



AIR CONDITIONER
Wall Mounted type

DESIGN & TECHNICAL MANUAL

INDOOR



AS*G09LECB
AS*G12LECB

OUTDOOR



AO*G09LECAN
AO*G12LECAN

FUJITSU GENERAL LIMITED

1. INDOOR UNIT

WALL MOUNTED TYPE :

AS*G09LECB

AS*G12LECB

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1. FEATURES

■ MODEL

AS*G09LECB / AO*G09LECAN
AS*G12LECB / AO*G12LECAN



■ FEATURES

● Energy efficiency class

	MODEL	
	AS*G09LECB	AS*G12LECB
Cooling	A++	A++
Heating	A+	A+

● ALL DC

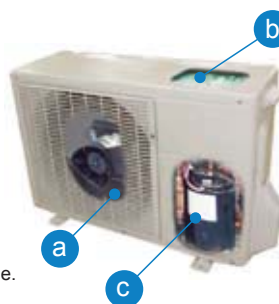


a DC fan motor

b PAM control

When operation starts, the machine operates at high voltage and high power and when operation stabilizes, the set temperature is maintained at low voltage.

c DC compressor



Front view

● Quiet operation

INDOOR UNIT

Airflow mode can be set in 4 steps and more detailed airflow setting is possible.

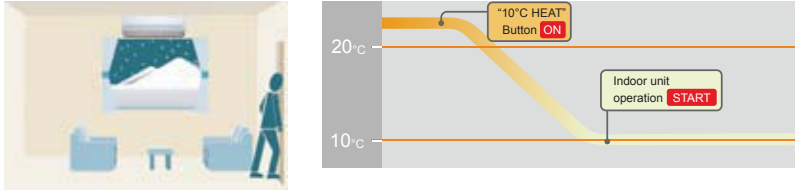
Fan speed	Noise level
Quiet	21dB(A)

● 10°C HEAT Operation

The room temperature can be set to go no lower than 10°C, thus ensuring that the room does not get too cold when not occupied.

Caution)

- When the room temperature is higher than 10°C, "10°C HEAT" operation will not start. Operation starts and maintains the room temperature at 10°C when the temperature drops below 10°C.

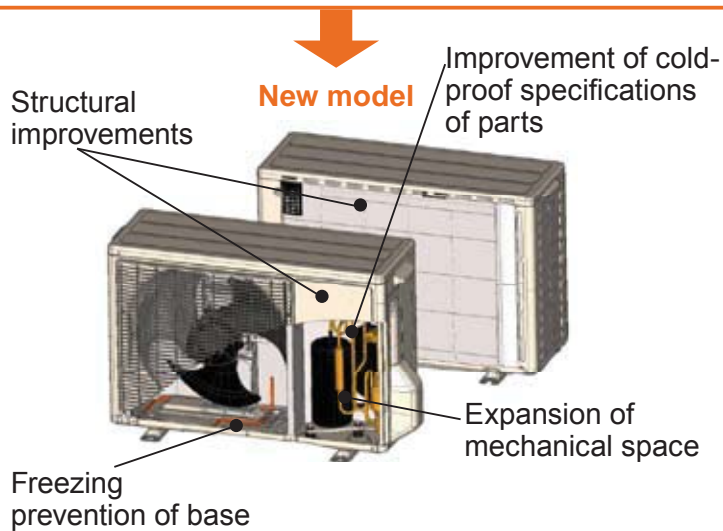


● Low outdoor air temperature correspondence

Corresponds to heating operation at -25°C outdoor air temperature

Heating
-25 to 24°C

Specification improvement to allow operation under extremely low outdoor temperature (-25°C) without trouble



● Powerful Heating at low outdoor temperature

Keeping high heating capacity at low outdoor temperature.

● Corresponds to maximum 20m long piping

● Air conditioner filter features



● Easy maintenance

Easy maintenance and always clean. Troublesome maintenance has been made easy.

Since the front panel is easy to remove, maintenance is also easy.



2. WIRELESS REMOTE CONTROLLER

■ FEATURES



- * 4 mode timer setup available (ON / OFF / PROGRAM / SLEEP).
- * Easy operation.
- * Easy to change signal code (max. 4 units) by button operation.

● Simple function setting

Setting of the air conditioner selection function is performed by remote controller.

● Built-in timers

Select from four different timer programs (ON / OFF / PROGRAM / SLEEP).

● Program timer

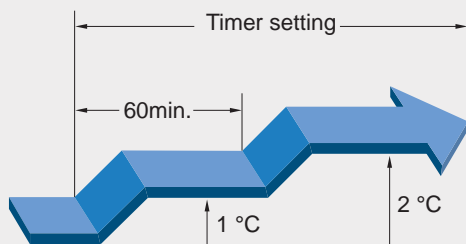
The program timer operates the on and off timer once within a 24 hour period.

● Sleep timer

The sleep timer function automatically corrects the temperature thermostat setting according to the time setting to prevent excessive cooling and heating while sleeping.

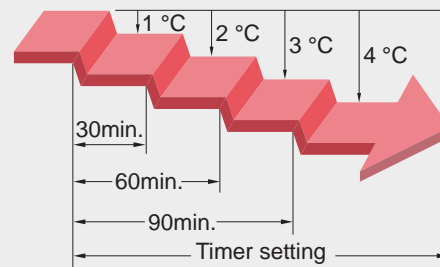
Cooling operation/dry operation

When the sleep timer is set, the set temperature automatically rises 1 °C every hour. The set temperature can rise up to a maximum of 2 °C.

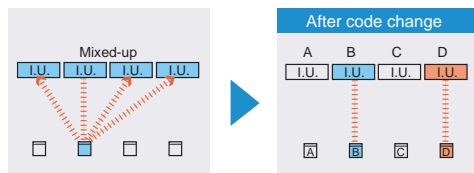


Heating operation

When the sleep timer is set, the set temperature automatically drops 1 °C every 30 minutes. The set temperature can drop to a maximum of 4 °C.



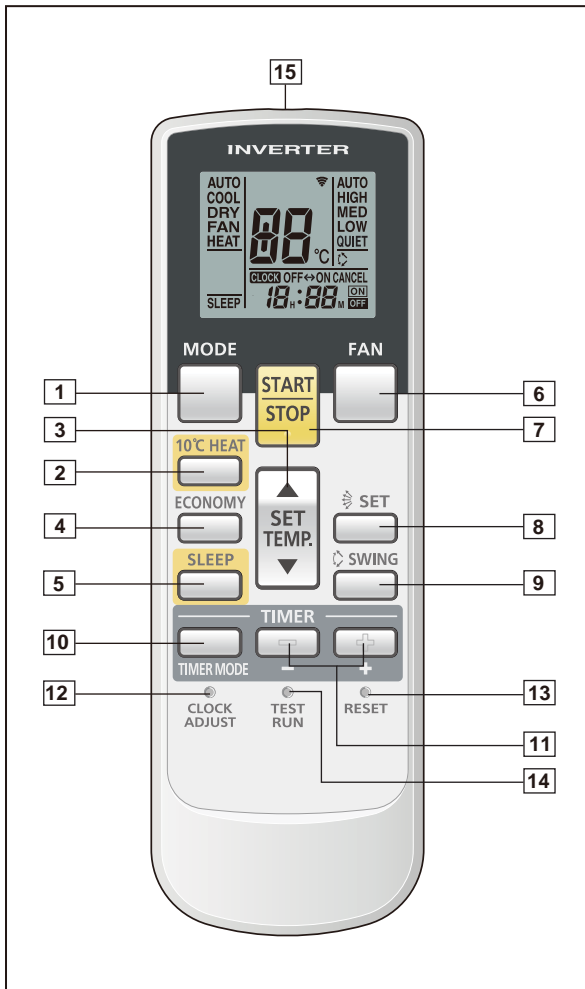
● Switching remote controller signal code



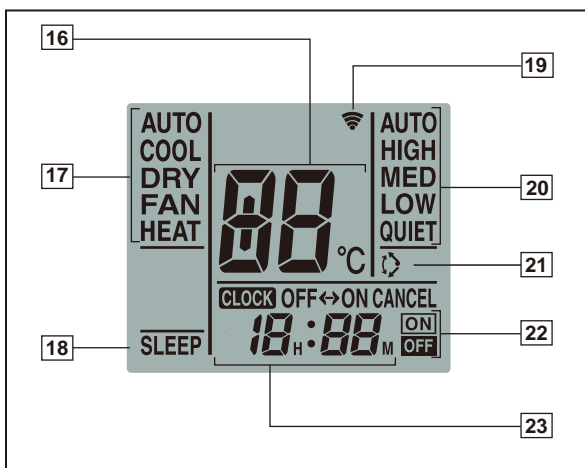
- Code selector switch eliminates unit being wrongly switched.
(Up to 4 codes can be set.)

*I.U.=Indoor unit

FUNCTIONS



Display panel



- 1 **MODE button**
Selects the operating mode (AUTO, COOL, DRY, FAN, HEAT). /Start / end R.C. signal code change. (Max 4 types)
- 2 **10°C HEAT button**
- 3 **SET TEMP. button (▲ / ▼)**
Sets the indoor temp./ Sets R.C. signal code.
- 4 **ECONOMY button**
- 5 **SLEEP button**
Pressed to select sleep timer.
- 6 **FAN button**
Selects the fan speed (AUTO, HIGH, MED, LOW, QUIET).
- 7 **START/STOP button**
Pressed to start and stop operation.
- 8 **SET button (Vertical)**
Airflow direction vertical set button.
- 9 **SWING button**
Airflow direction swing button.
- 10 **TIMER MODE button**
Pressed to select the timer mode. (OFF TIMER, ON TIMER, PROGRAM TIMER, TIMER RESET)
- 11 **TIMER SET (+ / -) button**
Sets the current time and on-off time.
- 12 **CLOCK ADJUST button**
Sets the current time.
- 13 **RESET button**
Used when replacing batteries.
- 14 **TEST RUN button**
Used when testing the air conditioner after installation.
- 15 **Signal transmitter**
- 16 **Temperature set display**
- 17 **Operating mode display**
- 18 **Sleep display**
- 19 **Transmit indicator**
- 20 **Fan speed display**
- 21 **Swing display**
- 22 **Timer mode display**
- 23 **Clock display**

Note: Functions will be different due to type of indoor unit.
For details, please see operation manual.

SPECIFICATION

SIZE	(H × W × D mm)	170 × 56 × 19
WEIGHT	(g)	85 (w/o batteries)
ACCESSORY		Holder

3. SPECIFICATIONS

Type				WALL MOUNTED INVERTER HEAT PUMP	
Model name				AS*G09LECB	AS*G12LECB
Power source				230V~ 50Hz	
Available voltage range				198-264V ~ 50Hz	
Capacity	Cooling	Rated	kW	2.50	3.40
			Btu/h	8,500	11,600
		Min-Max	kW	0.5 - 3.2	0.9 - 3.9
	Heating	Rated	Btu/h	1,700 - 10,900	3,100 - 13,300
			kW	3.20	4.00
		Min-Max	Btu/h	10,900	13,600
Input power	Cooling	Rated	kW	0.63	0.895
			Btu/h	2,150	3,040
		Min-Max	kW	0.25 - 1.27	0.25 - 1.40
	Heating	Rated	Btu/h	860	1,160
			kW	0.5 - 4.5	0.9 - 5.6
		Min-Max	Btu/h	1,700 - 15,300	3,100 - 19,100
Current	Cooling	Rated	A	3.2	4.3
			Heating	A	3.7
EER	Cooling	kW/kW		3.97	3.80
COP	Heating			4.27	4.12
Sensible capacity	Cooling	kW	1.60	2.20	
Power factor	Cooling	%	87	91	
	Heating		89	92	
Moisture removal		l/h (pints/h)	1.3 (2.3)	1.8 (3.2)	
Maximum operating current *	Cooling	A	6.0	7.0	
	Heating		9.5	11.0	
Fan	Airflow rate	Cooling	High	735	
			Med	595	
			Low	425	
			Quiet	285	
		Heating	High	735	
			Med	595	
			Low	465	
			Quiet	295	
	Type × Q'ty			Cross flow fan×1	
	Motor output		W	30	
Sound pressure level	Cooling	dB(A)	High	43	
			Med	38	
			Low	33	
			Quiet	21	
	Heating	dB(A)	High	43	
			Med	38	
			Low	33	
			Quiet	21	
Heat exchanger type	Dimensions (H × W × D)		mm	256 × 630 × 20	
	Fin pitch			1.1	
	Rows x Stages		2 × 16		
	Pipe type		Copper		
	Fin type		Aluminium		
Enclosure	Material			Polystyrene	
	Colour			White Approximate colour of MUNSSELL N 9.25/	
Dimensions (H × W × D)	Net		mm	260 × 790 × 202	
	Gross			259 × 840 × 328	
Weight	Net		kg	7.5	
	Gross			9.5	
Connection pipe	Size	Liquid	mm	Φ6.35 (Φ 1/4 in.)	
		Gas		Φ9.52 (Φ 3/8 in.)	
	Method		Flare		
Operation range	Cooling	°C	18 to 32		
		%RH	80 or less		
	Heating	°C	30 or less		
Remote controller type				Wireless	
Drain hose	Material			PP + LLDPE	
	Size			mm	
				Ø13.8(I.D.), Ø15.8 to 16.7(O.D.)	

