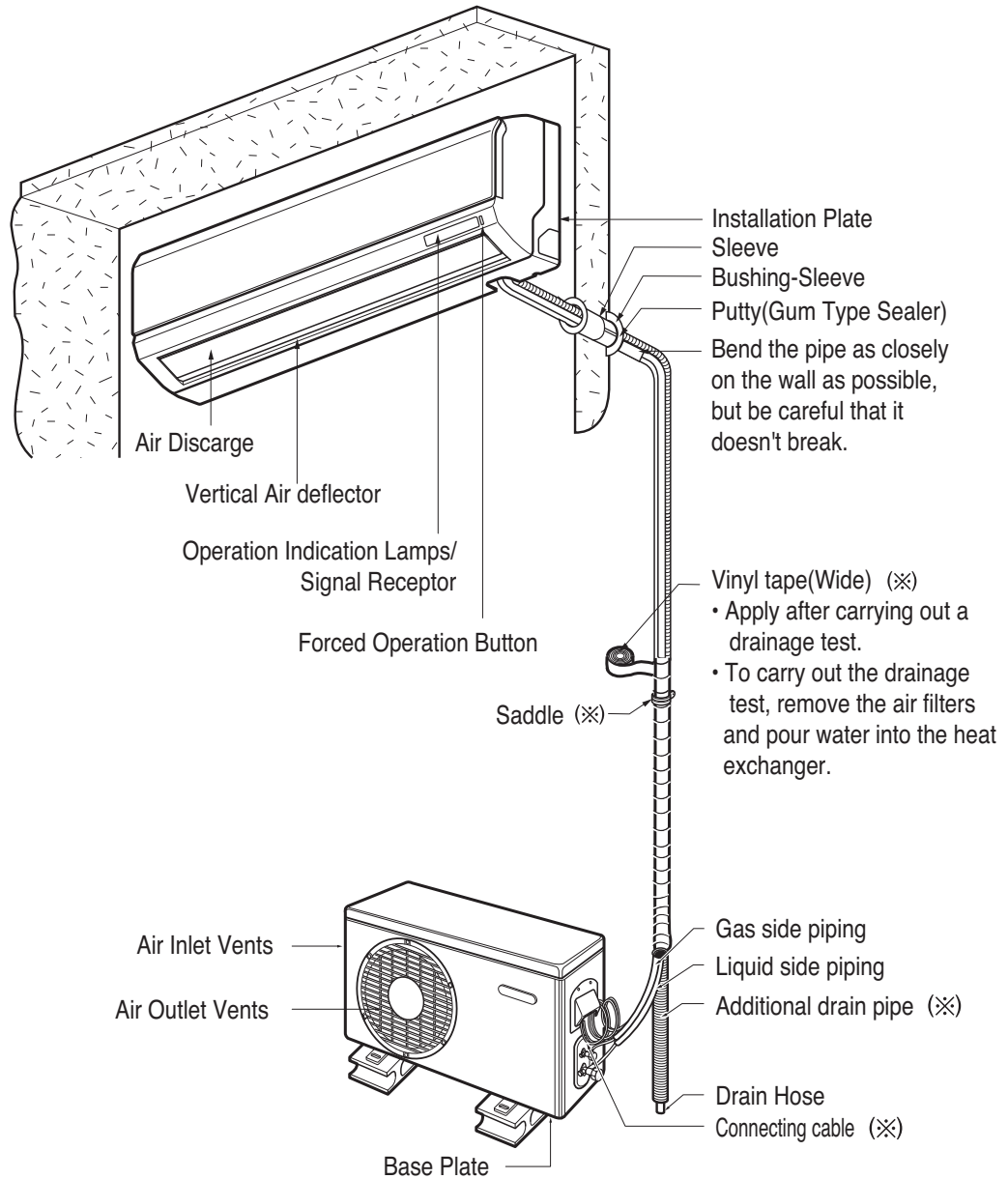


12. Installation

Installation Map

NOTICE

Installation parts you should purchase.

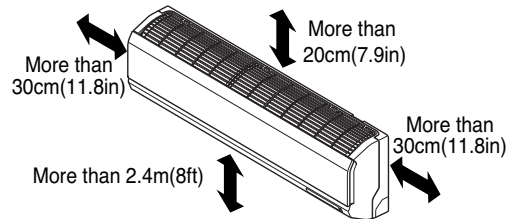


NOTE: refrigerant line wall thickness must be at least 0.8 mm (0.031 inch)

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 space around the left and right of the unit is more than 30cm(11.8in). The unit should be installed as high on the wall as possible, allowing a minimum of 20cm(7.9in) from ceiling.
6. Use a stud finder to locate studs to prevent unnecessary damage to the wall.

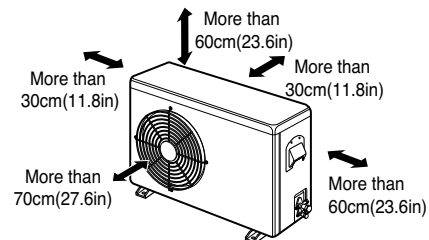


⚠ CAUTION

Install the indoor unit on the wall where the height from the floors more than 1.5meters(4.9ft). A minimum pipe run of 7.5meters(24.6ft) is required to minimize vibration and excessive noise.

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(11.8in). The front of the unit should have more than 70cm(27.6in) of space.
3. Do not place animals and plants in the path of the warm air.
4. Take the air conditioner weight into account and select a place where noise and vibration are minimum.
5. Select a place so that the warm air and noise from the air conditioner do not disturb neighbors.



Rooftop Installations

If the outdoor unit is installed on a roof structure, be sure to level the unit. Ensure the roof structure and anchoring method are adequate for the unit location. Consult local codes regarding rooftop mounting.

If the outdoor unit is installed on roof structures or walls, this may result in excessive noise and vibration, and may be also classed as non serviceable installation.

