Multi Multiple type

R32 Heat Pump (50Hz)

LG TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK

LG Life's Good

Multi Multiple type
General Information

1.Model Line Up
2.Combination of Indoor and Outdoor Unit
3.Nomenclature

1. Model Line Up

Product	Phase	Chassis	Capacity Index	Model Name
			kW	
Multiple type	1	U18A	4.1	S32W14ULGA0.EC6BEEU [RM2U15.U18]
		U24A	5.3	S33W18U2GA0.EC6BEEU [RM3U19.U24]

* The capacity index may differ from actual capacity values.

2. Combination of Indoor and Outdoor Unit

The total capacity index of indoor units is the sum of capacity index of each units and should be within the capacity index of the outdoor unit.

Nominal Capacity of Outdoor Unit		MULTI	
		4.1 kW	5.3 kW
Indoor Unit Type	Indoor Unit Capacity Index (kBtu/h)	Connectable Indoor Units	
Wall mounted	9	O	O
(Standard)	12	O	O

3. Nomenclature

3.1 Nomenclature - Outdoor unit

Model Name	S	3	2	Q	1	6	U	A	G	A	0
No.	1	2	3	4	5	6	7	8	9	10	11

1. A/C Type

S	Split

2. Refrigerent

2	R22
3	R32
4	R410A
9	R290

3. SET : Indoor unit combination number

2	2 Indoor units
3	3 Indoor units
4	4 Indoor units

4. C/O, H/P and Inverter

C	C/O
H	H/P
Q	DC Inverter C/O
W	DC Inverter H/P

5/6. Btu Capacity

7. ODU

U	ODU

8. ODU : Outdoor Platform

A	UA3 → U12A ('21years ~)
L	UL2 → U18A ('21years ~)
E	UE
2	U24A
P	UE1+ → U28A ('21years ~)
4	U4 → U36A ('21years ~)
D	UD → TBD
U	**Universal**

9/10. ODU : Operated as "GA" for common outdoor unit

11. ODU : Cycle No.

3.2 Nomenclature - Set

Model Name	S	3	2	Q	1	6	S	A	2	1	2
No.	1	2	3	4	5	6	7	8	9	10	11

1. A/C Type

S	Split

2. Refrigerent

2	R22
3	R32
4	R410A
9	R290

3. SET : Indoor unit combination number

2	2 Indoor units
3	3 Indoor units
4	4 Indoor units

4. C/O, H/P and Inverter

C	C/O
H	H/P
Q	DC Inverter C/O
W	DC Inverter H/P

5/6. Btu Capacity

7. SET

S	SET

8. SET : Outdoor Platform

A	UA3 → U12A ('21years ~)
L	UL2 → U18A ('21years ~)
E	UE
2	U24A
P	UE1+ → U28A ('21years ~)
4	U4 → U36A ('21years ~)
D	UD → TBD
U	**Universal**

9/10. SET : Sum of Indoor units Capacity

Code	Indoor unit 1	Indoor unit 2	Indoor unit 3
10	5	5	0
12	5	7	0
14	5	9	0
16	7	9	0
17	5	12	0
18	9	9	0
21	9	12	0
24	12	12	0
15	5	5	5
17	5	5	7
19	5	5	9
21	5	7	9
27	9	9	9
30	9	9	12

11. SET : Indoor units platform combination No.

Code	Indoor unit 1	Indoor unit 2	Indoor unit 3
W	SW	SW	
J	SJ	SJ	
K	SK	SK	
A	SW	SJ	
B	SJ	SK	
C	SW	SK	
D	SW	SW	SW
E	SW	SW	SJ
G	SW	SJ	SJ
H	SJ	SJ	SJ
1	SA	SA	
2	SA	SJ	
3	SA	SA	SA
4	SA	SA	SJ

Multi
Product Data

Multiple type

1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

1.1 Specifications

Category		Unit	S32W14ULGA0.EC6BEEU [RM2U15.U18]
Major	Minor		
Classification	Chassis	-	U18A
Power Supply	Case 1	-	220-230-240, 1, 50
	Case 2	-	-
	Limit Range of Voltage(Case 1)	V	198 ~ 264
	Limit Range of Voltage(Case 2)	V	-
Testing Combination	-	Model x No.	S3NW09JMQFA*1EA/S3NW12JMQFA*1EA
Cooling Capacity	Rated	kW	4.10
		Btu/h	14,000
	Min ~ Max	kW	0.88~4.72
		Btu/h	3,000~16,100
Heating Capacity	Rated	kW	4.69
		Btu/h	16,000
	Min ~ Max	kW	0.97~5.39
		Btu/h	3,300~18,400
Power Input(Cooling)	Rated	kW	1.03
	Min ~ Max	kW	0.23~1.39
Power Input(Heating)	Rated	kW	1.07
	Min ~ Max	kW	0.24~1.46
Efficiency	EER	W/W	4.00
	COP	W/W	4.38
	SEER	Wh/Wh	8.09
	SCOP	Wh/Wh	4.00
	Seasonal Energy Label (Cooling / Heating)	-	A++ / A+
	Pdesign(Cooling)	kW	4.10
	Pdesign(@-10℃, Heating)	kW	3.60
Annual Energy Consumption	Cooling / Heating	kWh	177 / 1,259
Running Current	Maximum Running Current	A	11.0
Power Factor(Cooling/Heating)	Rated	-	0.98 / 0.98
Outdoor Fan	Type	-	Propeller
	Air Flow Rate	m^3/min x No.	35.0 x 1
	Max. External Static Pressure	Pa	-
Outdoor Fan Motor	Type	-	BLDC
	Drive	-	-
	Output	W x No.	43.0 x 1
Compressor	Type	-	Twin Rotary
	Model x No.	-	DST102MA x 1
	Motor Type	-	BLDC
	Motor Output	W x No.	900 x 1
	Oil Type	-	FW68D
	Oil Charging amount	cc x No.	280 x 1
Heat Exchanger	Rows x Columns x FPI	-	2 × 24 ×14
	No.	-	1
	Fin Type	-	Wide Louver Plus
	Material (Tube/Fin)	-	CU / AL
	Face Area	m^2	0.41
Dimensions	Net(W x H x D)	mm	770 x 545 x 288
	Shipping(W x H x D)	mm	920 x 588 x 388
Weight	Net	kg	32.5
	Shipping	kg	35.2

1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

Category		Unit	S32W14ULGA0.EC6BEEU [RM2U15.U18]
Major	Minor		
Exterior	Color	-	Warm Gray
	RAL (Classic)	-	RAL 7044
Protection Device	High Pressure Prevention	-	Pressure Switch
	Frost Prevention	-	Thermistor
	Discharge Tempreature Control	-	Thermistor
	Inverter Protection	-	Thermistor
Refrigerant	Type	-	R32
	Precharged Amount	kg	1.040
	Additional Charging amount(Main)	g/m	-
	Additional Charging amount(Branch)	g/m	20
	GWP(Global Warming Potential)	-	675
	t-CO_2 eq.	-	0.702
	Chargeless-Pipe Length(Main)	m	-
	Chargeless-Pipe Length(Branch)	m	30
	Control Type	-	Electronic Expansion Valve
Pipe Connecting Socket	Liquid	mm(inch) x No.	Ø 6.35(1/4) × 2
	Gas	mm(inch) x No.	Ø 9.52(3/8) × 2
	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length	Total Piping(Max)	m	30
	Main Piping(Rated / Max / Min)	m	-
	Total Branch(Max)	m	-
	Each Branch(Rated / Max / Min)	m	7.5 / 20 / -
Maximum Height Difference	IDU - ODU(Max)	m	15
	IDU - IDU(Max)	m	7.5
	BD - IDU(Max)	m	-
	BD - BD(Max)	m	-
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	45.0 / 48.0
Measurement Standard (Pressure Level)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	60.0 / -
Measurement Standard (Power Level)	-	-	ISO 3741
Connecting Cable	Power Supply Cable(H07RN-F) (to ODU)	mm² × cores	2.5 x 3C
Electrical Characteristic	Minimum Circuit Amperes (MCA)	A	9.4
	Maximum Fuse Amperes (MFA)	A	13.0
	Comp_Rated Load Amperes (Max)	A	7
	Outdoor Fan Motor_Full Load Amperes	A	0.25
Combination Limit	Number of Indoor Units	EA	2
	Number of BD Units	EA	-
Allowable Total Capacity of Connected Indoor Unit	Max	kBtu/h	21
Allowable Max. Capacity for indiviual Indoor unit	Max	kBtu/h	12

Note

- Due to our policy of innovation some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes. And “Electric characteristics” should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
- Power factor could vary less than ±1% according to the operating conditions.
- Sound level values are depend on the ambient conditions and values are normally higher in actual operation.
- This product contains Fluorinated greenhouse gases.
- Voltage supplied to the unit terminals should be within the minimum and maximum range.
- Maximum allowable voltage unbalance between phase is 2%.
- MSC means the Max. current during the starting of compressor.
- MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.
- Select the wire size based on MCA.
- MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

■ Performances are based on the following conditions :
- Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
- Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
- Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

■ Console products shall be installed in accordance with IEC 60335-2-40:2018 Edition 6.0 standard. It can be installed without any area restriction under 1.84 kg. Over the limit, it should be installed according to the installation area for each amount of refrigerant.

1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

1.2 List of Functions

Category	Functions	Availability
Reliability	Defrost / Deicing	O
	High Pressure Switch	O
	Low Pressure Switch	X
	Phase Protection	X
	Restart Delay (3-minutes)	O
	Self Diagnosis	O
	Soft Start	O
Convenience	Night Low Noise Operation	O
	Wiring Error Check	O
	Peak Control	O
	Mode Lock	O
	Forced Cooling Operation (Outdoor Unit)	O
	SLC (Smart Load Control)	X

Note

■ O : Applied, X : Not applied
- Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.
- Accessory line-ups varies by region, so check your local catalogue or local sales material.

1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

1.3 Accessory Compatibility List

Category	Accessory Name	Model Name	Description	Compatibility
Central Controller	AC EZ	PQCSZ250S0	-	X
	AC EZ touch	PACEZA000	Touch type	X
	AC Smart IV	PACS4B000	Touch type	X
	AC Smart 5	PACS5A000	Touch type	X
	ACP IV	PACP4B000	-	X
	ACP 5	PACP5A000	-	X
	AC Manager IV	PACM4B000	For Integrated Control	X
	AC Manager 5	PACM5A000	For Integrated Control	X
Gateway	ODU PI485	PMNFP14A1	For 16-room (3 series)	X
	ACP BACnet	PQNFB17C0	-	X
	ACP Lonwork	PLNWKB000	-	X
	Cloud Gateway	PWFMDB200	-	X
Integration Device	PDI Standard	PPWRDB000	Power distributor 2port	X
	PDI Premium	PQNUD1S40	Power distributor 8port	X

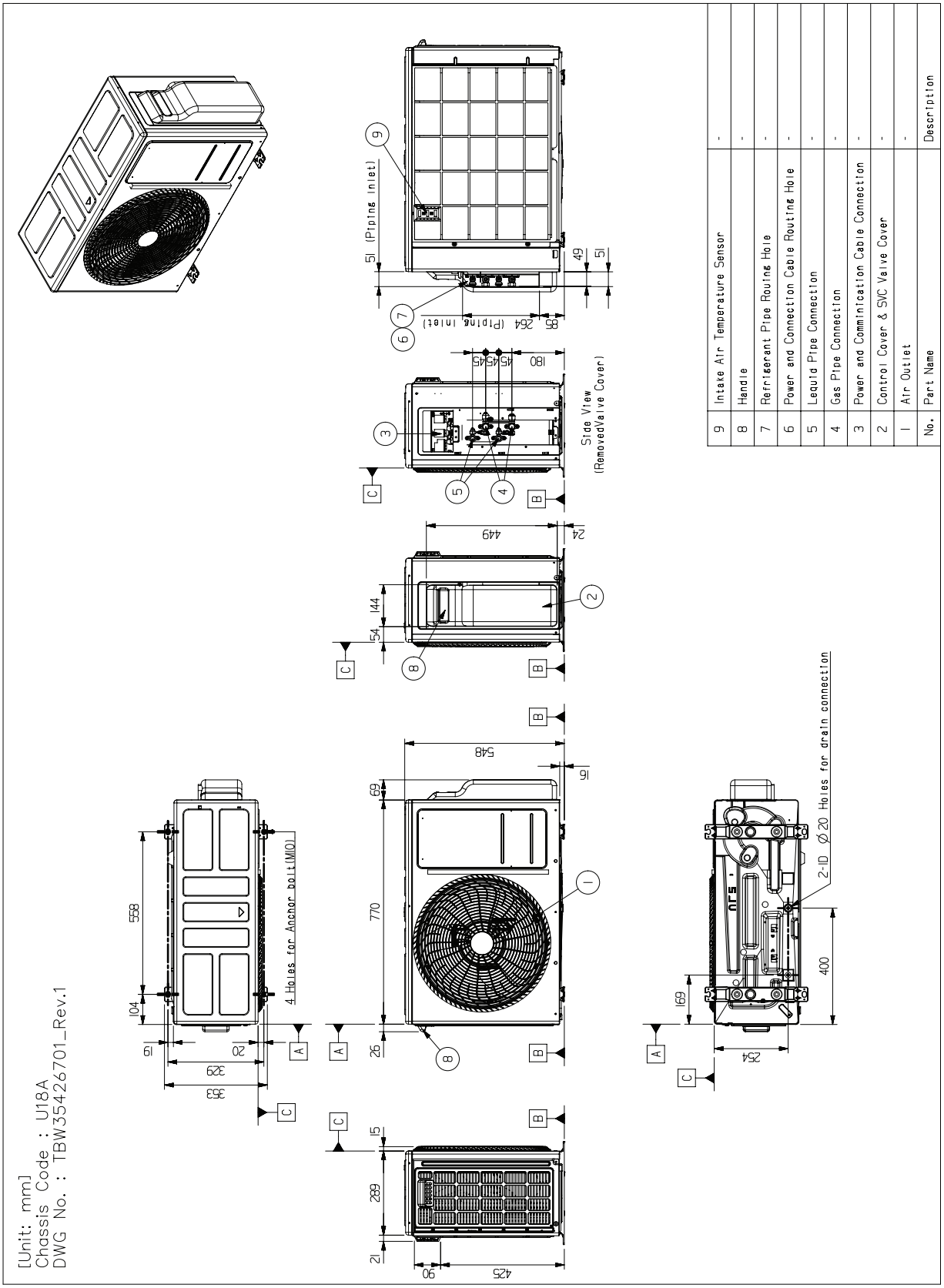
Note

■ O: Possible, X: Impossible, - : Unconfirmed or irrelevant
■ AC Manager requires ACP or AC Smart.
■ Compatibility of individual controller(wireless/wired remote controller) could be found with function list on Indoor Unit's PDB.
■ If you need more detail, please refer to the Control(BECON) PDB or the manual of product.
(http://partner.lge.com > Select Your Region : Home> Doc.Library> Product > Control(BECON)).
■ Accessory line-ups varies by region, so check your local catalogue or local sales material.