Note:

Specifications are based on the following conditions

Cooling:Indoor temperature of 27°C CDB/19°C CWB.and outdoor temperature of 35°C CDB/24°C CWB.

Heating:Indoor temperature of 20°C CDB/15°C CWB.and outdoor temperature of 7°C CDB/6°C CWB.

Pipe length:5m,Height difference:0m(Outdoor unit-Indoor unit)

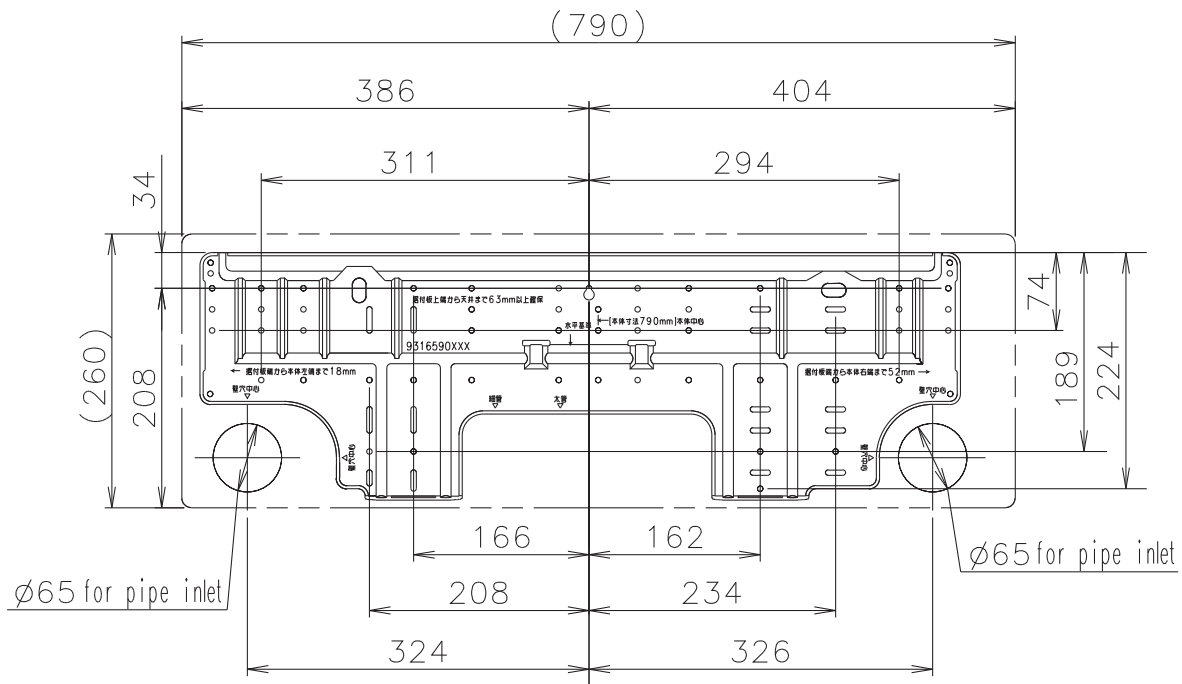
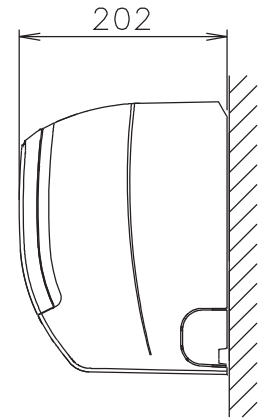
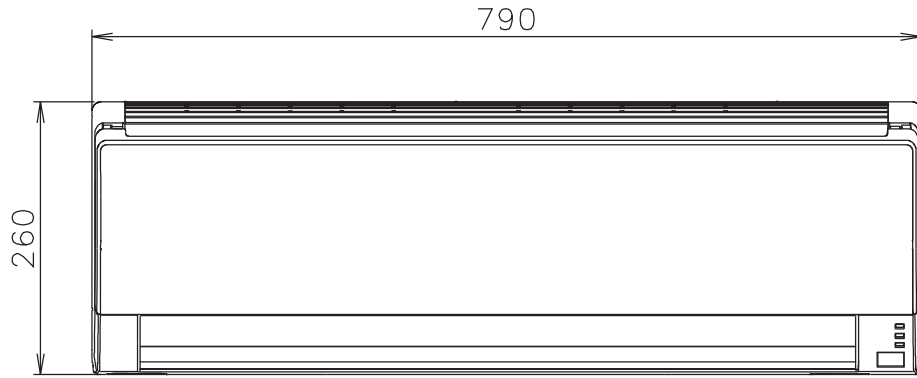
*: The maximum current is the maximum value when operated within the operation range.

Model name			AS*G09LECB	AS*G12LECB
Energy efficiency class	Cooling		A++	A++
	Heating(Average)		A+	A+
Pdesign	Cooling	kW	2.5 (35°C)	3.4 (35°C)
	Heating(Average)		3.0 (-10°C)	3.6 (-10°C)
SEER	Cooling	kWh/kWh	6.30	6.90
SCOP	Heating(Average)		4.00	4.00
Annual energy consumption	QCE		139	172
	QHE(Average)		1050	1257
Sound power level	Cooling	High	dB(A)	59
	Heating			60

4. DIMENSIONS

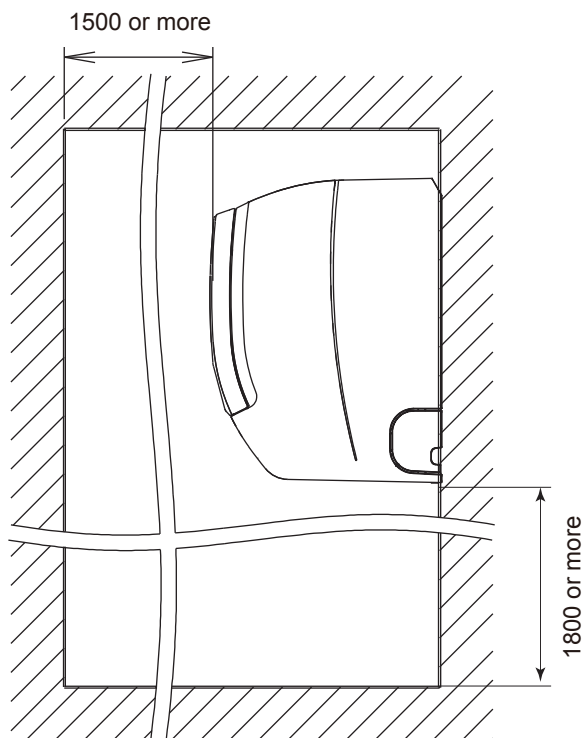
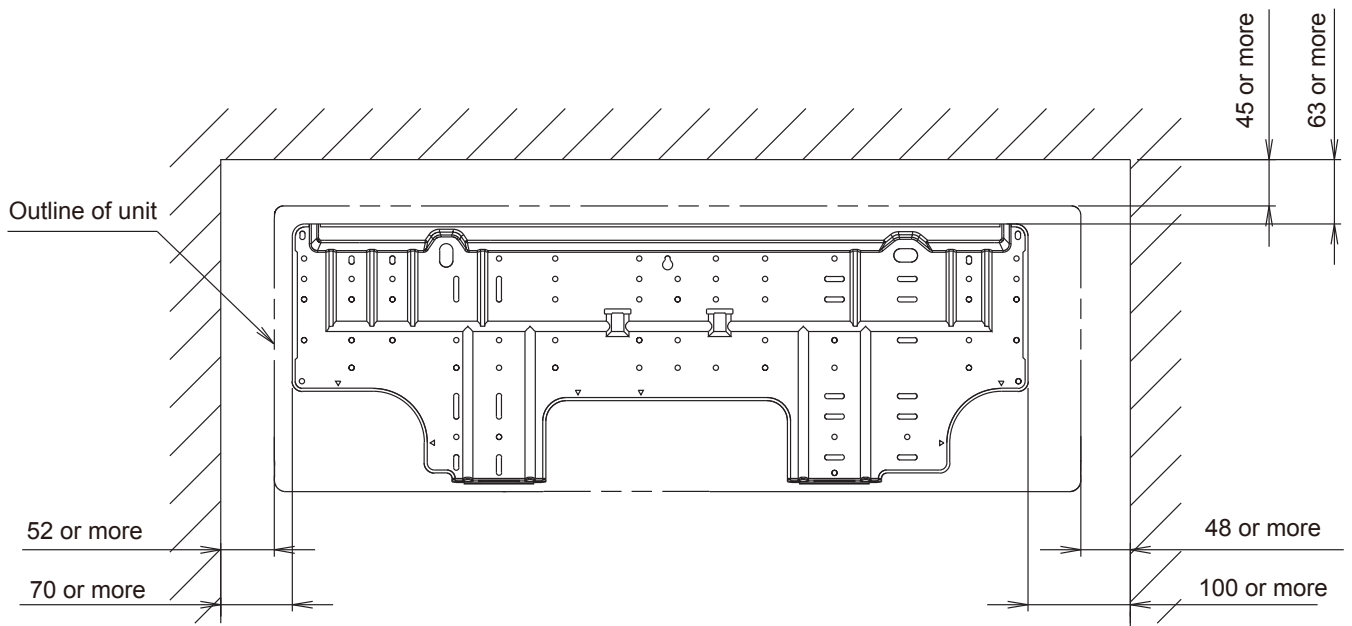
■ MODEL: AS*G09LECB, AS*G12LECB

(Unit : mm)



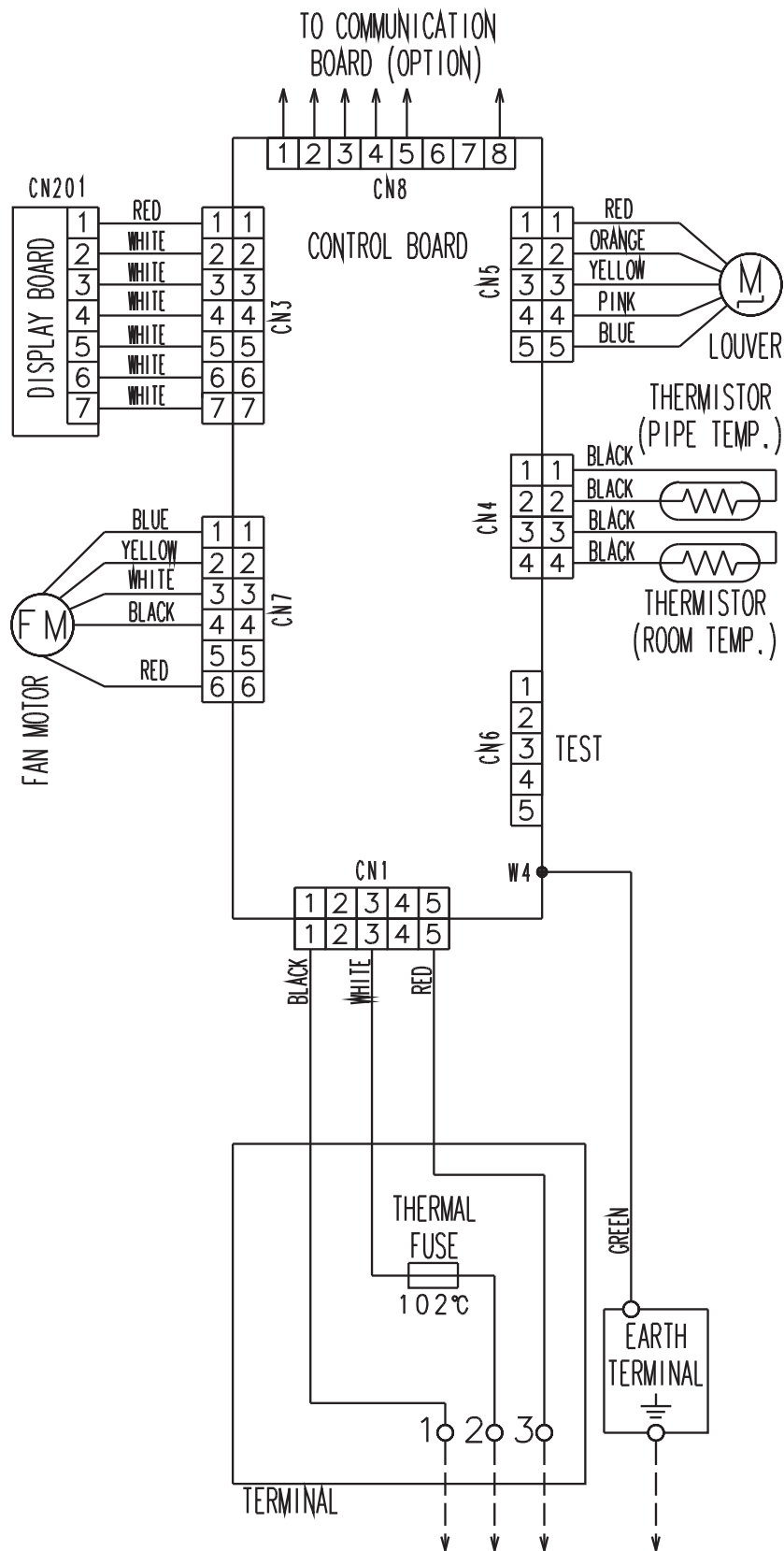
■ INSTALLATION PLACE

(Unit : mm)



