

REFRIGERANT R32
INVERTER

AIR CONDITIONER

Wall mounted type

DESIGN & TECHNICAL MANUAL

INDOOR



ASYG09KXCA
ASYG12KXCA

OUTDOOR



AOYG09KXCA
AOYG12KXCA

FUJITSU GENERAL LIMITED

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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

WALL MOUNTED TYPE:

ASYG09KXCA

ASYG12KXCA

1. 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					
		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					
		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				
		Min.—Max.		0.10—1.90	0.10—2.00				
		Rated		0.63	1.02				
		Min.—Max.		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				
	Heating			14.0	16.0				
Fan	Airflow rate	HIGH	m³/h	670					
		MED		590					
		LOW		520					
		QUIET		350					
		HIGH		810					
		MED		690					
		LOW		570					
		QUIET		380					
	Type × Q'ty			Cross flow fan × 1					
	Motor output			64					
Sound pressure level *2	Cooling	HIGH	dB (A)	46					
		MED		42					
		LOW		38					
		QUIET		28					
		HIGH		48					
	Heating	MED		43					
		LOW		39					
		QUIET		30					
		HIGH	dB (A)	46					
		MED		42					
Sound pressure level when DUAL FAN COMFORT is on *2	Cooling	LOW		39					
		QUIET		29					
		HIGH		48					
		MED		43					
		LOW		40					
	Heating	QUIET		31					
		HIGH							
		MED							
		LOW							
		QUIET							
Heat exchanger type	Dimensions (H × W × D)			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)			293 × 786 × 378					
	Net			454 × 877 × 376					
Weight	Gross			20					
	Net			24					
	Connection pipe	Size	Liquid	Ø 6.35 (Ø 1/4)					
				Ø 9.52 (Ø 3/8)					
Method			Flare						
Drain hose			PVC						
Material			Ø 13.8 (I.D.), Ø 15.8 to Ø 16.7 (O.D.)						
Size			18 to 32						
Operation range	Cooling			80 or less					
	Heating			16 to 30					
Remote controller			Wireless or Mobile app (FGLair *3)						

Type	Wall mounted	
	Inverter heat pump	
Model name	ASYG09KXCA	ASYG12KXCA
NOTES:		
<ul style="list-style-type: none">• Specifications are based on the following conditions:<ul style="list-style-type: none">– 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:<ul style="list-style-type: none">– 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	

2. Wireless LAN control

By installing mobile app on a smart device, several functions can be controlled from outside the house.

2-1. System requirement

Before using this function, prepare the following items:

- **Wireless router:**

Wireless LAN standard	IEEE802.11b/g/n
Frequency bands*	<ul style="list-style-type: none"> • U.S.A., Canada: 2.4 GHz (1ch—11ch) • Other countries: 2.4 GHz (1ch—13ch)
Network security standard	<ul style="list-style-type: none"> • Open • WEP • WPA (PSK) • WPA2 Personal (PSK) • WPS for same-LAN registration

*: Usable only in the country or region where you purchased the product.

To check whether your wireless router complies with the network security standards listed above, refer to the operation manual.

- **Smartphone or Tablet PC:**

App-compliant operating system	iOS® Android™	Check the latest version of supported OS at Google Play™ store or App Store®.
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- **FGLair™ (mobile application):**

Mobile app is available on Google Play store or on App Store.

After installation of mobile app, user registration is required. For user registration and setup information, refer to Setting Manual attached with the product.

For the latest version of the Wireless LAN (WLAN) control manuals, refer to the following web site.

<https://www.fujitsu-general.com/global/support/>

2-2. Wireless LAN function list

	Item	Mobile app	Attached wireless remote controller
Air conditioning control function	Operation on/off	○	○
	Operation mode setting	○	○
	Set temperature setting	○	○
	Fan speed setting	○	○
	Airflow direction setting	Louver position adjustment (vertical/horizontal)	○
		Swing (vertical/horizontal)	○*1
	Timer operation	Off timer	— ○*1
		On timer	— ○*1
		Sleep timer	— ○*1
		On/off program timer	— ○*1
		Weekly timer*2	○ ○*1
Additional function	POWERFUL operation setting	○*1	○*1
	ECONOMY operation setting	○	○
	10 °C HEAT operation setting	○*1	○*1
	Human sensor for energy saving setting	○*1	○*1
	Outdoor unit low noise operation setting	○*1	○*1
	Room temperature indicator	○	—
	Demand control indicator	○	—
App function	Air conditioner error e-mail notification	○	—

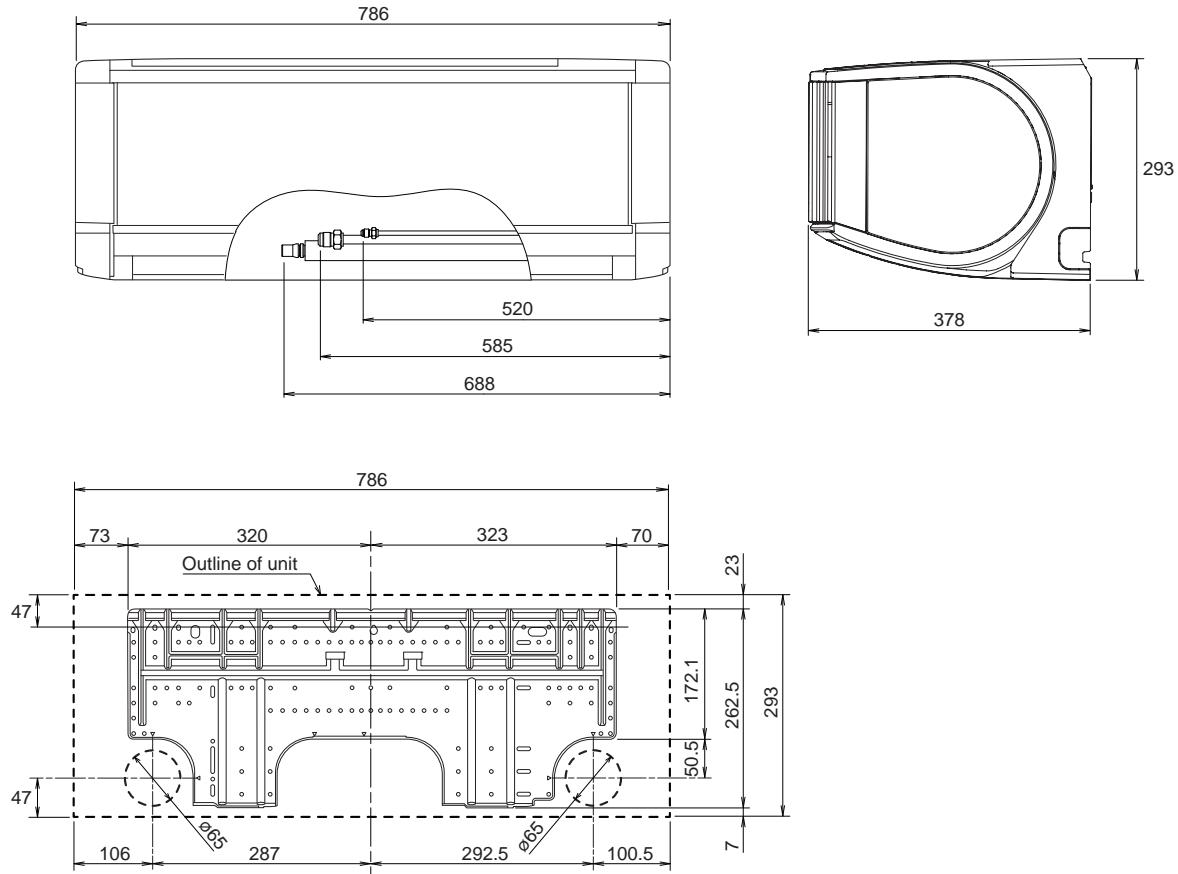
*1: Not operable when wired remote controller is connected.

*2: Configurable functions of the weekly timer differs on wireless remote controller and on mobile application. If timer settings are done from mobile application and from wireless remote controller, both timer settings will be active.

