

AIR CONDITIONER
Cassette type

DESIGN & TECHNICAL MANUAL

INDOOR



AU*G30LRLE
AU*G36LRLE

OUTDOOR



AO*G30LET
AO*G36LET

1. INDOOR UNIT

CASSETTE TYPE :

AU*G30LRLE

AU*G36LRLE

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1. INDOOR UNIT

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1. FEATURES

■ MODEL

AU*G30LRLE / AO*G30LETL

AU*G36LRLE / AO*G36LETL



■ FEATURES

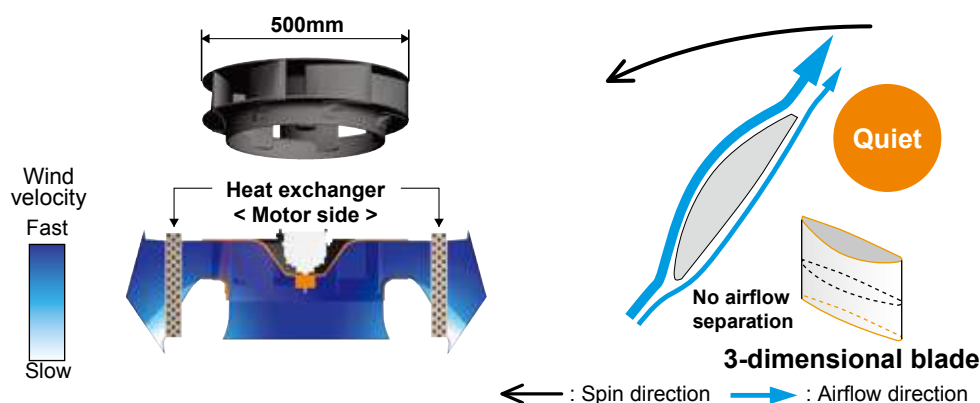
● Energy efficiency class

	MODEL	
	AU*G30LRLE	AU*G36LRLE
Cooling	A++	A++
Heating	A+	A+

● Advancement in comfort

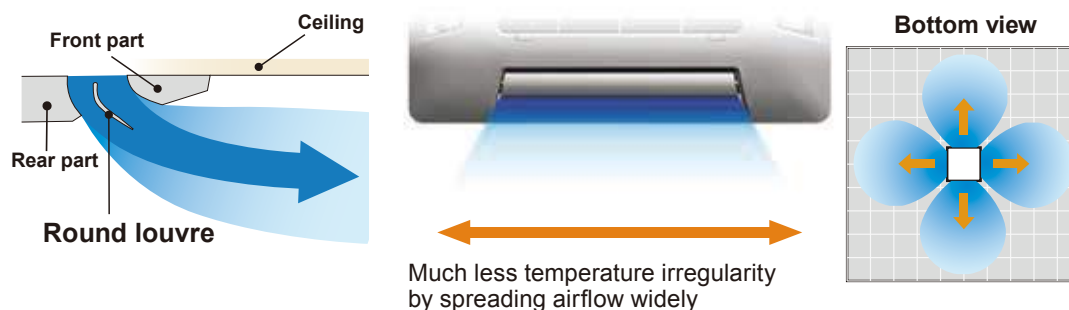
① Adoption of high efficiency turbo fan

High efficiency and quiet operation achieved by equaling the performance of the blade and air passing the heat exchanger.

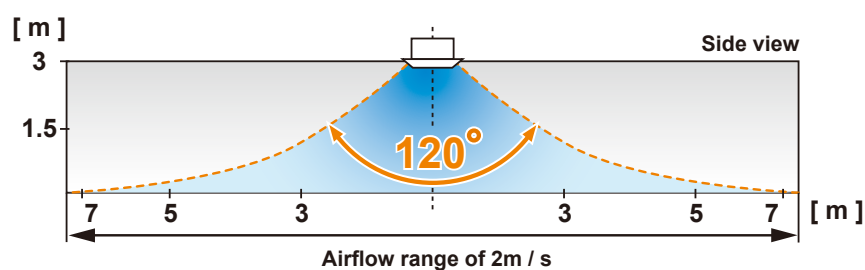


② Improvement of the airflow distribution

Making space between the ceiling, the air flows far and wide leaving the ceiling clean.



Wide & powerful airflow



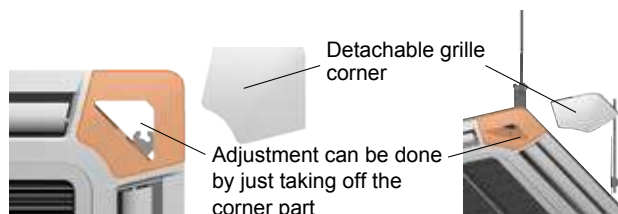
● Economy operation

The power consumption can be reduced.

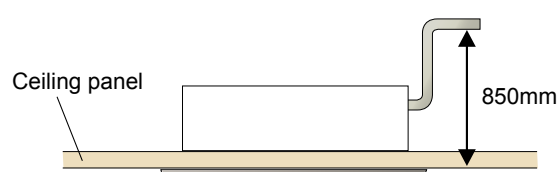
● Improvement of installation & maintenance

Adjustment of hanger position is possible after installation

Mounting position of body can be fine adjusted after mounting the cassette grille.

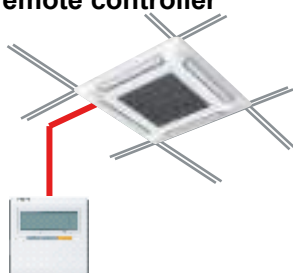


● High lift drain pump



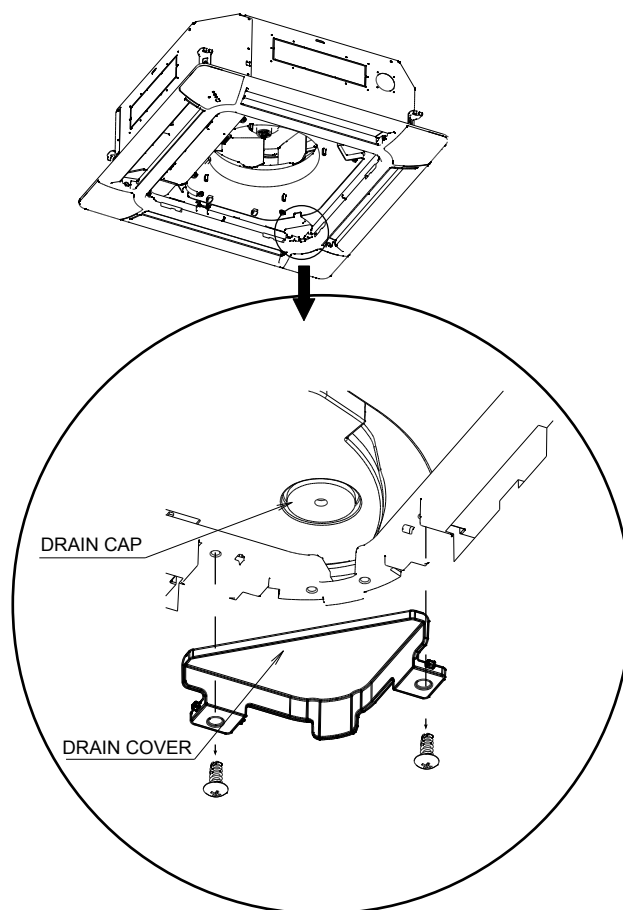
● Easy installation

Easy setting by wired remote controller



● Simplification of drain water check

Drain and contamination check are possible without removing the cassette grille.



Can be easily checked by removing the drain cover.

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



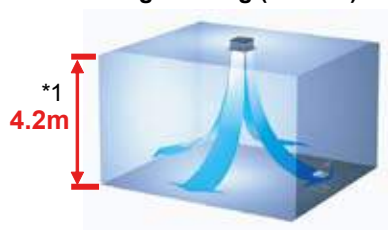
4-way direction mode: Set when there are 4 outlets (shipped state).

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

● Ceiling switching function

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

High ceiling (Mode 1)



*1 : AU*G30L is 3.6m

Standard ceiling (Standard)



Low ceiling (Mode 2)



Standard ...Operates at normal airflow.

Mode 1 ...Airflow becomes greater than normal.

Mode 2 ...Airflow becomes smaller than normal.

● Filter sign

The indoor unit displays signs to inform the user that it is time to clean the filter.

● Cooling room temperature correction

● Heating room temperature correction

● Auto restart

The unit will restart automatically when the current returns even when there is a power interruption during operation.

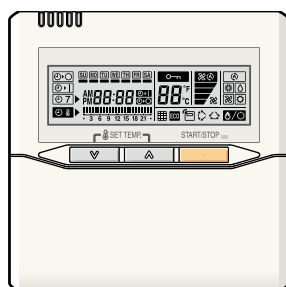
● Room temperature sensor switching

Switches from room temperature judgment by room temperature sensor attached to indoor unit body to room temperature judgment by room temperature sensor attached to the wired remote controller.

2. REMOTE CONTROLLER

WIRED REMOTE CONTROLLER

■ FEATURES



- * Various timer setup available (ON / OFF / WEEKLY).
- * Equipped with weekly timer as standard function. (Start/Stop function is twice per day for a week)
- * When setting up the timer, operation mode and temperature setup can be changed.
- * When a failure occurs, the error code is displayed.
- * Error history. (Last 16 error codes can be accessed.)
- * The room temperature can be controlled by detecting the temperature accurately with built-in thermo sensor.

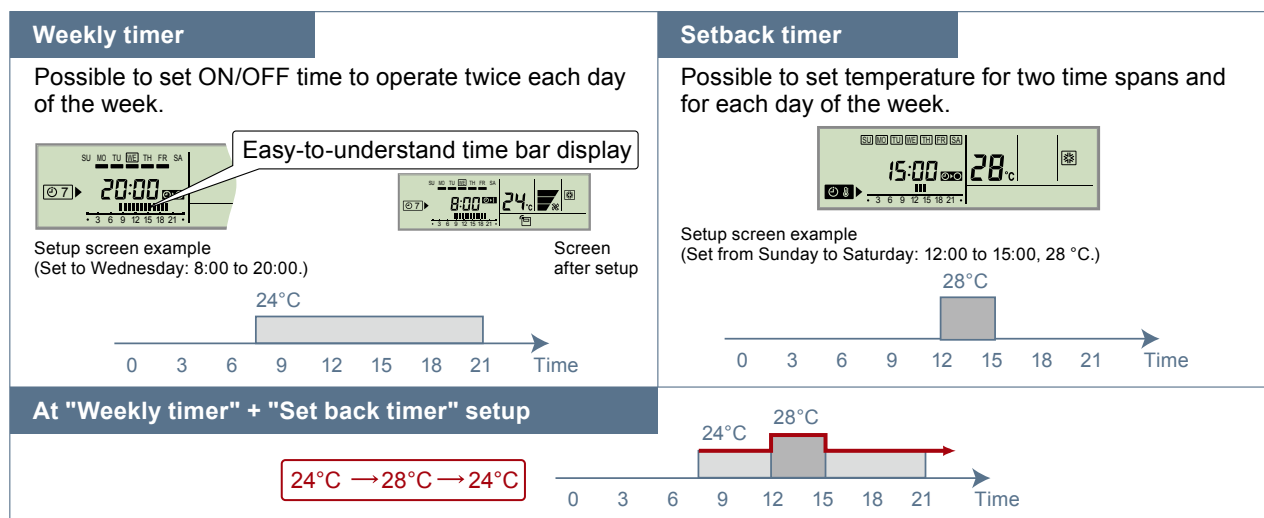
● Simple function setting

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

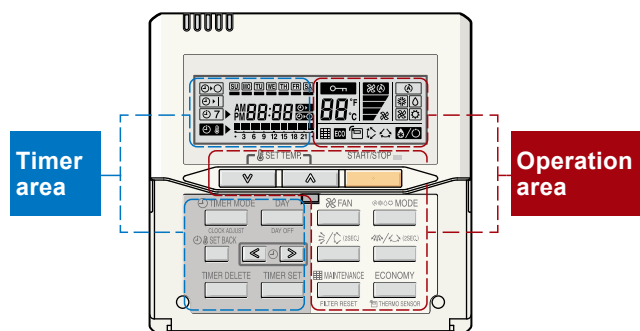
● High performance and compact size



● Built-in timers



● Easy-to-understand operation

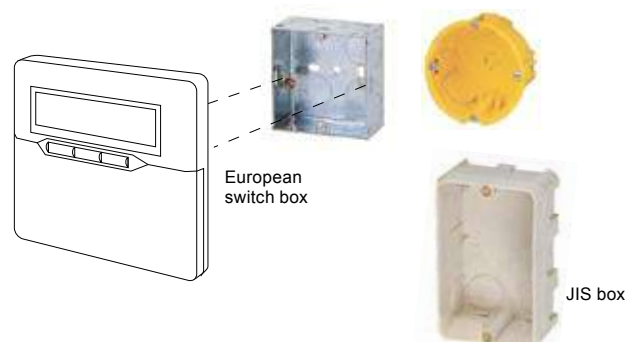


[Variable timer control]

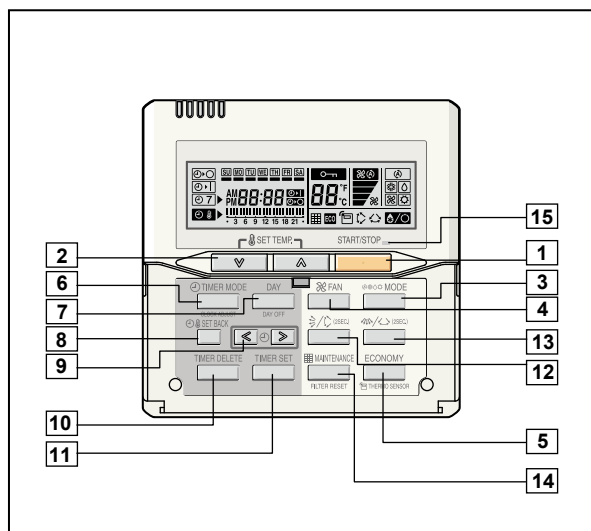
The operation/display sections are zoned according to time and operation, enabling variable programming to match application.

● Simple installation

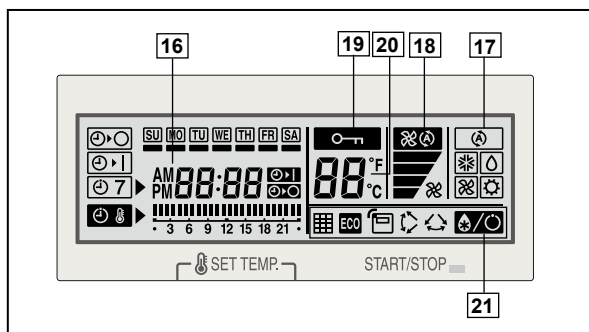
Components are compatible with standard switch boxes. Flat back surface allows equipment to be installed wherever it is needed.



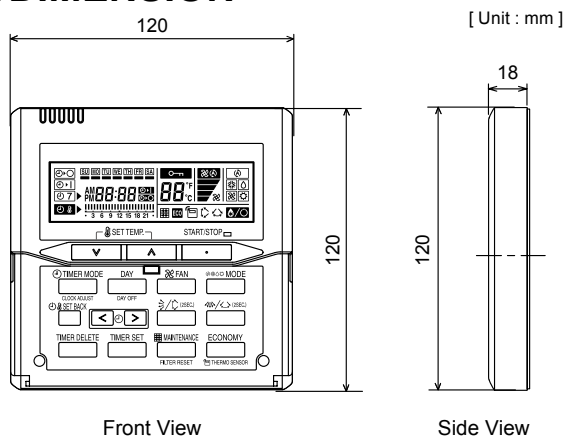
FUNCTIONS



Display panel



DIMENSION



SPECIFICATION

SIZE	(H × W × D mm)	120 × 120 × 18
WEIGHT	(g)	160
CABLE LENGTH	(m)	10
POWER	(V)	12

WIRING SPECIFICATIONS

Use	Cable size	Wire type	Remarks
Remote controller cable	0.33 mm ² (22 AWG)	Polar 3 core	Use sheathed PVC cable

- 1 START/STOP button**
Pressed to start and stop operation.
- 2 SET TEMP. button**
Selects the setting temperature.
- 3 MODE button**
Selects the operating mode (AUTO, HEAT, FAN, COOL, DRY).
- 4 FAN button**
Selects the fan speed (AUTO, QUIET, LOW, MED, HIGH).
- 5 ECONOMY (THERMO SENSOR) button**
Turns the economy efficient mode on and off.
- 6 TIMER MODE (CLOCK ADJUST) button**
Selects the timer mode (OFF TIMER, ON TIMER, WEEKLY TIMER). Sets the current time.
- 7 DAY (DAY OFF) button**
Temporarily cancels one day timer.
- 8 SET BACK button**
Pressed to select the set back timer.
- 9 Set time button**
Pressed to set time.
- 10 TIMER DELETE button**
Deletes the weekly timer schedule.
- 11 TIMER SET button**
Sets the date, hour, minute and on-off time.
- 12 Vertical airflow direction and swing button**
Push for two seconds to change the swing mode.
- 13 Horizontal airflow direction and swing button**
Push for two seconds to change the swing mode.
- 14 FILTER RESET button**
- 15 Operation lamp**
Lights during operation and when the timer is on.
- 16 Timer and clock display**
- 17 Operation mode display**
- 18 Fan speed display**
- 19 Operation lock display**
- 20 Temperature display**
- 21 Function display**
 - Defrost display
 - Thermo sensor display
 - Economy display
 - Vertical swing display
 - Horizontal swing display
 - Filter display

Note: Some button operations may not be available for all units or systems.
For details, please see operation manual.