5. WIRING DIAGRAMS

■ MODEL: AS*G09LECB, AS*G12LECB



6. CAPACITY TABLE

6-1. COOLING CAPACITY

■ MODEL: AS*G09LECB

AFR	12.5
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		Indoor temperature																					
		18			21			23			25			27			29			32			
		°CDB			°CWB			°CDB			°CWB			°CDB			°CWB			°CDB			°CWB
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	
	10	2.22	1.52	0.24	2.48	1.53	0.25	2.56	1.66	0.25	2.73	1.67	0.25	2.81	1.80	0.25	2.98	1.79	0.25	3.15	1.91	0.26	
	15	2.22	1.52	0.21	2.47	1.53	0.22	2.56	1.66	0.22	2.73	1.67	0.22	2.81	1.80	0.22	2.98	1.79	0.22	3.15	1.91	0.23	
	20	2.33	1.59	0.43	2.59	1.60	0.44	2.68	1.74	0.44	2.86	1.75	0.44	2.95	1.89	0.45	3.12	1.88	0.45	3.30	2.00	0.45	
	25	2.22	1.51	0.49	2.47	1.52	0.50	2.55	1.66	0.50	2.72	1.66	0.51	2.80	1.79	0.51	2.97	1.79	0.51	3.14	1.90	0.52	
	30	2.10	1.43	0.55	2.34	1.44	0.56	2.42	1.57	0.56	2.58	1.57	0.57	2.66	1.70	0.57	2.82	1.69	0.57	2.98	1.80	0.58	
	35	1.98	1.35	0.61	2.20	1.36	0.62	2.28	1.48	0.62	2.43	1.48	0.63	2.50	1.60	0.63	2.65	1.59	0.64	2.80	1.70	0.64	
	40	1.84	1.26	0.67	2.05	1.27	0.68	2.12	1.38	0.69	2.26	1.38	0.69	2.33	1.49	0.70	2.47	1.49	0.70	2.61	1.58	0.71	
	43	1.72	1.18	0.68	1.92	1.19	0.69	1.99	1.29	0.69	2.12	1.29	0.70	2.18	1.40	0.70	2.31	1.39	0.71	2.44	1.48	0.72	

■ MODEL: AS*G12LECB

AFR	12.5
-----	------

		Indoor temperature																					
		18			21			23			25			27			29			32			
		°CDB			°CWB			°CDB			°CWB			°CDB			°CWB			°CDB			°CWB
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	
	10	2.92	2.02	0.27	3.25	2.03	0.27	3.36	2.21	0.27	3.58	2.21	0.27	3.70	2.39	0.28	3.92	2.38	0.28	4.14	2.54	0.28	
	15	2.83	1.95	0.35	3.15	1.96	0.35	3.25	2.14	0.35	3.47	2.14	0.36	3.58	2.31	0.36	3.79	2.30	0.36	4.01	2.46	0.37	
	20	3.13	2.17	0.60	3.49	2.18	0.60	3.61	2.37	0.61	3.85	2.38	0.61	3.97	2.57	0.62	4.21	2.56	0.62	4.44	2.72	0.63	
	25	3.00	2.07	0.68	3.34	2.09	0.69	3.45	2.27	0.70	3.68	2.27	0.70	3.80	2.46	0.71	4.02	2.45	0.71	4.25	2.61	0.72	
	30	2.85	1.97	0.77	3.17	1.98	0.78	3.28	2.15	0.79	3.50	2.16	0.80	3.61	2.33	0.80	3.82	2.32	0.81	4.04	2.48	0.82	
	35	2.69	1.86	0.86	2.99	1.87	0.88	3.09	2.03	0.88	3.30	2.04	0.89	3.40	2.20	0.895	3.60	2.19	0.90	3.81	2.33	0.91	
	40	2.47	1.71	0.92	2.75	1.72	0.94	2.84	1.87	0.94	3.03	1.87	0.95	3.12	2.02	0.96	3.31	2.01	0.97	3.50	2.14	0.98	
	43	2.27	1.57	0.92	2.53	1.58	0.93	2.62	1.72	0.93	2.79	1.72	0.94	2.88	1.86	0.95	3.05	1.85	0.96	3.22	1.98	0.97	

AFR : Air flow rate (m³/min)
 TC : Total capacity (kW)
 SHC : Sensible Heat capacity (kW)
 IP : Input Power (kW)

6-2. HEATING CAPACITY

■ MODEL: AS*G09LECB

AFR	12.5
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		°CDB	Indoor temperature									
			°CWB	16		18		20		22		24
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-25	-26	2.88	1.45	2.81	1.48	2.74	1.51	2.68	1.54	2.61	1.57
	-20	-21	3.21	1.60	3.13	1.64	3.05	1.67	2.98	1.70	2.90	1.74
	-15	-16	3.48	1.69	3.39	1.72	3.31	1.76	3.23	1.80	3.15	1.83
	-10	-11	3.75	1.79	3.66	1.82	3.57	1.86	3.48	1.90	3.39	1.93
	-5	-7	4.03	1.84	3.94	1.88	3.84	1.92	3.75	1.96	3.65	2.00
	0	-2	4.14	1.84	4.04	1.88	3.94	1.92	3.84	1.96	3.74	2.00
	5	3	4.64	1.70	4.53	1.73	4.42	1.77	4.31	1.80	4.20	1.84
	7	6	5.04	1.70	4.92	1.73	4.80	1.77	4.68	1.80	4.56	1.84
	10	8	5.38	1.70	5.25	1.73	5.12	1.77	4.99	1.80	4.87	1.84
15	10	5.69	1.70	5.55	1.73	5.42	1.77	5.28	1.80	5.15	1.84	

■ MODEL: AS*G12LECB

AFR	12.5
-----	------

		°CDB	Indoor temperature									
			°CWB	16		18		20		22		24
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-25	-26	3.07	1.42	3.00	1.45	2.92	1.48	2.85	1.51	2.78	1.54
	-20	-21	3.35	1.55	3.27	1.58	3.19	1.61	3.11	1.64	3.03	1.67
	-15	-16	3.73	1.69	3.64	1.72	3.56	1.76	3.47	1.80	3.38	1.83
	-10	-11	4.22	1.80	4.12	1.84	4.02	1.88	3.92	1.92	3.82	1.96
	-5	-7	4.65	1.92	4.54	1.96	4.43	2.00	4.32	2.04	4.20	2.08
	0	-2	4.81	2.03	4.69	2.07	4.58	2.11	4.47	2.15	4.35	2.19
	5	3	5.64	1.68	5.51	1.71	5.37	1.75	5.24	1.78	5.10	1.82
	7	6	5.88	1.70	5.74	1.73	5.60	1.77	5.46	1.80	5.32	1.84
	10	8	6.18	1.71	6.03	1.75	5.88	1.78	5.74	1.82	5.59	1.85
15	10	6.42	1.72	6.26	1.75	6.11	1.79	5.96	1.83	5.81	1.86	

AFR : Air flow rate (m³/min)
 TC : Total capacity (kW)
 IP: Input Power (kW)

7. FAN PERFORMANCE

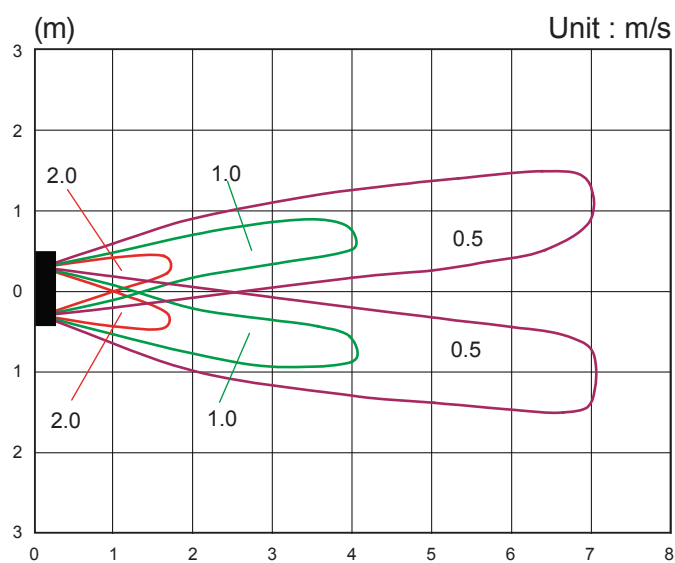
7-1. AIR VELOCITY DISTRIBUTION

■ MODEL: AS*G09LECB, AS*G12LECB

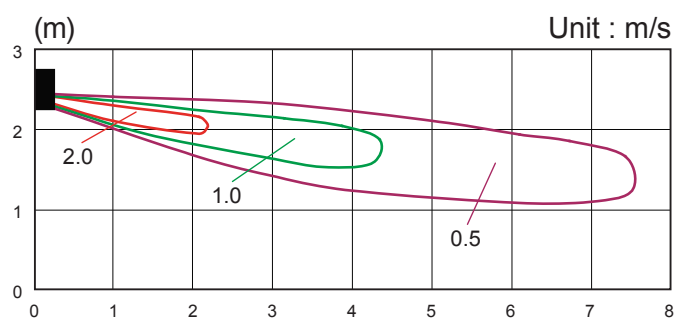
Note:
Fan speed : High
Operation mode : FAN



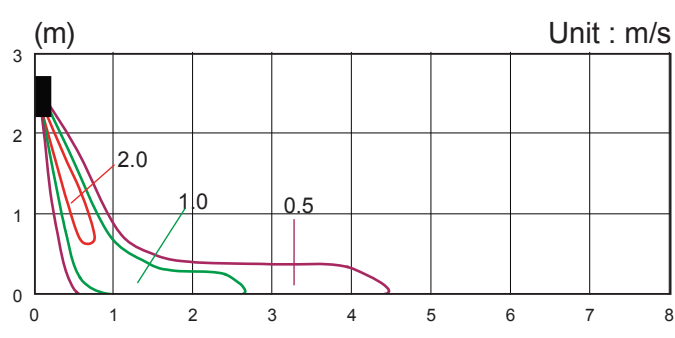
TOP VIEW
Vertical flap : Up
Horizontal flap : Center



TOP VIEW
Vertical flap : Up
Horizontal flap : Right & Left



SIDE VIEW
Vertical flap : Up
Horizontal flap : Center



SIDE VIEW
Vertical flap : Down
Horizontal flap : Center

7-2. AIRFLOW

■ MODEL: AS*G09LECB, AS*G12LECB

● Cooling

Fan speed	Number of rotations (r.p.m.)	Airflow	
HIGH	1440	735	m ³ /h
		204	l/s
		432	CFM
MED	1200	595	m ³ /h
		165	l/s
		350	CFM
LOW	920	425	m ³ /h
		118	l/s
		250	CFM
QUIET	680	285	m ³ /h
		79	l/s
		168	CFM

