



REFRIGERANT R32  
INVERTER

AIR CONDITIONER  
**Wall mounted type**

## **DESIGN & TECHNICAL MANUAL**

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INDOOR



ASYG09KXCA  
ASYG12KXCA

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OUTDOOR



AOYG09KXCA  
AOYG12KXCA

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**FUJITSU GENERAL LIMITED**

DR\_AS027EF\_01  
2016.10.19

**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:**  
**ASYG09KXCA**  
**ASYG12KXCA**

## 1. Product features

Implemented core technology provides easy-to-use product operations that realize a comfortable space.

### 1-1. Model lineup



ASYG09KXCA  
ASYG12KXCA



AOYG09KXCA  
AOYG12KXCA

### 1-2. Features

#### ■ Advanced airflow technology

Improved indoor comfort is achieved with the use of the dual side fans and louvers.

**DUAL BLASTER**

**Heating**  
The air conditioner warms up the room gently.  
The comfort zone at low level is improved when the dual side fans operate by reducing the warm air from rising.

The side airflow can easily be adjusted with the Comfort button.

**Cooling**  
The air conditioner delivers improved air circulation.  
The entire room can be covered with improved air circulation and stable temperature control.

**MODE** **ENERGY SAVING PROGRAM** **SENSOR** **F**  
**DUAL FAN COMFORT** **outdoor int. LOW NOISE** **SET**

## ■ Energy saving

- High seasonal efficiency



- Human sensor

Human sensor catches movements of people in a room, and operates with lower capacity when people come back to the room, it automatically returns to previous operating mode.



## ■ Clean function

- Plasma clean



Air is cleaned with an electric dust collecting technology. Pollen, house dust, and other tiny pollutants are collected and removed with static electricity.

- Filter auto clean



Dust on the filter is automatically removed to prevent power from being wasted by the clogged filter.

## ■ Mobile control (Adopting wireless LAN interface)

By installing wireless LAN adapter (accessory), mobile control of the air conditioner becomes possible.



The air conditioner can be remotely operated from other rooms in the home or outside the house with smartphones or tablet computers.

- Turning the units on/off
- Operation mode control
- Fan speed setting
- Room temperature setting
- Timer operation setting

For details, refer to the setting manual for wireless LAN control.

## 2. Remote controller

### 2-1. Wireless remote controller

#### ■ Features



- Temperature setting by 0.5 °C possible.
- 4-mode timer setup (on, off, program, and sleep) available.
- Easy operation.
- Easy to change custom code (max. 4 custom code).

#### ● Simple function setting

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

#### ● Program timer

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

#### ● Sleep timer

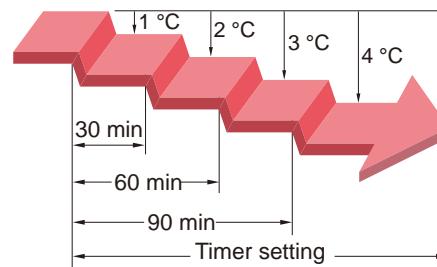
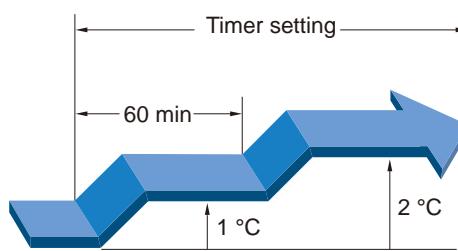
The sleep timer function automatically corrects the temperature thermostat setting according to the time setting to prevent excessive cooling and heating while sleeping.

##### 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.

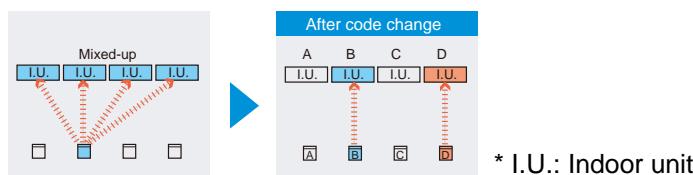
##### Heating operation

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 custom code

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

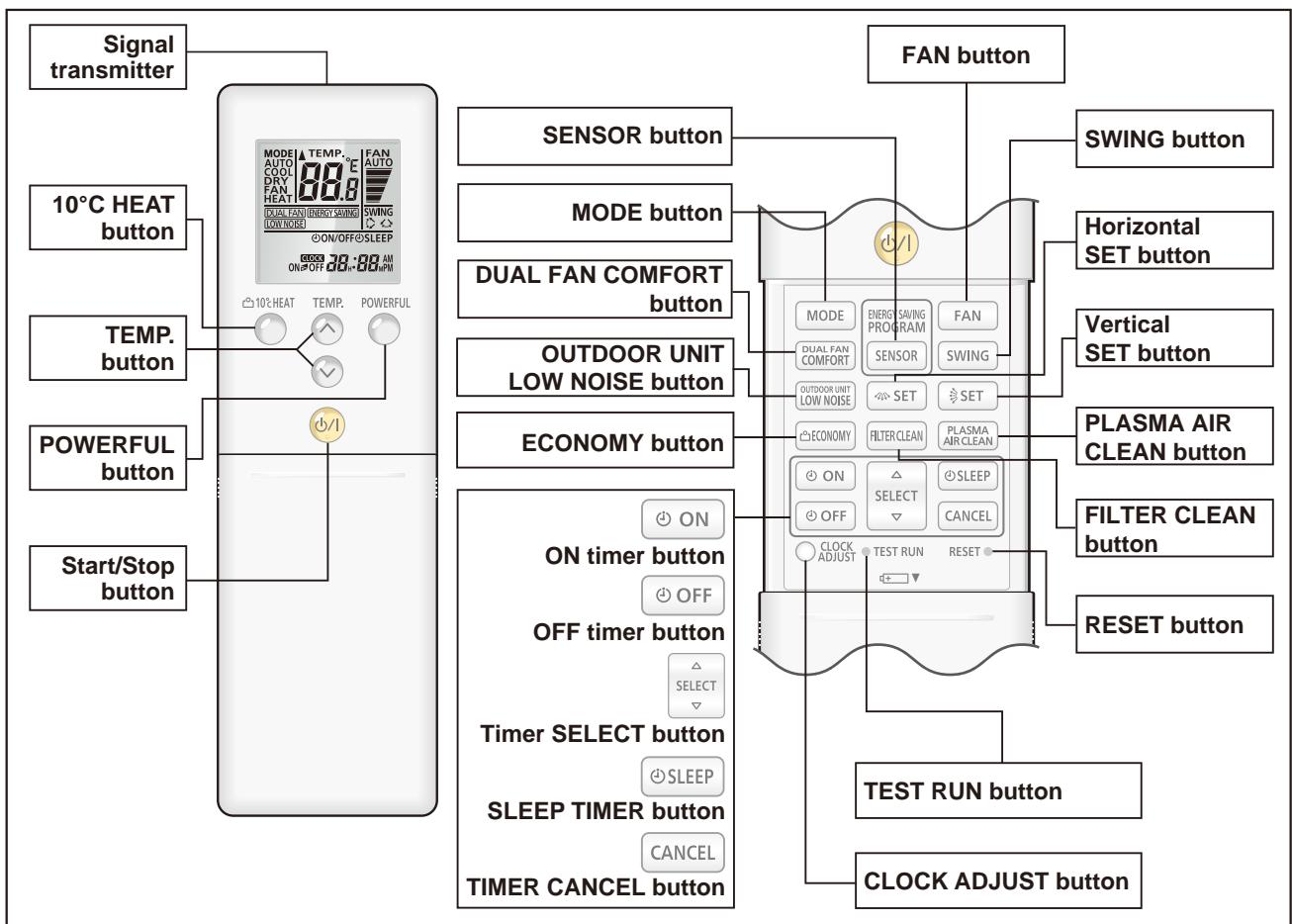


#### ● Temperature unit switchable

Easy to change the temperature unit between °C and °F by button operation.

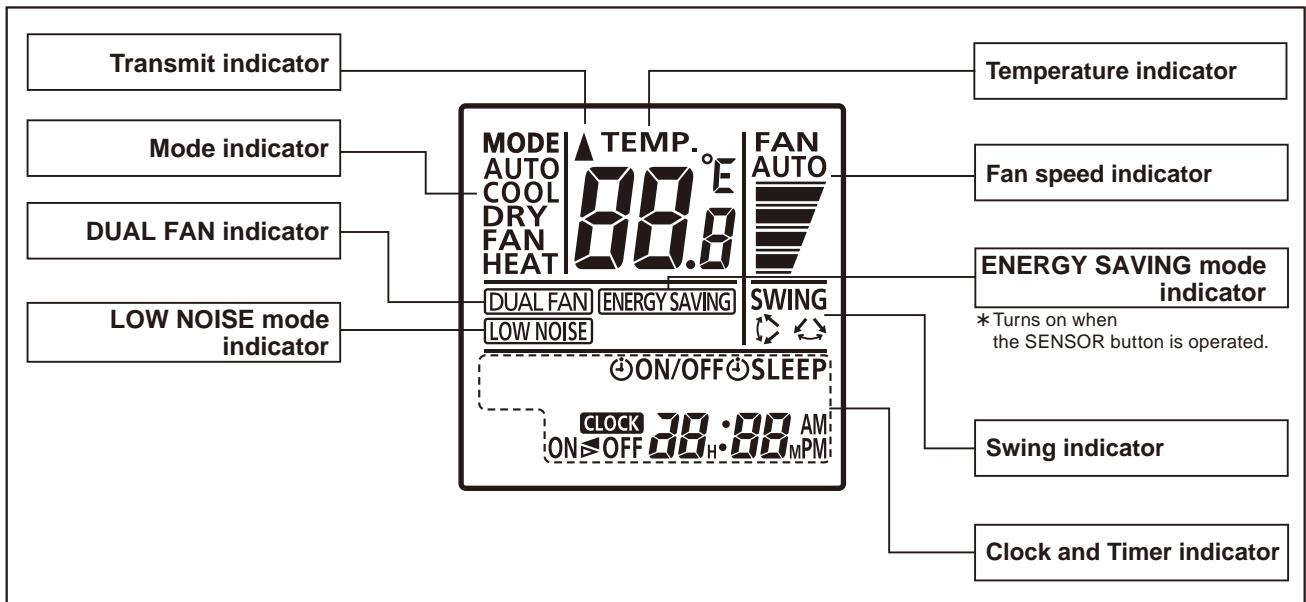
For setting details, refer to Chapter 10-3. "[Switching the temperature unit of remote controller](#)" on page 26.

## ■ Overview



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

Display panel

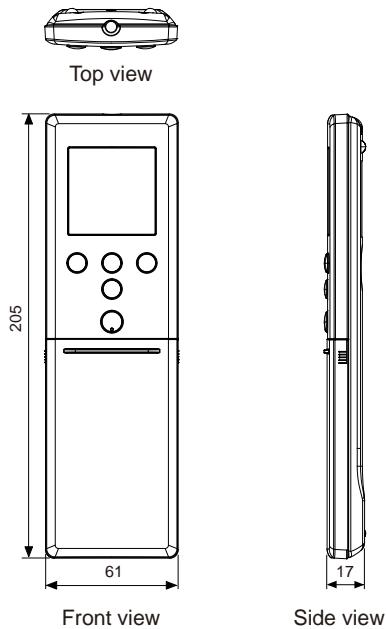


To facilitate explanation, the accompanying illustration has been drawn to show all possible indicators; in actual operation, however, the display will only show those indicators appropriate to the current operation.