3. Dimensions

3-1. Models: ASYG09KXCA and ASYG12KXCA

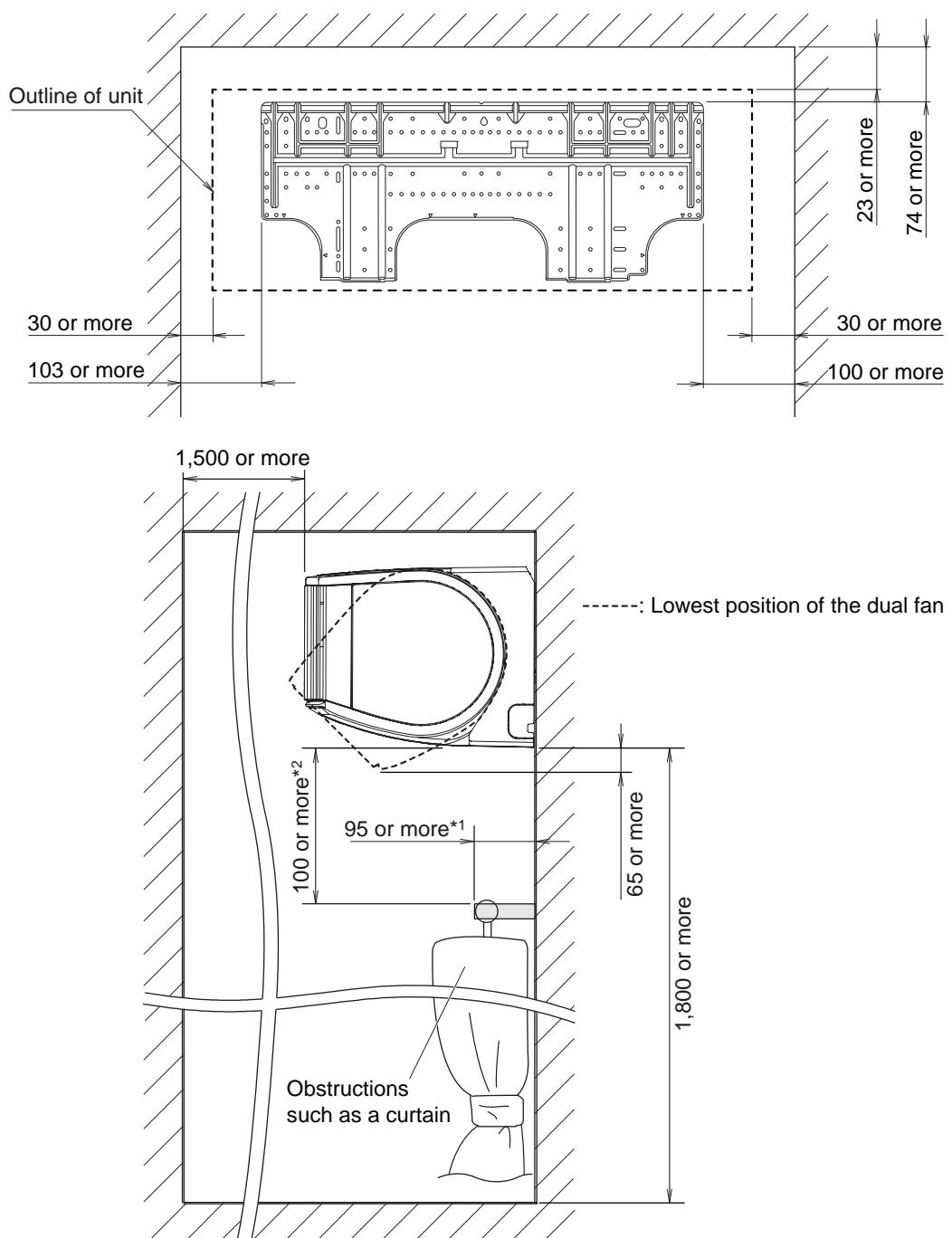
Unit: mm



■ Installation space requirement

Provide sufficient installation space for product safety.

Unit: mm

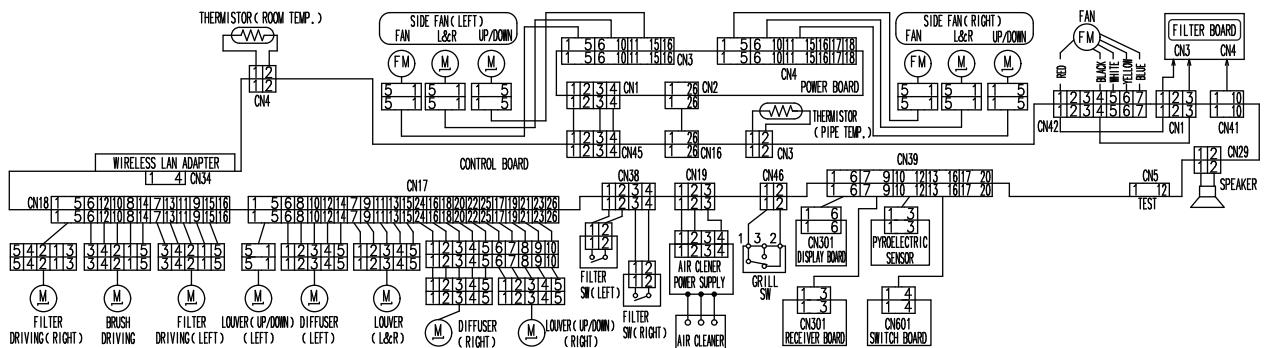


NOTE: Dual side fans rotate downward when the unit is operating as shown in the figure above. If the depth of the obstruction is larger than 95 mm, secure specified distance*² in between the indoor unit and the obstruction.

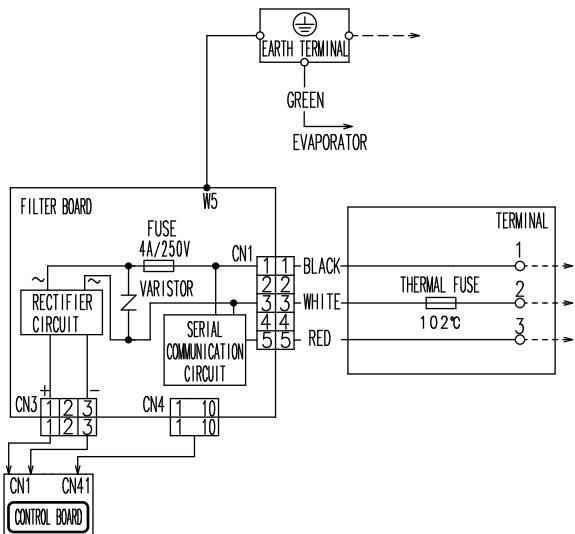
4. Wiring diagrams

4-1. Models: ASYG09KXCA and ASYG12KXCA

■ Main PC board



■ Sub PC board



5. 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)

5-1. Cooling capacity

■ Model: ASYG09KXCA

AFR	m³/h			Indoor temperature												m³/h		
	18			21			23			25			27			29		
°CDB	12			15			16			18			19			21		
°CWB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
Outdoor temperature	kW			kW			kW			kW			kW			kW		
-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
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
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
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
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
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
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
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
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
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
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

■ Model: ASYG12KXCA

AFR	m³/h			Indoor temperature												m³/h		
	18			21			23			25			27			29		
°CDB	12			15			16			18			19			21		
°CWB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
Outdoor temperature	kW			kW			kW			kW			kW			kW		
-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
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
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
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
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
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
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
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
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
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
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

5-2. Heating capacity

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

■ Model: ASYG09KXCA

AFR			m ³ /h		810							
			Indoor temperature									
Outdoor temperature	°CDB	°CWB	16		18		20		22		24	
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			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 ³ /h		810							
			Indoor temperature									
Outdoor temperature	°CDB	°CWB	16		18		20		22		24	
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			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	

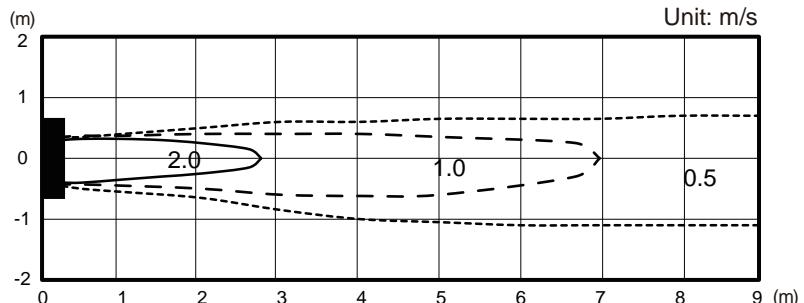
6. Fan performance

6-1. Air velocity distributions

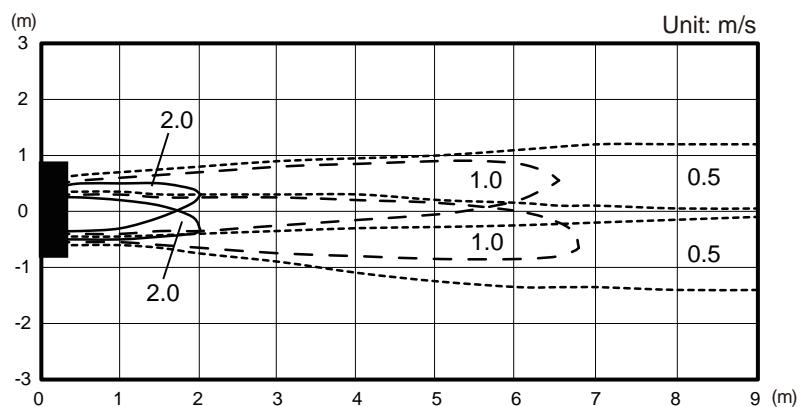
■ Models: ASYG09KXCA and ASYG12KXCA

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

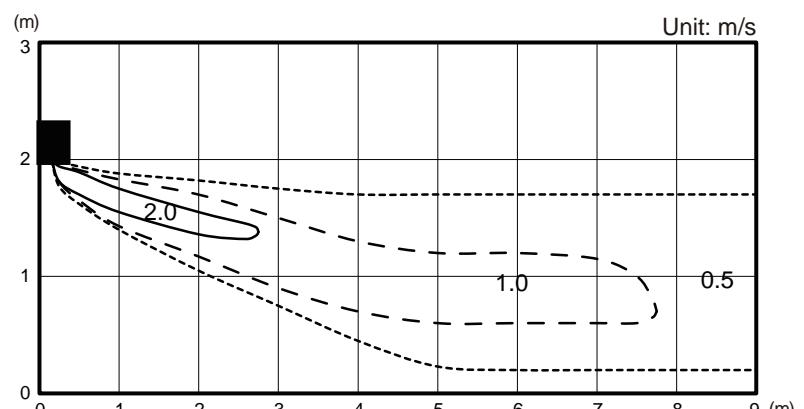
Top view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Center