● Heating

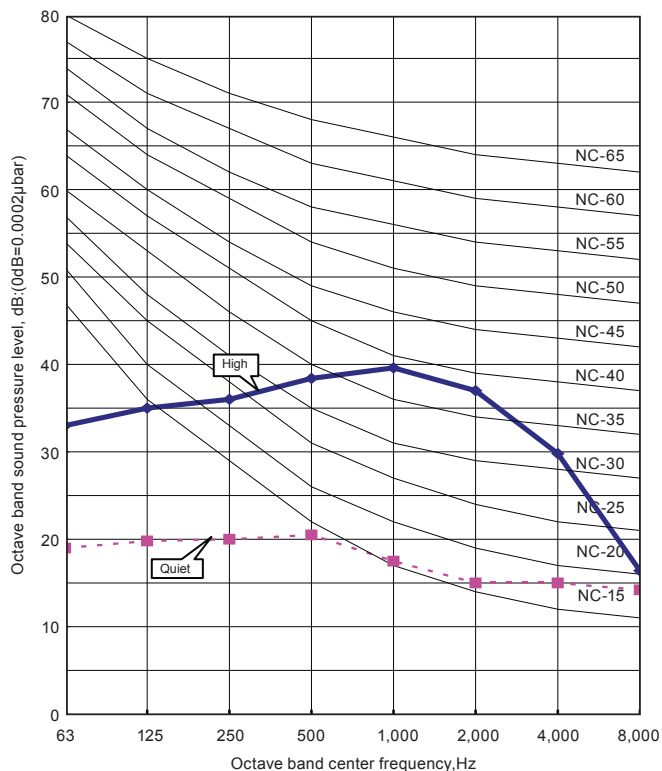
Fan speed	Number of rotations (r.p.m.)	Airflow	
HIGH	1440	735	m ³ /h
		204	l/s
		432	CFM
MED	1200	595	m ³ /h
		165	l/s
		350	CFM
LOW	980	465	m ³ /h
		129	l/s
		274	CFM
QUIET	700	295	m ³ /h
		82	l/s
		174	CFM

8. OPERATION NOISE (SOUND PRESSURE)

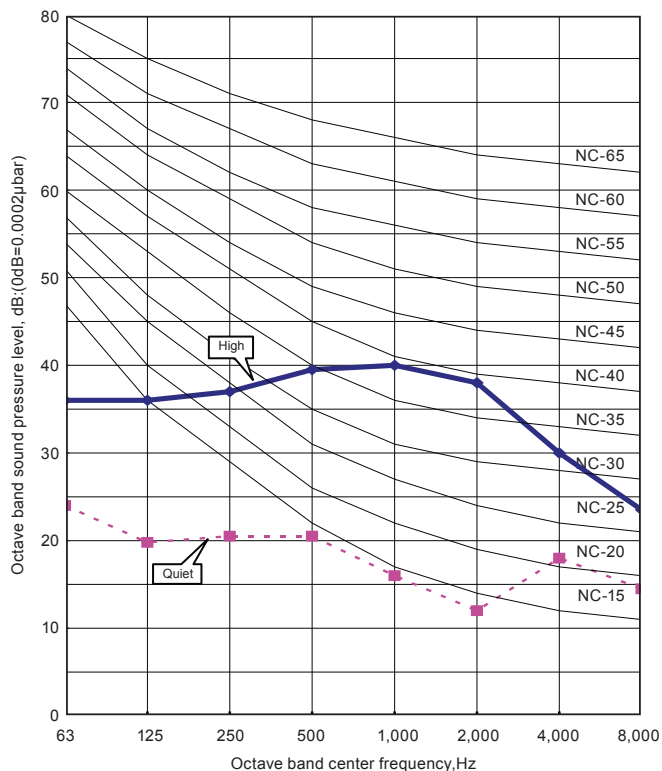
8-1. NOISE LEVEL CURVE

MODEL: AS*G09LECB

COOLING

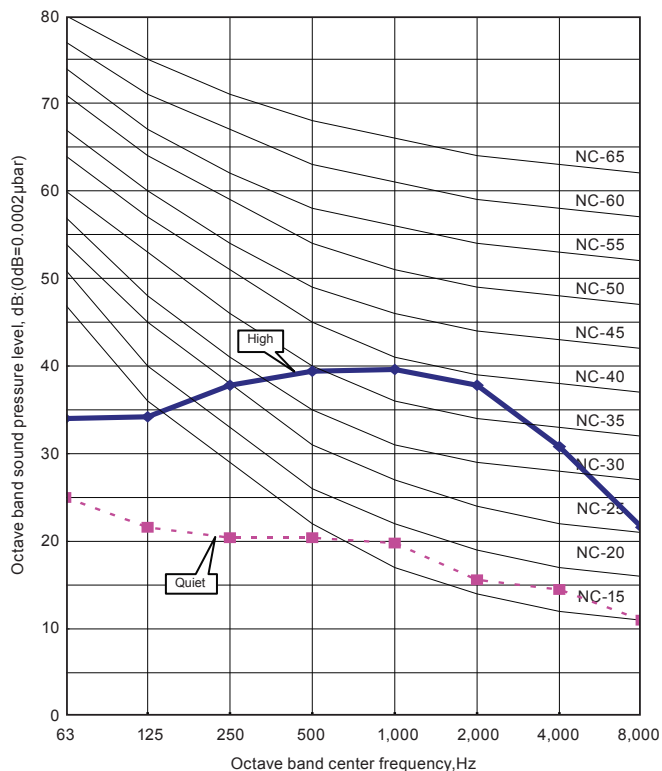


HEATING

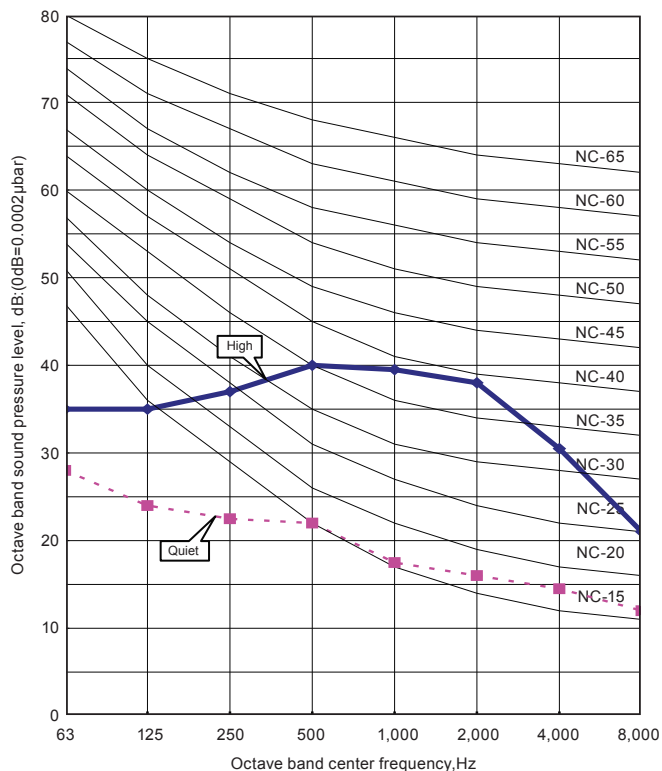


MODEL: AS*G12LECB

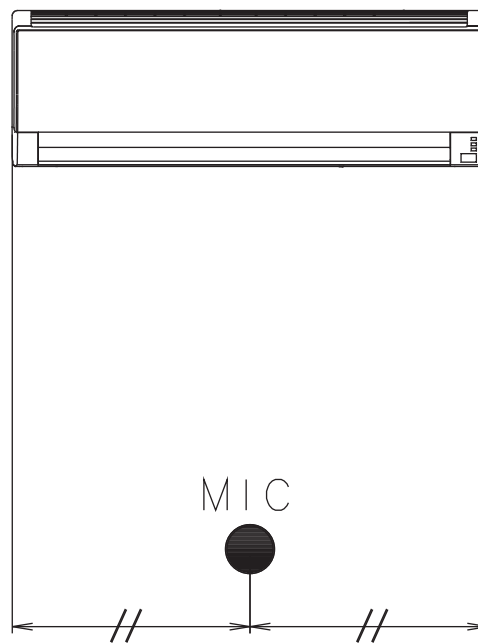
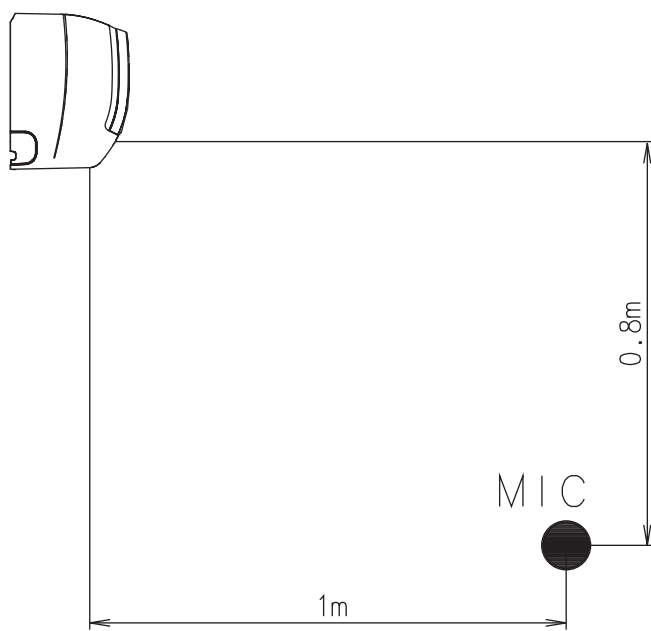
COOLING



HEATING



8-2. SOUND LEVEL CHECK POINT



9. ELECTRIC CHARACTERISTICS

Model name			AS*G09LECB	AS*G12LECB
Power supply	Voltage	V	230~	
	Frequency	Hz	50	
Max. operating current			A	0.4
*1)Wiring Spec.	Connection cable	mm ²	1.0-1.5	
	Limited wiring length	m	21	

*1) Wiring Spec.

Selected Sample

(Selected based on Japan Electrotechnical Standard and Codes Committee E0005)

10. SAFETY DEVICES

	Protection form	Model
		AS*G09LECB AS*G12LECB
Circuit protection	Current fuse (PCB)	250V 3.15A
Terminal protection	Current (thermal) fuse	250V 3A
Fan motor protection	Thermal protector program	OFF: 110±15°C ON: 95±10°C

11. EXTERNAL INPUT & OUTPUT

Connector	INPUT	OUTPUT	REMARKS
CN303	Control input	-	See external input/output settings for details.
CN304	-	Operation status output	

11-1. EXTERNAL INPUT

■ CONTROL INPUT (Operation/Stop or Forced stop)

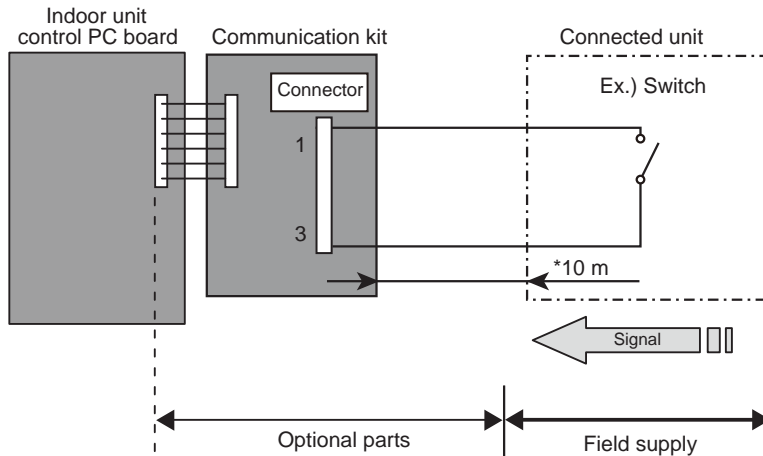
The air conditioner can be remotely operated by means of the following on-site work.

"Operation/Stop" mode or "Forced stop" mode can be selected with function setting of indoor unit.

Unit operation is started at the following contents by adding the contact input of a commercial ON/OFF switch to a connector on the external control PC board and turning it ON.

