

AIR CONDITIONER

**Wall mounted type**

# DESIGN & TECHNICAL MANUAL

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INDOOR



ASYG07LLCE  
ASYG09LLCE  
ASYG12LLCE

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OUTDOOR



AOYG07LLCE  
AOYG09LLCE  
AOYG12LLCE

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FUJITSU GENERAL LIMITED

**Notices:**

- Product specifications and design are subject to change without notice for future improvement.
- For further details, please check with our authorized dealer.

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# **Part 1. INDOOR UNIT**

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**WALL MOUNTED TYPE:**

**ASYG07LLCE**

**ASYG09LLCE**

**ASYG12LLCE**

# 1. Specifications

Type				Wall mounted				
				Inverter heat pump				
Model name				ASYG07LLCE	ASYG09LLCE	ASYG12LLCE		
Power supply				230 V ~ 50 Hz				
Available voltage range				198—264 V				
Capacity	Cooling	Rated	kW	2.00	2.50	3.40		
		Min.—Max.	Btu/h	6,800	8,500	11,600		
			kW	0.9—2.8	0.9—3.0	0.9—3.8		
	Heating	Min.—Max.	Btu/h	3,100—9,500	3,100—10,200	3,100—13,000		
			kW	2.70	3.00	4.00		
		Rated	Btu/h	9,200	10,200	13,600		
Input power	Cooling	Min.—Max.	kW	0.470	0.730	1.080		
				0.25—1.29	0.25—1.29	0.25—1.40		
		Rated		0.620	0.740	1.130		
	Heating	Min.—Max.	W	0.25—1.63	0.25—1.63	0.25—1.98		
				HIGH	29			
		MED		19				
		LOW		8				
	Fan	QUIET	5					
			2.6					
			3.0					
3.5								
EER				Cooling	kW/kW	4.26	3.42	3.15
COP				Heating		4.35	4.05	3.54
Sensible capacity				Cooling	kW	1.30	1.60	2.20
Power factor				Cooling	%	79	91	91
				Heating	%	90	92	92
Moisture removal				L/h (pints/h)	1.0 (1.8)	1.3 (2.3)	1.8 (3.2)	
Maximum operating current *1				Cooling	A	6.0	6.0	6.5
				Heating		7.5	7.5	9.0
Fan	Airflow rate	Cooling	m <sup>3</sup> /h	HIGH	720			
				MED	600			
				LOW	420			
				QUIET	325			
		Heating		HIGH	740			
				MED	600			
				LOW	450			
				QUIET	325			
	Type × Q'ty				Cross flow fan × 1			
	Motor output				W	30		
Sound pressure level *2				Cooling	dB (A)	HIGH	43	
						MED	38	
						LOW	33	
						QUIET	22	
				Heating		HIGH	43	
						MED	38	
						LOW	33	
						QUIET	22	
Heat exchanger type				Dimensions (H × W × D)	mm	256 × 630 × 20		
				Fin pitch		1.1		
				Rows × Stages		2 × 16		
				Pipe type		Copper tube		
				Fin type		Aluminum		
Enclosure				Material	Polystyrene			
				Color	White + Pearl white (painted) Approximate color of Munsell N 9.25/			
Dimensions (H × W × D)				Net	mm	262 × 820 × 206		
				Gross		263 × 870 × 328		
Weight				Net	kg	7.0		
				Gross		9.5		
Connection pipe				Size	Liquid	Ø 6.35 (Ø 1/4)		
					Gas	Ø 9.52 (Ø 3/8)		
				Method	Flare			
Drain hose				Material	PP+LLDPE			
				Size	mm	Ø 13.8 (I.D.), Ø 15.8 to Ø 16.7 (O.D.)		
Operation range				Cooling	°C	18 to 32		
					%RH	80 or less		
Remote controller type				Heating	°C	16 to 30		
					Wireless			

**NOTES:**

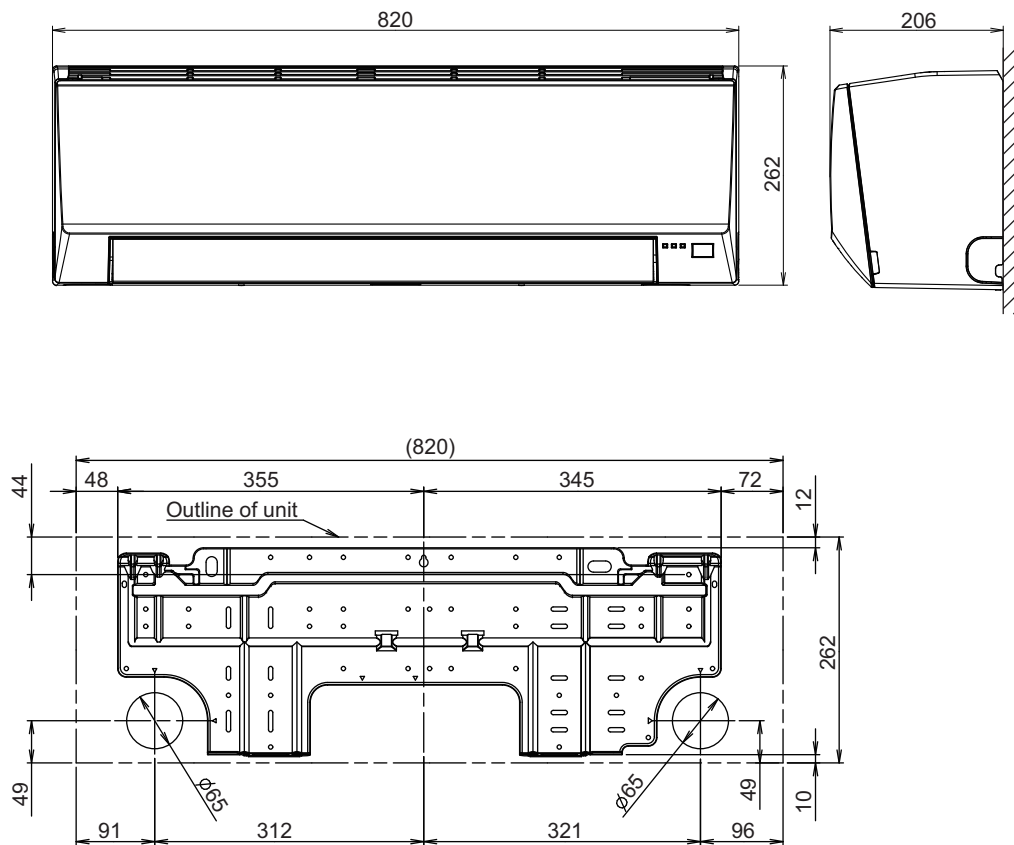
- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.
  - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.
  - Pipe length: 5 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- \*1: Maximum current is maximum value when operated within the operation range.
- \*2: Sound pressure level:
  - Measured values in manufacturer's anechoic chamber.
  - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

Model name			ASYG07LLCE	ASYG09LLCE	ASYG12LLCE
Energy efficiency class	Cooling		A <sup>++</sup>	A <sup>++</sup>	A <sup>++</sup>
	Heating (Average)		A <sup>+</sup>	A <sup>+</sup>	A
Pdesign	Cooling	kW	2.0 (35 °C)	2.5 (35 °C)	3.4 (35 °C)
	Heating (Average)		2.2 (-10 °C)	2.3 (-10 °C)	3.2 (-10 °C)
SEER	Cooling	kWh/kWh	6.70	6.90	6.60
SCOP	Heating (Average)		4.00	4.00	3.80
Annual energy consumption	QCE		104	127	180
	QHE (Average)		770	805	1,179
Sound power level	Cooling	HIGH	dB (A)	59	59
	Heating			60	60

## 2. Dimensions

### 2-1. Models: ASYG07LLCE, ASYG09LLCE, and ASYG12LLCE

Unit: mm

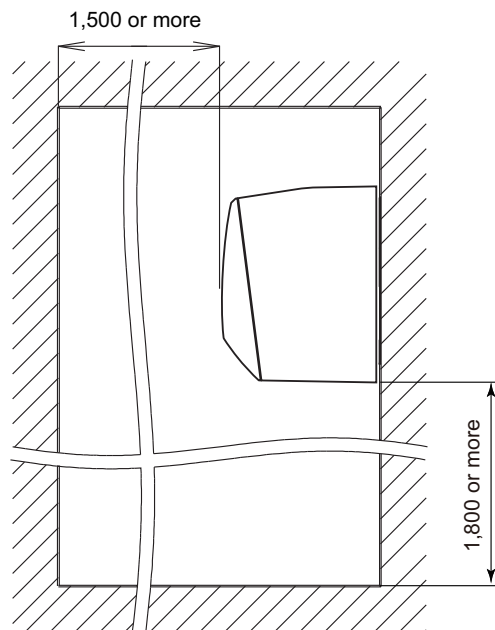
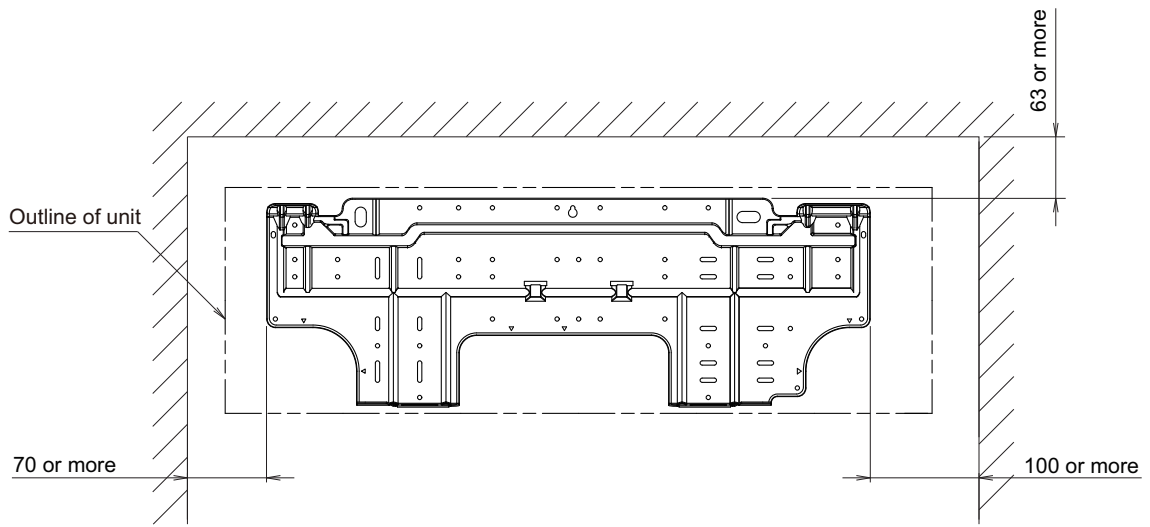




