Refrigerant R410A

INVERTER

AIR CONDITIONER

Cassette type

DESIGN & TECHNICAL MANUAL

SINGLE INDOOR

AU∗G12LVLB
AU∗G14LVLB
AU∗G18LVLB
AU∗G24LVLA

OUTDOOR

AO∗G12LALL
AO∗G14LALL
AO∗G18LALL
AO∗G24LALA

FUJITSU GENERAL LIMITED

1. INDOOR UNIT

CASSETTE TYPE :

AU∗G12LVLB
AU∗G14LVLB
AU∗G18LVLB
AU∗G24LVLA

DTR_AU047E_02
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CASSETTE TYPE
AU∗G12-24LVL

CONTENTS

1. INDOOR UNIT

1. FEATURES

■ MODEL

AU∗G12LVLB / AO∗G12LALL
AU∗G14LVLB / AO∗G14LALL
AU∗G18LVLB / AO∗G18LALL
AU∗G24LVLA / AO∗G24LALA

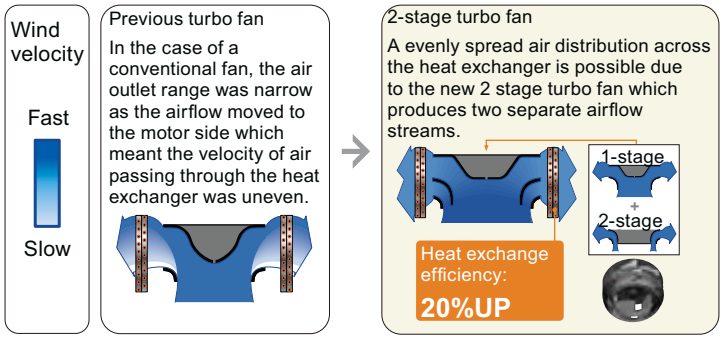
■ FEATURES

● Energy efficiency class

	MODEL			
	AU∗G12LVLB	AU∗G14LVLB	AU∗G18LVLB	AU∗G24LVLA
Cooling	A++	A++	A++	A+
Heating	A+	A+	A+	A

● 2-stage turbo fan

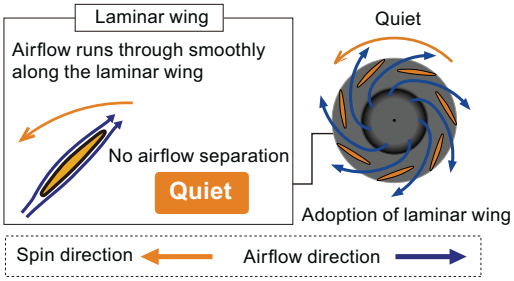
High efficiency design by 2 stage structure



● Quiet quality

Optimization of wing form (laminar wing type) and wing number (7 blades each)

Designed by CFD-analysis (fluid) simulations



● Easy maintenance

①Maintenance of fan motor and fan

Maintenance of the fan motor and fan can be done easily after taking off the panel as the bell mouth of the fan can be removed easily.

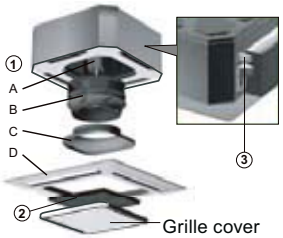
A : Fan motor　B : 2-stage turbo fan
C : Bell-mouth　D : Panel

②Long life filter

: standard equipment

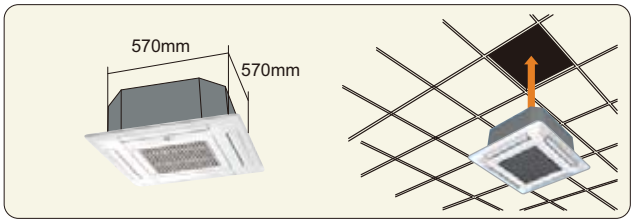
③Adaptation of transparent drainage parts

During installation, maintenance and operation, the drain pump and kit can be checked easily.



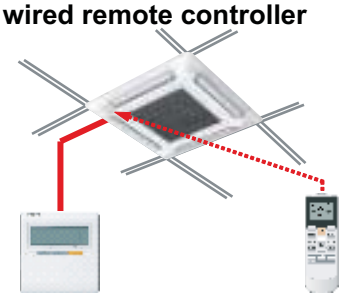
● Compact design

Easy installation by taking off ceiling panel of 600mm x 600mm size

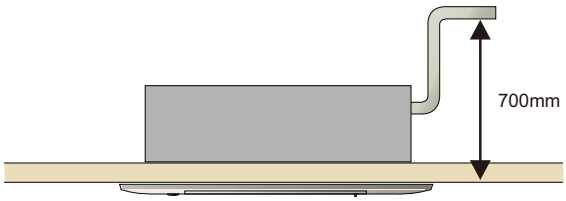


● Easy installation

Easy setting by wireless or wired remote controller



● High lift drain pump



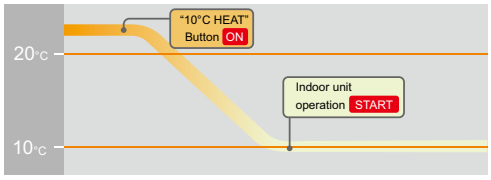
CASSETTE TYPE
AU✱G12-24LVL

● 10°C HEAT Operation *Only available with Wireless RC.

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

Caution)

- When the room temperature is higher than 10°C, "**10°C HEAT**" operation will not start. Operation starts and maintains the room temperature at 10°C when the temperature drops below 10°C.
- When "**10°C HEAT**" operation stops, the room set temperature quickly returns to the preset temperature.



● Economy operation

The power consumption can be reduced.

■ FUNCTION SETTING

● Outlet direction selection

- Performs operation matched to the number of outlets when 4 directions are unnecessary and outlets are blocked when the ceiling cassette is installed in a corner, etc.

4-way direction **3-way direction**

4-way direction mode: Set when there are 4 outlets (shipped state).

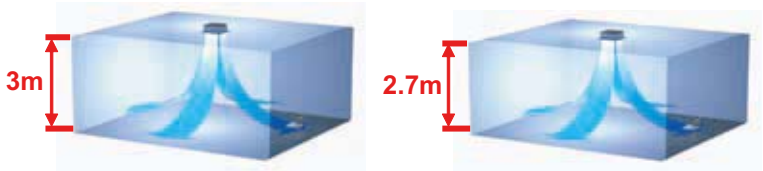
3-way direction mode: Set when there are 3 outlets.

● Ceiling switching function

Air reaches sufficiently up to 3m height, even it is compact cassette type.

Also delivers air to high ceilings by selecting the mode and raising the air flow according to the height of the ceiling.

High ceiling (Mode 1) **Standard ceiling (Standard)**



Standard ...Operates at normal air flow.

Mode 1 ...Air flow becomes greater than normal.

● Cooling room temperature correction

● Heating room temperature correction

● Auto restart

The units restart automatically when the current was returned even when there was a power interruption during operation.

CASSETTE TYPE
AU∗G12-24LVL

2. REMOTE CONTROLLER

WIRELESS REMOTE CONTROLLER

■ FEATURES

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

● Simple function setting

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

● Built-in timers

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

● Program timer

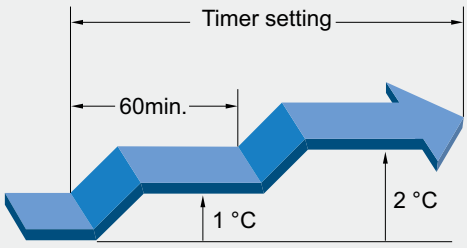
The program timer operates the on and off timer once within a 24 hour period.

● Sleep timer

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

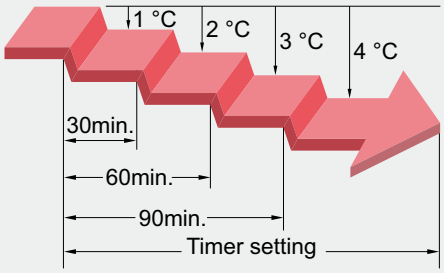
Cooling operation/dry operation

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

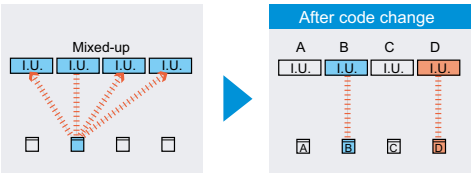


Heating operation

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



● Switching remote controller signal code

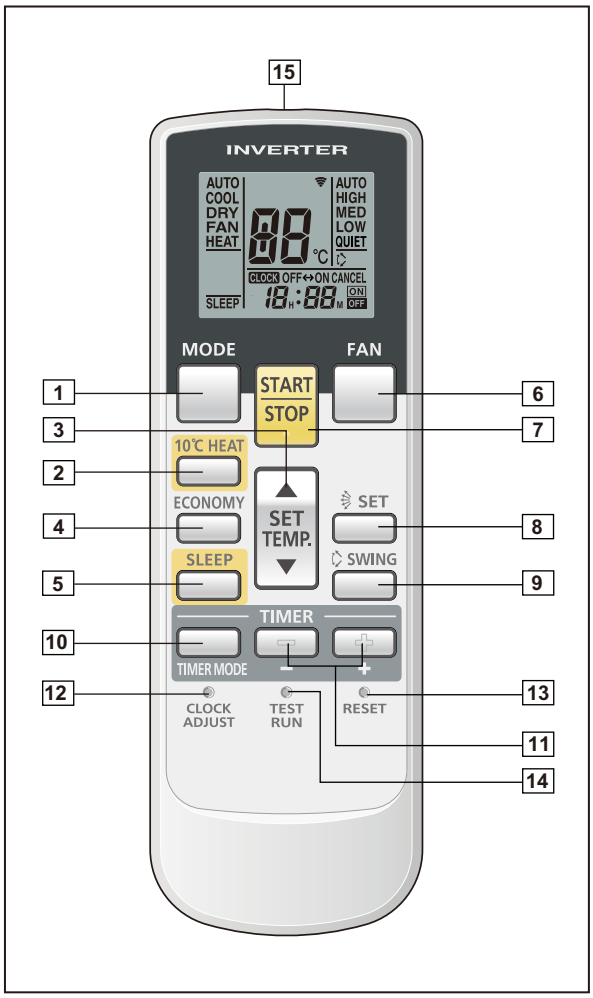


• Code selector switch eliminates unit being wrongly switched.
(Up to 4 codes can be set.)

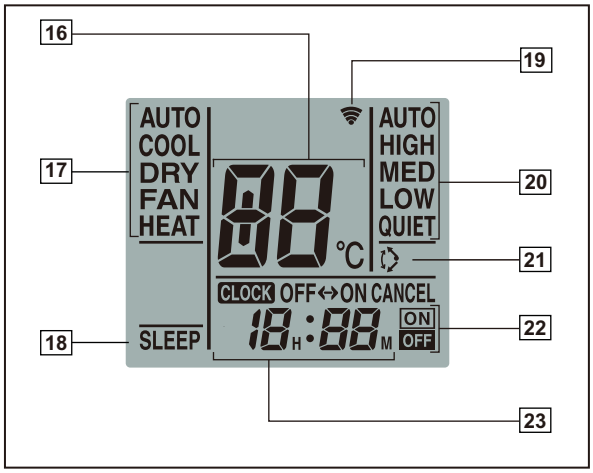
*I.U.=Indoor unit

CASSETTE TYPE
AU∗G12-24LVL

■ FUNCTIONS



Display panel



1 MODE button
Selects the operating mode (AUTO, COOL, DRY, FAN, HEAT).
/Start / end R.C. signal code change. (Max 4 types)

2 10°C HEAT button

3 SET TEMP. button (▲ / ▼)
Sets the indoor temp./ Sets R.C. signal code.

4 ECONOMY button

5 SLEEP button
Pressed to select sleep timer.

6 FAN button
Selects the fan speed (AUTO, HIGH, MED, LOW, QUIET).

7 START/STOP button
Pressed to start and stop operation.

8 SET button (Vertical)
Air flow direction vertical set button.

9 SWING button
Air flow direction swing button.

10 TIMER MODE button
Pressed to select the timer mode. (OFF TIMER, ON TIMER, PROGRAM TIMER, TIMER RESET)

11 TIMER SET (+ / -) button
Sets the current time and on-off time.

12 CLOCK ADJUST button
Sets the current time.

13 RESET button
Used when replacing batteries.

14 TEST RUN button
Used when testing the air conditioner after installation.

15 Signal transmitter

16 Temperature set display

17 Operating mode display

18 Sleep display

19 Transmit indicator

20 Fan speed display

21 Swing display

22 Timer mode display

23 Clock display

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

■ SPECIFICATION

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

3. SPECIFICATIONS

Type					CASSETTE MODEL			
					INVERTER HEATPUMP			
Model name				Indoor unit	AU∗G12LVLB	AU∗G14LVLB	AU∗G18LVLB	AU∗G24LVLA
				Outdoor unit	AO∗G12LALL	AO∗G14LALL	AO∗G18LALL	AO∗G24LALA
Power source					230V ~ 50Hz			
Available voltage range					198-264V ~ 50Hz			
Capacity	Cooling	Rated		kW	3.50	4.30	5.20	6.80
				Btu/h	11950	14650	17700	23200
		Min. - Max.		kW	0.90 - 4.40	0.90 - 5.40	0.90 - 5.90	0.90 - 8.00
				Btu/h	3100 - 15000	3100 - 18400	3100 - 20100	3100 - 27300
	Heating	Rated		kW	4.10	5.00	6.00	8.00
				Btu/h	14000	17050	20500	27300
		Min. - Max.		kW	0.90 - 5.70	0.90 - 6.50	0.90 - 7.50	0.90 - 9.10
				Btu/h	3100 - 19400	3100 - 22100	3100 - 25600	3100 - 31000
Input power	Cooling	Rated		kW	1.05	1.33	1.62	2.21
		*Max.			1.70	2.04	2.04	2.85
	Heating	Rated			1.11	1.34	1.66	2.26
		*Max.			2.26	2.83	2.83	3.19
Current	Cooling	Rated		A	4.8	6.1	7.2	9.7
	Heating				5.1	6.1	7.4	9.9
EER		Cooling		kW / kW	3.33	3.21	3.21	3.08
COP		Heating			3.69	3.71	3.61	3.54
Moisture removal				l/h (pints/h)	1.2 (2.1)	1.5 (2.6)	2.2 (3.9)	2.7 (4.8)
Maximum operating current *1		Cooling		A	7.5	9.0	9.0	12.0
		Heating			10.0	12.5	12.5	13.5
Fan	Airflow rate	Cooling	High	m^3/h	600	680	680	930
			Med		530	580	580	830
			Low		470	490	490	600
			Quiet		410	410	410	450
		Heating	High		600	800	800	930
			Med		530	680	680	860
			Low		470	580	580	700
			Quiet		410	450	450	530
	Type × Q'ty				Turbo × 1			
	Motor output			W	54			
Sound pressure level		Cooling	High	dB (A)	37	38	38	49
			Med		34	34	34	44
			Low		30	30	30	36
			Quiet		27	27	26	30
		Heating	High		37	43	43	49
			Med		34	38	38	45
			Low		31	34	34	40
			Quiet		29	30	30	33
Heat exchanger type		Dimensions (H × W × D)		mm	210 × 1310 × 13.3 210 × 1250 × 13.3			210 × 1375 × 13.3 210 × 1310 × 13.3 210 × 1250 × 13.3
		Fin pitch			1.20			1.45
		Rows × Stages			2 × 10			3 × 10
		Pipe type			Copper tube			
		Fin type			Aluminium			
Dimensions (H × W × D)		Net		mm	245 × 570 × 570			
		Gross			265 × 730 × 625			
Weight		Net		kg	15			16
		Gross			18			19
Connection pipe	Size	Liquid		mm	Ø 6.35 (Ø 1 / 4 in.)			
		Gas			Ø9.52 (Ø3/8 in.)	Ø12.70 (Ø1/2 in.)		Ø15.88 (Ø5/8 in.)
	Method				Flare			
Operation range		Cooling		°C	18 to 32			
				%RH	80 or less			
		Heating		°C	16 to 30			
Cassette grille		Model name			UTG-UF∗D-W			
		Material			PS			
		Colour			WHITE Approximate colour of MUNSELL N 9.25 /			
		Dimensions (H × W × D)	Net	mm	49 × 700 × 700			
			Gross		120 × 765 × 755			
		Weight	Net	kg	2.6			
			Gross		4.5			
Remote controller type					Wireless [Wired (option)]			
Drain hose	Material				PVC			
	Size			mm	VP25 [Ø25(I.D.),Ø32(O.D.)]			

Note :
Specifications are based on the following conditions.
Cooling : Indoor temperature of 27°CDB / 19°CWB. and outdoor temperature of 35°CDB / 24°CWB.
Heating : Indoor temperature of 20°CDB / 15°CWB. and outdoor temperature of 7°CDB / 6°CWB.
Pipe length : 5.0 m, Height difference : 0 m. (Outdoor unit - Indoor unit)
Ceiling mode : Standard
*The maximum current and the maximum input value are the maximum value when operated within the operation range.
The protective function might work when using outside the operation range.

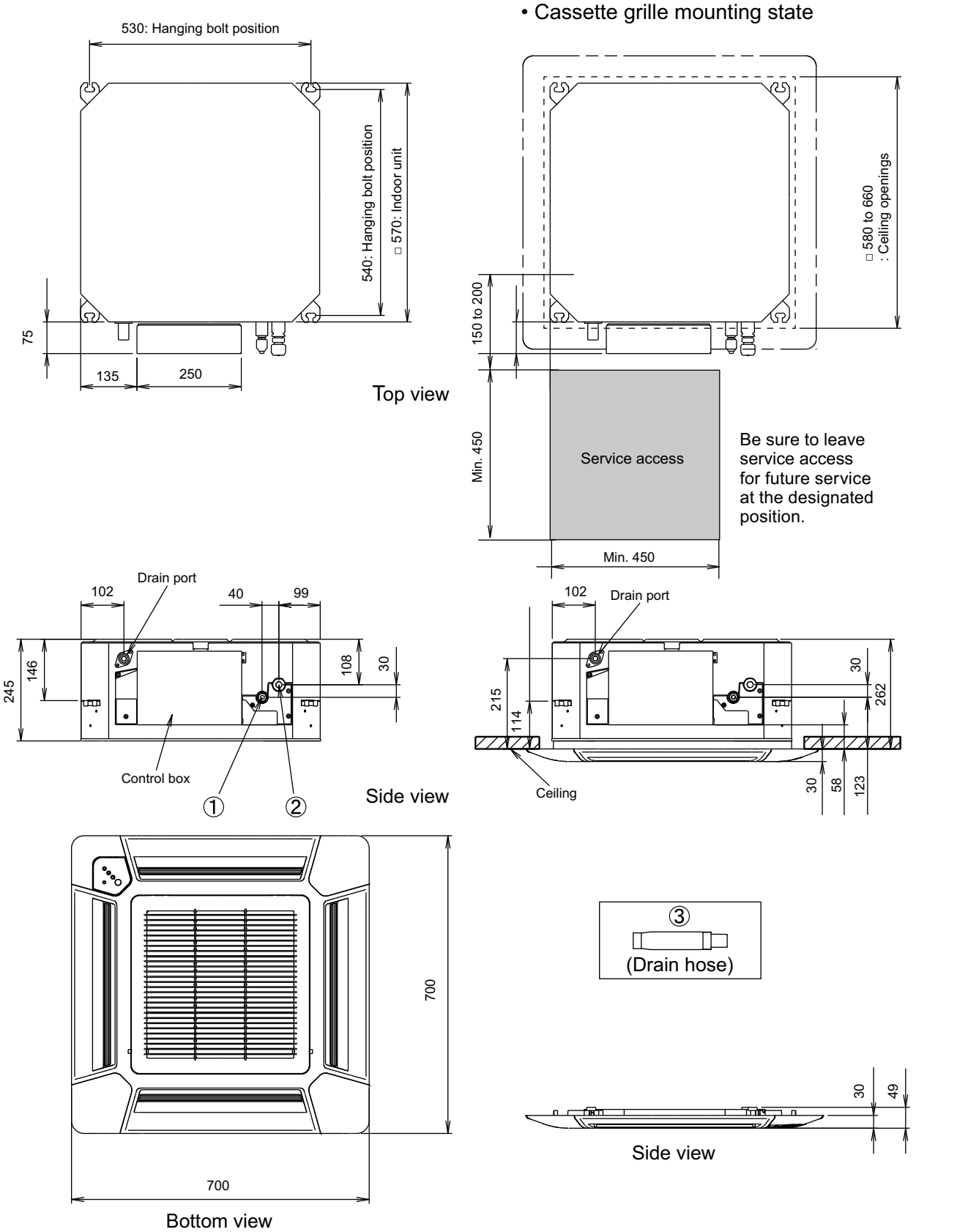
CASSETTE TYPE
AU∗G12-24LVL

Model name				AU∗G12LVLB	AU∗G14LVLB	AU∗G18LVLB	AU∗G24LVLA
Energy efficiency class	Cooling			A++	A++	A++	A+
	Heating (Average)			A+	A+	A+	A
Pdesign	Cooling		kW	3.5 (35°C)	4.3 (35°C)	5.2 (35°C)	6.8 (35°C)
	Heating (Average)			4.2 (-10°C)	4.5 (-10°C)	5.2 (-10°C)	6.0 (-10°C)
SEER	Cooling		kWh/kWh	6.20	6.40	6.20	5.60
SCOP	Heating (Average)			4.10	4.40	4.20	3.90
Annual energy consumption	QCE		kWh/a	198	235	293	425
	QHE (Average)			1431	1432	1731	2151
Sound power level	Cooling	High	dB (A)	49	50	50	59
	Heating			49	55	55	61

4. DIMENSIONS

■ MODEL: AU∗G12LVLB, AU∗G14LVLB, AU∗G18LVLB, AU∗G24LVLA

Unit : mm

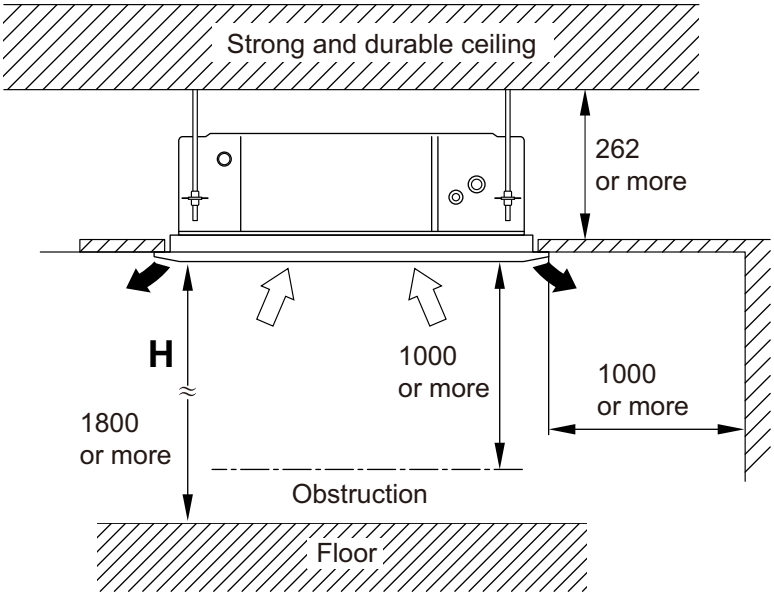


			AU∗G12LVLB	AU∗G14LVLB, AU∗G18LVLB	AU∗G24LVLA
①	Refrigerant pipe flare connection	Liquid	ø 6.35 mm (ø 1/4 in.)	ø 6.35 mm (ø 1/4 in.)	ø 6.35 mm (ø 1/4 in.)
②		Gas	ø 9.52 mm (ø 3/8 in.)	ø 12.70 mm (ø 1/2 in.)	ø 15.88 mm (ø 5/8 in.)
③	Drain hose connection	Drain hose	VP25[ø 25(I.D.)ø 32(O.D.)]		