3. SPECIFICATIONS

Type					CASSETTE MODEL		
					INVERTER HEATPUMP		
Model name					AU*G30LRLE	AU*G36LRLE	
Power source					230V~ 50Hz		
Available voltage range					198-264V~ 50Hz		
Capacity	Cooling	Rated		kW	8.50	10.00	
				Btu/h	29000	34100	
		Min.-Max.		kW	2.80 - 10.00	2.80 - 11.20	
				Btu/h	9500 - 34100	9500 - 38200	
	Heating	Rated		kW	10.00	11.20	
				Btu/h	34100	38200	
Min.-Max.		kW	2.70 - 11.20	2.70 - 12.70			
		Btu/h	9200 - 38200	9200 - 43300			
Input power	Cooling	Rated		kW	2.65	3.12	
					Max.	3.88	4.22
	Heating	Rated			2.77	3.02	
					Max.	3.88	4.56
Current	Cooling	Rated		A	11.6	13.7	
	Heating				12.2	13.3	
EER		Cooling	kW/kW		3.21	3.21	
COP		Heating			3.61	3.71	
Moisture removal				l/h (pints/h)	2.5(5.3)	3.5(7.4)	
Maximum operating current *			Cooling		A	17.0	
			Heating			17.0	20.0
Fan	Airflow rate	Cooling	High	m³/h	1600	1800	
			Med		1400	1400	
			Low		1270	1270	
			Quiet		1150	1150	
		Heating	High		1600	1800	
			Med		1400	1400	
			Low		1270	1270	
			Quiet		1150	1150	
	Type × Q'ty			Turbo Fan × 1			
	Motor output			W	80	80	
Sound pressure level		Cooling	High	dB(A)	40	43	
			Med		38	38	
			Low		36	36	
			Quiet		32	32	
		Heating	High		40	43	
			Med		38	38	
			Low		36	36	
			Quiet		32	32	
Heat exchanger type		Dimensions (H × W × D)		mm	252 × 2030 × 26.6 252 × 2093 × 26.6		
		Fin pitch			1.2		
		Rows x Stages		2 × 12			
		Pipe type		Copper			
		Fin type		Aluminium			
Dimensions (H×W×D)		Net		mm	288×840×840		
		Gross			360×960×985		
Weight		Net		kg	26		
		Gross			31		
Connection pipe		Size	Liquid	mm	Ø9.52 (3/8 in.)		
			Gas		Ø15.88 (5/8 in.)		
		Method			Flare		
Drain hose		Material			PVC		
		Size			VP25 [Ø25(I.D.), Ø32(O.D.)]		
Operation range		Cooling	°C		18 to 32		
			%RH		80 or less		
		Heating	°C		16 to 30		
Cassette grille		Model name			UTG-UG*A-W		
		Material			PS		
		Colour			WHITE Approximate colour of MUNSELL N 9.25 /		
		Dimensions (H × W × D)	Net	mm	50×950×950		
			Gross		115×1020×1000		
		Weight	Net	kg	5.5		
Gross	8.5						
Remote controller type					Wired [Wireless (option)]		

Note :

Specifications are based on the following conditions.

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

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

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

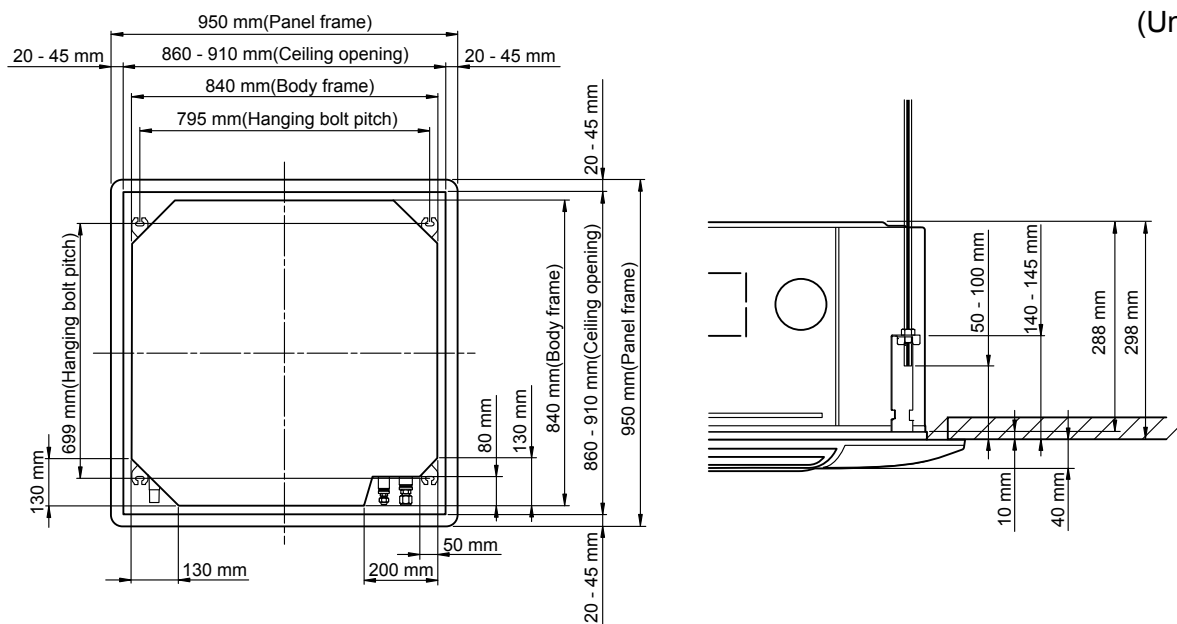
The maximum current and the maximum input value are maximum values when operated within the operation range.

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

Model name		AU*G30LRLE		AU*G36LRLE	
Energy efficiency class	Cooling	A++		A++	
	Heating (Average)	A+		A+	
Pdesign	Cooling	kW	8.5(35°C)		10.0(35°C)
	Heating (Average)		8.0(-10°C)		8.7(-10°C)
SEER	Cooling	kWh/kWh	6.50		6.30
SCOP	Heating (Average)		4.30		4.20
Annual energy consumption	QCE	kWh/a	458		555
	QHE (Average)		2604		2897
Sound power level	Cooling	High	dB (A)	54	
	Heating			57	

■ MODELS: AU*G30LRLE, AU*G36LRLE

(Unit : mm)

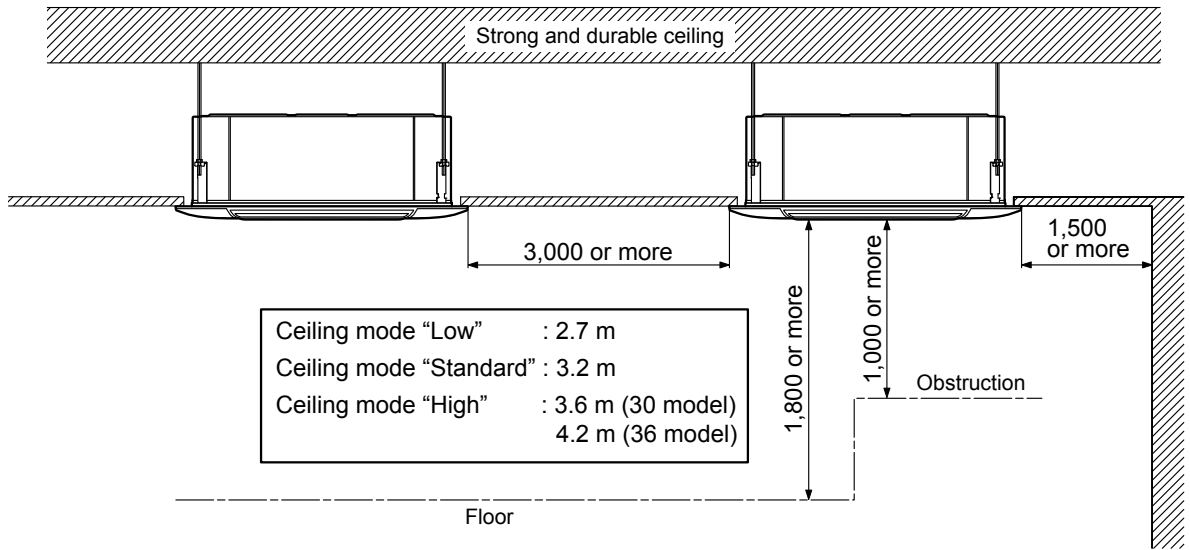


Technical drawing of the front view of the washing machine. Dimensions are indicated in millimeters (mm). The total width is 652 mm (358 mm + 278 mm + 60 mm). The total height is 180 mm. The height from the floor to the bottom of the door is 140 mm. The height from the floor to the top of the door is 200 mm. A drain pipe connection point is shown on the left side of the door, with a label: "Drain pipe (Connect the attached drain hose)".

- (01 - 08) -

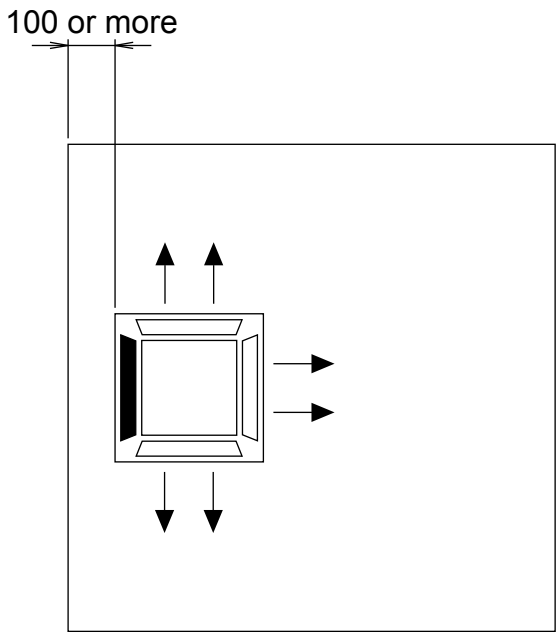
■ INSTALLATION PLACE

(Unit : mm)



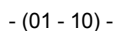
● 3-way directions setting

(Unit : mm)



To set "3-way directions", the air outlet shutter plate (UTR-YDZC) sold separately must be installed and "outlet-direction" switched to "3-way" by remote controller.

■ **MODELS: AU*G30LRLE, AU*G36LRLE**



6. CAPACITY TABLE

6-1. COOLING CAPACITY

This table is created using the maximum capacity.

■ MODEL: AU*G30LRLE

AFR	26.7
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		Indoor temperature																				
		18			21			23			25			27			29			32		
		°CDB			°CWB			12			15			16			18			19		
		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
	-15	8.67	6.58	1.20	9.66	6.62	1.22	9.99	7.20	1.22	10.65	7.22	1.24	10.98	7.80	1.24	11.64	7.77	1.25	12.29	8.27	1.27
	-10	8.52	6.38	1.64	9.49	6.42	1.66	9.81	6.98	1.67	10.46	7.00	1.69	10.79	7.56	1.70	11.43	7.53	1.71	12.08	8.02	1.73
	0	8.12	6.26	2.11	9.04	6.30	2.15	9.35	6.85	2.16	9.97	6.87	2.18	10.28	7.42	2.19	10.89	7.39	2.21	11.51	7.87	2.23
	5	7.99	6.11	2.14	8.90	6.14	2.17	9.21	6.68	2.19	9.81	6.70	2.21	10.12	7.23	2.22	10.72	7.21	2.24	11.33	7.68	2.26
	10	7.96	6.19	2.19	8.87	6.23	2.23	9.17	6.77	2.24	9.77	6.79	2.26	10.07	7.34	2.27	10.68	7.31	2.29	11.28	7.78	2.32
	15	8.63	6.48	2.41	9.62	6.52	2.45	9.94	7.09	2.46	10.60	7.11	2.49	10.93	7.68	2.50	11.58	7.65	2.53	12.24	8.14	2.55
	20	9.82	7.03	2.97	10.94	7.07	3.01	11.31	7.69	3.03	12.06	7.71	3.06	12.43	8.33	3.08	13.18	8.30	3.11	13.92	8.84	3.14
	25	9.48	6.89	3.31	10.56	6.93	3.36	10.92	7.53	3.38	11.64	7.56	3.41	12.00	8.16	3.43	12.72	8.13	3.46	13.44	8.66	3.50
	30	8.81	6.70	3.34	9.81	6.74	3.39	10.15	7.32	3.41	10.81	7.35	3.44	11.15	7.93	3.46	11.82	7.90	3.50	12.49	8.42	3.53
	35	7.90	6.12	3.35	8.80	6.16	3.40	9.10	6.69	3.42	9.70	6.71	3.45	10.00	7.25	3.47	10.60	7.22	3.51	11.20	7.69	3.54
	40	6.16	5.13	2.94	6.86	5.16	2.99	7.09	5.61	3.01	7.56	5.63	3.04	7.80	6.08	3.05	8.26	6.05	3.08	8.73	6.45	3.11
	46	5.44	4.92	2.91	6.06	4.95	2.96	6.27	5.39	2.97	6.68	5.40	3.00	6.89	5.83	3.02	7.30	5.81	3.05	7.71	6.19	3.08

■ MODEL: AU*G36LRLE

AFR	30.0
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		Indoor temperature																				
		18			21			23			25			27			29			32		
		°CDB			°CWB			12			15			16			18			19		
		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
	-15	9.33	7.37	1.29	10.39	7.41	1.31	10.74	8.06	1.32	11.45	8.08	1.33	11.80	8.73	1.34	12.51	8.70	1.35	13.22	9.26	1.36
	-10	9.22	7.23	1.69	10.27	7.27	1.71	10.62	7.90	1.72	11.32	7.93	1.74	11.67	8.56	1.75	12.37	8.53	1.77	13.07	9.08	1.78
	0	8.77	7.13	2.18	9.77	7.17	2.22	10.10	7.80	2.23	10.77	7.82	2.25	11.10	8.45	2.26	11.77	8.41	2.29	12.44	8.96	2.31
	5	8.69	6.98	2.25	9.68	7.02	2.28	10.01	7.64	2.29	10.67	7.66	2.32	11.00	8.27	2.33	11.66	8.24	2.35	12.32	8.78	2.38
	10	8.62	7.06	2.25	9.60	7.10	2.29	9.93	7.72	2.30	10.58	7.75	2.32	10.91	8.37	2.34	11.56	8.33	2.36	12.22	8.88	2.38
	15	9.17	7.17	2.42	10.21	7.22	2.46	10.56	7.85	2.47	11.25	7.87	2.50	11.60	8.50	2.51	12.30	8.47	2.54	13.00	9.02	2.56
	20	10.70	7.92	2.99	11.92	7.97	3.03	12.33	8.66	3.05	13.14	8.69	3.08	13.54	9.39	3.10	14.36	9.35	3.13	15.17	9.96	3.16
	25	10.64	8.02	3.32	11.86	8.06	3.38	12.26	8.77	3.39	13.07	8.79	3.43	13.47	9.50	3.45	14.28	9.46	3.48	15.09	10.08	3.51
	30	10.24	7.76	4.05	11.40	7.81	4.11	11.79	8.49	4.13	12.57	8.51	4.17	12.96	9.19	4.19	13.73	9.16	4.24	14.51	9.75	4.28
	35	8.85	6.78	4.03	9.86	6.82	4.10	10.19	7.42	4.12	10.86	7.44	4.16	11.20	8.04	4.18	11.87	8.01	4.22	12.54	8.53	4.26
	40	6.80	5.96	3.09	7.58	6.00	3.14	7.84	6.52	3.16	8.35	6.54	3.19	8.61	7.07	3.20	9.13	7.04	3.24	9.65	7.50	3.27
	46	6.11	5.84	2.96	6.81	5.87	3.01	7.04	6.39	3.02	7.50	6.41	3.05	7.74	6.92	3.07	8.20	6.89	3.10	8.67	7.34	3.13

AFR : Air Flow Rate (m³/min)
 TC : Total Capacity (kW)
 SHC : Sensible Heat Capacity (kW)
 IP : Input Power (kW)

6-2. HEATING CAPACITY

This table is created using the maximum capacity.

