

AIR CONDITIONER
Cassette type

DESIGN & TECHNICAL DATA

SINGLE
INDOOR



AU*A45LCLU

OUTDOOR



AO*A45LBTL

FUJITSU GENERAL LIMITED

1. INDOOR UNIT

CASSETTE TYPE :

AU*A45LCLU

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1. INDOOR UNIT

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1-1. FEATURE

■ MODEL (INDOOR/OUTDOOR/ DECORATION PANEL) AU*A45LCLU / AO*A45LBTL / UTG-UG*A-W



■ FEATURES

● Energy saving

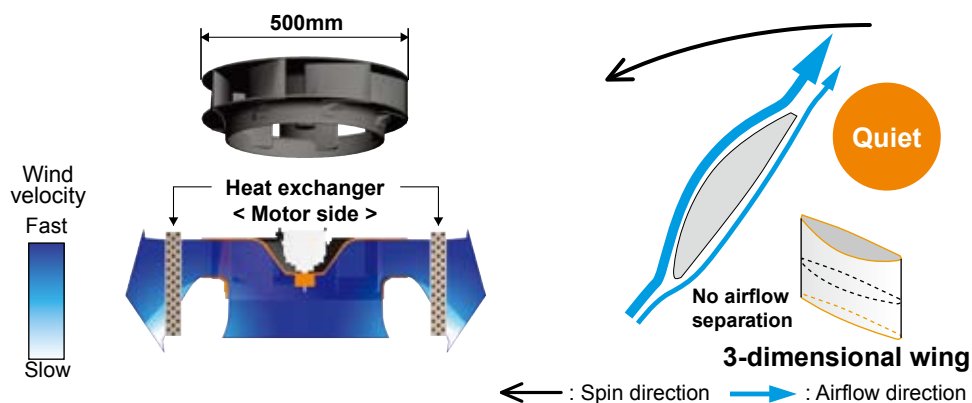
- All DC design
- Heat exchange efficiency increased and larger air flow by adoption of new type turbo fan

● Advancement in comfort

- Quiet operation was realized by adoption of new type turbo fan
- Improvement of air stream

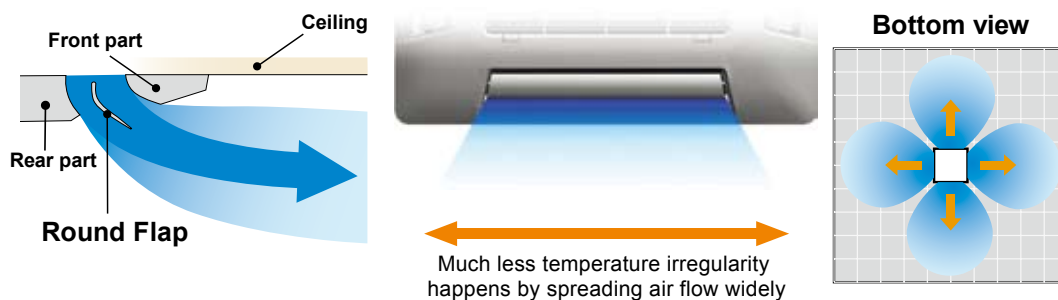
① Adoption of high efficiency turbo fan

High efficiency achieved by equaling the performance of the wing and air passing the heat exchanger



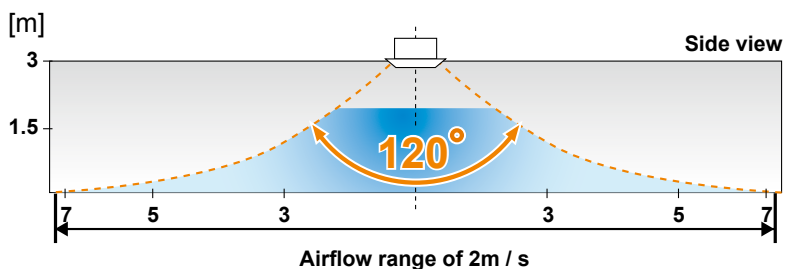
② Important of the flap

Making space between the ceiling, the air flows far wide and ceiling does not get dirty.



③Wide & powerful airflow

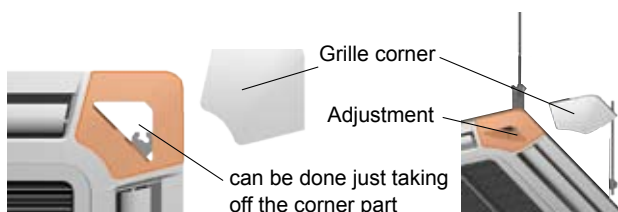
The wind is widely delivered by a high efficiency fan and round flap.



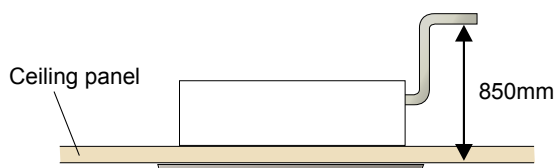
●Improvement of installation & maintenance

- Adjustment of nut is possible after installation

Mounting position of body can be fine adjusted after Decoration panel mounting.

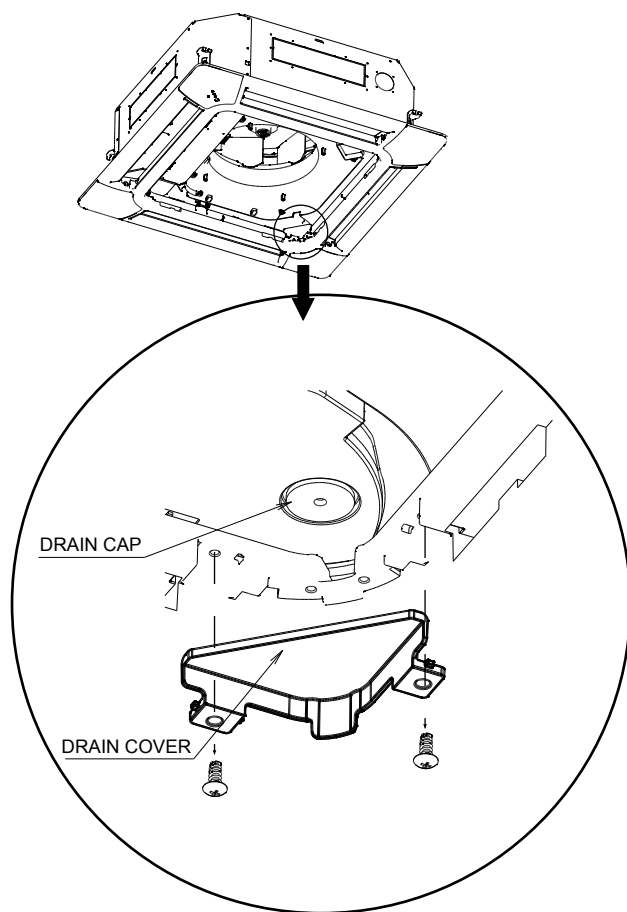


●High lift drain pump



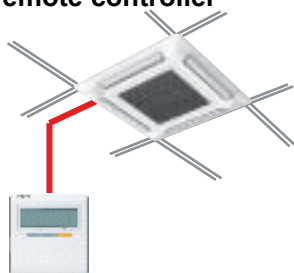
●Simplification of drain water check

Drain and contamination check are possible without removing the decoration panel.



●Easy installation

Easy setting by wired remote controller



Can be easily checked by removing the drain cover.

FUNCTION SETTING

Other functions

- 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



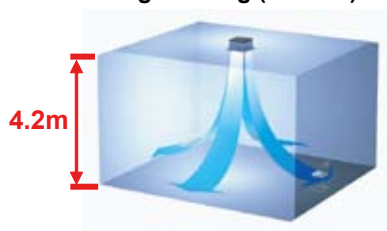
4-way direction mode: Set when there are 4 outlets (shipped state).

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 air flow according to the height of the ceiling.

High ceiling (Mode 2)



Standard ceiling (Standard)



Low ceiling (Mode 1)



Standard ...Operates at normal air flow.

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

Mode 2 ...Air flow becomes greater than normal.

Filter sign

The indoor unit has sign to inform the user that it is time to clean the filter

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.

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 wired remote controller.

Economy operation

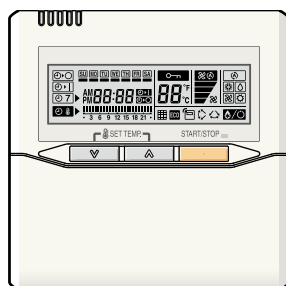
The power consumption can be reduced.

Powerful mode ...Standard

Soft mode ...Performs operation which reduces the power consumption

1-2. WIRED REMOTE CONTROLLER

■ FEATURES



- * Various timer setup (ON / OFF / WEEKLY) are possible.
- * Equipped with weekly timer as standard function. (2 times Start / Stop per day for a week)
- * When setting up a timer, operation mode and a temperature setup can be changed.
- * When a failure occurs, the error code is displayed. (Maximum of 16)
- * Error indication. (A maximum of 16 error histories are memorizable.)
- * Up to 16 indoor units can be simultaneously controlled.
- * Economy operation are possible.
- * Easy installation with a slim shape with no bulge in the back.
- * The room temperature can be controlled by being detected the temperature accurately with built-in thermo sensor.

● Simple function setting

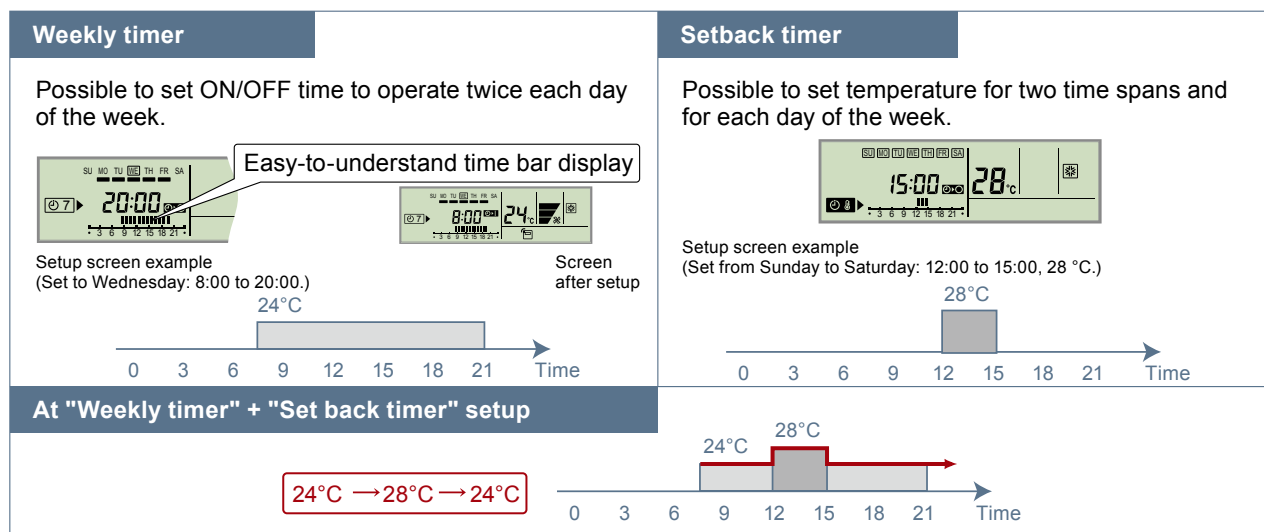
Setting of the air conditioner selection function is performed by remote controller.