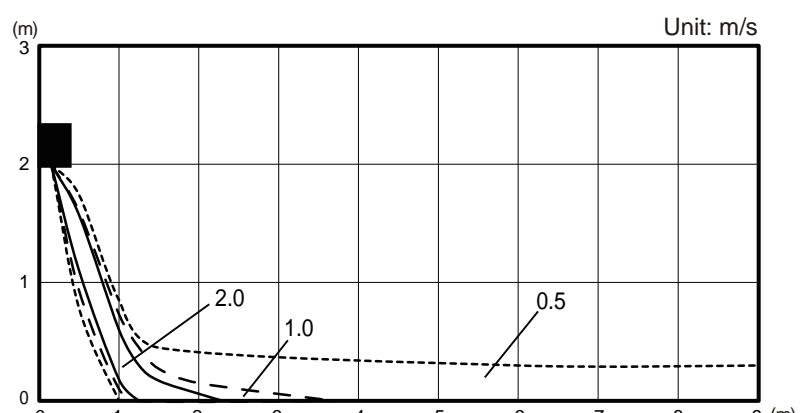
Top view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Left & Right



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



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



6-2. Airflow

■ Models: ASYG09KXCA and ASYG12KXCA

● Cooling

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

● Heating

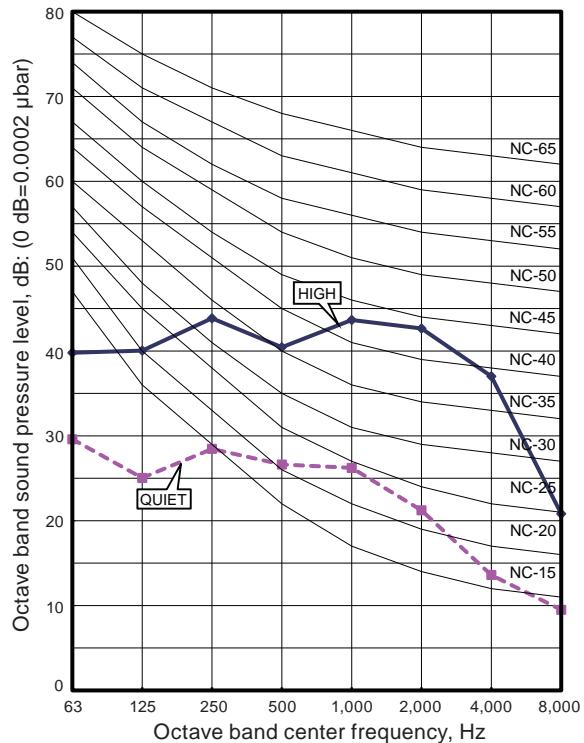
Fan speed	Airflow	
HIGH	m^3/h	810
	l/s	225
	CFM	477
MED	m^3/h	690
	l/s	192
	CFM	406
LOW	m^3/h	570
	l/s	158
	CFM	336
QUIET	m^3/h	380
	l/s	106
	CFM	224