■ MODEL: AU*G30LRLE

AFR	26.7
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			Indoor temperature									
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-15	-16	8.34	3.37	8.14	3.44	7.94	3.51	7.75	3.58	7.55	3.65
	-10	-11	8.79	3.38	8.58	3.45	8.37	3.52	8.16	3.59	7.95	3.66
	-5	-7	9.55	3.41	9.32	3.48	9.09	3.55	8.86	3.62	8.64	3.69
	0	-2	10.12	3.37	9.88	3.44	9.64	3.51	9.40	3.58	9.16	3.65
	5	3	11.23	3.35	10.96	3.42	10.69	3.49	10.43	3.56	10.16	3.62
	7	6	11.76	3.33	11.48	3.40	11.20	3.47	10.92	3.54	10.64	3.61
	10	8	12.12	3.30	11.83	3.37	11.54	3.44	11.25	3.51	10.96	3.57
	15	10	10.86	2.52	10.60	2.57	10.34	2.62	10.09	2.67	9.83	2.71
	20	15	10.87	2.23	10.61	2.28	10.35	2.33	10.09	2.37	9.83	2.41
	24	18	11.31	2.25	11.04	2.30	10.78	2.34	10.51	2.39	10.24	2.43

■ MODEL: AU*G36LRLE

AFR	30.0
-----	------

			Indoor temperature									
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-15	-16	9.63	3.92	9.40	4.00	9.17	4.08	8.94	4.17	8.71	4.25
	-10	-11	9.70	3.96	9.47	4.04	9.24	4.13	9.01	4.21	8.77	4.29
	-5	-7	10.69	4.07	10.43	4.16	10.18	4.24	9.92	4.33	9.67	4.41
	0	-2	12.54	3.99	12.24	4.08	11.94	4.16	11.64	4.24	11.34	4.33
	5	3	13.18	3.81	12.87	3.89	12.55	3.97	12.24	4.05	11.92	4.13
	7	6	13.34	3.36	13.02	3.43	12.70	3.50	12.38	3.57	12.07	3.64
	10	8	13.74	3.19	13.42	3.26	13.09	3.33	12.76	3.39	12.43	3.46
	15	10	12.26	2.55	11.97	2.60	11.67	2.65	11.38	2.71	11.09	2.75
	20	15	12.28	2.26	11.99	2.31	11.69	2.36	11.40	2.40	11.11	2.44
	24	18	12.80	2.28	12.49	2.32	12.19	2.37	11.88	2.42	11.58	2.46

AFR : Air Flow Rate (m³/min)
TC : Total Capacity (kW)
IP : Input Power (kW)

7. FAN PERFORMANCE

7-1. AIR VELOCITY DISTRIBUTION

7-1-1. STANDARD MODE

■ MODEL: AU*G30LRLE

Note:

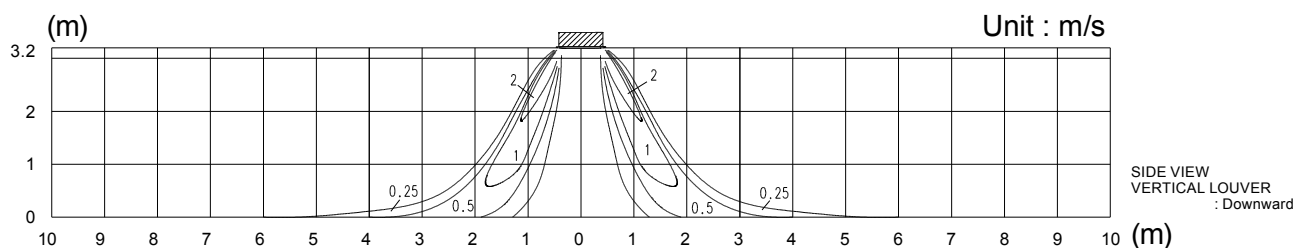
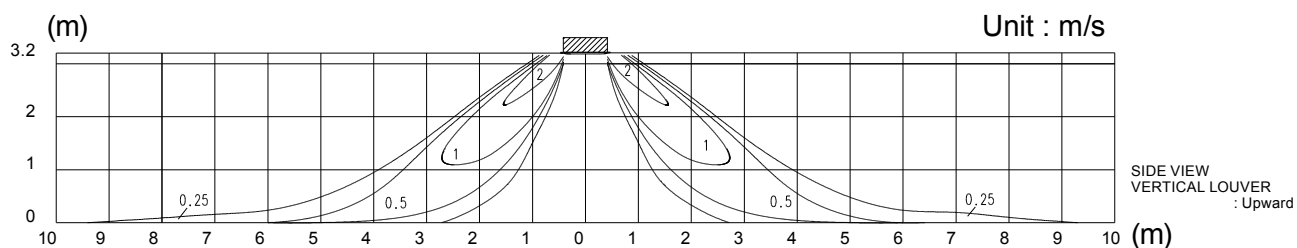
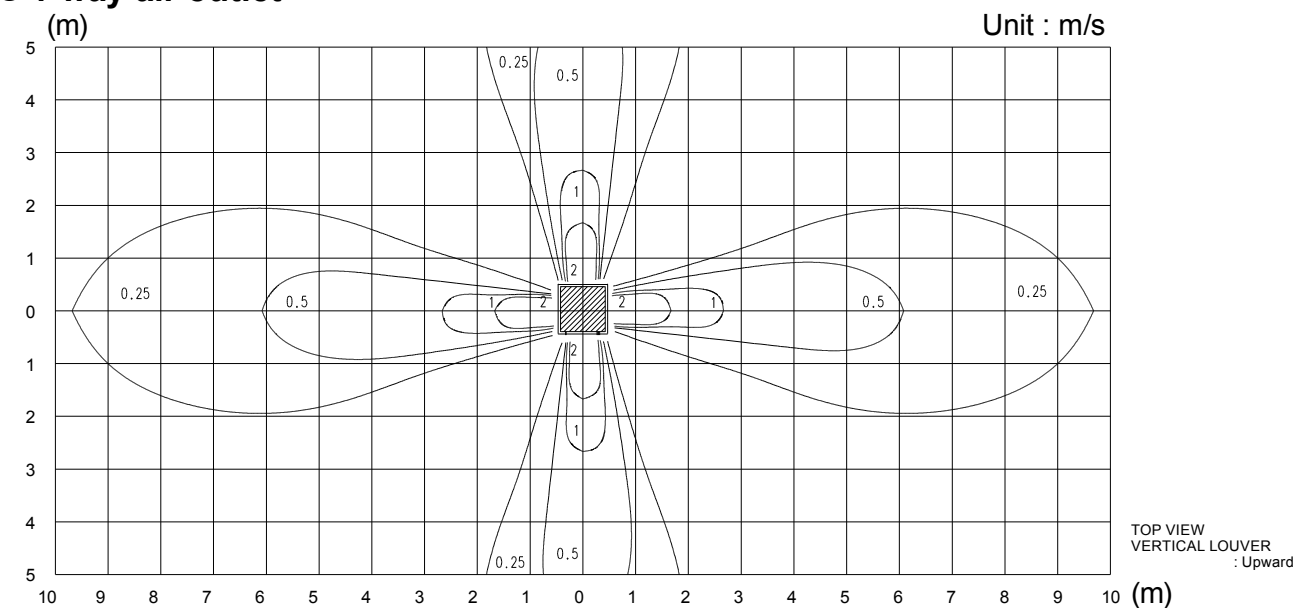
Condition

Fan speed : High

Operation mode : FAN

Ceiling mode : Standard

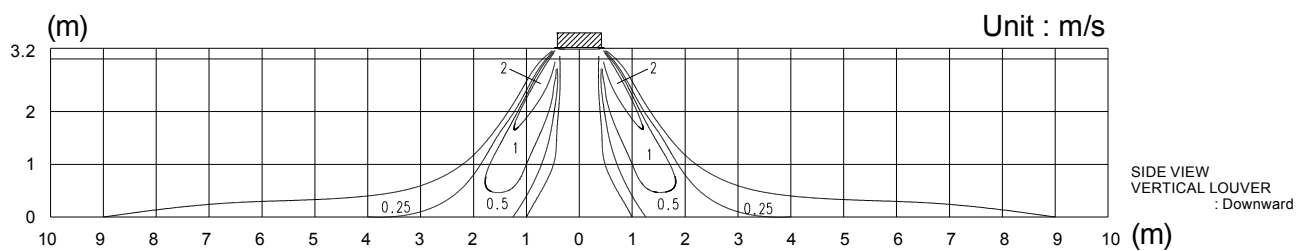
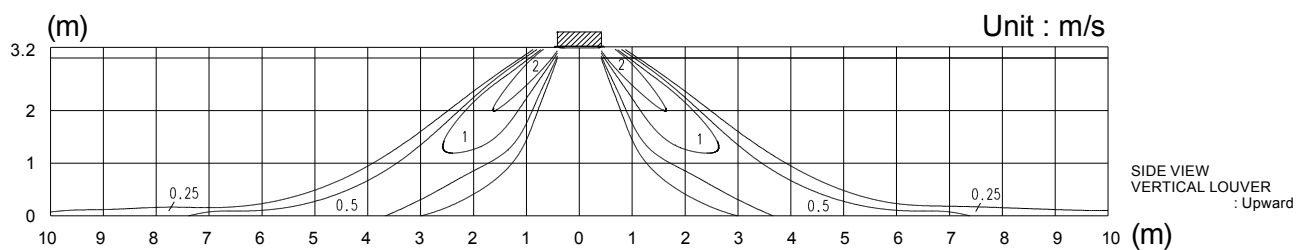
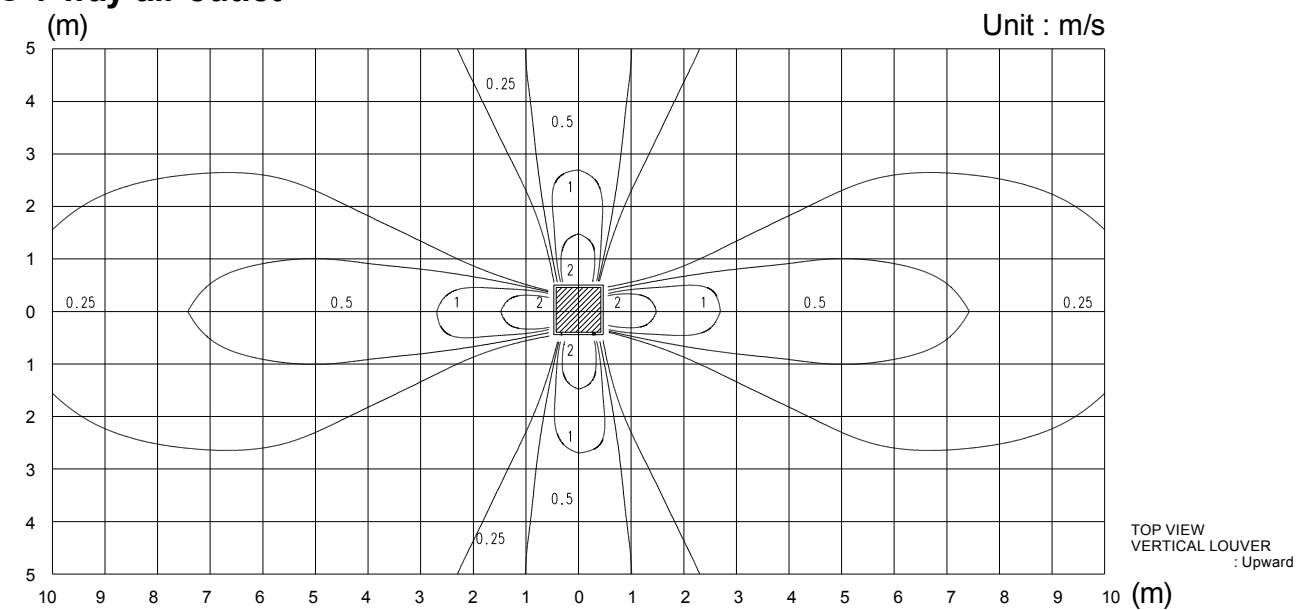
● 4-way air outlet



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

■ MODEL: AU*G36LRLE

● 4-way air outlet



Note:

Condition

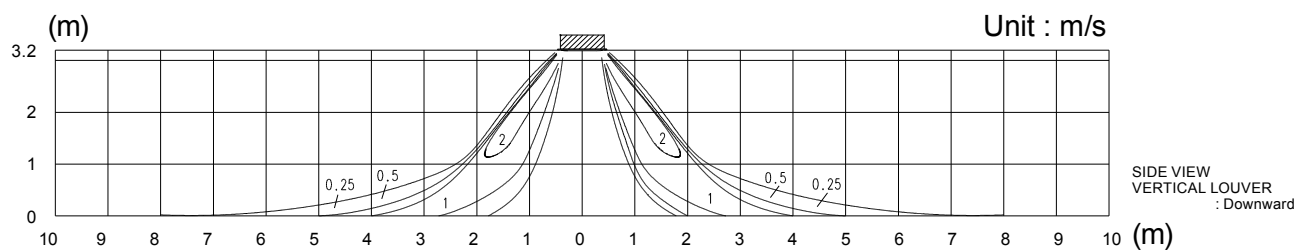
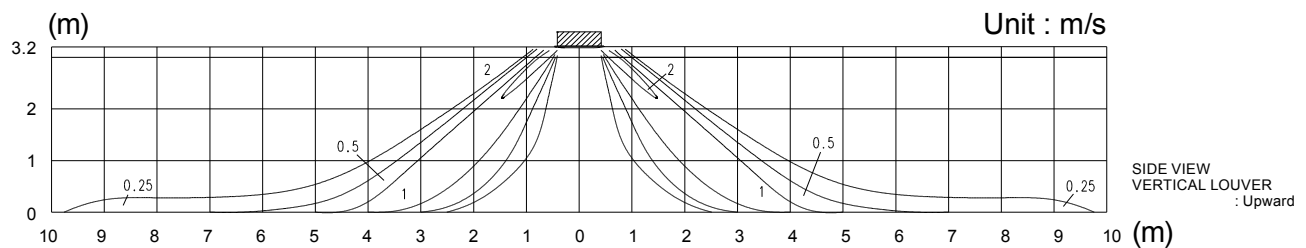
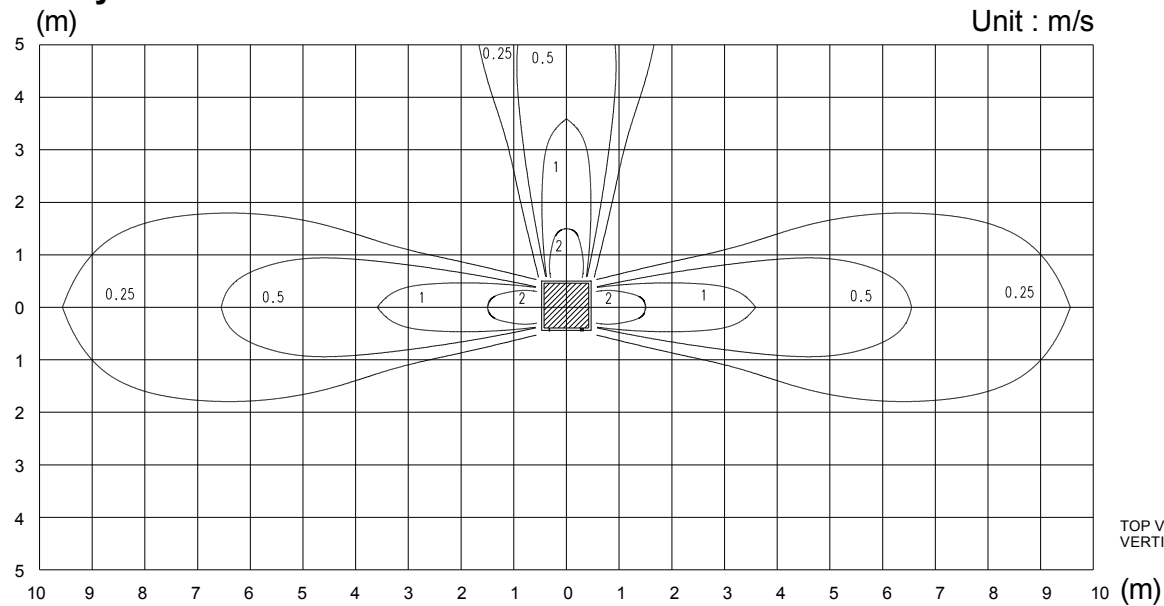
Fan speed : High