● High performance and compact size

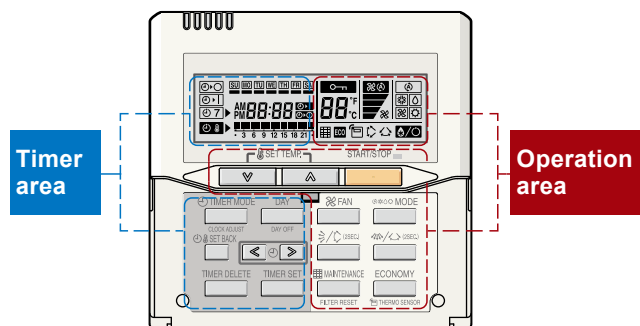
Three functions are combined in one unit.



● Built-in timers



● Easy-to-understand operation

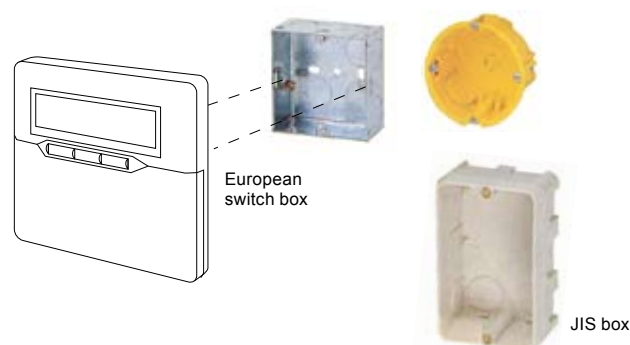


[Variable timer control]

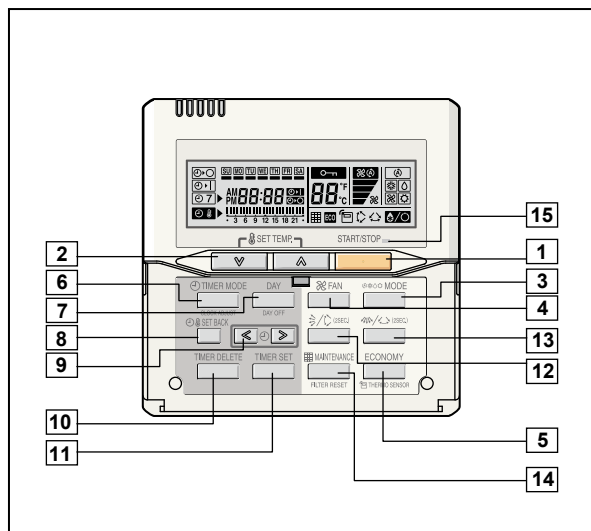
The operation/display sections are zoned according to time and operation, enabling variable programming to match application.

● Simple installation

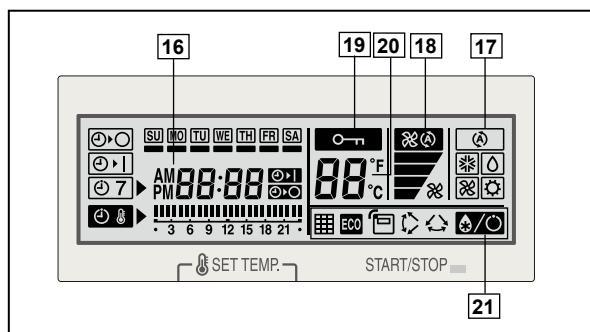
Components are compatible with standard switch boxes. Flat back construction allows equipment to be installed wherever it is needed.



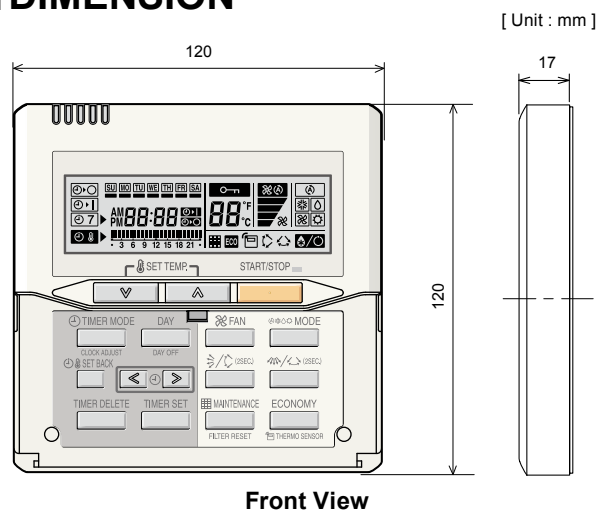
FUNCTIONS



Display panel



DIMENSION



SPECIFICATION

SIZE	(H x W x D mm)	120 x 120 x 17
WEIGHT	(g)	160
CABLE LENGTH	(m)	10
POWER	(V)	12

- 1 START/STOP button**
Pressed to start and stop operation.
- 2 Set temperature button**
Selects the setting temperature.
- 3 Master control button**
Selects the operating mode (AUTO, HEAT, FAN, COOL, DRY).
- 4 Fan control button**
Selects the fan speed (AUTO, QUIET, LOW, MED, HIGH).
- 5 Economy 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). Set the current time.
- 7 Day (DAY OFF) button**
Temporarily cancels of one day timer.
- 8 Set back button**
Pressed to select the set back timer.
- 9 Set time button**
Pressed to set time.
- 10 Delete button**
The schedule of a weekly timer is deleted.
- 11 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 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

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

1-3. SPECIFICATIONS

Type					CASSETTE MODEL	
					INVERTER HEATPUMP	
Model name					AU*A45LCLU	
Power source					230V ~ 50Hz	
Available voltage range					198-264V ~ 50Hz	
European energy label				Cooling	A	
				Heating	A	
Capacity	Cooling	Rated	kW	12.5		
			BTU/h	42700		
		Min-Max	kW	4.0-14.0		
			BTU/h	13700-47800		
	Heating	Rated	kW	14.0		
			BTU/h	47800		
		Min-Max	kW	4.2-16.2		
			BTU/h	14300-55300		
Input power	Cooling	Rated	kW	3.89		
		Max		4.56		
	Heating	Rated		3.77		
		Max		4.56		
Current	Cooling	Rated	A	17.0		
		Max		20.0		
	Heating	Rated		16.5		
		Max		20.0		
EER		Cooling	kW/kW	3.21		
COP		Heating		3.71		
Moisture removal				l/h (pints/h)	4.5(9.5)	
Fan	Airflow rate	Cooling	High	m³/h	1900	
			Med		1640	
			Low		1460	
			Quiet		1250	
		Heating	High		1900	
			Med		1640	
			Low		1460	
			Quiet		1250	
	Type × Q'ty				Turbo × 1	
	Motor output			W	80	
Sound pressure level		Cooling	High	dB(A)	46	
			Med		42	
			Low		40	
			Quiet		36	
		Heating	High		46	
			Med		42	
			Low		40	
			Quiet		36	
Heat exchanger type		Dimensions (H × W × D)		mm	252×2021×13.3 252×2087×13.3 252×2153×13.3	
		Fin pitch			1.3	
		Rows x Stages		3 x 12		
		Pipe type		Copper		
		Fin type		Aluminium		
Enclosure (Panel)		Material		Steel (HIPS)		
		Colour		WHITE Approximate colour of MUNSELL N 9.25/		
Dimensions (H×W×D)	Net	Unit	mm	288×840×840		
		Panel		50×950×950		
	Gross	Unit		360×960×985		
		Panel		115×1120×1000		
Weight	Net	Unit	kg(lb.)	27(60)		
		Panel		5.5(12)		
	Gross	Unit		33(73)		
		Panel		8.5(19)		
Connection pipe	Size	Liquid	mm	Ø 9.52 (3/8 in.)		
		Gas		Ø 15.88 (5/8 in.)		
	Method			Flare		
Operation range		Cooling	°C	18-32		
			%RH	80 or less		
		Heating	°C	16-30		
Remote controller type					Wired	
Drain pipe	Material			PVC(VP25)		
	Size			mm	Outer diameter : 32.0 / Inner diameter : 25.0	

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 : 7.5 m, Height difference : 0 m.(Outdoor unit - Indoor unit)

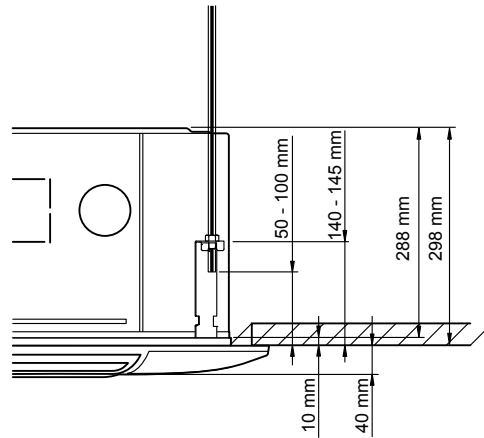
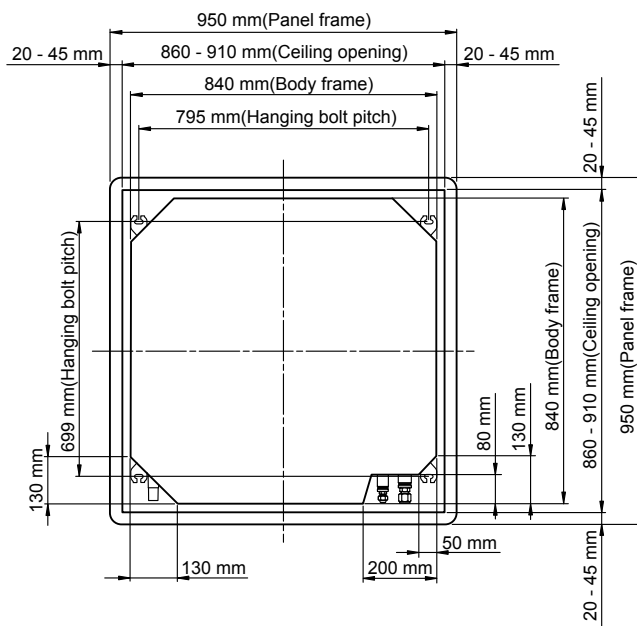
The maximum current is the maximum value when operated within the operation range (temperature)