## ■ Specifications

### ● Controller

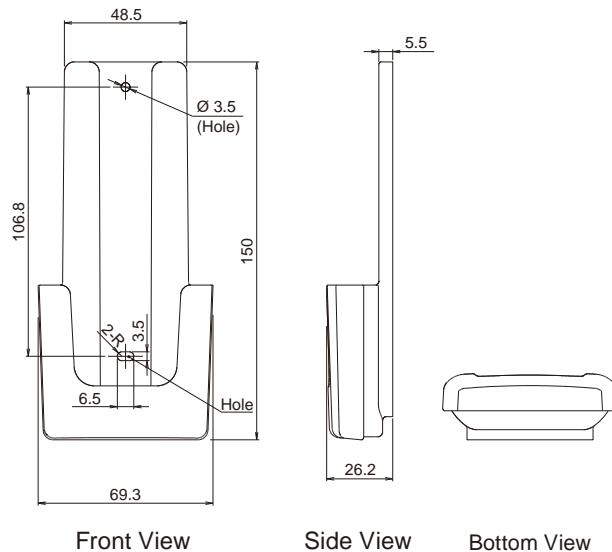
Unit: mm



Size (H × W × D)	mm	205 × 61 × 17
Weight	g	122 (without batteries)

### ● Holder

Unit: mm



Size (H × W × D)	mm	150 × 69.3 × 26.2
Weight	g	27

### 3. Specifications

Type		Wall mounted						
		Inverter heat pump						
Model name				ASYG09KXCA	ASYG12KXCA			
Power supply		230 V ~ 50 Hz						
Available voltage range		198—264 V						
Capacity	Cooling	Rated	kW	2.50	3.40			
			Btu/h	8,500	11,600			
		Min.—Max.	kW	0.6—3.5	0.6—5.3			
			Btu/h	2,000—11,900	2,000—18,000			
	Heating	Rated	kW	3.60	5.00			
			Btu/h	12,200	17,000			
		Min.—Max.	kW	0.6—7.1	0.6—9.0			
			Btu/h	2,000—24,200	2,000—30,700			
Input power	Cooling	Rated	kW	0.46	0.67			
				0.10—1.90	0.10—2.00			
		Heating		0.63	1.02			
				0.10—2.83	0.10—3.26			
	Fan	HIGH	W		26			
		MED			17			
		LOW			12			
		QUIET			5			
Current	Cooling	Rated	A	2.1	3.0			
	Heating			2.8	4.5			
EER	Cooling		kW/kW	5.45	5.09			
COP	Heating			5.72	4.90			
Sensible capacity	Cooling		kW	1.92	2.60			
Power factor	Cooling			95.2	97.1			
	Heating		%	94.5	98.6			
Moisture removal			L/h (pints/h)	1.1 (1.9)	1.2 (2.1)			
Maximum operating current *1		Cooling	A	8.5	9.0			
				14.0	16.0			
Fan	Airflow rate	Cooling	m³/h	HIGH	670			
				MED	590			
				LOW	520			
				QUIET	350			
		Heating		HIGH	810			
				MED	690			
				LOW	570			
				QUIET	380			
	Type × Q'ty				Cross flow fan × 1			
	Motor output		W		64			
Sound pressure level *2	Cooling	HIGH	dB (A)		46			
					42			
					38			
					28			
		MED			48			
					43			
					39			
					30			
	Heating	HIGH	dB (A)		46			
					42			
Sound pressure level when DUAL FAN COMFORT is on *2					39			
					29			
Cooling	MED	dB (A)		48				
				43				
				40				
				31				
Heating	LOW	dB (A)		46				
				42				
Heat exchanger type		Dimensions (H × W × D)		mm	Main 1: 224 × 558 × 40, Main 2: 160 × 558 × 30 Sub: 296 × 558 × 13.3			
		Fin pitch			Main 1: 1.1, Main 2: 1.2 Sub: 1.4			
		Rows × Stages				Main 1: 4 × 14, Main 2: 3 × 10, Sub: 1 × 14		
		Pipe type				Copper tube		
		Fin type				Aluminum		
		Material				Polystyrene		
		Color				White Approximate color of Munsell N 9.25/		
	Dimensions (H × W × D)	Net	mm	293 × 786 × 378				
		Gross		454 × 877 × 376				
Weight	Net	kg		20				
	Gross			24				
Connection pipe	Size	Liquid	mm (in)	Ø 6.35 (Ø 1/4)				
		Gas		Ø 9.52 (Ø 3/8)				
	Method				Flare			
Drain hose	Material			PVC				
	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				
	Heating	°C		16 to 30				

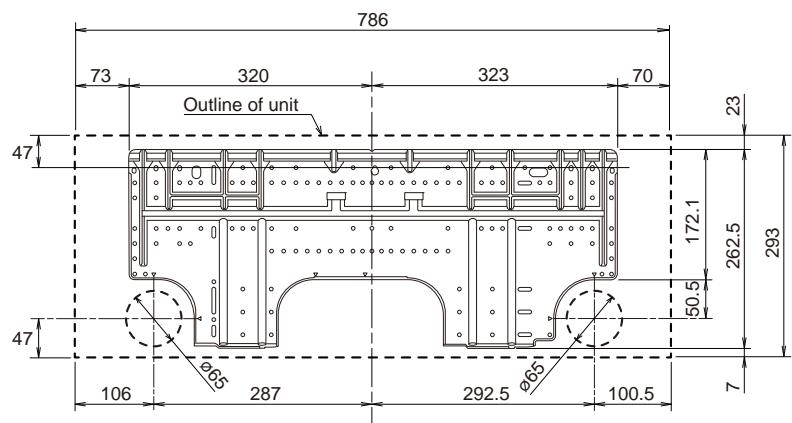
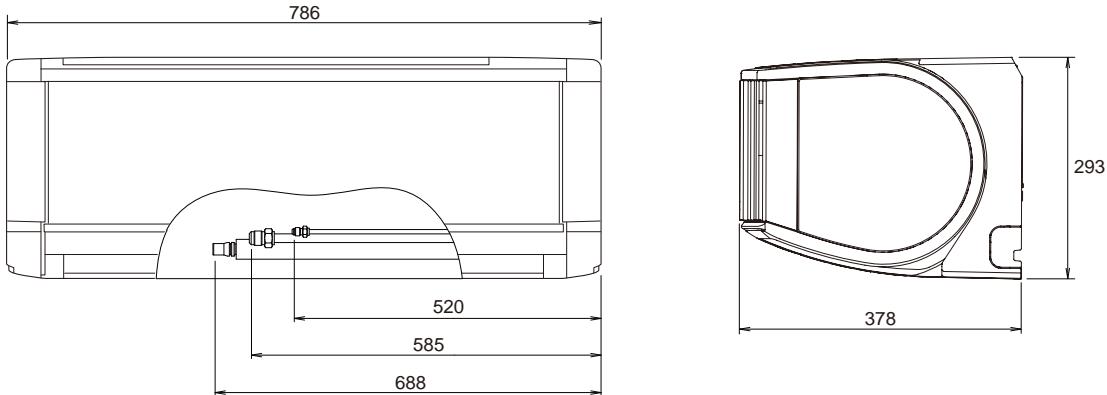
Type	Wall mounted			
	Inverter heat pump			
Model name	ASYG09KXCA	ASYG12KXCA		
Remote controller	Wireless or Mobile app (FGLair *3)			
<b>NOTES:</b>				
• Specifications are based on the following conditions: – Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB. – 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.				
• *3: Available on Google Play store or on App Store. WLAN adapter (accessory) is also required. For details, refer to the setting manual.				

Model name			ASYG09KXCA	ASYG12KXCA
Energy efficiency class	Cooling		A+++	A+++
	Heating (Average)		A+++	A+++
Pdesign	Cooling	kW	2.5 (35 °C)	3.4 (35 °C)
	Heating (Average)		3.4 (-10 °C)	3.5 (-10 °C)
SEER	Cooling	kWh/kWh	8.5	8.5
SCOP	Heating (Average)		5.1	5.1
Annual energy consumption	QCE	kWh/a	103	140
	QHE (Average)		934	961
Sound power level	Cooling	dB (A)		58
	Heating			62

## 4. Dimensions

### 4-1. Models: ASYG09KXCA and ASYG12KXCA

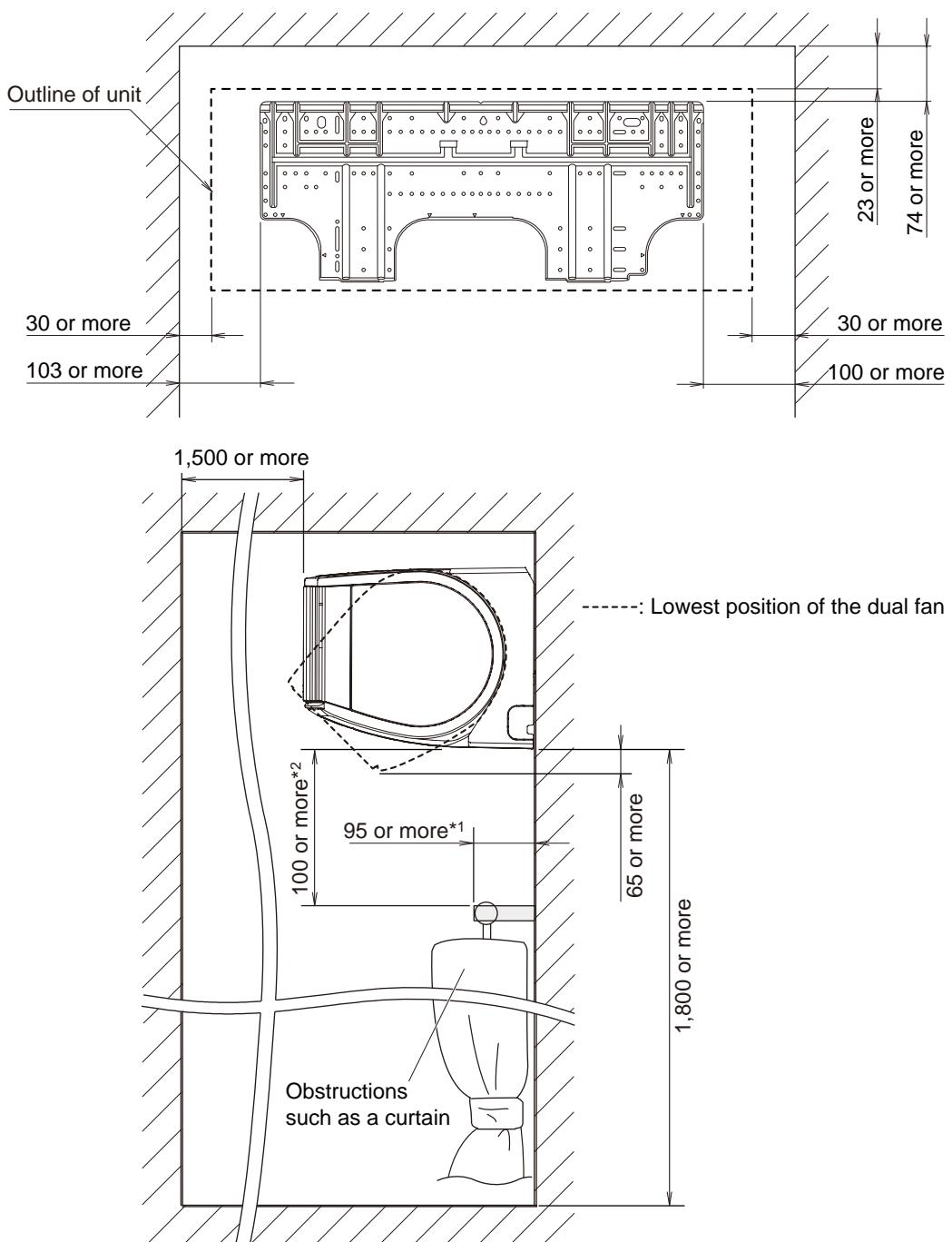
Unit: mm



## ■ Installation space requirement

Provide sufficient installation space for product safety.