Operation mode : FAN

Ceiling mode : Standard

MODEL: AU*G30LRLE

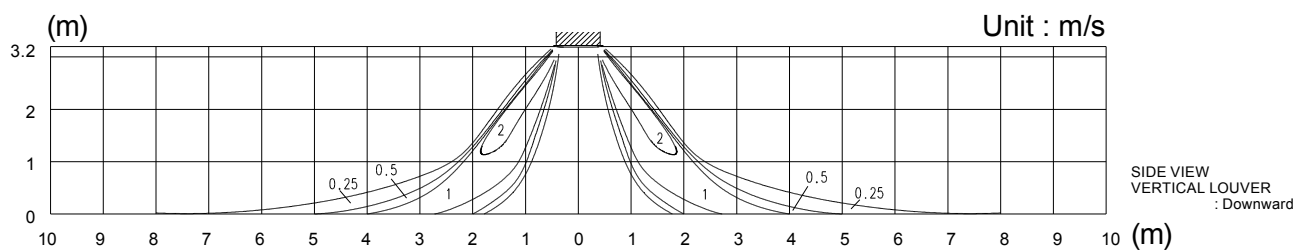
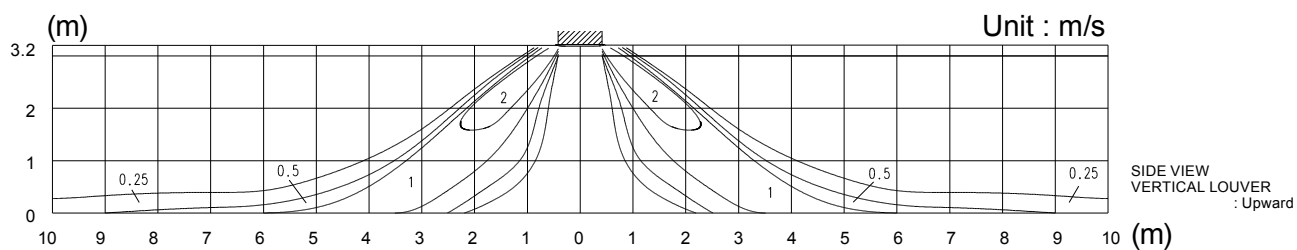
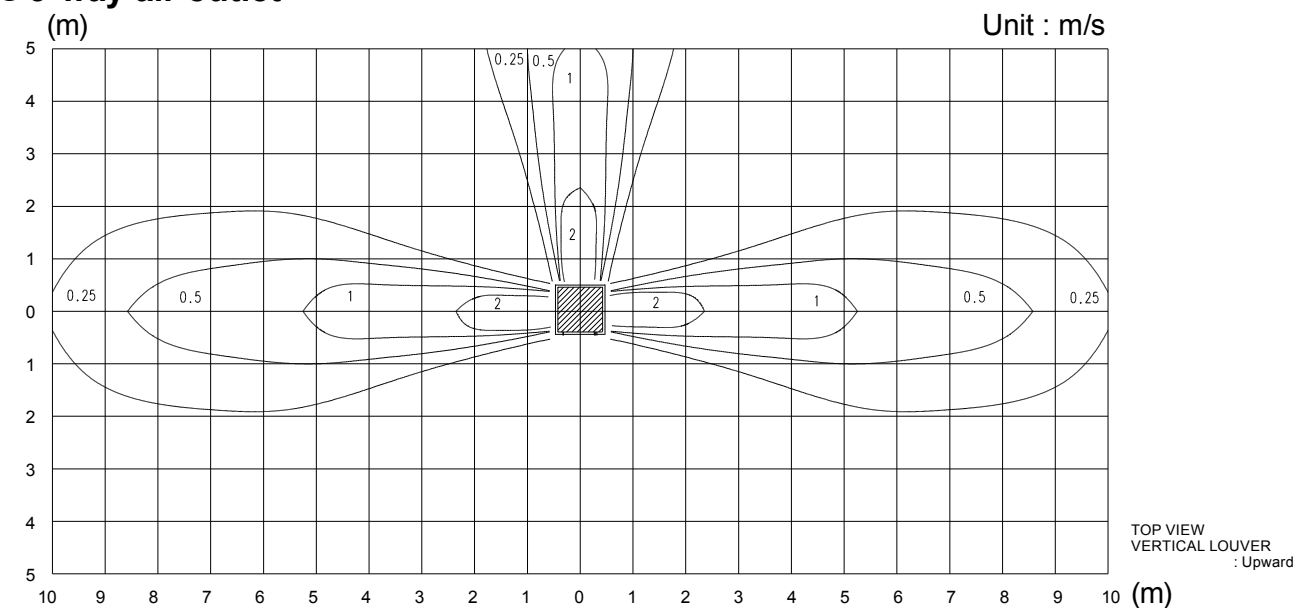
3-way air outlet



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

MODEL: AU*G36LRLE

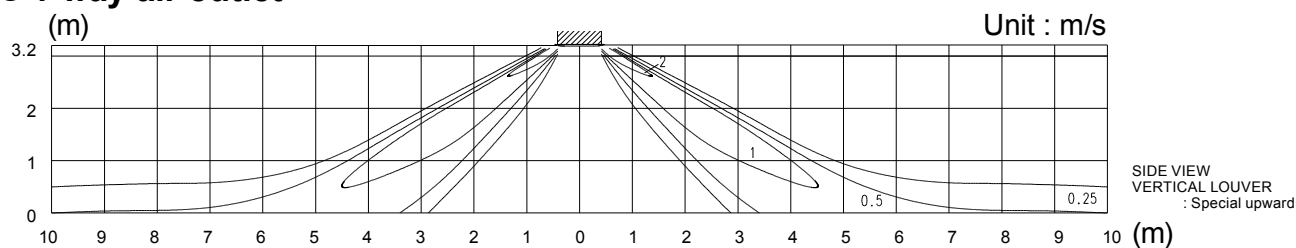
3-way air outlet



7-1-2. SPECIAL UPWARD MODE

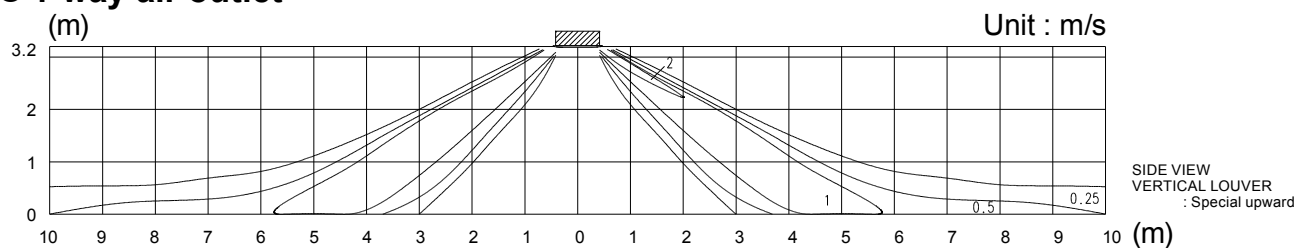
■ MODEL: AU*G30LRLE

● 4-way air outlet



■ MODEL: AU*G36LRLE

● 4-way air outlet



7-2. AIRFLOW

7-2-1. 4-WAY OUTLET

■ MODEL: AU*G30LRLE

● Cooling / Heating

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	570	m ³ /h	1600
		l/s	444
		CFM	942
MED	510	m ³ /h	1400
		l/s	389
		CFM	824
LOW	470	m ³ /h	1270
		l/s	353
		CFM	747
QUIET	420	m ³ /h	1150
		l/s	319
		CFM	677

■ MODEL: AU*G36LRLE

● Cooling / Heating

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	640	m ³ /h	1800
		l/s	500
		CFM	1059
MED	510	m ³ /h	1400
		l/s	389
		CFM	824
LOW	470	m ³ /h	1270
		l/s	353
		CFM	747
QUIET	420	m ³ /h	1150
		l/s	319
		CFM	677

7-2-2. 3-WAY OUTLET

■ MODEL: AU*G30LRLE

● Cooling / Heating

Fan speed	Number of rotations (r.p.m)	Airflow		
			*Max.	*Min.
HIGH	610	m ³ /h	1550	1350
		l/s	431	375
		CFM	912	794
MED	550	m ³ /h	1350	1200
		l/s	375	333
		CFM	794	706
LOW	510	m ³ /h	1250	1100
		l/s	347	306
		CFM	736	647
QUIET	460	m ³ /h	1100	950
		l/s	306	264
		CFM	647	559

■ MODEL: AU*G36LRLE

● Cooling / Heating

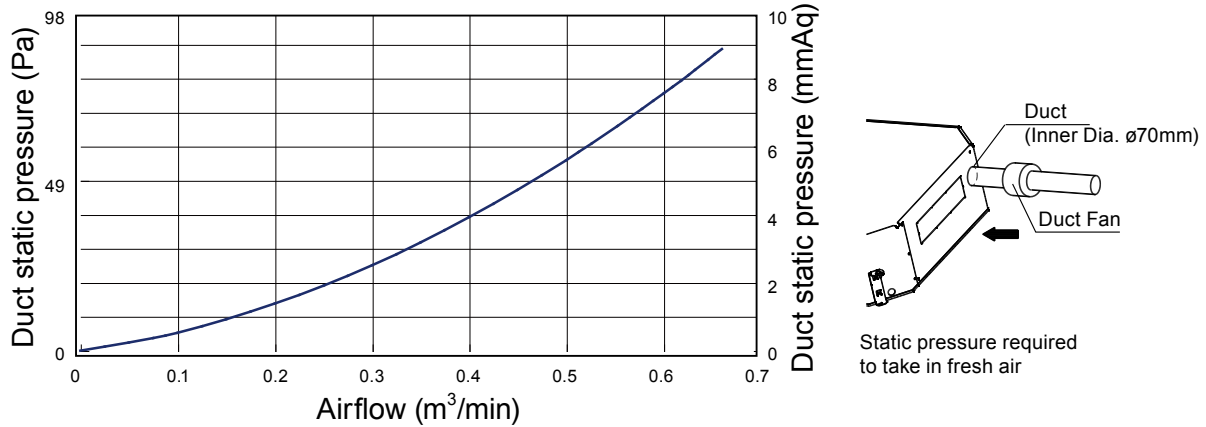
Fan speed	Number of rotations (r.p.m)	Airflow		
			*Max.	*Min.
HIGH	680	m ³ /h	1700	1550
		l/s	472	431
		CFM	1000	912
MED	550	m ³ /h	1350	1200
		l/s	375	333
		CFM	794	706
LOW	510	m ³ /h	1250	1100
		l/s	347	306
		CFM	736	647
QUIET	460	m ³ /h	1100	950
		l/s	306	264
		CFM	647	559

*Airflow can be changed according to the direction in which the outlet is blocked.

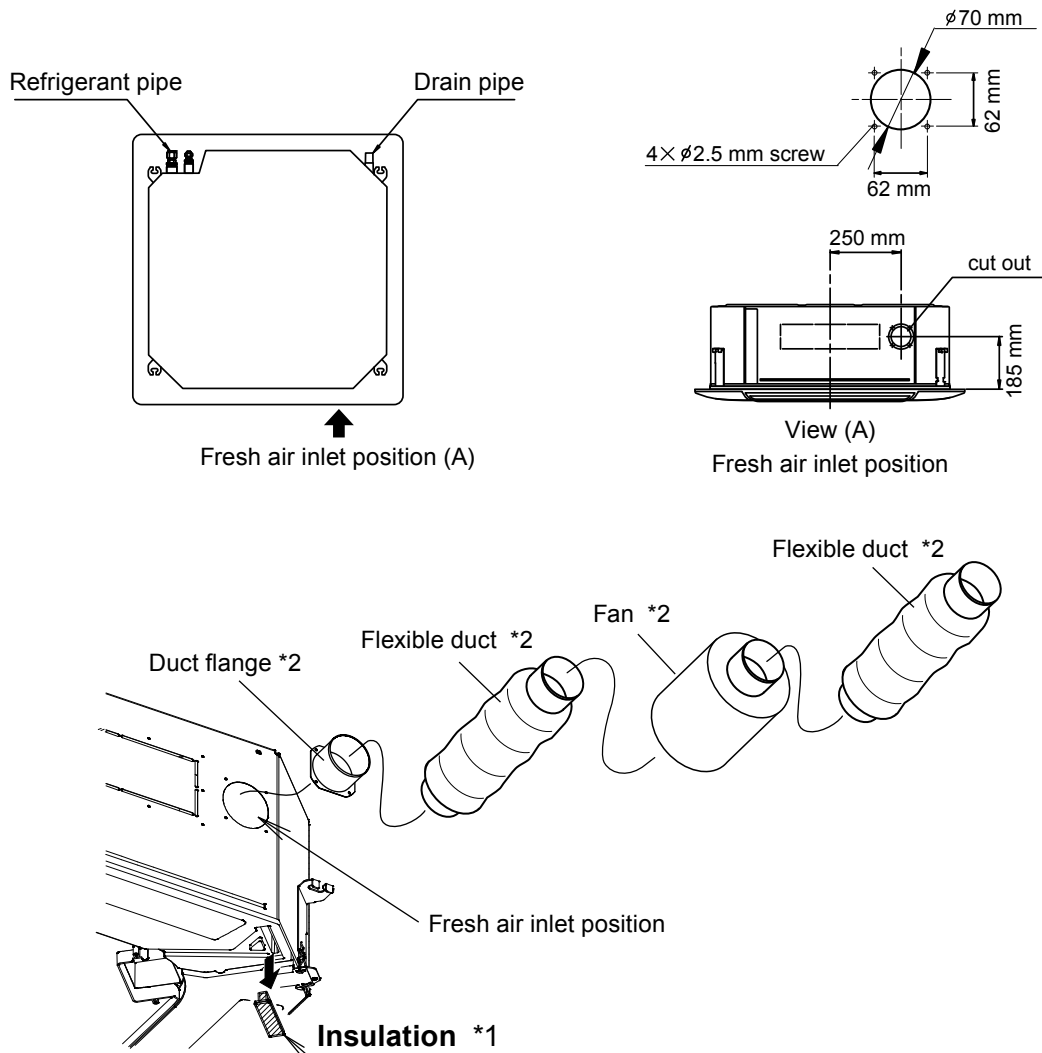
7-3. FRESH AIR

■ MODELS: AU*G30LRLE, AU*G36LRLE

● Airflow volume - Static pressure of Fresh air intake characteristic



● Installation



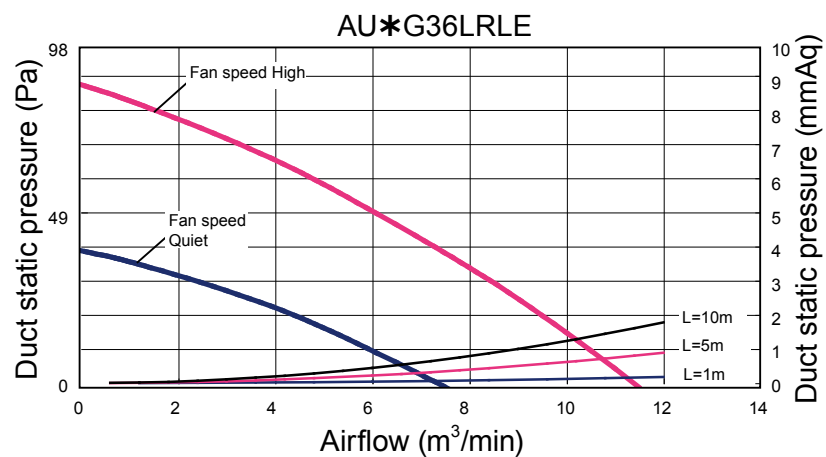
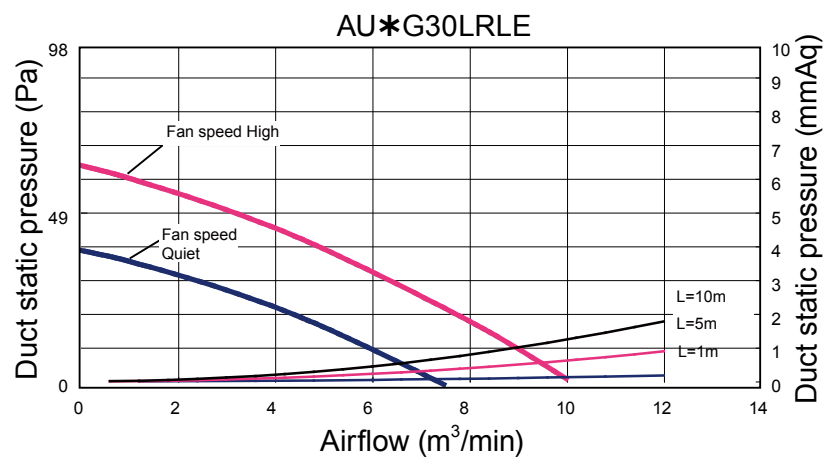
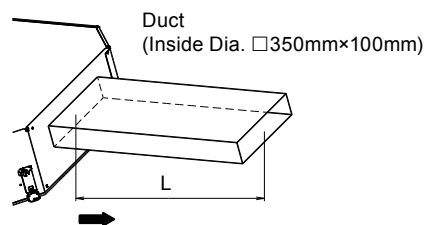
*1 : In case of fresh air intake, please remove the insulation.