7. Operation noise (sound pressure)

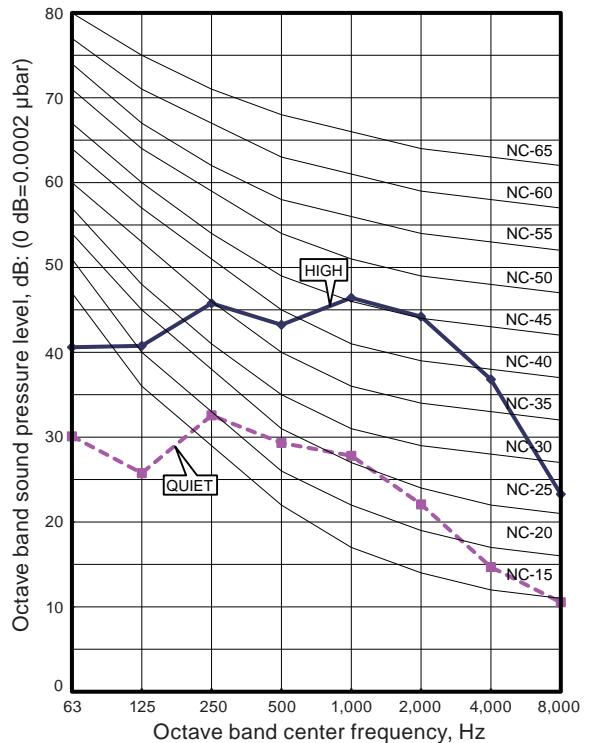
7-1. Noise level curve

■ Model: ASYG09KXCA

● Cooling

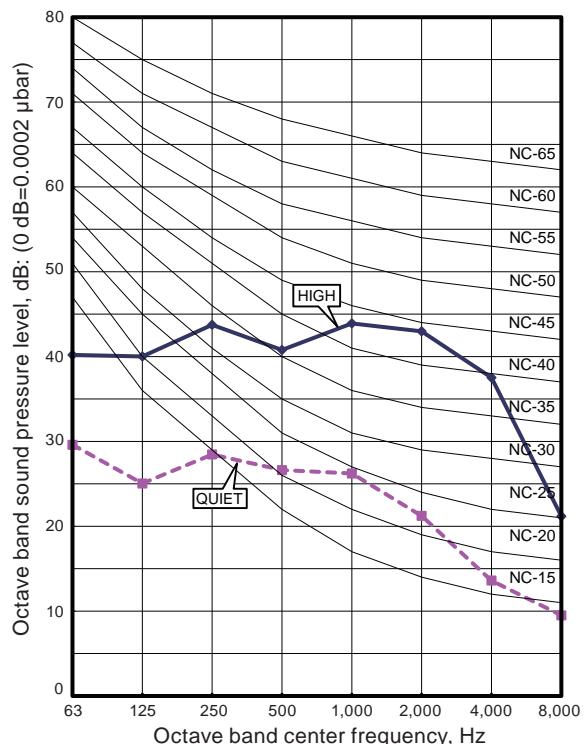


● Heating

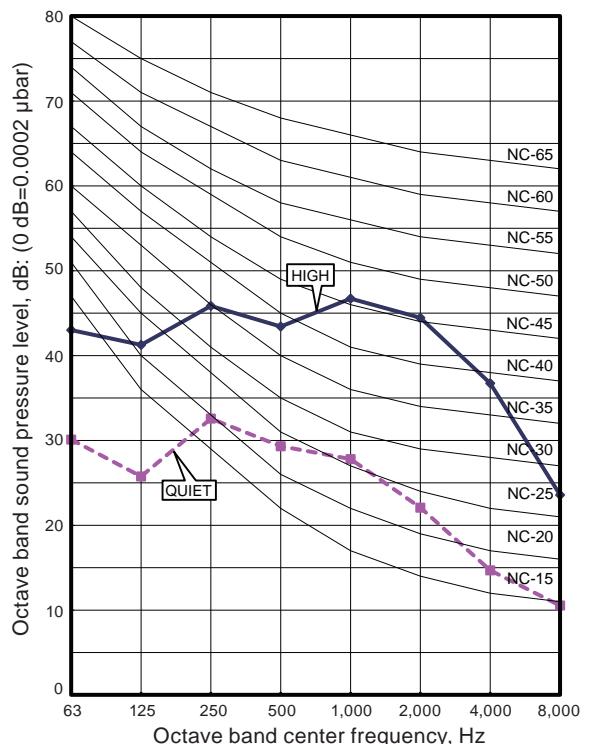


■ Model: ASYG12KXCA

● Cooling



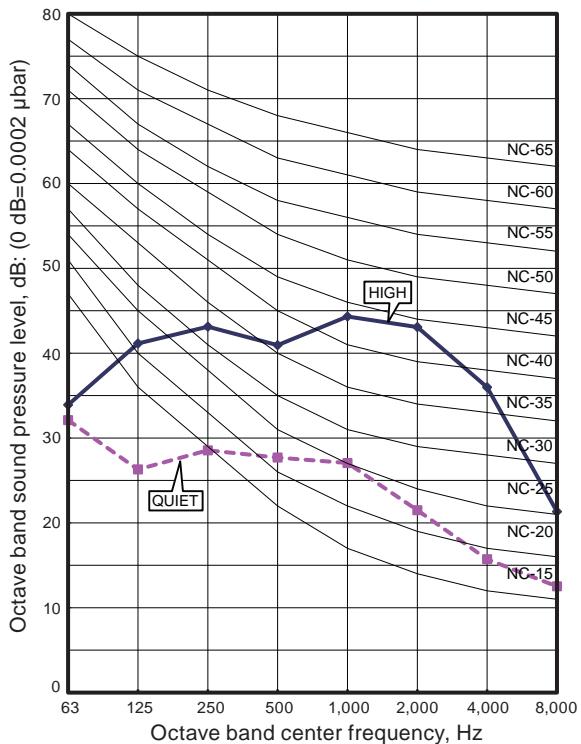
● Heating



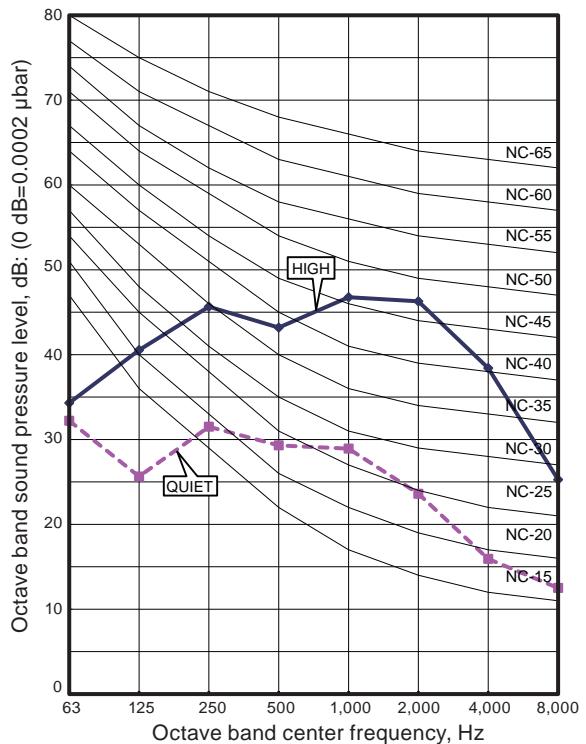
7-2. Noise level curve (when DUAL FAN COMFORT is on)

■ Model: ASYG09KXCA

● Cooling

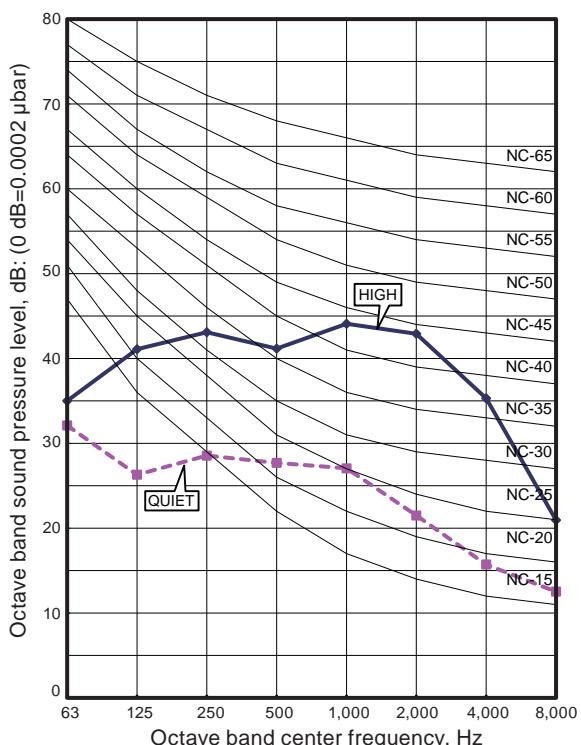


● Heating

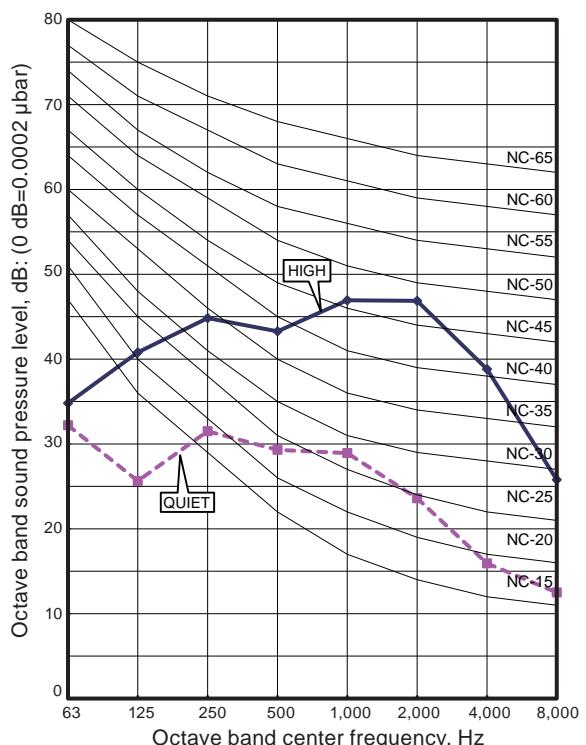


■ Model: ASYG12KXCA

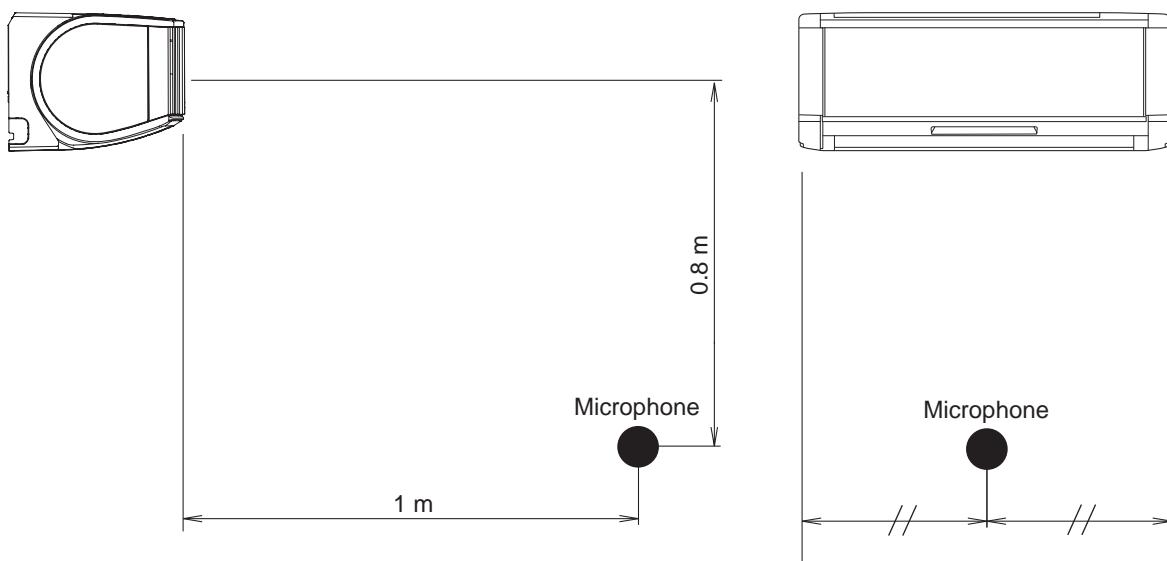
● Cooling



● Heating



7-3. Sound level check point



8. Safety devices

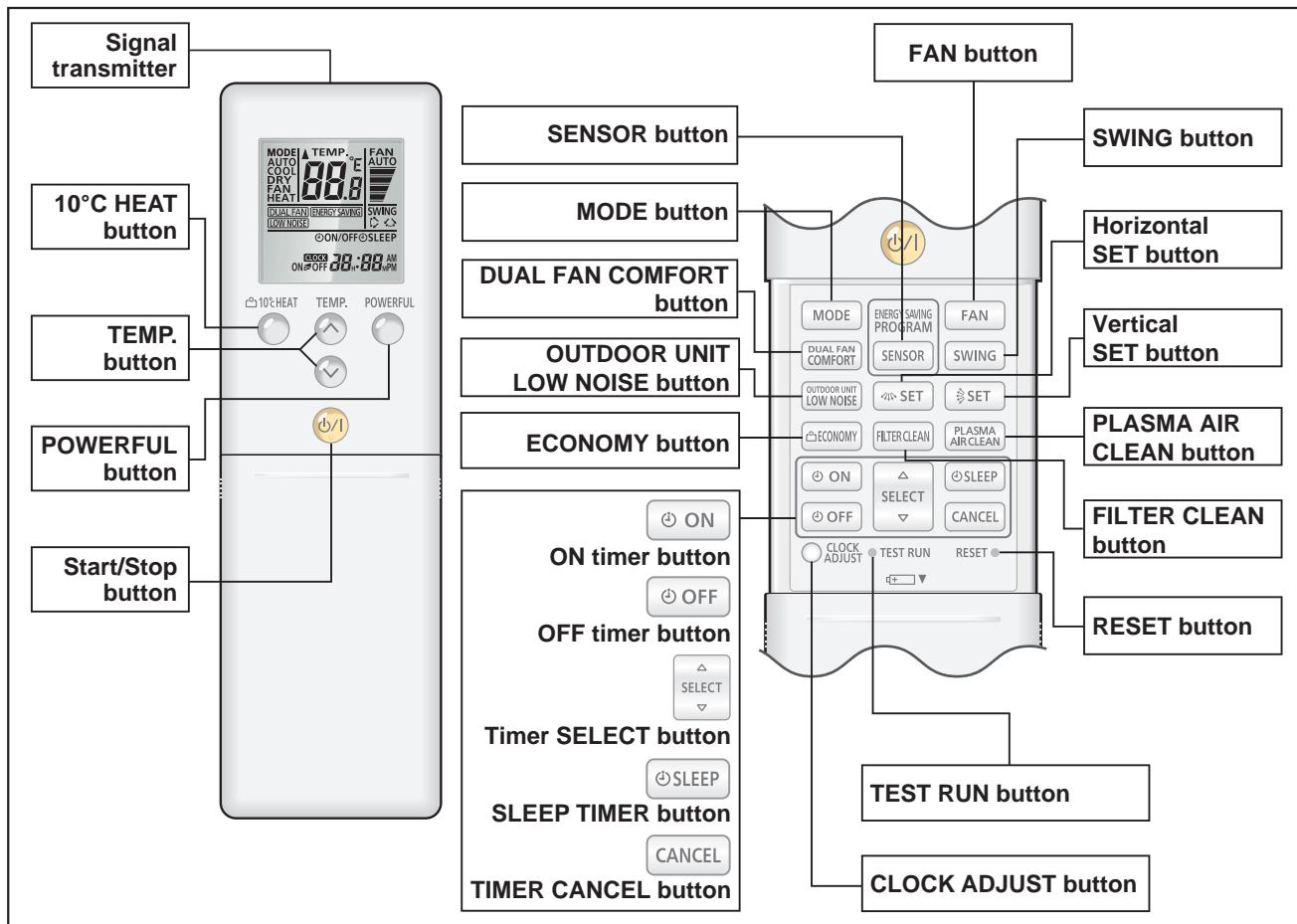
Type of protection	Protection form	Model	
		ASYG09KXCA	ASYG12KXCA
Circuit protection	Current fuse (PCB*)	250 V, 4 A	
Fan motor protection	Power IC thermal shutdown protection	Activate	150 ±15 °C Fan motor stop
		Reset	120 ±15 °C Fan motor restart