## ■ Installation space requirement

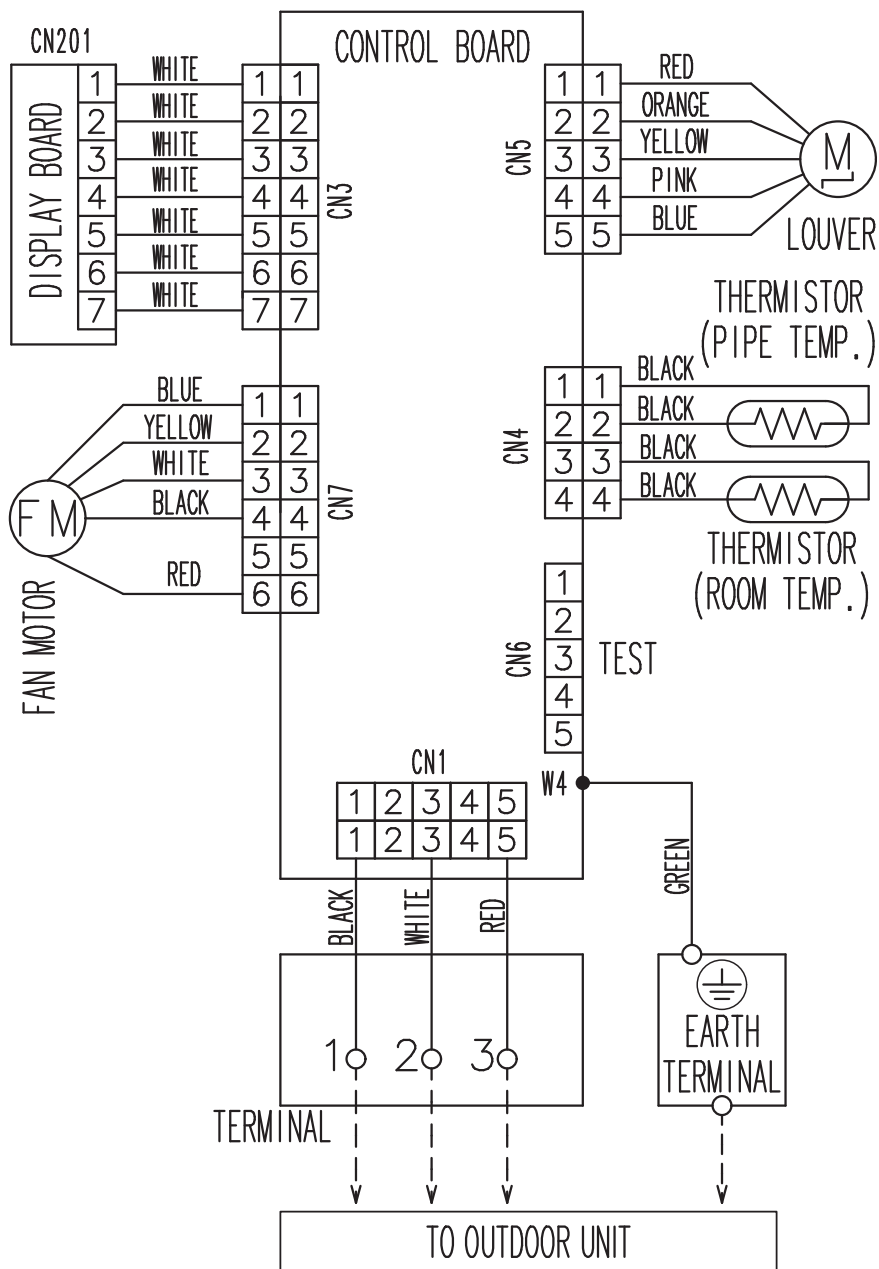
Provide sufficient installation space for product safety.

Unit: mm



### 3. Wiring diagrams

#### 3-1. Models: ASYG07LLCE, ASYG09LLCE, and ASYG12LLCE



## 4. Capacity table

Capacity tables show each of following values calculated based on the outdoor temperature and the indoor temperature, under given Airflow Rate (AFR):

**For cooling capacity:** Total Capacity (TC), Sensible Heat Capacity (SHC), and Input Power (IP)

**For heating capacity:** Total Capacity (TC) and Input Power (IP)

### 4-1. Cooling capacity

#### ■ Model:ASYG07LLCE

AFR		m <sup>3</sup> /h									720														
Outdoor temperature	°CDB	18			21			23			25			27			29			32					
	°CWB	12			15			16			18			19			21			23					
	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP			
		kW			kW			kW			kW			kW			kW			kW					
		20	25	30	35	40	43	20	25	30	35	40	43	20	25	30	35	40	43	20	25	30	35	40	43
		1.87	1.32	0.33	2.09	1.33	0.34	2.16	1.45	0.34	2.30	1.45	0.34	2.37	1.57	0.34	2.51	1.56	0.35	2.65	1.66	0.35	2.65	1.66	0.35
		1.78	1.26	0.37	1.98	1.26	0.38	2.05	1.37	0.38	2.18	1.38	0.38	2.25	1.49	0.38	2.39	1.48	0.39	2.52	1.58	0.39	2.52	1.58	0.39
		1.68	1.19	0.41	1.87	1.19	0.42	1.94	1.30	0.42	2.06	1.30	0.42	2.13	1.41	0.43	2.25	1.40	0.43	2.38	1.49	0.44	2.38	1.49	0.44
		1.58	1.12	0.45	1.76	1.12	0.46	1.82	1.22	0.46	1.94	1.23	0.47	2.00	1.32	0.47	2.12	1.32	0.47	2.24	1.40	0.48	2.24	1.40	0.48
		1.41	1.00	0.45	1.57	1.00	0.46	1.62	1.09	0.46	1.73	1.09	0.47	1.78	1.18	0.47	1.89	1.17	0.47	2.00	1.25	0.48	2.00	1.25	0.48
		1.31	0.92	0.45	1.45	0.93	0.46	1.50	1.01	0.46	1.60	1.01	0.47	1.65	1.09	0.47	1.75	1.09	0.47	1.85	1.16	0.48	1.85	1.16	0.48

#### ■ Model:ASYG09LLCE

AFR		m <sup>3</sup> /h									720														
Outdoor temperature	°CDB	18			21			23			25			27			29			32					
	°CWB	12			15			16			18			19			21			23					
	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kW			kW			kW			kW			kW			kW			kW					
		20	25	30	35	40	43	20	25	30	35	40	43	20	25	30	35	40	43	20	25	30	35	40	43
		2.34	1.62	0.51	2.61	1.63	0.52	2.70	1.77	0.52	2.87	1.78	0.53	2.96	1.92	0.53	3.14	1.91	0.54	3.32	2.04	0.54	3.32	2.04	0.54
		2.22	1.54	0.58	2.48	1.55	0.58	2.56	1.68	0.59	2.73	1.69	0.59	2.81	1.82	0.60	2.98	1.82	0.60	3.15	1.93	0.61	3.15	1.93	0.61
		2.10	1.45	0.64	2.34	1.46	0.65	2.42	1.59	0.65	2.58	1.60	0.66	2.66	1.72	0.66	2.82	1.72	0.67	2.98	1.83	0.68	2.98	1.83	0.68
		1.98	1.37	0.70	2.20	1.38	0.72	2.28	1.50	0.72	2.43	1.50	0.73	2.50	1.62	0.73	2.65	1.61	0.74	2.80	1.72	0.74	2.80	1.72	0.74
		1.76	1.22	0.70	1.96	1.23	0.71	2.03	1.33	0.72	2.16	1.34	0.73	2.23	1.44	0.73	2.36	1.44	0.74	2.50	1.53	0.74	2.50	1.53	0.74
		1.63	1.13	0.70	1.82	1.14	0.71	1.88	1.24	0.72	2.00	1.24	0.72	2.07	1.34	0.73	2.19	1.33	0.73	2.31	1.42	0.74	2.31	1.42	0.74

#### ■ Model:ASYG12LLCE

AFR		m <sup>3</sup> /h									720														
Outdoor temperature	°CDB	18			21			23			25			27			29			32					
	°CWB	12			15			16			18			19			21			23					
	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
		kW			kW			kW			kW			kW			kW			kW					
		20	25	30	35	40	43	20	25	30	35	40	43	20	25	30	35	40	43	20	25	30	35	40	43
		3.18	2.18	0.76	3.55	2.19	0.77	3.67	2.39	0.77	3.91	2.39	0.78	4.03	2.59	0.79	4.27	2.57	0.79	4.51	2.74	0.80	4.51	2.74	0.80
		3.02	2.07	0.85	3.37	2.08	0.87	3.48	2.27	0.87	3.71	2.27	0.88	3.83	2.45	0.88	4.06	2.44	0.89	4.28	2.60	0.90	4.28	2.60	0.90
		2.86	1.96	0.95	3.18	1.97	0.96	3.29	2.14	0.97	3.51	2.15	0.98	3.62	2.32	0.98	3.83	2.31	0.99	4.05	2.46	1.00	4.05	2.46	1.00
		2.69	1.84	1.04	2.99	1.85	1.06	3.09	2.01	1.06	3.30	2.02	1.07	3.40	2.18	1.08	3.60	2.17	1.09	3.81	2.31	1.10	3.81	2.31	1.10
		2.39	1.64	1.04	2.67	1.65	1.06	2.76	1.79	1.06	2.94	1.80	1.07	3.03	1.94	1.08	3.21	1.94	1.09	3.39	2.06	1.10	3.39	2.06	1.10
		2.22	1.52	1.04	2.47	1.53	1.05	2.56	1.66	1.06	2.73	1.67	1.07	2.81	1.80	1.08	2.98	1.80	1.09	3.15	1.91	1.10	3.15	1.91	1.10

## 4-2. Heating capacity

### ■ Model:ASYG07LLCE

AFR	m <sup>3</sup> /h	740
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Outdoor temperature		Indoor temperature									
		16		18		20		22		24	
		°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP
				kW		kW		kW		kW	
-15	-16	2.42	1.22	2.36	1.24	2.30	1.27	2.24	1.30	2.19	1.32
-10	-11	2.51	1.17	2.45	1.20	2.39	1.22	2.33	1.24	2.27	1.27
-5	-7	2.75	1.15	2.68	1.18	2.61	1.20	2.55	1.23	2.48	1.25
0	-2	3.18	1.18	3.10	1.21	3.03	1.23	2.95	1.26	2.87	1.28
5	3	3.61	1.21	3.52	1.23	3.44	1.26	3.35	1.28	3.26	1.31
7	6	3.78	1.22	3.69	1.25	3.60	1.27	3.51	1.30	3.42	1.32
10	8	3.80	1.18	3.71	1.21	3.62	1.23	3.53	1.26	3.44	1.28
15	10	3.98	1.19	3.89	1.22	3.79	1.24	3.70	1.27	3.60	1.29

### ■ Model:ASYG09LLCE

AFR	m <sup>3</sup> /h	740
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Outdoor temperature		Indoor temperature									
		16		18		20		22		24	
		°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP
				kW		kW		kW		kW	
-15	-16	2.63	1.23	2.56	1.25	2.50	1.28	2.44	1.31	2.38	1.33
-10	-11	2.72	1.18	2.66	1.21	2.59	1.23	2.53	1.25	2.46	1.28
-5	-7	2.96	1.16	2.88	1.19	2.81	1.21	2.74	1.24	2.67	1.26
0	-2	3.39	1.20	3.31	1.22	3.23	1.25	3.14	1.27	3.06	1.30
5	3	3.82	1.23	3.73	1.25	3.64	1.28	3.54	1.30	3.45	1.33
7	6	3.99	1.24	3.90	1.27	3.80	1.29	3.71	1.32	3.61	1.34
10	8	3.94	1.18	3.84	1.21	3.75	1.23	3.66	1.26	3.56	1.28
15	10	4.11	1.19	4.01	1.22	3.91	1.24	3.81	1.27	3.71	1.29