*2 : Locally procured parts

7-4. DUCT CONNECTION

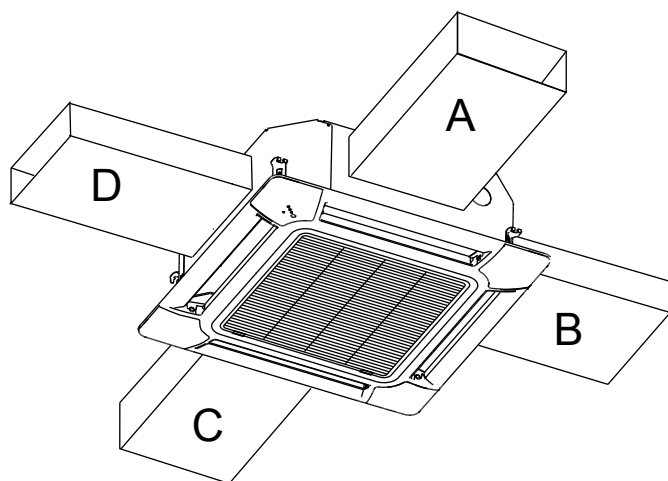
MODELS: AU*G30LRLE, AU*G36LRLE

● Outlet air

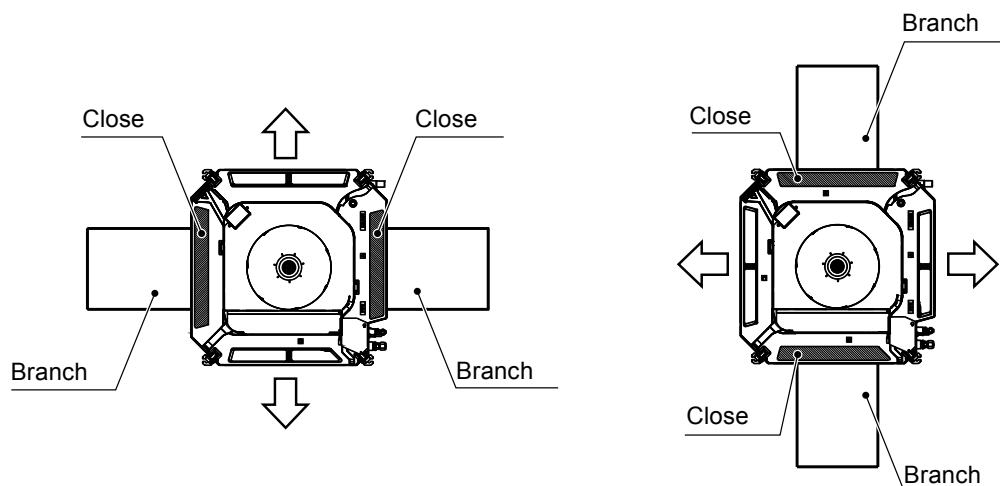


■ PRECAUTIONS WHILE CONNECTING AIR OUTLET DUCT

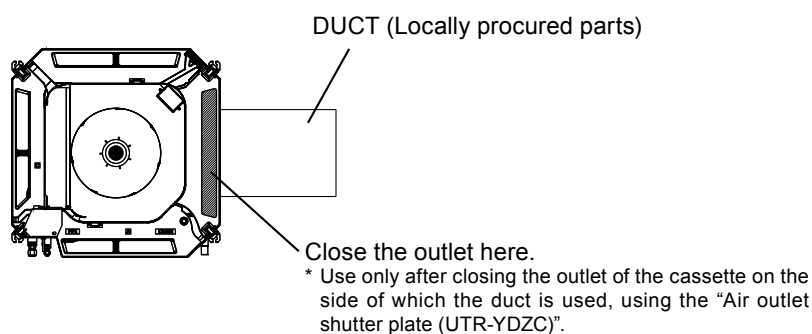
- Connect the air outlet duct to maximum two locations among the four duct connection locations. (Do not connect ducts to three or more locations.)



- Blow-off pattern when a branch duct is installed
Bi-directional branching, main unit bi-directional branching



- Once the location where the duct is to be connected is decided, always be sure to close the outlets in the same direction.

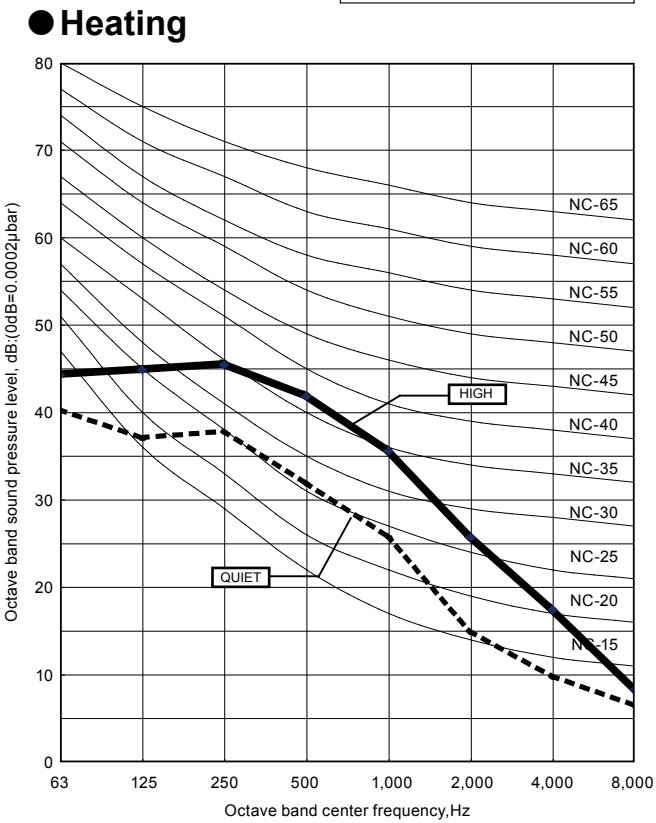
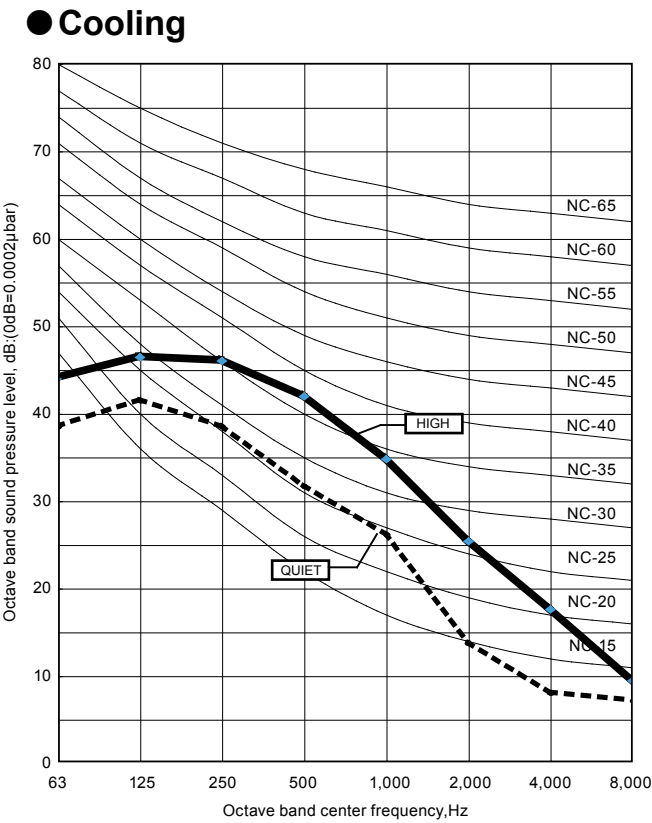


8. OPERATION NOISE (SOUND PRESSURE)

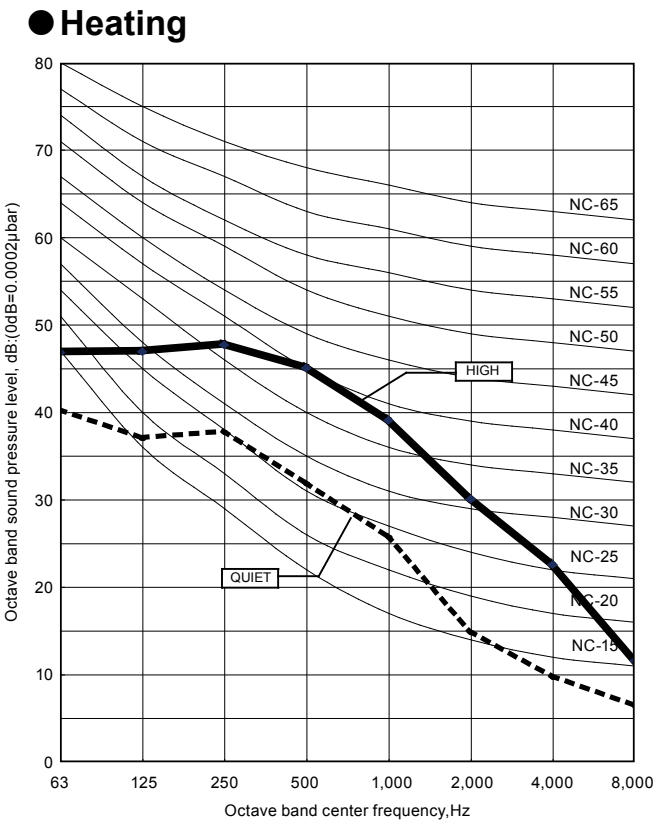
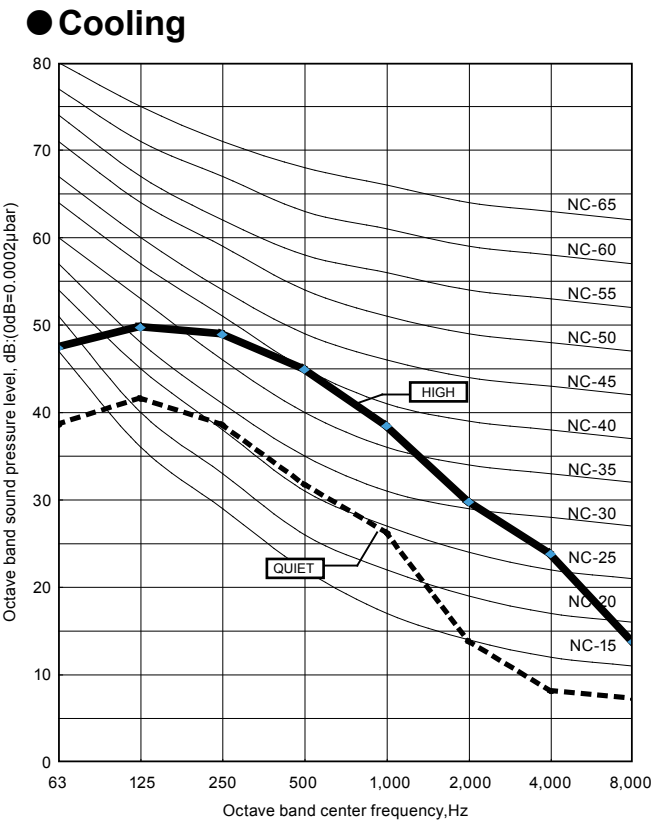
8-1. NOISE LEVEL CURVE

MODEL: AU*G30LRLE

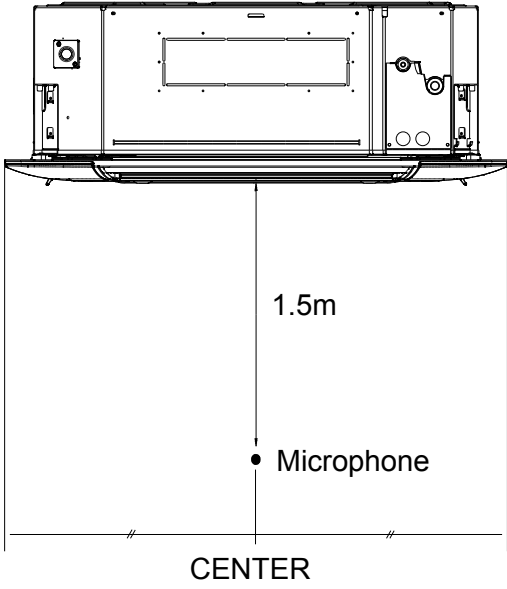
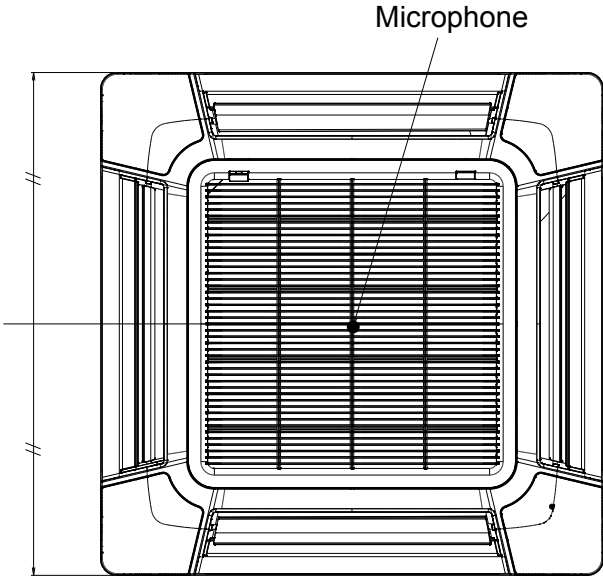
Condition
Ceiling mode : Standard
Air outlet : 4-way air outlet



MODEL: AU*G36LRLE



8-2. SOUND LEVEL CHECK POINT



9. ELECTRIC CHARACTERISTICS

Model Name			AU*G30LRLE	AU*G36LRLE
Power Supply	Voltage	V	230 ~	
	Frequency	Hz	50	
Max Operating Current (Indoor unit)		A	0.7	
*1) Wiring Spec.	Connection Cable	mm ²	1.5	
	*2) Limited wiring length	m	51	

*1) Wiring Spec.

Selected Sample

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

*2) Limited wiring length:

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

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

10. SAFETY DEVICES

	Protection form	Model	
		AU*G30LRLE	AU*G36LRLE
Circuit protection	Current fuse (PCB)	250V 3.15A	
Fan motor protection	Thermal protection program	110^{+15}_{-10} °C OFF 105^{+15}_{-10} °C ON	

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)

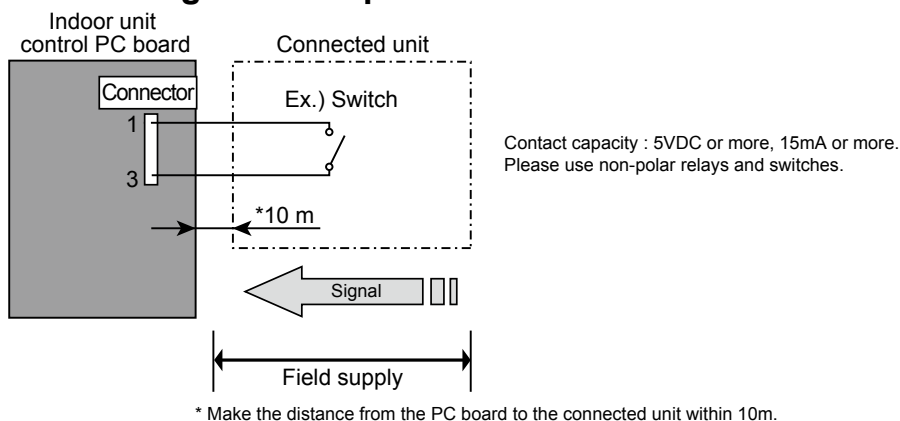
The air conditioner can be remotely operated by means of the following on-site work.