1-4. DIMENSIONS

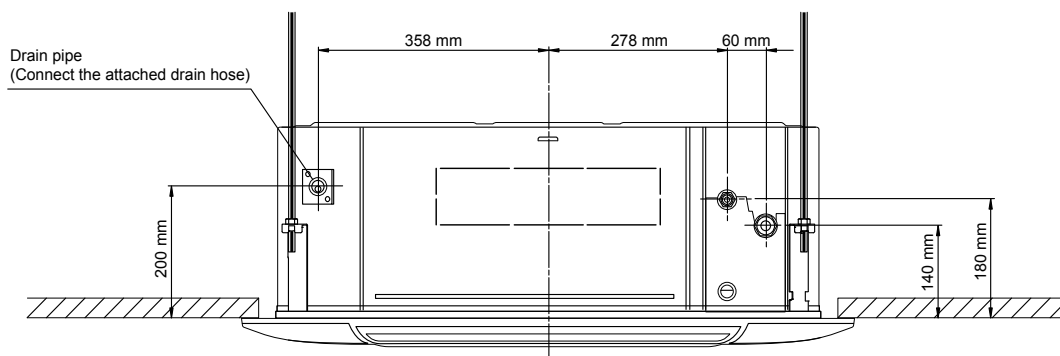
MODEL: AU*A45L

● Ceiling opening and hanging bolt pitch

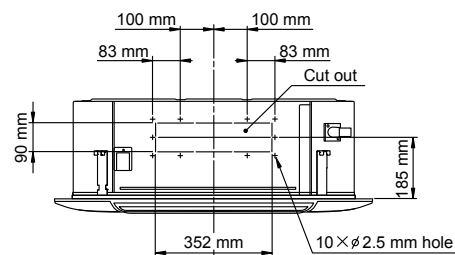
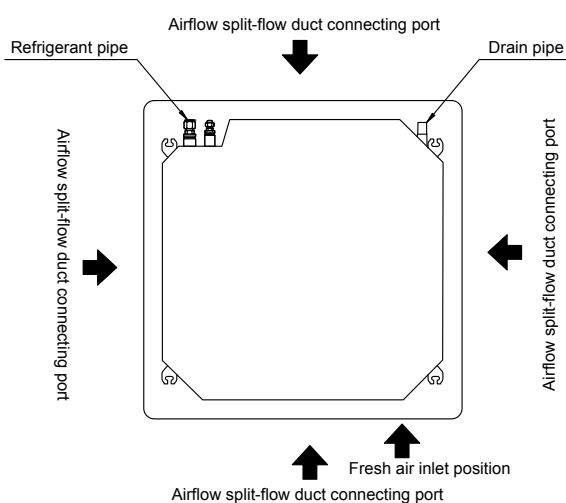
(Unit : mm)



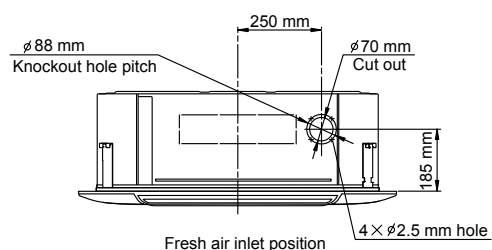
● Refrigerant piping and drain piping positions



● Airflow split-flow duct and fresh air inlet positions

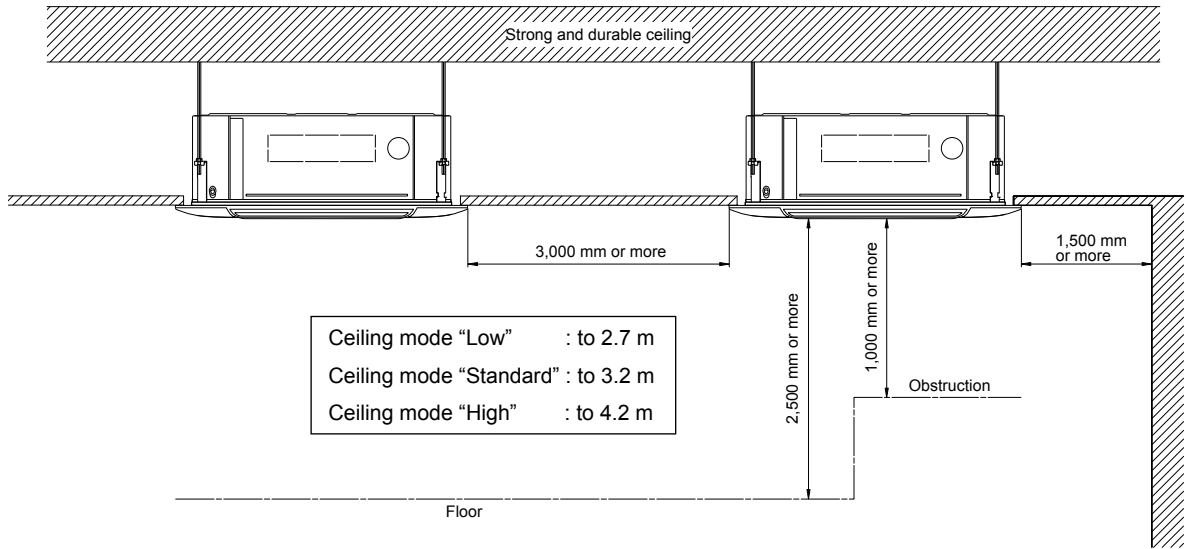


Detailed diagram of branched duct connecting port (4 sides)

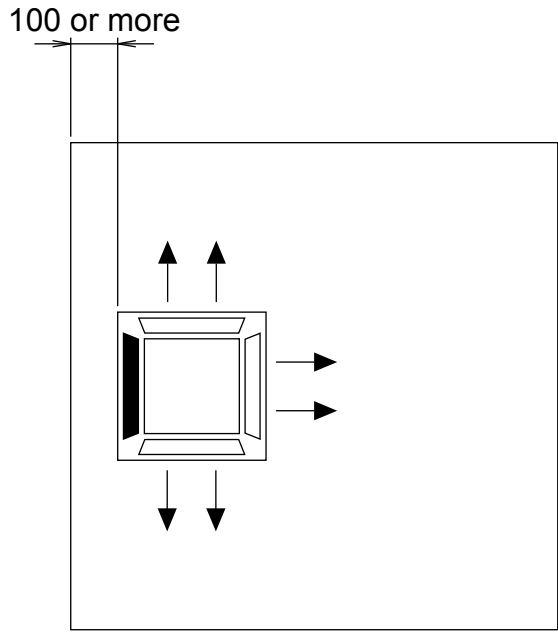


■ INSTALLATION PLACE

(Unit : mm)



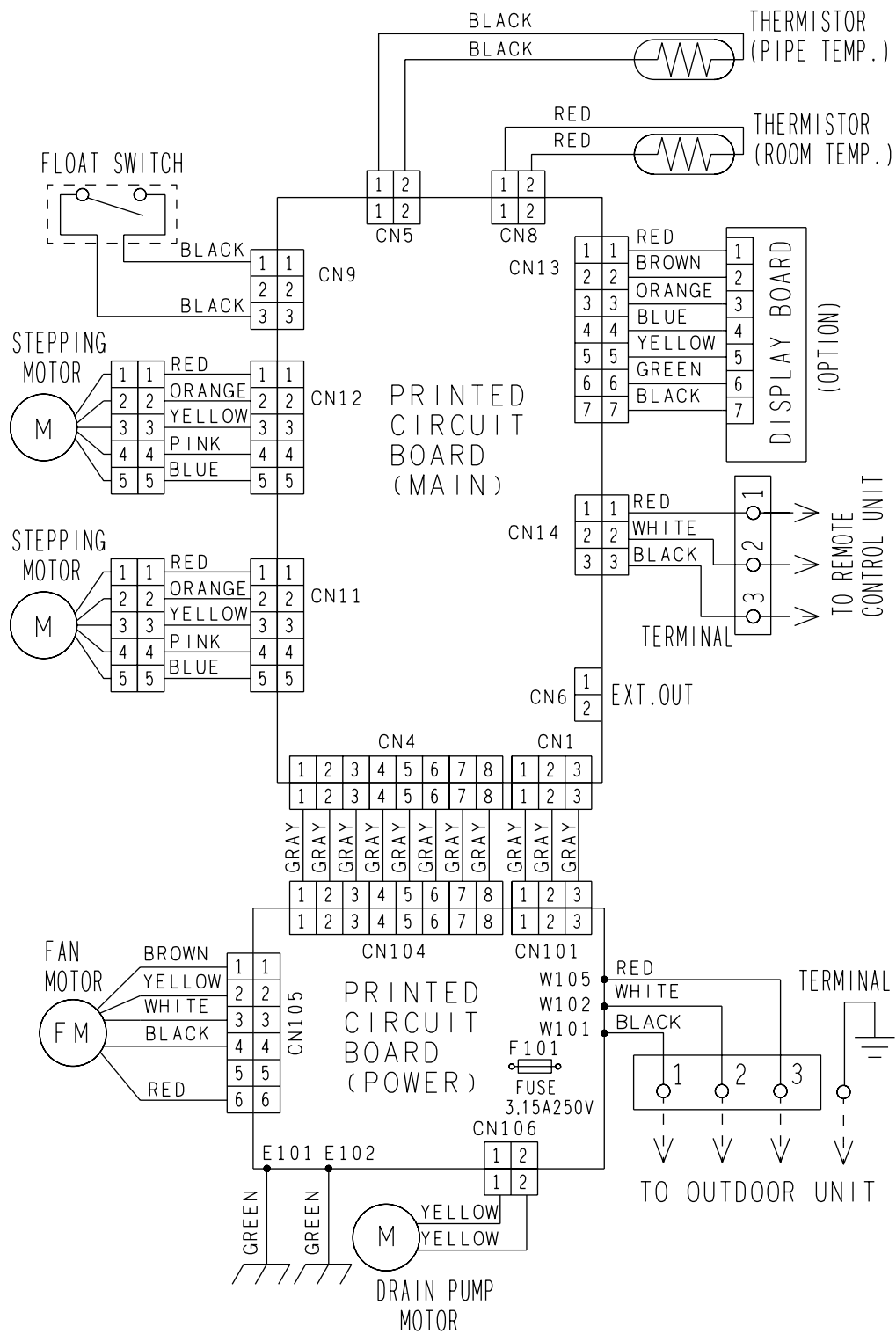
● 3-way directions setting



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.

1-5. WIRING DIAGRAMS

MODEL: AU*A45L



1-6. CAPACITY TABLE

1-6-1. COOLING CAPACITY

This table is created using the maximum capacity.