How To Mount Installation Plate

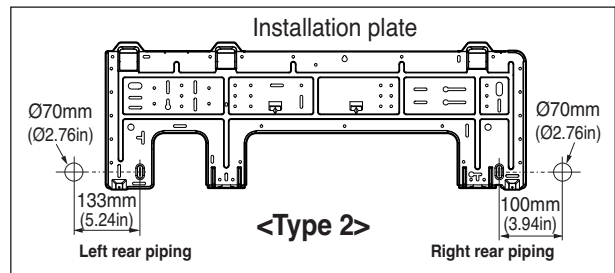
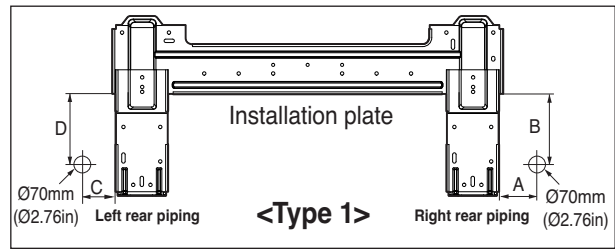
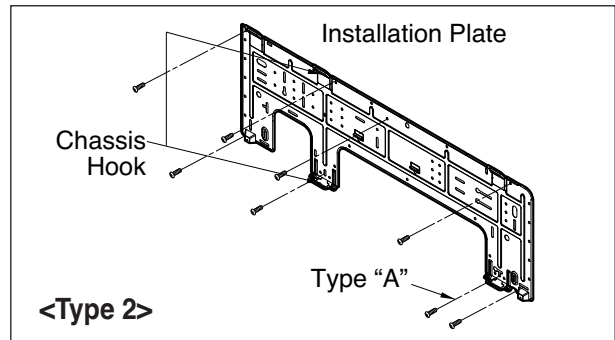
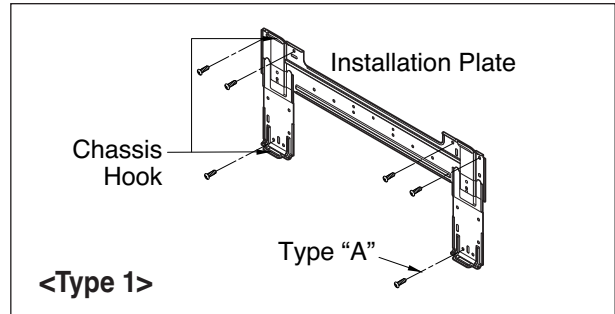
The wall you select should be strong and solid enough to prevent vibration

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.

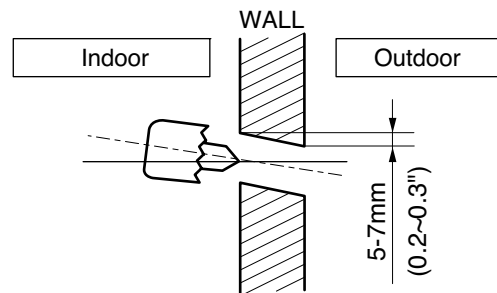
CHASSIS (Grade)	Distance (mm)(in)			
	A	B	C	D
S4	55(2.17)	105(4.13)	65(2.56)	105(4.13)
SE	70(2.76)	110(4.33)	90(3.54)	110(4.33)
S5/S8	100(3.94)	122(4.80)	240(9.45)	122(4.80)

<Type 1>



Drill a Hole In The Wall

- Drill the piping hole with a ø70mm(2.76in) hole core drill. Drill the piping hole at either the right or the left with the hole slightly slanted to the outdoor side.

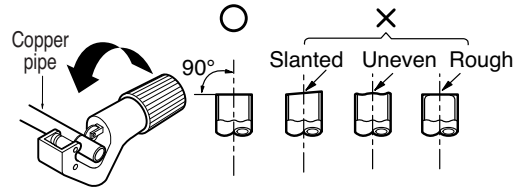


Flaring Work

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

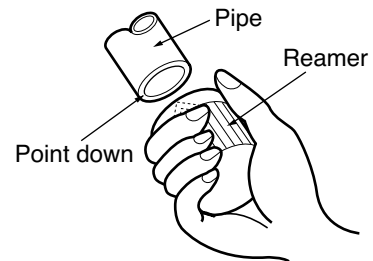
Cut the pipes and the cable.

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(59.1in) longer than the pipe length.



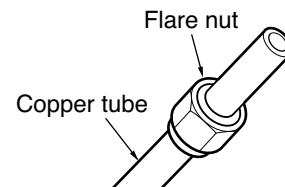
Burrs removal

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)

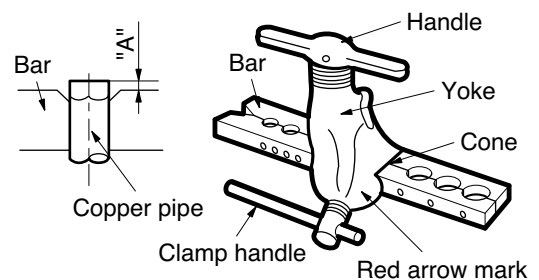


Flaring work

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

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

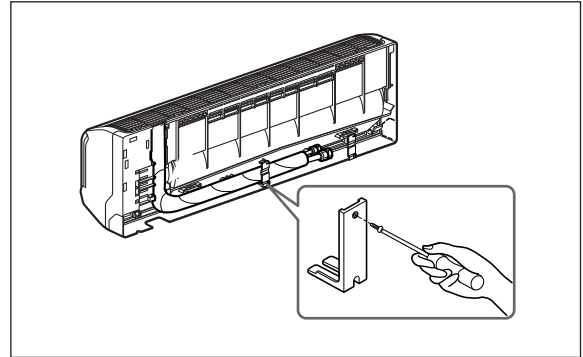
Firmly hold copper pipe in a die in the dimension shown in the table above.