CASSETTE TYPE
AU∗G12-24LVL

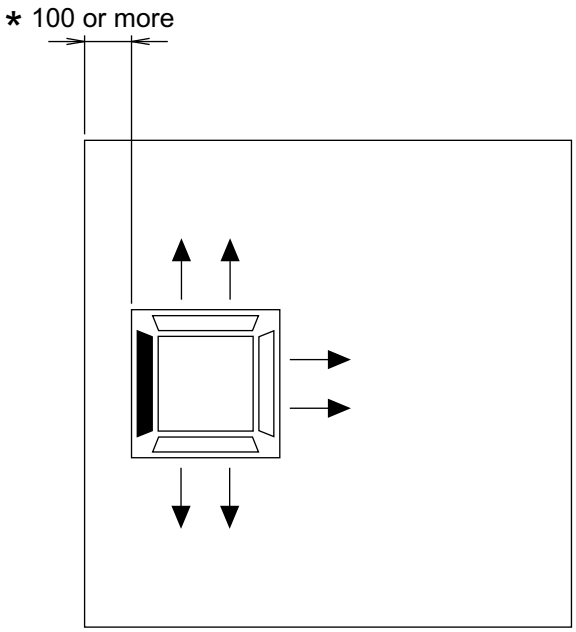
■ INSTALLATION PLACE

Unit : mm



	H (The maximum height from floor to ceiling) Unit: mm			
Model name	AU∗G12LVLB	AU∗G14LVLB	AU∗G18LVLB	AU∗G24LVLA
Standard mode	2700	2700	2700	2700
High Ceiling mode	3000	3000	3000	3000

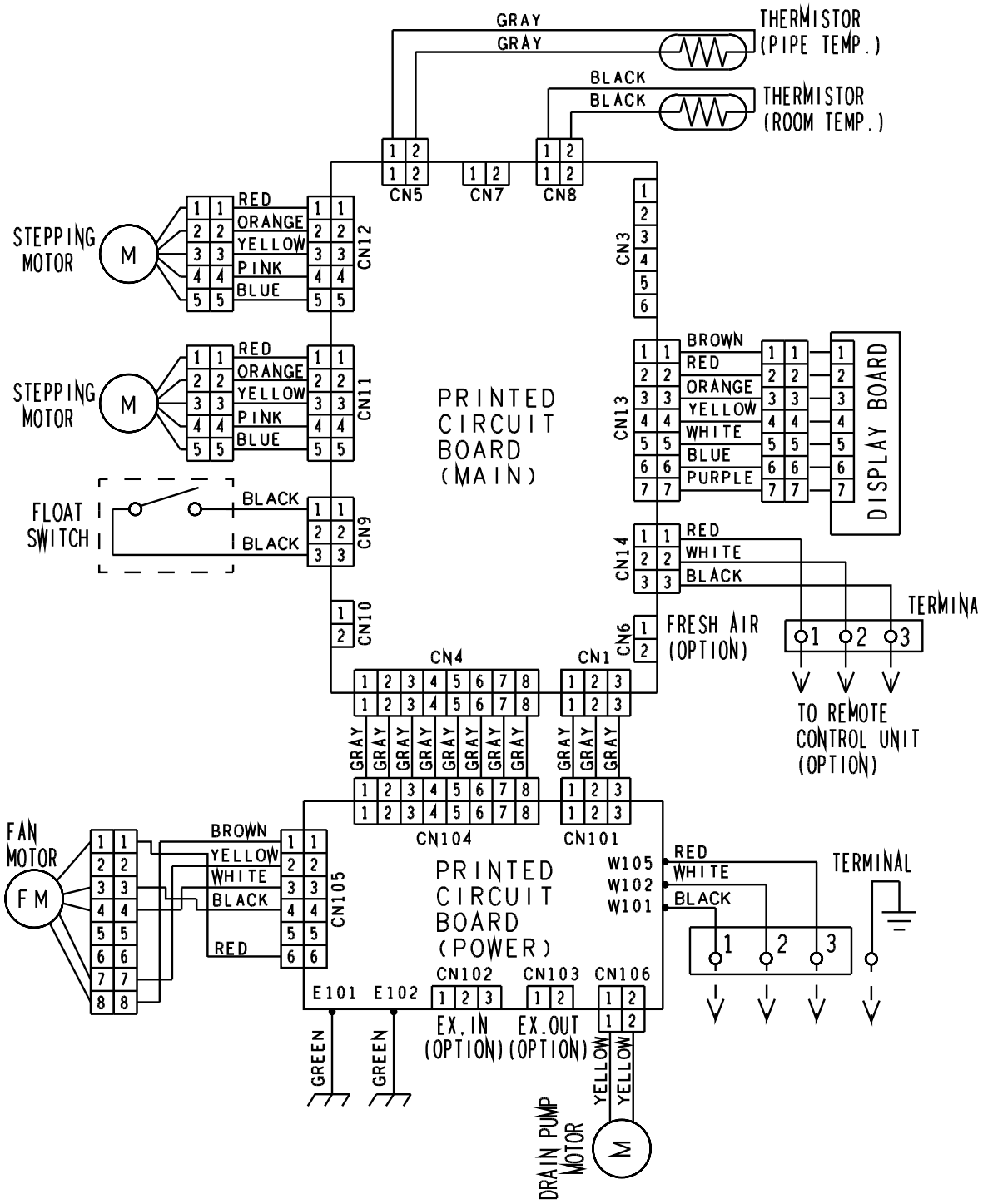
● 3-way directions setting



To set “3-way directions”, the air outlet shutter plate (UTR-YDZB) sold separately must be installed and “outlet-direction” switched to “3-way” by remote controller.
*When installing the indoor unit, be careful about the maintenance space.

5. WIRING DIAGRAMS

■ MODEL: AU∗G12LVLB, AU∗G14LVLB, AU∗G18LVLB, AU∗G24LVLA



6. CAPACITY TABLE

6-1. COOLING CAPACITY

This table is created using the maximum capacity.

■ MODEL: AU∗G12LVLB

AFR	10.0

		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	TC	SHC	IP
	-10	3.47	2.59	0.29	3.87	2.61	0.30	4.00	2.83	0.30	4.26	2.84	0.30	4.40	3.07	0.30	4.66	3.06	0.31	4.92	3.26	0.31
	0	3.29	2.52	0.49	3.67	2.53	0.50	3.79	2.75	0.50	4.05	2.76	0.51	4.17	2.98	0.51	4.42	2.97	0.51	4.67	3.16	0.52
	5	3.30	2.52	0.47	3.67	2.53	0.48	3.80	2.75	0.48	4.05	2.76	0.49	4.17	2.98	0.49	4.42	2.97	0.50	4.67	3.16	0.50
	10	3.30	2.51	0.44	3.67	2.52	0.45	3.80	2.75	0.45	4.05	2.75	0.45	4.17	2.97	0.46	4.42	2.96	0.46	4.67	3.16	0.46
	15	3.19	2.48	0.53	3.56	2.50	0.54	3.68	2.71	0.54	3.92	2.72	0.55	4.04	2.94	0.55	4.28	2.93	0.56	4.53	3.12	0.56
	20	4.12	2.81	1.23	4.59	2.83	1.25	4.74	3.07	1.26	5.05	3.08	1.27	5.21	3.33	1.28	5.52	3.32	1.29	5.84	3.53	1.31
	25	3.95	2.79	1.37	4.40	2.81	1.40	4.55	3.06	1.40	4.85	3.07	1.42	5.00	3.31	1.42	5.30	3.30	1.44	5.60	3.51	1.45
	30	3.78	2.73	1.52	4.21	2.74	1.54	4.35	2.98	1.55	4.64	2.99	1.57	4.78	3.23	1.57	5.07	3.22	1.59	5.36	3.43	1.61
	35	3.48	2.59	1.54	3.87	2.61	1.56	4.00	2.83	1.57	4.27	2.84	1.59	4.40	3.07	1.60	4.66	3.06	1.61	4.93	3.26	1.63
	40	2.96	2.40	1.31	3.29	2.41	1.33	3.40	2.62	1.34	3.63	2.63	1.35	3.74	2.84	1.36	3.97	2.83	1.37	4.19	3.01	1.39
	46	2.19	2.10	1.00	2.44	2.11	1.02	2.52	2.30	1.03	2.68	2.31	1.04	2.77	2.49	1.04	2.93	2.48	1.05	3.10	2.64	1.06

■ MODEL: AU∗G14LVLB

AFR	11.3

		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	TC	SHC	IP
	-10	4.08	2.99	0.39	4.54	3.01	0.40	4.69	3.27	0.40	5.00	3.28	0.40	5.16	3.54	0.40	5.47	3.53	0.41	5.78	3.76	0.41
	0	3.98	2.96	0.45	4.44	2.98	0.46	4.59	3.24	0.46	4.89	3.25	0.47	5.04	3.51	0.47	5.34	3.50	0.48	5.65	3.72	0.48
	5	3.87	2.92	0.56	4.31	2.94	0.57	4.46	3.19	0.57	4.75	3.20	0.58	4.90	3.46	0.58	5.19	3.45	0.59	5.49	3.67	0.59
	10	3.74	2.87	0.66	4.17	2.89	0.67	4.31	3.14	0.68	4.60	3.15	0.68	4.74	3.40	0.69	5.02	3.39	0.70	5.31	3.61	0.70
	15	3.75	2.87	0.58	4.18	2.89	0.59	4.32	3.14	0.60	4.61	3.15	0.60	4.75	3.41	0.60	5.04	3.39	0.61	5.32	3.61	0.62
	20	4.72	3.18	1.23	5.26	3.20	1.25	5.44	3.48	1.25	5.79	3.49	1.27	5.97	3.77	1.27	6.33	3.75	1.29	6.69	4.00	1.30
	25	4.53	3.17	1.37	5.04	3.18	1.39	5.21	3.46	1.40	5.56	3.47	1.41	5.73	3.75	1.42	6.07	3.74	1.44	6.42	3.98	1.45
	30	4.32	3.10	1.52	4.81	3.12	1.54	4.98	3.39	1.55	5.30	3.40	1.56	5.47	3.67	1.57	5.80	3.66	1.59	6.12	3.89	1.60
	35	4.27	3.08	1.79	4.75	3.10	1.82	4.91	3.37	1.83	5.24	3.38	1.85	5.40	3.65	1.85	5.72	3.64	1.87	6.05	3.87	1.89
	40	3.28	2.68	1.28	3.66	2.69	1.30	3.78	2.93	1.30	4.03	2.94	1.32	4.16	3.17	1.32	4.41	3.16	1.34	4.66	3.36	1.35
	46	2.36	2.35	0.97	2.63	2.36	0.98	2.72	2.57	0.99	2.90	2.57	1.00	2.99	2.78	1.00	3.17	2.77	1.01	3.35	2.95	1.02

■ MODEL: AU∗G18LVLB

AFR	11.3

		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	TC	SHC	IP
	-10	4.45	3.17	0.44	4.96	3.18	0.44	5.13	3.46	0.44	5.47	3.47	0.45	5.64	3.75	0.45	5.97	3.74	0.46	6.31	3.98	0.46
	0	4.35	3.11	0.51	4.85	3.13	0.52	5.01	3.40	0.52	5.34	3.41	0.52	5.51	3.69	0.53	5.84	3.67	0.53	6.17	3.91	0.54
	5	4.23	3.06	0.63	4.71	3.08	0.64	4.87	3.35	0.64	5.19	3.36	0.65	5.35	3.63	0.65	5.67	3.62	0.66	6.00	3.85	0.66
	10	4.09	3.00	0.74	4.56	3.02	0.75	4.71	3.28	0.76	5.02	3.29	0.76	5.18	3.56	0.77	5.49	3.54	0.78	5.80	3.78	0.78
	15	4.10	3.01	0.65	4.57	3.03	0.66	4.72	3.29	0.66	5.04	3.30	0.67	5.19	3.57	0.67	5.50	3.55	0.68	5.82	3.78	0.69
	20	5.16	3.23	1.37	5.74	3.25	1.39	5.94	3.54	1.40	6.33	3.55	1.41	6.53	3.83	1.42	6.92	3.81	1.44	7.31	4.06	1.45
	25	4.94	3.22	1.53	5.51	3.24	1.56	5.70	3.53	1.56	6.07	3.54	1.58	6.26	3.82	1.59	6.63	3.80	1.60	7.01	4.05	1.62
	30	4.72	3.21	1.69	5.26	3.23	1.72	5.44	3.51	1.73	5.79	3.52	1.75	5.97	3.80	1.75	6.33	3.78	1.77	6.69	4.03	1.79
	35	4.66	3.20	1.98	5.19	3.22	2.01	5.37	3.50	2.02	5.72	3.51	2.04	5.90	3.79	2.04	6.25	3.77	2.04	6.61	4.02	2.04
	40	3.59	2.80	1.43	4.00	2.82	1.45	4.13	3.06	1.46	4.40	3.07	1.47	4.54	3.32	1.48	4.81	3.31	1.49	5.09	3.52	1.51
	46	2.58	2.41	1.08	2.87	2.43	1.10	2.97	2.64	1.10	3.17	2.65	1.11	3.27	2.86	1.12	3.46	2.85	1.13	3.66	3.03	1.14

AFR : Air Flow Rate (m^3/min)
TC : Total Capacity (kW)
SHC : Sensible Heat Capacity (kW)
IP : Input Power (kW)

CASSETTE TYPE
AU∗G12-24LVL

■ MODEL: AU∗G24LVLA

AFR	15.5

		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	TC	SHC	IP
	-10	5.62	4.52	0.60	6.26	4.54	0.60	6.47	4.94	0.61	6.90	4.95	0.61	7.11	5.35	0.62	7.54	5.33	0.62	7.96	5.68	0.63
	0	5.52	4.47	0.64	6.15	4.49	0.65	6.36	4.89	0.66	6.78	4.90	0.66	6.99	5.29	0.67	7.41	5.27	0.67	7.83	5.62	0.68
	5	5.33	4.37	0.78	5.94	4.40	0.79	6.14	4.78	0.80	6.55	4.80	0.80	6.75	5.18	0.81	7.15	5.16	0.82	7.56	5.50	0.82
	10	5.12	4.26	0.91	5.71	4.29	0.92	5.90	4.66	0.93	6.29	4.68	0.94	6.49	5.05	0.94	6.87	5.03	0.95	7.26	5.36	0.96
	15	5.25	4.33	0.76	5.85	4.35	0.77	6.05	4.73	0.78	6.45	4.75	0.79	6.65	5.13	0.79	7.05	5.11	0.80	7.44	5.44	0.81
	20	6.75	5.11	1.65	7.52	5.15	1.67	7.77	5.59	1.68	8.29	5.61	1.70	8.54	6.06	1.71	9.05	6.04	1.73	9.57	6.43	1.74
	25	6.41	4.93	1.78	7.14	4.96	1.81	7.38	5.39	1.82	7.87	5.41	1.84	8.11	5.84	1.85	8.60	5.82	1.86	9.08	6.20	1.88
	30	6.07	4.75	1.98	6.76	4.78	2.01	6.99	5.20	2.02	7.46	5.22	2.04	7.69	5.63	2.05	8.15	5.61	2.07	8.61	5.98	2.09
	35	6.32	4.88	2.52	7.04	4.91	2.56	7.28	5.34	2.57	7.76	5.36	2.60	8.00	5.79	2.61	8.48	5.76	2.64	8.96	6.14	2.66
	40	5.22	4.31	2.10	5.81	4.34	2.14	6.01	4.72	2.15	6.41	4.73	2.17	6.61	5.11	2.18	7.00	5.09	2.20	7.40	5.42	2.22
	46	3.74	3.58	1.59	4.17	3.60	1.61	4.31	3.91	1.62	4.60	3.92	1.64	4.74	4.24	1.65	5.02	4.22	1.66	5.31	4.50	1.68

AFR : Air flow rate (m^3/min)
TC : Total capacity (kW)
SHC : Sensible Heat capacity (kW)
IP : Input Power (kW)

CASSETTE TYPE
AU∗G12-24LVL

6-2. HEATING CAPACITY

This table is created using the maximum capacity.

■ MODEL: AU∗G12LVLB

AFR	10.0

			Indoor temperature									
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-15	-16	3.76	1.87	3.67	1.91	3.58	1.95	3.49	1.99	3.40	2.03
	-10	-11	4.26	1.87	4.16	1.91	4.06	1.95	3.96	1.99	3.86	2.03
	-5	-7	4.69	2.13	4.58	2.17	4.47	2.21	4.35	2.26	4.20	2.26
	0	-2	5.30	2.12	5.17	2.17	5.05	2.21	4.92	2.26	4.76	2.26
	5	3	5.79	2.13	5.65	2.18	5.51	2.22	5.38	2.26	5.18	2.26
	7	6	5.99	2.07	5.85	2.11	5.70	2.15	5.56	2.20	5.42	2.24
	10	8	6.05	1.84	5.91	1.87	5.76	1.91	5.62	1.95	5.47	1.99
	15	10	6.08	1.76	5.93	1.80	5.79	1.84	5.64	1.87	5.50	1.91
	20	15	5.87	1.48	5.73	1.51	5.59	1.54	5.45	1.57	5.31	1.61
	24	18	5.86	1.48	5.72	1.51	5.58	1.54	5.44	1.57	5.30	1.60

■ MODEL: AU∗G14LVLB

AFR	13.3

			Indoor temperature									
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-15	-16	4.24	2.16	4.14	2.21	4.04	2.25	3.94	2.30	3.84	2.34
	-10	-11	4.88	2.16	4.76	2.21	4.65	2.25	4.53	2.30	4.41	2.34
	-5	-7	5.49	2.40	5.36	2.45	5.23	2.50	5.10	2.55	4.97	2.60
	0	-2	6.37	2.72	6.22	2.77	6.07	2.83	5.87	2.83	5.61	2.83
	5	3	6.97	2.71	6.80	2.77	6.64	2.83	6.47	2.83	6.18	2.83
	7	6	6.82	2.36	6.66	2.40	6.50	2.45	6.34	2.50	6.17	2.55
	10	8	7.03	2.37	6.86	2.42	6.70	2.47	6.53	2.52	6.36	2.56
	15	10	6.75	2.07	6.59	2.12	6.43	2.16	6.27	2.20	6.11	2.25
	20	15	6.22	1.59	6.07	1.63	5.92	1.66	5.77	1.69	5.62	1.73
	24	18	6.40	1.60	6.25	1.64	6.10	1.67	5.94	1.70	5.79	1.74

■ MODEL: AU∗G18LVLB

AFR	13.3

			Indoor temperature									
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-15	-16	5.01	2.50	4.89	2.55	4.77	2.60	4.65	2.65	4.53	2.71
	-10	-11	5.76	2.61	5.62	2.67	5.49	2.72	5.35	2.77	5.21	2.83
	-5	-7	6.49	2.69	6.34	2.74	6.18	2.80	6.03	2.83	5.87	2.83
	0	-2	7.35	2.72	7.18	2.77	7.00	2.83	6.83	2.83	6.65	2.83
	5	3	8.04	2.71	7.85	2.76	7.66	2.82	7.47	2.83	7.28	2.83
	7	6	7.87	2.42	7.69	2.47	7.50	2.52	7.31	2.57	7.12	2.62
	10	8	8.12	2.43	7.92	2.48	7.73	2.53	7.54	2.58	7.34	2.63
	15	10	7.79	2.13	7.61	2.17	7.42	2.22	7.23	2.26	7.05	2.31
	20	15	7.17	1.64	7.00	1.67	6.83	1.71	6.66	1.74	6.49	1.77
	24	18	7.39	1.65	7.21	1.68	7.03	1.71	6.86	1.75	6.68	1.78

AFR : Air Flow Rate (m^3/min)
TC : Total Capacity (kW)
IP : Input Power (kW)

CASSETTE TYPE
AU∗G12-24LVL

■ MODEL: AU∗G24LVLA

AFR	15.5

			Indoor temperature									
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-15	-16	6.15	2.84	6.01	2.90	5.86	2.96	5.72	3.01	5.57	3.07
	-10	-11	6.92	3.03	6.75	3.09	6.59	3.15	6.42	3.22	6.26	3.28
	-5	-7	7.64	3.02	7.45	3.08	7.27	3.14	7.09	3.20	6.91	3.27
	0	-2	8.59	3.00	8.38	3.06	8.18	3.12	7.97	3.18	7.77	3.25
	5	3	9.54	3.02	9.31	3.08	9.09	3.14	8.86	3.20	8.63	3.27
	7	6	9.55	2.69	9.33	2.74	9.10	2.80	8.87	2.86	8.64	2.91
	10	8	9.87	2.69	9.63	2.75	9.40	2.80	9.16	2.86	8.93	2.92
	15	10	8.97	2.07	8.76	2.12	8.54	2.16	8.33	2.20	8.11	2.25
	20	15	8.23	1.63	8.03	1.66	7.84	1.69	7.64	1.73	7.45	1.76
	24	18	8.52	1.62	8.32	1.66	8.12	1.69	7.92	1.73	7.71	1.76

AFR : Air Flow Rate (m^3/min)
TC : Total Capacity (kW)
IP : Input Power (kW)