1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

1.4 Dimensions

1.4.1 Product



1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

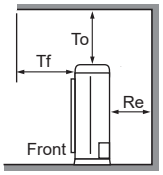
1.4.2 Install Space

For Side Discharge (capacity < 28.0 kW)

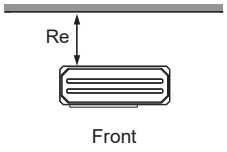
[Unit : mm(inch)]

Obstacle on the Suction side

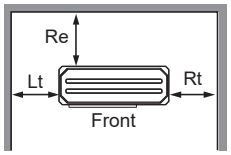
※ *Case 1 : No obstacle on top side*
Case 2 : Obstacle on top side



To ≥ 1,000(39-3/8)
Tf ≤ 500(19-11/16)

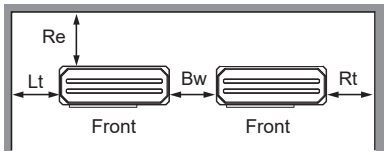


Case 1
Re ≥ 100(3-15/16)
Case 2
Re ≥ 300(11-13/16)



Case 1
Re ≥ 100(3-15/16)
Lt ≥ 100(3-15/16)
Rt ≥ 100(3-15/16)

Case 2
Re ≥ 300(11-13/16)
Lt ≥ 150(5-29/32)
Rt ≥ 150(5-29/32)

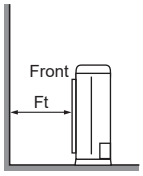


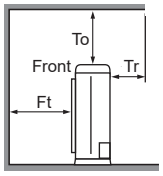
Case 1
Re ≥ 300(11-13/16)
Lt ≥ 1,000(39-3/8)
Rt ≥ 200(7-7/8)
Bw ≥ 100(3-15/16)

Case 2
Re ≥ 300(11-13/16)
Lt ≥ 1,000(39-3/8)
Rt ≥ 200(7-7/8)
Bw ≥ 100(3-15/16)

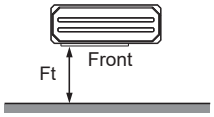
Obstacle on the Discharge side

※ ***For Rear Piping / External SVC Valve type / Side-CBOX type***
: Re,Lt ≥ 300(11-13/16) and Rt,Bw,Rb ≥ 600(23-5/8) for ALL CASE.



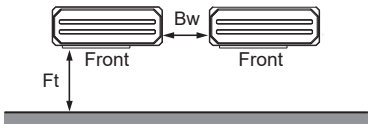


To ≥ 1,000(39-3/8)
Tr ≤ 500(19-11/16)



Case 1
Ft ≥ 500(19-11/16)

Case 2
Ft ≥ 500(19-11/16)



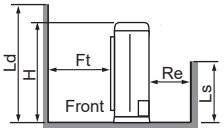
Case 1
Ft ≥ 1,000(39-3/8)
Bw ≥ 100(3-15/16)

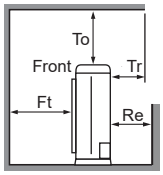
Case 2
Ft ≥ 1,000(39-3/8)
Bw ≥ 100(3-15/16)

Obstacle on the Suction and Discharge side

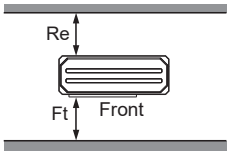
Ld > H (Ls should be lower H.)

※ *Close the bottom of the installation frame to prevent the discharged air from being bypassed*





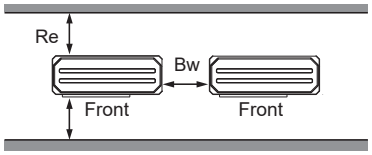
To ≥ 1,000(39-3/8)
Tf ≤ 500(19-11/16)



Case 1
Ft ≥ 500(19-11/16)
Re ≥ 300(11-13/16)

Case 2
Ft ≥ 1,000(39-3/8) *
Re ≥ 300(11-13/16)

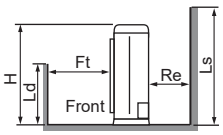
** If Ls ≤ H/2,*
Ft ≥ 750(29-17/32)

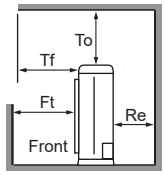


Case 1
Ft ≥ 1,000(39-3/8)
Re ≥ 300(11-13/16)
Bw ≥ 100(3-15/16)

Case 2
Ft ≥ 1,250(49-7/32)
Re ≥ 300(11-13/16)
Bw ≥ 100(3-15/16)

Ld ≤ H





To ≥ 1,000(39-3/8)
Tf ≤ 500(19-11/16)

Case 1
Ft ≥ 500(19-11/16)
Re ≥ 300(11-13/16)

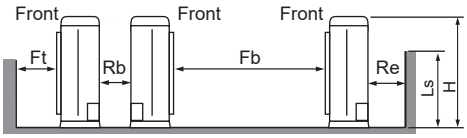
Case 2
Ft ≥ 1,000(39-3/8)
Re ≥ 300(11-13/16)

Case 1
Ft ≥ 1,500(59-1/16)
Re ≥ 300(11-13/16)
Bw ≥ 100(3-15/16)

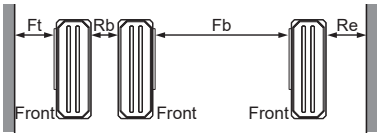
Case 2
Ft ≥ 1,500(59-1/16)
Re ≥ 300(11-13/16)
Bw ≥ 100(3-15/16)

※ *In case of series installation (2 Units or more) for 2 Fan models, Ld should be lower than H/2.*

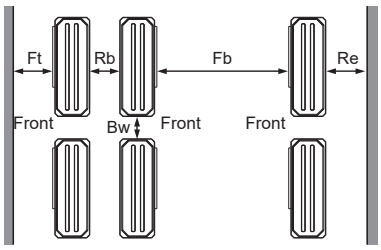
Collective/Continuous Installation (Multiple Columns)



※ *In case of Multiple columns/continuous installation, Ls should be lower than H.*



1 Column
Ft ≥ 1,000(39-3/8)
Rb ≥ 200(7-7/8)
Fb ≥ 2,000(78-3/4)
Re ≥ 100(3-15/16)



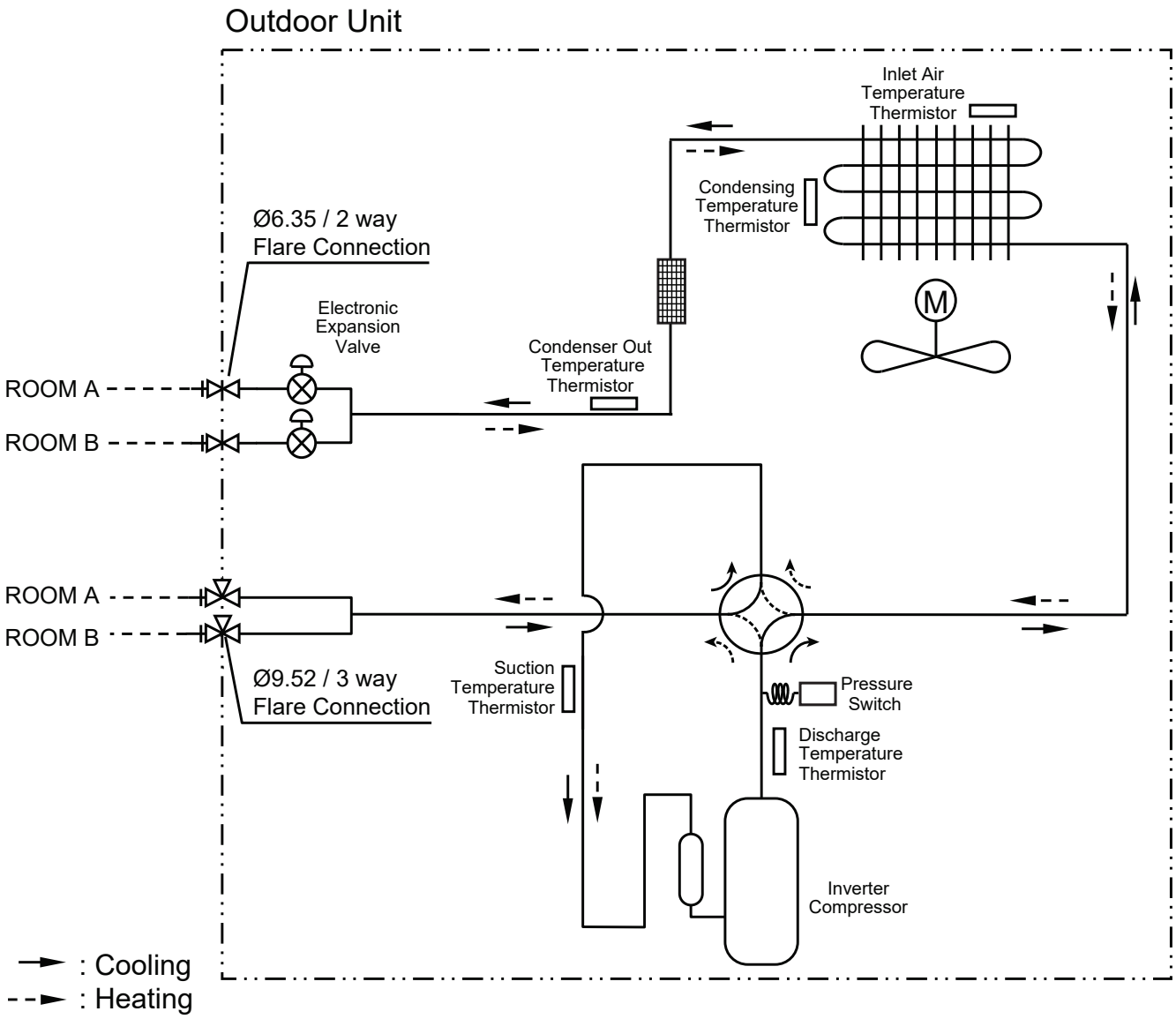
Multiple Columns
Ft ≥ 1,500(59-1/16)
Rb ≥ 600(23-5/8)
Fb ≥ 3,000(118-1/8)
Re ≥ 300(11-13/16)
Bw ≥ 100(3-15/16)

Note
- If there is a concern about product performance degradation due to group installation or interference with obstacles, secure an additional separation distance.
- Secure enough space for smooth service and maintenance.
- According to product type, model line up, sales region..etc, applicability of each chassis could be different.

1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

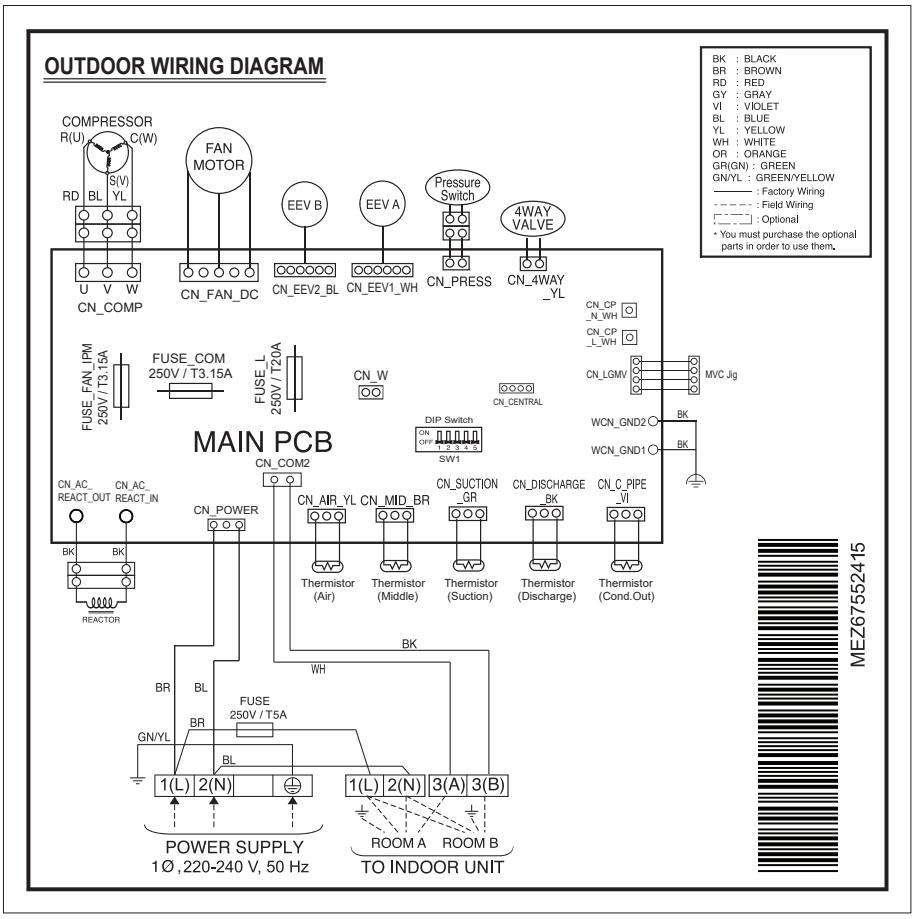
1.5 Piping Diagrams

1.5.1 Normal



1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

1.6 Wiring Diagrams



1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

1.7 Combination Table

1.7.1 Cooling

UNIT	Combination of					Total Capacity						Input		
						Min		Rated		Max		Min	Rated	Max
	UNIT-A	UNIT-B	UNIT-C	UNIT-D	Total	Btu/h	kW	Btu/h	kW	Btu/h	kW	W	W	W
2 UNIT	9	12	-	-	21	8,400	2.5	14,000	4.1	16,100	4.7	541	1,030	1,391

1.7.2 Heating

UNIT	Combination of Indoor Unit (kBtu/h Class)					Total Capacity						Input		
						Min		Rated		Max		Min	Rated	Max
	UNIT-A	UNIT-B	UNIT-C	UNIT-D	Total	Btu/h	kW	Btu/h	kW	Btu/h	kW	W	W	W
2 UNIT	9	12	-	-	21	9,600	2.8	16,000	4.7	18,400	5.4	629	1,070	1,457

Note

■ Capacities are based on the following conditions :
- Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
- Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
- Interconnected piping is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0 m.