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 left rear piping

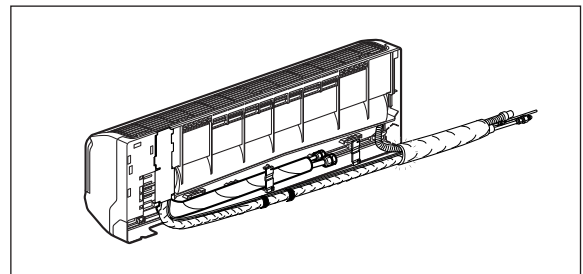
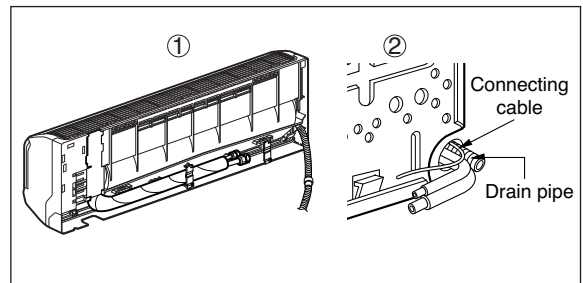
Route the indoor tubing and the drain hose in the direction of rear left.

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.

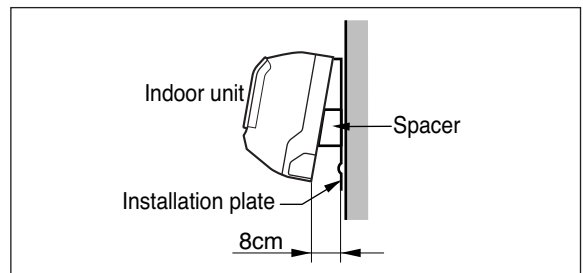
Tape the tubing, drain hose and the connecting cable. Be sure that the drain hose is located at the lowest side of the bundle. Locating at the upper side can cause drain pan to overflow inside the unit.

NOTE: 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.



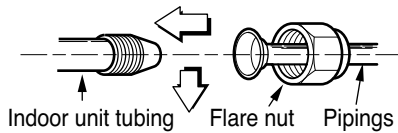
Indoor unit installation

- Hook the indoor unit onto the upper portion of the installation plate.(Engage the three hooks of the rear top and rear lower of the indoor unit with the upper edge and lower edge of the installation plate.) Ensure that the hooks are properly seated on the installation plate by moving it left and right.

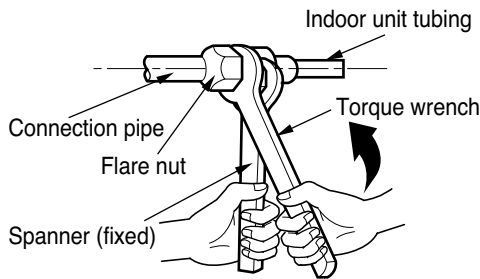


Connecting the pipings to the indoor unit and drain hose to drain pipe.

- Put a couple drops of refrigerant oil on the face of the flare before assembling taking care not to add any contaminants.
- Align the center of the pipings and sufficiently tighten the flare nut by hand.

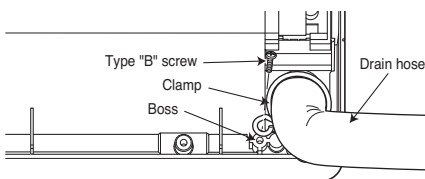


- Tighten the flare nut with a wrench.

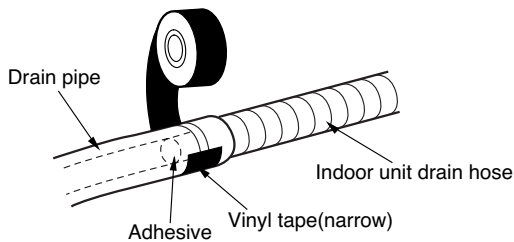


Outside diameter		Torque kgf·m
mm	inch	
Ø6.35	1/4	1.8~2.5
Ø9.52	3/8	3.4~4.2
Ø12.7	1/2	5.5~6.6
Ø15.88	5/8	6.3~8.2

- Mount the clamp on the boss with a type "B" screw. (SE-H/P: 9k, 12k C/O: 12k)

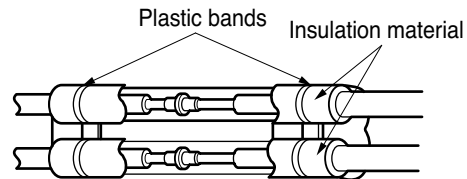


- When extending the drain hose at the indoor unit, install the drain pipe.

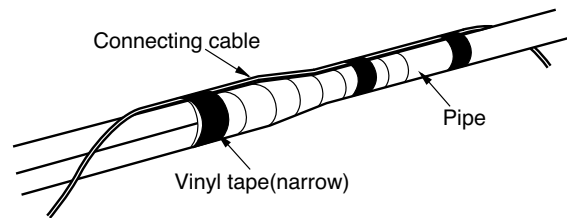
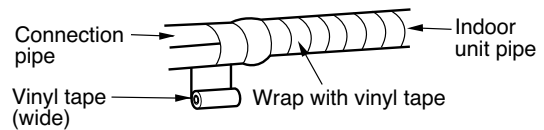


Wrap the insulation material around the connecting portion.

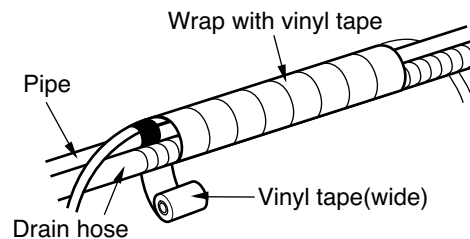
- Overlap the connection pipe insulation material and the indoor unit pipe insulation material. Bind them together with vinyl tape so that there is no gap.



- Wrap the area which accommodates the rear piping housing section with vinyl tape.

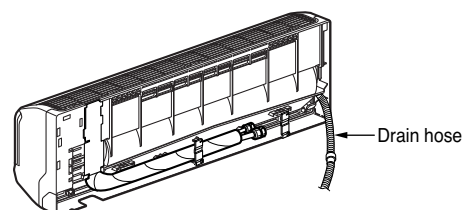


- Bundle the piping and drain hose together by wrapping them with vinyl tape over the range within which they fit into the rear piping housing section.