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

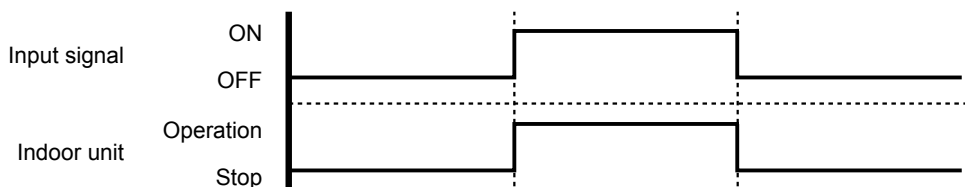
Unit operation is started at the following contents by adding the contact input of a commercial ON/OFF switch to a connector on the external control PC board and turning it ON.

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

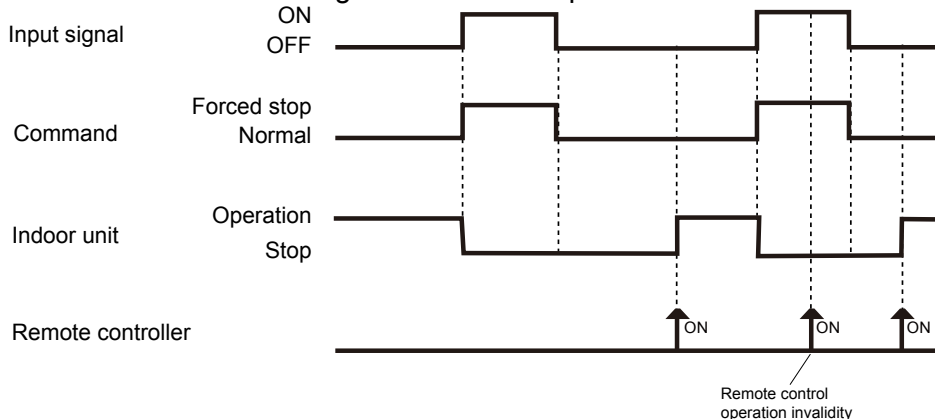
● Circuit diagram example



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



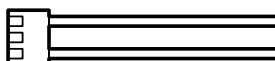
● When function setting is in "Forced stop" mode



● Parts (Optional)

Model name
UTY-XWZX

Wire (External input)

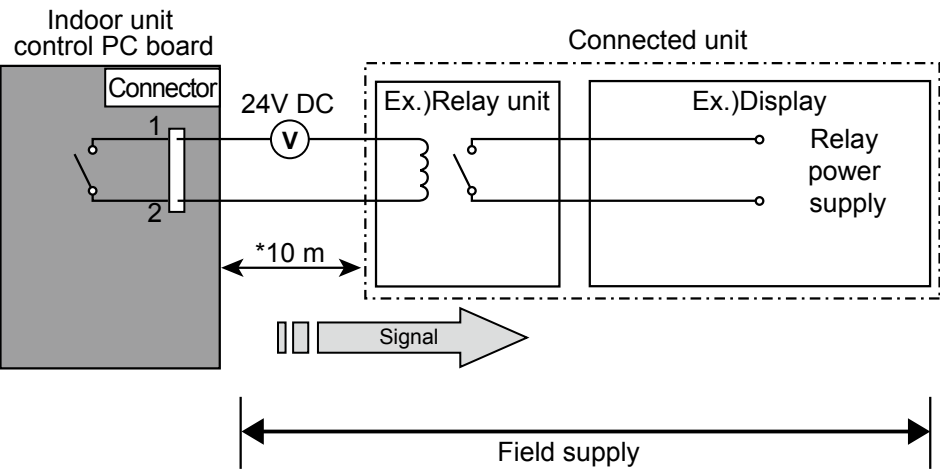


11-2. EXTERNAL OUTPUT

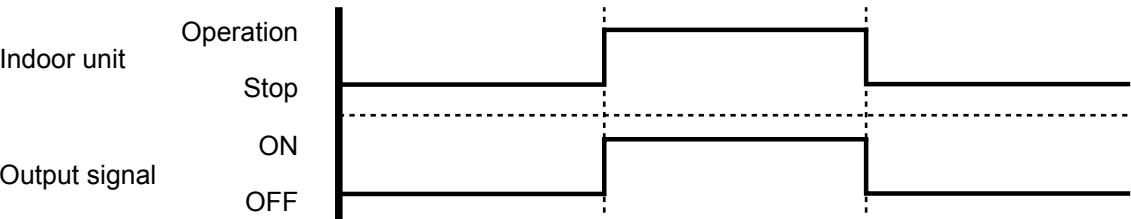
■ OPERATION STATUS OUTPUT

An air conditioner operation status signal can be output.

● Circuit diagram example



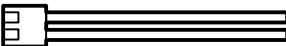
* Make the distance from the PC board to the connected unit within 10m.
Relay spec. : Max.24VDC, 10mA to less than 500mA.



● Parts (Optional)

Model name
UTY-XWZX

Wire (External output)

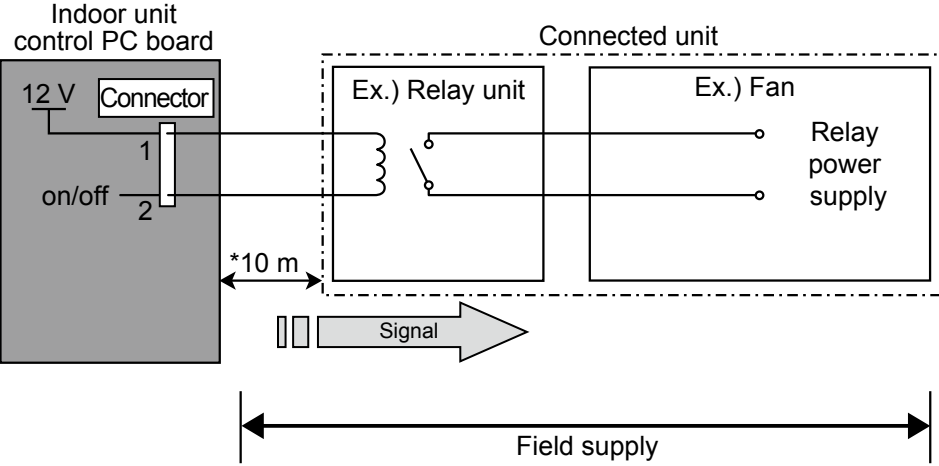


■ FRESH AIR CONTROL OUTPUT

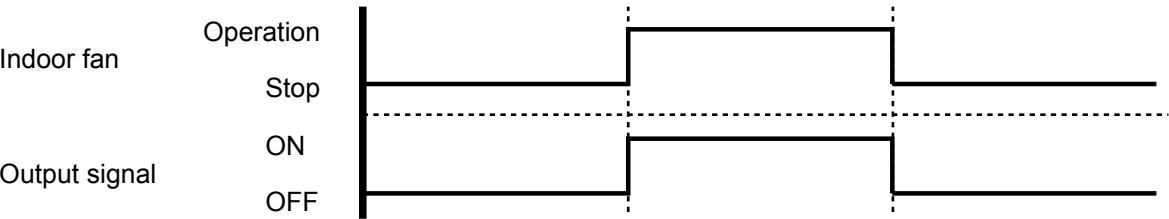
A signal linked to air conditioner indoor fan ON can be output.

* 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)

The table below outlines the required wire in different fresh air intake options.

	No Fresh air intake	Built in Fresh air inlet	Fresh air intake kit
Wire required	N/A	UTD-ECS5A	Wire included in UTZ-VXGA



Note: This wire is included in both Fresh air intake kit (UTZ-VXGA) and External control set (UTD-ECS5A).

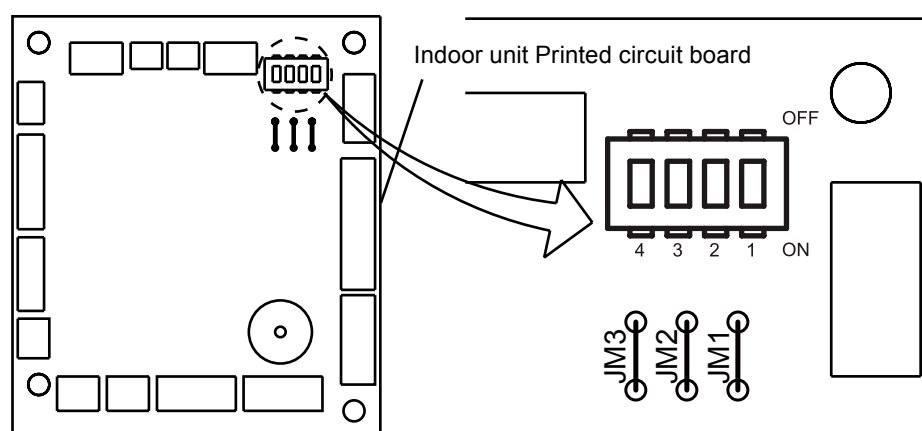
12. FUNCTION SETTINGS

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.)

(◆...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

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.

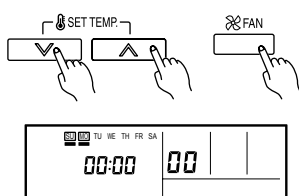
■ PREPARATION

- 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.

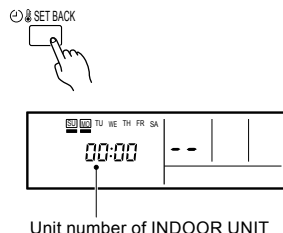
■ FUNCTION SETTING METHOD (for Wired remote controller)

● Setting method

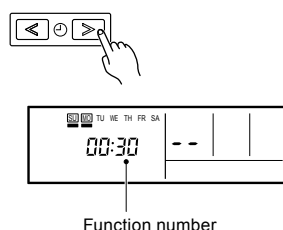
- (1) Press the SET TEMP. buttons (▼) (▲) and FAN button simultaneously for more than 5 seconds to enter the function setting mode.



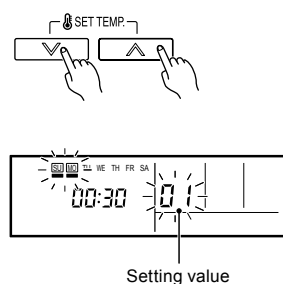
- (2) Press the SET BACK button to select the indoor unit number.



- (3) Press the Set time buttons to select the function number.



- (4) Press the SET TEMP. buttons (▼) (▲) to select the setting value. The display flashes during setting value selection.



- (5) Press the TIMER SET button to confirm the setting. Press the TIMER SET button for a few seconds until the setting value stops flashing. If the setting value display changes or if “-” is displayed when the flashing stops, the setting value has not been set correctly. (An invalid setting value may have been selected for the indoor unit.)
- (6) Repeat steps 2 to 5 to perform additional settings. Press the SET TEMP. buttons (▼) (▲) and FAN button simultaneously again for more than 5 seconds to cancel the function setting mode. In addition, the function setting mode will be automatically canceled after 1 minute if no operation is performed.
- (7) After completing the Function Setting, be sure to turn off the power and turn it on again.

⚠ CAUTION

- After turning off the power, wait 30 seconds or more before turning on it again. The Function Setting will not become active unless the power is turned off then on again.

■ 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)	Vertical wind direction adjustment range
5)	Cooler room temperature correction
6)	Heater room temperature correction
7)	Auto restart
8)	Indoor room temperature sensor switching function
9)	Remote controller signal code
10)	External input control
11)	Indoor unit fan control for energy saving

1) Filter sign

The indoor unit displays 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 3.2m	20	00
High ceiling 3.6m (30 model) 4.2m (36 model)		01
Low ceiling 2.7m		02

The ceiling height values are for the 4-way outlet mode.

Do not change this setting in the 3-way outlet mode.

3) Outlet directions

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

(◆ . . . Factory setting)

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

4) Vertical wind direction adjustment range

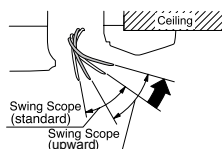
The use of “upward” is recommended if you wish to prevent draft.

Note that the ceiling may become dirty depending on your usage condition. To prevent this, we recommend the use of the optional “PANEL SPACER KIT”.

(◆ . . . Factory setting)

Setting Description	Function Number	Setting Value
◆ Standard	23	00
Upward		01

We recommend the use of “Upward” when using the “High ceiling mode”.



5) 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

6) 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

7) 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 by using the remote controller, or external input device.

8) Indoor room temperature sensor switching function

(Only for Wired remote controller)

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

(◆ . . . Factory setting)

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

* If setting value is “00”,
room temperature is controlled by the indoor unit temperature sensor.

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

9) 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

10) 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

11) 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":

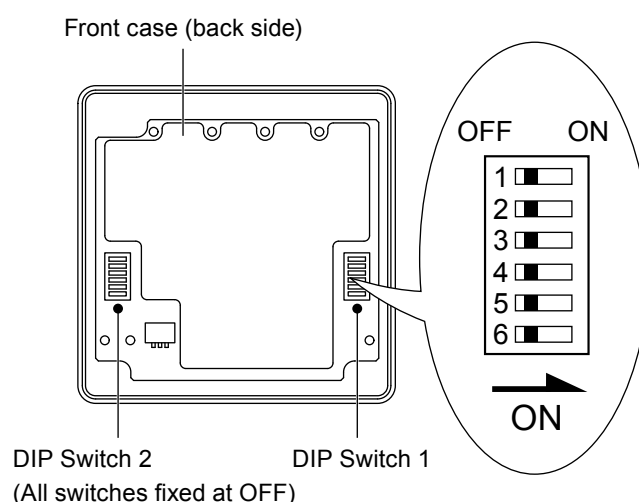
When the outdoor unit is stopped, the indoor unit fan operates following the setting on the remote controller continuously.

*If setting value is "01":

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

12-3. WIRED REMOTE CONTROLLER

■ SWITCH POSITION



■ DIP SWITCH 1 SETTING

DIP Switch 1	SW1	Forbidden*
	SW2	Dual remote controller setting
	SW3	Forbidden*
	SW4	Forbidden*
	SW5	Forbidden*
	SW6	Memory backup setting

*Switches are fixed at OFF.

● Dual remote controller setting

Set the remote controller SW2 according to the following table.

(◆... Factory setting)

	Number of remote controller	Primary unit	Secondary unit
		SW2	SW2
◆	1 (Normal)	OFF	—
	2 (Dual)	OFF	ON

● Memory backup setting

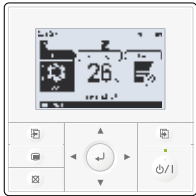
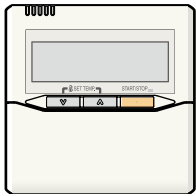
Set to ON to use batteries for the memory backup. If batteries are not used, all of the settings stored in memory will be deleted if there is a power failure.

(◆... Factory setting)

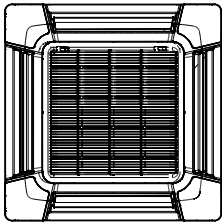
	SW6	Memory backup
◆	OFF	Invalidity
	ON	Validity

13. OPTIONAL PARTS

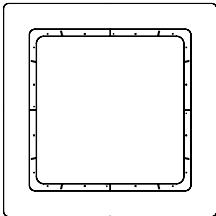
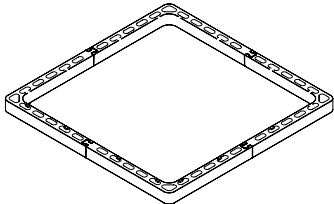
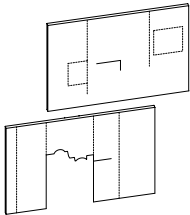
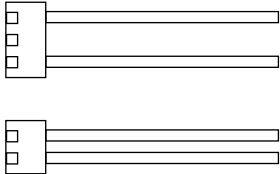
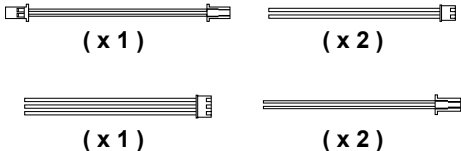
13-1. CONTROLLER

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	The room temperature can be controlled by detecting the temperature accurately with built-in thermo sensor.
	IR receiver kit	UTY-LRH*A2	Unit control is performed by wireless remote controller.
	Simple remote controller	UTY-RSN*M	Compact remote controller concentrates on the basic functions such as Start/Stop, Fan Control, Temperature Setting and Operation mode.

13-2. CASSETTE GRILLE

Exterior	Parts name	Model No.	Summary
	Cassette grille	UTG-UG*A-W	The form of the grille discharges wind away from the ceiling making it difficult to leave dirt marks.