*PCB: Printed Circuit Board

9. Remote controller

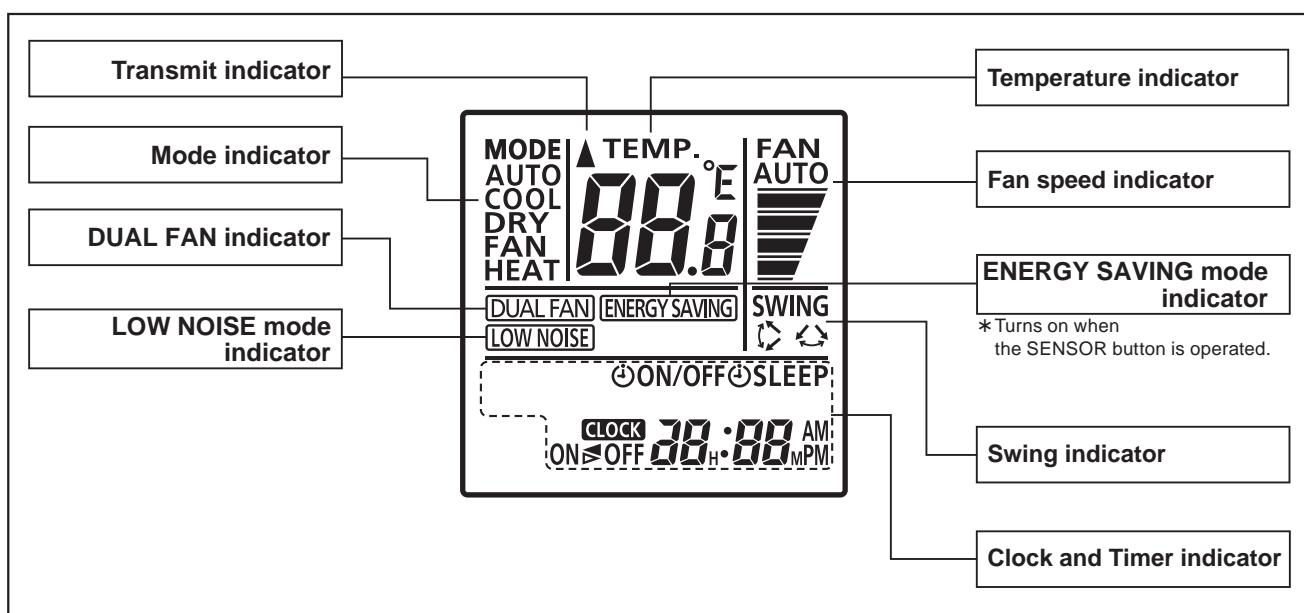
9-1. Wireless remote controller

■ Overview



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

Display panel

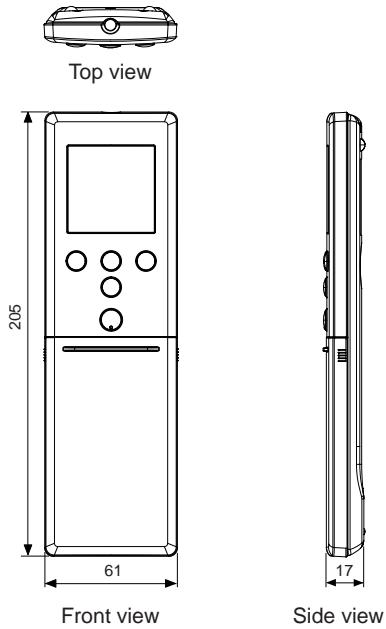


To facilitate explanation, the accompanying illustration has been drawn to show all possible indicators; in actual operation, however, the display will only show those indicators appropriate to the current operation.

■ Specifications

● Controller

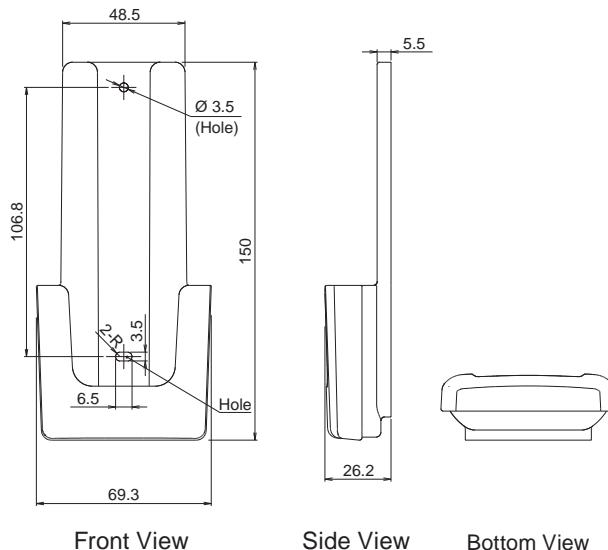
Unit: mm



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

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:

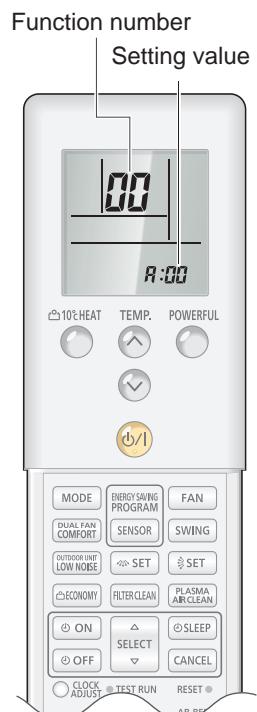
While pressing the POWERFUL button and TEMP. (\wedge) button simultaneously, press the RESET button to enter the function setting mode.

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 HEAT 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 HEAT 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

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



NOTES:

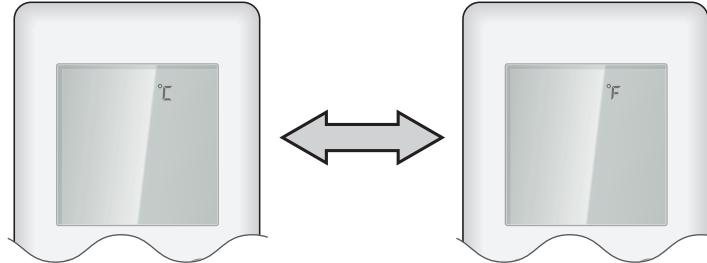
- If no button is pressed within 30 seconds after the custom code is displayed, the system returns to the original clock indicator. In this case, start again from step 1.
- The air conditioner custom code is set to **A** prior to shipment. To change the custom code, contact your retailer.
- If you do not know the assigned code for the air conditioner, try each of the custom code (**A** \rightarrow **B** \rightarrow **C** \rightarrow **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	2,230			
		Heating	1,820	1,975			
Type × Q'ty			Propeller fan × 1				
Motor output	W		49				
Sound pressure level *1	Cooling	dB (A)	40	44			
			41	43			
Sound power level	Cooling	dB (A)	53	57			
			57	57			
Heat exchanger type	Dimensions (H × W × D)	mm	Main 1: 672 × 936 × 18.2, Main 2: 672 × 906 × 18.2				
			1.3				
	Fin pitch		2 × 32				
	Pipe type		Copper				
Compressor	Type × Q'ty	Type (Material)	Corrugate (Aluminum)				
		Surface treatment	Corrosion resistance (Blue fin)				
Refrigerant	Motor output	W	Hermetic motor compressor × 1				
			900				
Refrigerant oil	Type		R32 (675)				
	Charge	g	1,300				
Enclosure	Amount	cm ³	FW50S				
	Material		450				
	Color		Steel sheet				
Dimensions (H × W × D)	Net	mm	Beige				
	Gross		Approximate color of Munsell 10YR 7.5/1.0				
Weight	Net	kg	704 × 820 × 315				
	Gross		786 × 965 × 426				
Connection pipe	Size	Liquid	mm	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	Material		LDPE				
	Size	mm	Ø 13.0 (I. D.), Ø 16.0 to Ø 16.7 (O. D.)				