Unit: mm

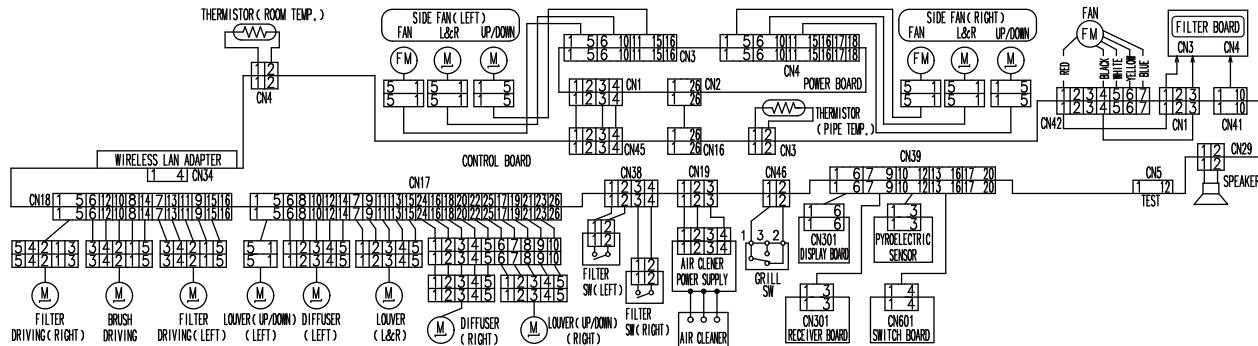


**NOTE:** Dual side fans rotate downward when the unit is operating as shown in the figure above. If the depth of the obstruction is larger than 95 mm, secure specified distance<sup>\*2</sup> in between the indoor unit and the obstruction.

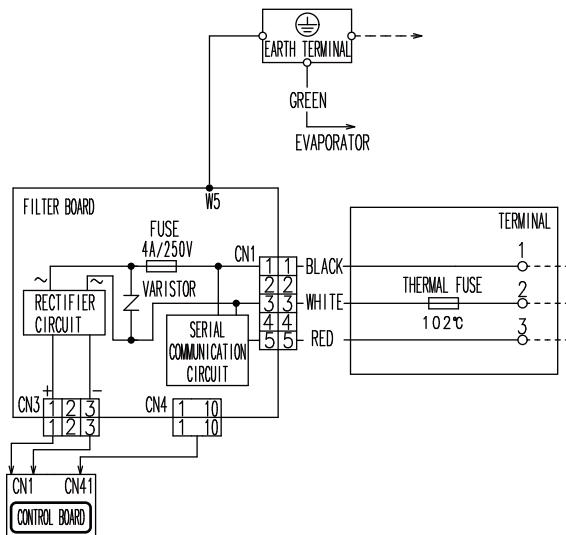
## 5. Wiring diagrams

### 5-1. Models: ASYG09KXCA and ASYG12KXCA

#### ■ Main PC board



#### ■ Sub PC board



## 6. 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)

### 6-1. Cooling capacity

#### ■ Model: ASYG09KXCA

AFR	m <sup>3</sup> /h			Indoor temperature																		
°CDB	18			21			23			25			27			29			32			
°CWB	12			15			16			18			19			21			23			
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP			
	-10	2.40	1.95	0.23	2.63	2.04	0.23	2.79	2.10	0.23	2.94	2.15	0.23	3.10	2.24	0.23	3.26	2.26	0.24	3.49	2.32	0.23
	0	2.29	1.89	0.38	2.51	1.98	0.38	2.66	2.03	0.38	2.81	2.08	0.38	2.96	2.17	0.38	3.11	2.19	0.38	3.34	2.24	0.38
	5	2.30	1.92	0.34	2.53	2.01	0.34	2.68	2.06	0.34	2.83	2.11	0.34	2.98	2.20	0.34	3.13	2.22	0.34	3.36	2.28	0.34
	10	2.36	1.93	0.23	2.66	2.02	0.23	2.75	2.07	0.23	2.90	2.13	0.23	3.06	2.21	0.23	3.21	2.23	0.23	3.45	2.29	0.23
	15	2.35	1.92	0.29	2.65	2.01	0.29	2.73	2.06	0.29	2.89	2.12	0.29	3.04	2.20	0.29	3.20	2.22	0.29	3.43	2.28	0.29
	20	2.34	1.90	0.35	2.61	1.99	0.35	2.70	2.05	0.35	2.87	2.10	0.35	3.00	2.18	0.35	3.15	2.20	0.35	3.38	2.26	0.35
	25	2.29	1.89	0.43	2.51	1.98	0.43	2.66	2.03	0.43	2.81	2.08	0.43	2.96	2.17	0.43	3.11	2.19	0.43	3.33	2.24	0.43
	30	2.19	1.84	0.48	2.41	1.93	0.48	2.55	1.98	0.48	2.70	2.03	0.48	2.84	2.11	0.48	2.98	2.13	0.48	3.20	2.19	0.48
	35	2.12	1.81	0.56	2.32	1.90	0.56	2.46	1.95	0.56	2.60	2.00	0.56	2.74	2.08	0.56	2.88	2.10	0.56	3.09	2.15	0.56
	40	1.99	1.75	0.60	2.19	1.83	0.60	2.32	1.88	0.60	2.45	1.93	0.60	2.58	2.01	0.60	2.71	2.02	0.60	2.91	2.08	0.60
	46	1.88	1.70	0.71	2.06	1.78	0.72	2.19	1.83	0.72	2.31	1.88	0.72	2.43	1.95	0.72	2.56	1.97	0.72	2.74	2.02	0.72

#### ■ Model: ASYG12KXCA

AFR	m <sup>3</sup> /h			Indoor temperature																		
°CDB	18			21			23			25			27			29			32			
°CWB	12			15			16			18			19			21			23			
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP			
	-10	3.35	2.73	0.33	3.68	2.86	0.33	3.90	2.93	0.33	4.12	3.01	0.33	4.34	3.13	0.33	4.56	3.16	0.33	4.89	3.24	0.33
	0	3.20	2.64	0.53	3.52	2.77	0.53	3.72	2.84	0.53	3.93	2.91	0.53	4.14	3.03	0.53	4.35	3.06	0.53	4.67	3.14	0.53
	5	3.22	2.68	0.48	3.54	2.81	0.48	3.75	2.88	0.48	3.96	2.96	0.48	4.17	3.08	0.48	4.38	3.11	0.48	4.70	3.19	0.48
	10	3.31	2.70	0.32	3.72	2.83	0.32	3.85	2.90	0.32	4.06	2.98	0.32	4.28	3.10	0.32	4.50	3.13	0.32	4.83	3.21	0.32
	15	3.29	2.68	0.41	3.70	2.81	0.41	3.83	2.89	0.41	4.04	2.96	0.41	4.26	3.08	0.41	4.47	3.11	0.41	4.80	3.19	0.41
	20	3.28	2.66	0.49	3.65	2.78	0.49	3.78	2.86	0.50	4.02	2.93	0.50	4.20	3.05	0.50	4.41	3.08	0.50	4.73	3.16	0.50
	25	3.20	2.64	0.60	3.51	2.77	0.60	3.72	2.84	0.60	3.93	2.92	0.60	4.14	3.04	0.60	4.35	3.06	0.60	4.67	3.14	0.60
	30	3.07	2.56	0.67	3.37	2.69	0.67	3.58	2.76	0.67	3.78	2.83	0.67	3.98	2.94	0.67	4.18	2.97	0.67	4.48	3.05	0.67
	35	2.96	2.53	0.78	3.25	2.65	0.79	3.45	2.72	0.79	3.64	2.79	0.79	3.83	2.91	0.79	4.03	2.93	0.79	4.32	3.01	0.79
	40	2.79	2.42	0.84	3.07	2.54	0.84	3.25	2.60	0.84	3.43	2.67	0.84	3.62	2.78	0.84	3.80	2.80	0.84	4.08	2.88	0.84
	46	2.63	2.38	1.00	2.89	2.50	1.00	3.06	2.56	1.00	3.23	2.63	1.00	3.40	2.74	1.01	3.58	2.76	1.01	3.84	2.83	1.01

## 6-2. Heating capacity

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

### ■ Model: ASYG09KXCA

AFR	m <sup>3</sup> /h	810									
-----	-------------------	-----	--	--	--	--	--	--	--	--	--

			Indoor temperature									
			16		18		20		22		24	
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	°CDB	°CWB	kW		kW		kW		kW		kW	
	-15	-16	5.15	2.83	5.07	2.83	4.82	2.67	4.44	2.41	3.89	2.21
	-10	-11	5.91	2.83	5.81	2.83	5.53	2.75	5.09	2.48	4.46	2.28
	-5	-7	6.55	2.83	6.44	2.83	6.13	2.83	5.64	2.56	4.94	2.35
	0	-2	7.07	2.83	6.95	2.26	6.61	2.05	6.09	1.85	5.33	1.70
	5	3	7.46	2.28	7.34	2.05	6.98	1.86	6.43	1.68	5.63	1.54
	7	6	7.59	2.19	7.46	1.97	7.10	1.78	6.54	1.61	5.72	1.48
	10	8	7.32	2.06	7.20	1.85	6.85	1.68	6.30	1.52	5.52	1.39
	15	10	7.03	1.85	6.92	1.66	6.58	1.50	6.06	1.36	5.30	1.25
	20	15	6.94	1.65	6.82	1.49	6.49	1.35	5.97	1.22	5.23	1.12
24	18	7.01	1.50	6.90	1.35	6.56	1.22	6.04	1.10	5.29	1.01	

### ■ Model: ASYG12KXCA

AFR	m <sup>3</sup> /h	810									
-----	-------------------	-----	--	--	--	--	--	--	--	--	--

			Indoor temperature									
			16		18		20		22		24	
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	°CDB	°CWB	kW		kW		kW		kW		kW	
	-15	-16	6.40	3.26	6.40	3.39	6.11	3.08	5.61	2.76	4.86	2.55
	-10	-11	6.62	3.26	7.33	3.26	7.01	3.17	6.44	2.85	5.58	2.63
	-5	-7	6.68	3.26	7.40	3.26	7.77	3.26	7.13	2.93	6.19	2.71
	0	-2	8.85	3.26	8.78	3.09	8.38	2.81	7.70	2.52	6.67	2.33
	5	3	9.34	2.98	9.27	2.68	8.85	2.43	8.13	2.18	7.05	2.02
	7	6	9.49	2.77	9.42	2.49	9.00	2.26	8.26	2.03	7.16	1.87
	10	8	9.16	2.59	9.09	2.32	8.68	2.11	7.97	1.90	6.91	1.75
	15	10	8.80	2.34	8.73	2.10	8.34	1.91	7.66	1.71	6.64	1.58
	20	15	8.68	2.03	8.62	1.82	8.23	1.65	7.56	1.49	6.55	1.37
24	18	8.77	1.90	8.71	1.70	8.32	1.55	7.63	1.39	6.62	1.28	