### ■ Model:ASYG12LLCE

AFR	m <sup>3</sup> /h	740
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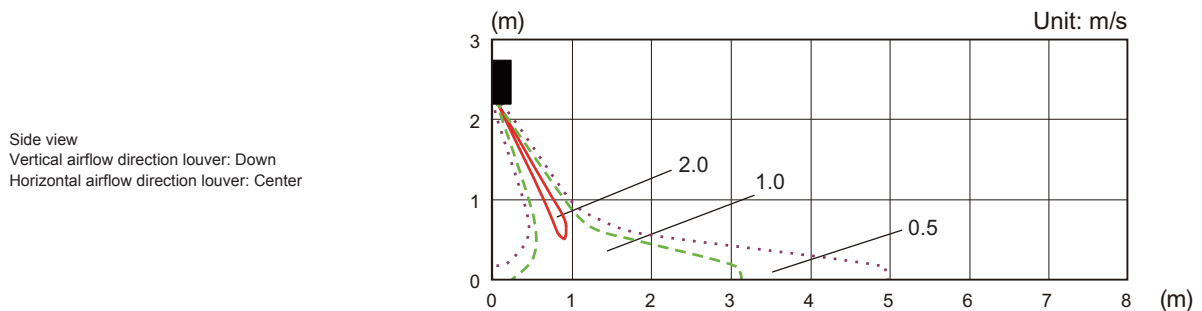
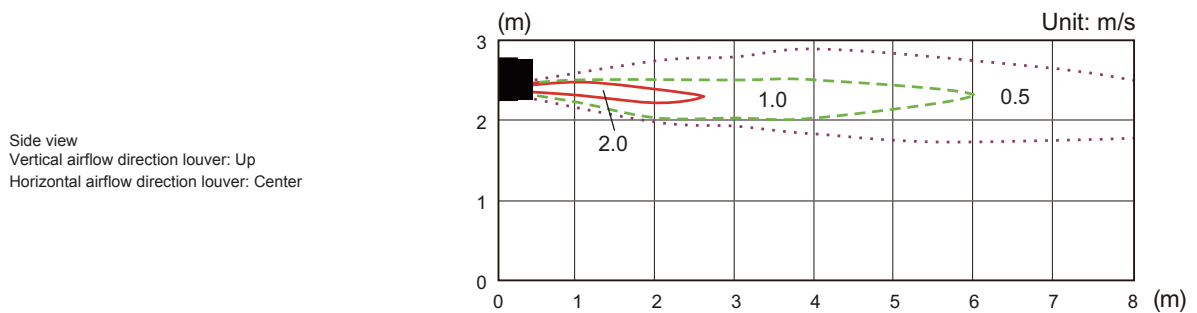
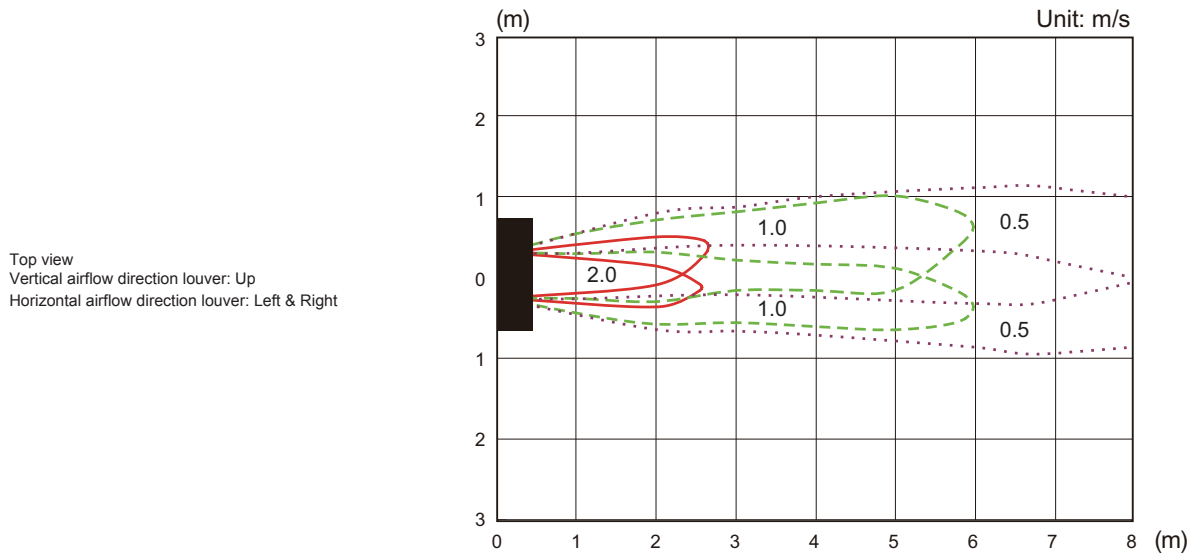
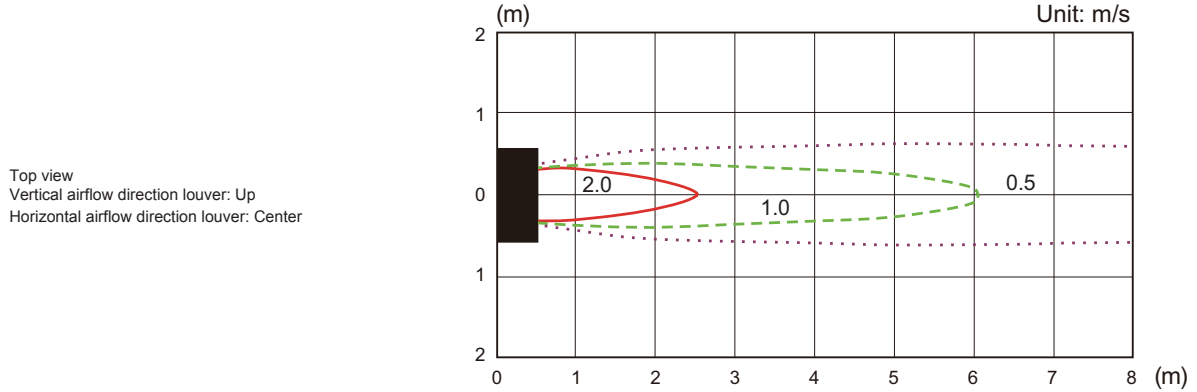
Outdoor temperature		Indoor temperature									
		16		18		20		22		24	
		°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP
				kW		kW		kW		kW	
-15	-16	3.17	1.39	3.10	1.42	3.02	1.45	2.94	1.48	2.87	1.51
-10	-11	3.35	1.44	3.27	1.47	3.20	1.50	3.12	1.53	3.04	1.56
-5	-7	3.72	1.48	3.63	1.51	3.54	1.54	3.45	1.57	3.37	1.60
0	-2	4.36	1.51	4.25	1.54	4.15	1.57	4.05	1.60	3.94	1.63
5	3	5.00	1.53	4.88	1.57	4.76	1.60	4.64	1.63	4.52	1.66
7	6	5.25	1.55	5.13	1.58	5.00	1.61	4.88	1.64	4.75	1.67
10	8	4.90	1.38	4.78	1.41	4.66	1.44	4.55	1.47	4.43	1.50
15	10	5.15	1.39	5.02	1.42	4.90	1.45	4.78	1.48	4.66	1.51

# 5. Fan performance

## 5-1. Air velocity distributions

### ■ Models: ASYG07LLCE, ASYG09LLCE, and ASYG12LLCE

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN



## 5-2. Airflow

### ■ Models: ASYG07LLCE, ASYG09LLCE, and ASYG12LLCE

#### ● Cooling

Fan speed	Airflow	
HIGH	m <sup>3</sup> /h	720
	l/s	200
	CFM	424
MED	m <sup>3</sup> /h	600
	l/s	167
	CFM	353
LOW	m <sup>3</sup> /h	420
	l/s	117
	CFM	247
QUIET	m <sup>3</sup> /h	325
	l/s	90
	CFM	191

#### ● Heating

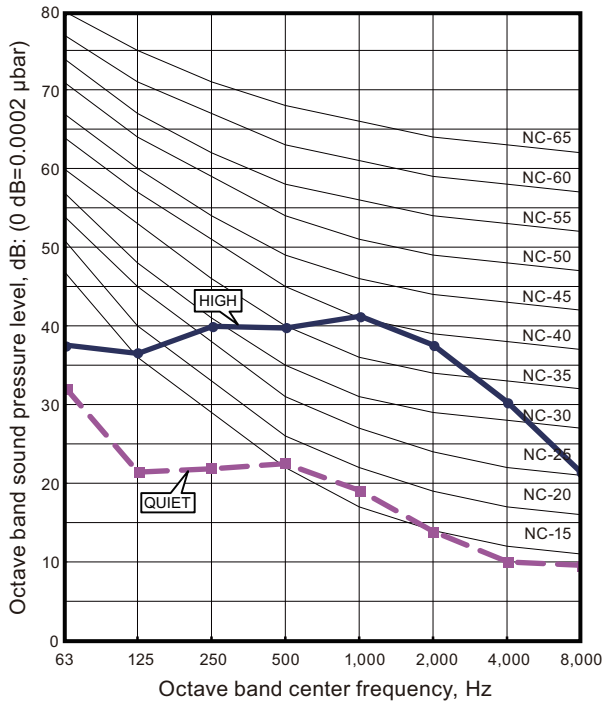
Fan speed	Airflow	
HIGH	m <sup>3</sup> /h	740
	l/s	206
	CFM	436
MED	m <sup>3</sup> /h	600
	l/s	167
	CFM	353
LOW	m <sup>3</sup> /h	450
	l/s	125
	CFM	265
QUIET	m <sup>3</sup> /h	325
	l/s	90
	CFM	191