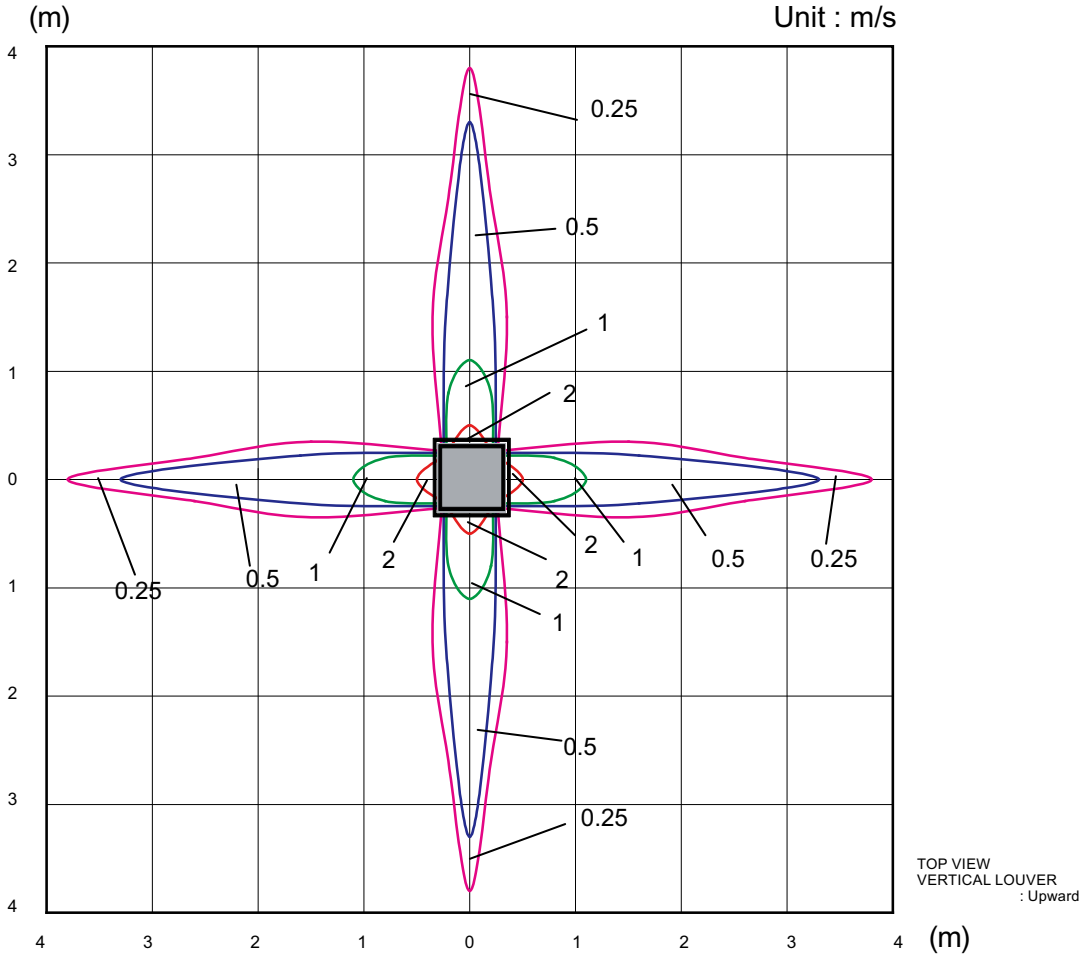
7. FAN PERFORMANCE

7-1. AIR VELOCITY DISTRIBUTION

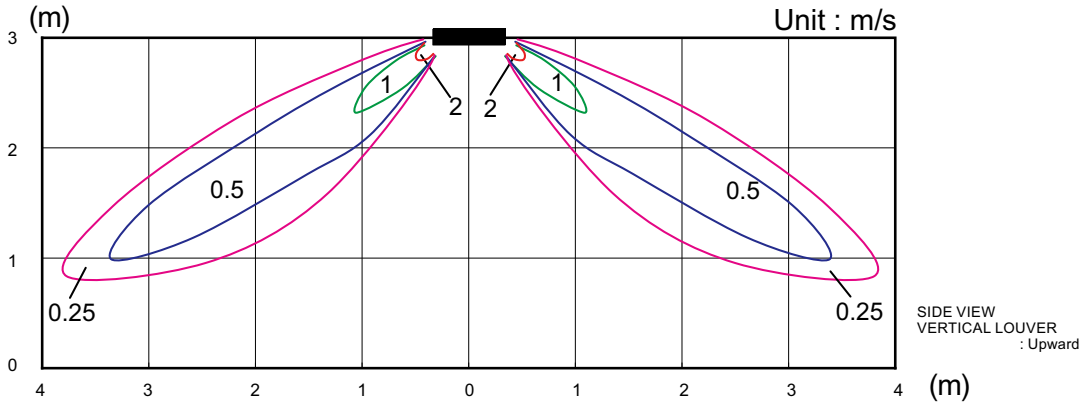
■ MODEL: AU∗G12LVLB

● **4-way air outlet**

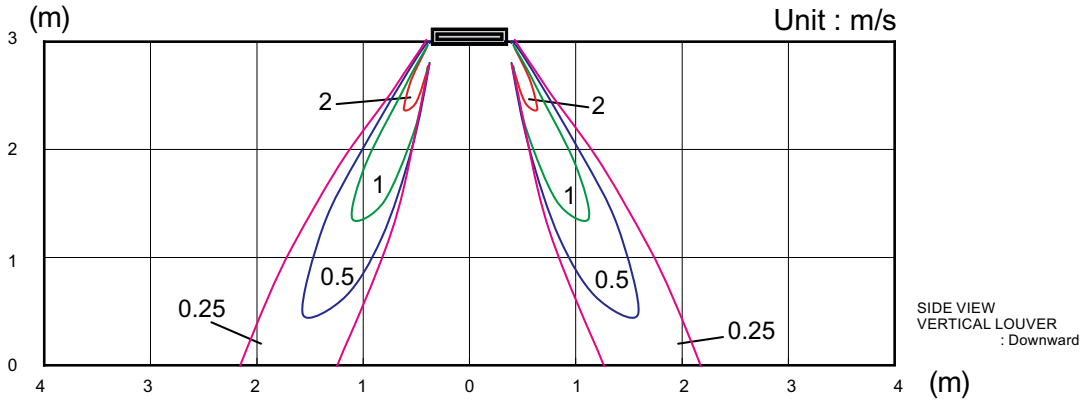
Note:
Condition
Fan speed : High
Operation mode : Fan
Ceiling mode : Standard



TOP VIEW
VERTICAL LOUVER
: Upward



SIDE VIEW
VERTICAL LOUVER
: Upward

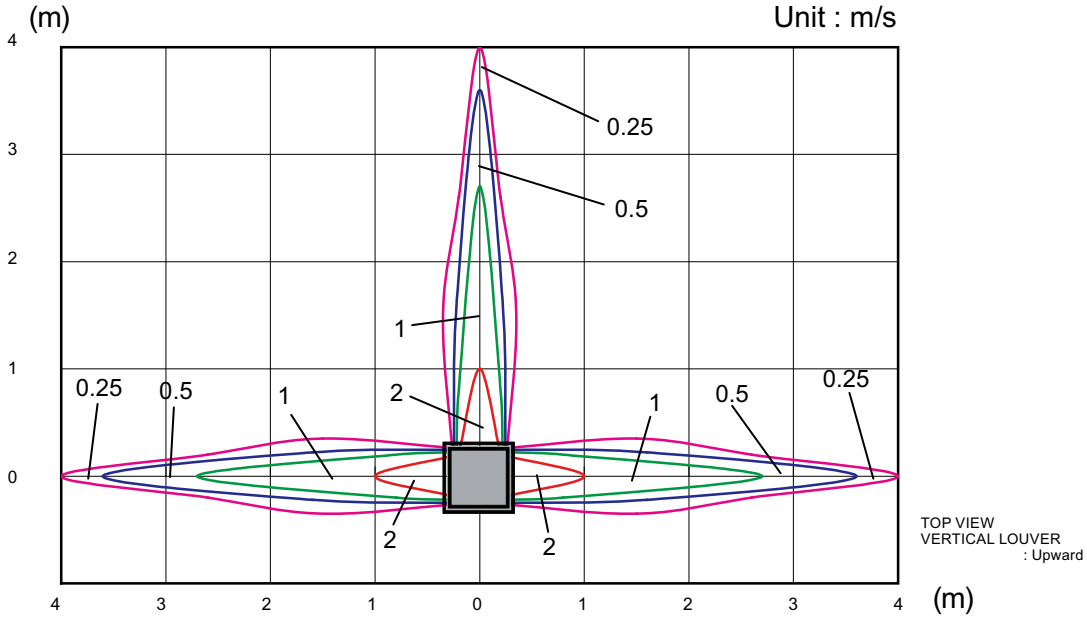


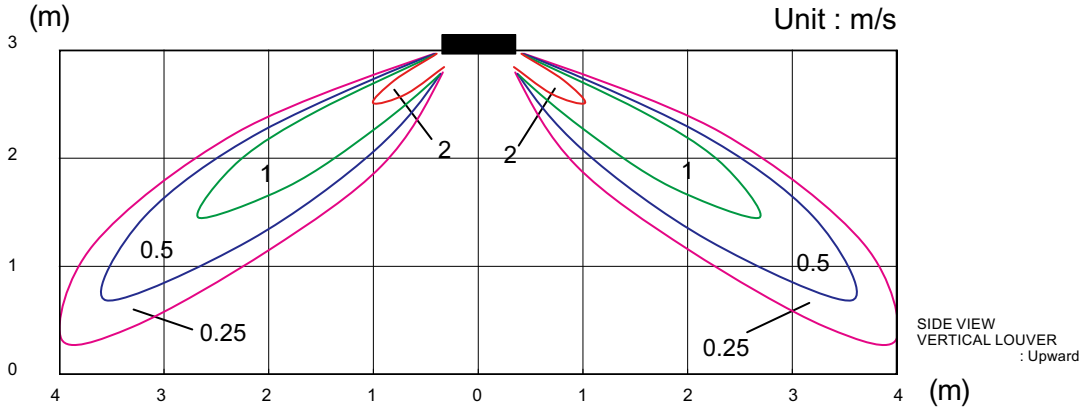
SIDE VIEW
VERTICAL LOUVER
: Downward

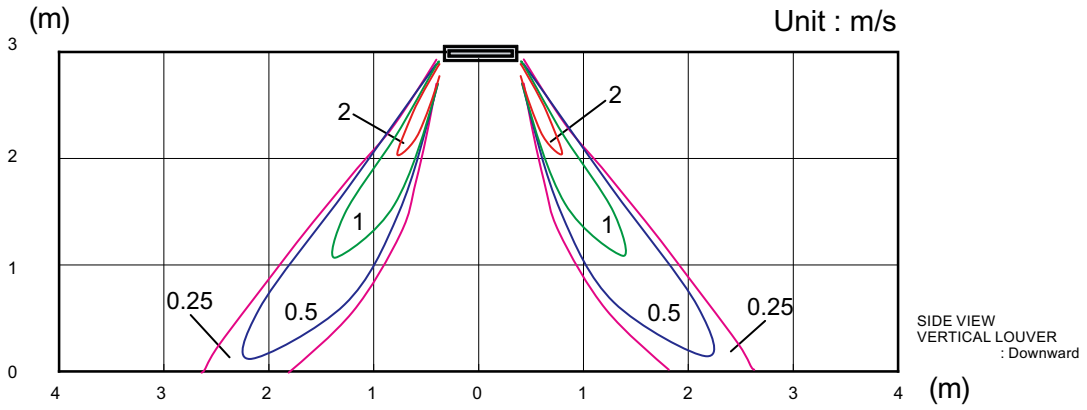
CASSETTE TYPE
AU∗G12-24LVL

Note:
Condition
Fan speed : High
Operation mode : Fan
Ceiling mode : Standard

● 3-way air outlet





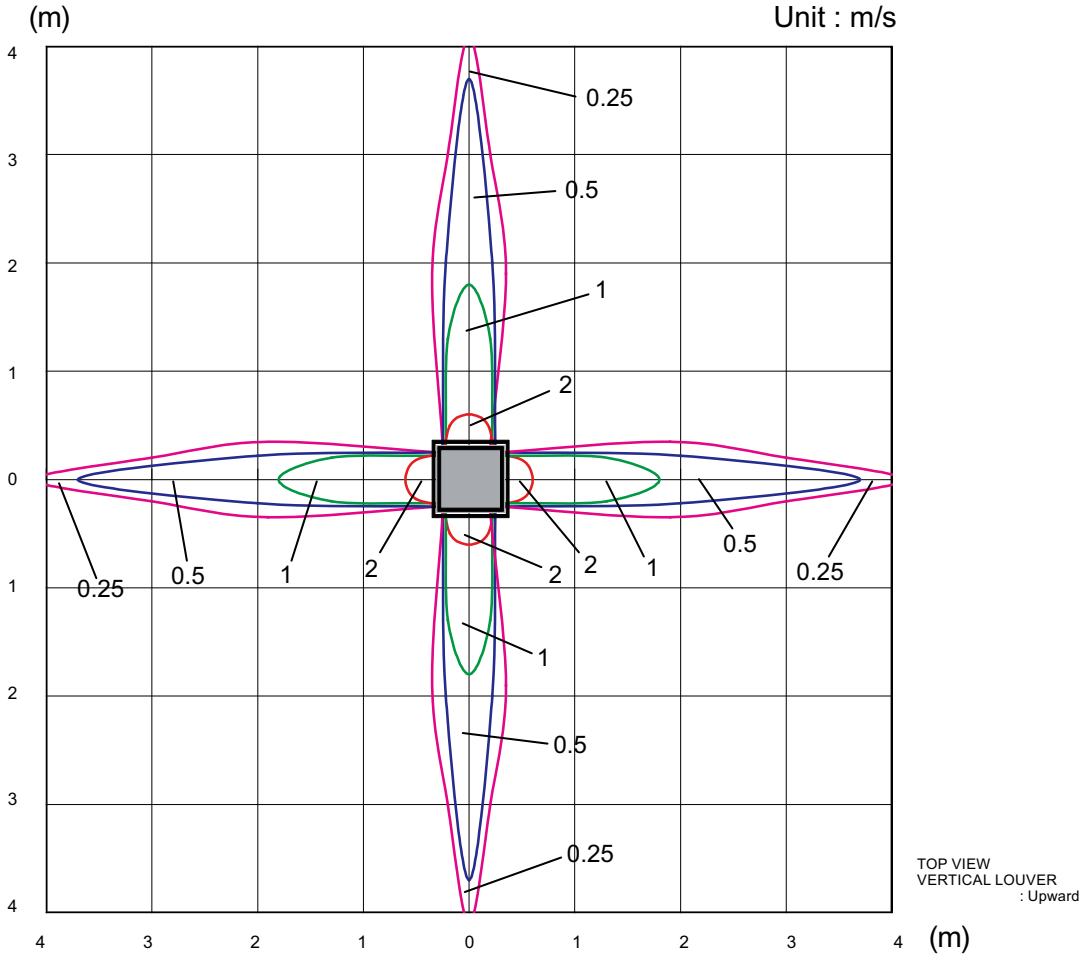


CASSETTE TYPE
AU∗G12-24LVL

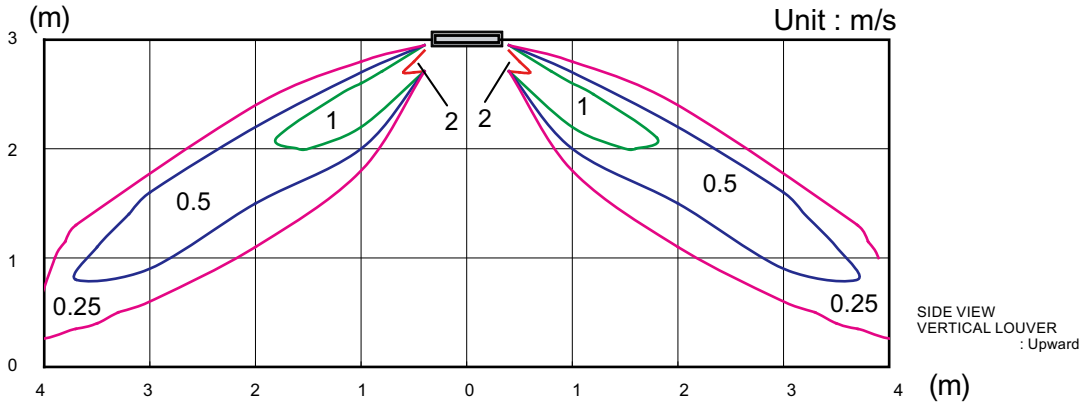
Note:
Condition
Fan speed : High
Operation mode : Fan
Ceiling mode : Standard