13-3. OTHERS

Exterior	Parts name	Model No.	Summary
	Air outlet shutter plate	UTR-YDZC	Air outlet shutter plate is installed at the air outlet when 3-way direction is performed.
	Wide panel	UTG-AGYA-W	Wide panel hides the gap between the ceiling hole and the Cassette grille.
	Panel spacer	UTG-BGYA-W	Installation in a space of 256mm or greater is possible by using panel spacer when the height behind the ceiling is low. (Normal installation height behind the ceiling is 298mm.)
	Insulation kit for high humidity	UTZ-KXGA	Install when the condition under the roof is expected to have humidity of over 80% and temperature of over 30°C.
	External connect kit	UTY-XWZX	Use to connect with various peripheral devices and air conditioner PC board.
	External control set	UTD-ECS5A	Use to connect with various peripheral devices and air conditioner PC board. (Set of 6)
	Fresh air intake kit	UTZ-VXGA	Enables to take in fresh air of up to 10% of "high" air volume of the indoor unit by attaching the Fresh air intake kit.

2. OUTDOOR UNIT

SINGLE TYPE :

AO*G30LETl

AO*G36LETl

CONTENTS

2. OUTDOOR UNIT

1. SPECIFICATIONS.....	02 - 01
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4. WIRING DIAGRAMS.....	02 - 04
5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE	02 - 06
6. ADDITIONAL CHARGE CALCULATION.....	02 - 07
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8-2. SOUND LEVEL CHECK POINT	02 - 10
9. ELECTRIC CHARACTERISTICS.....	02 - 11
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1. SPECIFICATIONS

Type				INVERTER HEATPUMP	
Model name				AO*G30LETL	AO*G36LETL
Power source				230V ~ 50Hz	
Available voltage range				198-264V ~ 50Hz	
Starting current			A	12.2	13.7
Fan	Airflow rate	Cooling	m³/h	3600	3800
		Heating		3600	3800
	Type × Q'ty			Propeller × 1	
	Motor output		W	100	100
Sound pressure level		Cooling	dB(A)	53	54
		Heating		55	55
Sound power level		Cooling	dB(A)	68	69
		Heating		69	70
Heat exchanger type		Dimensions (H × W × D)	mm	798 × 900 × 36.4	798 × 900 × 36.4
		Fin pitch		1.30	1.30
		Rows x Stages		2 × 38	2 × 38
		Pipe type		Copper	
		Fin type		Aluminium	
Compressor	Type × Q'ty			Twin Rotary × 1	
	Motor output		W	2100	
Refrigerant		Type (Global Warming Potential)		R410A (1975)	
		Charge	g	2100	
Refrigerant oil		Type		POE (RB68)	
Enclosure		Material		Steel sheet	
		Colour		BEIGE Approximate colour of MUNSELL 10YR 7.5/1.0	
Dimensions (H×W×D)	Net		mm	830 × 900 × 330	
	Gross			970 × 1050 × 445	
Weight	Net		kg	61	
	Gross			68	
Connection pipe	Size	Liquid	mm	Ø 9.52 (Ø 3/8 in.)	
		Gas		Ø 15.88 (Ø 5/8 in.)	
	Method			Flare	
	Pre-charge length		m	20	
	Max. length			50	
	Max. height difference			30	
Operation range		Cooling	°C	-15 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 m, Height difference : 0 m.(Outdoor unit - Indoor unit)

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

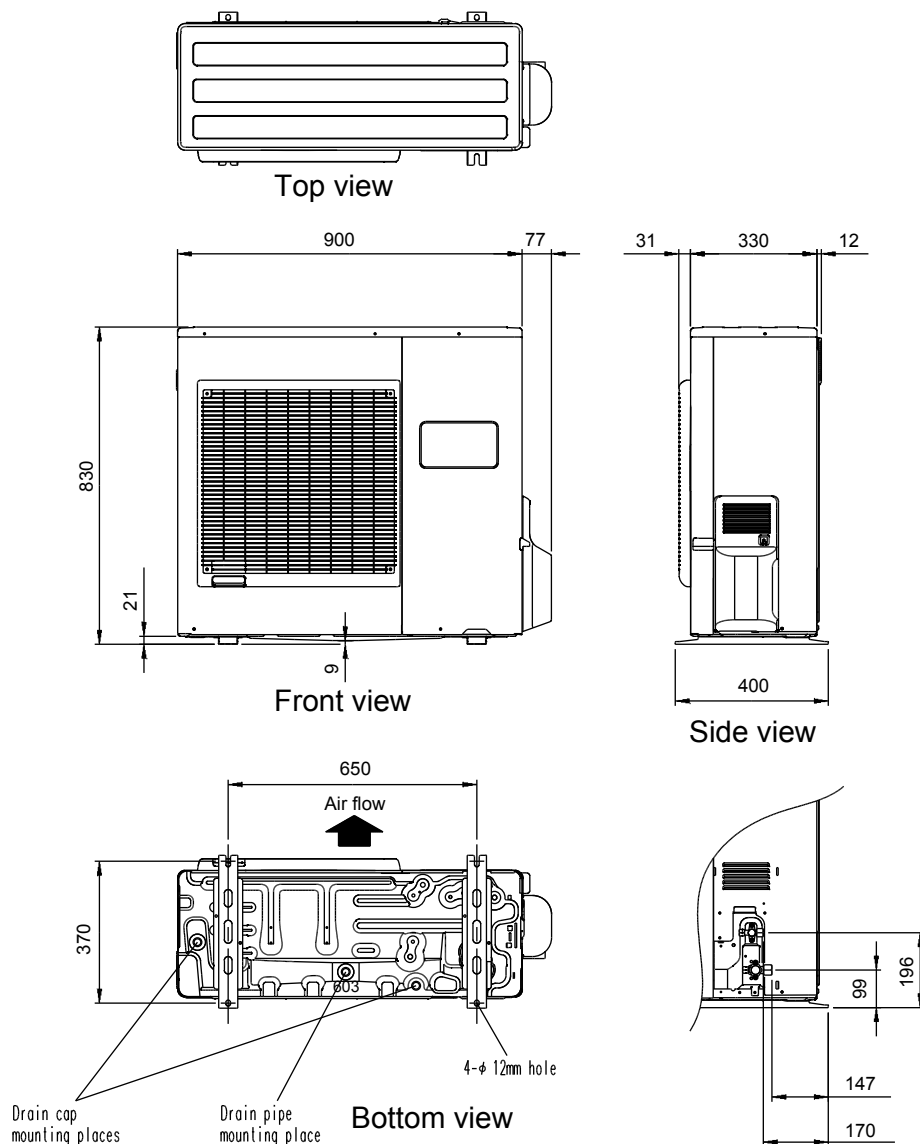
2. DIMENSIONS

■ MODELS: AO*G30LETL, AO*G36LETL

(Unit : mm)

OUTDOOR UNIT
AO*G30-36LETL

OUTDOOR UNIT
AO*G30-36LETL

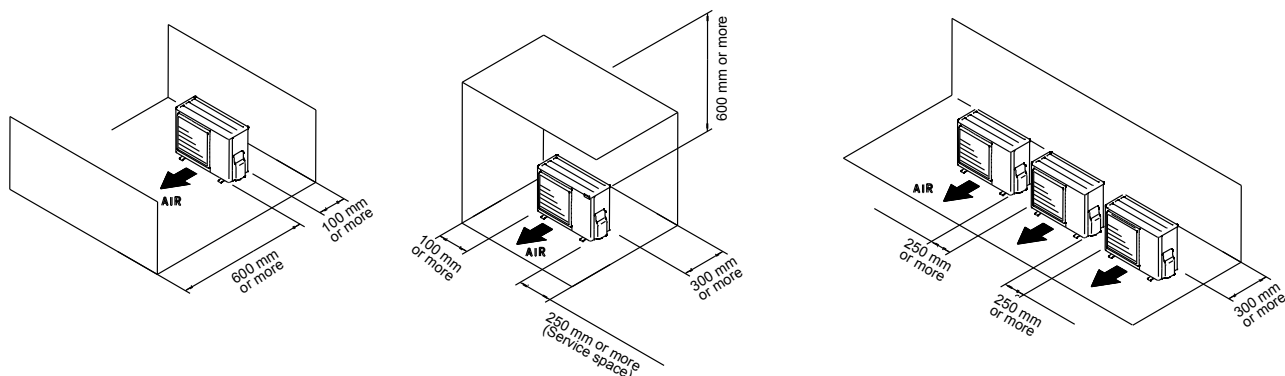


■ INSTALLATION PLACE

When there are obstacles at the back or front sides.

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

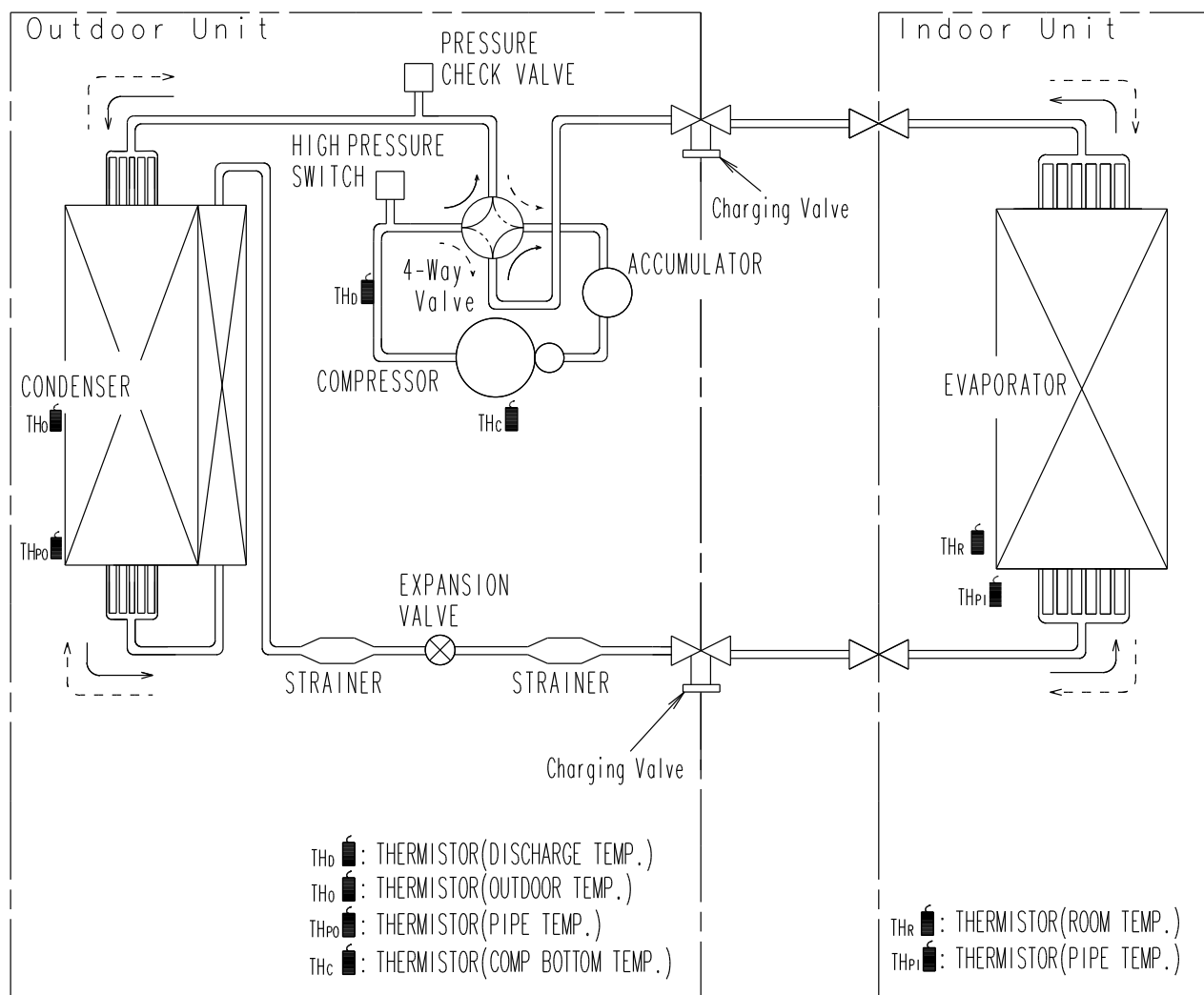
When there are obstacles at the back, side with the installation of more than one unit.