## 6. Operation noise (sound pressure)

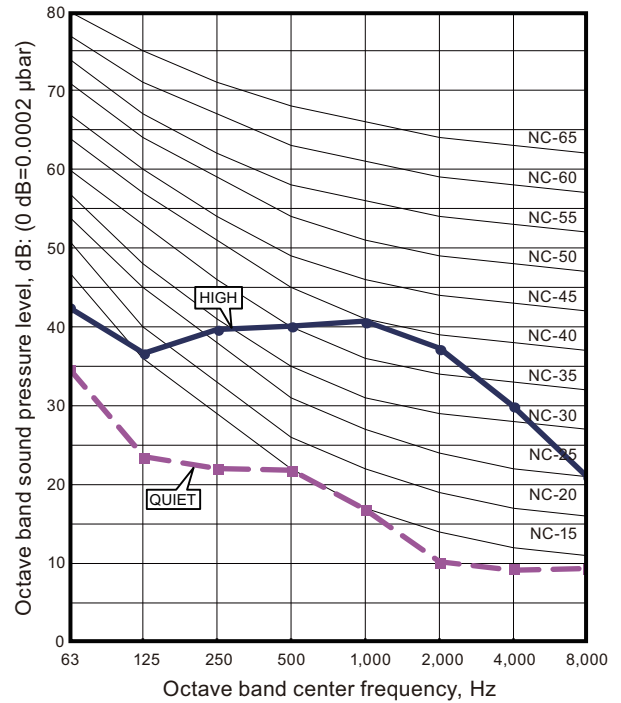
### 6-1. Noise level curve

#### ■ Models:ASYG07LLCE and ASYG09LLCE

##### ● Cooling

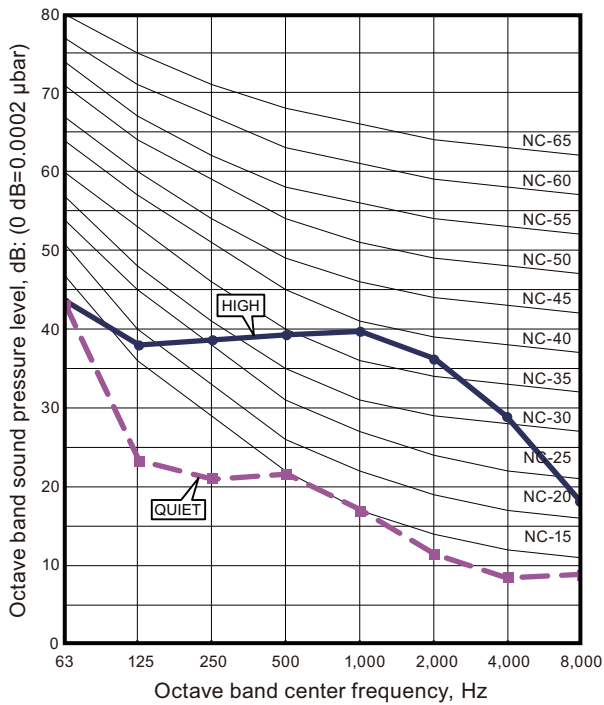


##### ● Heating

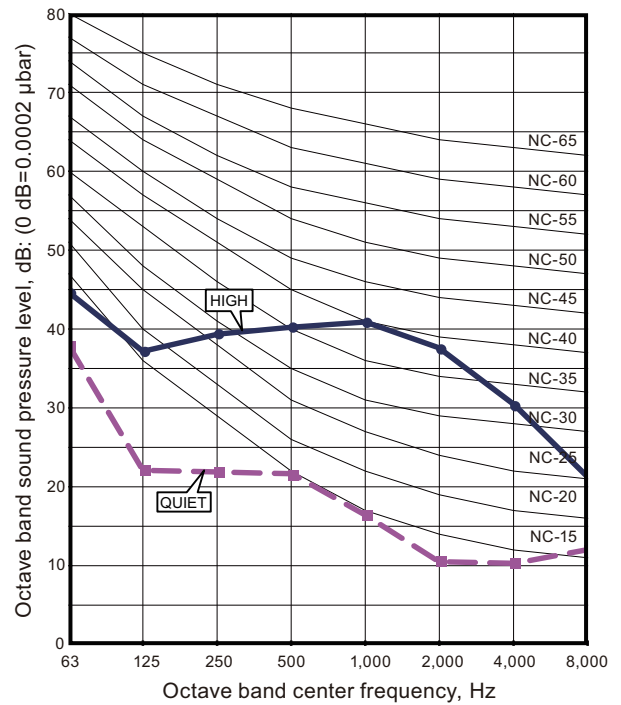


#### ■ Model:ASYG12LLCE

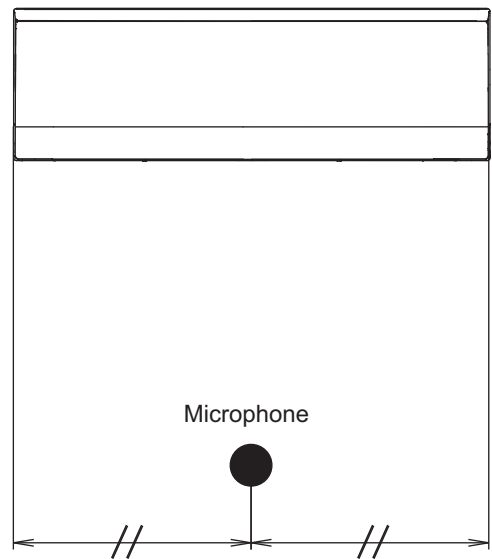
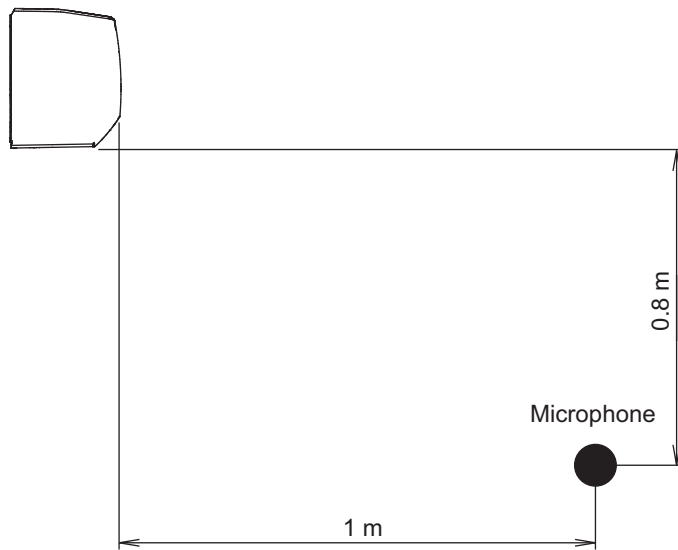
##### ● Cooling



##### ● Heating



## 6-2. Sound level check point





## 7. Safety devices

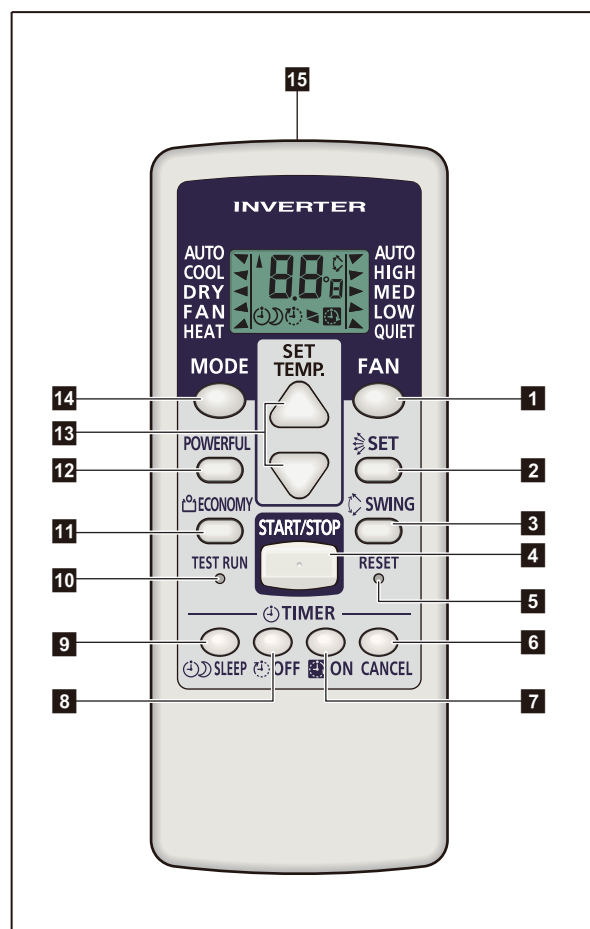
Type of protection	Protection form		Model		
			ASYG07LLCE	ASYG09LLCE	ASYG12LLCE
Circuit protection	Current fuse (PCB*)		250 V, 3.15 A		
Fan motor protection	Thermistor protection program	Activate	93±5 °C Fan motor speed down		
		Reset	93±5 °C Fan motor speed recover		

\*PCB: Printed Circuit Board

## 8. Remote controller

### 8-1. Wireless remote controller

#### ■ Overview



- 1 FAN button**
- 2 SET button**
- 3 SWING button**
- 4 START/STOP button**
- 5 RESET button**
- 6 TIMER CANCEL button**
- 7 ON TIMER button**
- 8 OFF TIMER button**
- 9 SLEEP TIMER button**
- 10 TEST RUN button**

- Used only when installing the air conditioner, and should not be used under normal conditions, as it will cause the indoor unit's thermostat malfunction.
- If this button is pressed during normal operation, the indoor unit will switch to test operation mode, and the operation indicator lamp and the timer indicator lamp on the indoor unit will begin to flash simultaneously.
- To stop the test operation mode, press the START/STOP button. Then, the air conditioner stops the operation.

- 11 ECONOMY button**
- 12 POWERFUL button**
- 13 SET TEMP. (temperature) (▲ / ▼) button**

- Sets desired temperature.
- Sets remote controller custom code.

- 14 MODE button**

- Switches operation mode (AUTO, COOL, DRY, FAN, and HEAT).
- Starts/ends the remote controller custom code (max. 4 types) change.

- 15 Signal transmitter**

- 16 Operating mode indicator**

- 17 Signal transmit indicator**

- 18 Temperature and time indicator**

- Displays set temperature.
- In timer setting, it displays the timer time. After finishing the timer setting, set temperature will reappear.

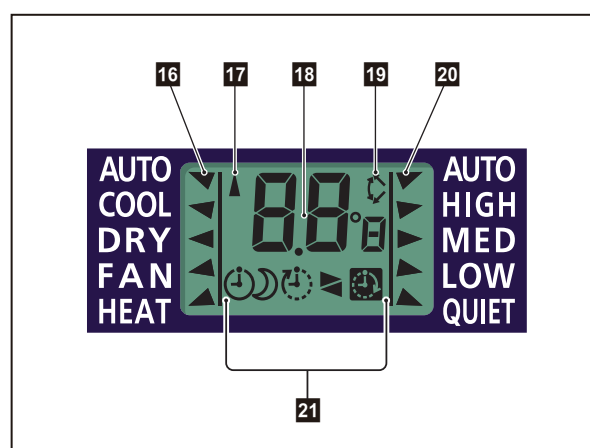
- 19 Swing indicator**

- 20 Fan speed indicator**

- 21 Timer mode indicator**

- Sleep timer
- OFF timer
- OFF-ON timer
- ON-OFF timer
- ON timer

Display panel

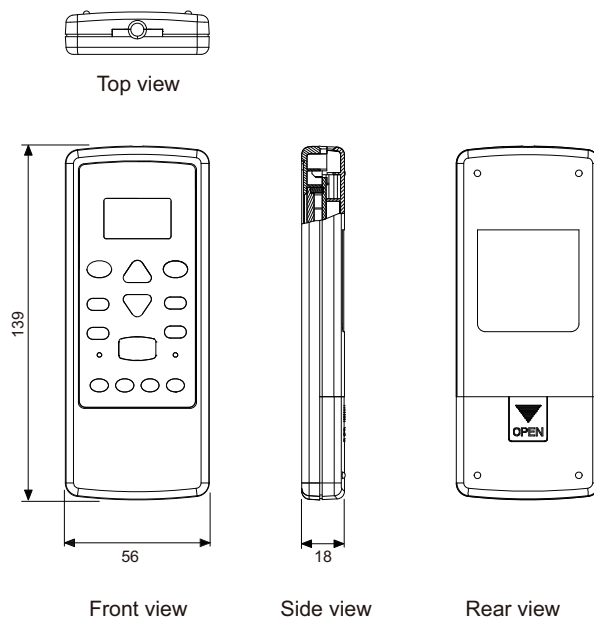


**NOTE:** Functions may differ by type of the indoor unit. For details, refer to the operation manual.

## ■ Specifications

### ● Controller

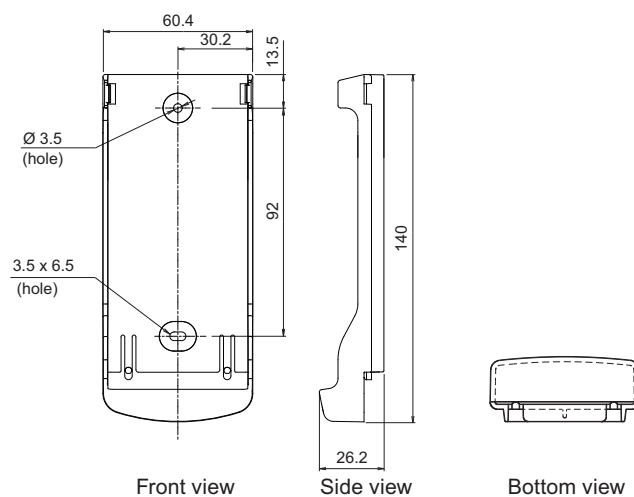
Unit: mm



Size (H × W × D)	mm	139 × 56 × 18
Weight	g	70 (without batteries)

### ● Holder

Unit: mm



Size (H × W × D)	mm	140 × 60.4 × 26.2
Weight	g	25

## 9. Function settings

To adjust the functions of this product according to the installation environment, various types of function settings are available.