■MODEL: AU∗G14LVLB

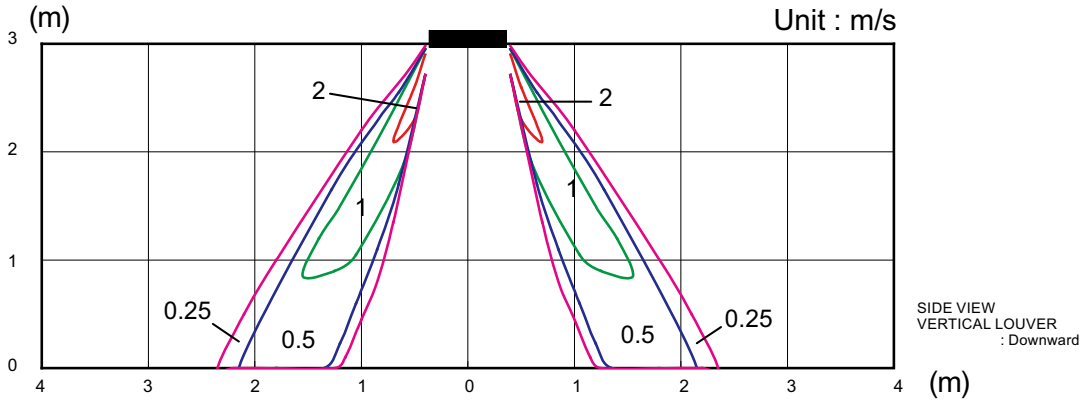
●4-way air outlet



TOP VIEW
VERTICAL LOUVER
: Upward



SIDE VIEW
VERTICAL LOUVER
: Upward

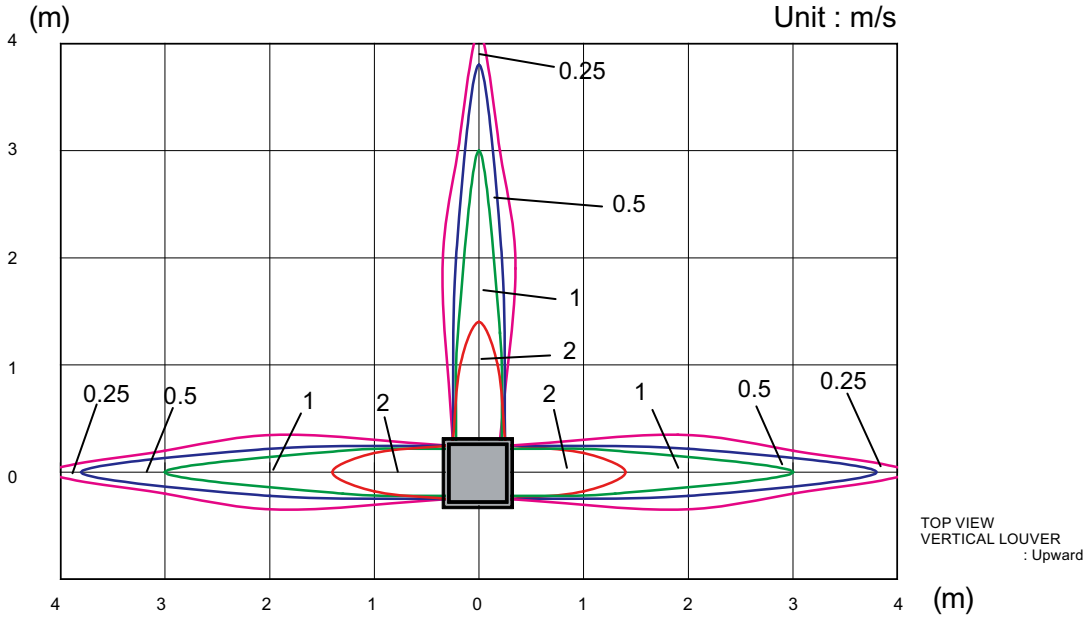


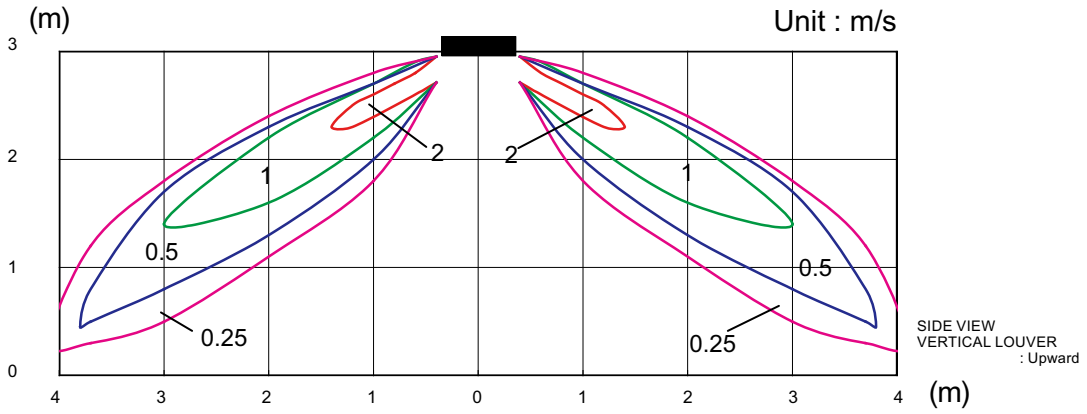
SIDE VIEW
VERTICAL LOUVER
: Downward

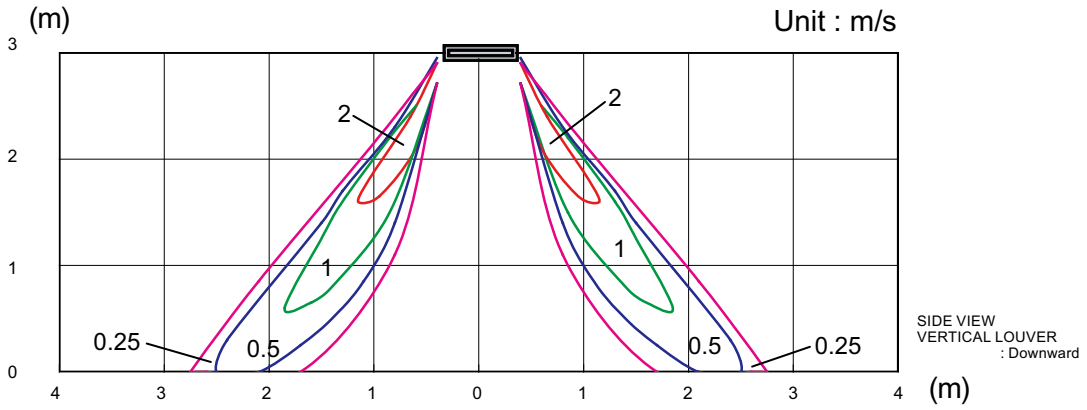
CASSETTE TYPE
AU∗G12-24LVL

Note:
Condition
Fan speed : High
Operation mode : Fan
Ceiling mode : Standard

● 3-way air outlet





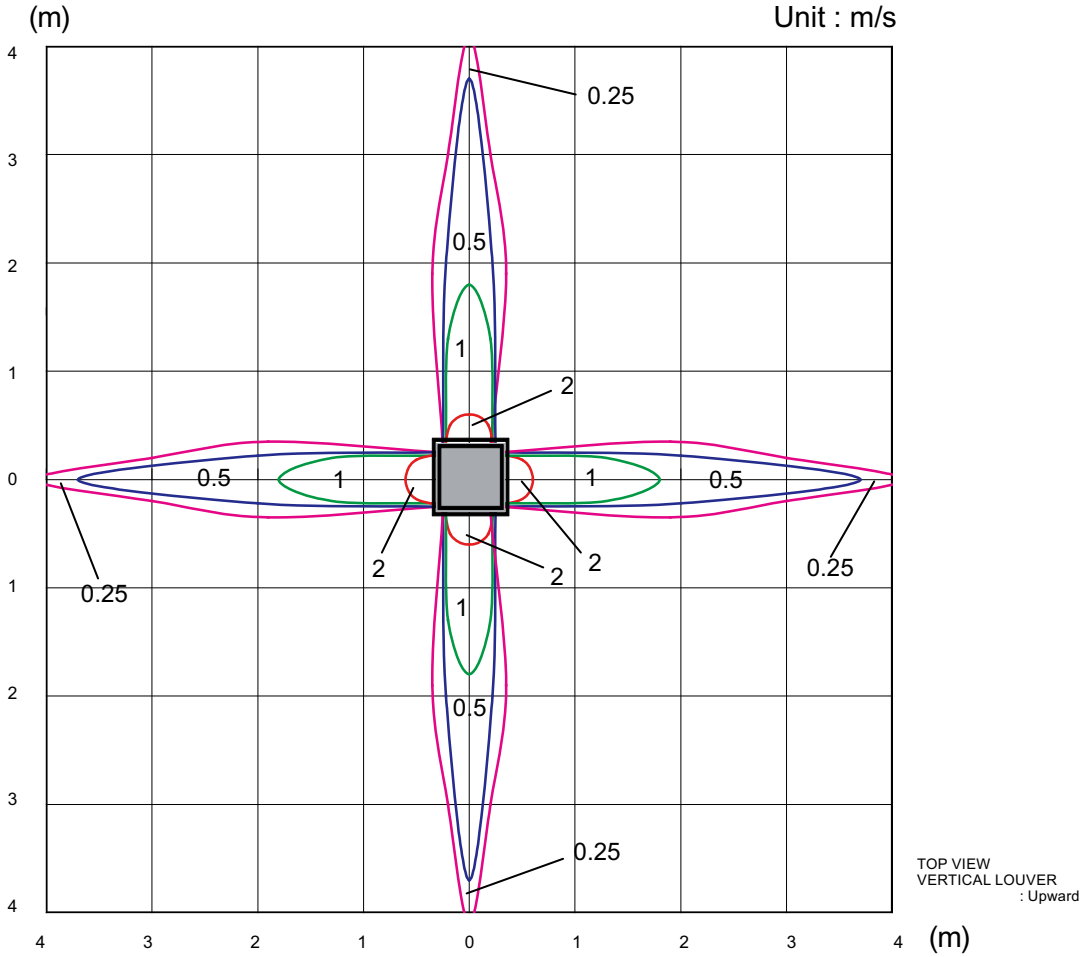


CASSETTE TYPE
AU∗G12-24LVL

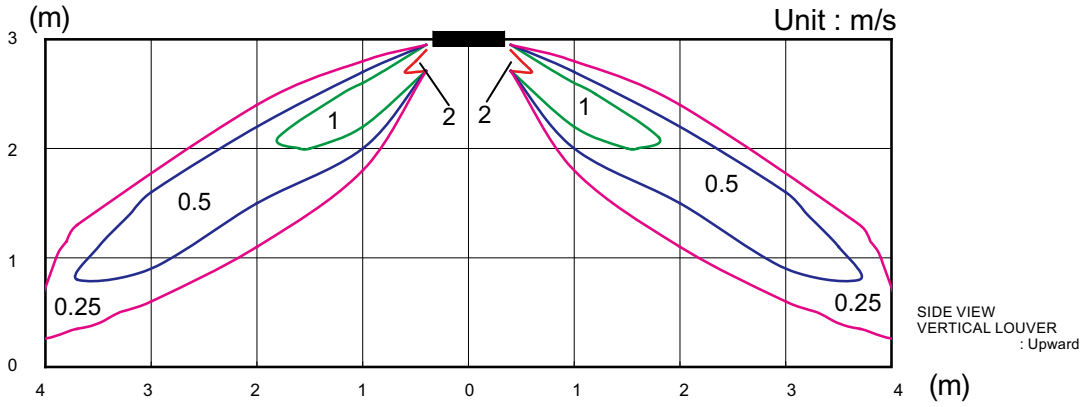
Note:
Condition
Fan speed : High
Operation mode : Fan
Ceiling mode : Standard

■ MODEL: AU∗G18LVLB

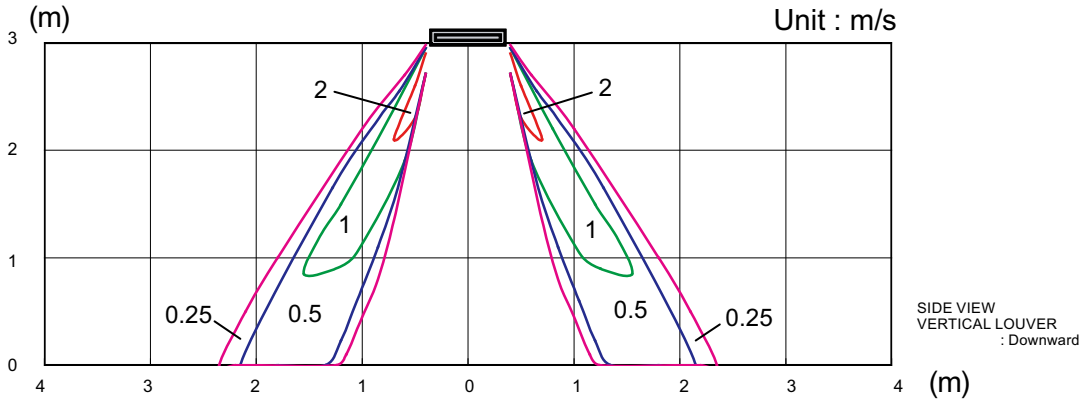
● 4-way air outlet



TOP VIEW
VERTICAL LOUVER
: Upward



SIDE VIEW
VERTICAL LOUVER
: Upward

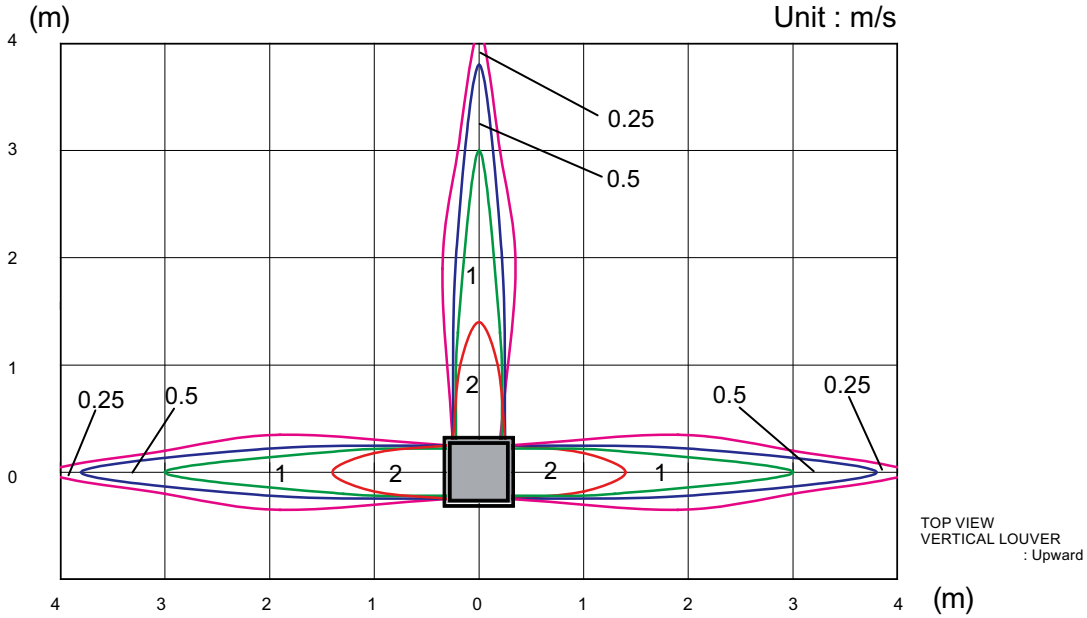


SIDE VIEW
VERTICAL LOUVER
: Downward

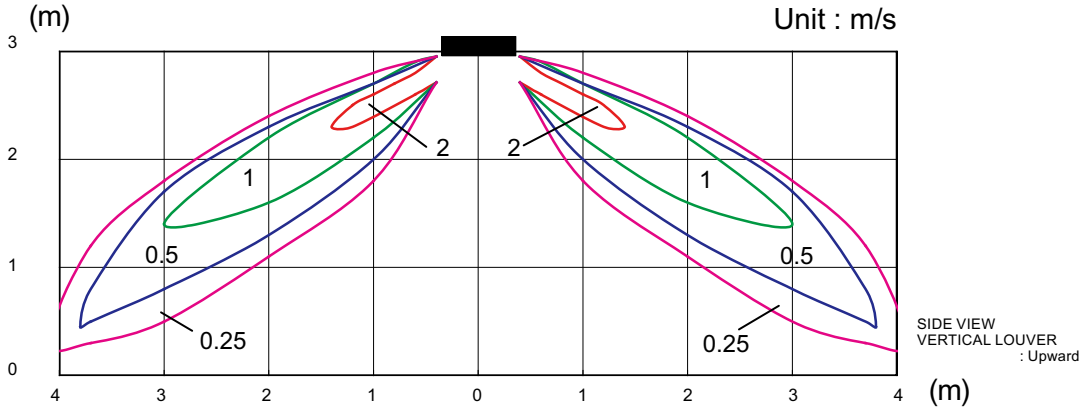
CASSETTE TYPE
AU∗G12-24LVL

Note:
Condition
Fan speed : High
Operation mode : Fan
Ceiling mode : Standard

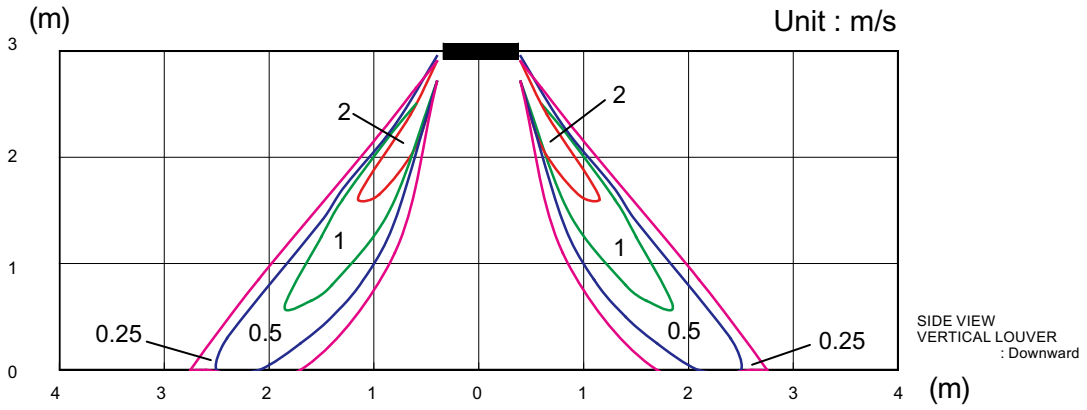
● 3-way air outlet



TOP VIEW
VERTICAL LOUVER
: Upward



SIDE VIEW
VERTICAL LOUVER
: Upward



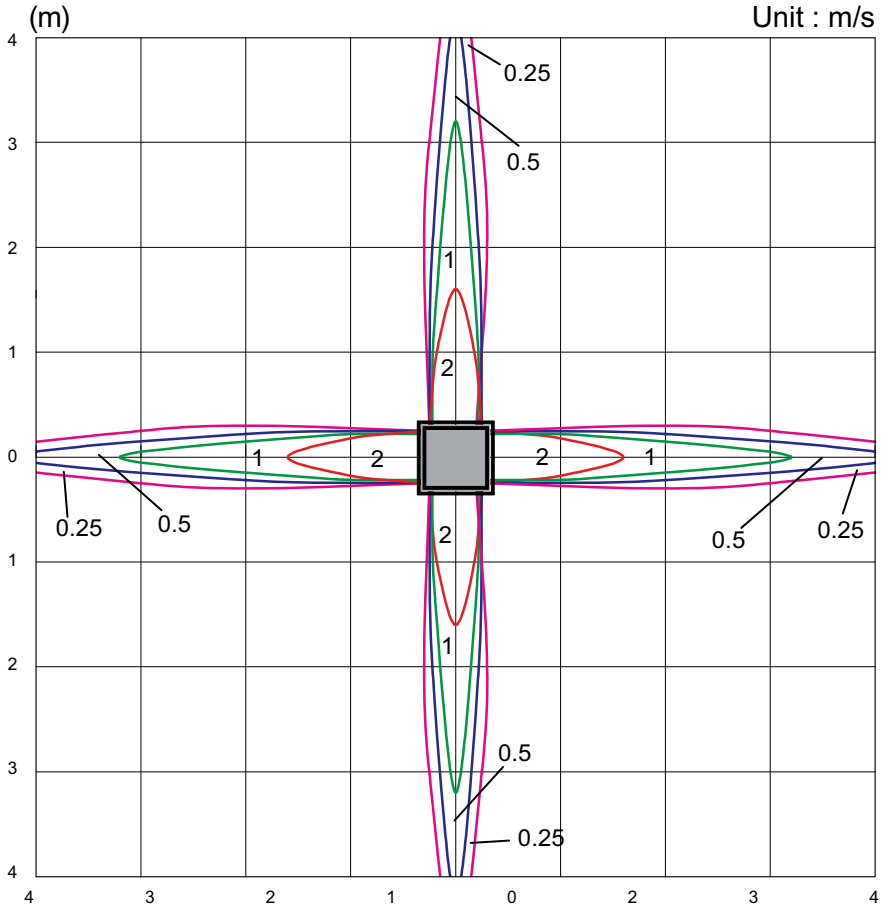
SIDE VIEW
VERTICAL LOUVER
: Downward

CASSETTE TYPE
AU∗G12-24LVL

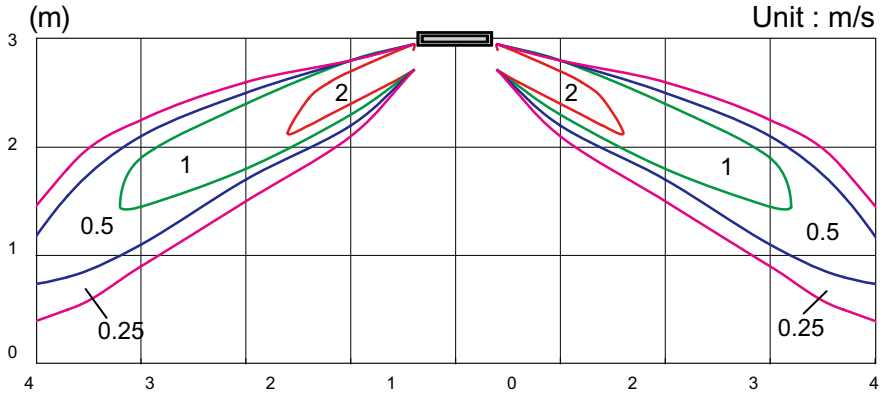
Note:
Condition
Fan speed : High
Operation mode : FAN
Ceiling mode : Standard

■ MODEL: AU∗G24LVLA

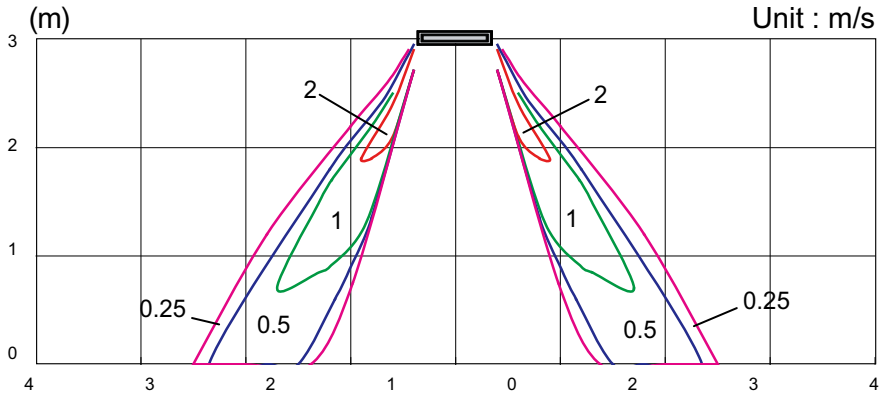
● 4-way air outlet



TOP VIEW
VERTICAL FLAP
: Upward



SIDE VIEW
VERTICAL FLAP
: Upward



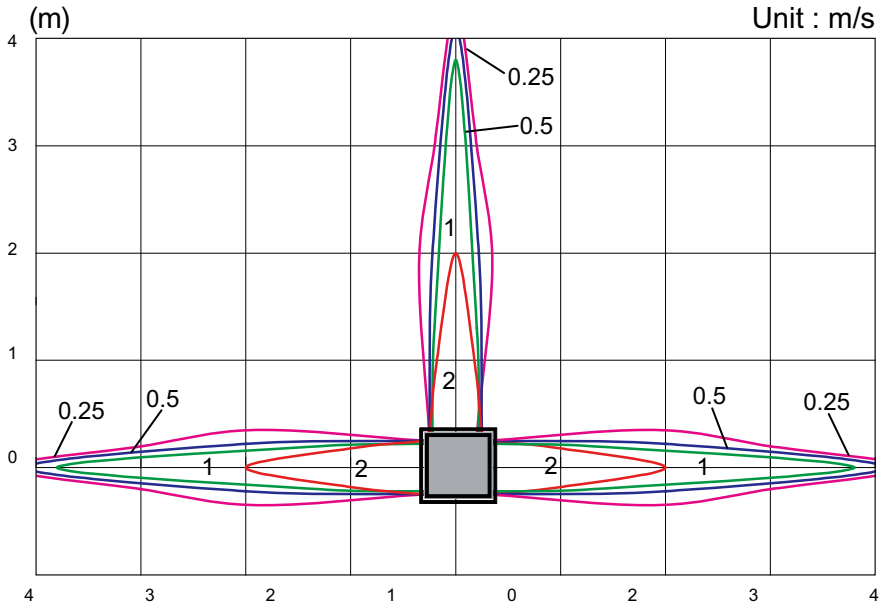
SIDE VIEW
VERTICAL FLAP
: Downward

CASSETTE TYPE
AU∗G12-24LVL

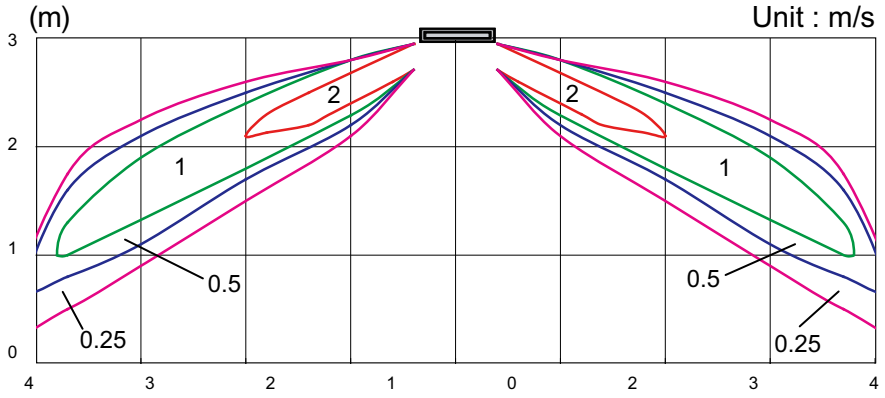
Note:
Condition
Fan speed : High
Operation mode : FAN
Ceiling mode : Standard

■ MODEL: AU∗G24LVLA

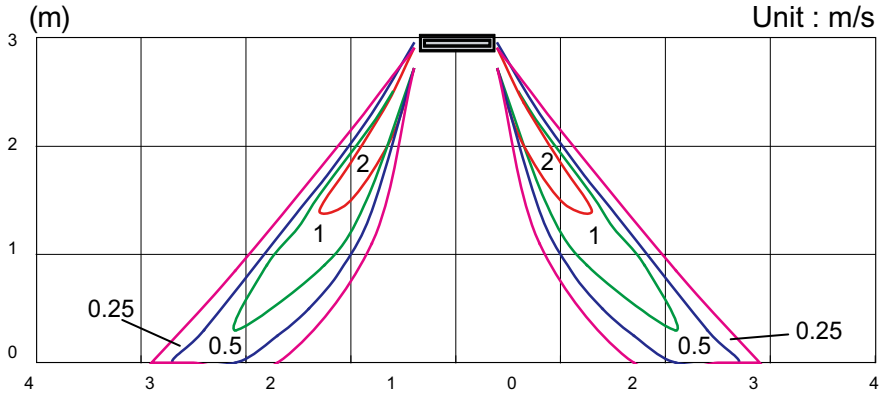
● 3-way air outlet



TOP VIEW
VERTICAL FLAP
: Upward



SIDE VIEW
VERTICAL FLAP
: Upward



SIDE VIEW
VERTICAL FLAP
: Downward

CASSETTE TYPE
AU∗G12-24LVL

7-2. AIRFLOW

7-2-1. STANDARD CEILING MODE

■ MODEL: AU∗G12LVLB

● Cooling

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	650	m^3/h	600
		l/s	167
		CFM	353
MED	580	m^3/h	530
		l/s	147
		CFM	312
LOW	520	m^3/h	470
		l/s	131
		CFM	277
QUIET	460	m^3/h	410
		l/s	114
		CFM	241

● Heating

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	650	m^3/h	600
		l/s	167
		CFM	353
MED	580	m^3/h	530
		l/s	147
		CFM	312
LOW	520	m^3/h	470
		l/s	131
		CFM	277
QUIET	460	m^3/h	410
		l/s	114
		CFM	241

CASSETTE TYPE
AU∗G12-24LVL

■ MODEL: AU∗G14LVLB

● Cooling

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	730	m^3/h	680
		l/s	189
		CFM	400
MED	630	m^3/h	580
		l/s	161
		CFM	341
LOW	540	m^3/h	490
		l/s	136
		CFM	288
QUIET	460	m^3/h	410
		l/s	114
		CFM	241

● Heating

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	830	m^3/h	800
		l/s	222
		CFM	471
MED	730	m^3/h	680
		l/s	189
		CFM	400
LOW	630	m^3/h	580
		l/s	161
		CFM	341
QUIET	500	m^3/h	450
		l/s	125
		CFM	265