■ At least two indoor units should be connected. And minimum limit of combination ratio is 40% approximately for rated capacity of outdoor unit.

■ Don't exceed the maximum connectable indoor units number, it can be found in Specifications or combination table of outdoor unit model.

1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

1.8 Capacity Tables

1.8.1 Cooling

Combination Capacity Index	Outdoor Air Temp.: ℃DB	Indoor Air Temp.: ℃WB											
		14		16		18		19		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
9 + 12	20	2.41	0.41	3.13	0.51	3.68	0.59	4.10	0.65	4.52	0.67	4.84	0.67
	25	2.41	0.48	3.13	0.60	3.68	0.70	4.10	0.77	4.52	0.79	4.84	0.79
	32	2.41	0.58	3.13	0.73	3.68	0.85	4.10	0.93	4.52	0.96	4.84	0.96
	35	2.41	0.63	3.13	0.79	3.68	0.91	4.10	1.00	4.52	1.03	4.84	1.04
	40	2.41	0.65	3.13	0.82	3.68	0.95	4.10	1.15	4.52	1.18	4.84	1.19
	43	2.41	0.67	3.13	0.84	3.68	0.97	3.90	1.07	4.29	1.10	4.60	1.10
	46	2.41	0.68	3.13	0.86	3.68	0.99	3.69	1.09	4.07	1.12	4.36	1.13
	48	2.41	0.70	3.13	0.88	3.42	1.02	3.49	1.07	3.78	1.10	4.01	1.11

1.8.2 Heating

Combination Capacity Index (kBtu/h)	Outdoor Air Temp. (℃WB)	Indoor Air Temp. (℃DB)											
		16.0		18.0		20.0		21.0		22.0		24.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
9 + 12	-15.0	2.95	1.01	2.93	1.06	2.91	1.12	2.90	1.15	2.89	1.17	2.87	1.23
	-10.0	3.54	1.12	3.52	1.17	3.50	1.23	3.49	1.26	3.48	1.28	3.46	1.34
	-5.0	4.14	1.23	4.12	1.28	4.10	1.34	4.09	1.37	4.08	1.39	4.06	1.45
	0.0	4.73	1.34	4.71	1.39	4.69	1.45	4.60	1.41	4.50	1.38	4.31	1.31
	6.0	5.19	1.17	4.94	1.12	4.69	1.07	4.60	1.04	4.50	1.01	4.31	0.96
	10.0	5.19	1.08	4.94	1.03	4.69	0.98	4.60	0.95	4.50	0.93	4.31	0.88
	15.0	5.19	0.95	4.94	0.91	4.69	0.87	4.60	0.84	4.50	0.82	4.31	0.78

Note

■ DB : Dry bulb temperature(℃), WB : Wet bulb temperature(℃)
■ TC : Total capacity(kW)
■ PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
■ All capacities are net. A deduction (cooling mode) or an addition (heating mode) of Capacity due to operating heat of indoor unit motor is reflected.
■ Capacities are based on the following conditions :
- Interconnecting Piping Length (Both Main pipe and Branch pipe) is standard length.
- Difference of Elevation (Outdoor ~ Indoor Unit) is 0 m.
■ Direct interpolation is permissible. Do not extrapolate.
■ Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table. Except for rated value, the performance is not guaranteed.
■ In accordance with the test standard(or nations) and indoor unit's combinations, the rating will vary slightly.

1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

1.9 Capacity Correction Factor

1.9.1 Cooling

Combination (Capacity index, kBtu/h)	Capacity correction factor (%) by equivalent pipe length (m)					
	5	7.5	10	15	20	25
9	100.0	100.0	98.0	94.8	91.6	88.4
12	100.0	100.0	97.6	93.8	89.9	86.1

1.9.2 Heating

Combination (Capacity index, kBtu/h)	Capacity correction factor (%) by equivalent pipe length (m)					
	5	7.5	10	15	20	25
9	100.0	100.0	99.0	97.4	95.8	94.2
12	100.0	100.0	98.6	96.4	94.1	91.9

Note

■ $Q_{odu(rated)}$ [from specification table] : Outdoor unit rated capacity.
■ $Q_{odu(Ti, To)}$ [from capacity table] : Outdoor unit capacity at Ti, To temperature.
■ $F_{(Ti, To)} = Q_{odu(Ti, To)} / Q_{odu(rated)}$: Outdoor unit capacity correction factor.
■ Piping correction factor [from capacity correction factor table]
- $F_{main (length, elevation)}$ for main piping length or elevation : $F_{main (length, elevation)}$ is used only when the BD (Distributor Box) unit is connected.
- $F_{branch (length, elevation)}$ for branch piping length or elevation

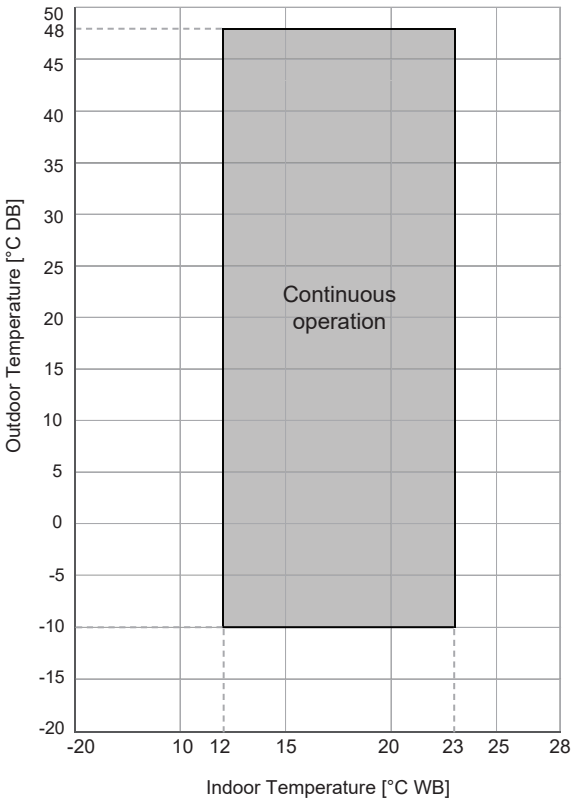
■ Individual indoor unit combinational capacity
- $Q_{idu (combi)} = Q_{odu(rated)} \times Q_{idu(rated,each)} / Q_{idu(rated,total)}$
: $Q_{idu(rated,each)}$ is Capacity of individual indoor unit
: $Q_{idu(rated,total)}$ is Total sum of individual capacity for connected indoor units
Refer to the 'Specifications' of each indoor units

• Individual indoor unit actual capacity
- $Q_{idu (actual)} = Q_{idu(combi)} \times F_{(Ti, To)} \times F_{main (length, elevation)} \times F_{branch (length, elevation)}$
: $F_{main (length, elevation)}$ is used only when the BD (Distributor Box) unit is connected.

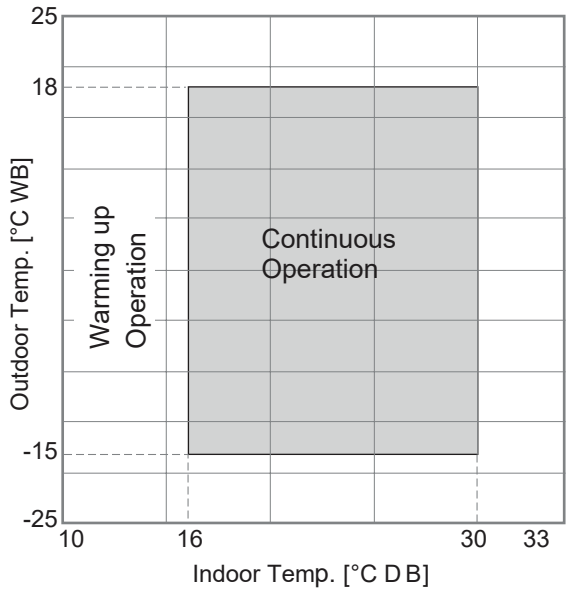
1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

1.10 Operation Limits

1.10.1 Cooling



1.10.2 Heating



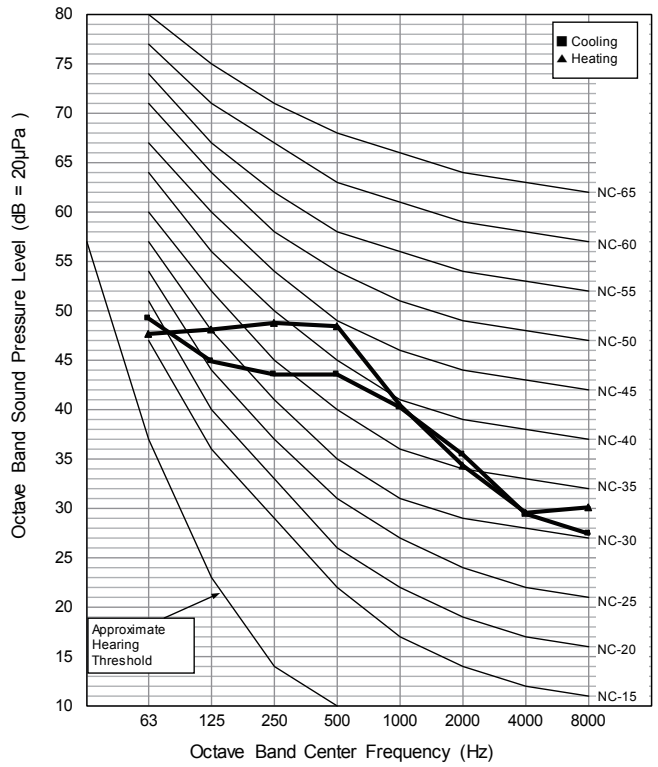
Note

■ Warming up operation and operative mean that the outdoor unit operates to reach the range of continuous operating, however it may not operate continuously due to safety or protection logic.

1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

1.11 Sound Levels

1.11.1 Pressure Levels



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	49.2	44.9	43.6	43.6	40.2	35.5	29.4	27.5	*45.0*
Heating [dB]	47.7	48.1	48.8	48.5	40.4	34.3	29.6	30.1	*48.0*

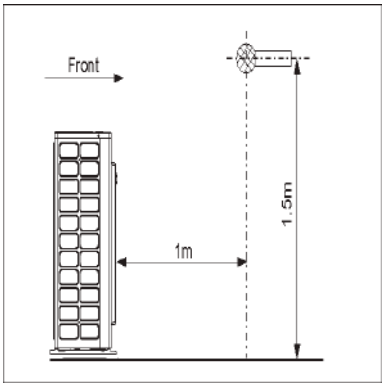
Night Low Noise Operation / Silent Mode				
Mode	SPL [dB(A)]		Capacity [%]	
	Cool	Heat	Cool	Heat
Step1 / F1	41.0	43.0	90.0	87.0
Step2 / F2	37.0	39.0	80.0	77.0

*How to set mode can be vary depending on function.
Please refer to manual for details.
**In case setting mode using dip switch, It can be operated in cooling mode only.

Sound level [dB(A), @ Standard condition]	
Cooling / Heating (@ 1.5m height)	45.0 / 48.0

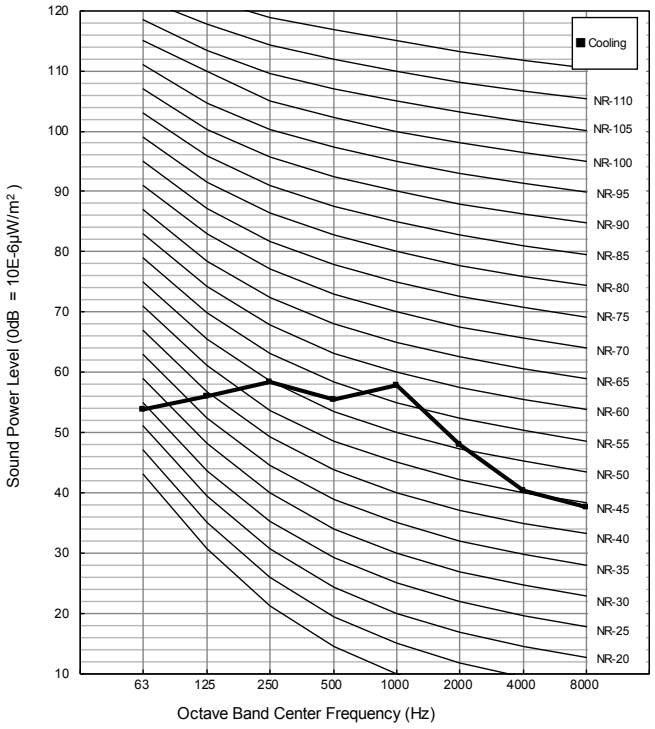
Note

- Data is valid at diffuse field condition.
- Data is valid at nominal operating condition. Refer to the model specifications for nominal coditions.(Power source and Ambient temperature, etc)
- Reference accoustic pressure 0dB = 20μPa.
- Sound levels can be increased in accordance with installation and operating conditions. (Operating conditions include some functional condition like Static pressure mode, air guide use, Room target temperature setting, etc and these functions are different in accordance with each model.)
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment in installed.
- Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 Standard. Therefore, these values can be increased owing to ambient conditions during operation.