**NOTE:** Incorrect settings can cause a product malfunction.

### 9-1. Function settings by using remote controller

Some function settings can be changed on the remote controller. After confirming the setting procedure and the content of each function setting, select appropriate functions for your installation environment.

**NOTE:** Incorrect settings can cause a product malfunction.

#### ■ Setting procedure by using wireless remote controller

The function number and the associated setting value are displayed on the LCD of the remote controller. Follow the instructions written in the local setup procedure supplied with the remote controller, and select appropriate setting according to the installation environment.

**Before connecting the power supply of the indoor unit, reconfirm following items:**

- Piping air tight test and vacuuming have been performed firmly.
- There is no wiring mistake.

**Then, connect the power supply of indoor unit.**

**Entering function setting mode:**

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

#### STEP 1: Setting the remote controller custom code

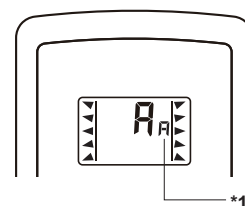
Use the following steps to select the custom code of the remote controller. (Note that the air conditioner cannot receive a custom code if the air conditioner has not been set for the custom code.)

The custom codes that are set through this process are applicable only to the signal in the function setting.

For details on how to set the custom codes through the normal process, refer to ["Custom code setting for wireless remote controller"](#) on page 21.

1. Press the SET TEMP. (▲) (▼) buttons to change the custom code between  $\overline{A} \rightarrow \overline{b} \rightarrow \overline{c} \rightarrow \overline{d}$ . Match the code on the display to the air conditioner custom code. (Initially set to  $\overline{A}$ .) If the custom code does not need to be selected, press the MODE button, and proceed to **STEP 2**.
2. Press the MODE button to accept the custom code, and proceed to **STEP 2**.

**\*1:** Small  $\overline{A}$  is displayed on the right of the custom code during the function setting.

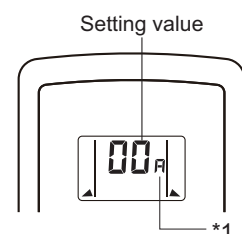
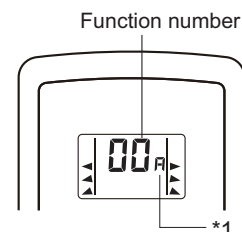


**NOTES:**

- The air conditioner custom code is set to  $\overline{R}$  prior to shipment. To change the custom code, contact your retailer.
- The remote controller resets to custom code  $\overline{R}$  when the batteries on the remote controller are replaced. If you use a custom code other than code  $\overline{R}$ , reset the custom code after replacing the batteries.
- If you do not know the air conditioner custom code setting, try each of the custom codes ( $\overline{R} \rightarrow \overline{b} \rightarrow \overline{c} \rightarrow \overline{d}$ ) until you find the code that operates the air conditioner.

**STEP 2: Selecting the function number and setting value**

1. Press the SET TEMP. ( $\blacktriangle$ ) ( $\blacktriangledown$ ) buttons to select the function number. To switch between the left and right digits, press the MODE button.
2. Press the FAN button to proceed the setting value. To return the function number selection, press the FAN button again.
3. Press the SET TEMP. ( $\blacktriangle$ ) ( $\blacktriangledown$ ) buttons to select the setting value. To switch between the left and right digits, press the MODE button.
4. Press the SLEEP button, then after you hear the beep emitted from the indoor unit, the START/STOP button in the order to confirm the settings.
5. Press the RESET button to cancel the function setting mode.
6. After completing the function setting, be sure to disconnect the power supply and then reconnect it.



\*1: Small  $\overline{R}$  is displayed on the right of the custom code during the function setting.

 **$\triangle$  CAUTION**

After disconnect the power supply, wait 30 seconds or more before reconnecting it. The function setting will not become active unless the power supply is disconnected and then reconnected.

## ■ Contents of function setting

Each function setting listed in this section is adjustable in accordance with the installation environment.

**NOTE:** Setting will not be changed if invalid numbers or setting values are selected.

### ● Function setting list

	Function no.	Functions
1)	11	Filter sign
2)	30	Room temperature sensor control for cooling
3)	31	Room temperature sensor control for heating
4)	40	Auto restart
5)	44	Remote controller custom code
6)	49	Indoor unit fan control for energy saving for cooling

#### 1) Filter sign

Select appropriate intervals for displaying the filter sign on the indoor unit according to the estimated amount of dust in the air of the room.

If the indication is not required, select "No indication" (03).

Function number	Setting value	Setting description	Factory setting
11	00	Standard (400 hours)	
	01	Long interval (1,000 hours)	
	02	Short interval (200 hours)	
	03	No indication	◆

#### 2) Room temperature sensor control for cooling

Depending on the installed environment, correction of the room temperature sensor may be required. Select the appropriate control setting according to the installed environment.

Function number	Setting value	Setting description	Factory setting
30	00	Standard	◆
	01	Slightly lower control	
	02	Lower control	
	03	Higher control	

#### 3) Room temperature sensor control for heating

Depending on the installed environment, correction of the room temperature sensor may be required. Select the appropriate control setting according to the installed environment.

Function number	Setting value	Setting description	Factory setting
31	00	Standard	◆
	01	Lower control	
	02	Slightly higher control	
	03	Higher control	

**4) Auto restart**

Enables or disables automatic restart after a power interruption.

Function number	Setting value	Setting description	Factory setting
40	00	Enable	◆
	01	Disable	

**NOTE:** Auto restart is an emergency function such as for power outage etc. Do not attempt to use this function in normal operation. Be sure to operate the unit by remote controller or external device.

**5) Remote controller custom code**

(Only for wireless remote controller)

The indoor unit custom code can be changed. Select the appropriate custom code.

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

**6) Indoor unit fan control for energy saving for cooling**

Enables or disables the power-saving function by controlling the indoor unit fan rotation when the outdoor unit is stopped during cooling operation.

Function number	Setting value	Setting description	Factory setting
49	00	Disable	
	01	Enable	◆

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

01: When the outdoor unit is stopped, the indoor unit fan operates intermittently at a very low speed.

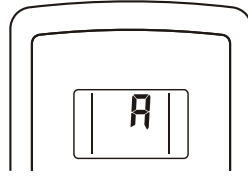


## 9-2. Custom code setting for wireless remote controller

To interconnect the air conditioner and the wireless remote controller, assignment of the custom code for the wireless remote controller is required.

**NOTE:** Air conditioner cannot receive a custom code if the air conditioner has not been set for the custom code.

1. Press the MODE button for at least 5 seconds to display the current custom code. (Initially set to  $\overline{A}$ .)





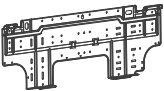

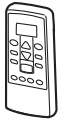


2. Press the SET TEMP. ( $\blacktriangle$  or  $\blacktriangledown$ ) button to change the custom code between  $\overline{A} \rightarrow \overline{b} \rightarrow \overline{c} \rightarrow \overline{d}$ . Match the code on the display to the air conditioner custom code.
3. Press the MODE button again. The custom code will be changed.

### NOTES:

- If no button is pressed within 30 seconds after the custom code is displayed, the system returns to the original clock indicator. In this case, start again from step 1.
- The air conditioner custom code is set to  $\overline{A}$  prior to shipment. To change the custom code, contact your retailer.
- The remote controller resets to custom code  $\overline{A}$  when the batteries in the remote controller are replaced. If you use a custom code other than code  $\overline{A}$ , reset the appropriate custom code after replacing the batteries. If you do not know the assigned code for the air conditioner, try each of the custom code ( $\overline{A} \rightarrow \overline{b} \rightarrow \overline{c} \rightarrow \overline{d}$ ) until you find the code which operates the air conditioner.

## 10. Accessories

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Operating manual		1	Battery		2
Installation manual		1	Cloth tape		1
Wall hook bracket		1	Tapping screw (large), M4 × 25 mm		5
Remote controller		1			

# **Part 2. OUTDOOR UNIT**

---

**SINGLE TYPE:**

**AOYG07LLCE**

**AOYG09LLCE**

**AOYG12LLCE**

# 1. Specifications

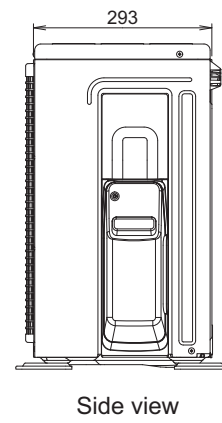
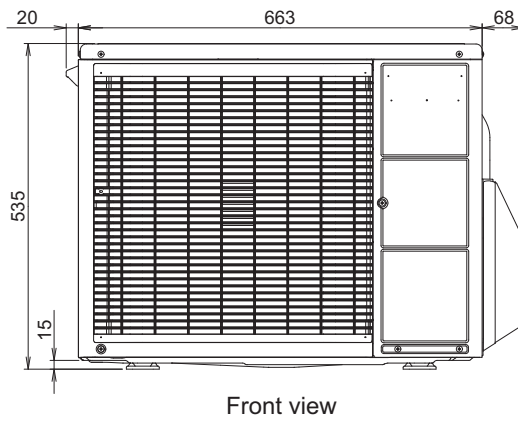
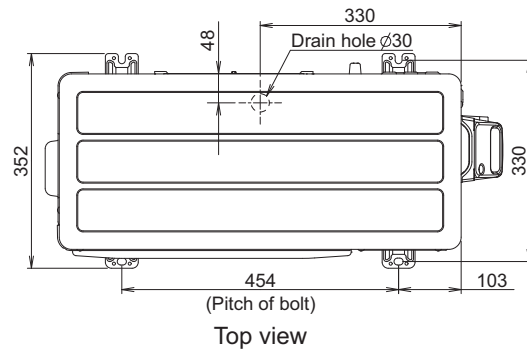
OUTDOOR UNIT  
AOYG07-12LLCE