CASSETTE TYPE
AU∗G12-24LVL

■ MODEL: AU∗G18LVLB

● Cooling

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	730	m^3/h	680
		l/s	189
		CFM	400
MED	630	m^3/h	580
		l/s	161
		CFM	341
LOW	540	m^3/h	490
		l/s	136
		CFM	288
QUIET	460	m^3/h	410
		l/s	114
		CFM	241

● Heating

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	830	m^3/h	800
		l/s	222
		CFM	471
MED	730	m^3/h	680
		l/s	189
		CFM	400
LOW	630	m^3/h	580
		l/s	161
		CFM	341
QUIET	500	m^3/h	450
		l/s	125
		CFM	265

CASSETTE TYPE
AU∗G12-24LVL

■ MODEL: AU∗G24LVLA

● Cooling

Fan speed	Number of rotations (r.p.m.)	Airflow	
HIGH	960	m^3/h	930
		l/s	258
		CFM	547
MED	850	m^3/h	830
		l/s	231
		CFM	488
LOW	650	m^3/h	600
		l/s	167
		CFM	353
QUIET	500	m^3/h	450
		l/s	125
		CFM	265

● Heating

Fan speed	Number of rotations (r.p.m.)	Airflow	
HIGH	960	m^3/h	930
		l/s	258
		CFM	547
MED	880	m^3/h	860
		l/s	239
		CFM	506
LOW	740	m^3/h	700
		l/s	194
		CFM	412
QUIET	580	m^3/h	530
		l/s	147
		CFM	312

CASSETTE TYPE
AU∗G12-24LVL

7-2-2. HIGH CEILING MODE

■ MODEL: AU∗G12LVLB

● Cooling

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	750	m^3/h	700
		l/s	194
		CFM	412
MED	680	m^3/h	630
		l/s	175
		CFM	371
LOW	620	m^3/h	570
		l/s	158
		CFM	335
QUIET	460	m^3/h	410
		l/s	114
		CFM	241

● Heating

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	750	m^3/h	700
		l/s	194
		CFM	412
MED	680	m^3/h	630
		l/s	175
		CFM	371
LOW	620	m^3/h	570
		l/s	158
		CFM	335
QUIET	460	m^3/h	410
		l/s	114
		CFM	241

CASSETTE TYPE
AU∗G12-24LVL

■ MODEL: AU∗G14LVLB

● Cooling

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	830	m^3/h	800
		l/s	222
		CFM	471
MED	730	m^3/h	680
		l/s	189
		CFM	400
LOW	640	m^3/h	590
		l/s	164
		CFM	347
QUIET	460	m^3/h	410
		l/s	114
		CFM	241

● Heating

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	930	m^3/h	900
		l/s	250
		CFM	530
MED	830	m^3/h	800
		l/s	222
		CFM	471
LOW	730	m^3/h	680
		l/s	189
		CFM	400
QUIET	500	m^3/h	450
		l/s	125
		CFM	265

CASSETTE TYPE
AU∗G12-24LVL

■ MODEL: AU∗G18LVLB

● Cooling

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	830	m^3/h	800
		l/s	222
		CFM	471
MED	730	m^3/h	680
		l/s	189
		CFM	400
LOW	640	m^3/h	590
		l/s	164
		CFM	347
QUIET	460	m^3/h	410
		l/s	114
		CFM	241

● Heating

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	930	m^3/h	900
		l/s	250
		CFM	530
MED	830	m^3/h	800
		l/s	222
		CFM	471
LOW	730	m^3/h	680
		l/s	189
		CFM	400
QUIET	500	m^3/h	450
		l/s	125
		CFM	265

CASSETTE TYPE
AU∗G12-24LVL

■ MODEL: AU∗G24LVLA

● Cooling

Fan speed	Number of rotations (r.p.m.)	Airflow	
HIGH	1050	m^3/h	1030
		l/s	286
		CFM	606
MED	950	m^3/h	930
		l/s	258
		CFM	547
LOW	750	m^3/h	710
		l/s	197
		CFM	418
QUIET	500	m^3/h	450
		l/s	125
		CFM	265

● Heating

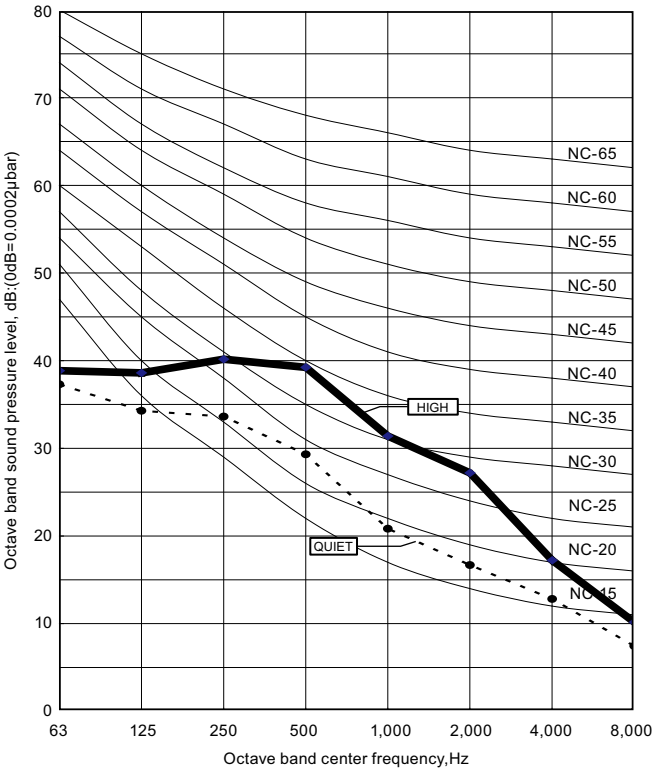
Fan speed	Number of rotations (r.p.m.)	Airflow	
HIGH	1030	m^3/h	1000
		l/s	278
		CFM	589
MED	980	m^3/h	960
		l/s	267
		CFM	565
LOW	840	m^3/h	820
		l/s	228
		CFM	483
QUIET	580	m^3/h	530
		l/s	147
		CFM	312

8. OPERATION NOISE

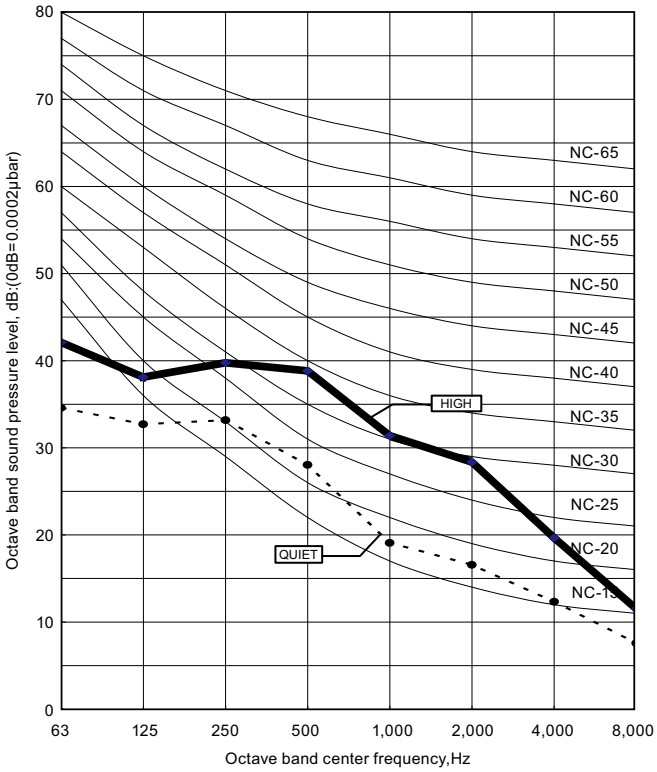
8-1. NOISE LEVEL CURVE

■ MODEL: AU∗G12LVLB

● Cooling

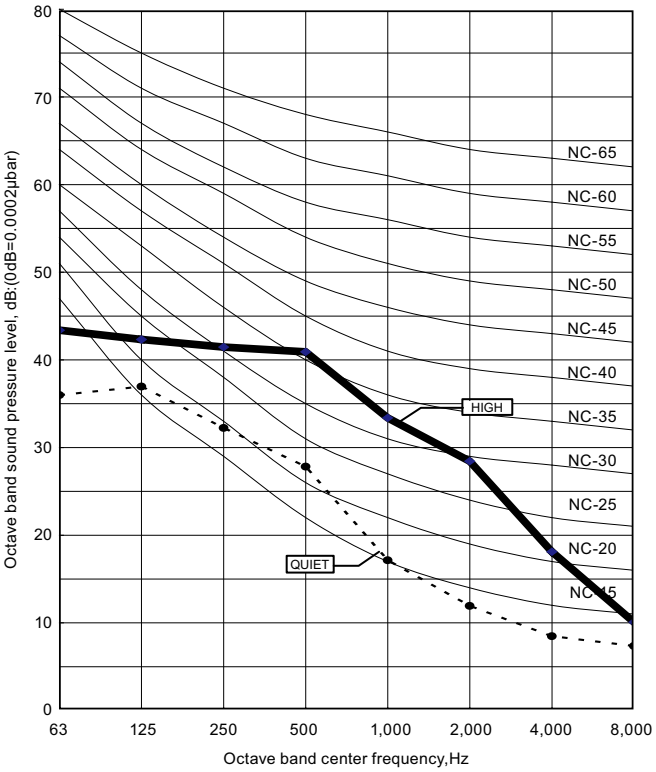


● Heating

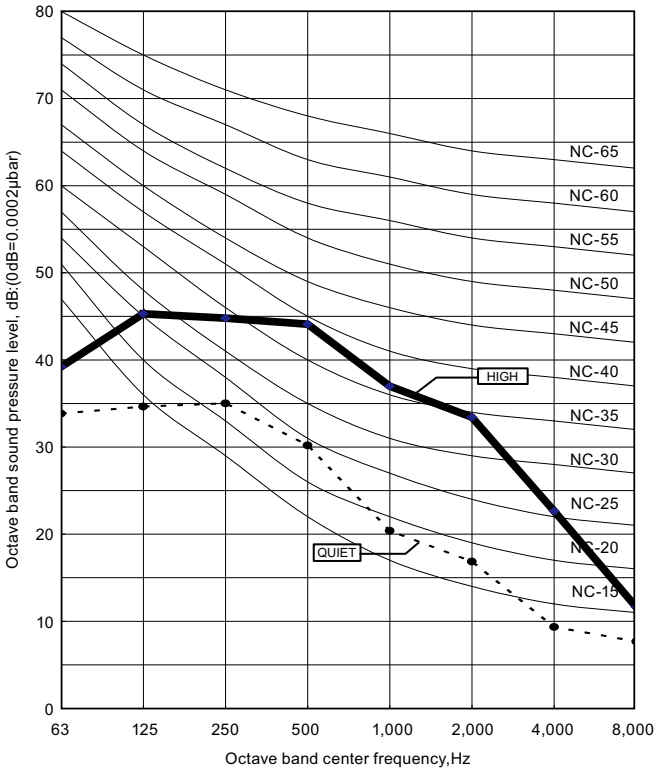


■ MODEL: AU∗G14LVLB

● Cooling



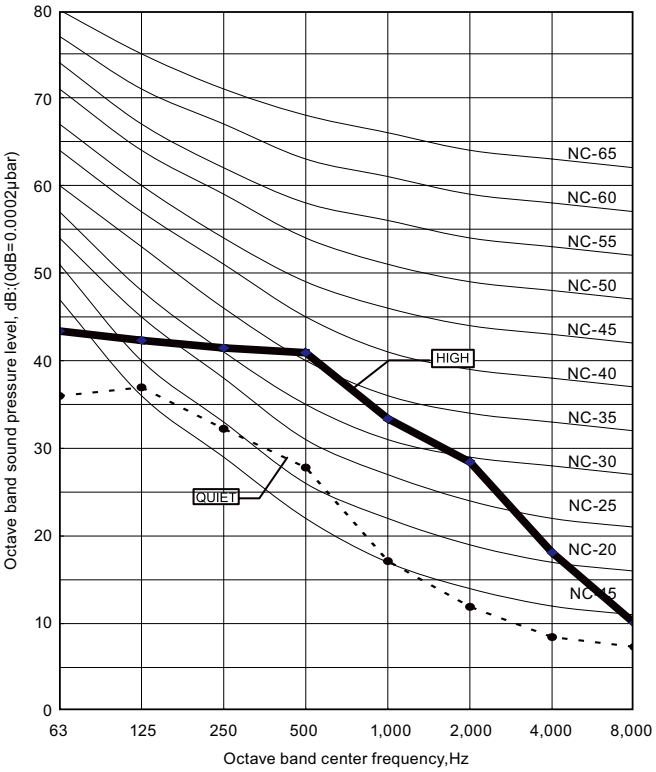
● Heating



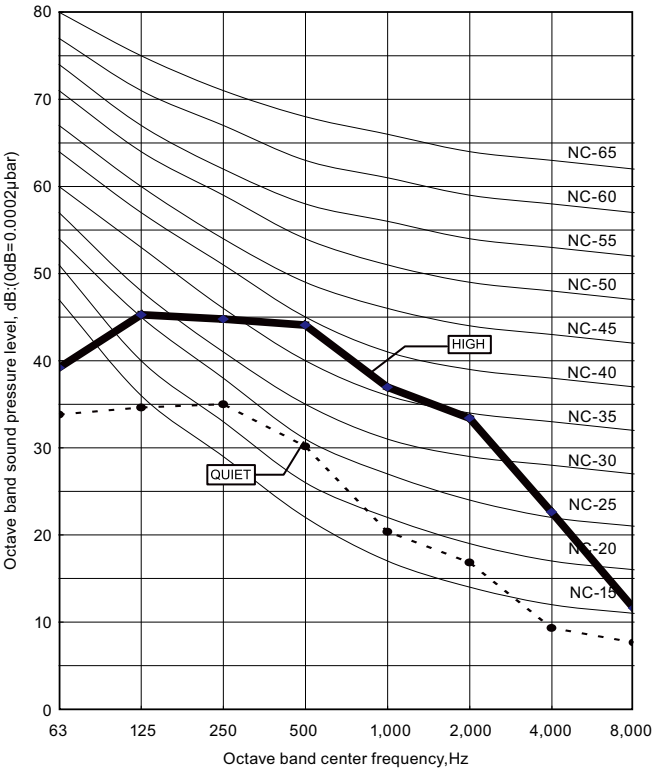
CASSETTE TYPE
AU∗G12-24LVL

■MODEL: AU∗G18LVLB

●Cooling

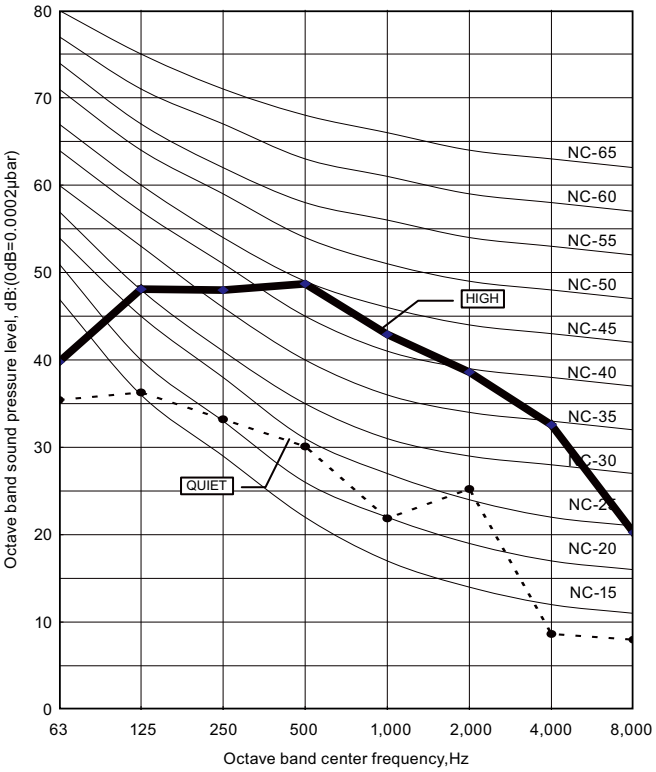


●Heating

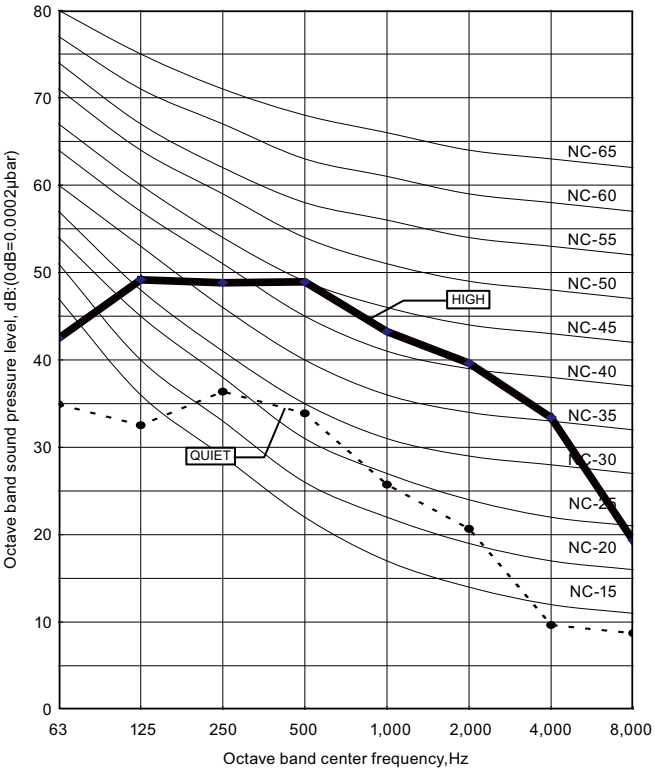


■MODEL: AU∗G24LVLA

●Cooling

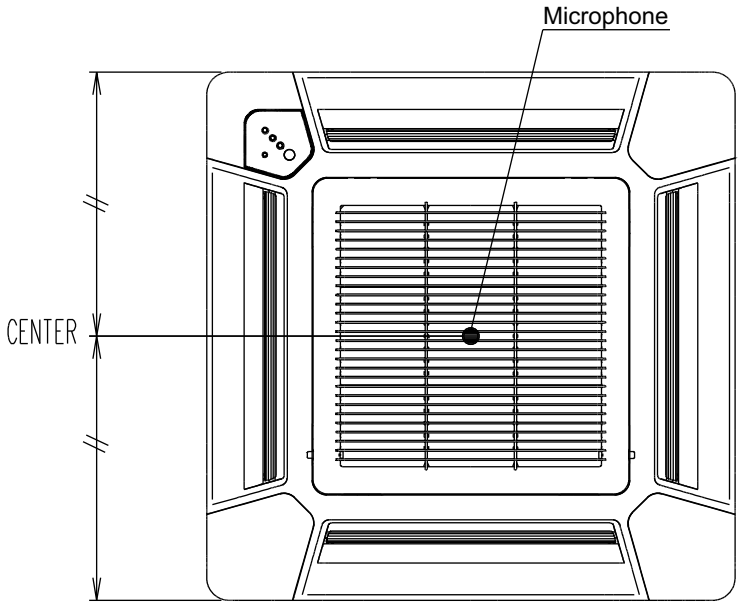


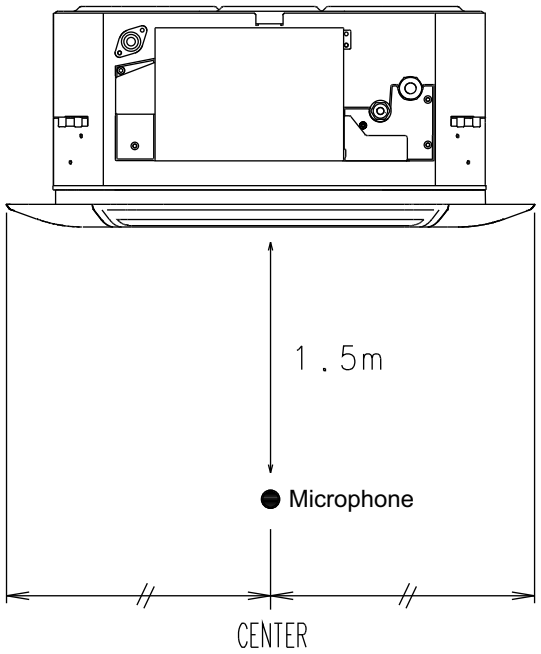
●Heating



CASSETTE TYPE
AU∗G12-24LVL

8-2. SOUND LEVEL CHECK POINT





9. ELECTRIC CHARACTERISTICS

Model Name			AU∗G12LVLB	AU∗G14LVLB	AU∗G18LVLB	AU∗G24LVLA
Power Supply	Voltage	V	230 ~			
	Frequency	Hz	50			
Max Operating Current		A	0.24	0.28	0.38	0.30
*1) Wiring Spec.	Connection Cable	mm^2	1.5			
	Limited wiring length	m	26			31

*1) Wiring Spec.
Selected Sample
(Selected based on Japan Electrotechnical Standard and Codes Committee E0005)

10. SAFETY DEVICES

	Protection form	Model			
		AU∗G12LVLB	AU∗G14LVLB	AU∗G18LVLB	AU∗G24LVLA
Circuit protection	Current fuse (PCB)	250V 3.15A			
Fan motor protection	Thermal protection program	138 ± 15 °C OFF 105 ± 20 °C ON			

CASSETTE TYPE
AU∗G12-24LVL

11. EXTERNAL INPUT & OUTPUT

Connector	INPUT	OUTPUT	REMARKS
CN102	Control input	—	See external input/output settings for details.
CN103	—	Operation status output	
CN6	—	Fresh air control output	

11-1. EXTERNAL INPUT

■ CONTROL INPUT (Operation/Stop or Forced stop)

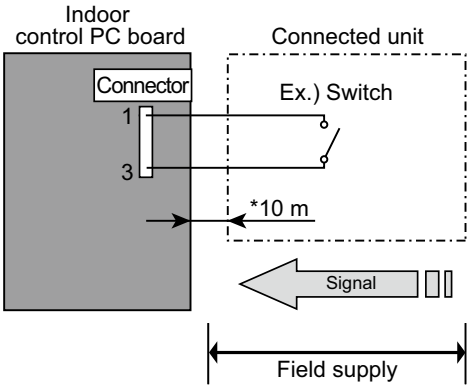
The air conditioner can be remotely operated by means of the following on-site work.