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

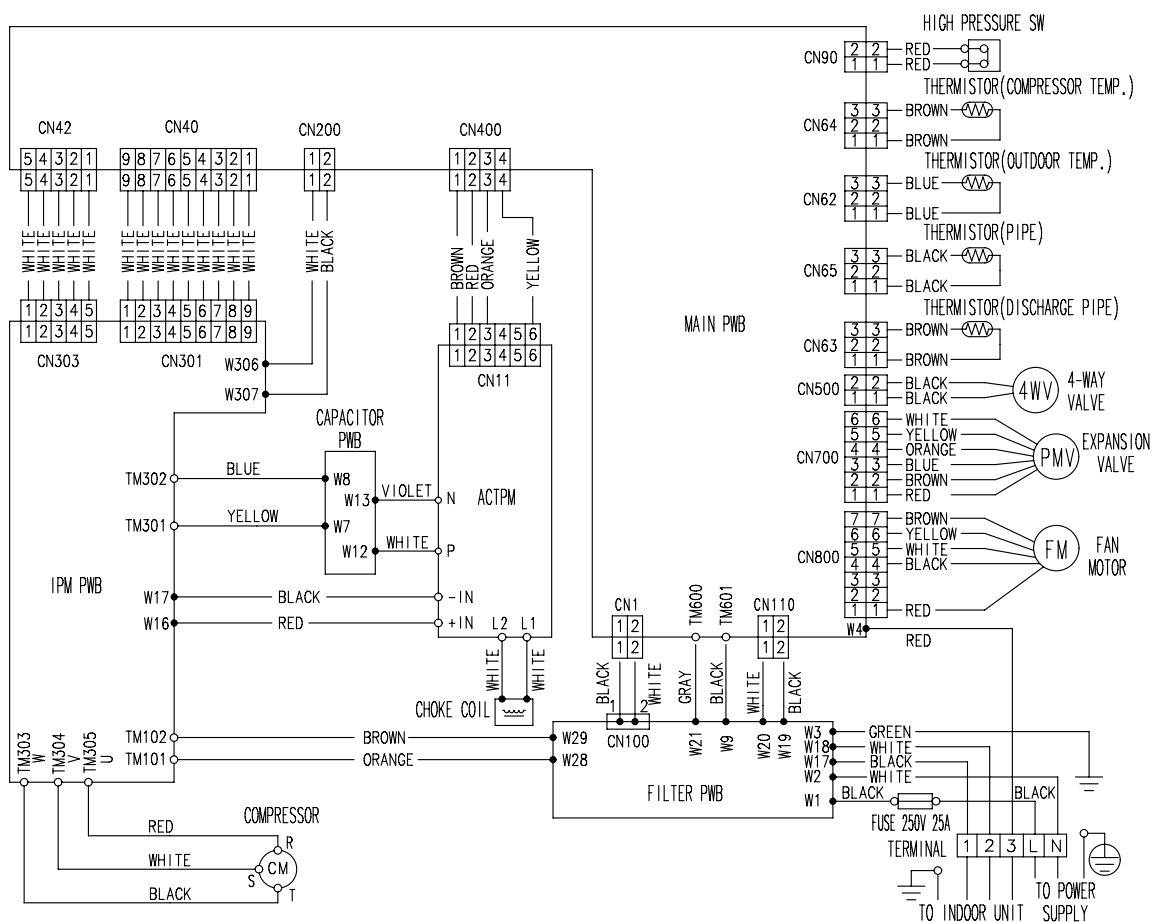
3. REFRIGERANT CIRCUIT

■ MODELS: AO*G30LETL, AO*G36LETL



4. WIRING DIAGRAMS

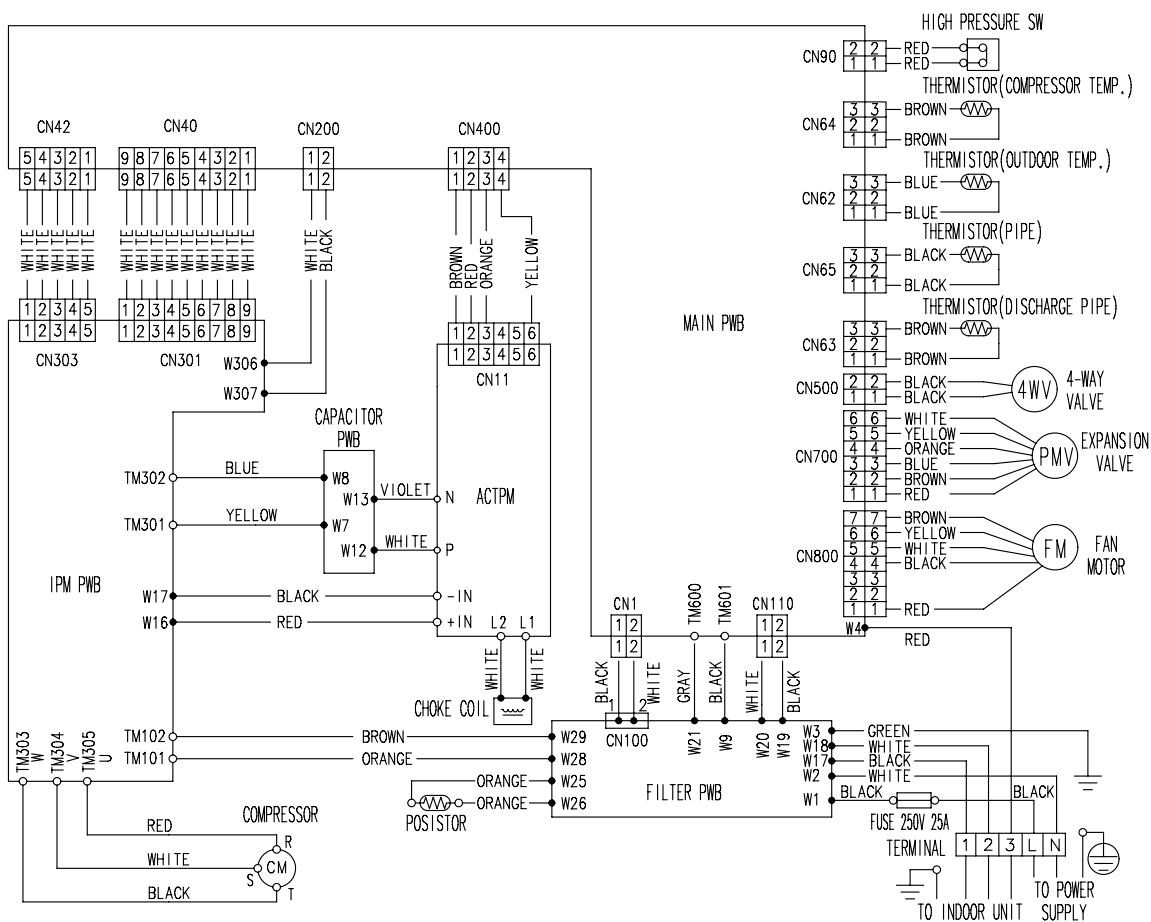
■ MODEL: AO*G30LETL



MODEL: AO*G36LETL

OUTDOOR UNIT
AO*G30-36LETL

OUTDOOR UNIT
AO*G30-36LETL



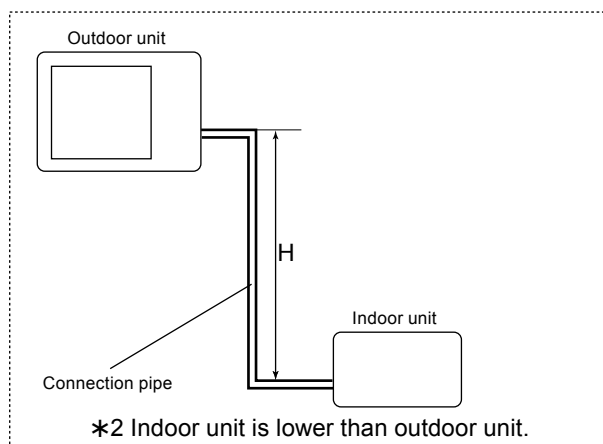
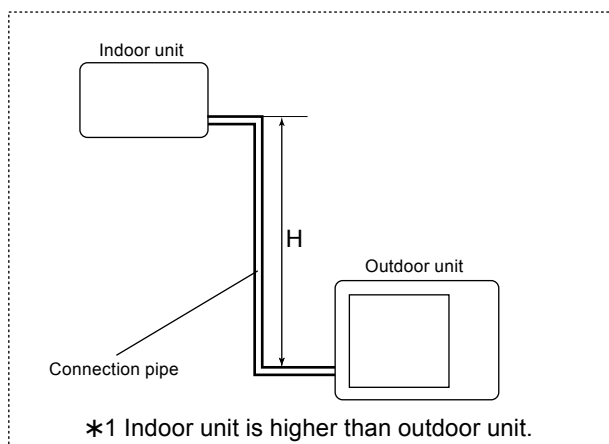
5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

MODELS: AO*G30LETL, AO*G36LETL

COOLING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	*1 Indoor unit is higher than outdoor unit	30	-	-	-	-	0.908	0.894	0.876
		20	-	-	-	0.935	0.923	0.909	0.891
		10	-	-	0.968	0.951	0.938	0.924	0.906
		7.5	-	0.982	0.972	0.954	0.942	0.928	0.909
		5	0.992	0.986	0.976	0.958	0.946	0.932	0.913
	*2 Indoor unit is lower than outdoor unit	0	1.000	0.994	0.983	0.966	0.954	0.939	0.920
		-5	1.000	0.994	0.983	0.966	0.954	0.939	0.920
		-7.5	-	0.994	0.983	0.966	0.954	0.939	0.920
		-10	-	-	0.983	0.966	0.954	0.939	0.920
		-20	-	-	-	0.966	0.954	0.939	0.920
		-30	-	-	-	-	0.954	0.939	0.920

HEATING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	*1 Indoor unit is higher than outdoor unit	30	-	-	-	-	0.931	0.914	0.899
		20	-	-	-	0.954	0.931	0.914	0.899
		10	-	-	0.990	0.954	0.931	0.914	0.899
		7.5	-	0.991	0.990	0.954	0.931	0.914	0.899
		5	1.000	0.991	0.990	0.954	0.931	0.914	0.899
	*2 Indoor unit is lower than outdoor unit	0	1.000	0.991	0.990	0.954	0.931	0.914	0.899
		-5	0.995	0.986	0.986	0.949	0.926	0.909	0.895
		-7.5	-	0.983	0.983	0.946	0.924	0.907	0.892
		-10	-	-	0.981	0.944	0.921	0.904	0.890
		-20	-	-	-	0.935	0.912	0.895	0.881
		-30	-	-	-	-	0.903	0.886	0.872

Height difference H



6. ADDITIONAL CHARGE CALCULATION

■ MODELS: AO*G30LETL, AO*G36LETL

Refrigerant type		R410A
Refrigerant amount	g	2100

● Refrigerant Charge

Total pipe length	m	20 or less	30	40	50 (MAX)	40g/m
Additional charge	g	0	400	800	1200	

7. AIRFLOW

■ MODEL: AO*G30LETL

● COOLING

Number of rotations (r.p.m)	Airflow	
850	m³/h	3600
	l/s	1000
	CFM	2119

● HEATING

Number of rotations (r.p.m)	Airflow	
850	m³/h	3600
	l/s	1000
	CFM	2119

■ MODEL: AO*G36LETL

● COOLING

Number of rotations (r.p.m)	Airflow	
900	m³/h	3800
	l/s	1056
	CFM	2236

● HEATING

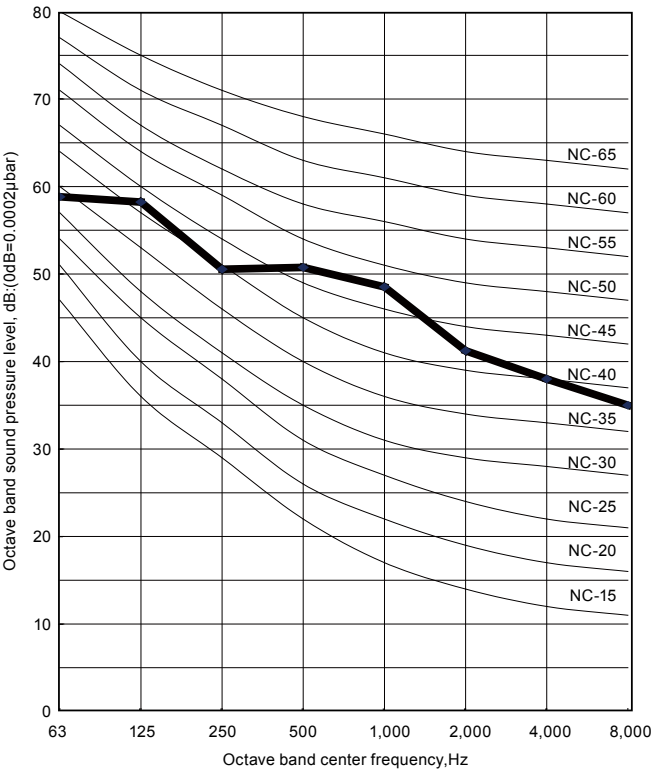
Number of rotations (r.p.m)	Airflow	
900	m³/h	3800
	l/s	1056
	CFM	2236

8. OPERATION NOISE (SOUND PRESSURE)

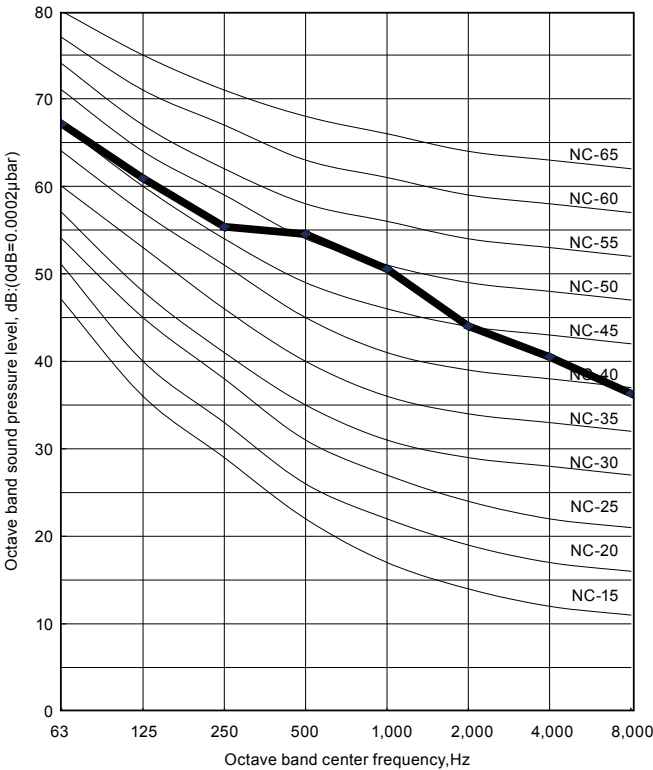
8-1. NOISE LEVEL CURVE

MODEL: AO*G30LETL

COOLING

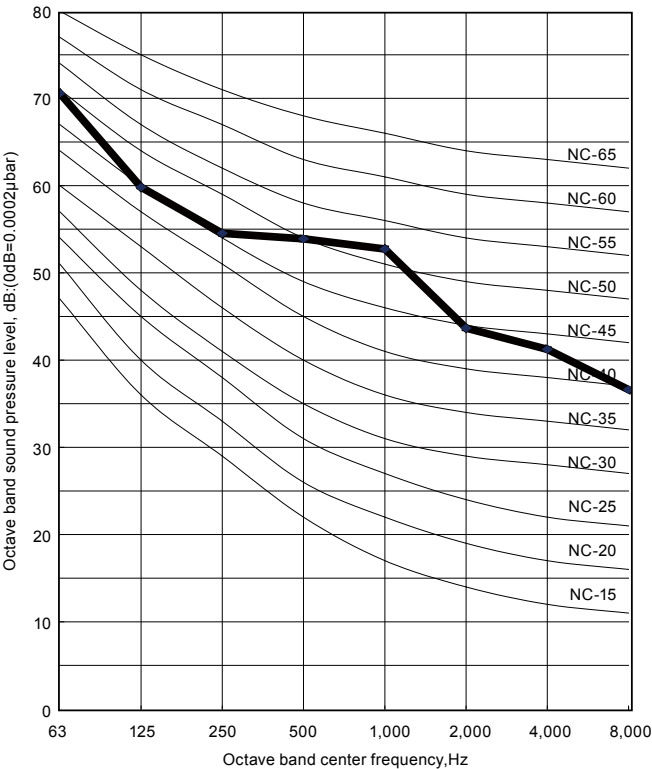


HEATING

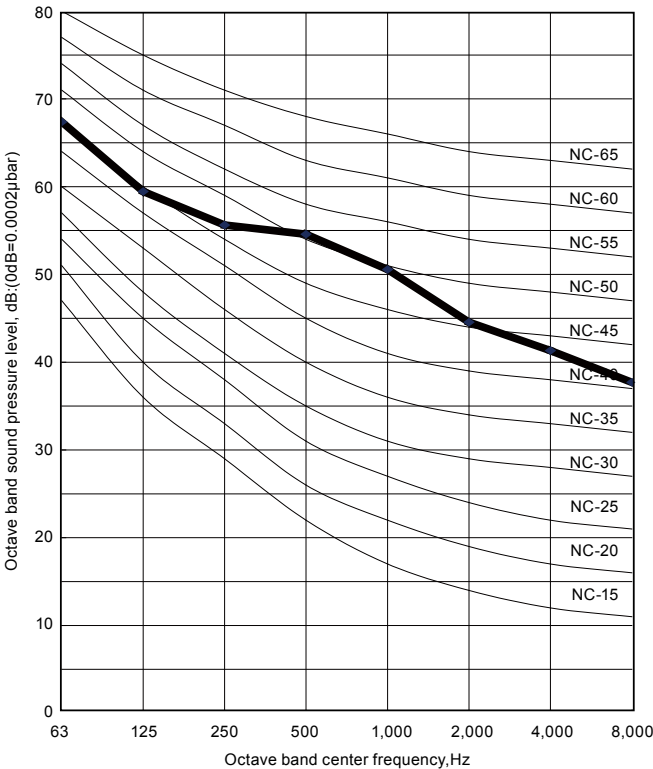


MODEL: AO*G36LETL

COOLING

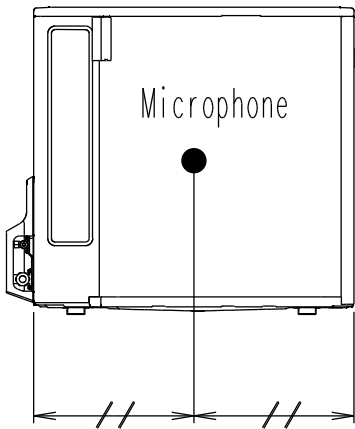
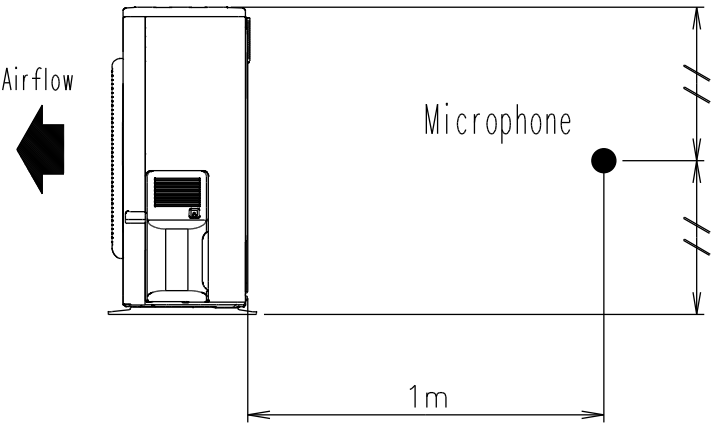


HEATING



8-2. SOUND LEVEL CHECK POINT

OUTDOOR UNIT
AO*G30-36LET/L



OUTDOOR UNIT
AO*G30-36LET/L

9. ELECTRIC CHARACTERISTICS

Model name			AO*G30LETL	AO*G36LETL
Power supply	Voltage	V	230 ~	
	Frequency	Hz	50	
*1) Max. operating current		A	17.0	20.0
Starting current		A	12.2	13.7
*2) Wiring spec.	Main fuse (Circuit breaker) current	A	30	
	Power cable	mm ²	3.5	

*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)

10. SAFETY DEVICES

	Protection form	Model	
		AO*G30LETL	AO*G36LETL
Circuit protection	Current fuse (Near the terminal)	250V 25A	
	Current fuse (Filter printed circuit board)	250V 10A	
	Current fuse (Main printed circuit board)	250V 3.15A	
Fan motor protection	Thermal protection program	OFF : 140±20°C ON : 110±20°C	
High pressure protection	Pressure switch	OFF : 4.2±0.1MPa ON : 3.2±0.15MPa	
Compressor protection	Thermal protection program (Compressor temp.)	OFF : 120°C ON : 80°C	
	Thermal protection program (Discharge temp.)	OFF : 110°C ON : After 7 minutes	