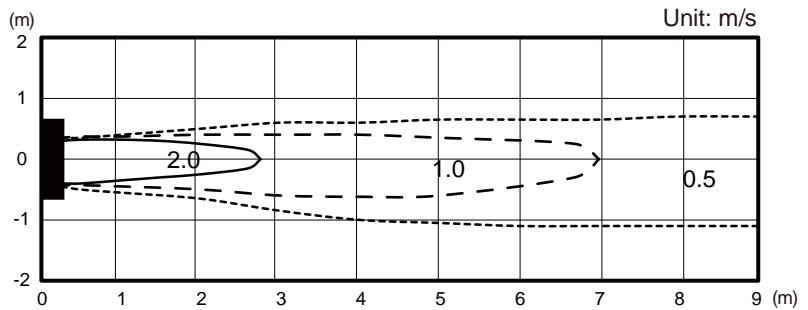
## 7. Fan performance

### 7-1. Air velocity distributions

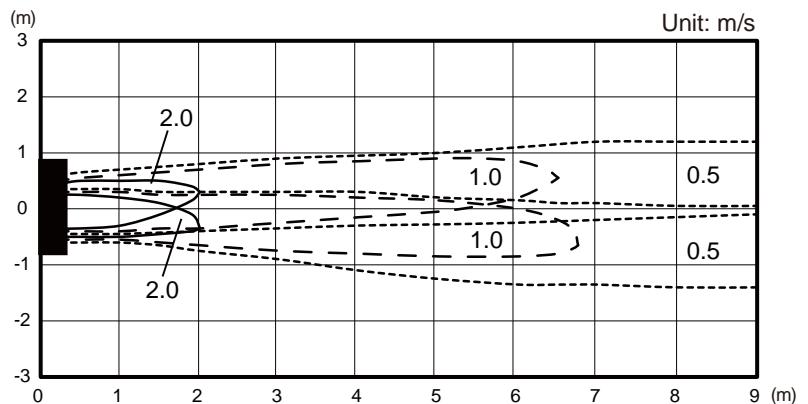
#### ■ Models: ASYG09KXCA and ASYG12KXCA

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

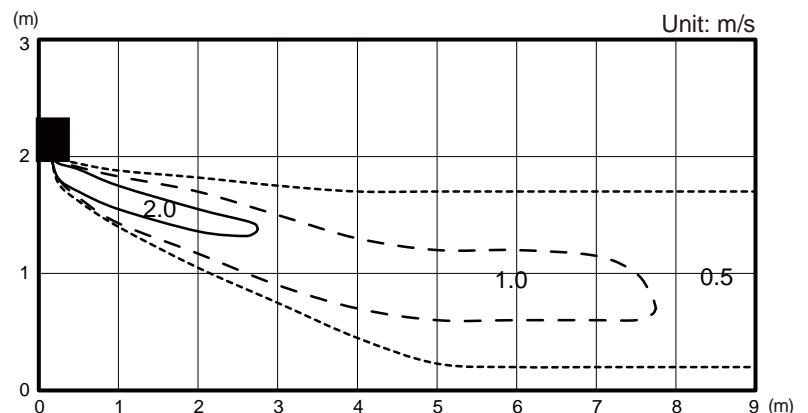
Top view  
Vertical airflow direction louver: Up  
Horizontal airflow direction louver: Center



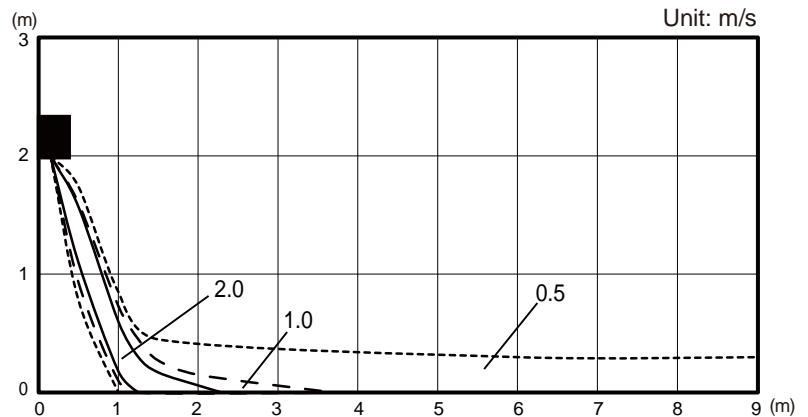
Top view  
Vertical airflow direction louver: Up  
Horizontal airflow direction louver: Left & Right



Side view  
Vertical airflow direction louver: Up  
Horizontal airflow direction louver: Center



Side view  
Vertical airflow direction louver: Down  
Horizontal airflow direction louver: Center



## 7-2. Airflow

### ■ Models: ASYG09KXCA and ASYG12KXCA

#### ● Cooling

Fan speed	Airflow	
HIGH	m <sup>3</sup> /h	670
	l/s	186
	CFM	394
MED	m <sup>3</sup> /h	590
	l/s	164
	CFM	347
LOW	m <sup>3</sup> /h	520
	l/s	144
	CFM	306
QUIET	m <sup>3</sup> /h	350
	l/s	97
	CFM	206

#### ● Heating

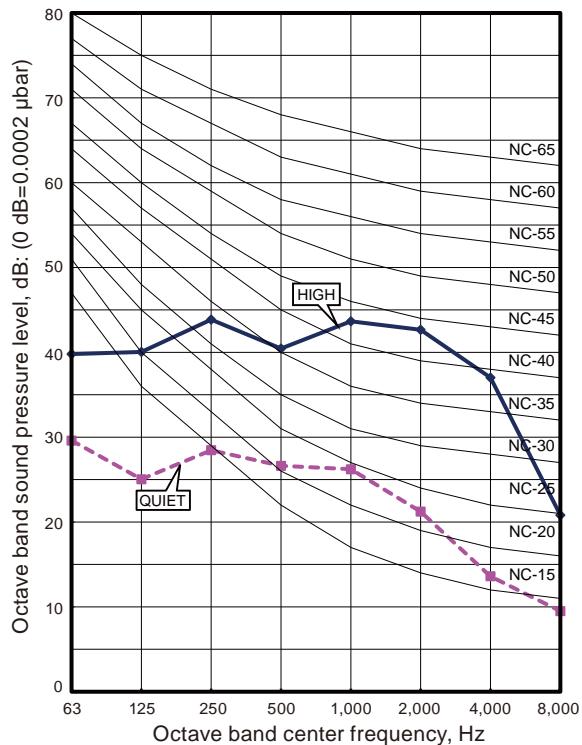
Fan speed	Airflow	
HIGH	m <sup>3</sup> /h	810
	l/s	225
	CFM	477
MED	m <sup>3</sup> /h	690
	l/s	192
	CFM	406
LOW	m <sup>3</sup> /h	570
	l/s	158
	CFM	336
QUIET	m <sup>3</sup> /h	380
	l/s	106
	CFM	224