For right rear piping

Route the indoor tubing and the drain hose to the required piping hole position.

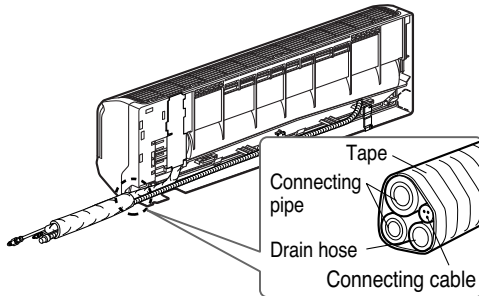


Insert the connecting cable into the indoor unit.

- Don't connect the cable to the indoor unit.
- Make a small loop with the cable for easy connection later.

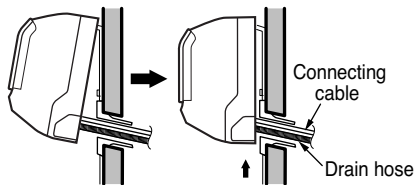
Tape the drain hose and the connecting cable.

- Connecting cable



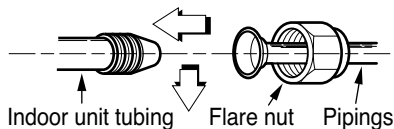
Indoor unit installation

- Hook the indoor unit onto the upper portion of the installation plate. (Engage the three hooks of the rear top and rear lower of the indoor unit with the upper edge and lower edge of the installation plate.) Ensure that the hooks are properly seated on the installation plate by moving it left and right.

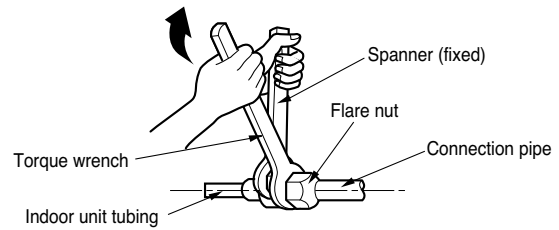


Connecting the pipings to the indoor unit and the drain hose to drain pipe.

- Put a couple drops of refrigerant oil on the face of the flare before assembling taking care not to add any contaminants
- Align the center of the pipings and sufficiently tighten the flare nut by hand.

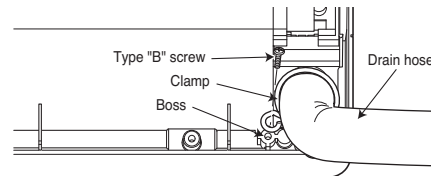


- Tighten the flare nut with a wrench.

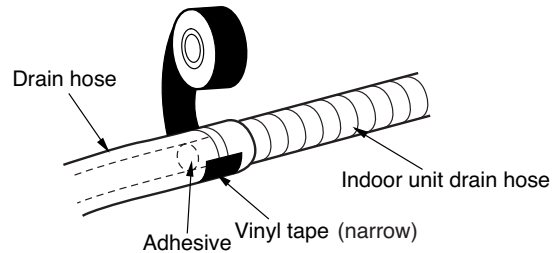


Outside diameter		Torque kgf·m
mm	inch	
Ø6.35	1/4	1.8~2.5
Ø9.52	3/8	3.4~4.2
Ø12.7	1/2	5.5~6.6
Ø15.88	5/8	6.3~8.2

- Mount the clamp on the boss with a type "B" screw. (SE-H/P: 9k, 12k C/O: 12k)

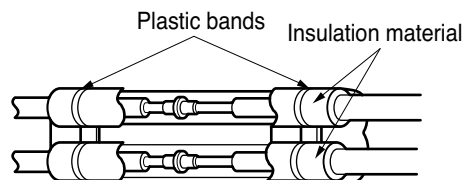


- When extending the drain hose at the indoor unit, install the drain pipe.

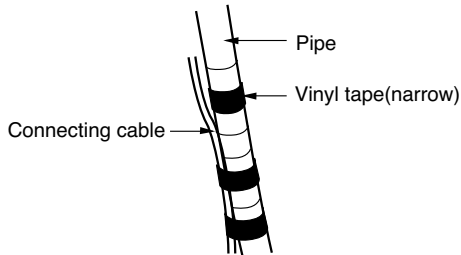
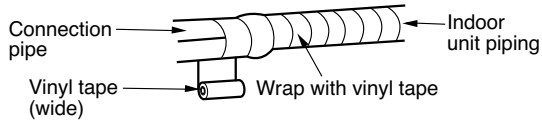


Wrap the insulation material around the connecting portion.

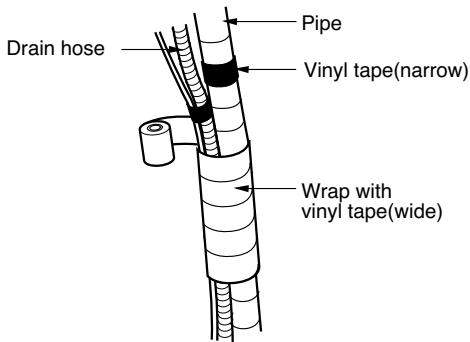
- Overlap the connection pipe heat insulation and the indoor unit pipe heat insulation material. Bind them together with vinyl tape so that there is no gap.



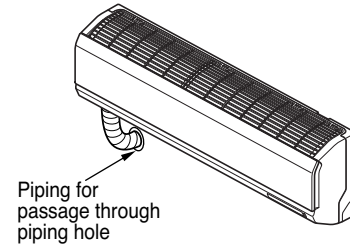
- Wrap the area which accommodates the rear piping housing section with vinyl tape.



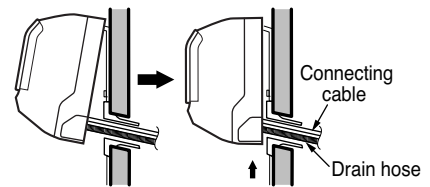
- Bundle the piping and drain hose together by wrapping them with cloth tape over the range within which they fit into the rear piping housing section.