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

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

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

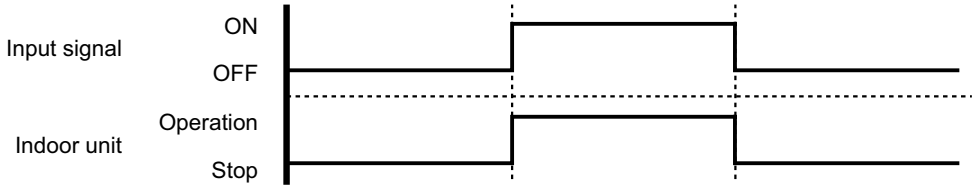
● Circuit diagram example



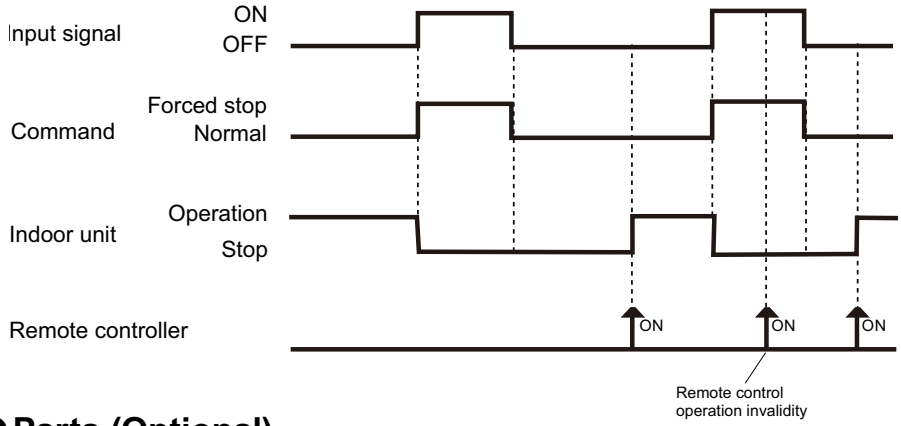
Contact capacity : 24VDC or more, 10mA or more.
Please use non-polar relays and switches.

* Make the distance from the PC board to the connected unit within 10m.

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



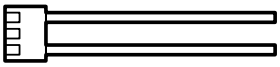
● When function setting is in "Forced stop" mode



● Parts (Optional)

Model name
UTY-XWZX

Wire (External input)



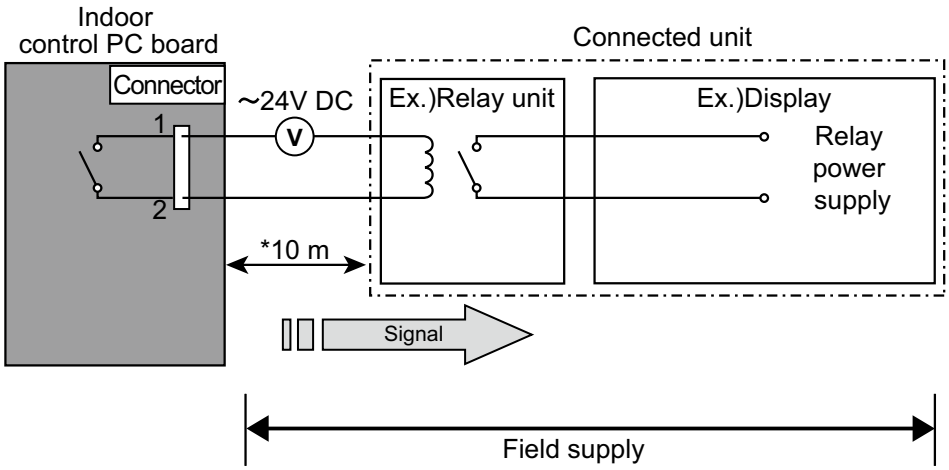
CASSETTE TYPE
AU∗G12-24LVL

11-2. EXTERNAL OUTPUT

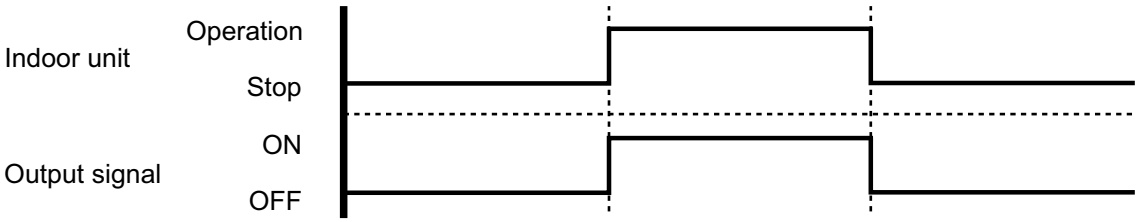
■ OPERATION STATUS OUTPUT

An air conditioner operation status signal can be output.

● Circuit diagram example



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



● Parts (Optional)

Model name
UTY-XWZX

Wire (External output)

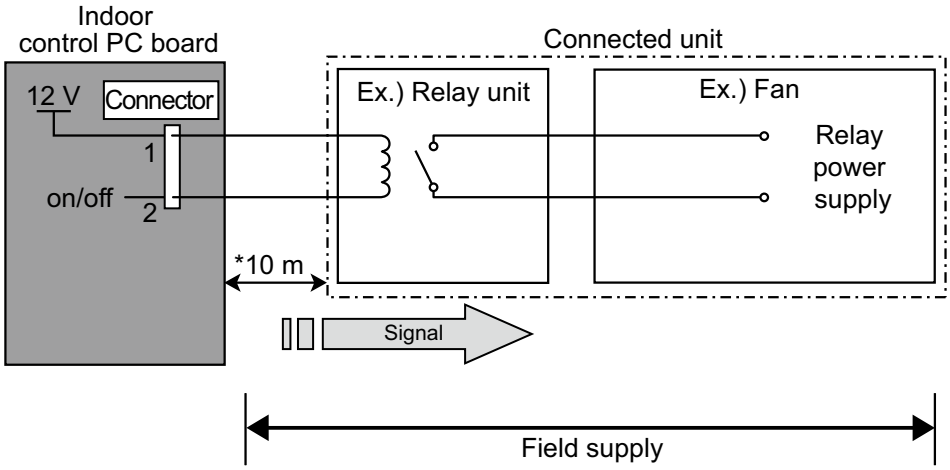
CASSETTE TYPE
AU∗G12-24LVL

■ FRESH AIR CONTROL OUTPUT

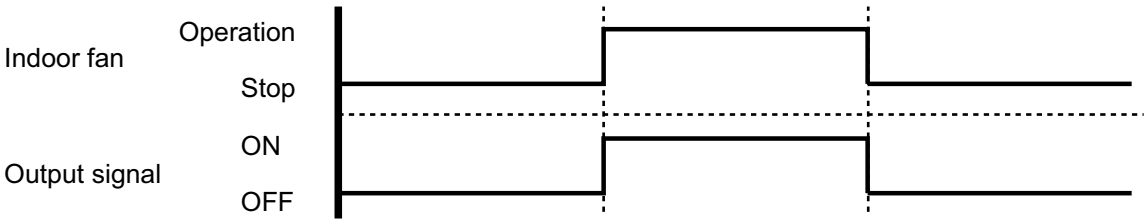
A signal linked to air conditioner indoor fan ON can be output.

* However, signal becomes OFF during cold air prevention control operation.

● Circuit diagram example



* Make the distance from the PC board to the connected unit within 10m.
Relay spec. : Rated 12VDC, 50mA or less.



● Parts (Optional)

Model name
UTZ-VXAA *1

Wire (Fresh air output)

Note This wire is included in Fresh air intake kit (UTZ-VXAA)

CASSETTE TYPE
AU∗G12-24LVL

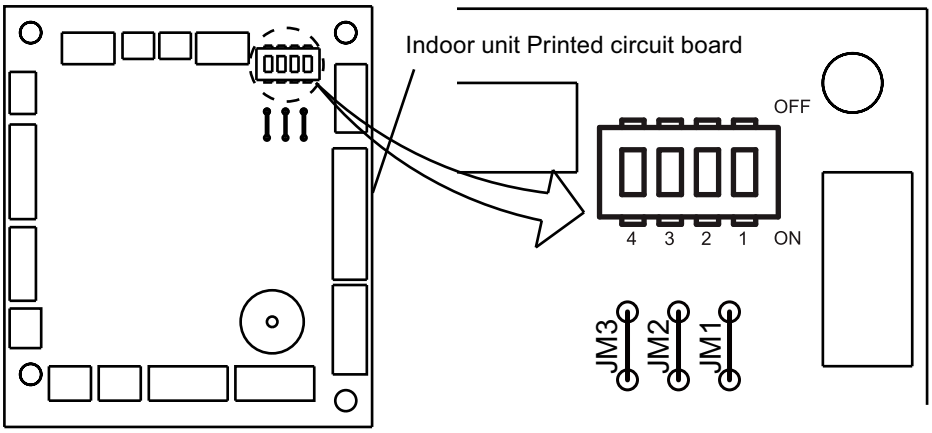
12. FUNCTION SETTINGS

12-1. INDOOR UNIT

INDOOR UNIT		
DIP SW	1	Remote controller address setting
	2	
	3	
	4	
Jumper Wire	JM1	Setting forbidden
	JM2	
	JM3	

■ SWITCH POSITION

MAIN PCB



■ DIP-SW SETTING

● Remote controller address setting

A number of indoor units can be operated at the same time using a wired remote controller.
Set the unit number of each indoor unit using the DIP switches on the indoor unit circuit board.
(See the following table.)
The DIP switches are normaly set to make the unit number 00.

(◆. . .Factory setting)

Remote controller address	DIP switch No.			
	1	2	3	4
◆ 00	OFF	OFF	OFF	OFF
01	ON	OFF	OFF	OFF
02	OFF	ON	OFF	OFF
03	ON	ON	OFF	OFF
04	OFF	OFF	ON	OFF
05	ON	OFF	ON	OFF
06	OFF	ON	ON	OFF
07	ON	ON	ON	OFF
08	OFF	OFF	OFF	ON
09	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON
11	ON	ON	OFF	ON
12	OFF	OFF	ON	ON
13	ON	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON

CASSETTE TYPE
AU∗G12-24LVL

12-2. INDOOR UNIT (Setting by remote controller)

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

■ PREPARATION

- Turn on the power.

* Before turning on the power of the indoor units, make sure the piping air-tight test and vacuuming have been conducted .

* Also check again to make sure no wiring mistakes were made before turning on the power.

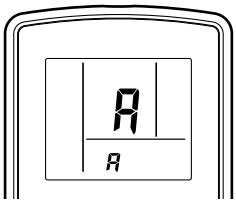
■ FUNCTION SETTING METHOD (for Wireless remote controller)

Entering the Function Setting Mode

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

STEP 1

Setting the Remote controller Signal Code



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

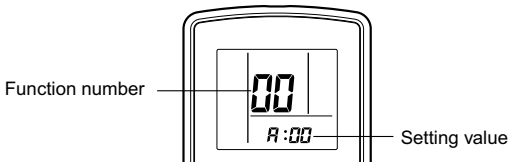
1. Press the SET TEMP. (▲) (▼) button to change the signal code between A → b → c → d Match the code on the display to the air conditioner signal code. (initially set to A)
   (If the signal code does not need to be selected, press the MODE button and proceed to STEP 2.)
2. Press the TIMER MODE button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

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

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

STEP 2

Selecting the Function Number and Setting Value



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

⚠CAUTION
The Function Setting will not become active unless the power is turned off then on again.

CASSETTE TYPE
AU∗G12-24LVL

■ CONTENTS OF FUNCTION SETTING

- Follow the instructions in the Local Setup Procedure, which is supplied with the remote control, in accordance with the installed condition.
  After the power is turned on, perform the Function Setting on the remote control.
- The settings may be selected between the following two: Function Number or Setting Value.
- Settings will not be changed if invalid numbers or setting values are selected.

1)	Filter sign
2)	Ceiling height
3)	Outlet directions
4)	Cooler room temperature correction
5)	Heater room temperature correction
6)	Auto restart
7)	Indoor room temperature sensor switching function
8)	Remote controller signal code
9)	External input control
10)	Indoor unit fan control for energy saving

1) Filter sign

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

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
	"Standard (2,500 hours)"	11	00
	"Long interval (4,400 hours)"		01
	"Short interval (1,250 hours)"		02
◆	No indication		03

2) Ceiling height

Select the setting values in the table below according to the height of the ceiling.

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
◆	Standard (2.7m)	20	00
	High ceiling (3.0m)		01

The ceiling height values are for the 4-way outlet.
Do not change this setting in the 3-way outlet mode.

3) Outlet directions

Select the setting values in the table below for using a 3-way outlet.

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
◆	4-way	22	00
	3-way		01

CASSETTE TYPE
AU∗G12-24LVL

4) Cooler room temperature correction

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

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
◆	Standard	30	00
	Slightly lower control		01
	Lower control		02
	Warmer control		03

5) Heater room temperature correction

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

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
◆	Standard	31	00
	Lower control		01
	Slightly warmer control		02
	Warmer control		03

6) Auto restart

Enable or disable automatic system restart after a power outage.

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
◆	Yes	40	00
	No		01

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

7) Indoor room temperature sensor switching function

(Only for Wired remote controller)

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

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
◆	No	42	00
	Yes		01

- If setting value is “00”,
  room temperature is controlled by the indoor unit temperature sensor.
- If setting value is “01”,
  room temperature is controlled by either indoor unit temperature sensor or remote controller unit sensor.

8) Remote controller signal code

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

	Setting Description	Function Number	Setting Value
◆	A	44	00
	B		01
	C		02
	D		03

9) External input control

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

(◆. . . Factory setting)

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

CASSETTE TYPE
AU∗G12-24LVL

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

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

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
	No	49	00
◆	Yes		01

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

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

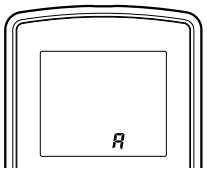
CASSETTE TYPE
AU∗G12-24LVL

■ REMOTE CONTROLLER SIGNAL CODE SETTING

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

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

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



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

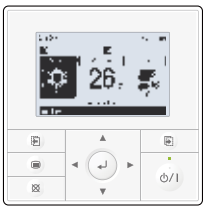
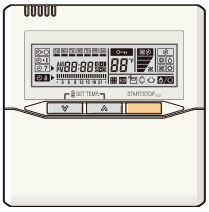
The air conditioner signal code is set to A prior to shipment. Contact your retailer to change the signal code.

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

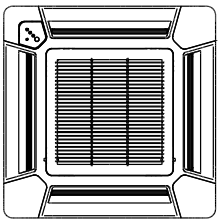
CASSETTE TYPE
AU∗G12-24LVL

13. OPTIONAL PARTS

13-1. CONTROLLER

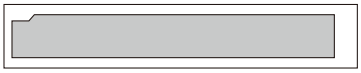
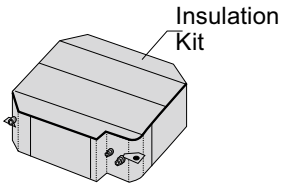
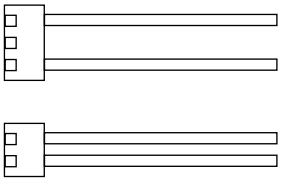
Exterior	Parts name	Model No.	Summary
	Wired Remote Controller	UTY-RVN∗M	Large and full-dot liquid crystal screen, wide and large keys easy to press, user-intuitive arrow key.
	Wired remote controller	UTY-RNN∗M	Unit control is performed by **wired remote controller**
	Simple remote controller	UTY-RSN∗M	Unit control is performed by **simple remote controller**

13-2. CASSETTE GRILLE

Exterior	Parts name	Model No.	Summary
	Cassette grille	UTG-UF∗D-W	Ceiling dirt by discharged wind was made difficult to cling by reviewing the shape of the LOUVER.

CASSETTE TYPE
AU∗G12-24LVL

13-3. OTHERS

Exterior	Parts name	Model No.	Summary
	Air outlet shutter plate	UTR-YDZB	Air outlet shutter plate is installed at the air outlet when 3-way direction is performed.
	Insulation kit for high humidity	UTZ-KXGC	Install when the under roof condition is expected to be the humidity of over 80 % and the temperature of over 30 °C
	Fresh air intake kit	UTZ-VXAA	It can be taken in fresh air of up to 10% of “high” air volume of the indoor unit by attaching Fresh Air Intake Kit to cassette type indoor unit.
	External connect set	UTY-XWZX	Use to connect with various peripheral devices and air conditioner PC board.

2. OUTDOOR UNIT

SINGLE TYPE :

AO∗G12LALL
AO∗G14LALL
AO∗G18LALL
AO∗G24LALA

DTR_AO099E_02
2013.02.28

CONTENTS

2. OUTDOOR UNIT

OUTDOOR UNIT
AO*G12-24LAL

1. SPECIFICATIONS

Type				INVERTER HEAT PUMP			
Model name				AO∗G12LALL	AO∗G14LALL	AO∗G18LALL	AO∗G24LALA
Power source				230V ~ 50Hz			
Available voltage range				198 - 264V ~ 50Hz			
Starting current			A	5.1	6.1	7.4	9.9
Fan	Airflow rate	Cooling	m^3/h	1780	1910	2000	2470
		Heating		1630	1740	1910	2470
	Type × Q'ty			Propeller × 1			
	Motor output		W	54			65
Sound pressure level		Cooling	dB (A)	47	49	50	52
		Heating		48	49	50	53
Sound power level		Cooling	dB (A)	61	62	62	67
		Heating		63	64	65	70
Heat exchanger type		Dimensions (H × W × D)	mm	546 × 876 × 18.2 546 × 842 × 18.2			546 × 866 × 18.2 546 × 832 × 18.2 504 × 589 × 18.2
		Fin pitch		1.30			1.40
		Rows × Stages		2 × 26			2 × 26 1 × 24
		Pipe type		Copper			
		Fin Type		Aluminium			
Compressor	Type × Q'ty			Twin Rotary × 1			
	Motor output		W	1100			
Refrigerant		Type (Global Warming Potential)		R410A(1975)			
		Charge	g	1150	1250		1700
Refrigerant oil		Type		POE			
Enclosure		Material		Steel sheet			
		Colour		Beige Approximate colour of MUNSELL 10YR7.5/1.0			
Dimensions (H × W × D)	Net		mm	578 × 790 ×300			578 × 790 ×315
	Gross			648 × 910 × 380			
Weight	Net		kg	40			44
	Gross			44			48
Connenction pipe	Size	Liquid	mm	Ø6.35 (Ø1/4 in.)			
		Gas		Ø9.52 (Ø3/8 in.)	Ø12.70 (Ø1/2 in.)		Ø15.88 (Ø5/8 in.)
	Method			Flare			
	Pre-charge length		m	15			
	Max. length			25			30
	Max. height difference			15			20
Operation range		Cooling	°C	-10 to 46			
		Heating		-15 to 24			

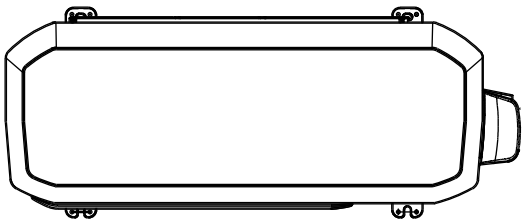
Note :
Specifications are based on the following conditions.
Cooling : Indoor temperature of 27 °CDB / 19 °CWB.and outdoor temperature of 35 °CDB / 24 °CWB.
Heating : Indoor temperature of 20 °CDB / 15 °CWB.and outdoor temperature of 7 °CDB / 6 °CWB.
Pipe length : 5.0 m, Height difference : 0 m. (Outdoor unit - Indoor unit)
The protective function may work when using it outside the operation range.

OUTDOOR UNIT
AO∗G12-24LAL

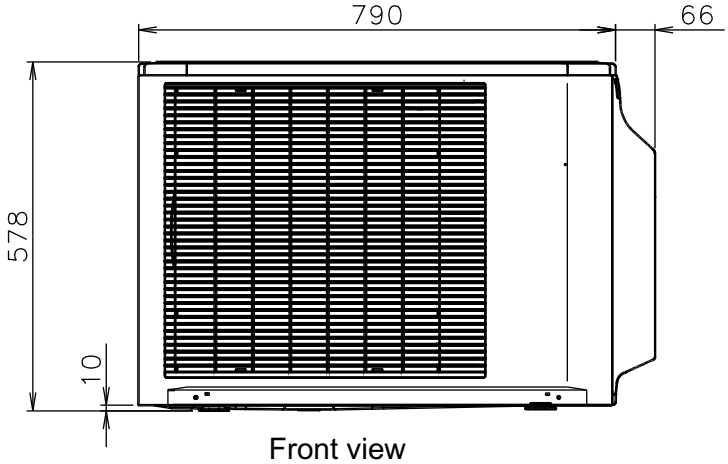
2. DIMENSIONS

■ MODEL: AO∗G12LALL, AO∗G14LALL, AO∗G18LALL, AO∗G24LALA

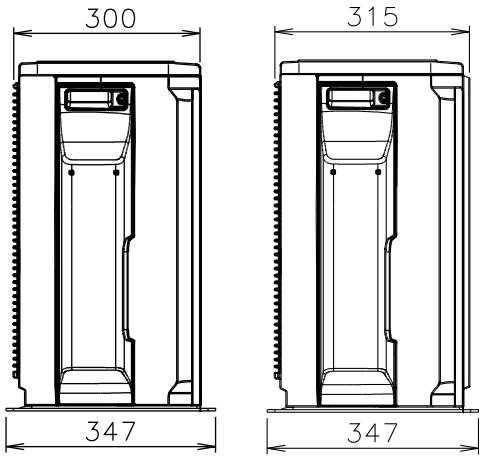
(Unit : mm)



Top view



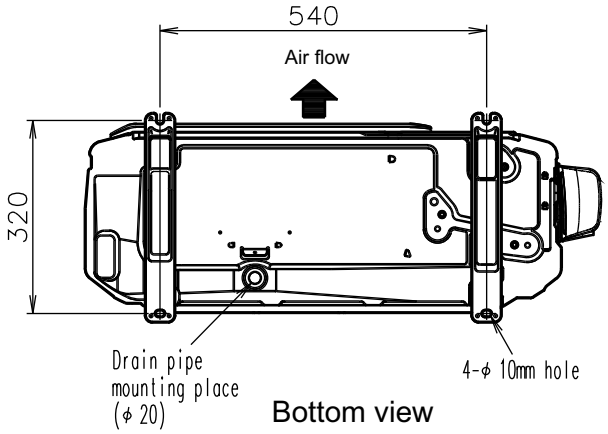
Front view



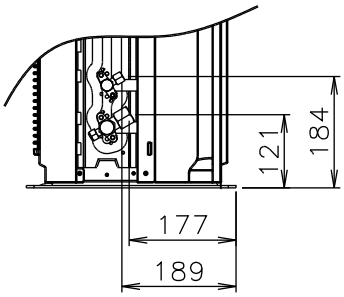
AO∗G12LALL
AO∗G14LALL
AO∗G18LALL

AO∗G24LALA

Side view

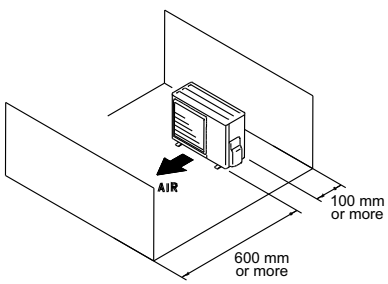


Bottom view

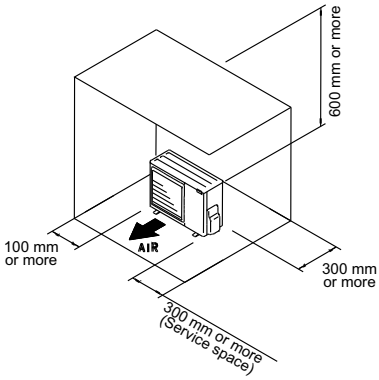


■ INSTALLATION PLACE

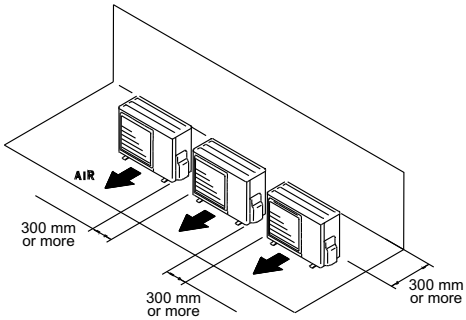
When there are obstacles at the back or front sides.