## 8. Operation noise (sound pressure)

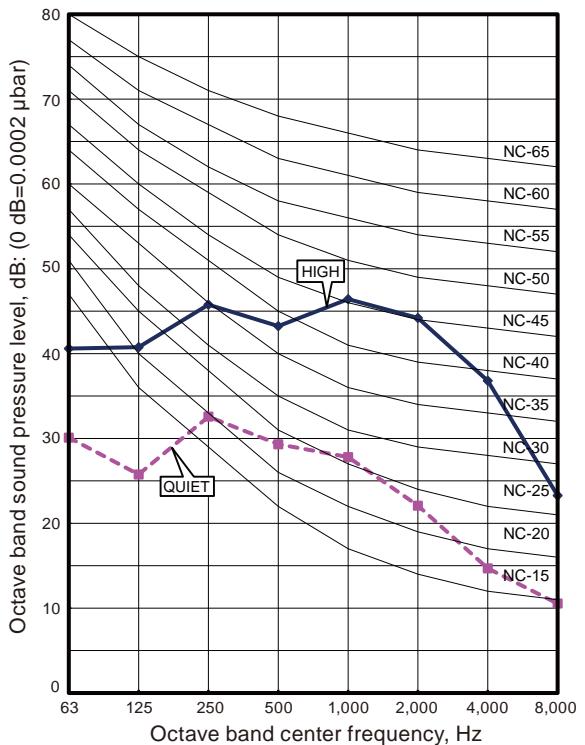
### 8-1. Noise level curve

■ Model: ASYG09KXCA

#### ● Cooling

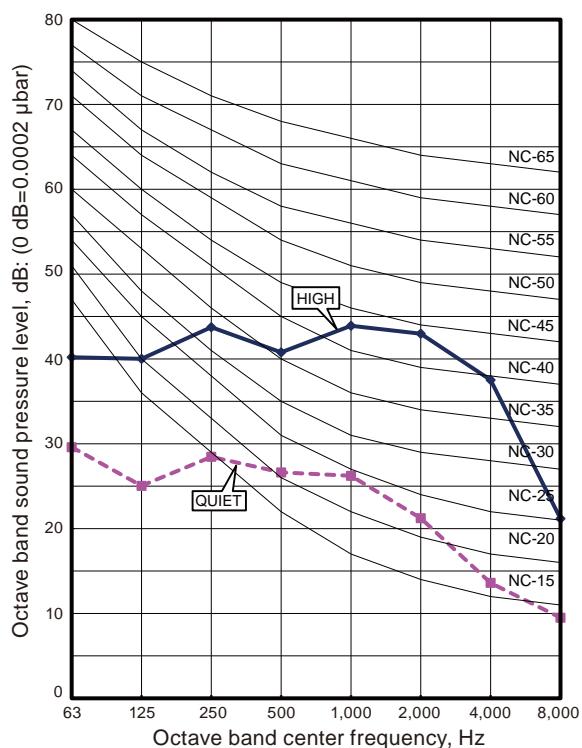


#### ● Heating

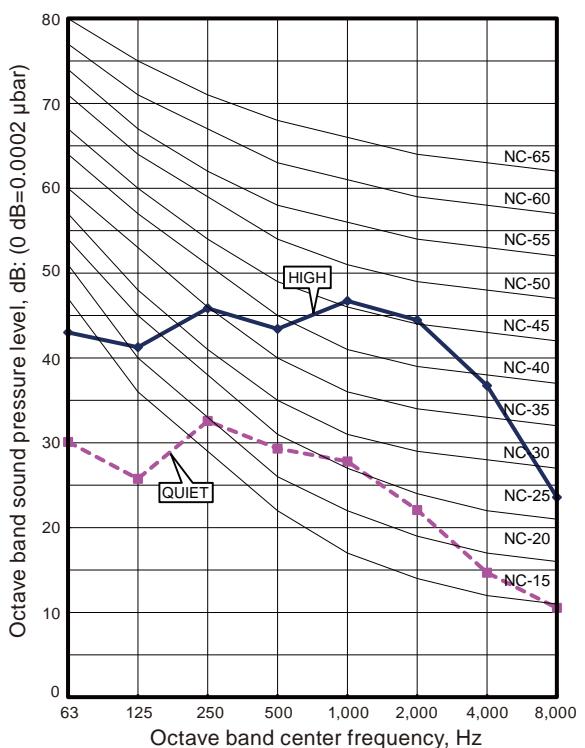


■ Model: ASYG12KXCA

#### ● Cooling



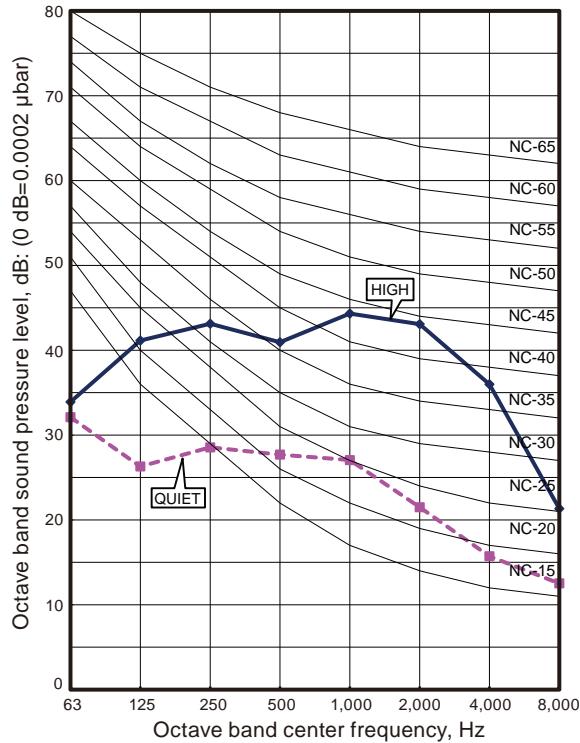
#### ● Heating



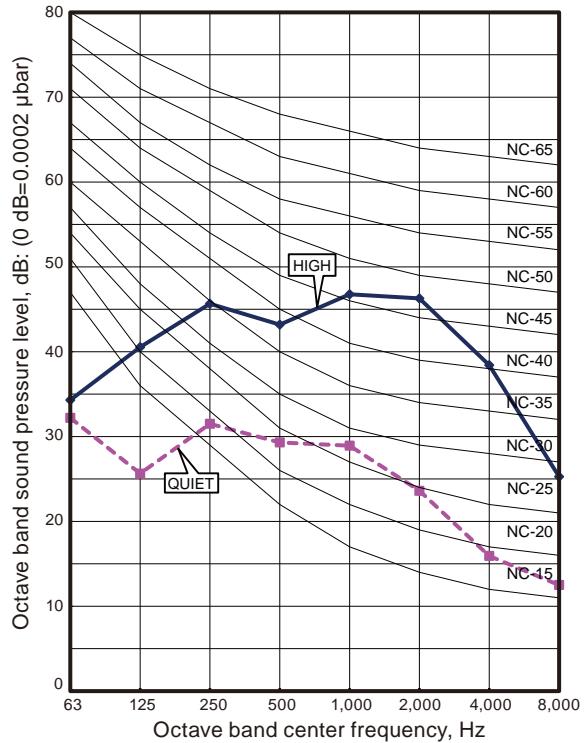
## 8-2. Noise level curve (when DUAL FAN COMFORT is on)

### ■ Model: ASYG09KXCA

#### ● Cooling

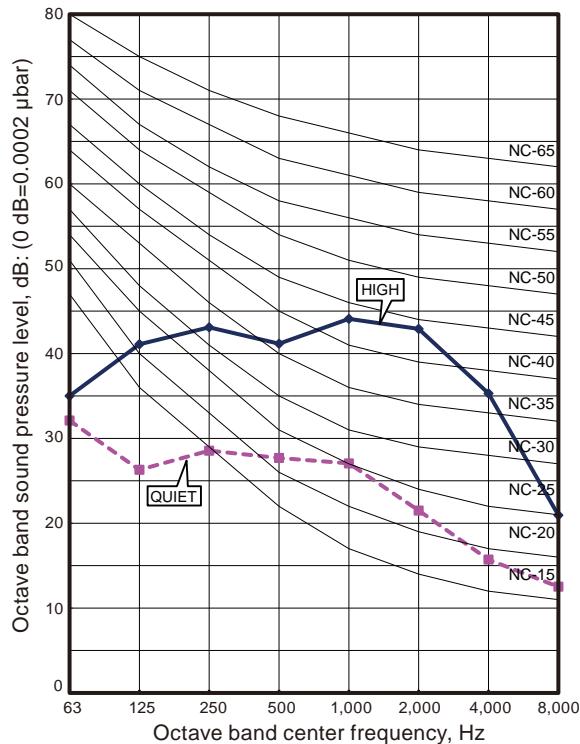


#### ● Heating

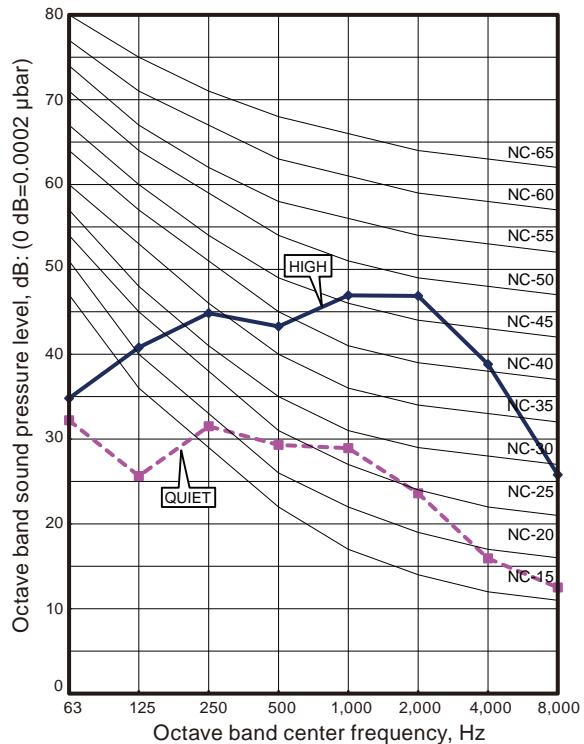


### ■ Model: ASYG12KXCA

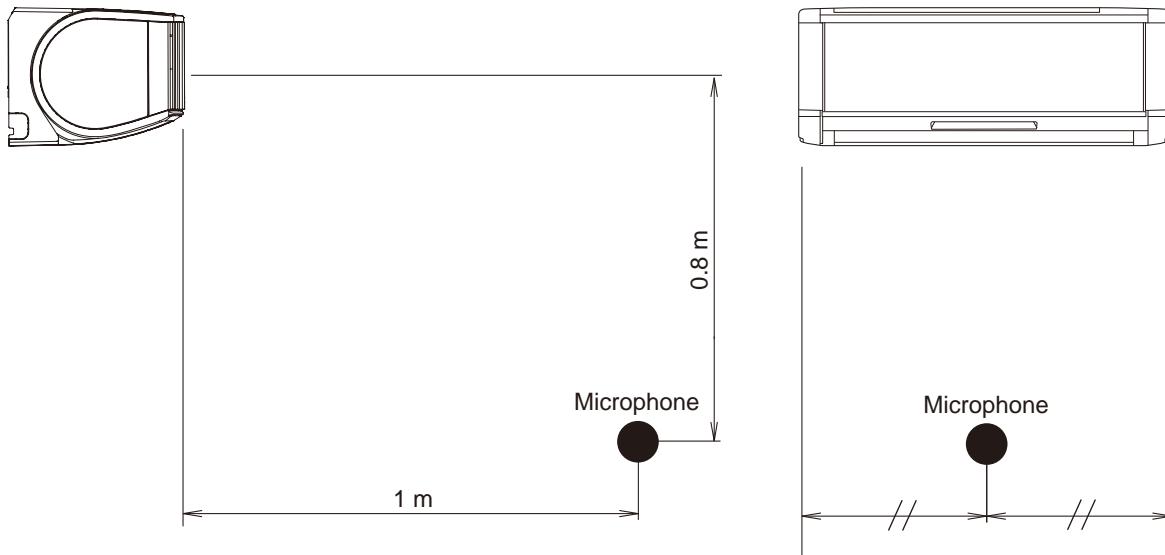
#### ● Cooling



#### ● Heating



### 8-3. Sound level check point



## 9. Safety devices

Type of protection	Protection form	Model	
		ASYG09KXCA	ASYG12KXCA
Circuit protection	Current fuse (PCB*)		250 V, 4 A
Fan motor protection	Power IC thermal shutdown protection	Activate	150 ±15 °C Fan motor stop
		Reset	120 ±15 °C Fan motor restart

\*PCB: Printed Circuit Board

## 10. 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.

### 10-1. 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.

#### ■ 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:**

- Cover for the electrical enclosure on the outdoor unit is in place.
  - There is no wiring mistake.
  - Piping air tight test and vacuuming have been performed firmly.
  - All the necessary wiring work for outdoor unit has been finished.
- After reconfirming the items listed above, connect the power supply of the indoor unit.

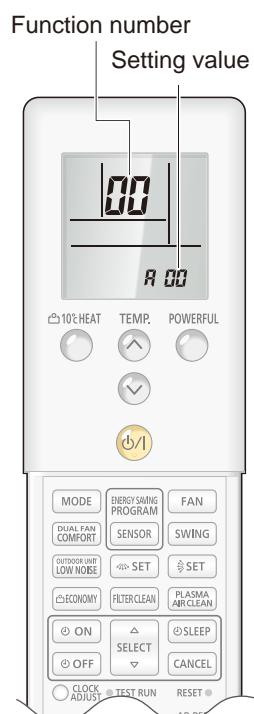
**NOTE:** Settings will not be changed if invalid numbers or setting values are selected.

##### Entering function setting mode:

While pressing the POWERFUL button and TEMP. ( $\wedge$ ) button simultaneously, press the RESET button to enter the function setting mode.

##### Selecting the function number and setting value:

1. Press the TEMP. ( $\wedge$ ) ( $\vee$ ) buttons to select the function number. To switch between the left and right digits, press the 10 °C HEATECONOMY button.
2. Press the POWERFUL button to proceed to value setting. To return the function number selection, press the POWERFUL button again.
3. Press the TEMP. ( $\wedge$ ) ( $\vee$ ) buttons to select the setting value. To switch between the left and right digits, press the 10 °C HEATECONOMY button.
4. Press the MODE button once to send the function setting information. Confirm that you hear the beep sound.
5. Press the START/STOP button to fix the function setting. Confirm that you hear the beep sound.
6. Press the RESET button to end the function setting mode.
7. After completing the function setting, be sure to disconnect the power supply and then reconnect it.



#### ⚠ CAUTION

After disconnecting 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)	10	Filter clean operation interval
2)	24	Left/right swing operation range
3)	30/31	Room temperature control for indoor unit sensor
4)	40	Auto restart
5)	44	Remote controller custom code
6)	49	Indoor unit fan control for energy saving for cooling
7)	92	Dual fan airflow (in COOL, DRY, and FAN modes)
8)	93	Dual fan vertical airflow angle (in COOL, DRY, and FAN modes)
9)	97	Maintenance indicator switchover

#### 1) Filter clean operation interval

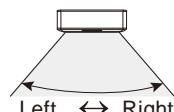
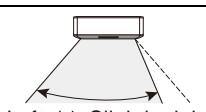
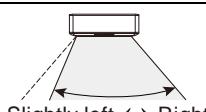
Select appropriate intervals for automatically cleaning the air filter according to environmental conditions and the conditions of use.

Function number	Setting value	Setting description	Factory setting
10	00	Standard (Approximately once every 5 days)	♦
	01	Long interval (Approximately once every 8 days)	
	02	Short interval (Approximately once every 3 days)	
	03	Disable	

#### 2) Left/right swing operation range

Select the operation range of the left/right swing according to the installation condition.

Function number	Setting value	Setting description	Factory setting
24	00	Standard	♦
	01	Left side	
	02	Right side	

### 3) Room temperature control for indoor unit sensor

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

The temperature correction values show the difference from the Standard setting "00" (manufacturer's recommended value).

Function number	Setting value	Setting description	Factory setting			
30 (For cooling)	31 (For heating)	00	Standard setting			
		01	No correction 0.0 °C			
		02	-0.5 °C			
		03	-1.0 °C			
		04	-1.5 °C			
		05	-2.0 °C			
		06	-2.5 °C			
		07	-3.0 °C			
		08	-3.5 °C			
		09	-4.0 °C			
		10	+0.5 °C			
		11	+1.0 °C			
		12	+1.5 °C			
		13	+2.0 °C			
		14	+2.5 °C			
		15	+3.0 °C			
		16	+3.5 °C			
		17	+4.0 °C			
		More cooling Less heating	◆			

### 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	
	02	Remote controller	◆

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.

02: Enable or disable this function by remote controller setting.

**NOTES:**

- As the factory setting, this setting is initially activated.
- Set to "00" or "01" when connecting a remote controller that cannot set the Fan control for energy saving function or connecting a network converter.  
To confirm if the remote controller has this setting, refer to the operating manual of each remote controller.