Type		Inverter heat pump		
Model name		AOYG07LLCE	AOYG09LLCE	AOYG12LLCE
Power supply		230 V ~ 50 Hz		
Available voltage range		198—264 V		
Starting current		A	3.0	3.5
Fan	Airflow rate	Cooling	1,670	
		Heating	1,470	
	Type × Qty	Propeller fan × 1		
Motor output		W	23	
Sound pressure level *1	Cooling	dB (A)	47	
			Heating	48
Sound power level	Cooling	dB (A)	61	
			Heating	61
Heat exchanger type	Dimensions (H × W × D)		650 × 504 × 18.2	
	Fin pitch		1.30	
	Rows × Stages		1 × 24	
	Pipe type		Copper	
	Fin type		Type (Material) Surface treatment	
		Corrugate (Aluminum) Corrosion resistance (Blue fin)		
Compressor	Type × Qty	Rotary × 1		
	Motor output	W	610	670
Refrigerant	Type (Global warming potential)		R410A (1975)	
	Charge	g	650	850
Refrigerant oil	Type		POE (VG74)	
	Amount	cm <sup>3</sup>	370	
Enclosure	Material		Steel sheet	
	Color		Beige Approximate color of MUNSELL 10YR7.5/1.0	
Dimensions (H × W × D)	Net		535 × 663 × 293	
	Gross		595 × 790 × 395	
Weight	Net		24	
	Gross		27	
Connection pipe	Size	Liquid	Ø 6.35 (Ø 1/4)	
		Gas	Ø 9.52 (Ø 3/8)	
	Method		Flare	
	Pre-charge length		15	
	Max. length		20	
Max. height difference		15		
Operation range	Cooling	°C	-10 to 43	
			Heating	-15 to 24
Drain hose	Material		LDPE	
	Size		Ø 13.0 (I. D.), Ø 16.0 to Ø 16.7 (O. D.)	
<b>NOTES:</b> <ul style="list-style-type: none"> <li>Specifications are based on the following conditions: <ul style="list-style-type: none"> <li>Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.</li> <li>Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.</li> <li>Pipe length: 5 m, Height difference: 0 m.</li> </ul> </li> <li>Protective function might work when using it outside the operation range.</li> <li>*1: Sound pressure level <ul style="list-style-type: none"> <li>Measured values in manufacturer's anechoic chamber.</li> <li>Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.</li> </ul> </li> </ul>				

## 2. Dimensions

### 2-1. Models:AOYG07LLCE, AOYG09LLCE, and AOYG12LLCE

Unit: mm



### 3. Installation space

#### 3-1. Models:AOYG07LLCE, AOYG09LLCE, and AOYG12LLCE

##### ■ Space requirement

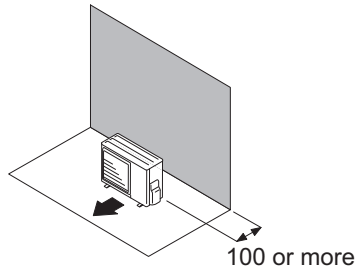
Provide sufficient installation space for product safety.

##### ● Single outdoor unit installation

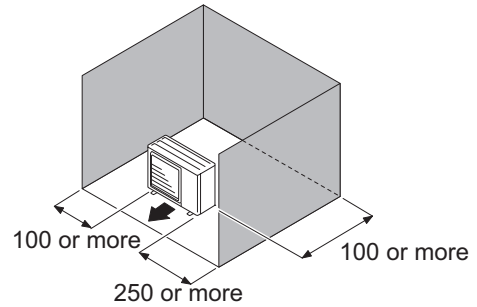
- When the upper space is open:

Unit: mm

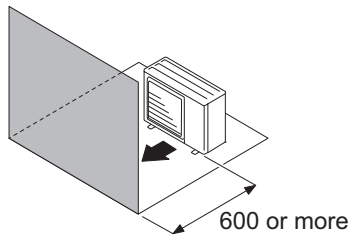
When there are obstacles at the rear only.



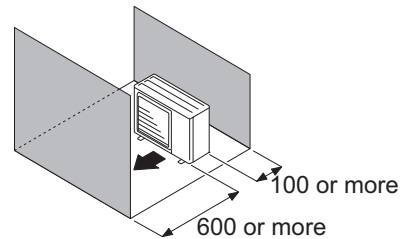
When there are obstacles at the rear and sides.



When there are obstacles at the front only.



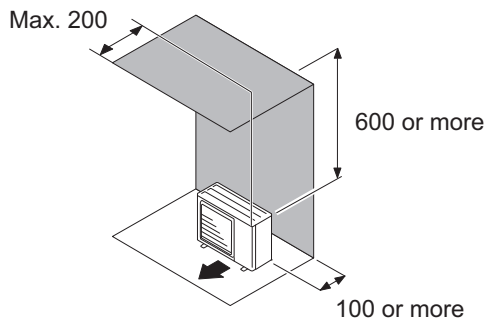
When there are obstacles at the front and rear.



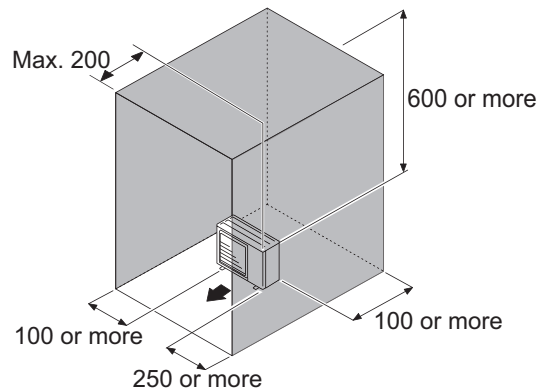
- When there is an obstruction in the upper space:

Unit: mm

When there are obstacles at the rear and above.



When there are obstacles at the rear, sides, and above.

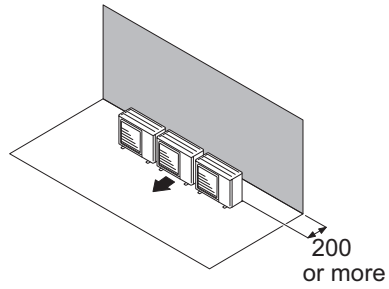


## ● Multiple outdoor unit installation

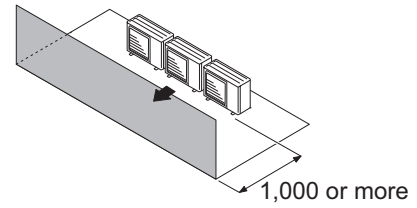
- When the upper space is open:

Unit: mm

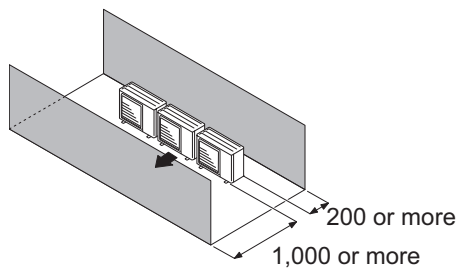
When there are obstacles at the rear only.



When there are obstacles at the front only.



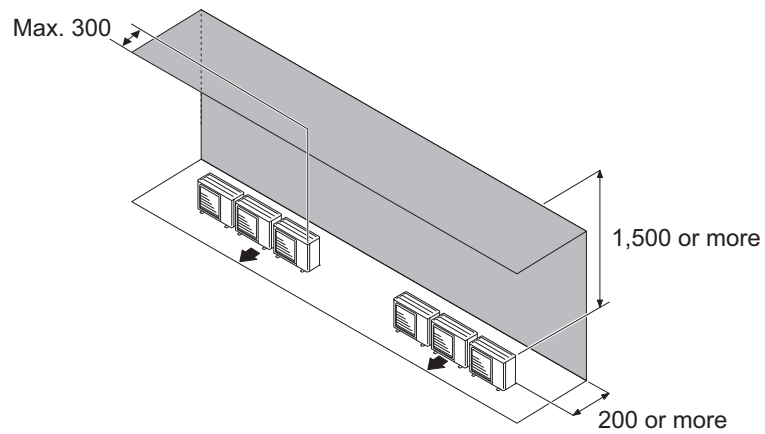
When there are obstacles at the front and rear.



- When there is an obstruction in the upper space:

Unit: mm

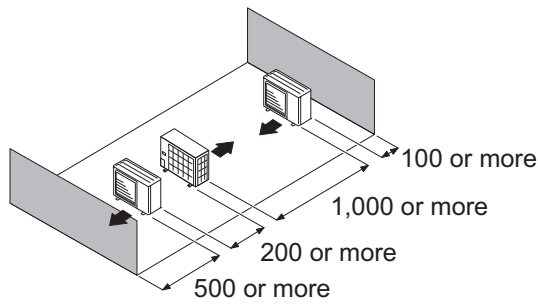
When there are obstacles at the rear and above.



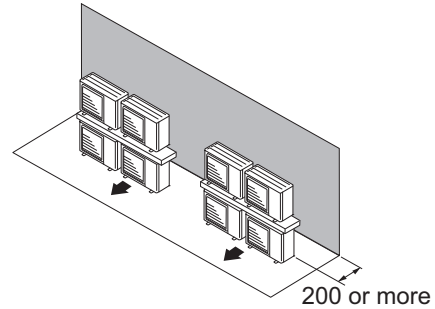
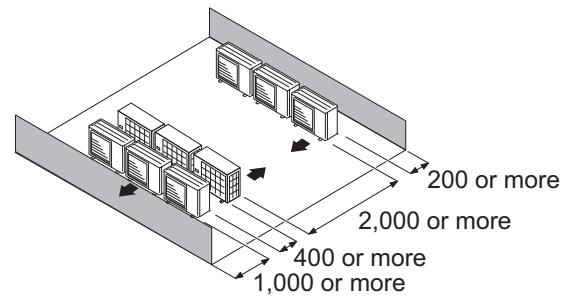
## ● Outdoor unit installation in multi-row

Unit: mm

Single parallel unit arrangement



Multiple parallel unit arrangement

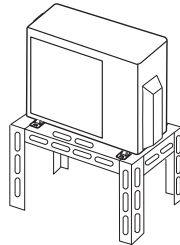


### NOTES:

- If the space is larger than stated above, the condition will be the same as when there is no obstacle.
- Height above the floor level should be 50 mm or more.
- When installing the outdoor unit, be sure to open the front and left side to obtain better operation efficiency.