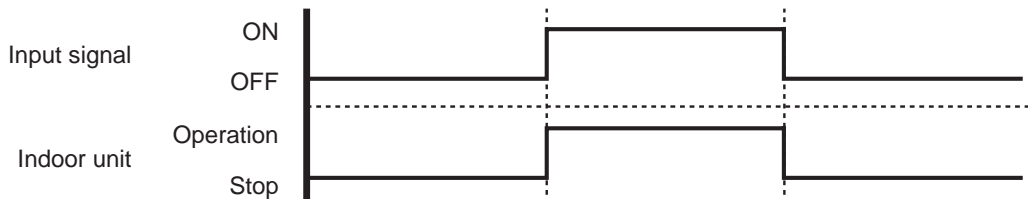
Unit operation	Initial setting after power is ON	Starting mode other than initial setting
Operation mode	Auto changeover	Mode at previous operation
Set temperature	24°C	Temperature at previous operation
Air flow mode	AUTO	Mode at previous operation
Up-down air direction (swing)	Standard air direction (swing OFF)	Air direction at previous operation
Left-right air direction (swing)	Standard air direction (swing OFF)	Air direction at previous operation

● Circuit diagram example

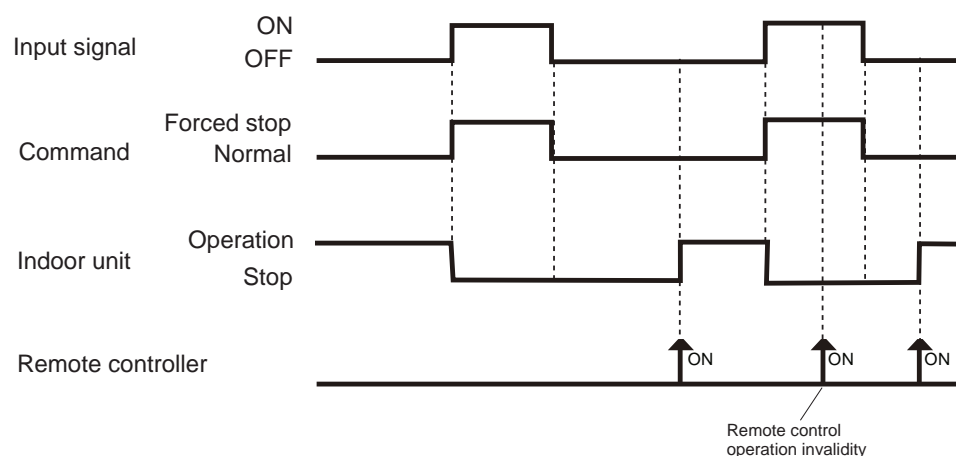


* Make the distance from the PC board to the connected unit within 10m.
Contact capacity : 24VDC or more, 10mA or more.
Please use non-polar relays and switches.

● When function setting is in "Operation/Stop" mode



● When function setting is in "Forced stop" mode



● Parts (Optional)

Parts name	Model name
External connect kit	UTY-XWZX
Communication box kit	UTY-XCBXE

*For operating the EXTERNAL function, the Compact wall mounted type requires the communication kit in addition to the wire (UTY-XWZX).

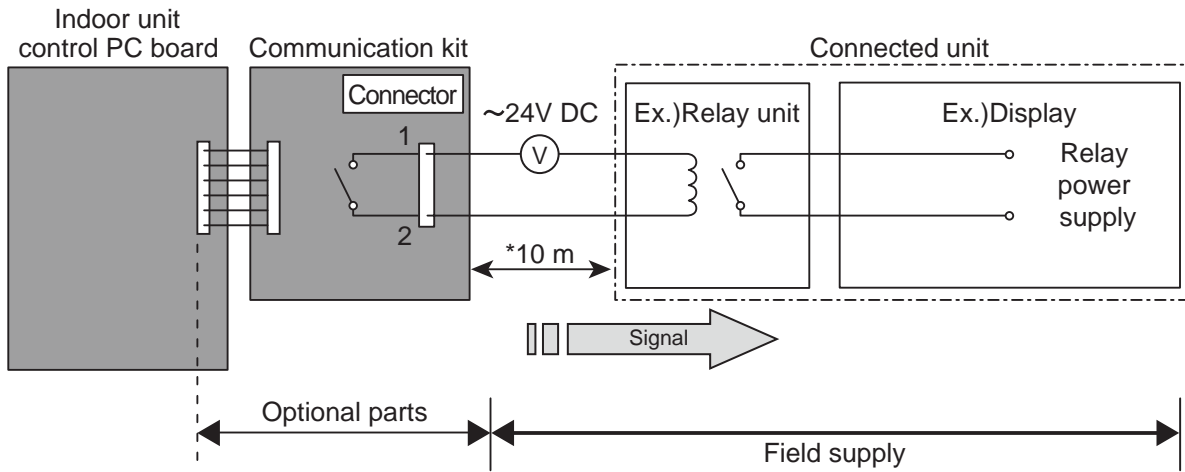


11-2. EXTERNAL OUTPUT

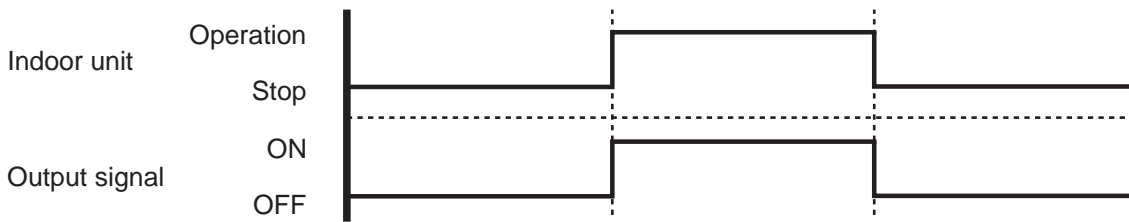
■ OPERATION STATUS OUTPUT

An air conditioner operation status signal can be output.

● Circuit diagram example



* Make the distance from the PC board to the connected unit within 10m.
Relay spec. : Max.24VDC, 10mA to less than 500mA.



● Parts (Optional)

Parts name	Model name
External connect kit	UTY-XWZX
Communication box kit	UTY-XCBXE

*For operating the EXTERNAL function, the wall mounted type requires the communication kit in addition to the wire (UTY-XWZX).



12. FUNCTION SETTINGS

12-1. INDOOR UNIT (Setting by remote controller)

- The function settings of the control of the indoor unit can be changed by this procedure according to the installation conditions. Incorrect settings can cause the indoor unit to malfunction.
- After the power is turned on, perform the "FUNCTION SETTING" according to the installation conditions using the remote controller.
- The settings may be selected between the following two: Function Number or Setting Value.
- Settings will not be changed if invalid numbers or setting values are selected.

■ PREPARATION

- Turn on the power
- * Before turning on the power of the indoor units, make sure the piping air-tight test and vacuuming have been conducted.
- * Also check again to make sure no wiring mistakes were made before turning on the power.

■ FUNCTION SETTING METHOD (for Wireless remote controller)

Entering the Function Setting Mode

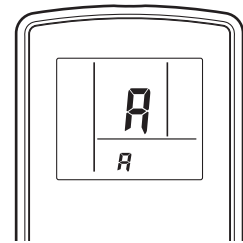
- While pressing the FAN button and SET TEMP. (▲) simultaneously, press the RESET button to enter the function setting mode.

STEP 1

Setting the Remote controller Signal Code

Use the following steps to select the signal code of the remote controller. (Note that the air conditioner cannot receive a signal code if the air conditioner has not been set for the signal code.) The signal codes that are set through this process are applicable only to the signals in the FUNCTION SETTING. For details on how to set the signal codes through the normal process, refer to SELECTING THE REMOTE CONTROLLER SIGNAL CODE.

1. Press the SET TEMP. (▲) (▼) button to change the signal code between $\bar{A} \rightarrow \bar{b} \rightarrow \bar{c} \rightarrow \bar{d}$ Match the code on the display to the air conditioner signal code. (initially set to \bar{A})
(If the signal code does not need to be selected, press the MODE button and proceed to STEP 2.)
2. Press the TIMER MODE button and check that the indoor unit can receive signals at the displayed signal code.
3. Press the MODE button to accept the signal code, and proceed to STEP 2.



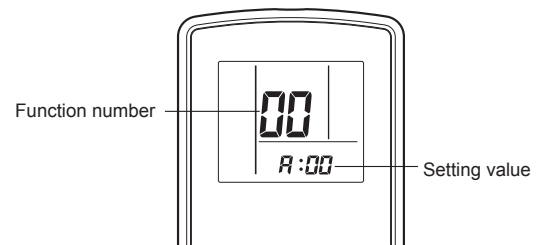
The air conditioner signal code is set to A prior to shipment.

The remote controller resets to signal code A when the batteries in the remote controller are replaced. If you use a signal code other than signal code A, reset the signal code after replacing the batteries.
If you do not know the air conditioner signal code setting, try each of the signal codes ($\bar{A} \rightarrow \bar{b} \rightarrow \bar{c} \rightarrow \bar{d}$) until you find the code which operates the air conditioner.

STEP 2

Selecting the Function Number and Setting Value

1. Press the SET TEMP. (▲) (▼) buttons to select the function number.
(Press the MODE button to switch between the left and right digits.)
2. Press the FAN button to proceed to setting the value.
Press the FAN button again to return to the function number selection.)
3. Press the SET TEMP. (▲) (▼) buttons to select the setting value.
(Press the MODE button to switch between the left and right digits.)
4. Press the TIMER MODE button, and START/STOP button, in the order listed to confirm the settings.
5. Press the RESET button to cancel the function setting mode.
6. After completing the FUNCTION SETTING, be sure to turn off the power and turn it on again.



⚠ CAUTION

After turning off the power, wait 10 seconds or more before turning on it again.
The Function Setting will not become active unless the power is turned off then on again.

FUNCTION DETAILS

	Functions	Compact wall mounted
1)	Filter sign	●
2)	Cooler room temperature correction	●
3)	Heater room temperature correction	●
4)	Auto restart	●
5)	Indoor room temperature sensor switching function	●
6)	Remote controller signal code	●
7)	External input control	●
8)	Indoor unit fan control for energy saving	●

1) Filter sign

The indoor unit has a sign to inform the user that it is time to clean the filter. Select the time setting for the filter sign display interval in the table below according to the amount of dust or debris in the room. If you do not wish the filter sign to be displayed, select the setting value for "No indication".

(◆... Factory setting)

Setting description	Function number	Setting value
Standard	11	00
Long interval		01
Short interval		02
No indication		03

The filter sign interval time is different according to Indoor unit type as follows.

Setting description	Compact Wall Mounted
Standard	400 hours
Long interval	1000 hours
Short interval	200 hours

2) Cooler room temperature correction

Depending on the installed environment, the room temperature sensor may require correction. The settings may be selected as shown in the table below.

(◆... Factory setting)

Setting description	Function number	Setting value
Standard	30	00
Slightly lower control		01
Lower control		02
Warmer control		03

3) Heater room temperature correction

Depending on the installed environment, the room temperature sensor may require correction. The settings may be changed as shown in the table below.

(◆... Factory setting)

Setting description	Function number	Setting value
Standard	31	00
Lower control		01
Slightly warmer control		02
Warmer control		03

4) Auto restart

Enable or disable automatic system restart after a power outage.

(◆... Factory setting)

Setting description	Function number	Setting value
◆ Yes	40	00
No		01

*Auto restart is an emergency function such as for power failure etc.
Do not start and stop the indoor unit by this function in normal operation.
Be sure to operate using the remote controller, or external input device.

5) Indoor room temperature sensor switching function

(Only for Wired remote controller)

The following settings are needed when using the control by Wired remote controller temperature sensor.

(◆... Factory setting)

Setting description	Function number	Setting value
◆ No	42	00
Yes		01

*If setting value is "00" :
Room temperature is controlled by the indoor unit temperature sensor.

*If setting value is "01" :
Room temperature is controlled by either indoor unit temperature sensor or remote controller unit sensor.

6) Remote controller signal code

Change the indoor unit Signal Code, depending on the remote controllers.

(◆... Factory setting)

Setting description	Function number	Setting value
◆ A	44	00
B		01
C		02
D		03

7) External input control

"Operation/Stop" mode or "Forced stop" mode can be selected.

(◆... Factory setting)

Setting description	Function number	Setting value
◆ Operation/Stop mode	46	00
(Setting forbidden)		01
Forced stop mode		02

8) Indoor unit fan control for energy saving (Only cooling mode)

Enable or disable indoor unit fan control when the outdoor unit is stopped.