**7) Dual fan airflow (in COOL, DRY, and FAN modes)**

Switches the dual fan vertical airflow in COOL, DRY, and FAN modes. (Set this when the dual fan airflow is too strong or weak.)

Function number	Setting value	Setting description	Factory setting
92	00	Standard	◆
	01	Down	
	02	Up	

**8) Dual fan vertical airflow angle (in COOL, DRY, and FAN modes)**

Switches the dual fan vertical airflow angle in COOL, DRY, and FAN modes. (Set this when the dual fan airflow hits furniture or does not reach the intended area.)

Function number	Setting value	Setting description	Factory setting
93	00	Standard (70°)	◆
	01	0°	
	02	30°	
	03	40°	
	04	45°	
	05	50°	
	06	60°	

**9) Maintenance indicator switchover**

Display/hide the indicator that shows when to clean the dust box or the plasma air clean unit.

Function number	Setting value	Setting description	Factory setting
97	00	Enable	◆
	01	Disable	

## 10-2. 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 signal if the air conditioner has not been set for the custom code.

When 2 or more air conditioners are installed in a room, and the remote controller is operating an air conditioner other than the one you wish to set, change the custom code of the remote controller to operate only the air conditioner you wish to set. (4 selections possible.)

Confirm the setting of the remote controller custom code and the function setting. If these do not match, the remote controller cannot be used to operate for the air conditioner.

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 5 seconds to display the current custom code. (Initially set to  $\text{A}$ .)
3. Press the TEMP. ( $\wedge$ ) ( $\vee$ ) buttons to change the custom code between  $\text{A} \rightarrow \text{B} \rightarrow \text{C} \rightarrow \text{D}$ . Match the code on the display to the air conditioner custom code. (Initially set to  $\text{A}$ .)
4. Press the MODE button again to return to the clock display. The custom code will be changed.



### NOTES:

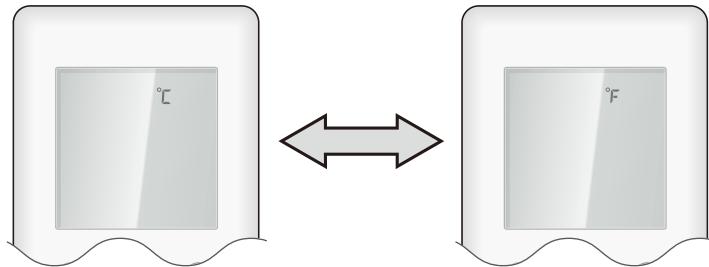
- If no button is pressed within 30 seconds after the custom code is displayed, the system returns to the original clock indicator. In this case, start again from step 1.
- The air conditioner custom code is set to  $\text{A}$  prior to shipment. To change the custom code, contact your retailer.
- If you do not know the assigned code for the air conditioner, try each of the custom code ( $\text{A} \rightarrow \text{B} \rightarrow \text{C} \rightarrow \text{D}$ ) until you find the code which operates the air conditioner.

## 10-3. Switching the temperature unit of remote controller

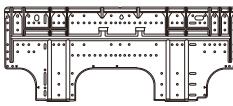
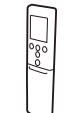
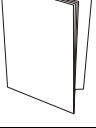
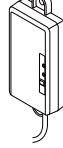
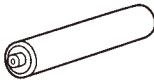
Displayed temperature unit on the remote controller LCD can be switched between °C (Celsius) and °F (Fahrenheit).

To change temperature unit, do as follows:

1. Press the TEMP. (Up) button ( $\wedge$ ) for at least 5 seconds to display the current temperature unit. (Factory setting: °C)
2. Press the TEMP. ( $\wedge$ ) ( $\vee$ ) buttons to switch the temperature unit between °C and °F.
3. With either of pressing the START/STOP button or no additional button operation for 30 seconds in step 2., the temperature unit currently selected will be set.



## 11. Accessories

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty	
Operating manual		1	Wall hook bracket		1	
Operating manual (CD-ROM)		1	Cloth tape		1	
Installation manual		1	Tapping screw (large), M4 × 25 mm		11	
Installation notice sheet		1	Tapping screw (small), M3 × 12 mm		2	
Remote controller		1	Setting manual (for WLAN control*)		1	
Remote controller holder		1	Wireless LAN adapter with cable (with attached wireless LAN label*)		1	
Battery		2	*: This product has a wireless LAN adapter as accessory. Be sure to keep the wireless LAN label attached to the adapter by writing the details down or pasting it on the list in the last section of the setting manual for wireless LAN adapter.			



## **Part 2. OUTDOOR UNIT**

---

**SINGLE TYPE:**  
**AOYG09KXCA**  
**AOYG12KXCA**

# 1. Specifications

Type	Inverter heat pump		
Model name	AOYG09KXCA		AOYG12KXCA
Power supply	230 V ~ 50 Hz		
Available voltage range	198—264 V		
Starting current	A	5.1	5.1
Fan	Airflow rate	Cooling	1,975
		Heating	1,820
	Type × Q'ty	Propeller fan × 1	
	Motor output	W	49
Sound pressure level *1	Cooling	dB (A)	40
			41
Sound power level	Cooling	dB (A)	53
	Heating		57
Heat exchanger type	Dimensions (H × W × D)	mm	Main 1: 672 × 936 × 18.2, Main 2: 672 × 906 × 18.2
	Fin pitch		1.3
	Rows × Stages	2 × 32	
	Pipe type	Copper	
Compressor	Type × Q'ty	Corrugate (Aluminum)	
		Fin type	Corrosion resistance (Blue fin)
Refrigerant	Type (Global warming potential)	Hermetic motor compressor × 1	
	Charge	g	900
Refrigerant oil	Type	R32 (675)	
	Amount	cm <sup>3</sup>	1,300
Enclosure	Material	FW50S	
	Color	Steel sheet Beige Approximate color of MUNSELL 10YR7.5/1.0	
Dimensions (H × W × D)	Net	mm	704 × 820 × 315
	Gross		786 × 965 × 426
Weight	Net	kg	41
	Gross		46
Connection pipe	Size	Liquid	Ø 6.35 (Ø 1/4)
		Gas	Ø 9.52 (Ø 3/8)
	Method	Flare	
	Pre-charge length	m	15
Operation range	Max. length		15
	Max. height difference		10
Drain hose	Cooling	°C	-10 to 43
	Heating		-15 to 24
Material		LDPE	
Size		Ø 13.0 (I. D.), Ø 16.0 to Ø 16.7 (O. D.)	

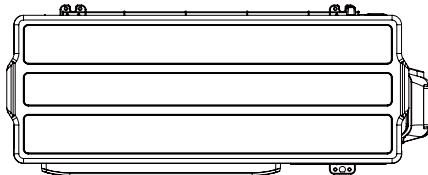
**NOTES:**

- 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.
- Protective function might work when using it outside the operation range.
- \*1: 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.

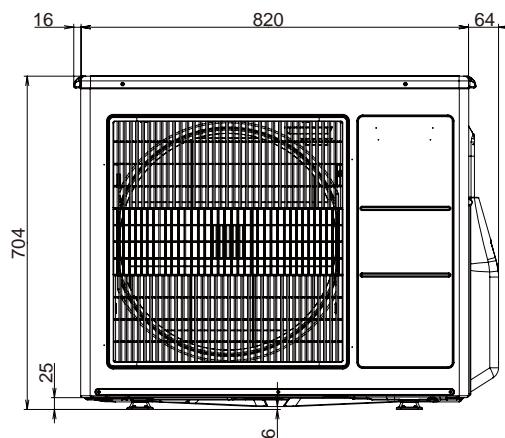
## 2. Dimensions

### 2-1. Models: AOYG09KXCA and AOYG12KXCA

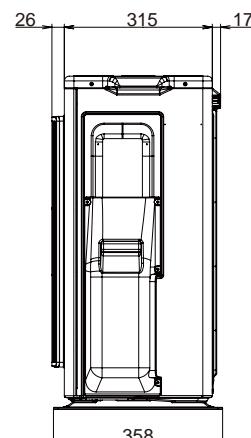
Unit: mm



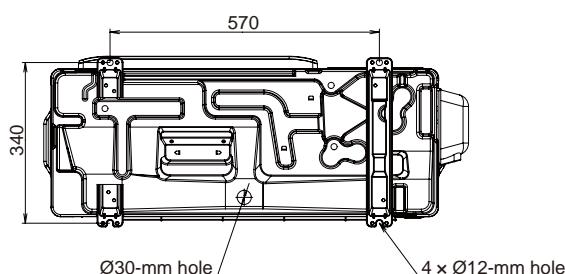
Top view



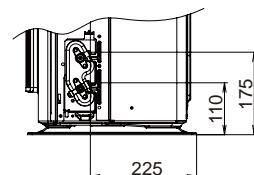
Front view



Side view



Bottom view



### 3. Installation space

#### 3-1. Models: AoyG09KXCA and AoyG12KXCA

##### ■ Space requirement

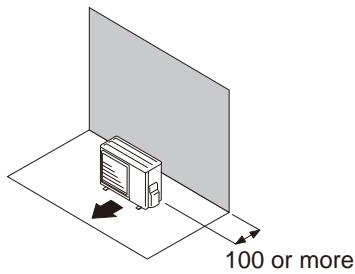
Provide sufficient installation space for product safety.

###### ● Single outdoor unit installation

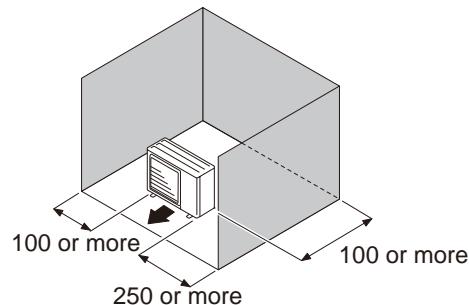
- When the upper space is open:

Unit: mm

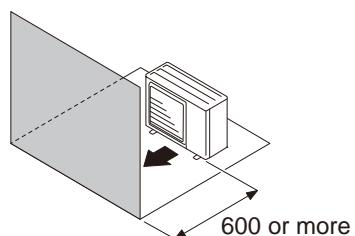
When there are obstacles at the rear only.



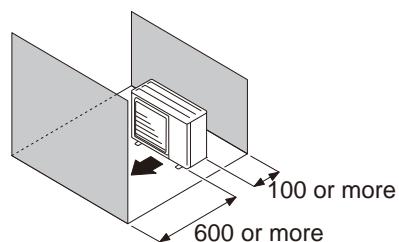
When there are obstacles at the rear and sides.



When there are obstacles at the front only.



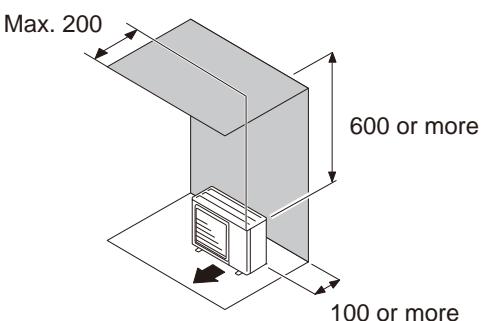
When there are obstacles at the front and rear.



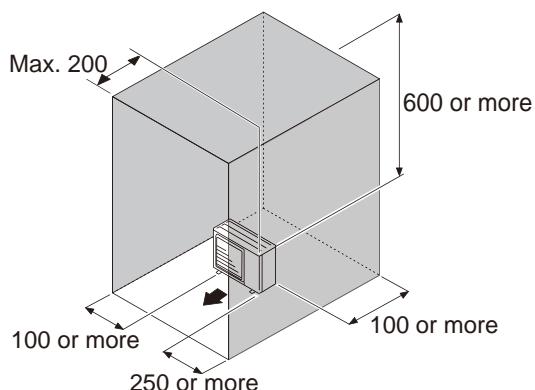
- When there is an obstruction in the upper space:

Unit: mm

When there are obstacles at the rear and above.