■ MODEL: AU*45L

AFR	31.7
-----	------

		Indoor temperature																				
		18			21			23			25			27			29			32		
		12			15			16			18			19			21			23		
Outdoor temperature	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	-15	11.00	8.83	1.99	12.26	8.88	2.03	12.68	9.65	2.04	13.51	9.68	2.06	13.93	10.46	2.07	14.76	10.42	2.09	15.60	11.10	2.11
	-10	10.95	8.78	1.99	12.19	8.83	2.03	12.61	9.60	2.04	13.44	9.63	2.06	13.86	10.40	2.07	14.69	10.36	2.09	15.52	11.04	2.11
	0	10.88	8.51	2.00	12.11	8.56	2.04	12.53	9.31	2.05	13.35	9.34	2.07	13.77	10.08	2.08	14.59	10.04	2.10	15.42	10.70	2.12
	5	10.83	8.61	2.05	12.06	8.66	2.08	12.47	9.41	2.09	13.30	9.44	2.11	13.71	10.20	2.12	14.53	10.16	2.15	15.35	10.82	2.17
	10	10.81	8.73	2.12	12.05	8.79	2.16	12.46	9.55	2.17	13.28	9.58	2.19	13.69	10.35	2.20	14.51	10.31	2.22	15.33	10.98	2.25
	15	10.75	8.71	2.23	11.97	8.76	2.26	12.38	9.53	2.27	13.20	9.56	2.29	13.61	10.32	2.31	14.42	10.28	2.33	15.24	10.95	2.35
	20	11.01	8.69	2.74	12.26	8.74	2.78	12.68	9.50	2.79	13.51	9.53	2.82	13.93	10.29	2.84	14.77	10.25	2.87	15.60	10.92	2.89
	25	11.09	8.80	3.18	12.35	8.85	3.23	12.77	9.62	3.25	13.62	9.65	3.28	14.04	10.42	3.30	14.88	10.38	3.33	15.72	11.06	3.36
	30	11.36	8.84	4.30	12.66	8.89	4.36	13.09	9.67	4.38	13.95	9.70	4.43	14.38	10.47	4.45	15.24	10.43	4.50	16.11	11.11	4.54
	35	11.06	8.98	4.29	12.32	9.03	4.35	12.74	9.82	4.38	13.58	9.85	4.42	14.00	10.64	4.44	14.84	10.60	4.49	15.68	11.29	4.53
	40	8.64	7.71	3.59	9.63	7.75	3.65	9.96	8.43	3.67	10.61	8.46	3.71	10.94	9.13	3.72	11.60	9.10	3.76	12.26	9.69	3.80
	46	5.97	6.37	2.71	6.65	6.41	2.76	6.88	6.97	2.77	7.33	6.99	2.80	7.56	7.55	2.81	8.01	7.52	2.84	8.47	8.01	2.87

AFR : Air flow rate (m³/min)
 TC : Total capacity (kW)
 SHC : Sensible Heat capacity (kW)
 PI : Power Input (kW)

1-6-2. HEATING CAPACITY

This table is created using the maximum capacity.

MODEL: AU*A45L

AFR	31.7
-----	------

			Indoor temperature									
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-15	-16	11.43	4.49	11.16	4.58	10.89	4.67	10.62	4.77	10.35	4.86
	-10	-11	12.38	4.49	12.08	4.58	11.79	4.67	11.49	4.77	11.20	4.86
	-5	-7	13.18	4.48	12.87	4.57	12.55	4.67	12.24	4.76	11.93	4.85
	0	-2	14.10	4.48	13.77	4.58	13.43	4.67	13.09	4.76	12.76	4.86
	5	3	16.02	4.49	15.64	4.58	15.25	4.67	14.87	4.77	14.49	4.86
	7	6	17.01	4.49	16.61	4.58	16.20	4.67	15.80	4.77	15.39	4.86
	10	8	17.19	4.35	16.78	4.44	16.37	4.53	15.96	4.62	15.55	4.71
	15	10	17.32	4.10	16.91	4.19	16.50	4.28	16.09	4.36	15.67	4.43
	20	15	17.46	3.06	17.05	3.12	16.63	3.19	16.22	3.25	15.80	3.30
	24	18	17.51	3.00	17.10	3.06	16.68	3.12	16.26	3.19	15.84	3.24

AFR : Air flow rate (m³/min)
TC : Total capacity (kW)
PI : Power Input (kW)

1-7. FAN PERFORMANCE

1-7-1. AIR VELOCITY DISTRIBUTION

1-7-1-1. STANDARD MODE

■ MODEL: AU*A45L

● 4-way air outlet

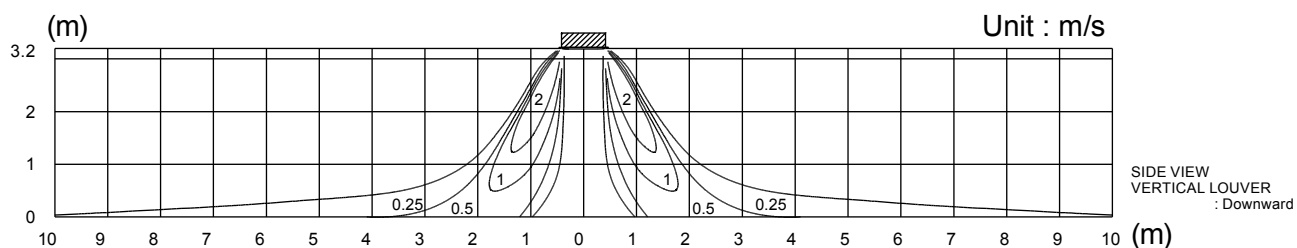
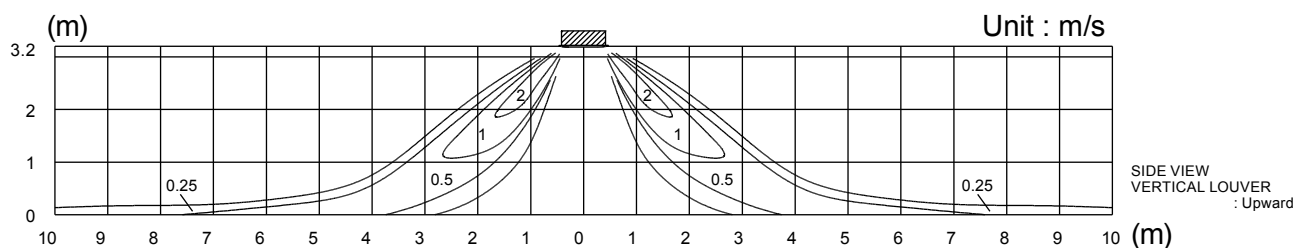
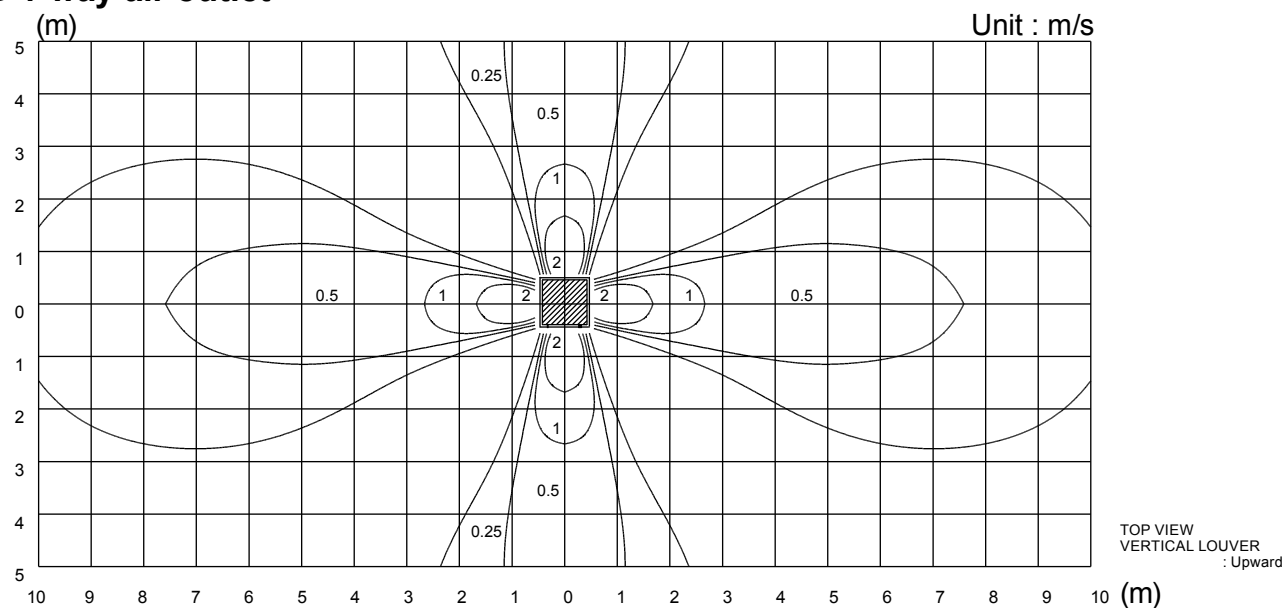
Note:

Condition

Fan speed : High

Operation mode : FAN

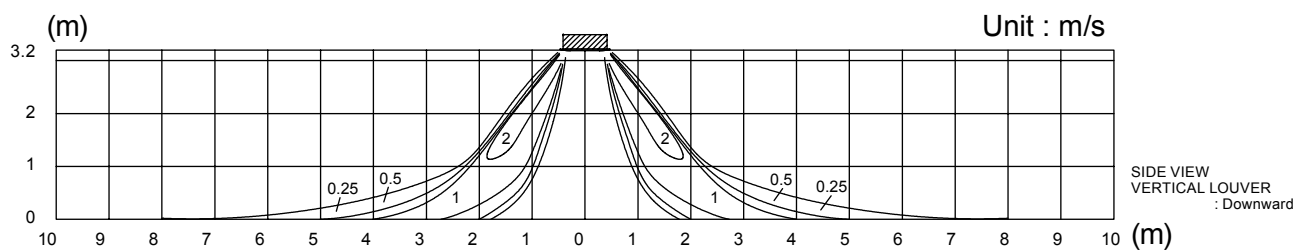
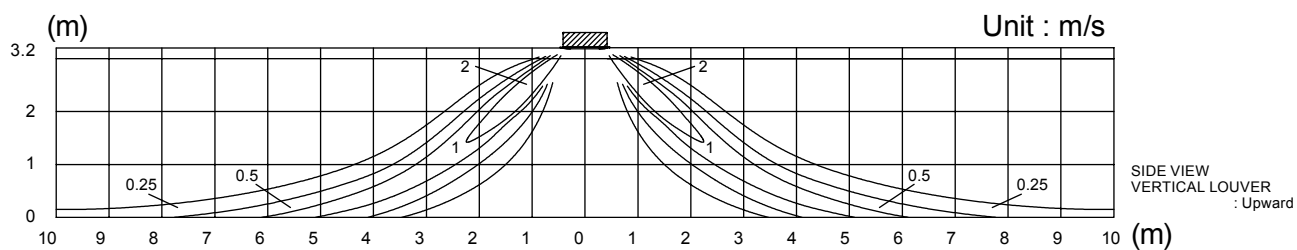
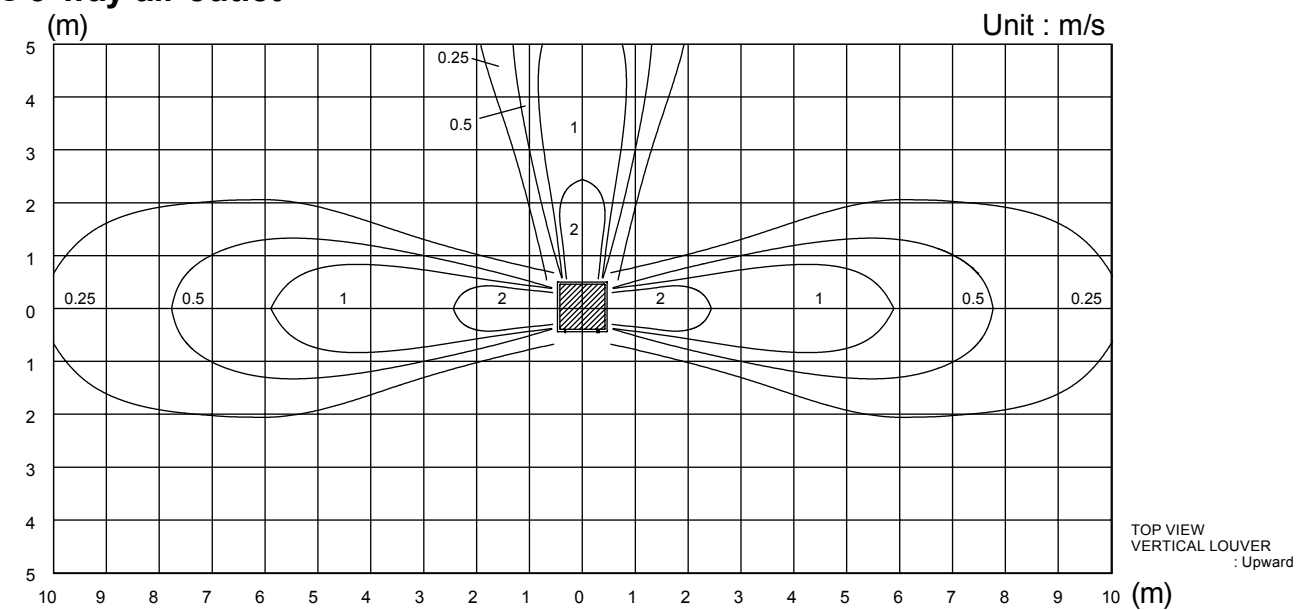
Ceiling mode : Standard