1. S32W14ULGA0.EC6BEEU [RM2U15.U18]

1.11.2 Power Levels



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	53.8	56.0	58.4	55.5	57.9	48.0	40.3	37.6	60.0

Night Low Noise Operation / Silent Mode				
Mode	PWL [dB(A)]		Capacity [%]	
	Cool	Heat	Cool	Heat
Step1 / F1	56.0	-	90	-
Step2 / F2	52.0	-	80	-

*How to set mode can be vary depending on function.
Please refer to manual for details.
**In case setting mode using dip switch, It can be operated in cooling mode only.

Sound level [dB(A), @ Standard condition]	
Cooling / Heating	60.0 / -

Note

■ Data is valid at diffuse field condition.
■ Data is valid at nominal operating condition
■ Sound level can be increased in static pressure mode or used air guide.
■ Sound power level is measured on the rated condition in the reverberation rooms.
■ Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.
■ Reference acoustic intensity 0dB = 10E-6μW/m2
■ Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard.
Therefore, these values can be increased owing to ambient conditions during operation.

2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

2.1 Specifications

Category		Unit	S33W18U2GA0.EC6BEEU [RM3U19.U24]
Major	Minor		
Classification	Chassis	-	U24A
Power Supply	Case 1	-	220-230-240, 1, 50
	Case 2	-	-
	Limit Range of Voltage(Case 1)	V	198 ~ 264
	Limit Range of Voltage(Case 2)	V	-
Testing Combination	-	Model x No.	S3NW09JMQFA*2EA/S3NW12JMQFA*1EA
Cooling Capacity	Rated	kW	5.27
		Btu/h	18,000
	Min ~ Max	kW	1.06~6.33
		Btu/h	3,600~21,600
Heating Capacity	Rated	kW	6.33
		Btu/h	21,600
	Min ~ Max	kW	1.17~7.33
		Btu/h	4,000~25,000
Power Input(Cooling)	Rated	kW	1.39
	Min ~ Max	kW	0.29~1.82
Power Input(Heating)	Rated	kW	1.50
	Min ~ Max	kW	0.28~1.93
Efficiency	EER	W/W	3.89
	COP	W/W	4.34
	SEER	Wh/Wh	7.42
	SCOP	Wh/Wh	4.34
	Seasonal Energy Label (Cooling / Heating)	-	A++ / A+
	Pdesign(Cooling)	kW	5.27
	Pdesign(@-10℃, Heating)	kW	5.00
Annual Energy Consumption	Cooling / Heating	kWh	248 / 1,615
Running Current	Maximum Running Current	A	14.00
Power Factor(Cooling/Heating)	Rated	-	0.98 / 0.98
Outdoor Fan	Type	-	Propeller
	Air Flow Rate	m³/min x No.	50 x 1
	Max. External Static Pressure	Pa	-
Outdoor Fan Motor	Type	-	BLDC
	Drive	-	-
	Output	W x No.	85.4 x 1
Compressor	Type	-	Twin Rotary
	Model x No.	-	DAT156MA x 1
	Motor Type	-	BLDC
	Motor Output	W x No.	1,500 x 1
	Oil Type	-	FW68D
	Oil Charging amount	cc x No.	400 x 1
Heat Exchanger	Rows x Columns x FPI	-	2 x 28 x 14
	No.	-	1
	Fin Type	-	Wide Louver Plus
	Material (Tube/Fin)	-	CU / AL
	Face Area	m²	0.56
Dimensions	Net(W x H x D)	mm	870 x 650 x 330
	Shipping(W x H x D)	mm	1,041 x 693 x 456
Weight	Net	kg	44.5
	Shipping	kg	48.0
Exterior	Color	-	Warm Gray
	RAL (Classic)	-	RAL 7044

2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

Category		Unit	S33W18U2GA0.EC6BEEU [RM3U19.U24]
Major	Minor		
Protection Device	High Pressure Prevention	-	Pressure Switch
	Frost Prevention	-	Thermistor
	Discharge Tempreature Control	-	Thermistor
	Inverter Protection	-	Thermistor
Refrigerant	Type	-	R32
	Precharged Amount	kg	1.400
	Additional Charging amount(Main)	g/m	-
	Additional Charging amount(Branch)	g/m	20
	GWP(Global Warming Potential)	-	675
	t-CO_2 eq.	-	0.945
	Chargeless-Pipe Length(Main)	m	-
	Chargeless-Pipe Length(Branch)	m	30
	Control Type	-	Electronic Expansion Valve
Pipe Connecting Socket	Liquid	mm(inch) x No.	Ø 6.35(1/4) × 3
	Gas	mm(inch) x No.	Ø 9.52(3/8) × 3
	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length	Total Piping(Max)	m	50
	Main Piping(Rated / Max / Min)	m	-
	Total Branch(Max)	m	-
	Each Branch(Rated / Max / Min)	m	7.5 / 25 / -
Maximum Height Difference	IDU - ODU(Max)	m	15
	IDU - IDU(Max)	m	7.5
	BD - IDU(Max)	m	-
	BD - BD(Max)	m	-
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	47.0 / 50.0
Measurement Standard (Pressure Level)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	62.0 / -
Measurement Standard (Power Level)	-	-	ISO 3741
Connecting Cable	Power Supply Cable(H07RN-F) (to ODU)	mm² × cores	2.5 x 3C
Electrical Characteristic	Minimum Circuit Amperes (MCA)	A	12.2
	Maximum Fuse Amperes (MFA)	A	16.0
	Comp_Rated Load Amperes (Max)	A	9.0
	Outdoor Fan Motor_Full Load Amperes	A	0.33
Combination Limit	Number of Indoor Units	EA	3
	Number of BD Units	EA	-
Allowable Total Capacity of Connected Indoor Unit	Max	kBtu/h	30
Allowable Max. Capacity for indiviual Indoor unit	Max	kBtu/h	15

Note

- Due to our policy of innovation some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes. And “Electric characteristics” should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
- Power factor could vary less than ±1% according to the operating conditions.
- Sound level values are depend on the ambient conditions and values are normally higher in actual operation.
- This product contains Fluorinated greenhouse gases.
- Voltage supplied to the unit terminals should be within the minimum and maximum range.
- Maximum allowable voltage unbalance between phase is 2%.
- MSC means the Max. current during the starting of compressor.
- MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.
- Select the wire size based on MCA.
- MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

■ Performances are based on the following conditions :
- Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
- Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
- Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

■ Console products shall be installed in accordance with IEC 60335-2-40:2018 Edition 6.0 standard. It can be installed without any area restriction under 1.84 kg. Over the limit, it should be installed according to the installation area for each amount of refrigerant.

2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

2.2 List of Functions

Category	Functions	Availability
Reliability	Defrost / Deicing	O
	High Pressure Switch	O
	Low Pressure Switch	X
	Phase Protection	X
	Restart Delay (3-minutes)	O
	Self Diagnosis	O
	Soft Start	O
Convenience	Night Low Noise Operation	O
	Wiring Error Check	O
	Peak Control	O
	Mode Lock	O
	Forced Cooling Operation (Outdoor Unit)	O
	SLC (Smart Load Control)	X

Note

■ O : Applied, X : Not applied
- Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.
- Accessory line-ups varies by region, so check your local catalogue or local sales material.

2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

2.3 Accessory Compatibility List

Category	Accessory Name	Model Name	Description	Compatibility
Central Controller	AC EZ	PQCSZ250S0	-	O
	AC EZ touch	PACEZA000	Touch type	O
	AC Smart IV	PACS4B000	Touch type	O
	AC Smart 5	PACS5A000	Touch type	O
	ACP IV	PACP4B000	-	O
	ACP 5	PACP5A000	-	O
	AC Manager IV	PACM4B000	For Integrated Control	O
	AC Manager 5	PACM5A000	For Integrated Control	O
Gateway	ODU PI485	PMNFP14A1	For 16-room (3 series)	O
	ACP BACnet	PQNFB17C0	-	O
	ACP Lonwork	PLNWKB000	-	O
	Cloud Gateway	PWFMDB200	-	O
Integration Device	PDI Standard	PPWRDB000	Power distributor 2port	O
	PDI Premium	PQNUD1S40	Power distributor 8port	O

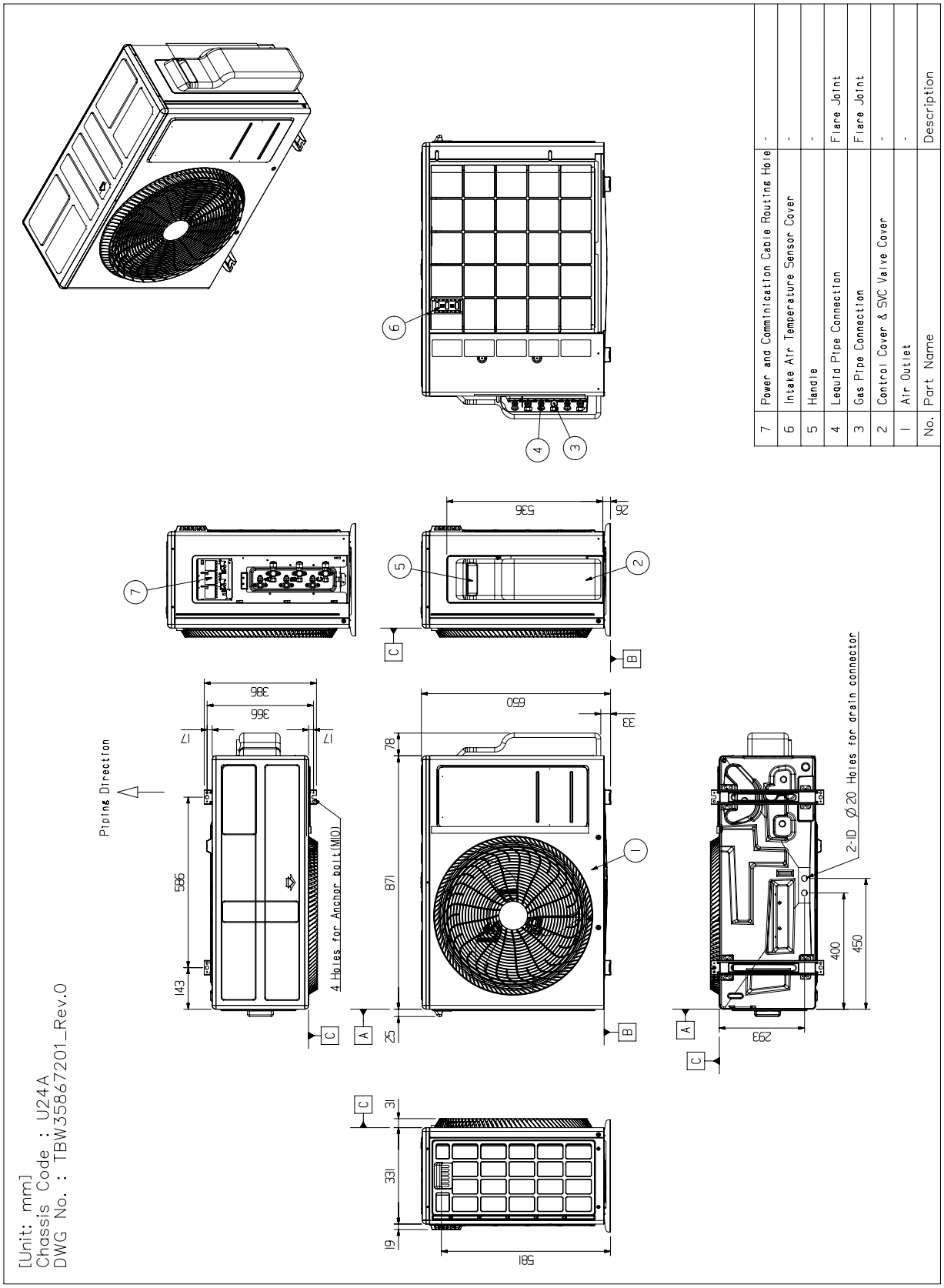
Note

■ O: Possible, X: Impossible, - : Unconfirmed or irrelevant
■ AC Manager requires ACP or AC Smart.
■ Compatibility of individual controller(wireless/wired remote controller) could be found with function list on Indoor Unit's PDB.
■ If you need more detail, please refer to the Control(BECON) PDB or the manual of product.
(http://partner.lge.com > Select Your Region : Home> Doc.Library> Product > Control(BECON)).
■ Accessory line-ups varies by region, so check your local catalogue or local sales material.