When there are obstacles at the back, side(s), and top.

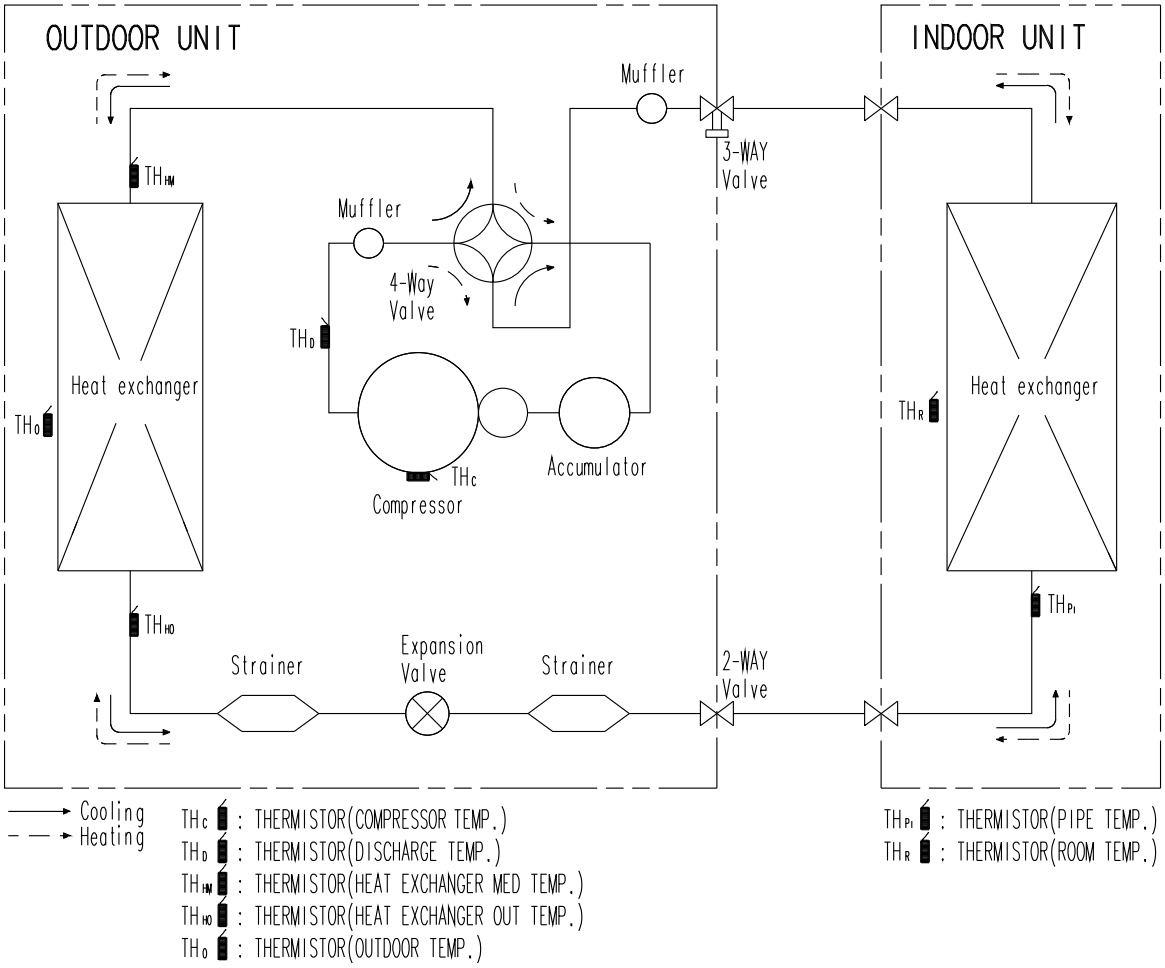


When there are obstacles at the back, side with the installation of more than one unit.



3. REFRIGERANT CIRCUIT

■ MODEL: AO∗G12LALL, AO∗G14LALL, AO∗G18LALL, AO∗G24LALA

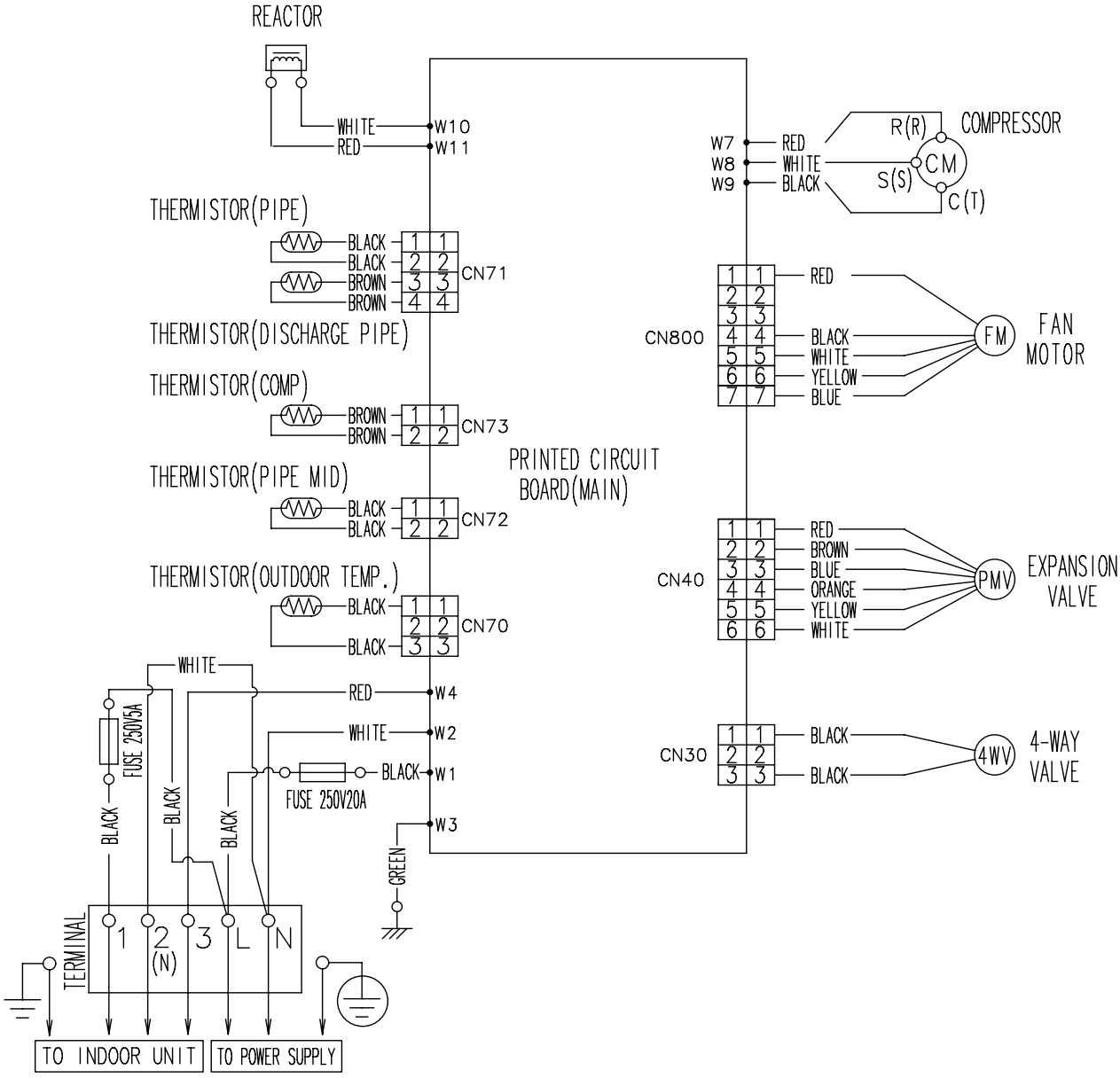


Refrigerant pipe diameter
Liquid : 1/4" (6.35 mm)
Gas : 3/8" (9.52 mm) : AO∗G12LALL
1/2" (12.70 mm) : AO∗G14LALL, AO∗G18LALL
5/8" (15.88 mm) : AO∗G24LALA

OUTDOOR UNIT
AO∗G12-24LAL

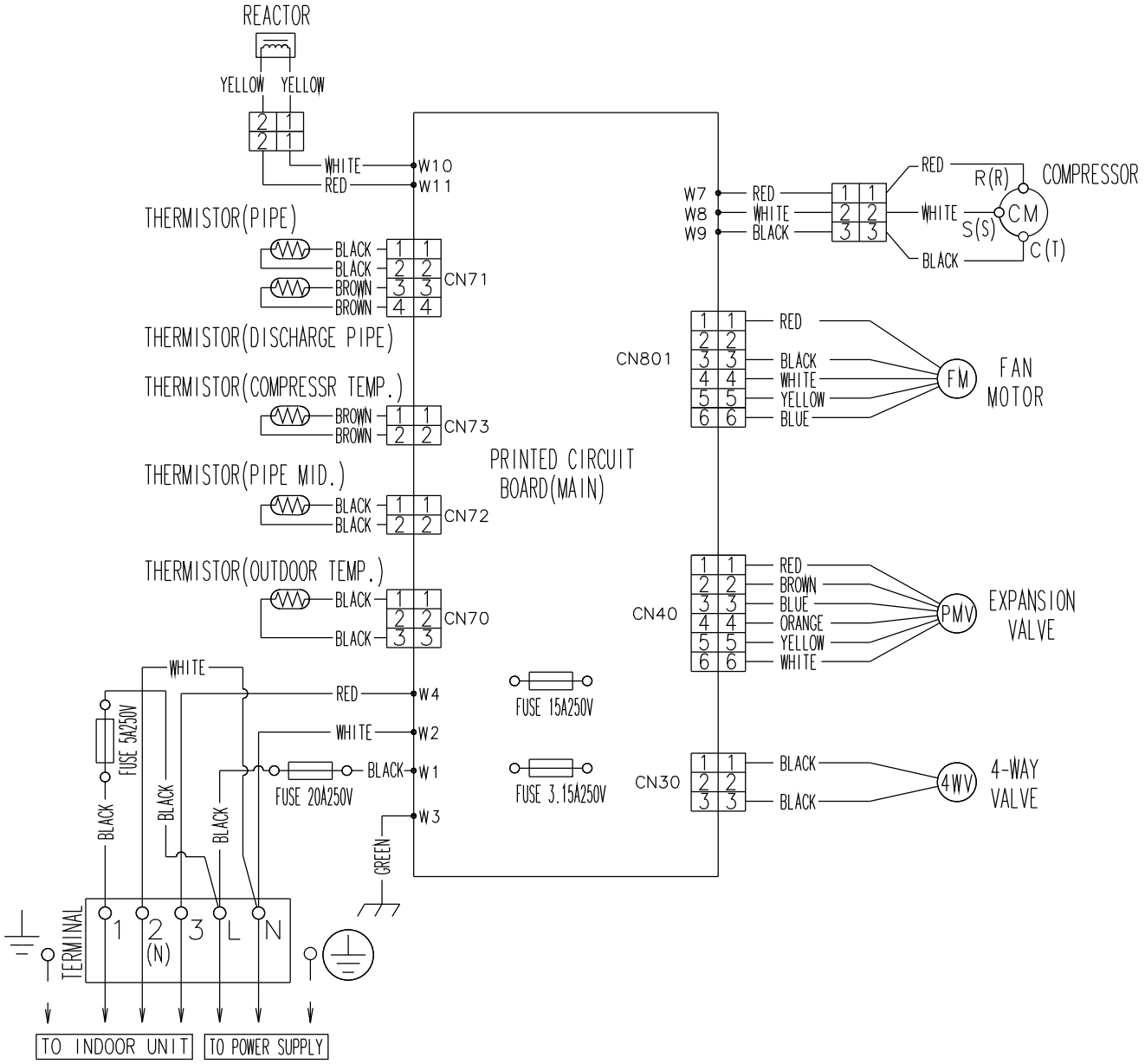
4. WIRING DIAGRAMS

■ MODEL: AO∗G12LALL, AO∗G14LALL, AO∗G18LALL



OUTDOOR UNIT
AO∗G12-24LAL

■MODEL: AO*G24LALA



OUTDOOR UNIT
AO*G12-24LAL

5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

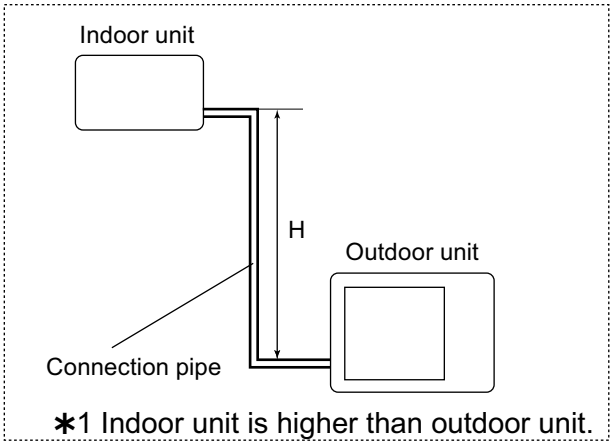
This table is created using the maximum capacity.

■ MODEL: AO∗G12LALL

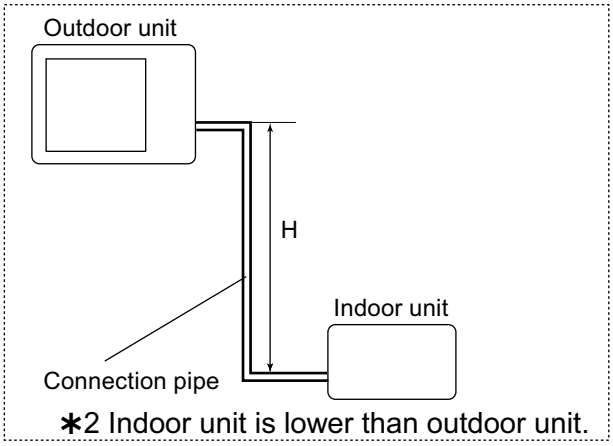
COOLING			Pipe length (m)					
			5	7.5	10	15	20	25
Height difference H (m)	∗1 Indoor unit is higher than outdoor unit.	15	-	-	-	0.903	0.894	0.867
		10	-	-	0.964	0.918	0.909	0.881
		7.5	-	0.988	0.968	0.922	0.912	0.885
		5	0.992	0.992	0.972	0.925	0.916	0.888
		0	1.000	1.000	0.980	0.933	0.923	0.895
	∗2 Indoor unit is lower than outdoor unit.	-5	1.000	1.000	0.980	0.933	0.923	0.895
		-7.5	-	1.000	0.980	0.933	0.923	0.895
		-10	-	-	0.980	0.933	0.923	0.895
		-15	-	-	-	0.933	0.923	0.895

HEATING			Pipe length (m)					
			5	7.5	10	15	20	25
Height difference H (m)	∗1 Indoor unit is higher than outdoor unit.	15	-	-	-	0.943	0.916	0.896
		10	-	-	1.010	0.943	0.916	0.896
		7.5	-	1.000	1.010	0.943	0.916	0.896
		5	1.000	1.000	1.010	0.943	0.916	0.896
		0	1.000	1.000	1.010	0.943	0.916	0.896
	∗2 Indoor unit is lower than outdoor unit.	-5	0.995	0.995	1.005	0.939	0.912	0.892
		-7.5	-	0.993	1.002	0.936	0.909	0.890
		-10	-	-	0.999	0.934	0.907	0.887
		-15	-	-	-	0.925	0.898	0.878

Height difference H



∗1 Indoor unit is higher than outdoor unit.



∗2 Indoor unit is lower than outdoor unit.

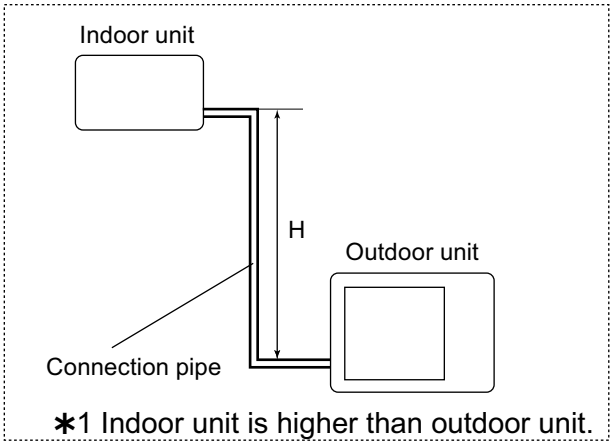
This table is created using the maximum capacity.

■MODEL: AO∗G14LALL

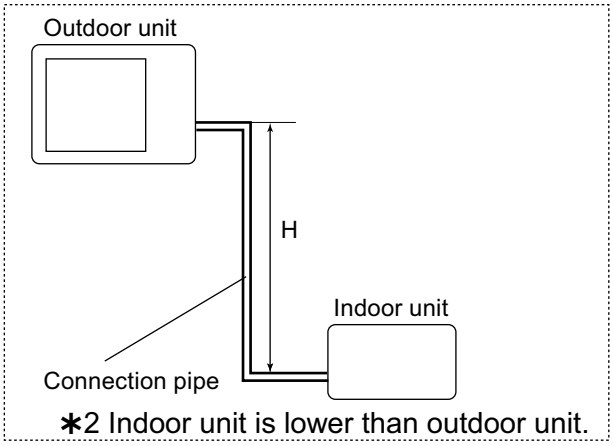
COOLING			Pipe length (m)					
			5	7.5	10	15	20	25
Height difference H (m)	∗1 Indoor unit is higher than outdoor unit.	15	-	-	-	0.953	0.950	0.947
		10	-	-	0.983	0.968	0.966	0.962
		7.5	-	0.988	0.987	0.972	0.970	0.966
		5	0.992	0.992	0.991	0.976	0.974	0.970
		0	1.000	1.000	0.999	0.984	0.982	0.978
	∗2 Indoor unit is lower than outdoor unit.	-5	1.000	1.000	0.999	0.984	0.982	0.978
		-7.5	-	1.000	0.999	0.984	0.982	0.978
		-10	-	-	0.999	0.984	0.982	0.978
		-15	-	-	-	0.984	0.982	0.978

HEATING			Pipe length (m)					
			5	7.5	10	15	20	25
Height difference H (m)	∗1 Indoor unit is higher than outdoor unit.	15	-	-	-	0.918	0.891	0.862
		10	-	-	0.981	0.918	0.891	0.862
		7.5	-	1.000	0.981	0.918	0.891	0.862
		5	1.000	1.000	0.981	0.918	0.891	0.862
		0	1.000	1.000	0.981	0.918	0.891	0.862
	∗2 Indoor unit is lower than outdoor unit.	-5	0.995	0.995	0.976	0.914	0.886	0.858
		-7.5	-	0.993	0.974	0.912	0.884	0.856
		-10	-	-	0.972	0.909	0.882	0.854
		-15	-	-	-	0.900	0.873	0.845

Height difference H



∗1 Indoor unit is higher than outdoor unit.



∗2 Indoor unit is lower than outdoor unit.

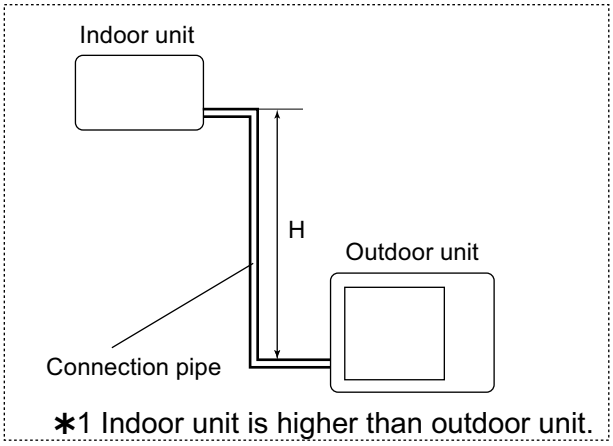
This table is created using the maximum capacity.

■MODEL: AO∗G18LALL

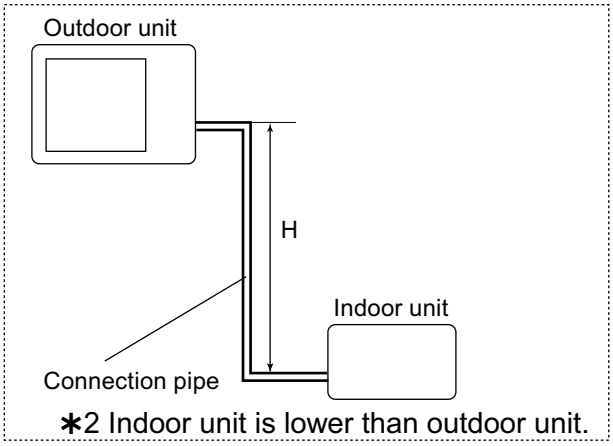
COOLING			Pipe length (m)					
			5	7.5	10	15	20	25
Height difference H (m)	∗1 Indoor unit is higher than outdoor unit.	15	-	-	-	0.953	0.950	0.947
		10	-	-	0.983	0.968	0.966	0.962
		7.5	-	0.988	0.987	0.972	0.970	0.966
		5	0.992	0.992	0.991	0.976	0.974	0.970
		0	1.000	1.000	0.999	0.984	0.982	0.978
	∗2 Indoor unit is lower than outdoor unit.	-5	1.000	1.000	0.999	0.984	0.982	0.978
		-7.5	-	1.000	0.999	0.984	0.982	0.978
		-10	-	-	0.999	0.984	0.982	0.978
		-15	-	-	-	0.984	0.982	0.978

HEATING			Pipe length (m)					
			5	7.5	10	15	20	25
Height difference H (m)	∗1 Indoor unit is higher than outdoor unit.	15	-	-	-	0.920	0.894	0.867
		10	-	-	0.982	0.920	0.894	0.867
		7.5	-	1.000	0.982	0.920	0.894	0.867
		5	1.000	1.000	0.982	0.920	0.894	0.867
		0	1.000	1.000	0.982	0.920	0.894	0.867
	∗2 Indoor unit is lower than outdoor unit.	-5	0.995	0.995	0.977	0.916	0.889	0.862
		-7.5	-	0.993	0.975	0.913	0.887	0.860
		-10	-	-	0.972	0.911	0.885	0.858
		-15	-	-	-	0.902	0.876	0.849

Height difference H



∗1 Indoor unit is higher than outdoor unit.