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

MODEL: AU*A45L

● 3-way air outlet

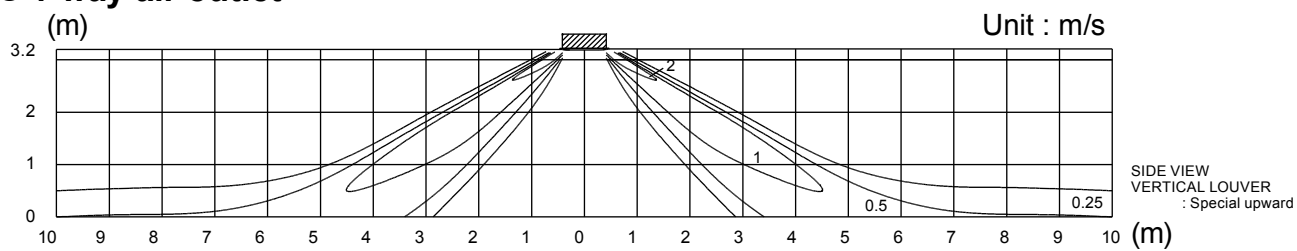


1-7-1-2. SPECIAL UPWARD MODE

■ MODEL: AU*A45L

● 4-way air outlet

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



1-7-2. AIR FLOW

1-7-2-1. 4-WAY OUTLET

■ MODEL: AU*A45L

● Cooling / Heating

Fan speed	Number of rotations (r.p.m.)	Air flow	
HIGH	690	m ³ /h	1900
		l/s	528
		CFM	1118
MED	610	m ³ /h	1640
		l/s	456
		CFM	965
LOW	550	m ³ /h	1460
		l/s	406
		CFM	859
QUIET	470	m ³ /h	1250
		l/s	347
		CFM	736

1-7-2-2. 3-WAY OUTLET

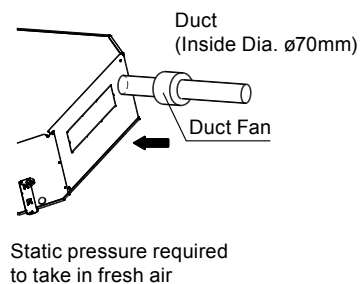
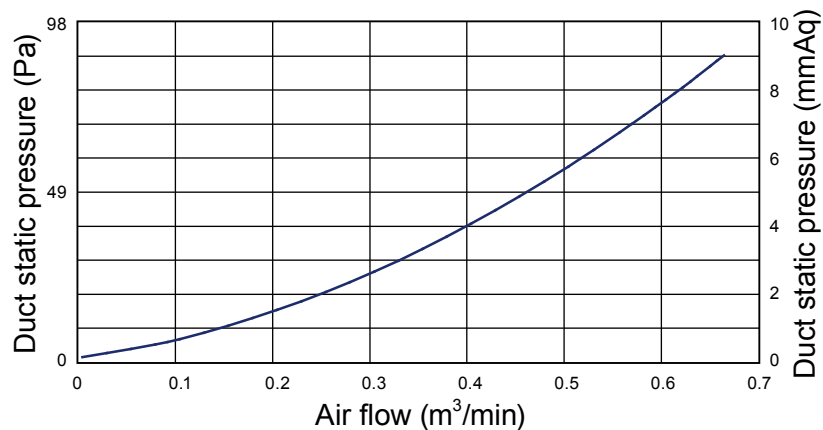
■ MODEL: AU*A45L

● Cooling / Heating

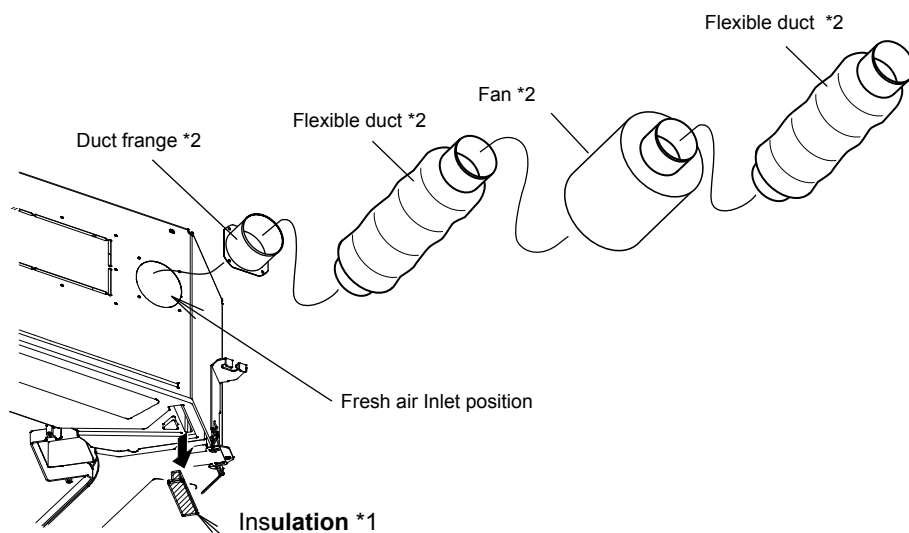
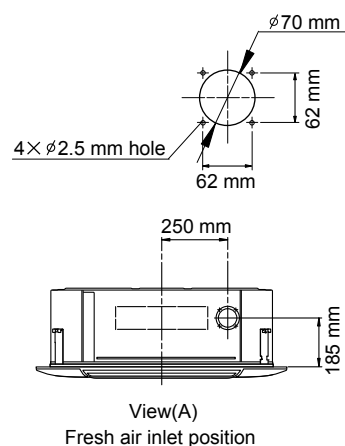
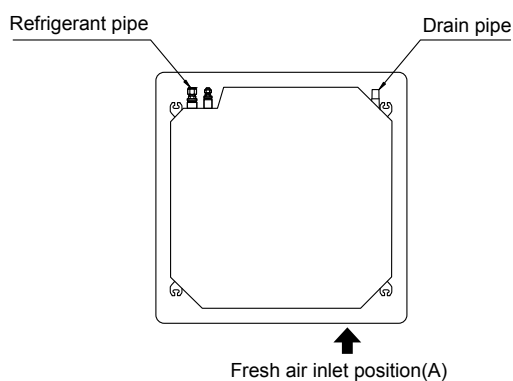
Fan speed	Number of rotations (r.p.m.)	Air flow	
HIGH	720	m ³ /h	1690
		l/s	469
		CFM	995
MED	640	m ³ /h	1490
		l/s	414
		CFM	877
LOW	580	m ³ /h	1340
		l/s	372
		CFM	789
QUIET	500	m ³ /h	1140
		l/s	317
		CFM	671

1-7-3. FRESH AIR

■ MODEL: AU*A45L



● Installation



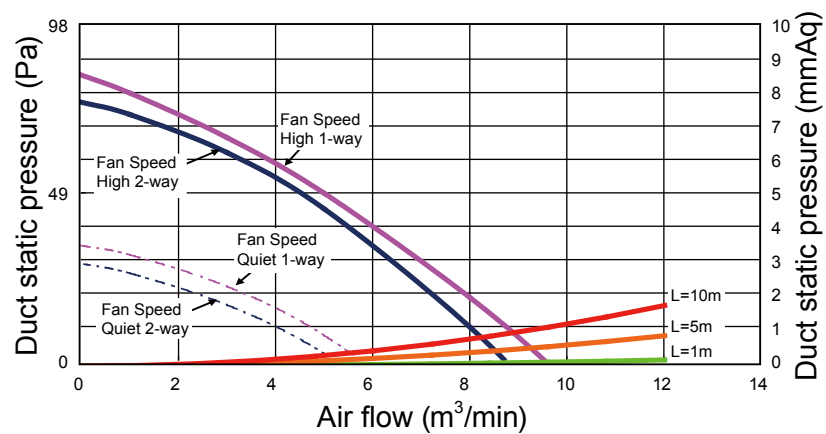
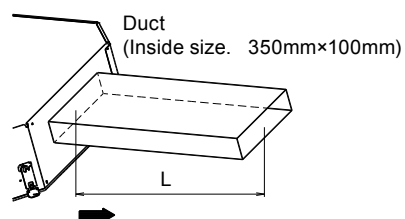
*1 : In case of fresh air intake, please remove the insulation.