2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

2.4 Dimensions

2.4.1 Product



2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

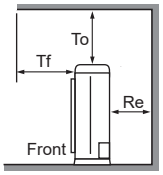
2.4.2 Install Space

For Side Discharge (capacity < 28.0 kW)

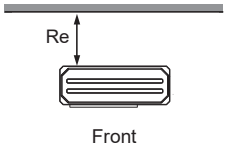
[Unit : mm(inch)]

Obstacle on the Suction side

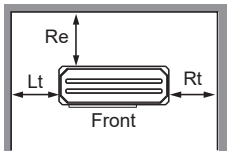
※ *Case 1 : No obstacle on top side*
Case 2 : Obstacle on top side



To ≥ 1,000(39-3/8)
Tf ≤ 500(19-11/16)

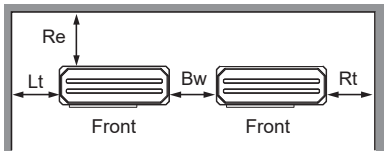


Case 1
Re ≥ 100(3-15/16)
Case 2
Re ≥ 300(11-13/16)



Case 1
Re ≥ 100(3-15/16)
Lt ≥ 100(3-15/16)
Rt ≥ 100(3-15/16)

Case 2
Re ≥ 300(11-13/16)
Lt ≥ 150(5-29/32)
Rt ≥ 150(5-29/32)

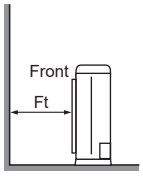


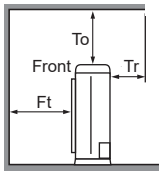
Case 1
Re ≥ 300(11-13/16)
Lt ≥ 1,000(39-3/8)
Rt ≥ 200(7-7/8)
Bw ≥ 100(3-15/16)

Case 2
Re ≥ 300(11-13/16)
Lt ≥ 1,000(39-3/8)
Rt ≥ 200(7-7/8)
Bw ≥ 100(3-15/16)

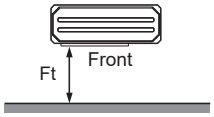
Obstacle on the Discharge side

※ ***For Rear Piping / External SVC Valve type / Side-CBOX type***
: Re,Lt ≥ 300(11-13/16) and Rt,Bw,Rb ≥ 600(23-5/8) for ALL CASE.



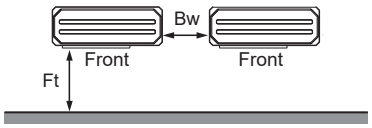


To ≥ 1,000(39-3/8)
Tr ≤ 500(19-11/16)



Case 1
Ft ≥ 500(19-11/16)

Case 2
Ft ≥ 500(19-11/16)



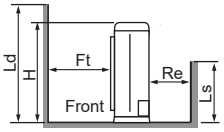
Case 1
Ft ≥ 1,000(39-3/8)
Bw ≥ 100(3-15/16)

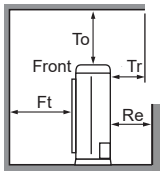
Case 2
Ft ≥ 1,000(39-3/8)
Bw ≥ 100(3-15/16)

Obstacle on the Suction and Discharge side

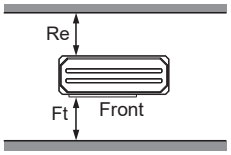
Ld > H (Ls should be lower H.)

※ *Close the bottom of the installation frame to prevent the discharged air from being bypassed*





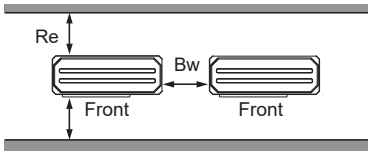
To ≥ 1,000(39-3/8)
Tf ≤ 500(19-11/16)



Case 1
Ft ≥ 500(19-11/16)
Re ≥ 300(11-13/16)

Case 2
Ft ≥ 1,000(39-3/8) *
Re ≥ 300(11-13/16)

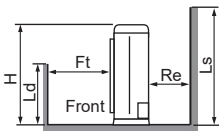
** If Ls ≤ H/2, Ft ≥ 750(29-17/32)*

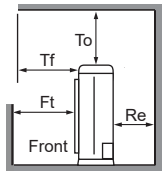


Case 1
Ft ≥ 1,000(39-3/8)
Re ≥ 300(11-13/16)
Bw ≥ 100(3-15/16)

Case 2
Ft ≥ 1,250(49-7/32)
Re ≥ 300(11-13/16)
Bw ≥ 100(3-15/16)

Ld ≤ H





To ≥ 1,000(39-3/8)
Tf ≤ 500(19-11/16)

Case 1
Ft ≥ 500(19-11/16)
Re ≥ 300(11-13/16)

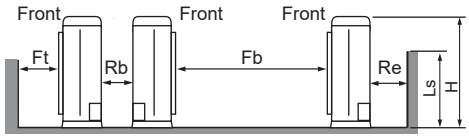
Case 2
Ft ≥ 1,000(39-3/8)
Re ≥ 300(11-13/16)

Case 1
Ft ≥ 1,500(59-1/16)
Re ≥ 300(11-13/16)
Bw ≥ 100(3-15/16)

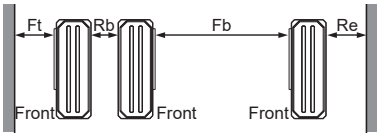
Case 2
Ft ≥ 1,500(59-1/16)
Re ≥ 300(11-13/16)
Bw ≥ 100(3-15/16)

※ *In case of series installation (2 Units or more) for 2 Fan models, Ld should be lower than H/2.*

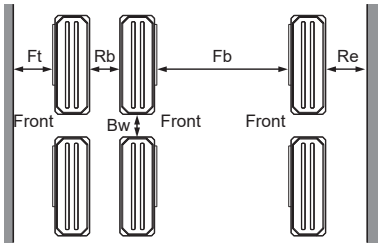
Collective/Continuous Installation (Multiple Columns)



※ *In case of Multiple columns/continuous installation, Ls should be lower than H.*



1 Column
Ft ≥ 1,000(39-3/8)
Rb ≥ 200(7-7/8)
Fb ≥ 2,000(78-3/4)
Re ≥ 100(3-15/16)



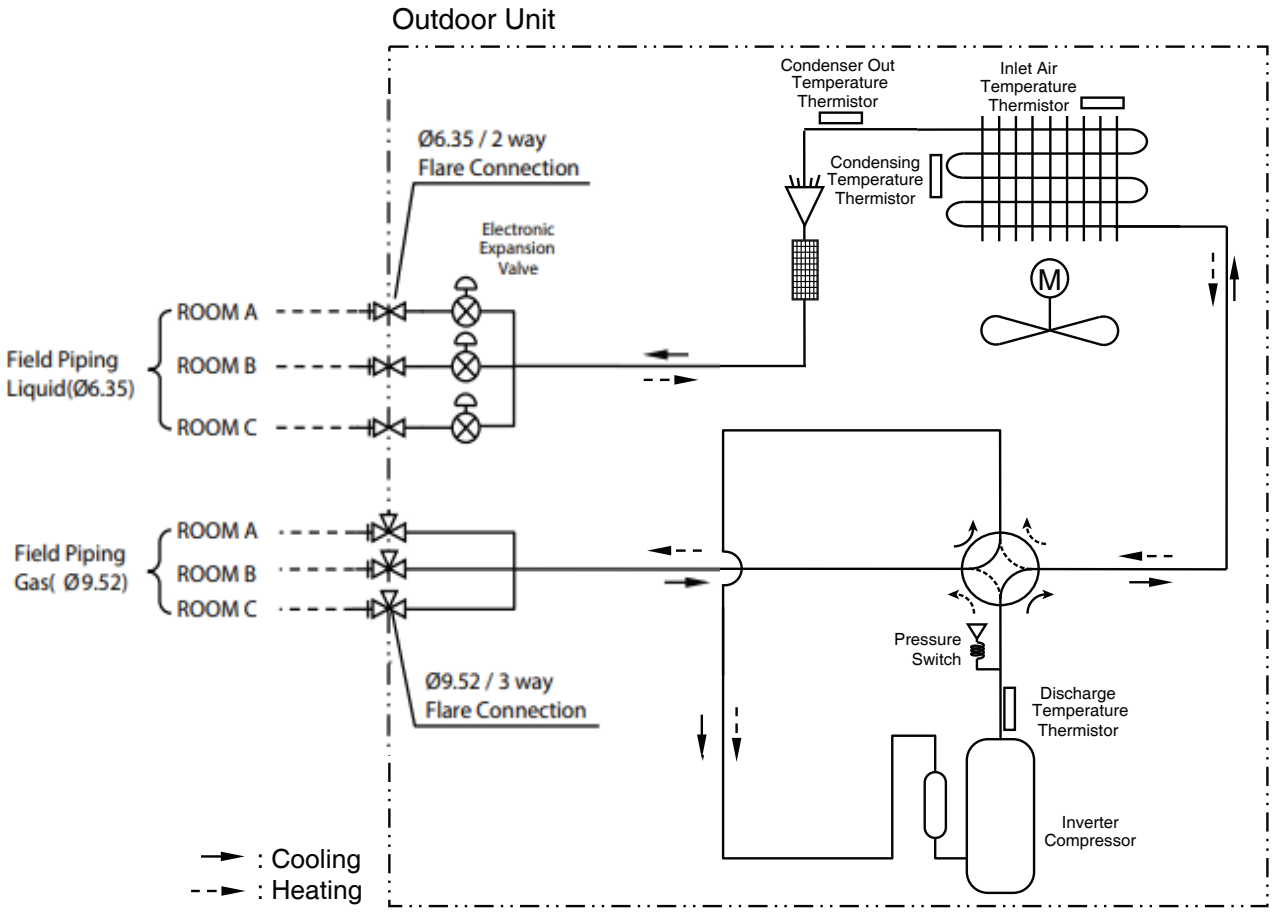
Multiple Columns
Ft ≥ 1,500(59-1/16)
Rb ≥ 600(23-5/8)
Fb ≥ 3,000(118-1/8)
Re ≥ 300(11-13/16)
Bw ≥ 100(3-15/16)

Note
- If there is a concern about product performance degradation due to group installation or interference with obstacles, secure an additional separation distance.
- Secure enough space for smooth service and maintenance.
- According to product type, model line up, sales region..etc, applicability of each chassis could be different.

2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

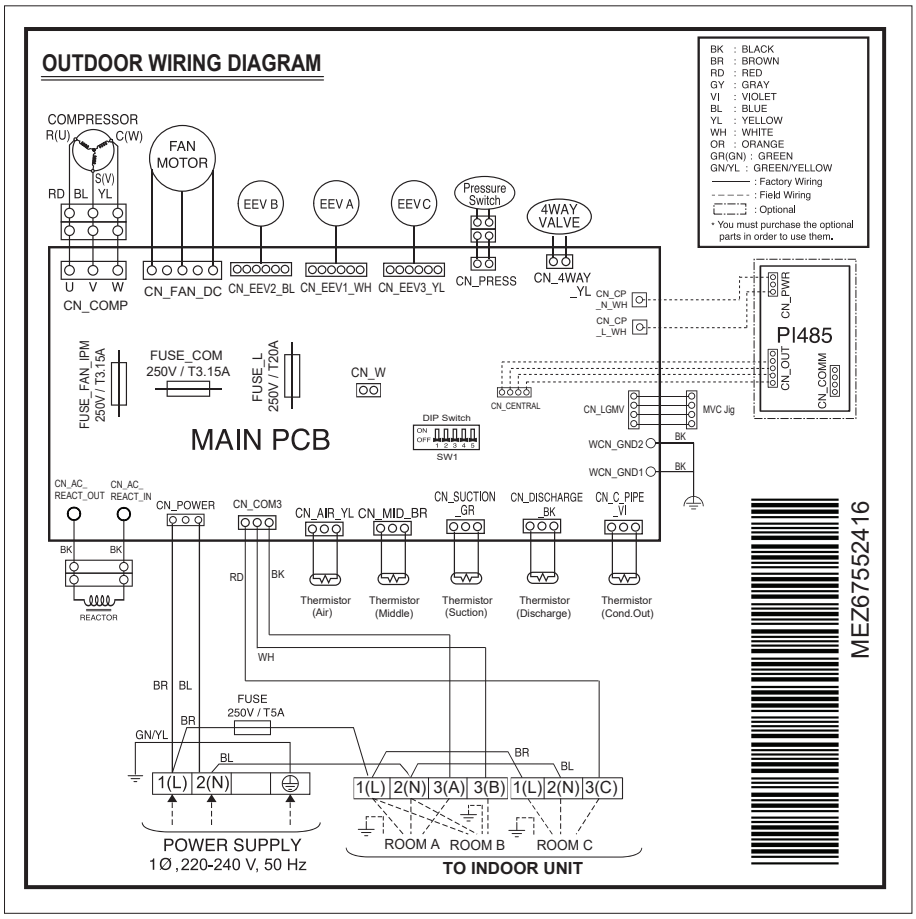
2.5 Piping Diagrams

2.5.1 Normal



2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

2.6 Wiring Diagrams



2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

2.7 Combination Table

2.7.1 Cooling

UNIT	Combination of					Total Capacity						Input		
	UNIT-A	UNIT-B	UNIT-C	UNIT-D	Total	Min		Rated		Max		Min	Rated	Max
						Btu/h	kW	Btu/h	kW	Btu/h	kW	W	W	W
2 UNIT	9	12	-	-	21	10,800	3.2	18,000	5.3	21,600	6.3	671	1,400	1,818
3 UNIT	9	9	12	-	30	10,800	3.2	18,000	5.3	21,600	6.3	669	1,380	1,703

2.7.2 Heating

UNIT	Combination of Indoor Unit (kBtu/h Class)					Total Capacity						Input		
	UNIT-A	UNIT-B	UNIT-C	UNIT-D	Total	Min		Rated		Max		Min	Rated	Max
						Btu/h	kW	Btu/h	kW	Btu/h	kW	W	W	W
2 UNIT	9	12	-	-	21	12,960	3.8	21,600	6.3	24,840	7.3	734	1,520	1,930
3 UNIT	9	9	12	-	30	12,960	3.8	21,600	6.3	24,840	7.3	705	1,500	1,820

Note

■ Capacities are based on the following conditions :
- Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
- Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
- Interconnected piping is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0 m.