### ⚠ CAUTION

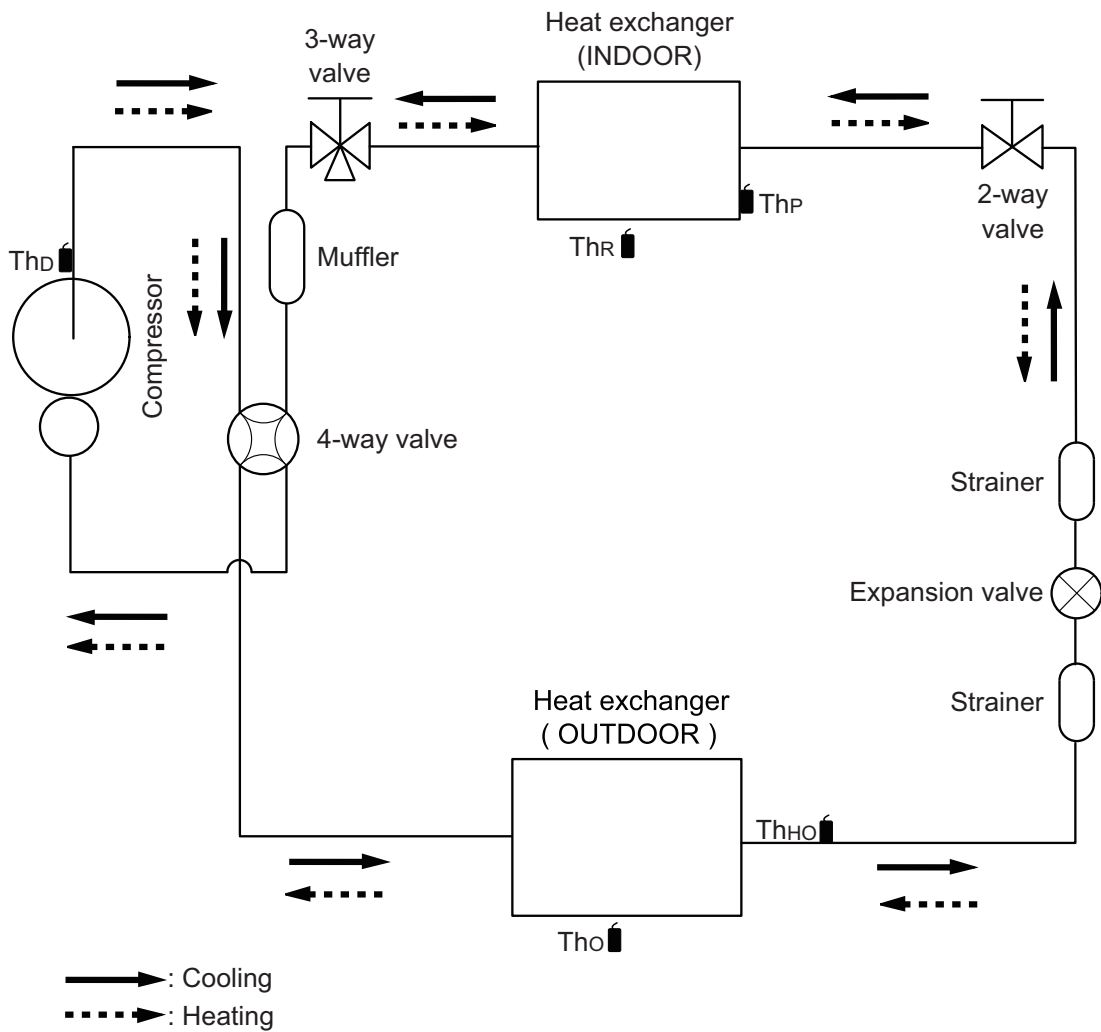
- Do not install the outdoor unit in two-stage where the drain water could freeze. Otherwise the drainage from the upper unit may form ice and cause a malfunction of the lower unit.
- When the outdoor temperature is 0 °C or less, do not use the accessory drain pipe and drain cap. If the drain pipe and drain cap are used, the drain water in the pipe may freeze in extremely cold climate. (For reverse cycle model only.)
- In area with heavy snowfall, if the inlet and outlet of the outdoor unit is blocked with snow, it might become difficult to get warm, and it is likely to cause product malfunction. Construct a canopy and a pedestal, or place the unit on a high stand that is locally installed.





## 4. Refrigerant circuit

### 4-1. Models: AOYG07LLCE, AOYG09LLCE, and AOYG12LLCE



ThD: Thermistor (Discharge temperature)

ThO: Thermistor (Outdoor temperature)

ThHO: Thermistor (Heat exchanger out temperature)

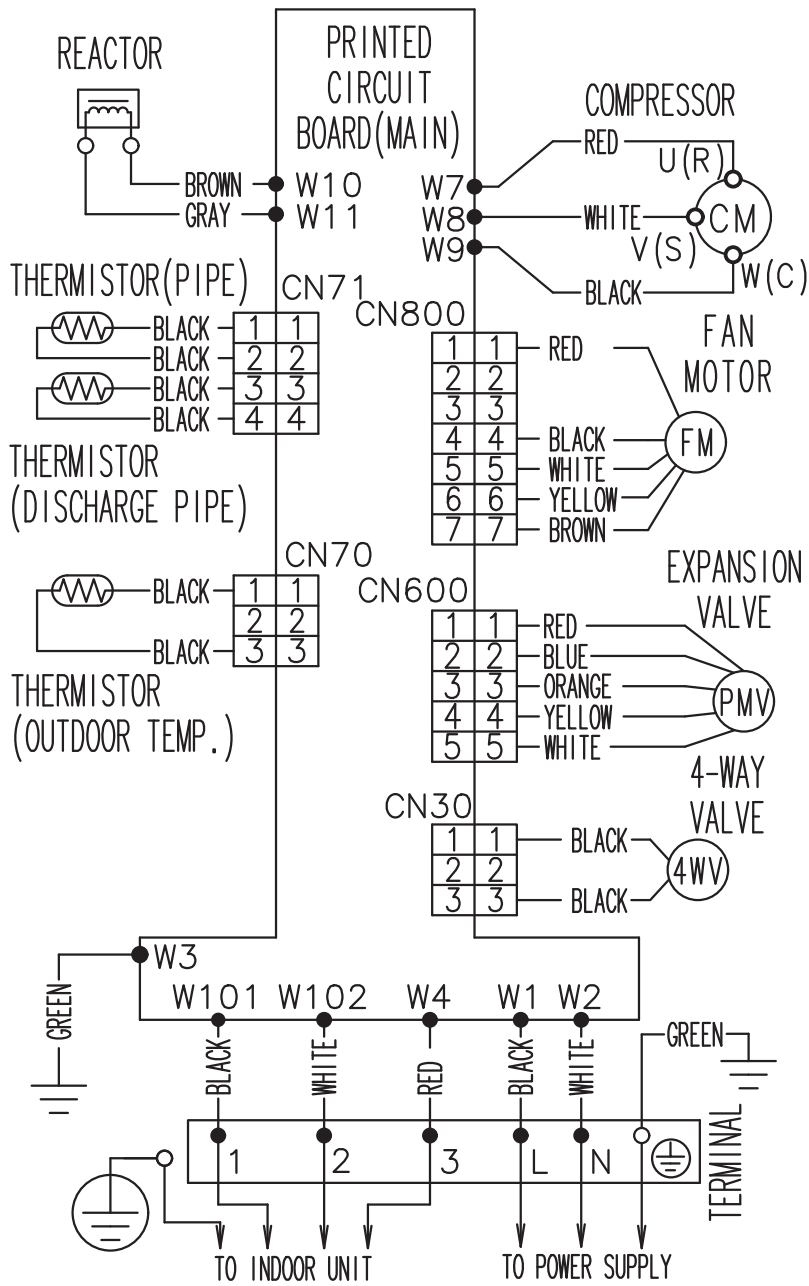
ThR: Thermistor (Room temperature)

ThP: Thermistor (Pipe temperature)

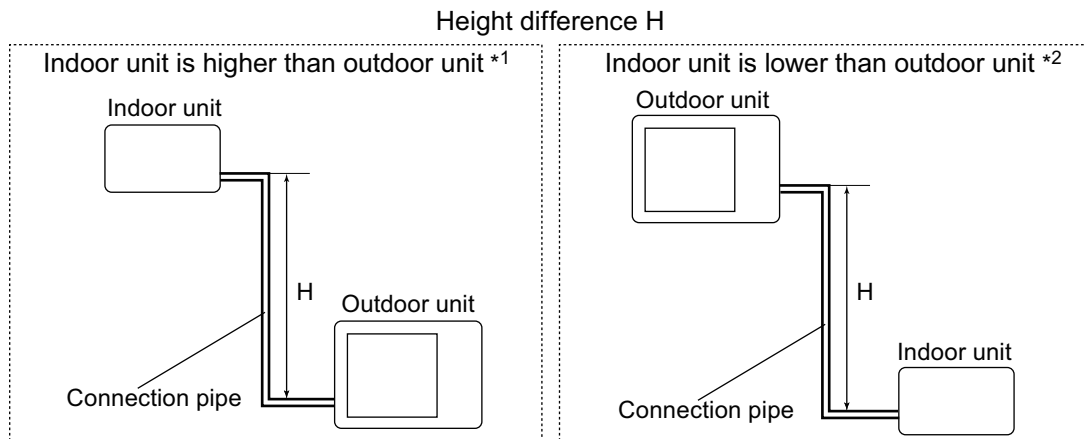
# 5. Wiring diagrams

## 5-1. Models:AOYG07LLCE, AOYG09LLCE, and AOYG12LLCE

OUTDOOR UNIT  
AOYG07-12LLCE



## 6. Capacity compensation rate for pipe length and height difference



OUTDOOR UNIT  
AOYG07-12LLCE

### 6-1. Models:AOYG07LLCE and AOYG09LLCE

**NOTE:** Values mentioned in the table are calculated based on the maximum capacity.

COOLING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	-	-	-	0.872	0.910
		10	-	-	0.961	0.886	0.925
		7.5	-	0.979	0.965	0.890	0.929
		5	0.992	0.983	0.969	0.893	0.933
	Indoor unit is lower than outdoor unit *2	0	1.000	0.991	0.976	0.901	0.940
		-5	1.000	0.991	0.976	0.901	0.940
		-7.5	-	0.991	0.976	0.901	0.940
		-10	-	-	0.976	0.901	0.940
		-15	-	-	-	0.901	0.940

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	-	-	-	0.832	0.822
		10	-	-	0.917	0.832	0.822
		7.5	-	0.961	0.917	0.832	0.822
		5	1.000	0.961	0.917	0.832	0.822
	Indoor unit is lower than outdoor unit *2	0	1.000	0.961	0.917	0.832	0.822
		-5	0.995	0.956	0.912	0.828	0.818
		-7.5	-	0.954	0.910	0.826	0.816
		-10	-	-	0.908	0.824	0.814
		-15	-	-	-	0.815	0.805

## 6-2. Model:AOYG12LLCE

**NOTE:** Values mentioned in the table are calculated based on the maximum capacity.

COOLING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	-	-	-	0.858	0.868
		10	-	-	0.929	0.872	0.882
		7.5	-	0.960	0.933	0.876	0.885
		5	0.992	0.964	0.937	0.879	0.889
	Indoor unit is lower than outdoor unit *2	0	1.000	0.972	0.944	0.887	0.896
		-5	1.000	0.972	0.944	0.887	0.896
		-7.5	-	0.972	0.944	0.887	0.896
		-10	-	-	0.944	0.887	0.896
		-15	-	-	-	0.887	0.896

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	-	-	-	0.896	0.879
		10	-	-	0.968	0.890	0.879
		7.5	-	0.994	0.968	0.896	0.879
		5	1.000	0.994	0.968	0.896	0.879
	Indoor unit is lower than outdoor unit *2	0	1.000	0.994	0.968	0.896	0.879
		-5	0.995	0.989	0.963	0.891	0.875
		-7.5	-	0.987	0.961	0.889	0.873
		-10	-	-	0.959	0.887	0.871
		-15	-	-	-	0.878	0.862

## 7. Additional charge calculation

### 7-1. Models:AOYG07LLCE and AOYG09LLCE

Refrigerant type		R410A
Refrigerant amount	g	650

#### ■ Refrigerant charge

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

### 7-2. Model:AOYG12LLCE

Refrigerant type		R410A
Refrigerant amount	g	850

#### ■ Refrigerant charge

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

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## 8. Airflow

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### 8-1. Models:AOYG07LLCE and AOYG09LLCE