∗2 Indoor unit is lower than outdoor unit.

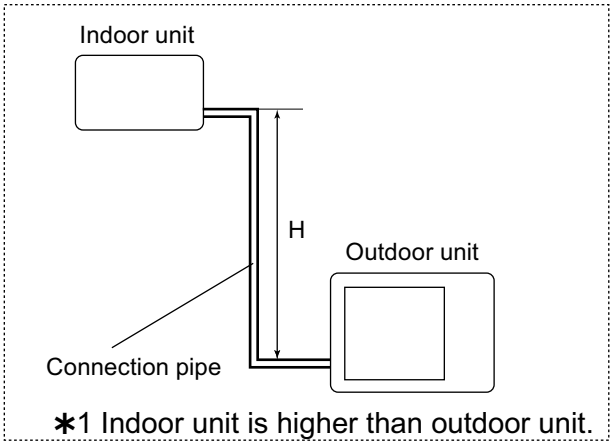
This table is created using the maximum capacity.

■MODEL: AO∗G24LALA

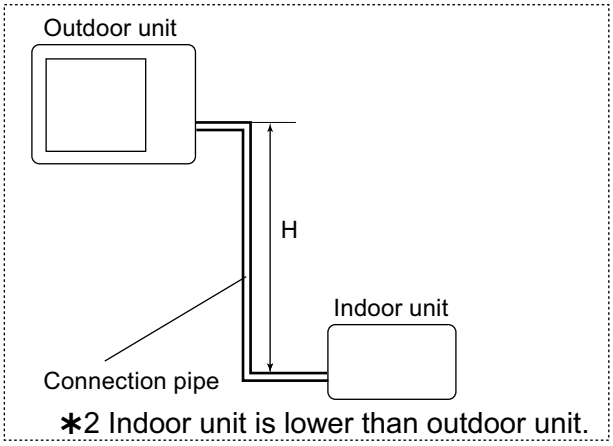
COOLING			Pipe length (m)						
			5	7.5	10	15	20	25	30
Height difference H (m)	∗1 Indoor unit is higher than outdoor unit.	20	-	-	-	-	0.963	0.961	0.959
		10	-	-	0.984	0.981	0.979	0.977	0.975
		7.5	-	0.988	0.988	0.985	0.983	0.981	0.979
		5	0.992	0.992	0.992	0.989	0.987	0.985	0.983
		0	1.000	1.000	1.000	0.997	0.995	0.993	0.991
	∗2 Indoor unit is lower than outdoor unit.	-5	1.000	1.000	1.000	0.997	0.995	0.993	0.991
		-7.5	-	1.000	1.000	0.997	0.995	0.993	0.991
		-10	-	-	1.000	0.997	0.995	0.993	0.991
		-20	-	-	-	-	0.995	0.993	0.991

HEATING			Pipe length (m)						
			5	7.5	10	15	20	25	30
Height difference H (m)	∗1 Indoor unit is higher than outdoor unit.	20	-	-	-	-	0.927	0.893	0.863
		10	-	-	0.992	0.952	0.927	0.893	0.863
		7.5	-	1.000	0.992	0.952	0.927	0.893	0.863
		5	1.000	1.000	0.992	0.952	0.927	0.893	0.863
		0	1.000	1.000	0.992	0.952	0.927	0.893	0.863
	∗2 Indoor unit is lower than outdoor unit.	-5	0.995	0.995	0.987	0.947	0.922	0.888	0.859
		-7.5	-	0.993	0.984	0.945	0.920	0.886	0.857
		-10	-	-	0.982	0.943	0.917	0.884	0.855
		-20	-	-	-	-	0.908	0.875	0.846

Height difference H



∗1 Indoor unit is higher than outdoor unit.



∗2 Indoor unit is lower than outdoor unit.

6. ADDITIONAL CHARGE CALCULATION

■ MODEL: AO∗G12LALL

Refrigerant type		R410A
Refrigerant amount	g	1150

● Refrigerant charge

Total pipe length	m	15 or less	20	25 (MAX)	20g/m
Additional charge	g	0	100	200	

■ MODEL: AO∗G14LALL, AO∗G18LALL

Refrigerant type		R410A
Refrigerant amount	g	1250

● Refrigerant charge

Total pipe length	m	15 or less	20	25 (MAX)	20g/m
Additional charge	g	0	100	200	

■ MODEL: AO∗G24LALA

Refrigerant type		R410A
Refrigerant amount	g	1700

● Refrigerant charge

Total pipe length	m	15 or less	20	25	30 (MAX)	20g/m
Additional charge	g	0	100	200	300	

OUTDOOR UNIT
AO∗G12-24LAL

7. AIRFLOW

■ MODEL: AO∗G12LALL

● Cooling

Number of rotations (r.p.m.)	Airflow	
770	m^3/h	1780
	l/s	494
	CFM	1048

● Heating

Number of rotations (r.p.m.)	Airflow	
700	m^3/h	1630
	l/s	453
	CFM	959

■ MODEL: AO∗G14LALL

● Cooling

Number of rotations (r.p.m.)	Airflow	
820	m^3/h	1910
	l/s	531
	CFM	1124

● Heating

Number of rotations (r.p.m.)	Airflow	
750	m^3/h	1740
	l/s	483
	CFM	1024

OUTDOOR UNIT
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■ MODEL: AO∗G18LALL

● Cooling

Number of rotations (r.p.m.)	Airflow	
860	m^3/h	2000
	l/s	556
	CFM	1177

● Heating

Number of rotations (r.p.m.)	Airflow	
820	m^3/h	1910
	l/s	531
	CFM	1124

■ MODEL: AO∗G24LALA

● Cooling

Number of rotations (r.p.m.)	Airflow	
1050	m^3/h	2470
	l/s	686
	CFM	1454

● Heating

Number of rotations (r.p.m.)	Airflow	
1050	m^3/h	2470
	l/s	686
	CFM	1454

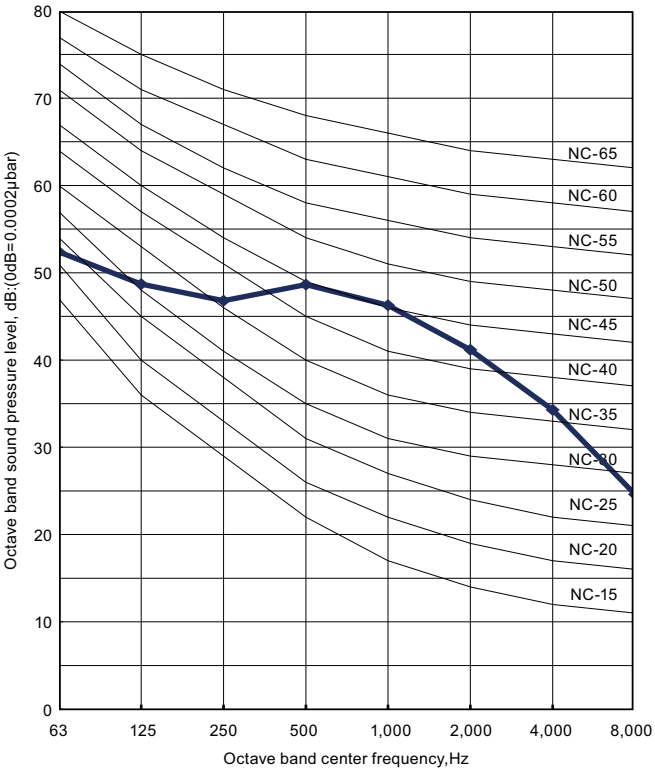
OUTDOOR UNIT
AO∗G12-24LAL

8. OPERATION NOISE (SOUND PRESSURE)

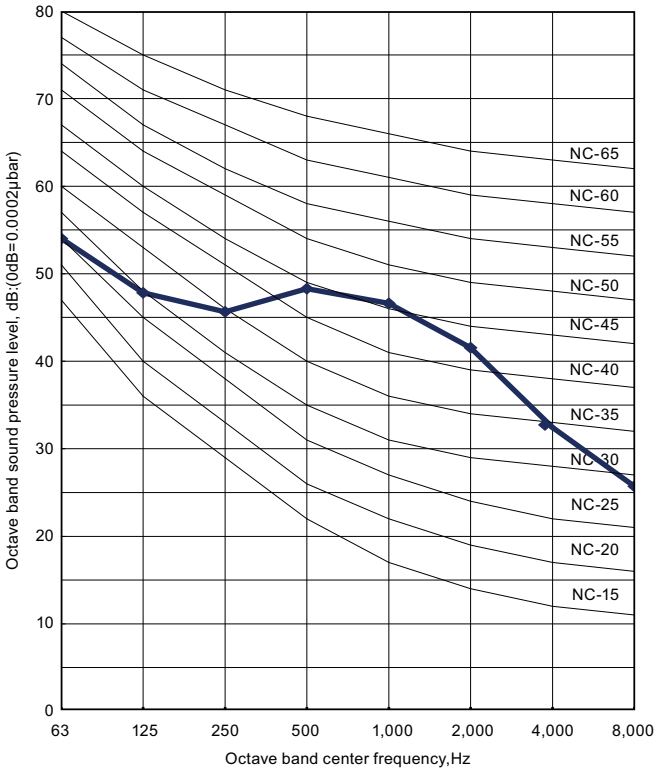
8-1. NOISE LEVEL CURVE

■ MODEL: AO∗G12LALL

● Cooling

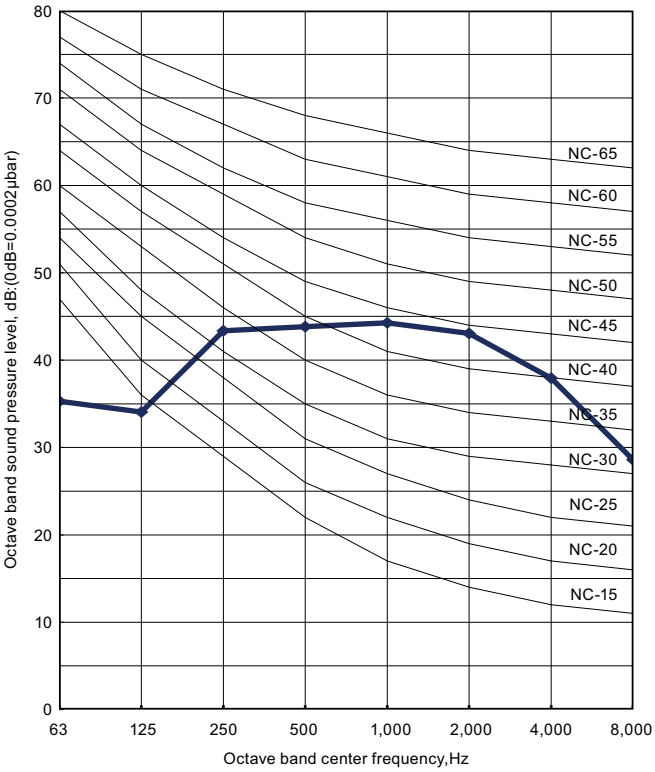


● Heating

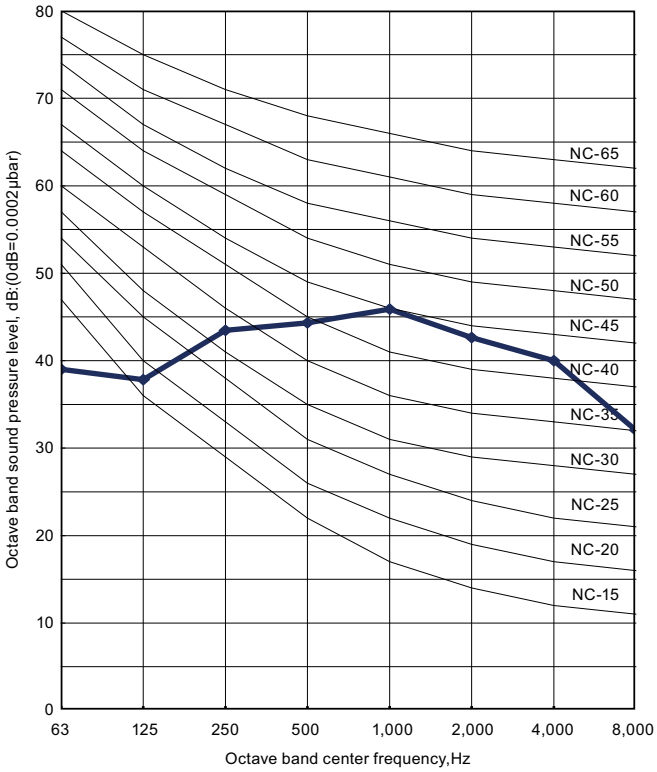


■ MODEL: AO∗G14LALL

● Cooling

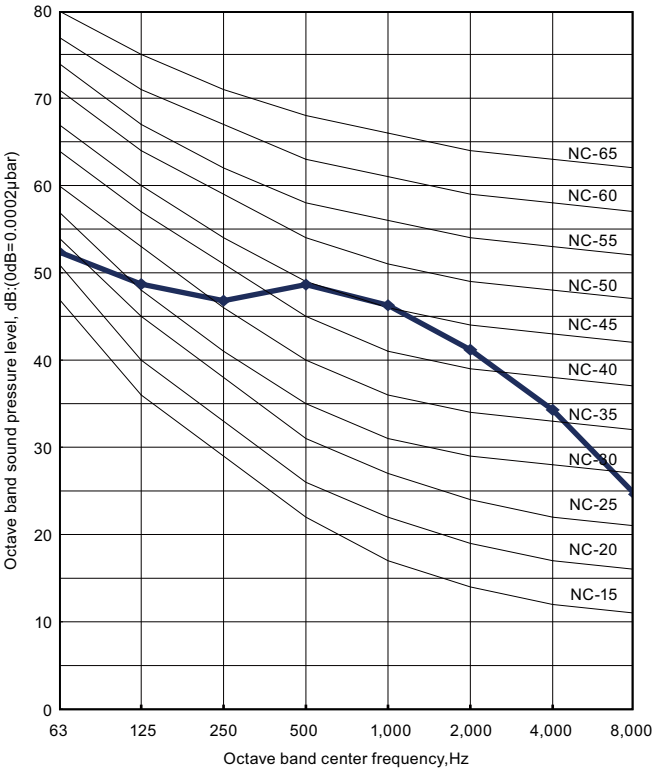


● Heating

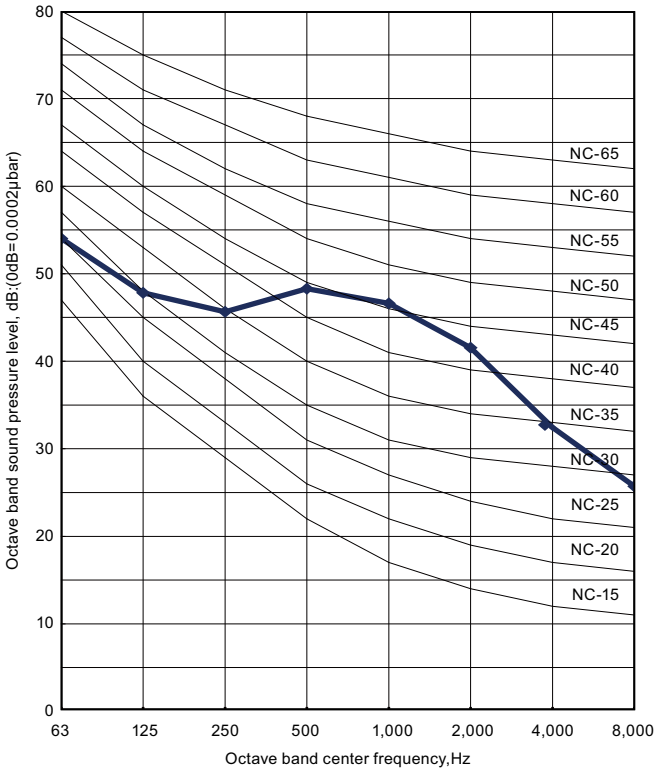


■MODEL: AO∗G18LALL

●Cooling

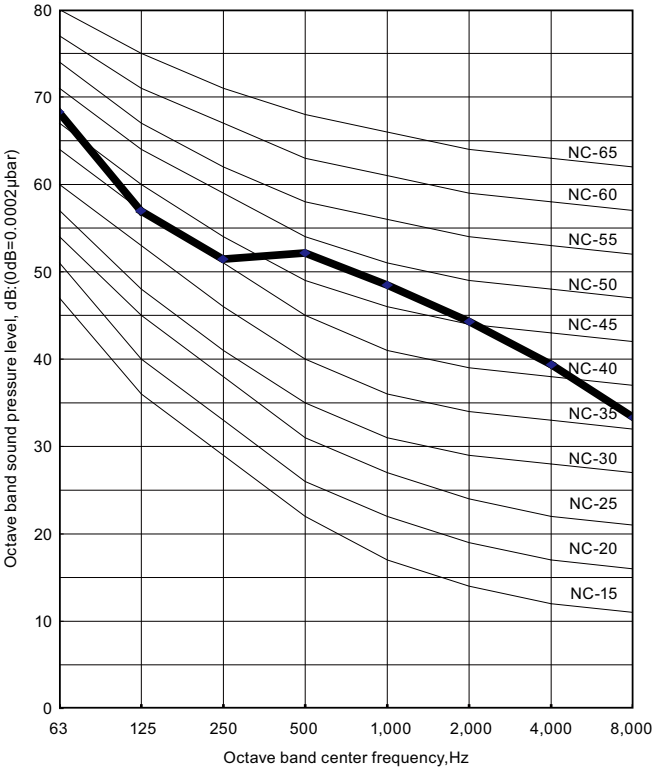


●Heating

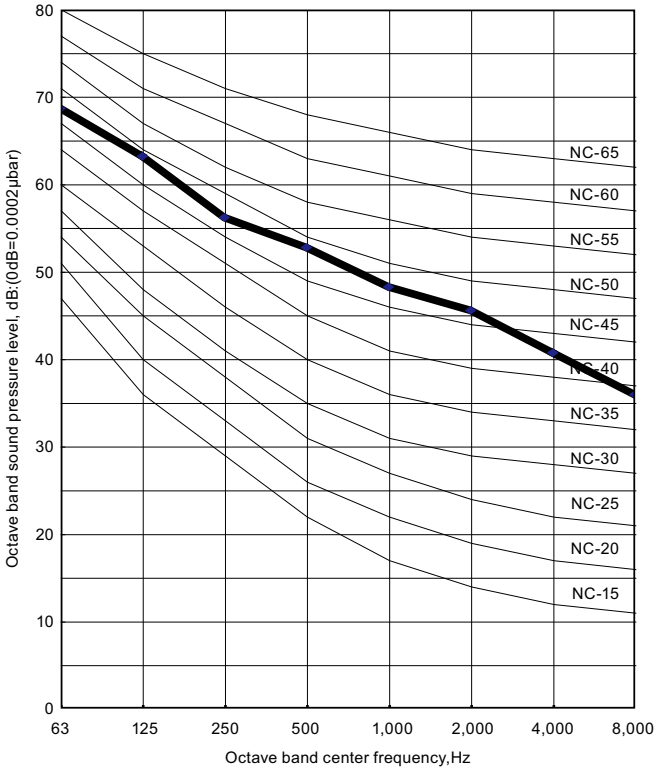


■MODEL: AO∗G24LALA

●Cooling

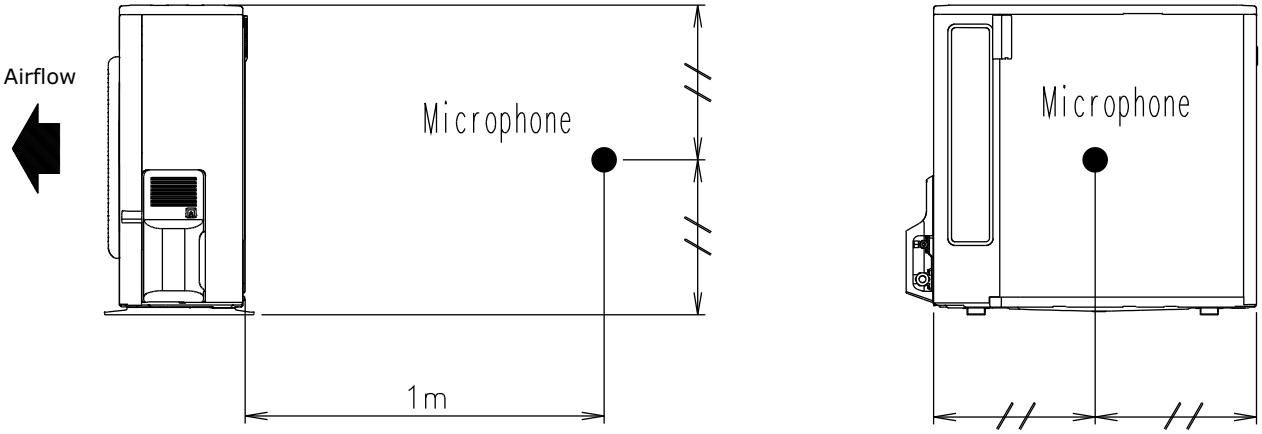


●Heating



OUTDOOR UNIT
AO∗G12-24LAL

8-2. SOUND LEVEL CHECK POINT



OUTDOOR UNIT
AO*G12-24LAL

9. ELECTRIC CHARACTERISTICS

Model name			AO∗G12LALL	AO∗G14LALL	AO∗G18LALL	AO∗G24LALA
Power supply	Voltage	V	230 ~			
	Frequency	Hz	50			
*1) Max operating current		A	10.0	12.5		13.5
Starting Current		A	5.1	6.1	7.4	9.9
*2) Wiring Spec.	Main Fuse (Circuit breaker) Current	A	25			
	Power Cable	mm^2	4.0			

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

*2) Wiring Spec.:

Selected Sample
(Selected based on Japan Electrotechnical Standards and Codes Committee E0005)

OUTDOOR UNIT
AO∗G12-24LAL

10. SAFETY DEVICES

	Protection form	Model			
		AO∗G12LALL	AO∗G14LALL	AO∗G18LALL	AO∗G24LALA
Circuit protection	Current fuse (Near the terminal)	250V 20A			
		250V 5A			
	Current fuse (Main printed circuit board)	250V 15A			
		250V 3.15A			
Fan motor protection	Thermal protection program	OFF : 100^{+15}_{-10}°C ON : 95^{+15}_{-10}°C			OFF : 110^{+15}_{-10}°C ON : 105^{+15}_{-10}°C
Compressor protection	Terminal protection program (Compressor temp.)	OFF : 110°C ON : After 40 minutes and 80°C or less			
	Thermal protection program (Discharge temp.)	OFF : 110°C ON : After 7 minutes			

OUTDOOR UNIT
AO∗G12-24LAL