■ At least two indoor units should be connected. And minimum limit of combination ratio is 40% approximately for rated capacity of outdoor unit.

■ Don't exceed the maximum connectable indoor units number, it can be found in Specifications or combination table of outdoor unit model.

2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

2.8 Capacity Tables

2.8.1 Cooling

Combination Capacity Index	Outdoor Air Temp.: ℃ DB	Indoor Air Temp.: ℃WB											
		14		16		18		19		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
9 + 12	20	3.10	0.50	4.03	0.63	4.74	0.73	5.28	0.80	5.82	0.83	6.23	0.83
	25	3.10	0.59	4.03	0.74	4.74	0.86	5.28	0.95	5.82	0.97	6.23	0.98
	32	3.10	0.72	4.03	0.90	4.74	1.05	5.28	1.15	5.82	1.18	6.23	1.19
	35	3.10	0.77	4.03	0.97	4.74	1.13	5.28	1.24	5.82	1.27	6.23	1.28
	40	3.10	0.81	4.03	1.01	4.74	1.17	5.28	1.42	5.82	1.46	6.23	1.47
	43	3.10	0.82	4.03	1.04	4.74	1.20	5.01	1.32	5.53	1.36	5.91	1.36
	46	3.10	0.84	4.03	1.06	4.74	1.23	4.75	1.35	5.23	1.39	5.60	1.39
	48	3.10	0.86	4.03	1.08	4.40	1.26	4.49	1.32	4.87	1.36	5.17	1.37
9 + 9 + 12	20	3.10	0.48	4.03	0.61	4.74	0.70	5.28	0.77	5.82	0.80	6.23	0.80
	25	3.10	0.57	4.03	0.72	4.74	0.83	5.28	0.91	5.82	0.94	6.23	0.94
	32	3.10	0.69	4.03	0.87	4.74	1.01	5.28	1.11	5.82	1.14	6.23	1.15
	35	3.10	0.75	4.03	0.94	4.74	1.08	5.28	1.19	5.82	1.23	6.23	1.23
	40	3.10	0.78	4.03	0.97	4.74	1.13	5.28	1.37	5.82	1.41	6.23	1.42
	43	3.10	0.79	4.03	1.00	4.74	1.16	5.01	1.27	5.53	1.31	5.91	1.31
	46	3.10	0.81	4.03	1.02	4.74	1.18	4.75	1.30	5.23	1.34	5.60	1.34
	48	3.10	0.83	4.03	1.05	4.40	1.21	4.49	1.27	4.87	1.31	5.17	1.32

2.8.2 Heating

Combination Capacity Index (kBtu/h)	Outdoor Air Temp. (℃WB)	Indoor Air Temp. (℃DB)											
		16.0		18.0		20.0		21.0				24.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
9 + 12	-15.0	4.24	1.44	4.21	1.51	4.18	1.59	4.16	1.63	4.15	1.66	4.12	1.74
	-10.0	4.95	1.59	4.92	1.66	4.89	1.74	4.88	1.78	4.87	1.82	4.84	1.89
	-5.0	5.67	1.74	5.64	1.82	5.61	1.89	5.60	1.93	5.58	1.97	5.56	2.04
	0.0	6.39	1.89	6.36	1.97	6.30	2.04	6.17	1.99	6.05	1.94	5.80	1.84
	6.0	6.97	1.62	6.64	1.54	6.30	1.47	6.17	1.43	6.05	1.40	5.80	1.32
	10.0	6.97	1.50	6.64	1.43	6.30	1.36	6.17	1.33	6.05	1.29	5.80	1.23
	15.0	6.97	1.35	6.64	1.29	6.30	1.23	6.17	1.20	6.05	1.17	5.80	1.10
9 + 9 + 12	-15.0	4.24	1.29	4.21	1.36	4.18	1.43	4.16	1.46	4.15	1.49	4.12	1.56
	-10.0	4.95	1.43	4.92	1.49	4.89	1.56	4.88	1.60	4.87	1.63	4.84	1.70
	-5.0	5.67	1.56	5.64	1.63	5.61	1.70	5.60	1.73	5.58	1.77	5.56	1.83
	0.0	6.39	1.70	6.36	1.77	6.30	1.83	6.17	1.79	6.05	1.74	5.80	1.65
	6.0	6.97	1.45	6.64	1.39	6.30	1.32	6.17	1.29	6.05	1.25	5.80	1.19
	10.0	6.97	1.35	6.64	1.28	6.30	1.22	6.17	1.19	6.05	1.16	5.80	1.10
	15.0	6.97	1.21	6.64	1.16	6.30	1.10	6.17	1.07	6.05	1.05	5.80	0.99

Note

- DB : Dry bulb temperature(℃), WB : Wet bulb temperature(℃)
- TC : Total capacity(kW)
- PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
- All capacities are net. A deduction (cooling mode) or an addition (heating mode) of Capacity due to operating heat of indoor unit motor is reflected.
- Capacities are based on the following conditions :
  - Interconnecting Piping Length (Both Main pipe and Branch pipe) is standard length.
  - Difference of Elevation (Outdoor ~ Indoor Unit) is 0 m.
- Direct interpolation is permissible. Do not extrapolate.
- Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table. Except for rated value, the performance is not guaranteed.
- In accordance with the test standard(or nations) and indoor unit's combinations, the rating will vary slightly.

2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

2.9 Capacity Correction Factor

2.9.1 Cooling

Combination (Capacity index, kBtu/h)	Capacity correction factor (%) by equivalent pipe length (m)					
	5	7.5	10	15	20	25
9	100.0	100.0	98.0	94.8	91.6	88.4
12	100.0	100.0	97.6	93.8	89.9	86.1

2.9.2 Heating

Combination (Capacity index, kBtu/h)	Capacity correction factor (%) by equivalent pipe length (m)					
	5	7.5	10	15	20	25
9	100.0	100.0	99.0	97.4	95.8	94.2
12	100.0	100.0	98.6	96.4	94.1	91.9

Note

■ $Q_{odu(rated)}$ [from specification table] : Outdoor unit rated capacity.
■ $Q_{odu(Ti, To)}$ [from capacity table] : Outdoor unit capacity at Ti, To temperature.
■ $F_{(Ti, To)} = Q_{odu(Ti, To)} / Q_{odu(rated)}$: Outdoor unit capacity correction factor.
■ Piping correction factor [from capacity correction factor table]
- $F_{main\ (length, elevation)}$ for main piping length or elevation : $F_{main\ (length, elevation)}$ is used only when the BD (Distributor Box) unit is connected.
- $F_{branch\ (length, elevation)}$ for branch piping length or elevation

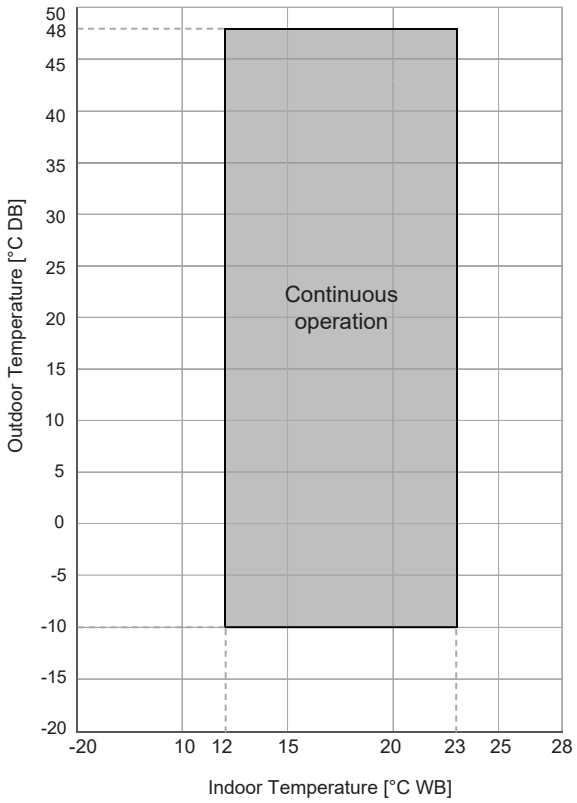
■ Individual indoor unit combinational capacity
- $Q_{idu\ (combi)} = Q_{odu(rated)} \times Q_{idu(rated,each)} / Q_{idu(rated,total)}$
: $Q_{idu(rated,each)}$ is Capacity of individual indoor unit
: $Q_{idu(rated,total)}$ is Total sum of individual capacity for connected indoor units
Refer to the 'Specifications' of each indoor units

• Individual indoor unit actual capacity
- $Q_{idu\ (actual)} = Q_{idu(combi)} \times F_{(Ti, To)} \times F_{main\ (length, elevation)} \times F_{branch\ (length, elevation)}$
: $F_{main\ (length, elevation)}$ is used only when the BD (Distributor Box) unit is connected.

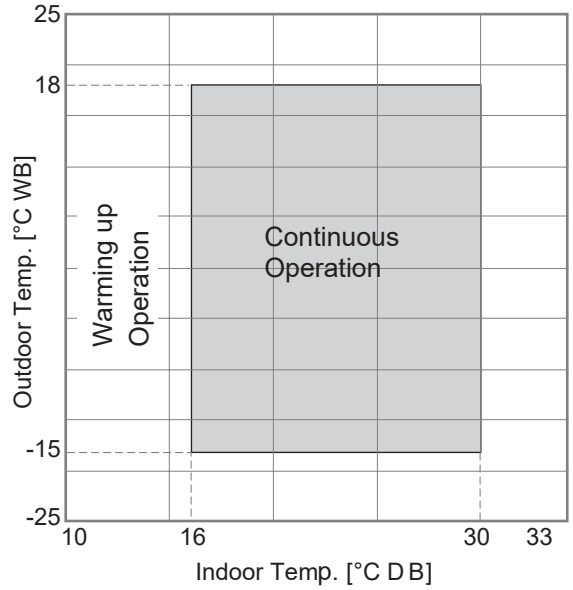
2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

2.10 Operation Limits

2.10.1 Cooling



2.10.2 Heating



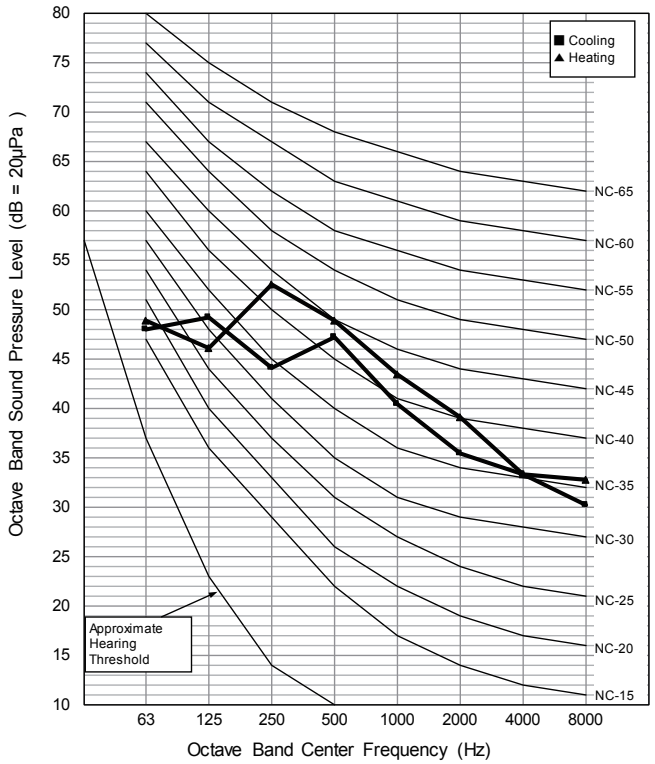
Note

■ Warming up operation and operative mean that the outdoor unit operates to reach the range of continuous operating, however it may not operate continuously due to safety or protection logic.

2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

2.11 Sound Levels

2.11.1 Pressure Levels



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	48.0	49.2	44.1	47.2	40.4	35.4	33.3	30.2	*47.0*
Heating [dB]	48.9	46.1	52.6	48.9	43.4	39.1	33.3	32.8	*50.0*

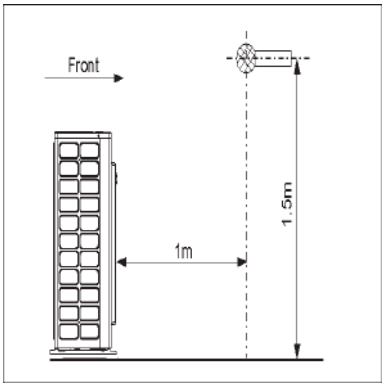
Night Low Noise Operation / Silent Mode				
Mode	SPL [dB(A)]		Capacity [%]	
	Cool	Heat	Cool	Heat
Step1 / F1	43.0	46.0	95.0	88.0
Step2 / F2	39.0	43.0	85.0	78.0

*How to set mode can be vary depending on function.
Please refer to manual for details.
**In case setting mode using dip switch, It can be operated in cooling mode only.