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



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

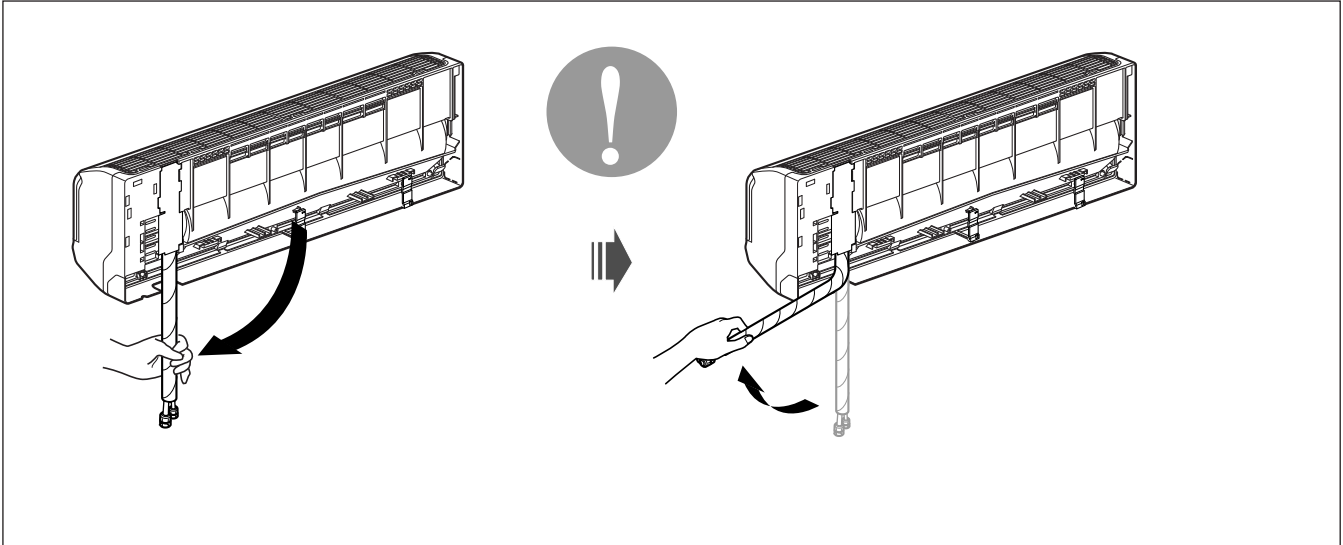


⚠ CAUTION

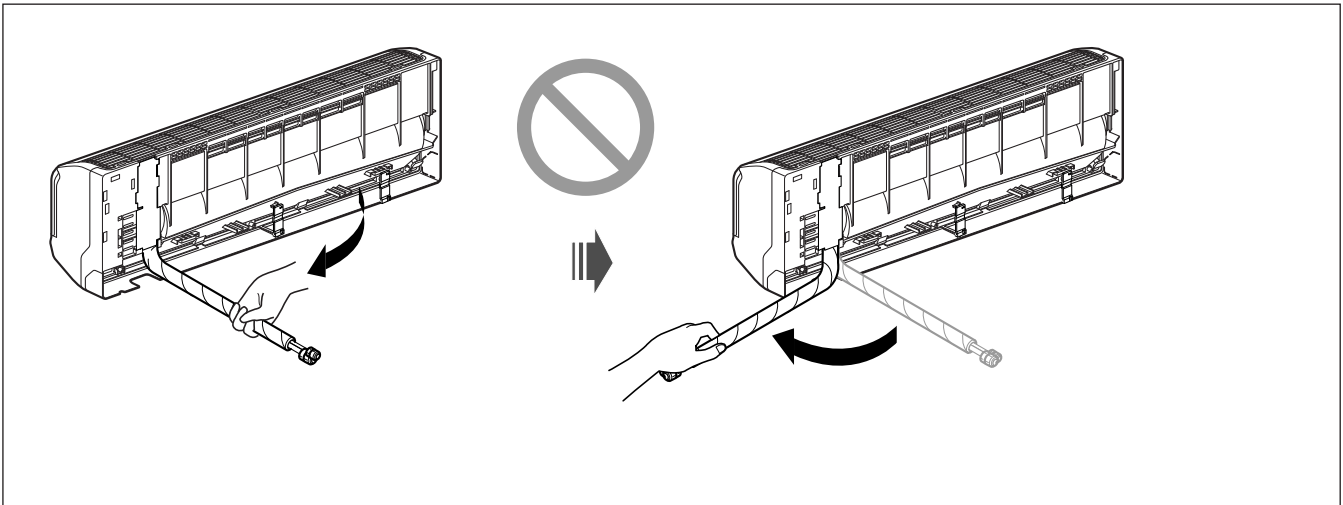
Installation Information. For left piping. Follow the instruction below.

Correct case

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

**Incorrect case**

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



Connection Of The Drain Hose

- The drain hose can be connected at two different positions. Use the most convenient position and, if necessary, exchange the position of the drain pan, rubber cap and the drain hose.

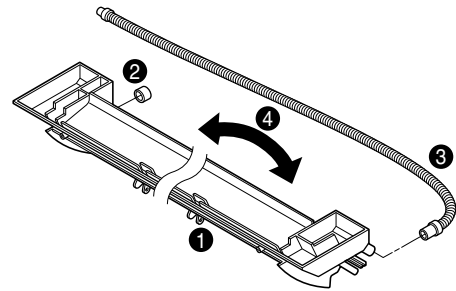
Drain pan

À Rubber cap

Ã Drain hose

Õ Exchange if necessary

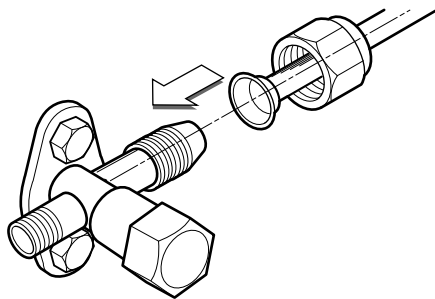
- Remove the drain hose.
- Securely insert both the rubber plug and drain hose into the drain outlets.
Be sure the rubber the cap is securely fastened so that there is no leakage.