*2 : Locally procured parts

1-7-4. DUCT CONNECTION

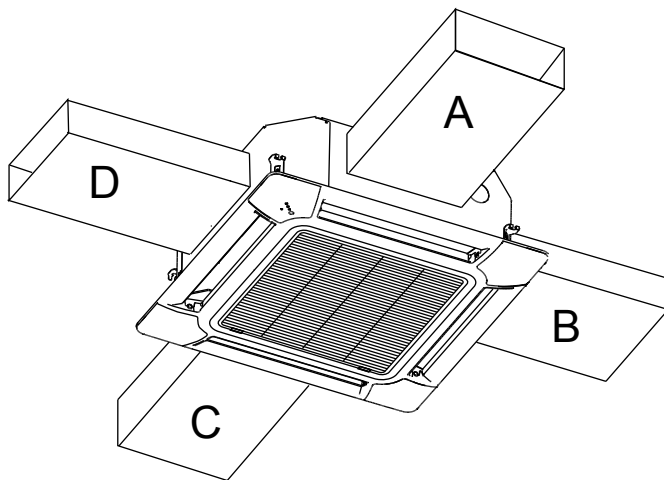
■ MODEL: AU*A45L

● Outlet air

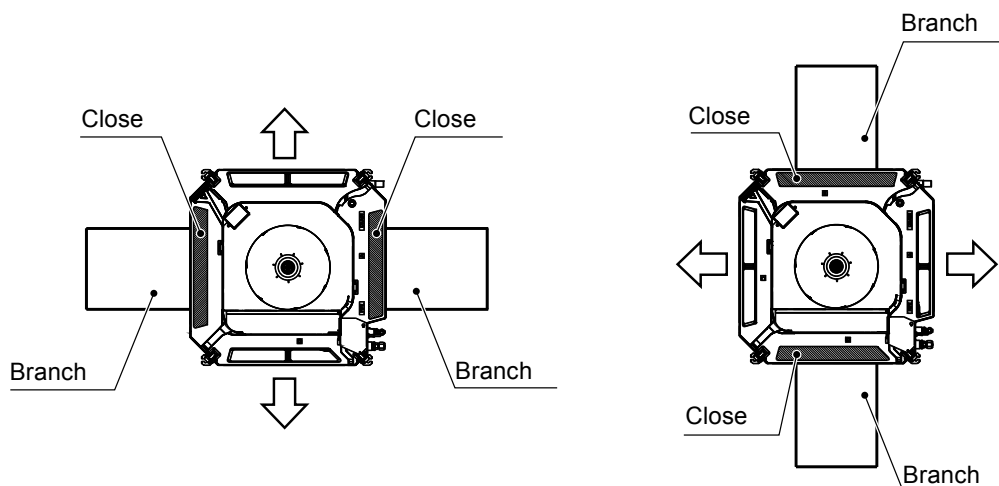


■ PRECAUTIONS WHILE CONNECTING AIR OUTLET DUCT

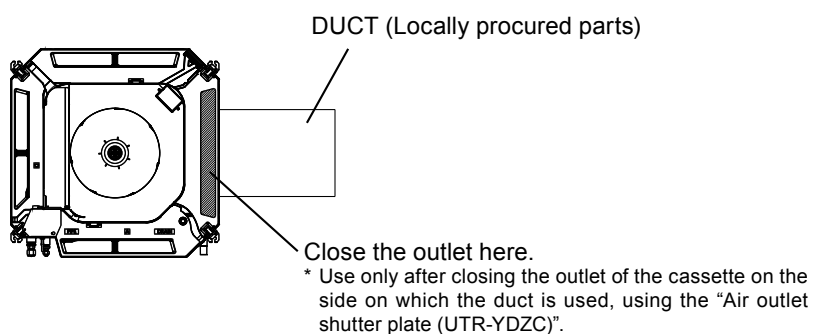
- Connect the air outlet duct at up to two locations among the four duct connection locations. (Do not connect ducts at three or more locations.)



- 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.

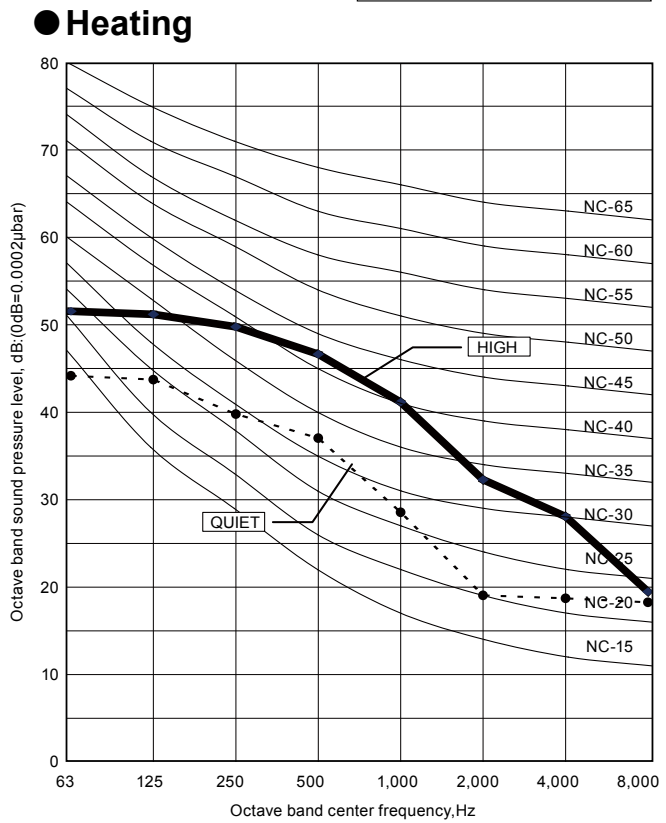
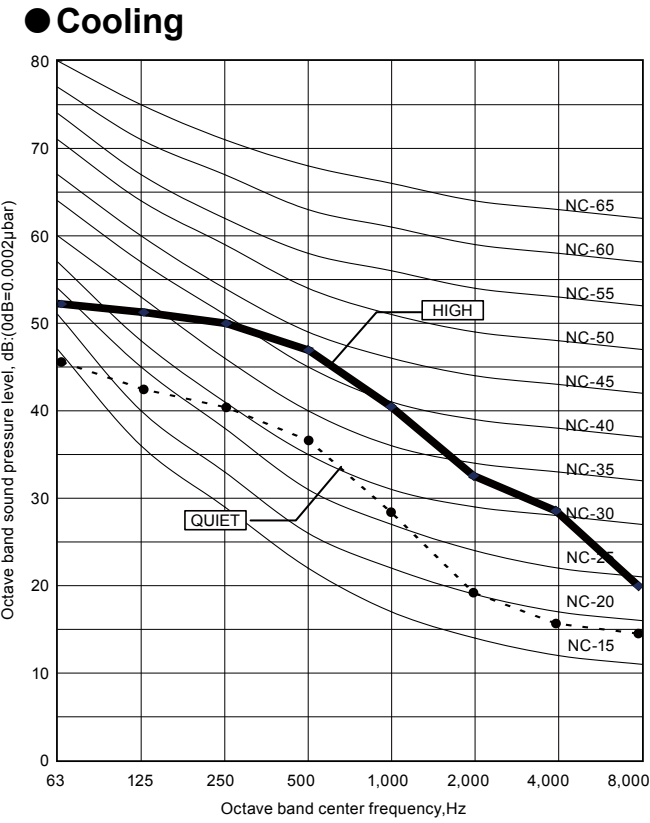


1-8. OPERATION NOISE

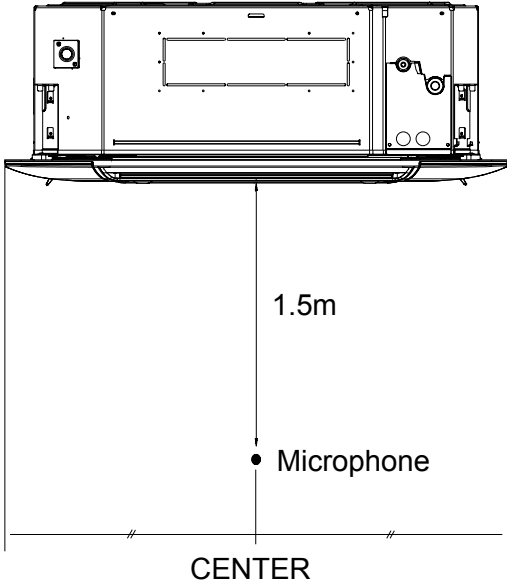
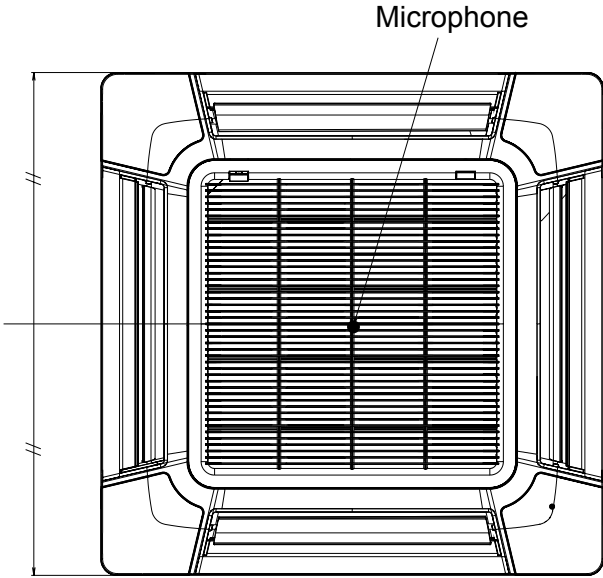
1-8-1. NOISE LEVEL CURVE

■ **MODEL: AU*A45L**

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



1-8-2. SOUND LEVEL CHECK POINT



1-9. ELECTRIC CHARACTERISTICS

Model name			AU* A45L
Power supply	Voltage	V	230 ~
	Frequency	Hz	50
Max. operating current (Indoor unit)		A	1.2
Wiring spec. (Indoor unit to outdoor unit)	Connection cable	mm ²	1.5 (Min.)
	Limited wiring length	m	50

1-10. SAFETY DEVICES

	Protection form	Model
		AU* A45L
Circuit protection	Current fuse (PCB)	3.15A 250V
Fan motor protection	Thermal protection program	110±15°C OFF 105±15°C ON

1-11. EXTERNAL INPUT & OUTPUT

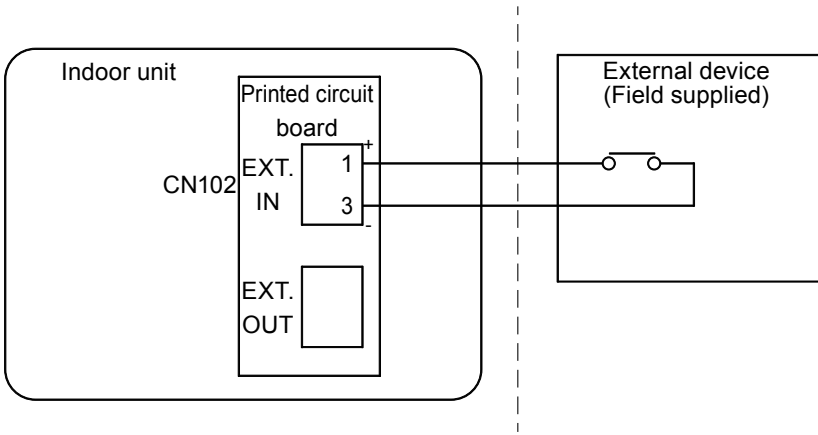
Connector	INPUT	OUTPUT	REMARKS
CN102	CONTROL OPERATION (ON / OFF)	—	See external input/output settings for details.
CN103	—	OPERATION DISPLAY	
CN6	—	FRESH AIR CONTROL	

EXTERNAL INPUT

You can control air conditioner ON/OFF operation by external input.

Note) Only ON / OFF external input can be set up. Use the remote controller to set MODE, AIR FLOW RATE, SET TEMPERATURE and other values. When the air conditioner starts operating, it operates with the settings used when it stopped previously.