(◆... Factory setting)

Setting description	Function number	Setting value
◆ No	49	00
Yes		01

*If setting value is "00":
When the outdoor unit is stopped, the indoor unit fan operates following the setting on the remote controller continuously.

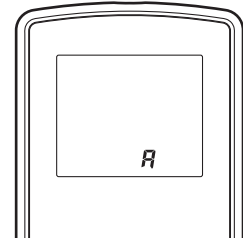
*If setting value is "01":
When the outdoor unit is stopped, the indoor unit fan operates at very low speed intermittently.

■ REMOTE CONTROLLER SIGNAL CODE SETTING

Use the following steps to select the signal code of the remote controller.

(Note that the air conditioner cannot receive a signal code if the air conditioner has not been set for the signal code.)

1. Press the START/STOP button until only the clock is displayed on the remote controller display.
2. Press the MODE button for at least five seconds to display the current signal code (initially set to **A**).
3. Press the SET TEMP. (**▲**) (**▼**) button to change the signal code between **A** → **B** → **C** → **D**.
Match the code on the display to the air conditioner signal code.
4. Press the MODE button again to return to the clock display. The signal code will be changed.



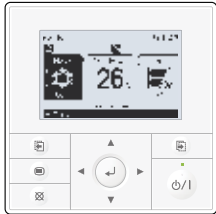
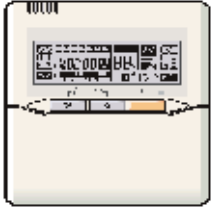

If no buttons are pressed within 30 seconds after the signal code is displayed, the system returns to the original clock display. In this case, start again from step 1.

The air conditioner signal code is set to A prior to shipment.
Contact your retailer to change the signal code.

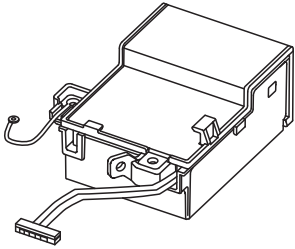
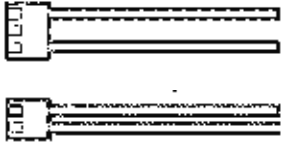
The remote controller resets to signal code A when the batteries in the remote controller are replaced. If you use a signal code other than signal code A, reset the signal code after replacing the batteries. If you do not know the air conditioner signal code setting, try each of the signal codes (**A** → **B** → **C** → **D**) until you find the code which operates the air conditioner.

13. OPTIONAL PARTS

13-1. CONTROLLER

Exterior	Parts name	Model No.	Summary
	Wired remote controller	UTY-RVN*M	Large and full-dot liquid crystal screen, wide and large keys easy to press, user-intuitive arrow key. *Optional communication kit is necessary for installation.
	Wired remote controller	UTY-RNN*M	The room temperature can be controlled by detecting the temperature accurately with built-in thermo sensor. *Optional communication kit is necessary for installation.
	Simple remote controller	UTY-RSN*M	Compact remote controller concentrates on the basic functions such as Start/Stop, Fan Control, Temperature Setting and Operation mode. *Optional communication kit is necessary for installation.

13-2. OTHERS

Exterior	Parts name	Model No.	Summary
	Communication box kit	UTY-XCBXE	Use to connect with optional devices and air conditioner PC board.
	External connect kit	UTY-XWZX	Required when external device is connected. *Optional communication kit is necessary for installation.

2. OUTDOOR UNIT

SINGLE TYPE :

AO*G09LECAN

AO*G12LECAN

CONTENTS

2. OUTDOOR UNIT

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5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE.....	02 - 05
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9. ELECTRIC CHARACTERISTICS.....	02 - 11
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1. SPECIFICATIONS

Type			INVERTER HEAT PUMP		
Model name			AO*G09LECAN	AO*G12LECAN	
Power source			230V ~ 50Hz		
Available voltage range			198-264V ~ 50Hz		
Starting current		A	3.7	4.6	
Fan	Airflow rate	Cooling	2,020	1,950	
		Heating	1,760	1,700	
	Type×Q'ty	Propeller fan×1			
Motor output		W	37		
Sound power level	Cooling	dB(A)	63	65	
	Heating		63	65	
Sound pressure level	Cooling	dB(A)	48	49	
	Heating		47	48	
Heat exchanger type	Dimensions(H×W×D)		508 × 896 × 22	504 × 896 × 18.2	
	Fin pitch		1.3	1.3	
	Rows×Stages		1 × 20	2 × 24	
	Pipe type		Copper		
Fin Type		Aluminium			
Compressor	Type×Q'ty		Rotary ×1		
	Motor output		W	690	
Refrigerant	Type (Global Warming Potential)		R410A (1975)		
	Charge		g	950 1,000	
Refrigerant oil		Type	POE(VG74)		
Enclosure		Material	Steel		
		Colour	Beige Approximate colour of MUNSELL 10YR7.5/1.0		
Dimensions (H×W×D)	Net		540 × 790 × 290		
	Gross		633 × 945 × 395		
Weight	Net		36	39	
	Gross		40	43	
Connention pipe	Size	Liquid	Ø6.35 (Ø1/4 in.)		
		Gas	Ø9.52 (Ø3/8 in.)		
	Method		Flare		
	Pre-charge length		m	15	
	Max. length			20	
Max. height difference		15			
Operation range	Cooling	°C	10 to 43		
	Heating		-25 to 24		

Note :

Specifications are based on the following conditions.

Cooling : Indoor temperature of 27 °CDB / 19 °CWB.and outdoor temperature of 35 °CDB/24 °CWB.

Heating : Indoor temperature of 20 °CDB / 15 °CWB.and outdoor temperature of 7 °CDB/6 °CWB.

Pipe length : 5 m, Height difference : 0 m.(Outdoor unit - Indoor unit)

The protective function may work when using it outside the operation range.

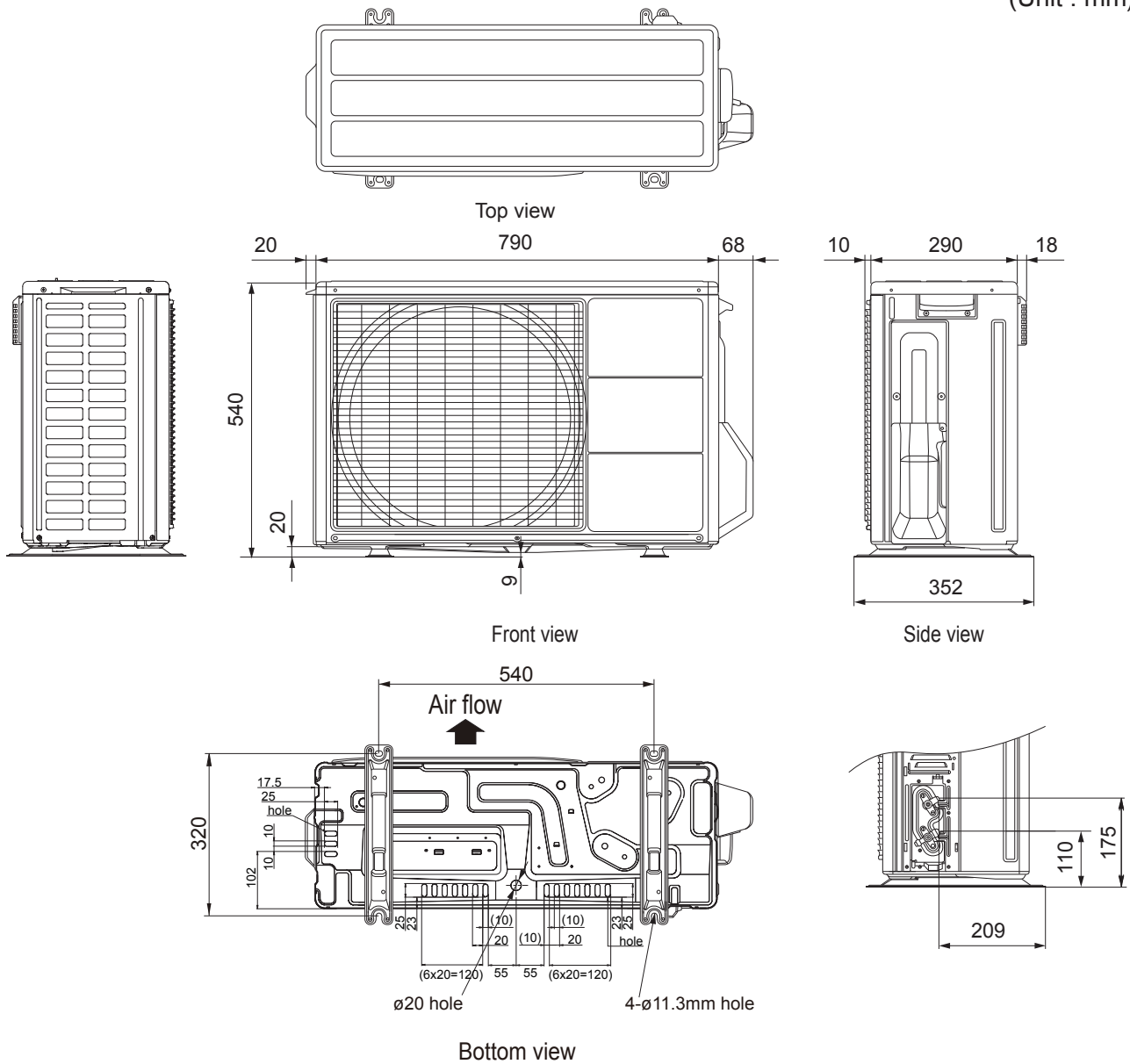
2. DIMENSIONS

MODEL: AO*G09LECAN, AO*G12LECAN

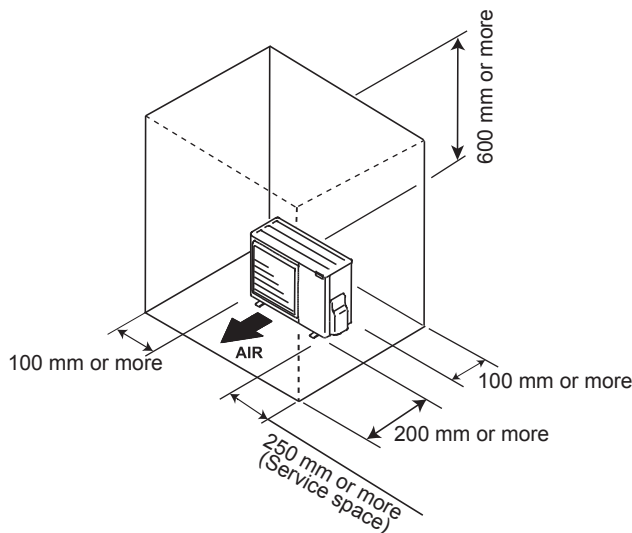
(Unit : mm)

OUTDOOR UNIT
AO*G09-12LECAN

OUTDOOR UNIT
AO*G09-12LECAN

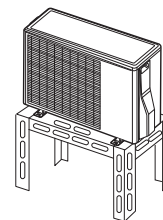


INSTALLATION PLACE



CAUTION

In areas with heavy snowfall, if the intake and outlet of outdoor unit is blocked with snow, it may be difficult to warm up and likely to cause breakdown. In such condition, be sure to construct a canopy or baffle board stand.