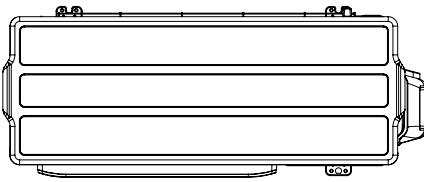
NOTES:

- 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.

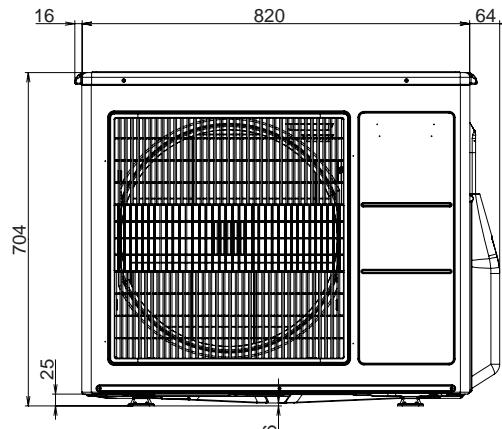
2. Dimensions

2-1. Models: AOYG09KXCA and AOYG12KXCA

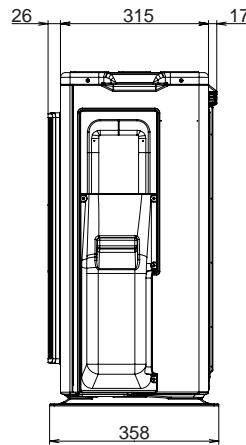
Unit: mm

OUTDOOR UNIT
AOYG09, 12KXCAOUTDOOR UNIT
AOYG09, 12KXCA

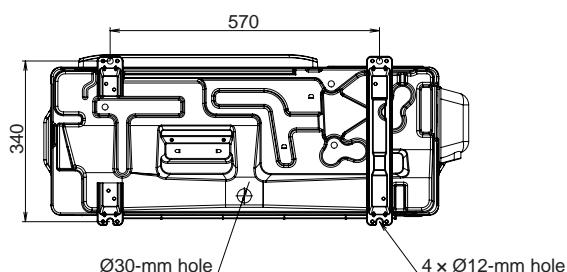
Top view



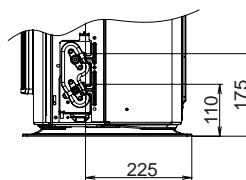
Front view



Side view



Bottom view



3. Installation space

3-1. Models: AOYG09KXCA and AOYG12KXCA

■ Space requirement

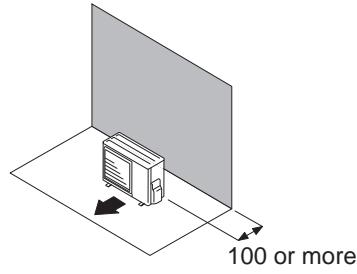
Provide sufficient installation space for product safety.

● Single outdoor unit installation

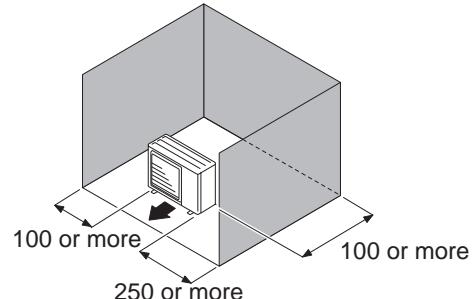
- When the upper space is open:

Unit: mm

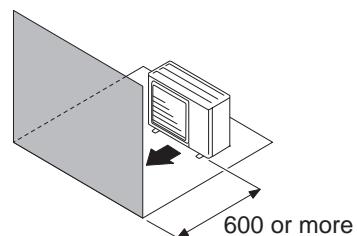
When there are obstacles at the rear only.



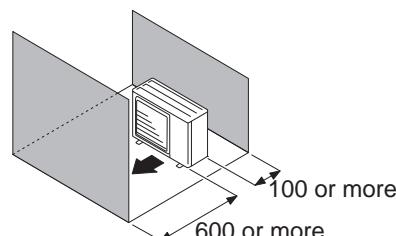
When there are obstacles at the rear and sides.



When there are obstacles at the front only.



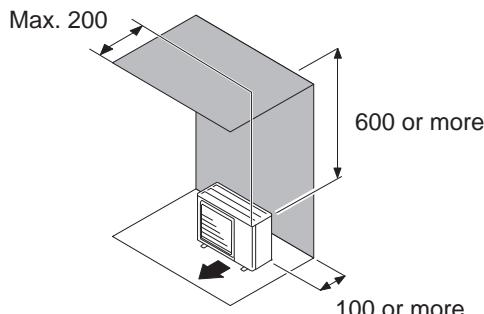
When there are obstacles at the front and rear.



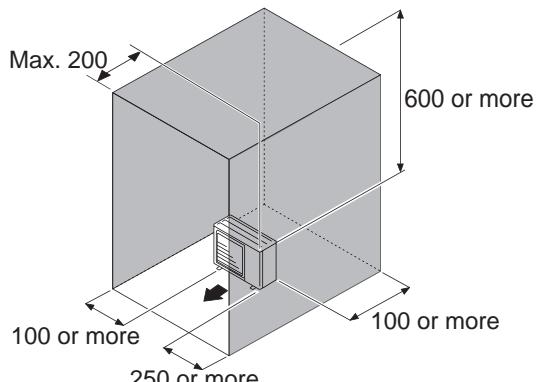
- When there is an obstruction in the upper space:

Unit: mm

When there are obstacles at the rear and above.



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

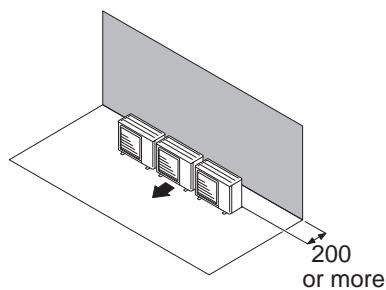


● Multiple outdoor unit installation

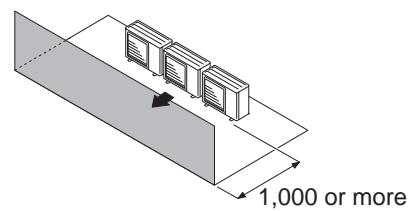
- When the upper space is open:

Unit: mm

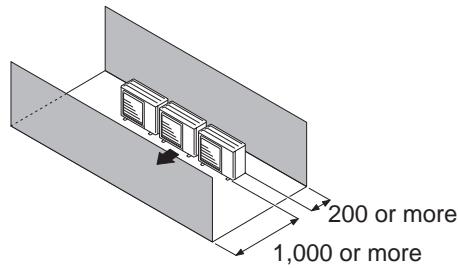
When there are obstacles at the rear only.



When there are obstacles at the front only.



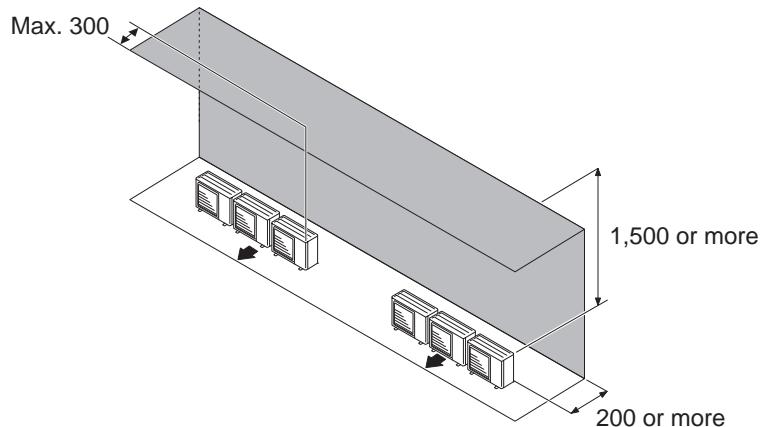
When there are obstacles at the front and rear.



- When there is an obstruction in the upper space:

Unit: mm

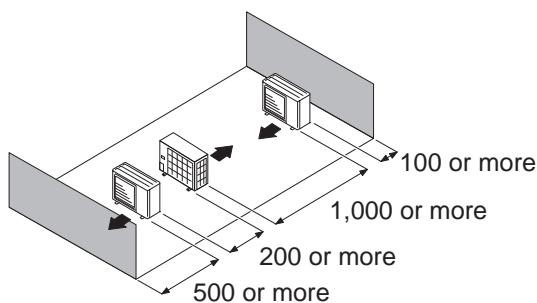
When there are obstacles at the rear and above.