[Example]

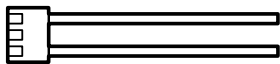


Signal Specification	
Non-voltage contact ON/OFF continuous signal Contact capacity: 12VDC, 10mA	
external input signal	ON OFF
remote controller signal	ON OFF ON OFF
indoor unit status	OPERATION STOP

Parts (Optional)

Model name	Parts No.
UTY-XWZX	9028651003

Wire (External input) : Orange / Yellow

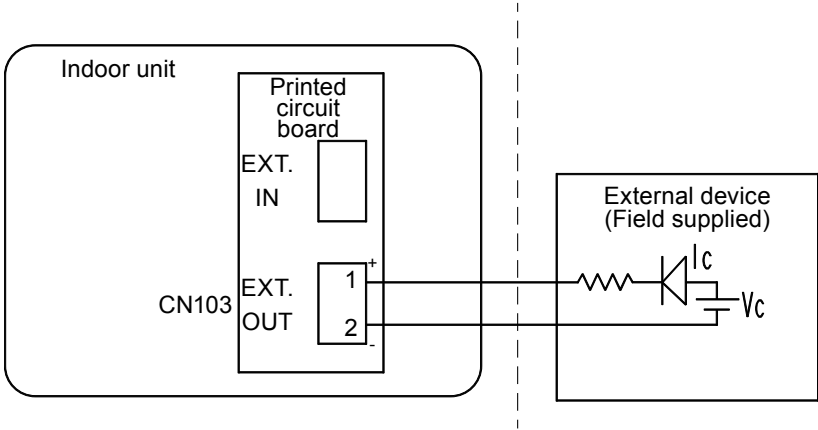


EXTERNAL OUTPUT

You can display air conditioner ON/OFF operation by external output.

Note) Only ON/OFF is output as external output. Regarding MODE, AIR FLOW RATE, SET TEMPERATURE, error signals and others, please check the display on the main unit or the remote controller.

[Example]



Signal Specification	
Non-voltage contact Contact capacity: Max. 24VDC, 10mA to less than 1A	
indoor unit status	OPERATION
	STOP
external output signal	SHORT
	OPEN

Parts (Optional)

Model name	Parts No.
UTY-XWZX	9028651003

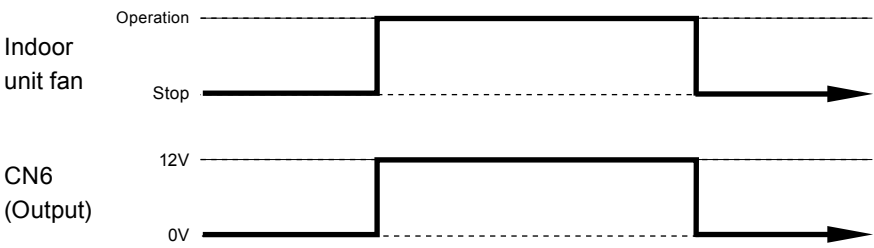
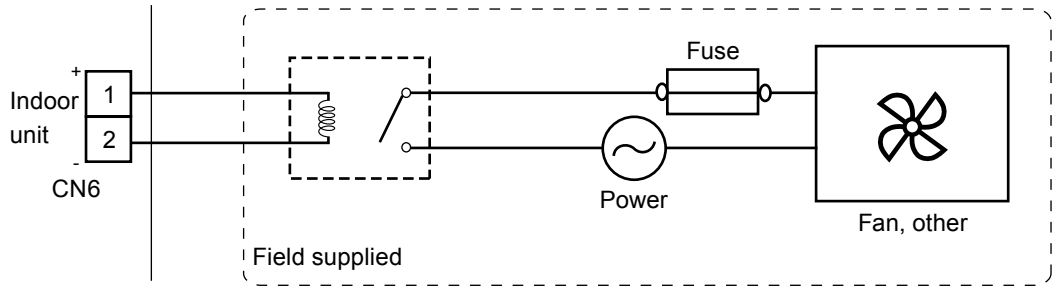
Wire (External output) : Blue / Purple



FRESH AIR CONTROL OUTPUT

You can control sub fan by synchronizaton with fan operation of indoor unit.

[Example]



Parts (Optional)

Model name	Parts No.
UTD-ECS5A	9077359004

Wire (Fresh air output)



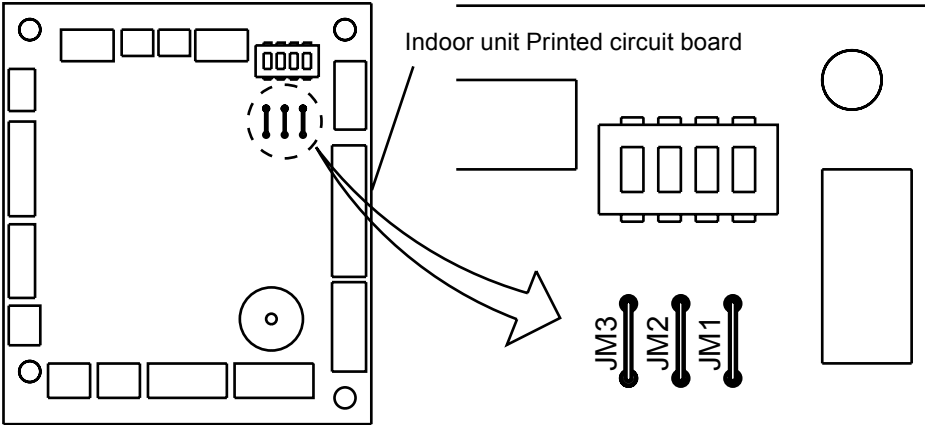
1-12. FUNCTION SETTING

1-12-1. INDOOR UNIT

INDOOR UNIT		
DIP SW	1	Forbidden
	2	
	3	
	4	
Jumper Wire	JM1	Remote control unit signal code
	JM2	
	JM3	Fan delay setting

■ SWITCH POSITION

MAIN PCB



■ JUMPER WIRE SETTING

Remote control unit signal code

Indoor unit setting

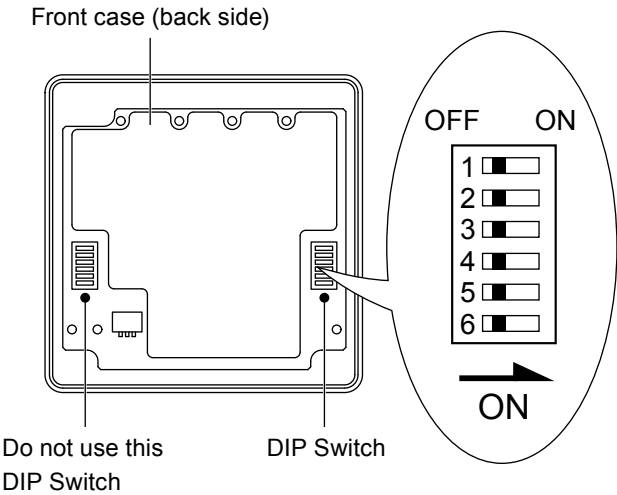
(◆... Factory setting)

Jumper wire		Remote control unit signal code
JM 1	JM 2	
Connect	Connect	A ◆
Disconnect	Connect	B
Connect	Disconnect	C
Disconnect	Disconnect	D

1-12-2. WIRED REMOTE CONTROLLER

DIP SW	1	Can not be used. (Do not change)
	2	Dual remote controller setting
	3	Can not be used. (Do not change)
	4	Can not be used. (Do not change)
	5	Can not be used. (Do not change)
	6	Memory backup setting

SWITCH POSITION



DIP SWITCH SETTING

1. Dual remote controller setting

Set the remote controller DIP switch No.2 according to the following table.

(◆... Factory setting)

	Number of remote controller	Master unit	Slave unit
		DIP-SW No.2	DIP-SW No.2
◆	1 (Normal)	OFF	—
	2 (Dual)	OFF	ON

2. 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)

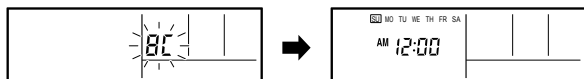
	DIP-SW No.6	Memory backup
◆	OFF	Invalidity
	ON	Validity

CAUTION

- Confirm whether the wiring work for outdoor unit has been finished.
- Confirm whether the cover for electric control box on the outdoor unit is close.

1. Turning on the power

- (1) Check the remote controller wiring and DIP switch settings.
- (2) Install the front case.
When installing the front case, connect the connector to the front case.
- (3) Check the indoor and outdoor unit wiring and circuit board switch settings, and then turn on the indoor and outdoor units. After "8C" has flashed on the set temperature display for several seconds, the clock display will appear in the center of the remote controller display.
The clock display will appear in the center of the remote controller display.

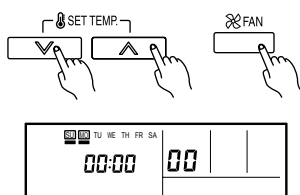


2. Function setting

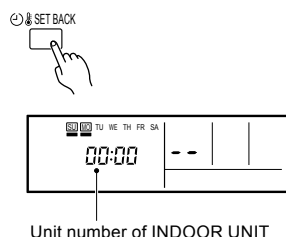
- This procedure changes to the function settings used to control the indoor unit according to the installation conditions. Incorrect settings can cause the indoor unit malfunction.
- After the power is turned on, perform the "FUNCTION SETTING" according to the installation conditions using the remote 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.

Operation Method

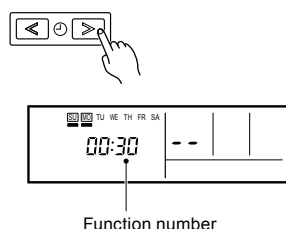
- (1) Press the set temperature buttons (▽) (△) and fan control button simultaneously for more than 5 seconds to enter the function setting mode.



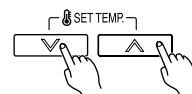
- (2) Press the SET BACK button to select the indoor unit number.



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



- (4) Press the set temperature buttons (▽) (△) to select the setting value.
The display flashes as shown to the right 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 temperature buttons (▽) (△) and fan control 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.

Setting the Ceiling Height

- Select the setting values in the table below according to the height of the ceiling. (The unit is factory-set to "00".)

Setting Description [m]	Function Number	Setting Value
Standard (3.2m)	20	00
Low ceiling (2.7m)		01
High ceiling (4.2m)		02

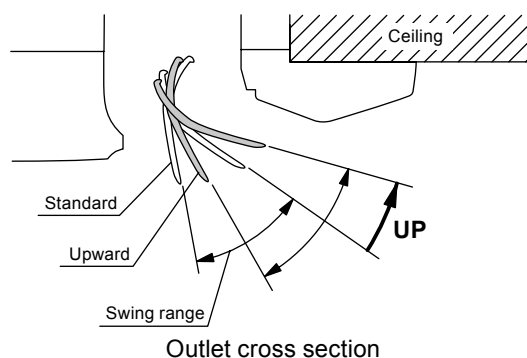
The ceiling height values are for the 4-way outlet.

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

Setting the vertical direction adjusting scope

- To prevent from draft, we recommend using "upward mode". (The unit is factory-set to "00".)

Setting Description	Function Number	Setting Value
Standard	23	00
Upward		01



Setting the Outlet Directions

- Select the setting values in the table below for using a 3-way outlet. (The unit is factory-set to "00".)

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

Setting the 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. (The unit is factory-set to "00".)
- If you do not wish the filter sign to be displayed, select the setting value for "No indication".

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

Setting the 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. (The unit is factory-set to "00".)

Setting Description	Function Number	Setting Value
Standard	30	00
Lower control		01

Setting the 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. (The unit is factoryset to "00".)