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

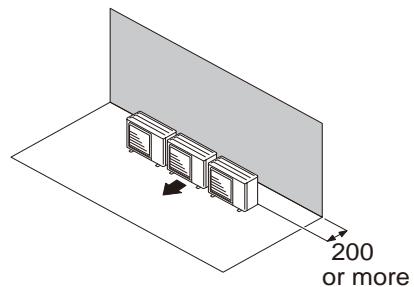


## ● Multiple outdoor unit installation

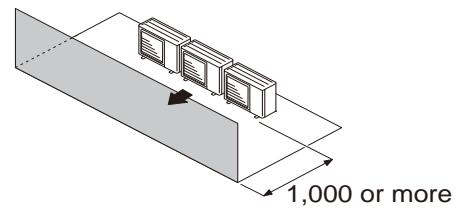
- When the upper space is open:

Unit: mm

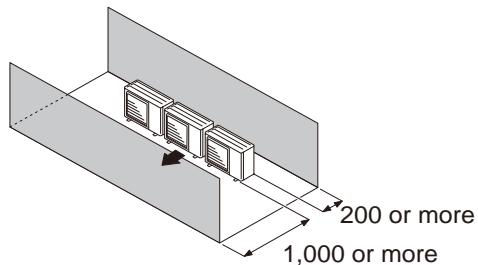
When there are obstacles at the rear only.



When there are obstacles at the front only.



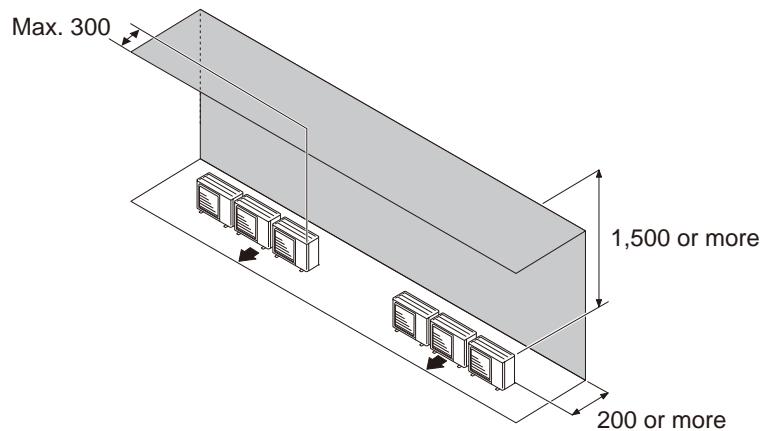
When there are obstacles at the front and rear.



- When there is an obstruction in the upper space:

Unit: mm

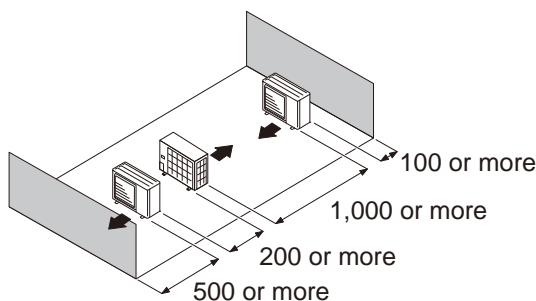
When there are obstacles at the rear and above.



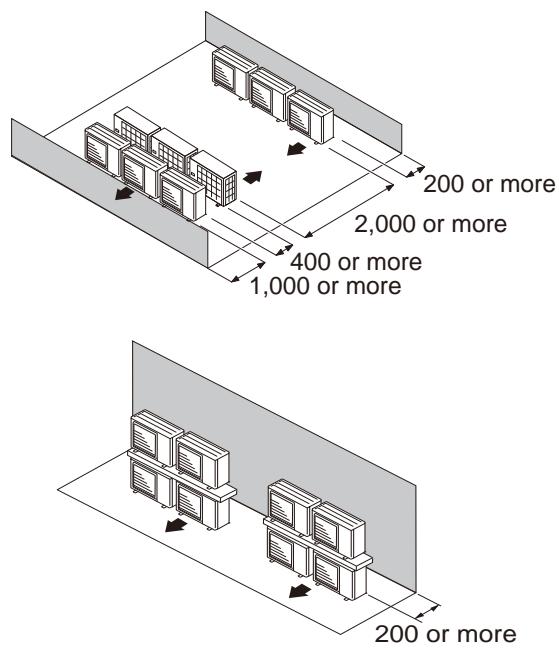
## ● Outdoor unit installation in multi-row

Unit: mm

Single parallel unit arrangement



Multiple parallel unit arrangement

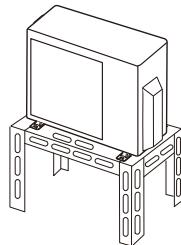


### NOTES:

- 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.

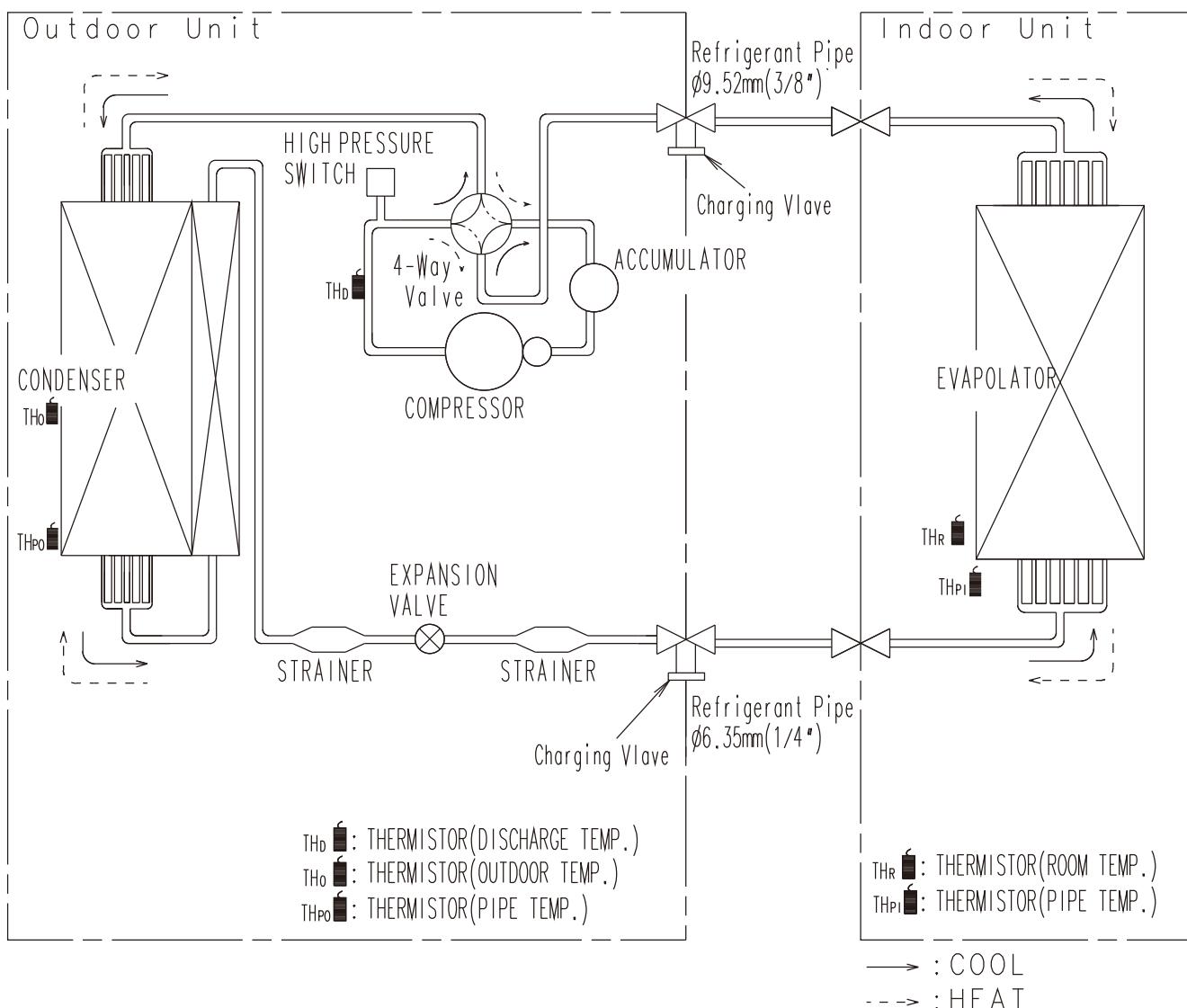
### ⚠ CAUTION

- 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.