Connection Of Piping -Outdoor

Put a couple drops of refrigerant oil on the face of the flare before assembling taking care not to add any contaminants.

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

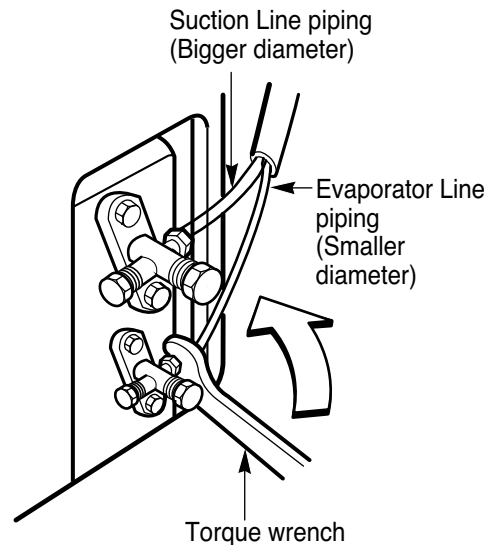


Finally, tighten the flare nut with torque wrench until the wrench clicks.

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

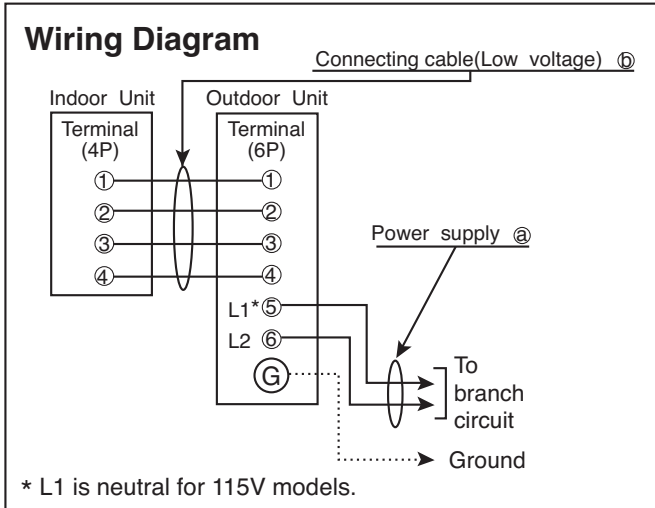
Outside diameter		Torque
mm	inch	kgf·m
Ø6.35	1/4	1.8~2.5
Ø9.52	3/8	3.4~4.2
Ø12.7	1/2	5.5~6.6
Ø15.88	5/8	6.3~8.2

Outdoor unit



Connection Of The Cable

1. Remove the cover control from the unit by loosening the 3 screws.
2. Dismount caps on the conduit panel.
3. Temporarily mount the conduit tubes on the conduit panel.
4. Properly connect both the power supply and low voltage lines to the corresponding terminals on the terminal block.
5. Ground the unit in accordance with local codes.
6. Be sure to size each wire allowing several inches longer than the required length for wiring.
7. Use lock nuts to secure the conduit tubes.



NOTE

Connector trade size for this unit is 1/2" for instructions on connecting depending on the wire type you are using.

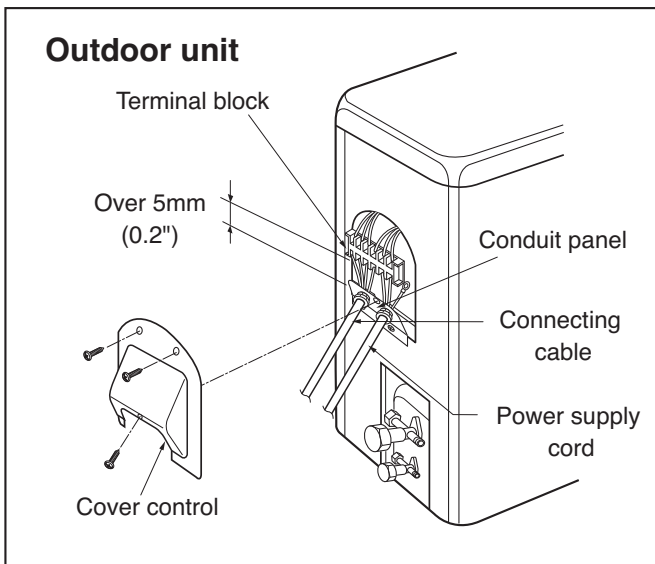
- NOTE**
1. shows field wiring.
 2. Separately wire the high and low voltage line.
 3. Use heat-proof electrical wiring capable of withstanding temperatures up to 167°F.
 4. Use outdoor and waterproof connection cable rated more than 300V for the connection between indoor and outdoor unit.
(For example, Type STOW)

⚠ WARNING

- Be sure to comply with local codes while running the wire from the indoor unit to the outdoor unit (size of wire and wiring method, etc).
- Every wire must be connected firmly.
- No wire should be allowed to touch refrigerant tubing, the compressor or any moving parts.