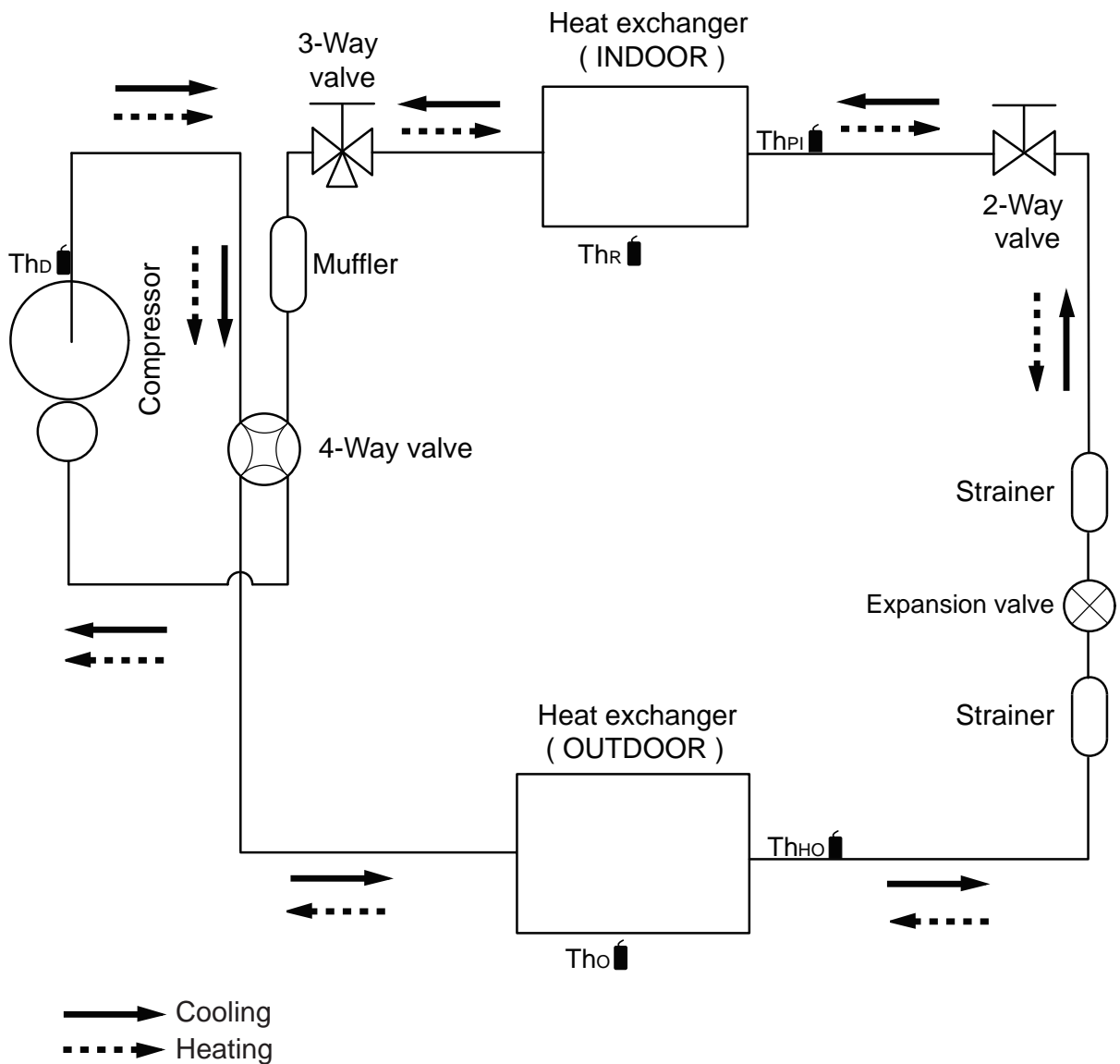
If the space is larger than stated, the condition will be the same as those without any obstacles.

3. REFRIGERANT CIRCUIT

■ MODEL: AO*G09LECAN, AO*G12LECAN

OUTDOOR UNIT
AO*G09-12LECAN

OUTDOOR UNIT
AO*G09-12LECAN



- Th_D : Thermistor (Discharge Temp.)
- Th_O : Thermistor (Outdoor Temp.)
- Th_{HO} : Thermistor (Heat Exchanger Out Temp.)
- Th_R : Thermistor (Room Temp.)
- Th_{PI} : Thermistor (Pipe Temp.)

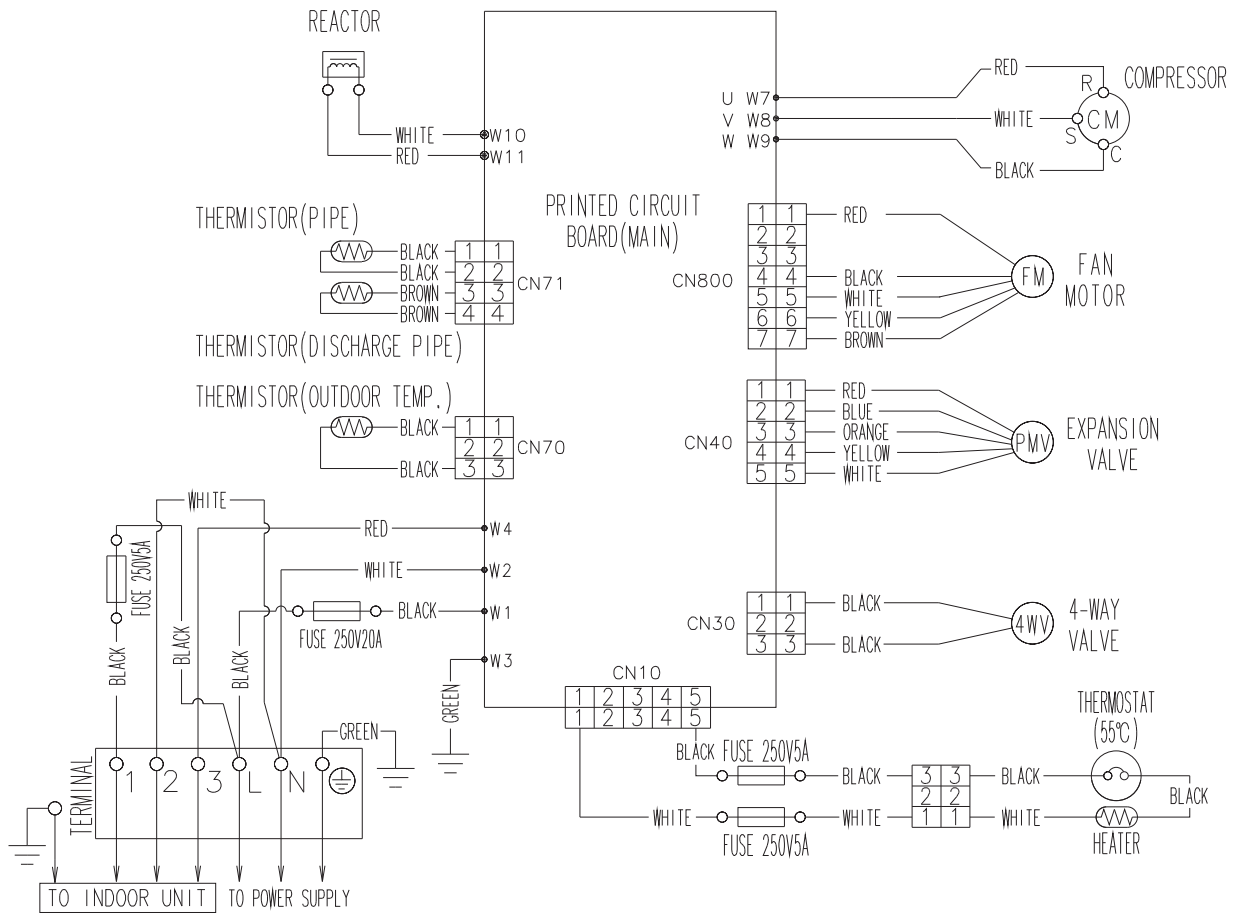
Refrigerant pipe diameter
 Liquid : 1/4" (6.35 mm)
 Gas : 3/8" (9.52 mm)

4. WIRING DIAGRAMS

MODEL: AO*G09LECAN, AO*G12LECAN

OUTDOOR UNIT
AO*G09-12LECAN

OUTDOOR UNIT
AO*G09-12LECAN



5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

MODEL: AO*G09LECAN

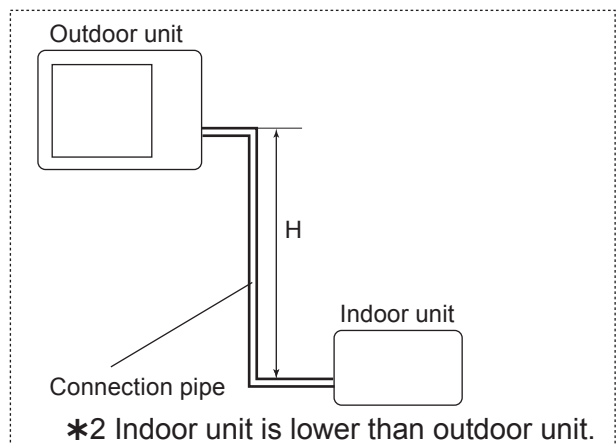
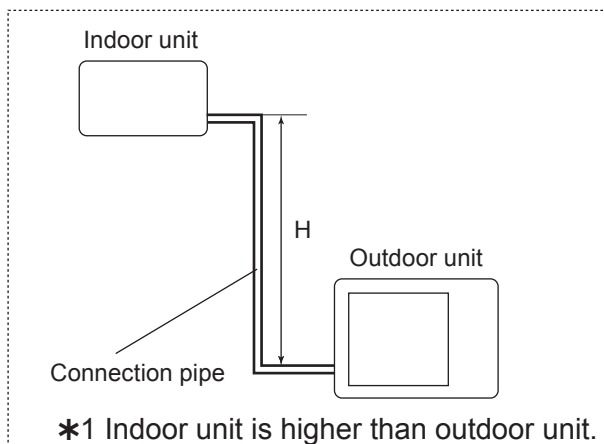
OUTDOOR UNIT
AO*G09-12LECAN

OUTDOOR UNIT
AO*G09-12LECAN

COOLING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	*1 Indoor unit is higher than outdoor unit.	15	-	-	-	0.913	0.922
		10	-	-	0.963	0.928	0.937
		7.5	-	0.980	0.967	0.932	0.941
		5	0.992	0.984	0.971	0.936	0.945
		0	1.000	0.992	0.979	0.943	0.953
	*2 Indoor unit is lower than outdoor unit.	-5	1.000	0.992	0.979	0.943	0.953
		-7.5	-	0.992	0.979	0.943	0.953
		-10	-	-	0.979	0.943	0.953
		-15	-	-	-	0.943	0.953

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	*1 Indoor unit is higher than outdoor unit.	15	-	-	-	0.990	0.969
		10	-	-	1.002	0.990	0.969
		7.5	-	1.001	1.002	0.990	0.969
		5	1.000	1.001	1.002	0.990	0.969
		0	1.000	1.001	1.002	0.990	0.969
	*2 Indoor unit is lower than outdoor unit.	-5	0.995	0.996	0.997	0.985	0.964
		-7.5	-	0.994	0.995	0.983	0.962
		-10	-	-	0.992	0.980	0.960
		-15	-	-	-	0.970	0.950

Height difference H



MODEL: AO*G12LECAN

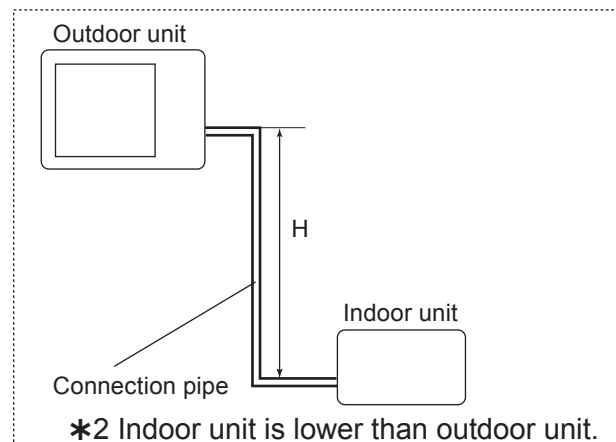
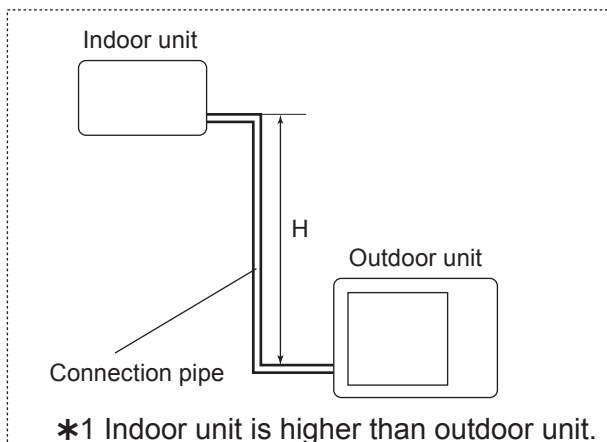
OUTDOOR UNIT
AO*G09-12LECAN

OUTDOOR UNIT
AO*G09-12LECAN

COOLING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	*1 Indoor unit is higher than outdoor unit.	15	-	-	-	0.882	0.880
		10	-	-	0.943	0.896	0.894
		7.5	-	0.968	0.947	0.900	0.898
		5	0.992	0.972	0.951	0.903	0.901
		0	1.000	0.980	0.958	0.911	0.909
	*2 Indoor unit is lower than outdoor unit	-5	1.000	0.980	0.958	0.911	0.909
		-7.5	-	0.980	0.958	0.911	0.909
		-10	-	-	0.958	0.911	0.909
		-15	-	-	-	0.911	0.909