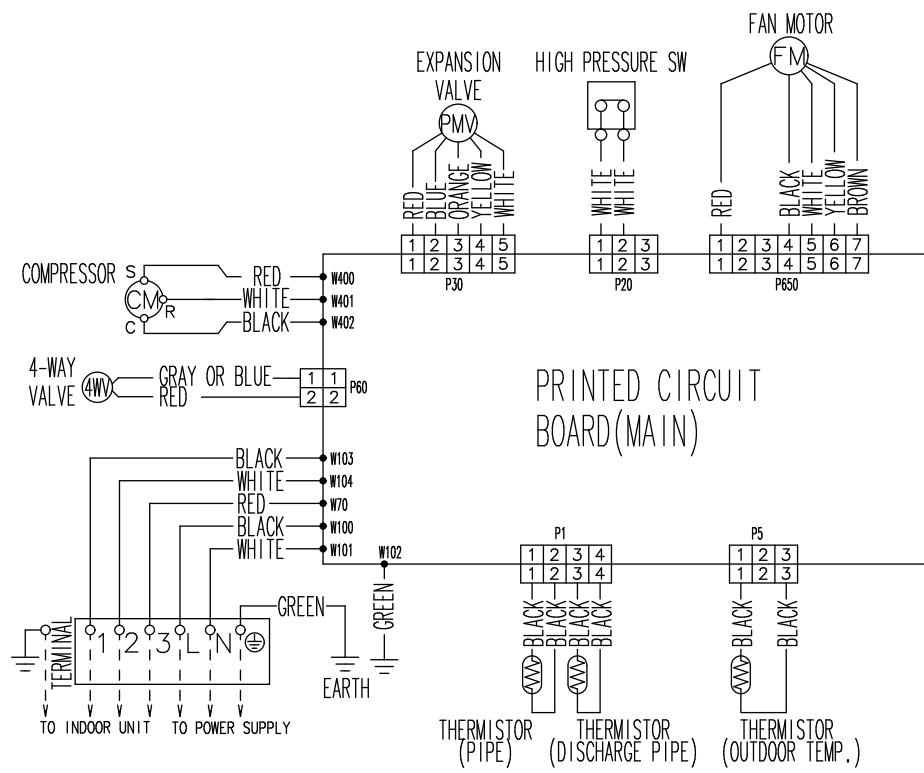
## 4. Refrigerant circuit

### 4-1. Models: AOYG09KXCA and AOYG12KXCA

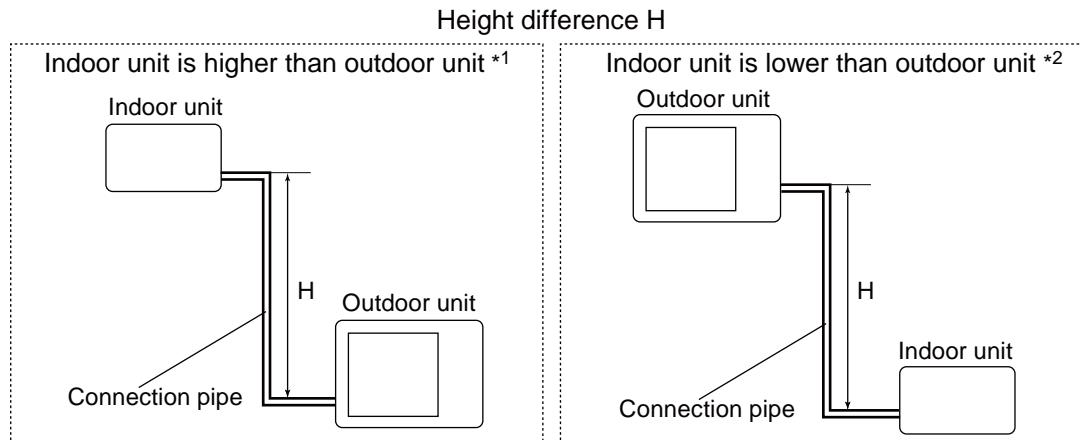


## 5. Wiring diagrams

### 5-1. Models: AOYG09KXCA and AOYG12KXCA



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



OUTDOOR UNIT  
AOYG09, 12KXCA

### 6-1. Models: AOYG09KXCA and AOYG12KXCA

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

COOLING		Pipe length (m)				
		5	7.5	10	15	
Height difference H (m)	Indoor unit is higher than outdoor unit * <sup>1</sup>	10	-	-	0.929	0.872
		7.5	-	0.960	0.933	0.876
		5	0.992	0.964	0.937	0.879
		0	1.000	0.972	0.944	0.887
	Indoor unit is lower than outdoor unit * <sup>2</sup>	-5	1.000	0.972	0.944	0.887
		-7.5	-	0.972	0.944	0.887
		-10	-	-	0.944	0.887

HEATING		Pipe length (m)				
		5	7.5	10	15	
Height difference H (m)	Indoor unit is higher than outdoor unit * <sup>1</sup>	10	-	-	0.968	0.890
		7.5	-	0.994	0.968	0.896
		5	1.000	0.994	0.968	0.896
		0	1.000	0.994	0.968	0.986
	Indoor unit is lower than outdoor unit * <sup>2</sup>	-5	0.995	0.989	0.963	0.891
		-7.5	-	0.987	0.961	0.889
		-10	-	-	0.959	0.887

---

## 7. Additional charge calculation

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### 7-1. Models: AOYG09KXCA and AOYG12KXCA

Refrigerant type	R32		
Refrigerant amount	g	1,300	

#### ■ Refrigerant charge

Total pipe length	m	7.5 or less	15 (Max.)	0 g/m
Additional charge	g	0	0	

**NOTE:** There is no additional refrigerant charge in this product. (Chargeless system)

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## 8. Airflow

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### 8-1. Model: AOYG09KXCA

#### ● Cooling

$\text{m}^3/\text{h}$	1,975
l/s	549
CFM	1,162

#### ● Heating

$\text{m}^3/\text{h}$	1,820
l/s	506
CFM	1,071

---

### 8-2. Model: AOYG12KXCA

#### ● Cooling

$\text{m}^3/\text{h}$	2,230
l/s	619
CFM	1,313

#### ● Heating

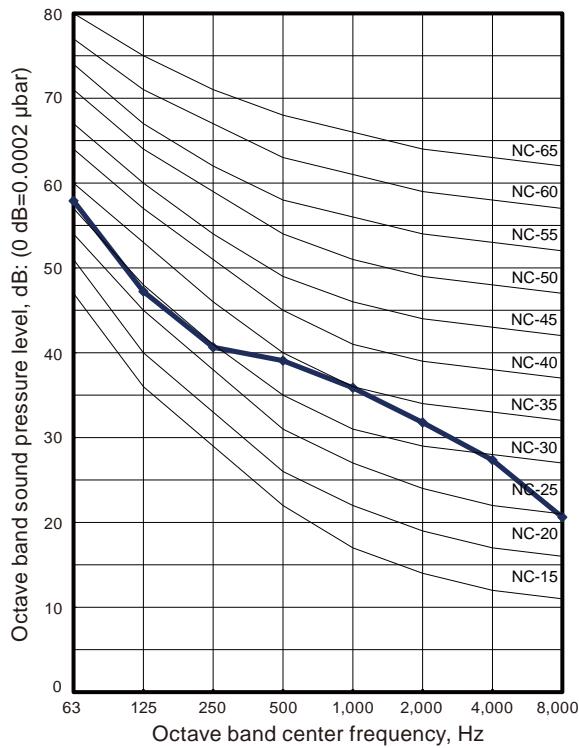
$\text{m}^3/\text{h}$	1,975
l/s	549
CFM	1,162

## 9. Operation noise (sound pressure)

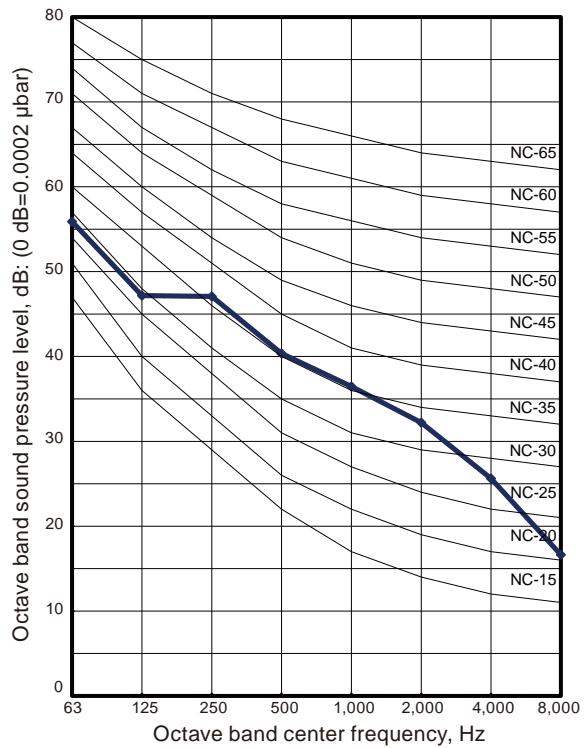
### 9-1. Noise level curve

■ Model: AOYG09KXCA

#### ● Cooling

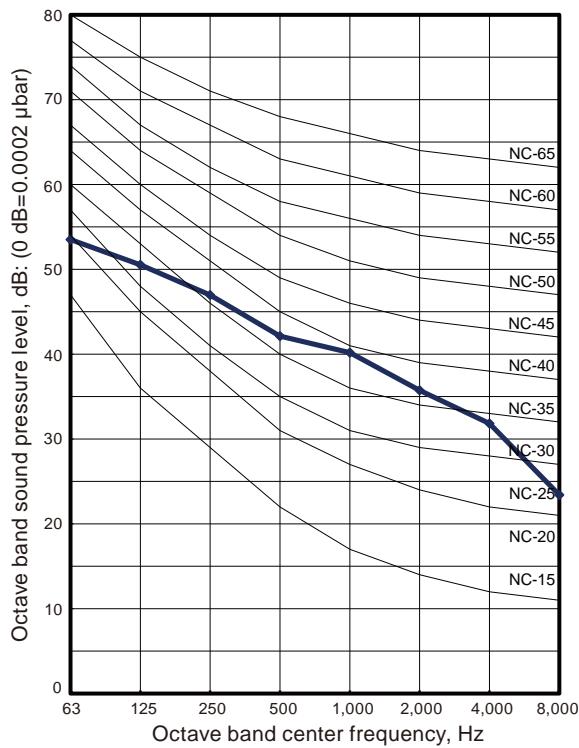


#### ● Heating

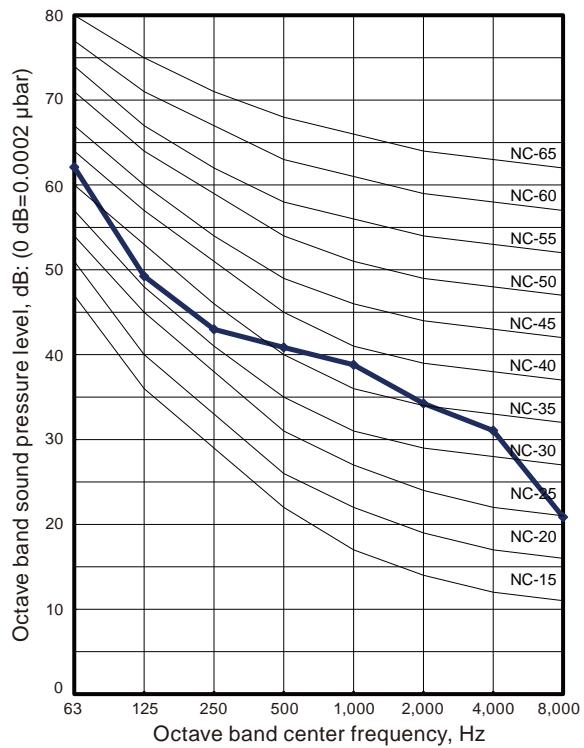


■ Model: AOYG12KXCA

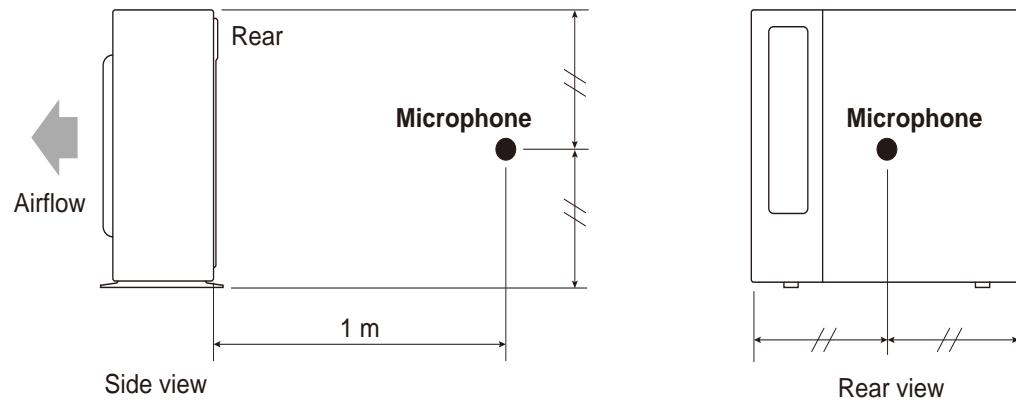
#### ● Cooling



#### ● 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			AOYG09KXCA	AOYG12KXCA
Power supply	Voltage	V	230 ~	
	Frequency	Hz	50	
Max operating current *1		A	14.0	16.0
Starting current		A	5.1	5.1
Wiring spec. *2	Circuit breaker current	A	16	20
	Power cable	mm <sup>2</sup>	2.5	4.0
	Connection cable *3	mm <sup>2</sup>	1.5	
	Limited wiring length	m	16	

\*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	
		AOYG09KXCA	AOYG12KXCA
Circuit protection	Current fuse (Main PCB)		250 V, 25 A 250 V, 5 A 250 V, 3.15 A
Fan motor protection	Thermal protection program	Activate	125 ±10 °C Fan motor stop
		Reset	120 ±10 °C Fan motor restart
Compressor protection	Terminal protection program (Compressor temp.)	Activate	108 °C Compressor stop
		Reset	After 40 minutes Compressor restart
	Thermal protection program (Discharge temp.)	Activate	110 °C Compressor stop
		Reset	After 7 minutes Compressor restart
High pressure protection	Pressure switch	Activate	4.2 ±0.1 MPa Compressor stop
		Reset	3.2 ±0.15 MPa Compressor restart

## 12. Accessories

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