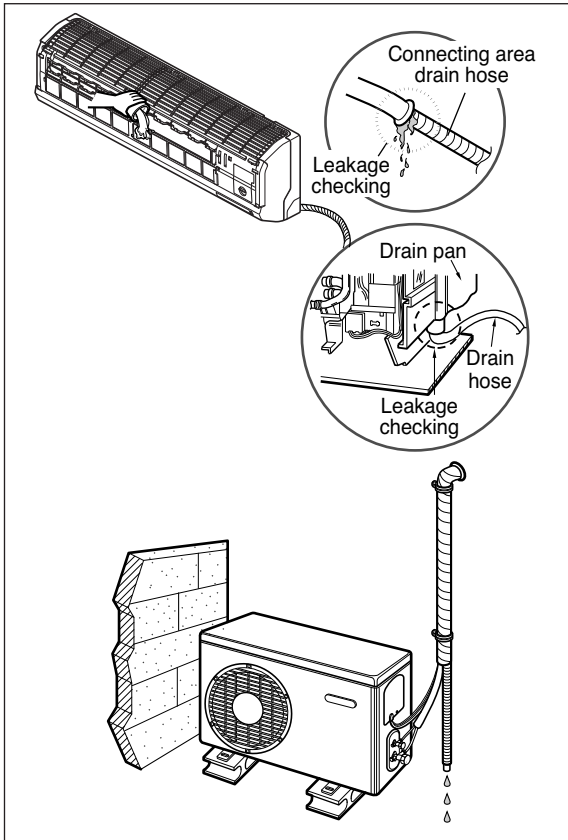
Power Supply

Model	Power source	AWG(MIN.)		Fuse or breaker Capacity
		①	②	
9k(C/O)	1Ø,115V	14	18	15A
9K(H/P),12k	1Ø,115V	14	18	20A
18k	1Ø,230/208V	14	18	20A
24k	1Ø,230/208V	12	18	30A



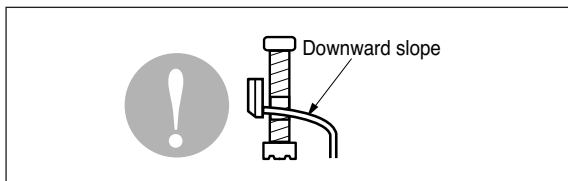
Checking The Drainage

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

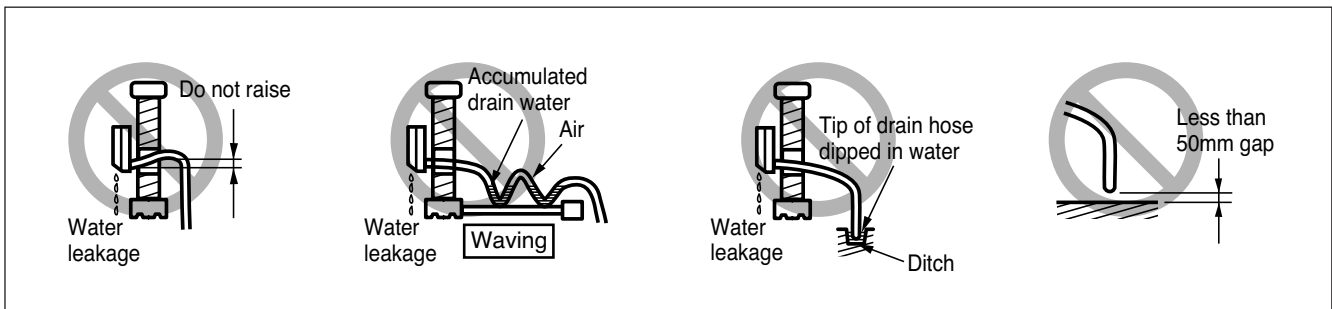


Drain piping

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



- Avoid these situations.



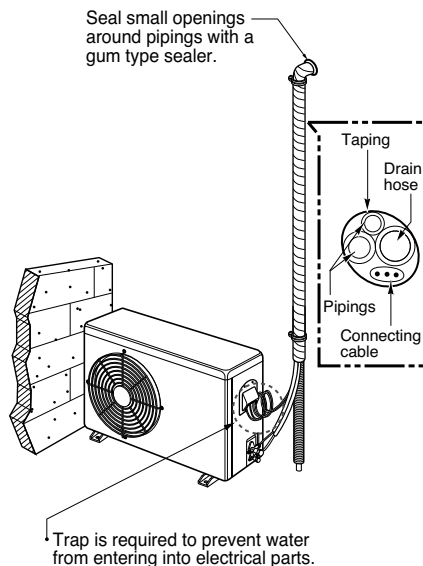
Forming The Piping

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.

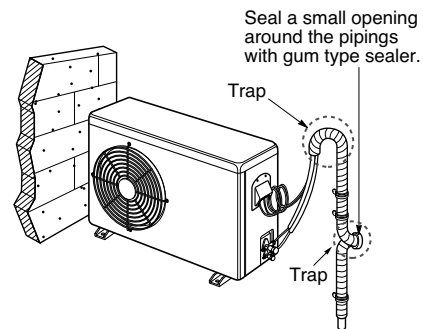
In cases where the outdoor unit is installed below the indoor unit perform the following.

- 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 tubing(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

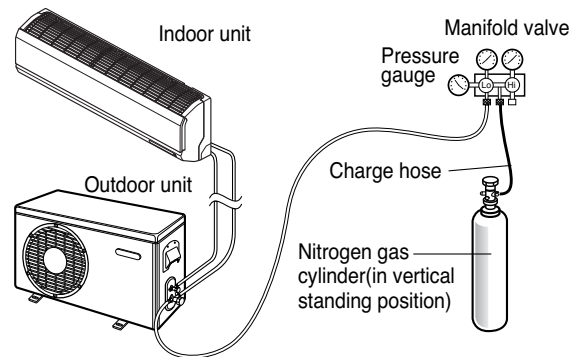
Be sure to use a manifold valve for air purging. If it is not available, use a stop valve for this purpose. The "Hi" knob of the manifold valve must always be kept close.

- 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 gas side and liquid side valves.
- (2) Remove the service-port cap from the gas side valve.
- (3) To open the gas side valve turn the valve stem counterclockwise approximately 90°, wait for about 2~3 seconds, 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.