Sound level [dB(A), @ Standard condition]	
Cooling / Heating (@ 1.5m height)	47.0 / 52.0

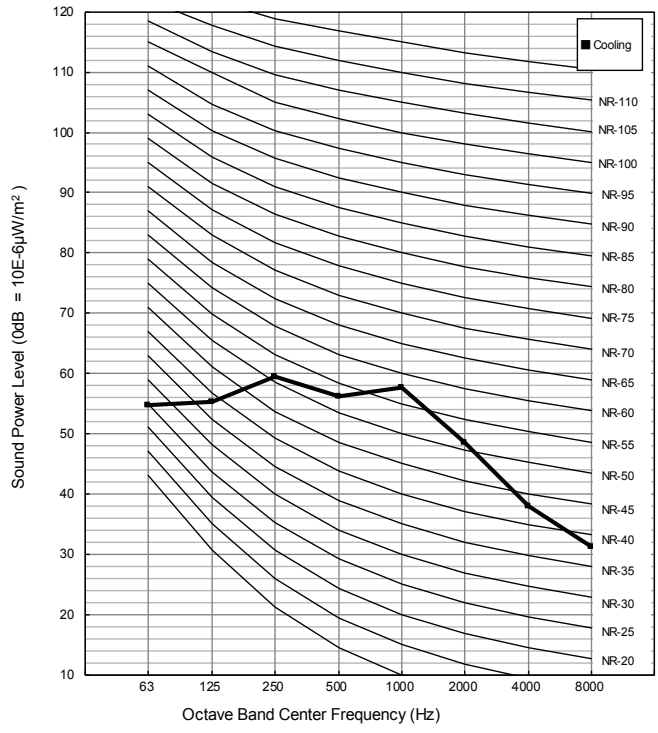
Note

- Data is valid at diffuse field condition.
- Data is valid at nominal operating condition. Refer to the model specifications for nominal coditions.(Power source and Ambient temperature, etc)
- Reference accoustic pressure 0dB = 20μPa.
- Sound levels can be increased in accordance with installation and operating conditions. (Operating conditions include some functional condition like Static pressure mode, air guide use, Room target temperature setting, etc and these functions are different in accordance with each model.)
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment in installed.
- Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 Standard. Therefore, these values can be increased owing to ambient conditions during operation.



2. S33W18U2GA0.EC6BEEU [RM3U19.U24]

2.11.2 Power Levels



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	54.8	55.2	59.4	56.2	57.6	48.5	37.9	31.3	60.0

Night Low Noise Operation / Silent Mode				
Mode	PWL [dB(A)]		Capacity [%]	
	Cool	Heat	Cool	Heat
Step1 / F1	57.0	-	95	-
Step2 / F2	53.0	-	85	-

*How to set mode can be vary depending on function.
Please refer to manual for details.
**In case setting mode using dip switch, It can be operated in cooling mode only.

Sound level [dB(A), @ Standard condition]	
Cooling / Heating	62.0 / -

Note

■ Data is valid at diffuse field condition.
■ Data is valid at nominal operating condition
■ Sound level can be increased in static pressure mode or used air guide.
■ Sound power level is measured on the rated condition in the reverberation rooms.
■ Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.
■ Reference acoustic intensity 0dB = 10E-6μW/m2
■ Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard.
Therefore, these values can be increased owing to ambient conditions during operation.

Installation of Outdoor Unit

1. Information for Refrigerant

1.1 Alternative Refrigerant

The type of refrigerant applied depends on the outdoor unit cycle configuration. Ensure the refrigerant type in the specification of the indoor unit and outdoor unit to be installed.

■ Alternative Refrigerant _ R32

- The refrigerant R32 has a lower GWP (Global Warming Potential) value, and higher efficiency than R410A. The Ozone Depletion Potential (ODP) of R32 is 0, and Global Warming Potential(GWP) is 675.
- Refrigerant piping consists of copper/steel pipes, joints, and other fittings.All components must be selected and installed in conformity with the standards pertaining to the Refrigeration Safety Regulation.
- Same piping as for R410A can be used.

< ! > WARNING

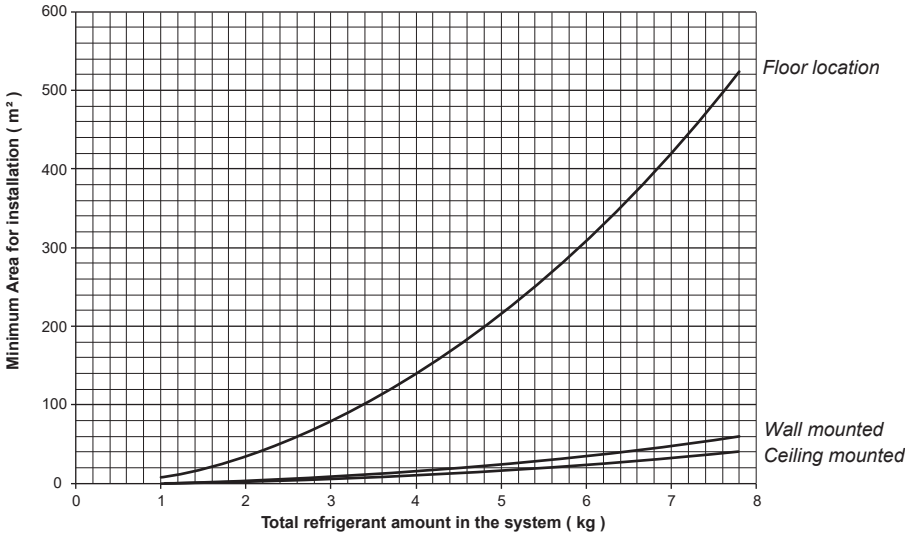
- This product contains fluorinated greenhouse gases (Refrigerant type : R32). DO NOT LEAK refrigerant gases into the atmosphere.
- The refrigerant R32 is a Slightly Flammable gas. It does not leak normally. If the refrigerant leaks in the installed place and is in contact with a flaming source, it may cause fire, or a harmful gas.
- If there is some leak, turn off any combustion devices, ventilate the installation location, and contact the dealer from which you purchased the unit. Do not use the unit until the refrigerant leaked is repaired.
- Only use R32 as refrigerant. Other substances may cause explosions and accidents.

< ! > CAUTIONS

- The wall thickness of the piping should comply with the relevant local and national regulations for the designed pressure.
- For high-pressure refrigerant, any unapproved pipe must not be used.
- Do not heat pipes more than necessary to prevent them from softening.

1. Information for Refrigerant

1.2 Minimum Floor Area for Installation : accordance with IEC05



<!> CAUTIONS

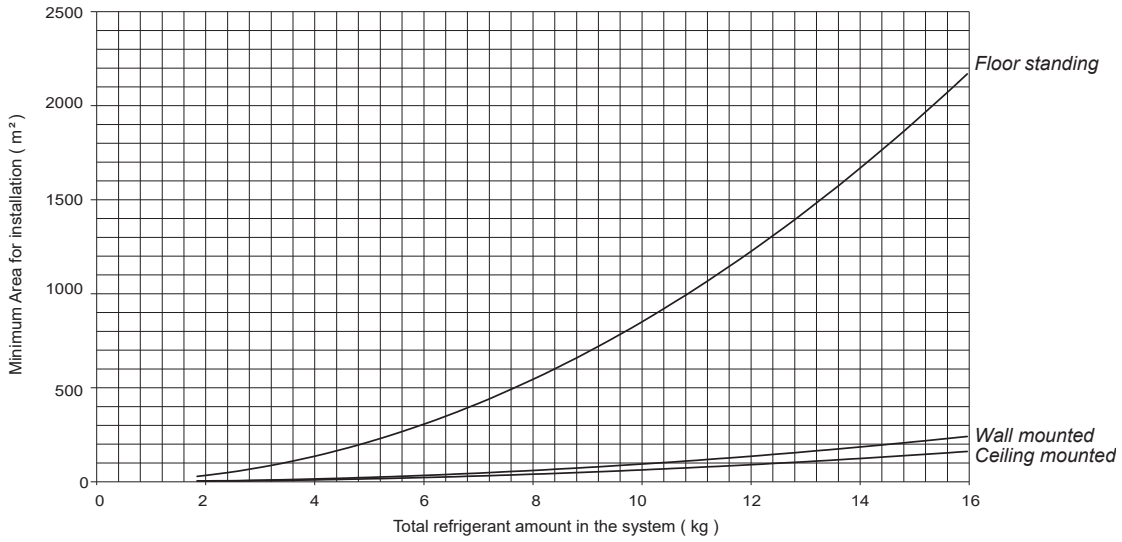
- "Minimum Area for installation" might be different by revision of IEC regulation. "Minimum Area for installation" should be selected in accordance with that revision based on the local and national environment.

- The following information is according to ***'IEC 60335-2-40:2013+A1:2016 Edition 5.1'***.
- Pipe-work shall be protected from physical damage and shall not be installed in an unventilated space, if that space is smaller than minimum area for installation.
- The unit should be installed, operated and stored in a room with a floor area larger than the minimum area. Use the upper graph or the below table to determine the minimum area.
  - m_c : Total refrigerant amount in the system = factory refrigerant charge + additional refrigerant amount (kg)
  - A_{min} : Minimum Area for installation of unit

m_c(kg)	A_{min}		
	Floor Location	Wall Mounted	Ceiling Mounted
1.0	8.58	0.95	0.64
1.224	12.90	1.43	0.958
1.4	16.82	1.87	1.25
1.6	21.97	2.44	1.63
1.8	27.80	3.09	2.07
2.0	34.32	3.81	2.55
2.2	41.53	4.61	3.09
2.4	49.42	5.49	3.68
2.6	58.00	6.44	4.31
2.8	67.27	7.47	5.00
3.0	77.22	8.58	5.74
3.2	87.86	9.76	6.54
3.4	99.19	11.02	7.38
3.6	111.20	12.36	8.27
3.8	123.90	13.77	9.22
4.0	137.29	15.25	10.21
4.2	151.36	16.82	11.26
4.4	166.12	18.46	12.36
4.6	181.56	20.17	13.50
4.8	197.70	21.97	14.70
5.0	214.51	23.83	15.96
5.2	232.02	25.78	17.26
5.4	250.21	27.80	18.61
5.6	269.09	29.90	20.01
5.8	288.65	32.07	21.47
6.0	308.90	34.32	22.98
6.2	329.84	36.65	24.53
6.4	351.46	39.05	26.14
6.6	373.77	41.53	27.80
6.8	396.76	44.08	29.51
7.0	420.45	46.72	31.27
7.2	444.81	49.42	33.09
7.4	469.87	52.21	34.95
7.6	495.61	55.07	36.86
7.8	522.04	58.00	38.83

1. Information for Refrigerant

1.3 Minimum Floor Area for Installation : accordance with IEC06



<!> CAUTIONS

- "Minimum Area for installation" might be different by revision of IEC regulation. "Minimum Area for installation" should be selected in accordance with that revision based on the local and national environment.

- The following information is according to ***'IEC 60335-2-40:2018 Edition 6.0'***.
- Pipe-work shall be protected from physical damage and shall not be installed in an unventilated space, if that space is smaller than minimum area for installation.
- The unit should be installed, operated and stored in a room with a floor area larger than the minimum area.
  Use the below calcuation formula to determine the minimum area.
  - m_c : Total refrigerant amount in the system = factory refrigerant charge + additional refrigerant amount (kg)
  - A_{min} : Minimum Area for installation of unit
  - LFL : Lower flammability limit (kg/m^3). In case of R32, LFL is 0.307 kg/m^3
  - h_0 : Height of unit installation

  Choose the higher of the two values.

  $A_{min} = [m_c / (2.5 \times LFL^{5/4} \times h_0)]^2$ or $A_{min} = m_c / (0.75 \times LFL \times h_0)$

* The table below is a reference value, and the exact value is calculated and applied.

m_c(kg)	A_{min}		m_c(kg)	A_{min}		m_c(kg)	A_{min}
< 1.842	No Limit		6.6	27.6		11.6	85.2
1.842	3.6		6.8	29.3		11.8	88.1
2.0	3.9		7.0	31.0		12.0	91.2
2.2	4.3		7.2	32.8		12.2	94.2
2.4	4.7		7.41	34.7		12.4	97.3
2.6	5.1		7.6	36.6		12.6	100.5
2.8	5.5		7.8	38.5		12.8	103.7
3.0	5.9		8.0	40.5		13.0	107.0
3.2	6.5		8.2	42.6		13.2	110.3
3.4	7.3		8.4	44.7		13.4	113.7
3.6	8.2		8.6	46.8		13.6	117.1
3.8	9.1		8.8	49.0		13.8	120.6
4.0	10.1		9.0	51.3		14.0	124.1
4.2	11.2		9.2	53.6		14.2	127.6
4.4	12.3		9.4	55.9		14.4	131.3
4.6	13.4		9.6	58.3		14.6	134.9
4.8	14.6		9.8	60.8		14.8	138.7
5.0	15.8		10.0	63.3		15.0	142.4
5.2	17.1		10.2	65.9		15.2	146.3
5.4	18.5		10.4	68.5		15.4	150.1
5.6	19.9		10.6	71.1		15.6	154.1
5.8	21.3		10.8	73.8		15.8	158.0
6.0	22.8		11.0	76.6		15.964	161.3
6.2	24.3		11.2	79.4			
6.4	25.9		11.4	82.3			

2. Selection of the best Location

2.1 Best Location

Select space for installing outdoor unit, which will meet the following conditions:

- No direct thermal radiation from other heat sources.
- No possibility of annoying neighbors due to noise of unit.
- No exposition to strong wind.
- Place with strength which bears weight of unit.
- Note that drain flows out of unit when heating mode operation (except for Cooling only model).
- Because of the possibility of fire, do not install unit to the space where generation, inflow, stagnation, and leakage of combustible gas is expected.
- Avoid unit installation in a place where acidic solution and spray (sulfur) are often used.
- Do not use unit under any special environment where oil, steam and sulfuric gas exist.
- It is recommended to fence round the outdoor unit in order to prevent any person or animal from accessing the outdoor unit.
- If installation site is area of heavy snowfall, then the following directions should be observed.
  - Make the foundation as high as possible / Fit a snow protection hood.
- Select installation location considering following conditions to avoid bad condition when performing defrost operation.
  - Install the unit at a place well ventilated and having a lot of sunshine in case of installing the product at a place with a high humidity in winter (near beach, coast, lake, etc).
    (Ex) Rooftop where sunshine always shines.
  - Performance of heating will be reduced and pre-heat time of the indoor unit may be lengthened in case of installing the outdoor unit in winter at following location:
    - ▷ Shade position with a narrow space.
    - ▷ Location with much moisture in neighboring floor.
    - ▷ Location with much humidity around.
      It is recommended to install the outdoor unit at a place with a lot of sunshine as possible as.
    - ▷ Location where liquid gathers since the floor is not even.
    - ▷ When installing the outdoor unit in a place that is constantly exposed to a strong wind like a coast or on a high story of a building, secure a normal fan operation by using a duct or a wind shield.