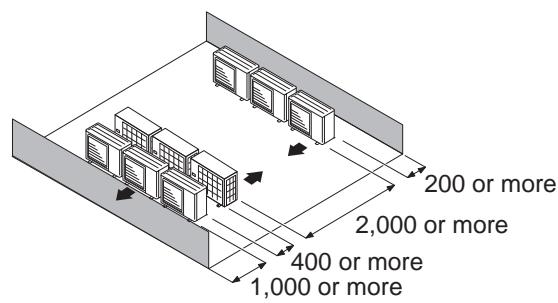
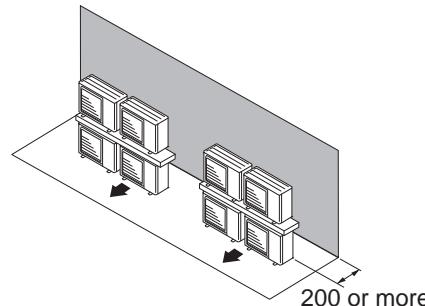
● Outdoor unit installation in multi-row

Unit: mm

Single parallel unit arrangement



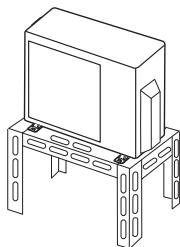
Multiple parallel unit arrangement

OUTDOOR UNIT
AOYG09, 12KXCA**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.

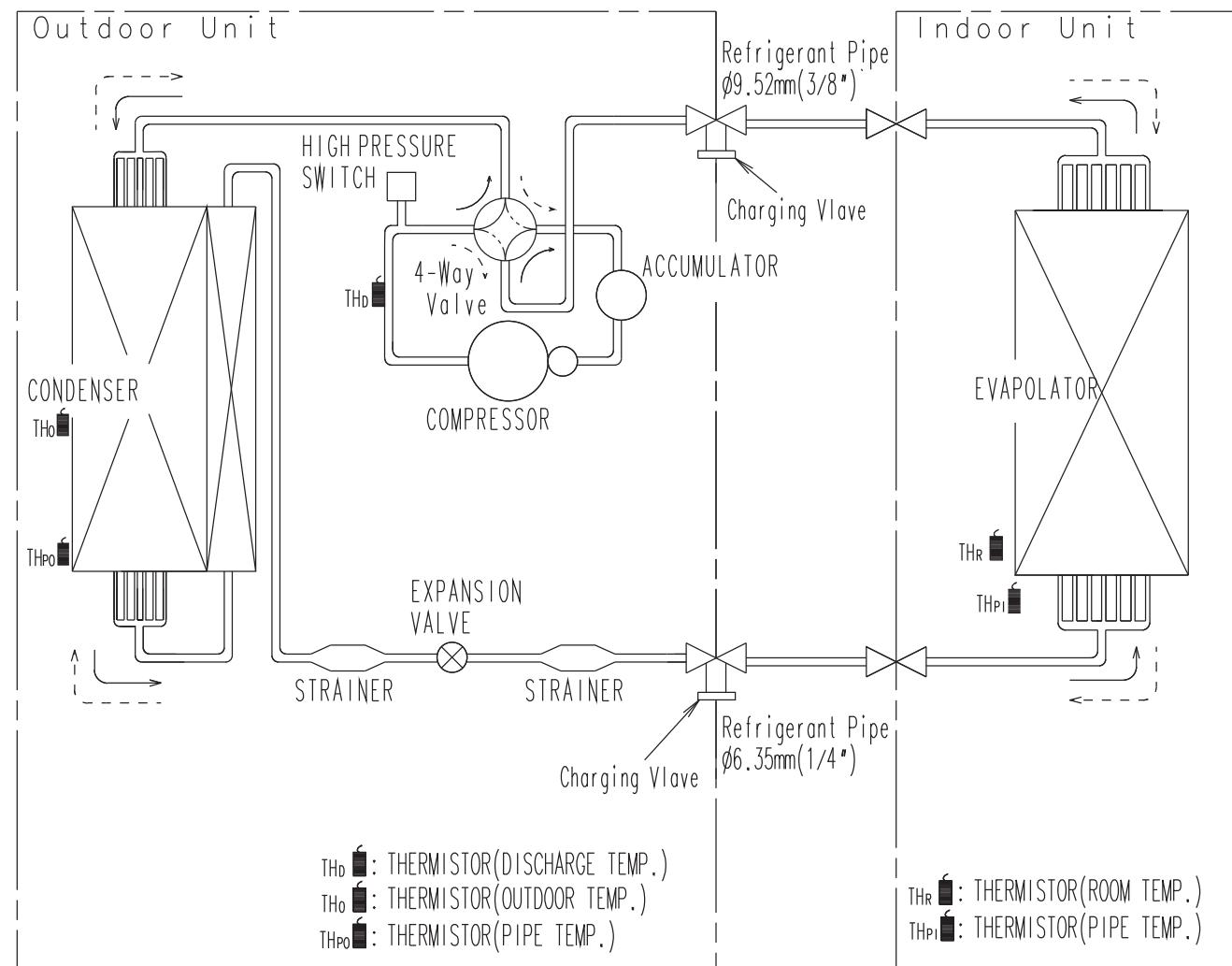
⚠ CAUTION

- 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.



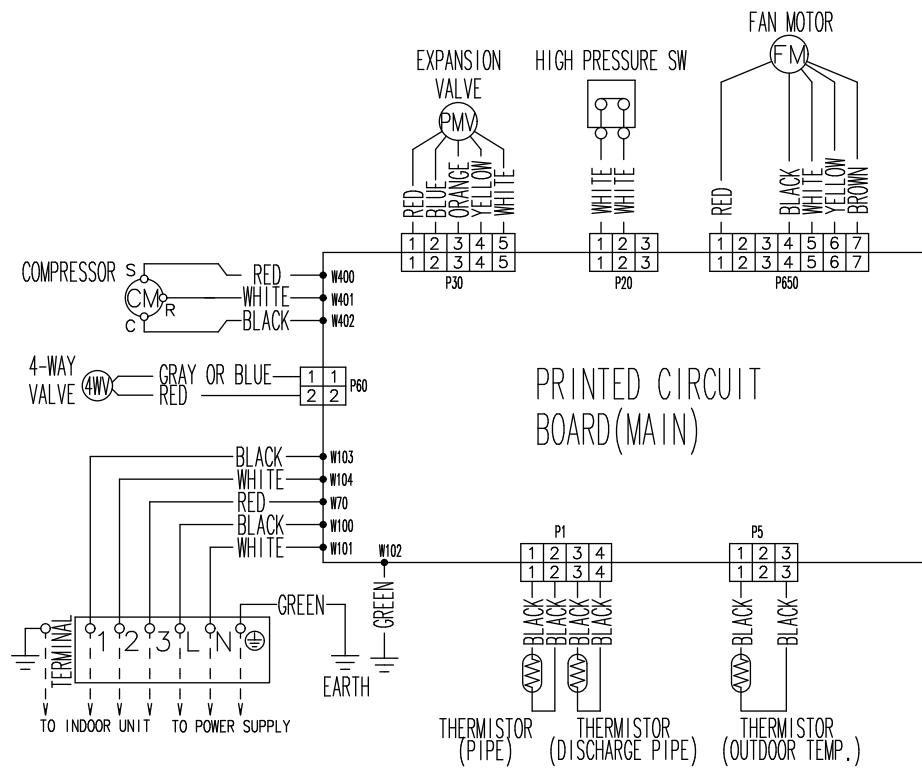
4. Refrigerant circuit

4-1. Models: AOYG09KXCA and AOYG12KXCA

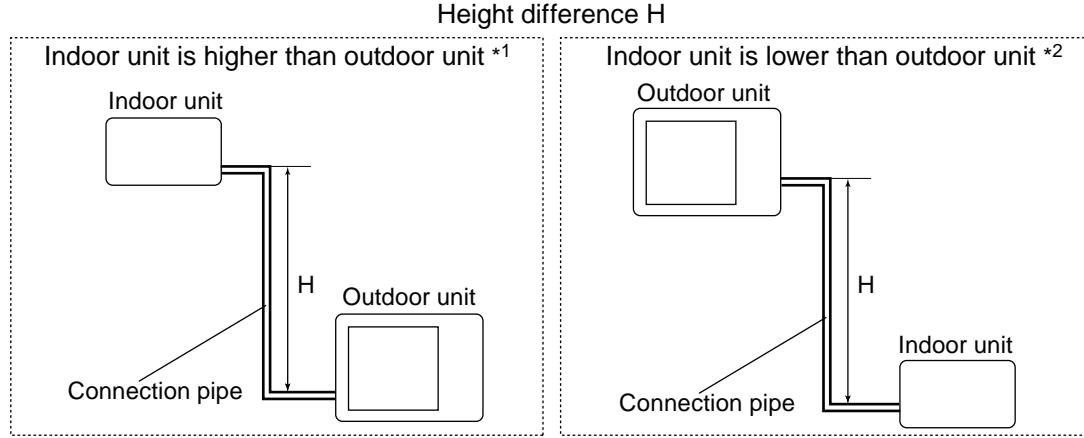
OUTDOOR UNIT
AOYG09, 12KXCAOUTDOOR UNIT
AOYG09, 12KXCA