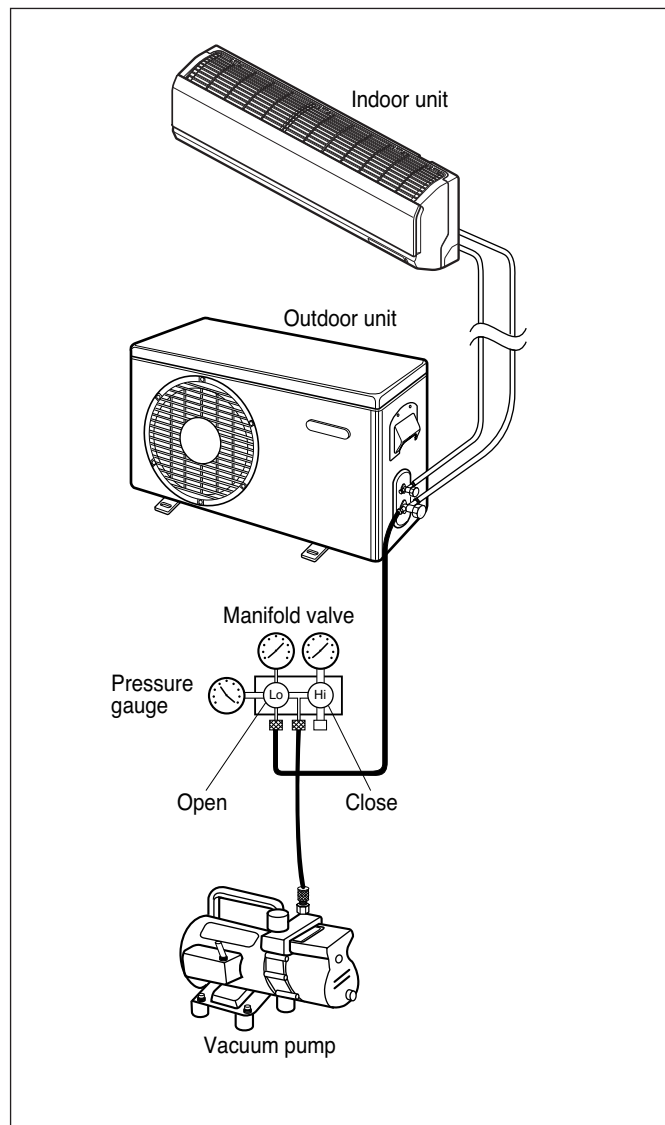
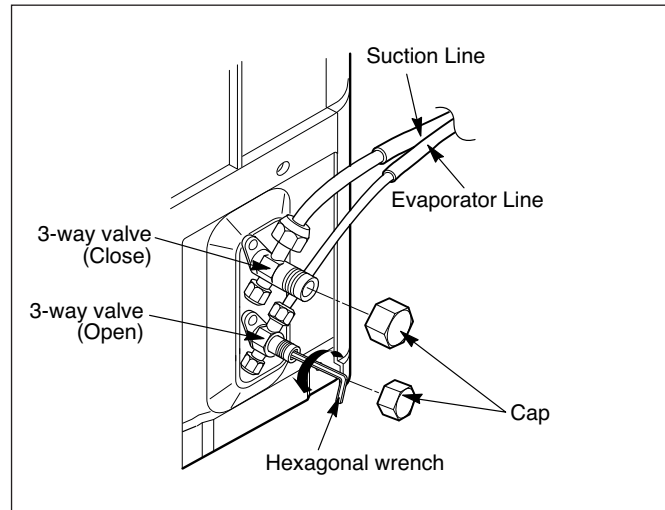
Required time for evacuation when 30 gal/h vacuum pump is used	
If tubing length is less than 10m (33 ft)	if tubing length is longer than 10m (33 ft)
10 min. or more	15 min. or more

- 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.



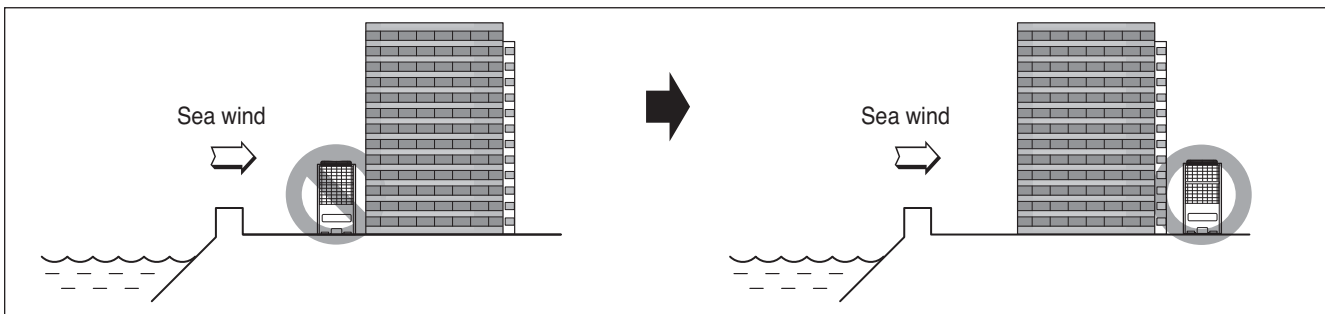
13. Installation Guide at the Seaside

CAUTION

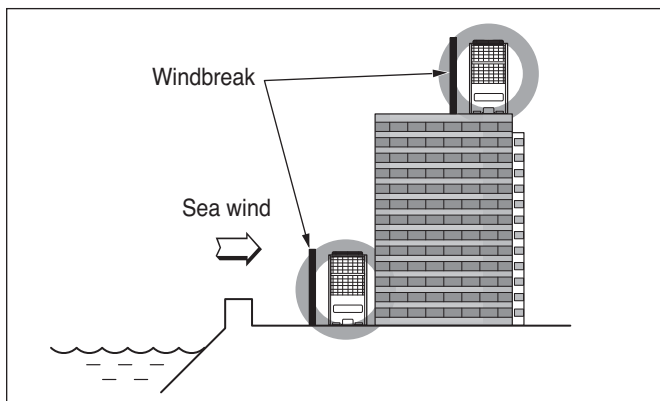
1. Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.
2. Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator 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



P/No. : 3828A20801X



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