■ Cautions corresponding to strong/seasonal wind

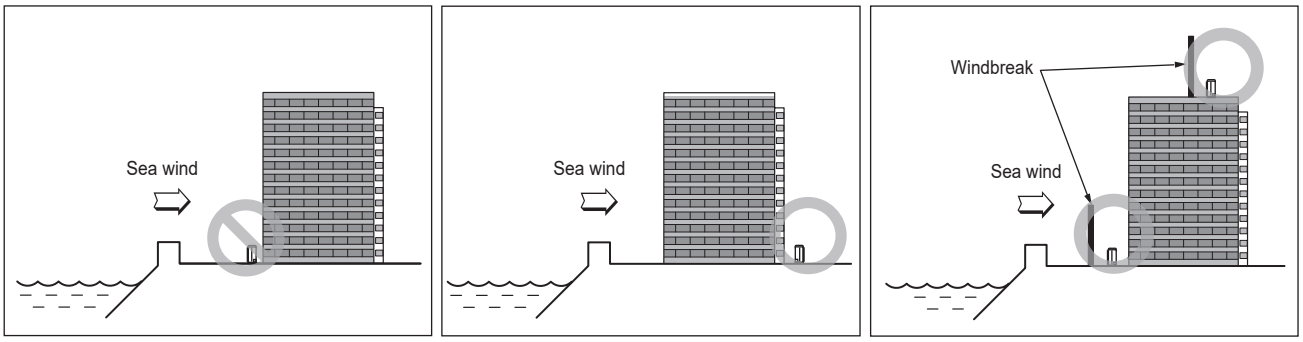
- When the“Outdoor unit of Side Discharge Type” is installed in a place that is constantly exposed to a strong wind like a coast or on a high story of a building, secure a normal fan operation by using a duct or a wind shield.
  - Don't install the suction hole and discharge hole of the Outdoor unit facing the seasonal wind.
  - Install the unit so that its discharge port faces to the wall of the building.
    Keep a distance 500mm or more between the unit and the wall surface.
  - Supposing the wind direction during the operation season of the air conditioner, install the unit so that the discharge port is set at right angle to the wind direction.

■ Cautions in winter

- Sufficient measures are required in a snow area or severe cold area in winter so that product can be operated well.
- Get ready for seasonal wind or snow in winter even in other areas.
- Install a suction and discharge duct not to let in snow or rain.
- Install the outdoor unit not to come in contact with snow directly. If snow piles up and freezes on the air suction hole, the system may malfunction. If it is installed at snowy area, attach the hood to the system.
- Where snow accumulated on the upper part of the Outdoor Unit, always remove snow for operation.
- If width of the frame is wider than that of the product, snow may accumulate. So, its width shall not exceed the width of the product.

2. Selection of the best Location

2.2 Special guide for installation at the Seaside



※ This figure is representative. Actual appearance of outdoor unit may be different by product type.

< ! > CAUTIONS

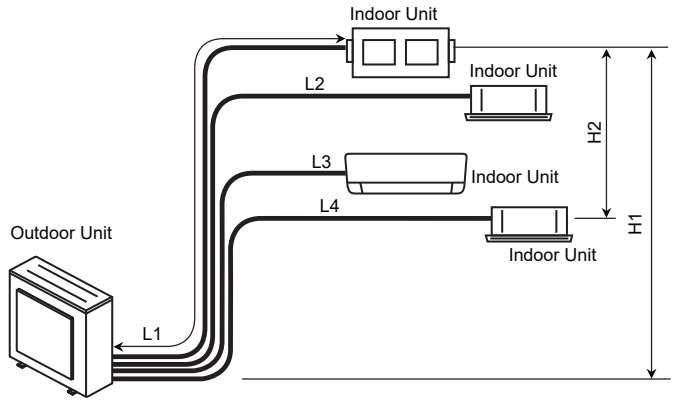
- Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.
- Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator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

■ Selecting the location of Outdoor Units

- 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.
- 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 kept more than 70 cm of space between outdoor unit and the windbreak for easy air flow. In case, to install the outdoor unit on the seaside, set up a windbreak not to be exposed to the sea wind.
- Select a well-drained place.
- Periodic (more than once/year) cleaning of the dust or salt particles stuck on the heat exchanger by using water.

3. Refrigerant Piping System

- This figure is representative. Actual appearance of units may be different by product type, but schematic diagram will stay the same.
- Specific design limit details may differ depending on each model. Refer to the 'Specifications' and 'Combination Table'. (Maximum piping length, elevation height, combinable number/capacity of indoor unit, type of combinable indoor unit type, etc)
- When the outdoor unit is installed in the higher position than the indoor unit, Oil trap is necessary.



Notes

L1 ~ L4 (m) : Piping Length (Outdoor Unit ~ Indoor Unit)
H1 (m) : Height Difference (Outdoor Unit ~ Indoor Unit)
H2 (m) : Height Difference (Indoor Unit ~ Indoor Unit)

■ Refrigerant additional charge calculation method

- ***Additional Refrigerant = [(L1 + L2 + L3 + L4) - (A x CF1)] x a - (CF2 x 150)***
  - L1~L4 (m) : Installed Piping Length (Outdoor Unit ~ Indoor Unit)
  - A (m) : Charge-less piping length
  - a (g/m) : Additional charging volume (Outdoor Unit ~ Indoor Unit)
  - CF1 : Total number connected indoor unit ÷ Max. number of connectable indoor unit
  - CF2 : Max. number of connectable indoor unit Total number connected indoor unit

* Refer to the specifications for detail information of A, a.

* If total additional charge value after calculation comes out to be negative, then do not consider additional charge.

< ! > CAUTIONS

- Please check the product type. Piping installation and refrigerant charge varies depending on the type of product. For more information, please refer to the installation manual.
- Capacity is based on standard length and maximum allowance length is on the basis of reliability.
- Improper refrigerant charge may result in abnormal cycle.

4. Electrical Wiring

• The conductive shielding layer of cable should be grounded to the metal part of both units.
• As this unit is equipped with an inverter, to install a phase leading capacitor not only will deteriorate power factor improvement effect, but also may cause capacitor abnormal heating. Therefore, never install a phase leading capacitor.
• Make sure that the power unbalance ratio is not greater than 2%. If it is greater, the unit's lifespan will be reduced.
• Never connect the main power source to terminal block of communication line.
If connected, electrical parts will be burnt out.
• Introducing with a missing "N" phase or with a mistaken "N" phase will break the equipment.
• When the power supply is applied to "N" phase by mistake, replace inverter PCB and transformer in control box.

Communication and Power Lines

■ Communication cable
- Types : shielded cables
- Use wires of size : over 1.0 ~ 1.5 mm^2
- Maximum allowable temperature of cable : over 60°C (140°F)
- Maximum allowable line length: under 1,000m

■ Remote control cable
- Types : 3-core cable

■ Central control cable
- Please check the model function table for compatibility with central controller.

Product Type	Wire Type	Diameter
ACP & AC Manager	2-core cables (Shielded)	1.0~1.5mm^2
AC Smart	2-core cables (Shielded)	1.0~1.5mm^2
Simple central controller	4-core cables (Shielded)	1.0~1.5mm^2
AC Ez	4-core cables (Shielded)	1.0~1.5mm^2

■ Separation of communication and power lines
- If communication and power lines are installed alongside each other then there is a strong likelihood of operational faults developing due to interference in the signal wiring caused by electrostatic and electromagnetic coupling.
The tables below indicates our recommendation as to appropriate spacing of communication and power lines where these are to be run side by side.

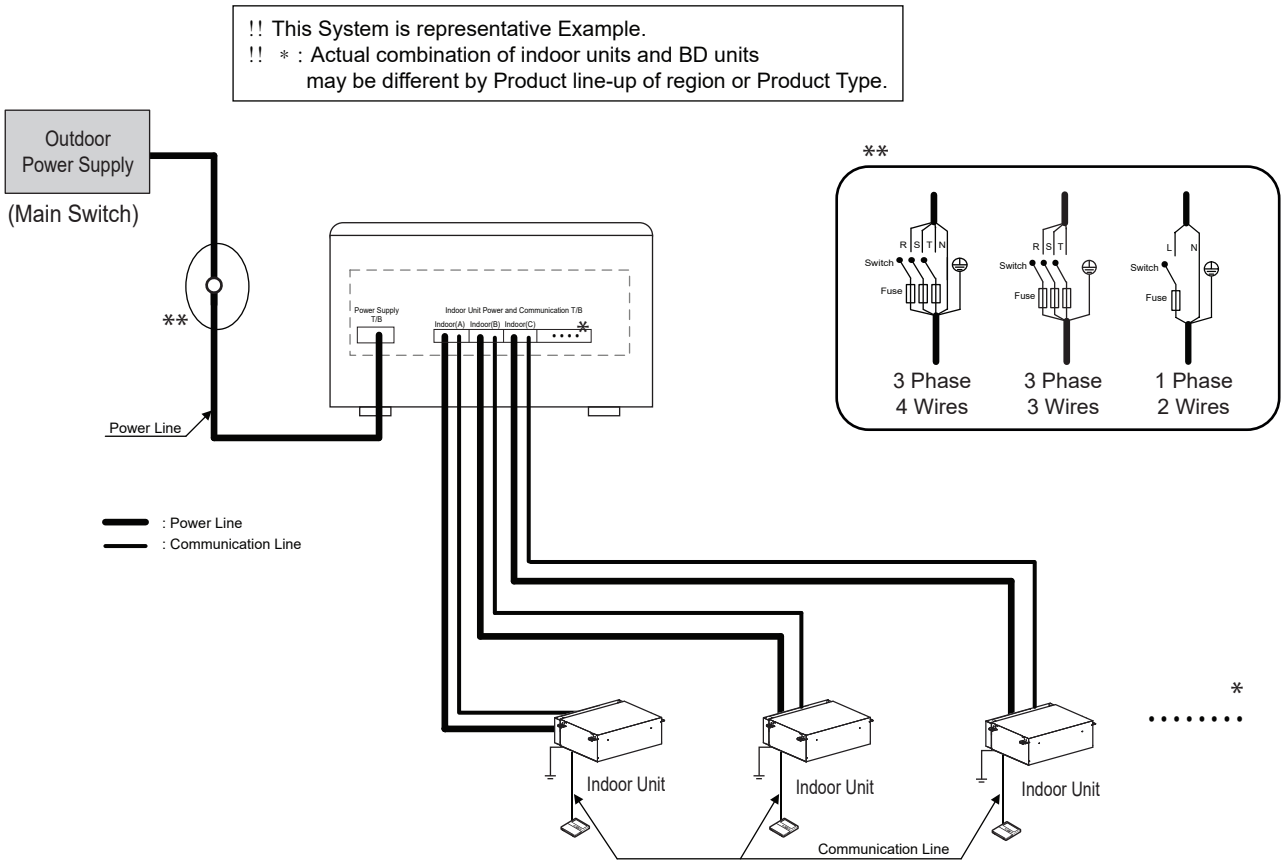
Current capacity of power line		Spacing
100V or more	10 A	300 mm
	50 A	500 mm
	100 A	1,000 mm
	Exceed 100 A	1,500 mm

-The figures are based on assumed length of parallel cabling up to 100m. For length in excess of 100m the figures will have to be recalculated in direct proportion to the additional length of line involved.
- If the power supply waveform continues to exhibit some distortion the recommended spacing in the table should be increased.
▷ If the lines are laid inside conduits then the following point must also be taken into account when grouping various lines together for introduction into the conduits
▷ Power lines(including power supply to air conditioner) and signal lines must not be laid inside the same
▷ In the same way, when grouping the lines power and signal lines should not be bunched together.

< ! > CAUTIONS

• If apparatus is not properly earthed then there is always a risk of electric shock, the grounding of the apparatus must be carried out by a qualified person.

5. Field Wiring



■ Wiring of Main Power Supply

- Bear in mind ambient conditions (ambient temperature,direct sunlight, rain liquid,etc.) when proceeding with the wiring and connections
- The wire size is the minimum value for metal conduit wiring. The power cord size should be 1 rank thicker taking into account the line voltage drops. Make sure the power-supply voltage does not drop more than 10%.
- Specific wiring requirements should adhere to the wiring regulations of the region.
- Power supply cords of parts of appliances for outdoor use should not be lighter than polychloroprene sheathed flexible cord (design 60245 IEC57).
- Don't install an individual switch or electrical outlet to disconnect each of indoor unit separately from the power supply.

< ! > WARNING

- Make sure to use specified wires for connections so that no external force is imparted to terminal connections. If connections are not fixed firmly, it may cause heating or fire.
- Make sure to use the appropriate type of overcurrent protection switch. Note that generated overcurrent may include some amount of direct current.
- All Installation site must require attachment of an earth leakage breaker. If no earth leakage breaker is installed, it may cause an electric shock.
- Do not use anything other than breaker and fuse with correct capacity. Using fuse and wire or copper wire with too large capacity may cause a malfunction of unit or fire.

Air Solution

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(07336)

http://partner.lge.com

http://sedc.lge.com

The air conditioners manufactured by LG have received ISO9001 certificate for quality assurance and ISO14001 certificate for environmental management system.
The specifications, designs, and information in this brochure are subject to change without notice.