#### ● Cooling

m <sup>3</sup> /h	1,670
l/s	464
CFM	983

#### ● Heating

m <sup>3</sup> /h	1,470
l/s	408
CFM	865

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### 8-2. Model:AOYG12LLCE

#### ● Cooling

m <sup>3</sup> /h	1,830
l/s	508
CFM	1,077

#### ● Heating

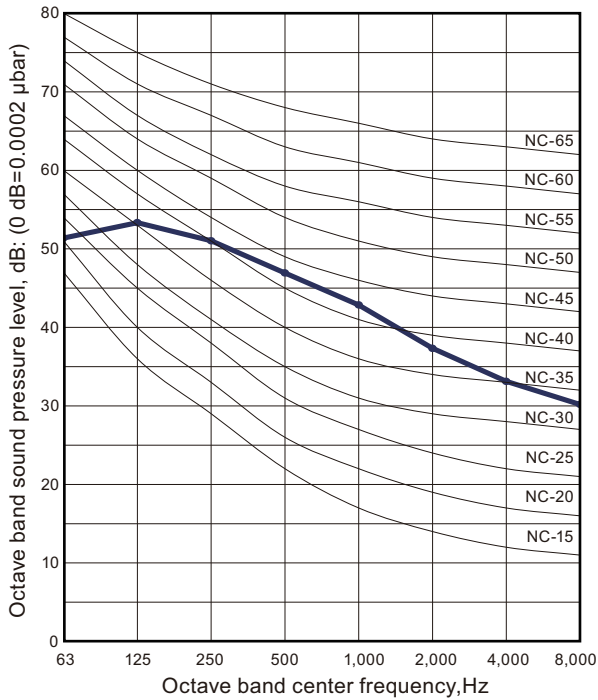
m <sup>3</sup> /h	1,600
l/s	444
CFM	942

# 9. Operation noise (sound pressure)

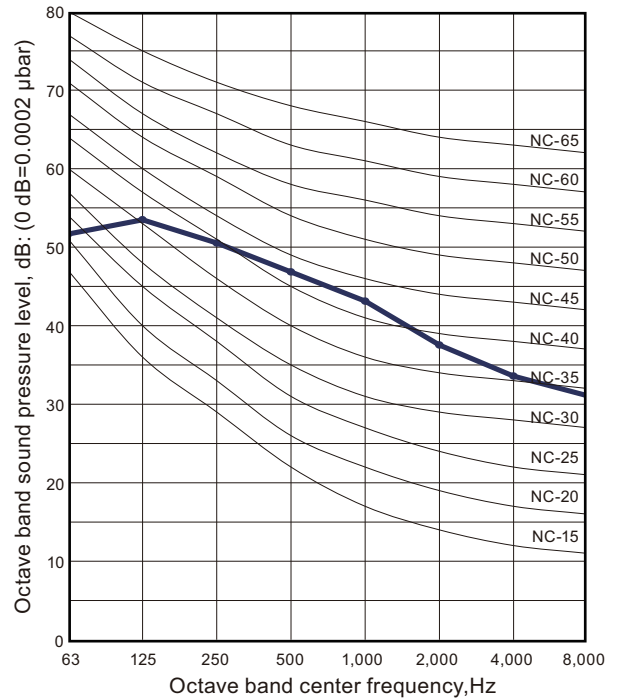
## 9-1. Noise level curve

### ■ Model:AOYG07LLCE

#### ● Cooling

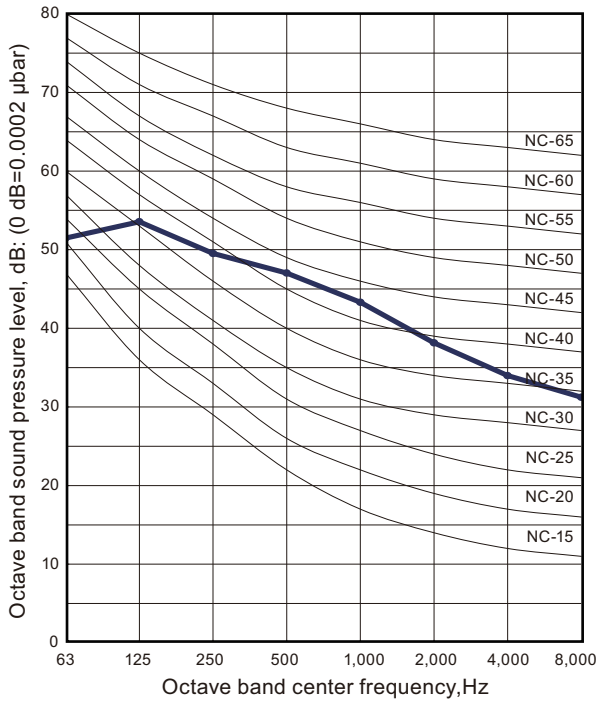


#### ● Heating

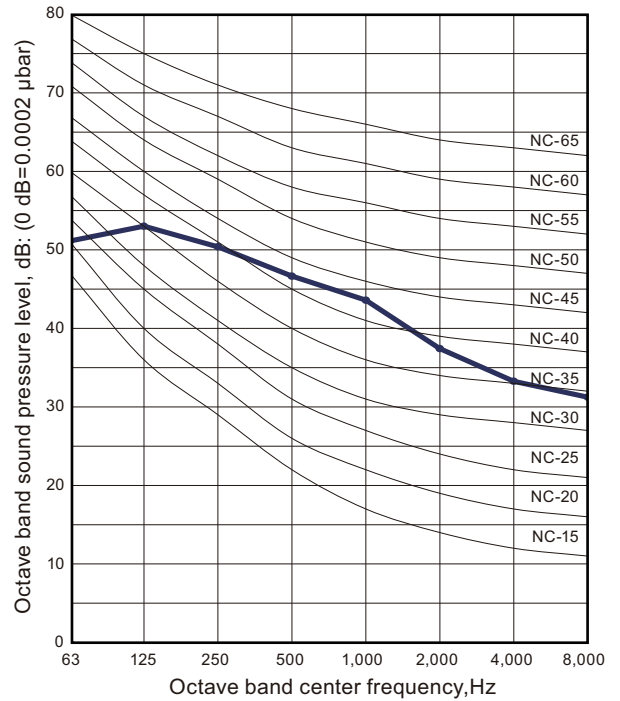


### ■ Model:AOYG09LLCE

#### ● Cooling



#### ● Heating

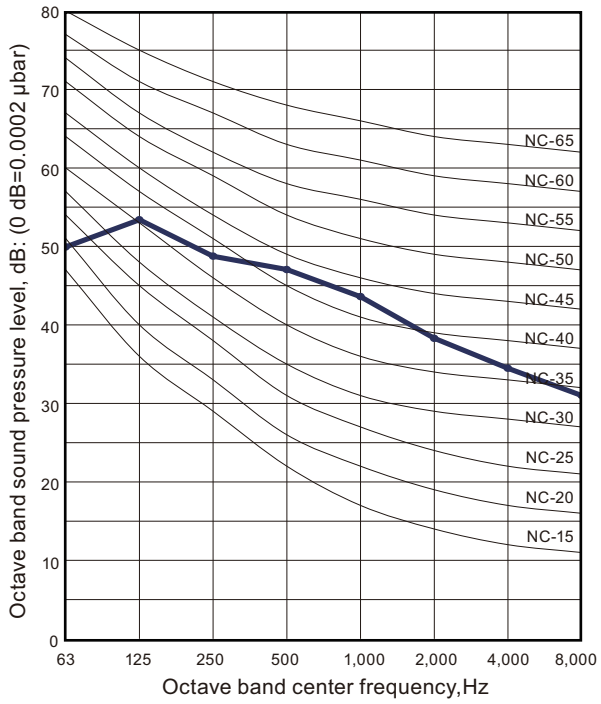


OUTDOOR UNIT  
AOYG07-12LLCE

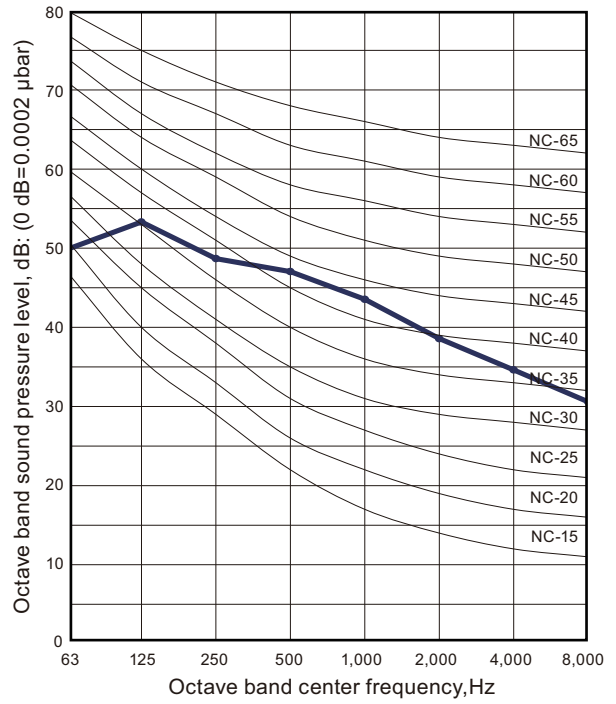
# Model:AOYG12LLCE

OUTDOOR UNIT  
AOYG07-12LLCE

## ● Cooling

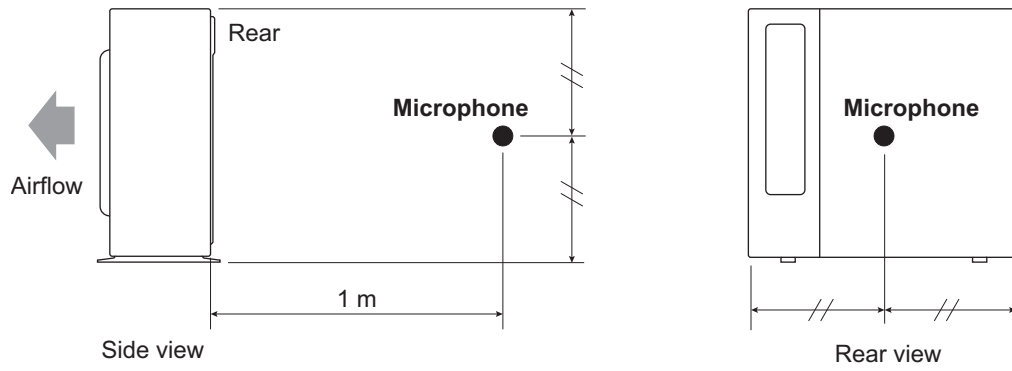


## ● Heating





## 9-2. Sound level check point



**NOTE:** Detailed shape of the actual outdoor unit might be slightly different from the one illustrated above.

## 10. Electrical characteristics

Model name			AOYG07LLCE	AOYG09LLCE	AOYG12LLCE
Power supply	Voltage	V	230 ~		
	Frequency	Hz	50		
Max operating current *1		A	7.5	7.5	9.0
Starting current		A	3.0	3.5	5.4
Wiring spec. *2	Circuit breaker current	A	15		
	Power cable	mm <sup>2</sup>	1.5		
	Connection cable *3	mm <sup>2</sup>	1.5		
	Limited wiring length	m	21		

\*1: Maximum current is the total current of the indoor unit and the outdoor unit.


\*2: Selected sample based on Japan Electrotechnical Standards and Codes Committee E0005. As the regulations of wire size and circuit breaker differ in each country or region, select appropriate devices complied to the regional standard.

\*3: Limit voltage drop to less than 2%. If voltage drop is 2% or more, increase cable conductor size.

## 11. Safety devices

Type of protection	Protection form		Model		
			AOYG07LLCE	AOYG09LLCE	AOYG12LLCE
Circuit protection	Current fuse (Main PCB)		250 V, 25 A		
			250 V, 5 A		
Fan motor protection	Terminal protection program	Activate	100±15 °C Fan motor stop		
		Reset	95±10 °C Fan motor restart		
Compressor protection	Terminal protection program (Discharge temp.)	Activate	110 °C Compressor stop		
		Reset	After 7 minutes Compressor restart		

# 12. Accessories

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Drain pipe		1			

OUTDOOR UNIT  
AOYG07-12LLGE