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	*1 Indoor unit is higher than outdoor unit.	15	-	-	-	0.952	0.932
		10	-	-	1.002	0.952	0.932
		7.5	-	1.010	1.002	0.952	0.932
		5	1.000	1.010	1.002	0.952	0.932
		0	1.000	1.010	1.002	0.952	0.932
	*2 Indoor unit is lower than outdoor unit	-5	0.995	1.005	0.997	0.947	0.927
		-7.5	-	1.002	0.994	0.945	0.925
		-10	-	-	0.992	0.942	0.923
		-15	-	-	-	0.933	0.913

Height difference H



6. ADDITIONAL CHARGE CALCULATION

■ MODEL: AO*G09LECAN

Refrigerant type		R410A
Refrigerant amount	g	950

● Refrigerant charge

Total pipe length	m	15 or less	20 (MAX)	20g/m
Additional charge	g	0	100	

■ MODEL: AO*G12LECAN

Refrigerant type		R410A
Refrigerant amount	g	1000

● Refrigerant charge

Total pipe length	m	15 or less	20 (MAX)	20g/m
Additional charge	g	0	100	

7. AIRFLOW

■ MODEL: AO*G09LECAN

● Cooling

Number of rotations (r.p.m)	Airflow	
850	2020	m ³ /h
	561	l/s
	1189	CFM

● Heating

Number of rotations (r.p.m)	Airflow	
750	1760	m ³ /h
	489	l/s
	1036	CFM

■ MODEL: AO*G12LECAN

● Cooling

Number of rotations (r.p.m)	Airflow	
850	1950	m ³ /h
	542	l/s
	1148	CFM

● Heating

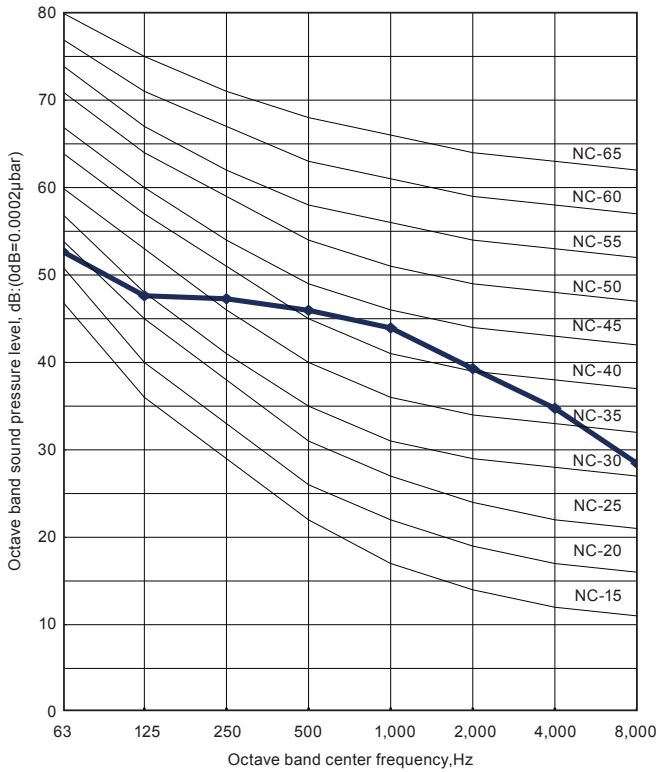
Number of rotations (r.p.m)	Airflow	
750	1700	m ³ /h
	472	l/s
	1000	CFM

8. OPERATION NOISE (SOUND PRESSURE)

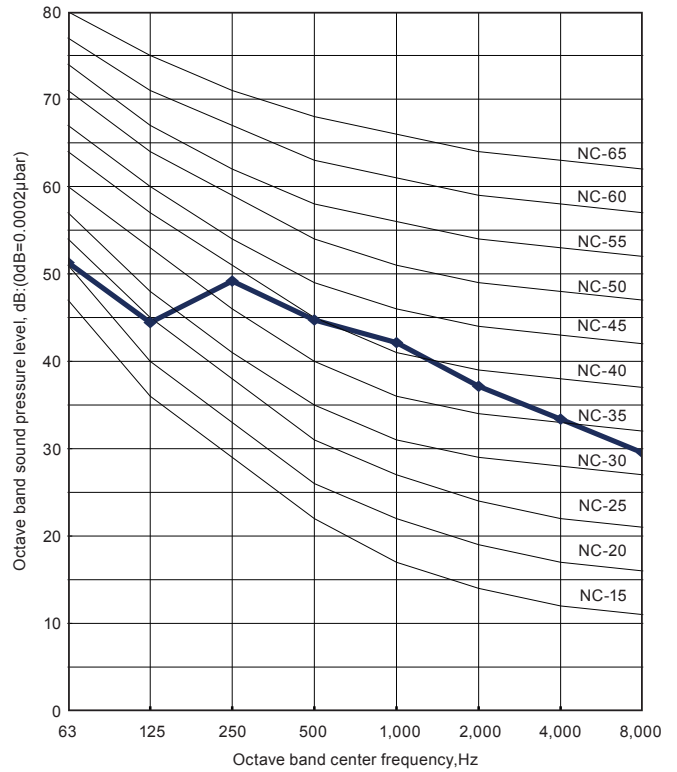
8-1. NOISE LEVEL CURVE

MODEL: AO*G09LECAN

● Cooling

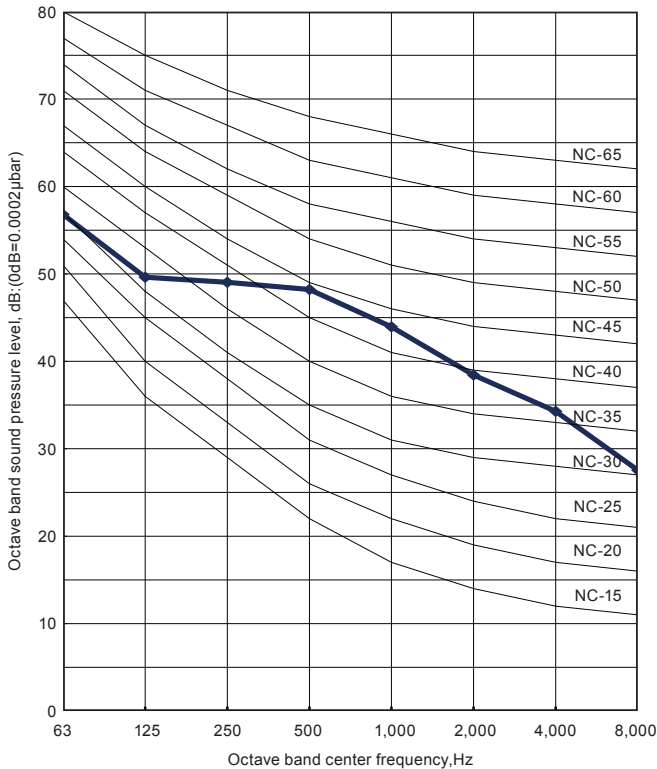


● Heating

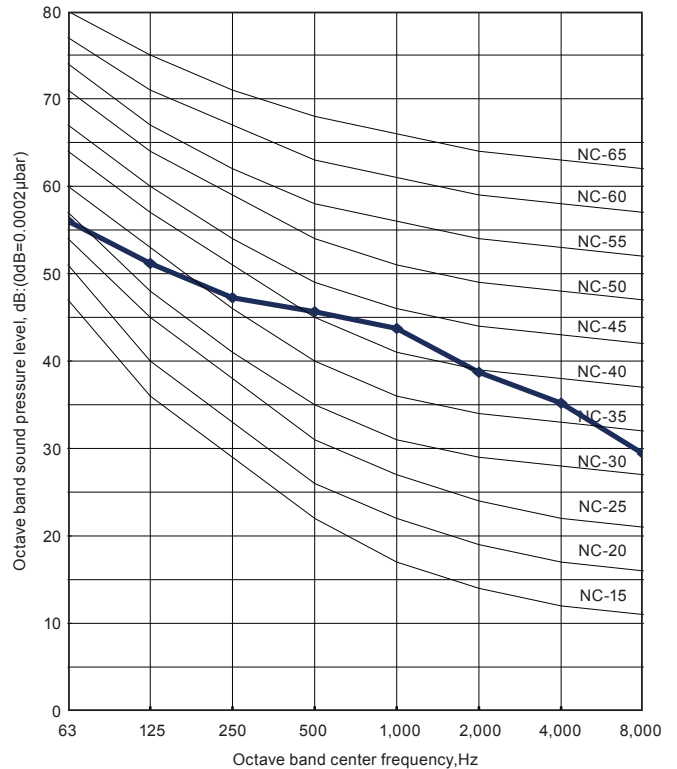


MODEL: AO*G12LECAN

● Cooling



● Heating

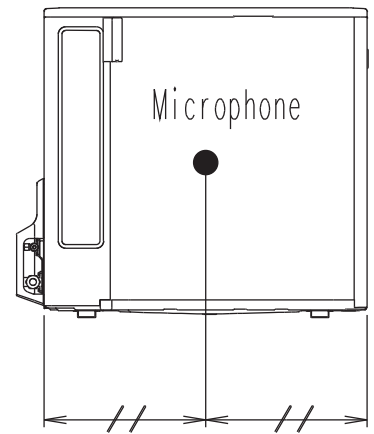
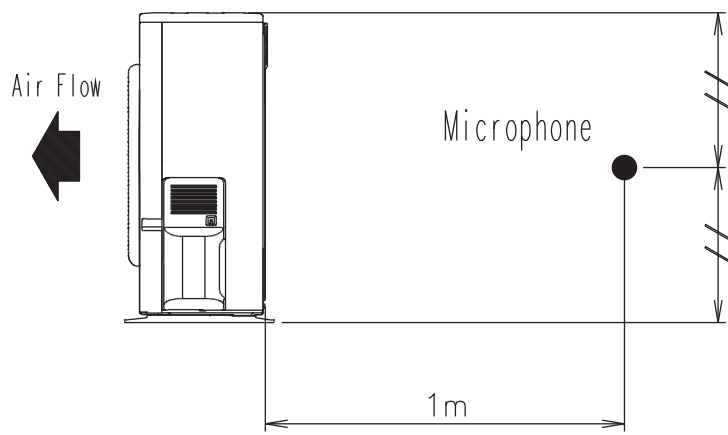


OUTDOOR UNIT
AO*G09-12LECAN

OUTDOOR UNIT
AO*G09-12LECAN

8-2. SOUND LEVEL CHECK POINT

OUTDOOR UNIT
AO*G09-12LECAN



OUTDOOR UNIT
AO*G09-12LECAN

9. ELECTRIC CHARACTERISTICS

Model name			AO*G09LECAN	AO*G12LECAN
Power supply	Voltage	V	230 ~	
	Frequency	Hz	50	
*1) Max operating current		A	9.5	11.0
Starting Current		A	3.7	4.6
*2) Wiring Spec.:	Main Fuse (Circuit breaker) Current	A	15	
	Power Cable	mm ²	1.5	
	*3) Limited wiring length :	m	15	13

*1) The maximum current is the total current of indoor unit and outdoor unit.

*2) Wiring Spec.:

Selected Sample

(Selected based on Japan Electrotechnical Standard and Codes Committee E0005)

*3) Limited wiring length :

This is the wiring length in case voltage descent is less than 2%.

When the wiring length becomes long, please select the wiring of a more larger diameter.

10. SAFETY DEVICES

OUTDOOR UNIT
AO*G09-12LECAN

OUTDOOR UNIT
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	Protection form	Model	
		AO*G09LECAN	AO*G12LECAN
Circuit protection	Current fuse (Near the terminal)	250V 20A	
		250V 5A	
	Current fuse (Main printed circuit board)	250V 3.15A	
Fan motor protection	Thermal protection program	OFF : 150±15°C ON : 120±15°C	
Compressor protection	Thermal protection program (Discharge temp.)	OFF : 110°C ON : After 7 minutes	
Heater protection	Current fuse	250V 5A (2pcs)	
	Thermal protection switch (Heater temp.)	OFF: 55 ⁺³ ₋₃ °C ON: 45 ⁺⁴ ₋₄ °C	