5. Wiring diagrams

5-1. Models: AOYG09KXCA and AOYG12KXCA

OUTDOOR UNIT
AOYG09, 12KXCAOUTDOOR UNIT
AOYG09, 12KXCA

6. Capacity compensation rate for pipe length and height difference



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 * ¹	10	-	-	0.929	
		7.5	-	0.960	0.933	
		5	0.992	0.964	0.937	
	Indoor unit is lower than outdoor unit * ²	0	1.000	0.972	0.944	
		-5	1.000	0.972	0.944	
		-7.5	-	0.972	0.944	
		-10	-	-	0.944	
HEATING		Pipe length (m)				
		5	7.5	10	15	
Height difference H (m)	Indoor unit is higher than outdoor unit * ¹	10	-	-	0.968	
		7.5	-	0.994	0.968	
		5	1.000	0.994	0.968	
	Indoor unit is lower than outdoor unit * ²	0	1.000	0.994	0.968	
		-5	0.995	0.989	0.963	
		-7.5	-	0.987	0.961	
		-10	-	-	0.959	

7. Additional charge calculation

7-1. Models: AOYG09KXCA and AOYG12KXCA

Refrigerant type	R32
Refrigerant amount	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)

8. Airflow

8-1. Model: AOYG09KXCA

● Cooling

m ³ /h	1,975
l/s	549
CFM	1,162

● Heating

m ³ /h	1,820
l/s	506
CFM	1,071

8-2. Model: AOYG12KXCA

● Cooling

m ³ /h	2,230
l/s	619
CFM	1,313

● Heating

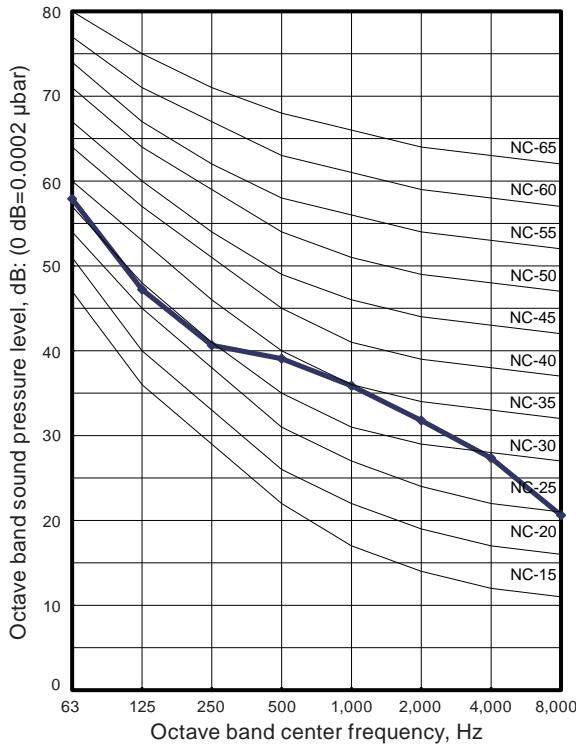
m ³ /h	1,975
l/s	549
CFM	1,162

9. Operation noise (sound pressure)

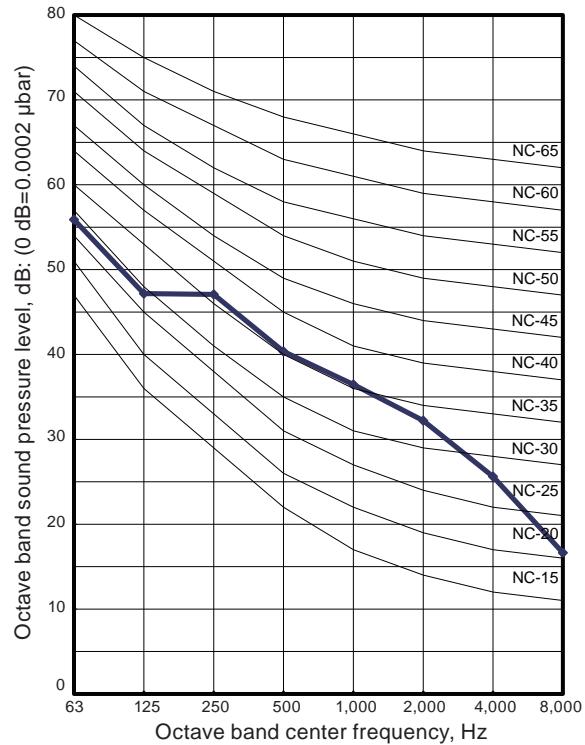
9-1. Noise level curve

■ Model: AOYG09KXCA

● Cooling

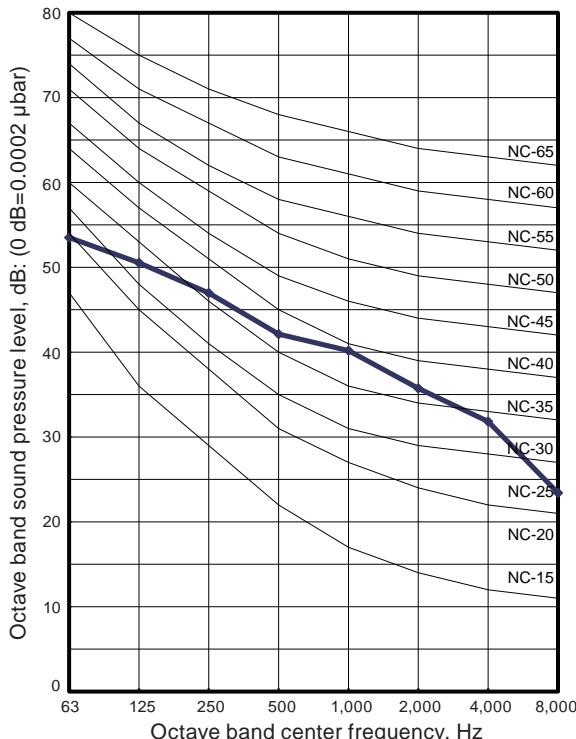


● Heating

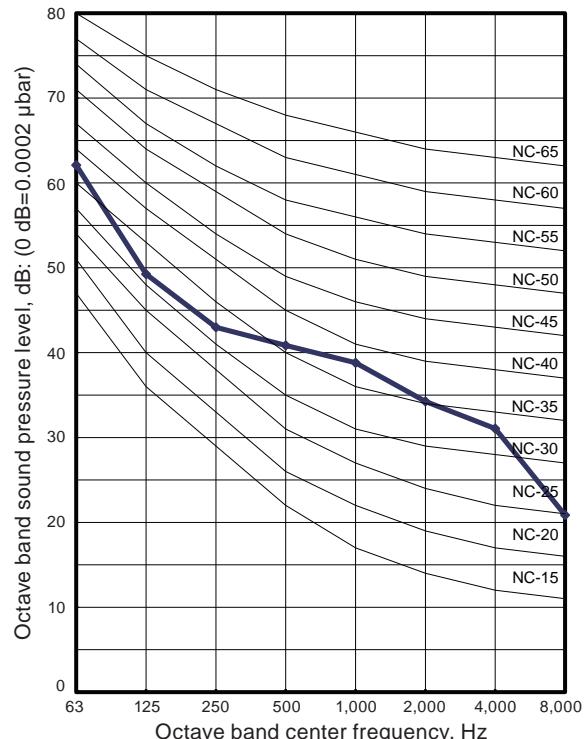


■ Model: AOYG12KXCA

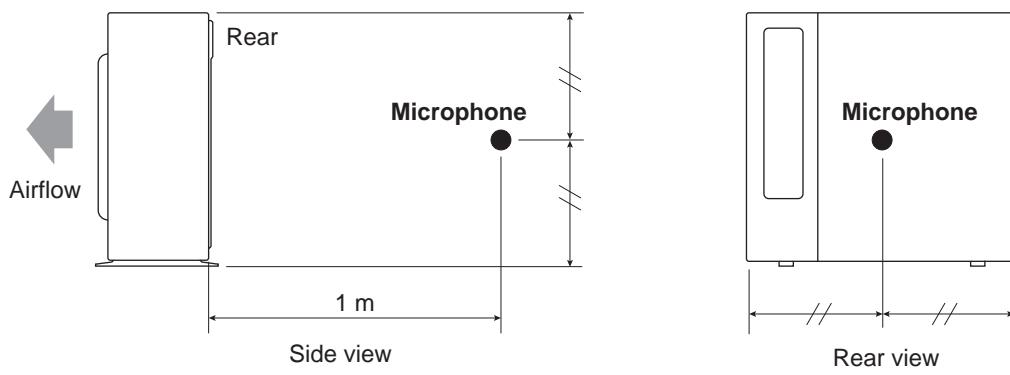
● Cooling



● 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 ²	2.5	4.0
	Connection cable *3	mm ²	1.5	
	Limited wiring length	m	16	

*1: Maximum operating 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