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

Setting Other Functions

- The following settings are also possible, depending on the operating conditions. (The unit is factory-set to "00".)

Auto Restart

Setting Description	Function Number	Setting Value
Yes	40	00
No		01

Indoor Room Temperature Sensor Switching Function (Wired remote controller only)

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 control unit sensor.

Setting record

- Record any changes to the settings in the following table.

Setting	Setting Value
Ceiling height	
Vertical direction adjusting scope	
Outlet directions	
Filter sign	
Cooler room temperature correction	
Heater room temperature correction	
Auto restart	
Indoor room temperature sensor switching function	

After completing the FUNCTION SETTING, be sure to turn off the power and turn it on again.

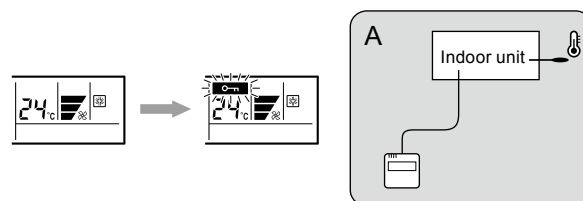
3. Setting the room temperature detection location

The detection location of the room temperature can be selected from the following two examples. Choose the detection location that is best for the installation location.

A. Indoor unit setting (factory setting)

The room temperature is detected by the indoor unit temperature sensor.

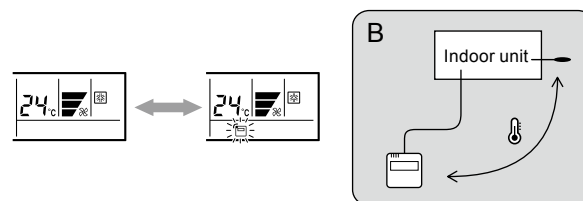
- When the THERMO SENSOR button is pressed, the lock display flashes because the function is locked at the factory.



B. Indoor unit/remote controller setting (room temperature sensor selection)

The temperature sensor of the indoor unit or the remote controller can be used to detect the room temperature.

- Enable the room temperature sensor selection in FUNCTION SETTING, which will be described later.
- Press the THERMO SENSOR button for 5 seconds or more to select the temperature sensor of the indoor unit or the remote controller.

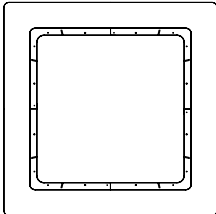
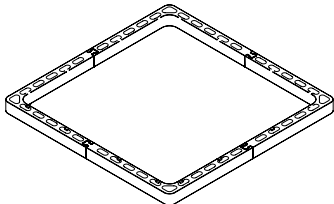
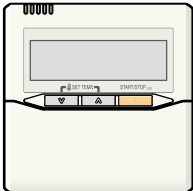
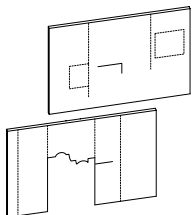
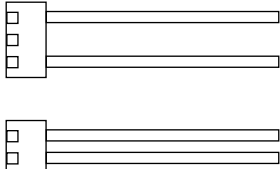


NOTE

If the function to change the temperature sensor is used as shown in examples A (other than example B), be sure to lock the detection location.

If the function is locked, the lock display  will flash when the THERMO SENSOR button is pressed.

1-13. OPTIONAL PARTS

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 Decoration panel.
	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 behind the ceiling installation height is 298mm.)
	IR Receiver kit	UTY-LRH*A1	Unit control is performed by wireless remote controller
	Wired remote controller	UTB-*UD	Unit control is performed by wired remote controller
	Insulation kit for high humidity	UTZ-KXGA	Install when the under roof condition is expected to be the humidity of over 80% and the 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.

Exterior	Parts name	Model No.	Summary
	Fresh air intake kit	UTZ-VXGA	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.

2. OUTDOOR UNIT

SINGLE TYPE :

AO*A45LBTL

CONTENTS

2. OUTDOOR UNIT

2-1. SPECIFICATIONS	02-01
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2-4. WIRING DIAGRAMS	02-04
2-5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE	02-05
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2-8-2. SOUND LEVEL CHECK POINT	02-09
2-9. ELECTRIC CHARACTERISTICS	02-10
2-10. SAFETY DEVICES	02-11

2-1. SPECIFICATIONS

Type				INVERTER HEATPUMP	
Model name				AO✱A45LBT	
Power source				230V ~ 50Hz	
Available voltage range				198-264V ~ 50Hz	
Starting current			A	15.0	
Fan	Airflow rate	Cooling	m³/h	6600	
		Heating		6600	
	Type × Q'ty		Propeller × 2		
	Motor output		W	103 × 2	
Sound pressure level		Cooling	dB(A)	55	
		Heating		56	
Heat exchanger type		Dimensions (H × W × D)	mm	1260 × 900 × 36.4	
		Fin pitch		1.30	
		Rows x Stages		2 × 60	
		Pipe type		Copper	
		Fin type		Aluminium	
Compressor	Type × Q'ty			Twin Rotary × 1	
	Motor output		W	3750	
Refrigerant		Type		R410A	
		Charge	g	3350	
Refrigerant oil		Type		POE	
Enclosure		Material		Steel sheet	
		Colour		BEIGE (Approximate colour of MUNSELL 10 YR 7.5 / 1.0)	
Dimensions (H×W×D)	Net		mm	1290 × 900 × 330	
	Gross			1430 × 1050 × 445	
Weight	Net		kg (lb.)	98 (216)	
	Gross			107 (236)	
Connection pipe	Size	Liquid	mm	Ø 9.52 (Ø 3/8 in.)	
		Gas		Ø 15.88 (Ø 5/8 in.)	
	Method			Flare	
	Max. length		m	50(chargeless:20)	
	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 : 7.5 m, Height difference : 0 m.(Outdoor unit - Indoor unit)

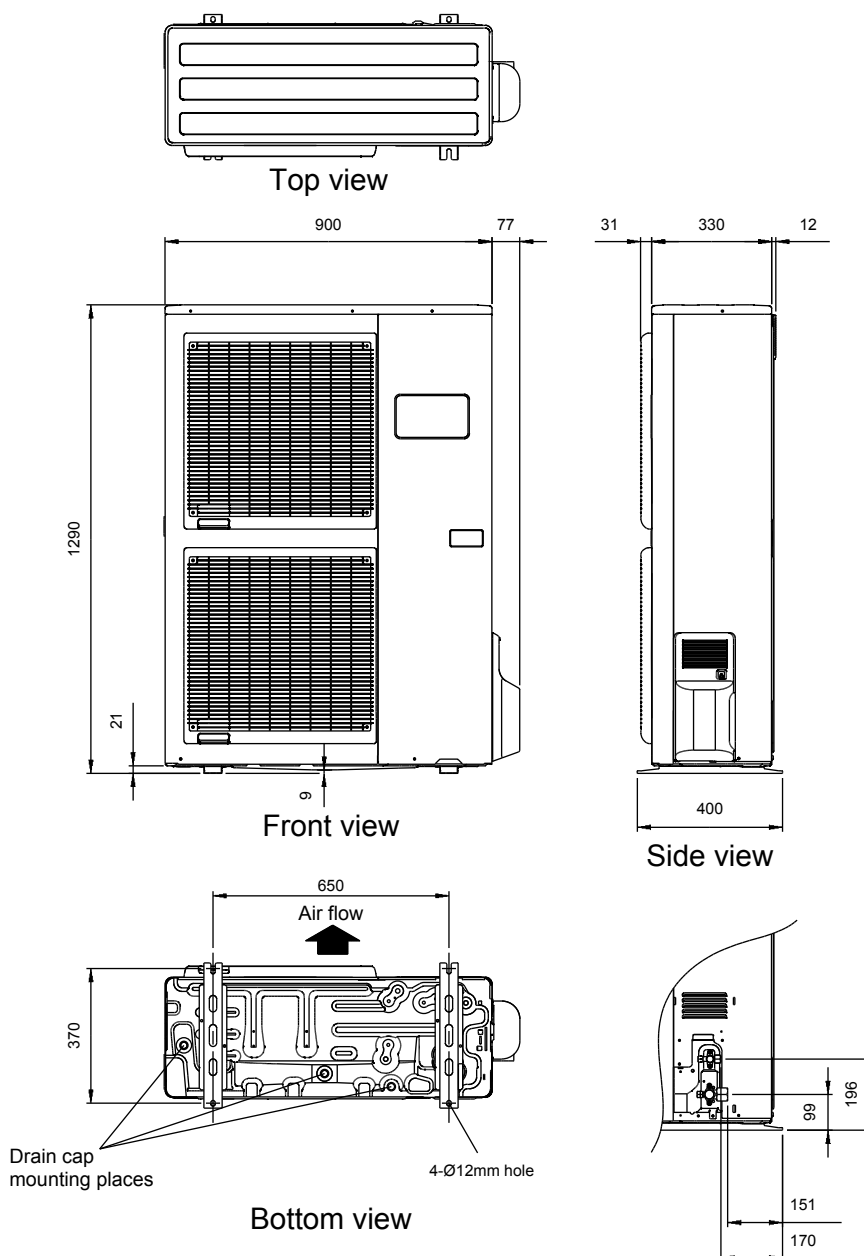
2-2. DIMENSIONS

■ MODEL: AO*A45L

(Unit : mm)

OUTDOOR UNIT
AO*A45L

OUTDOOR UNIT
AO*A45L



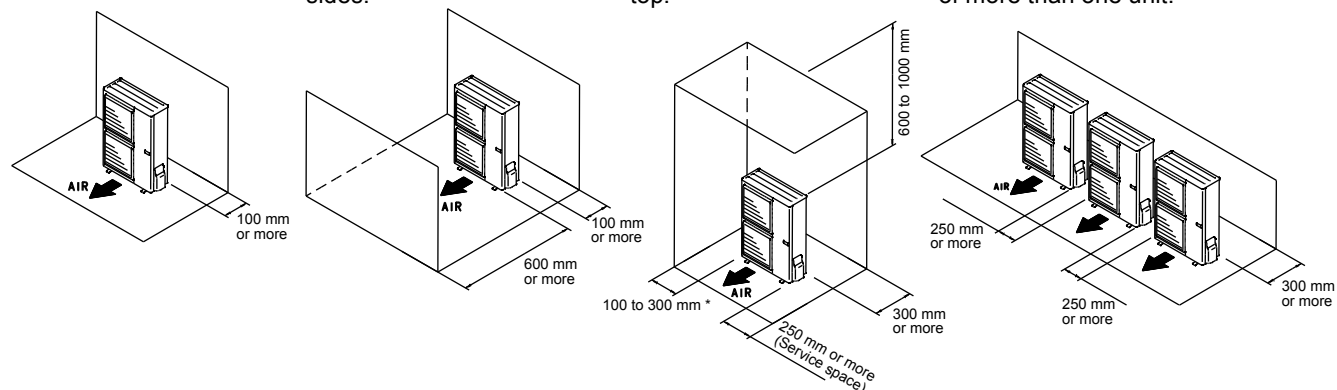
■ MOUNTING POSITION

When there are obstacles at the back or front side.

When there are obstacles at the back and front sides.

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

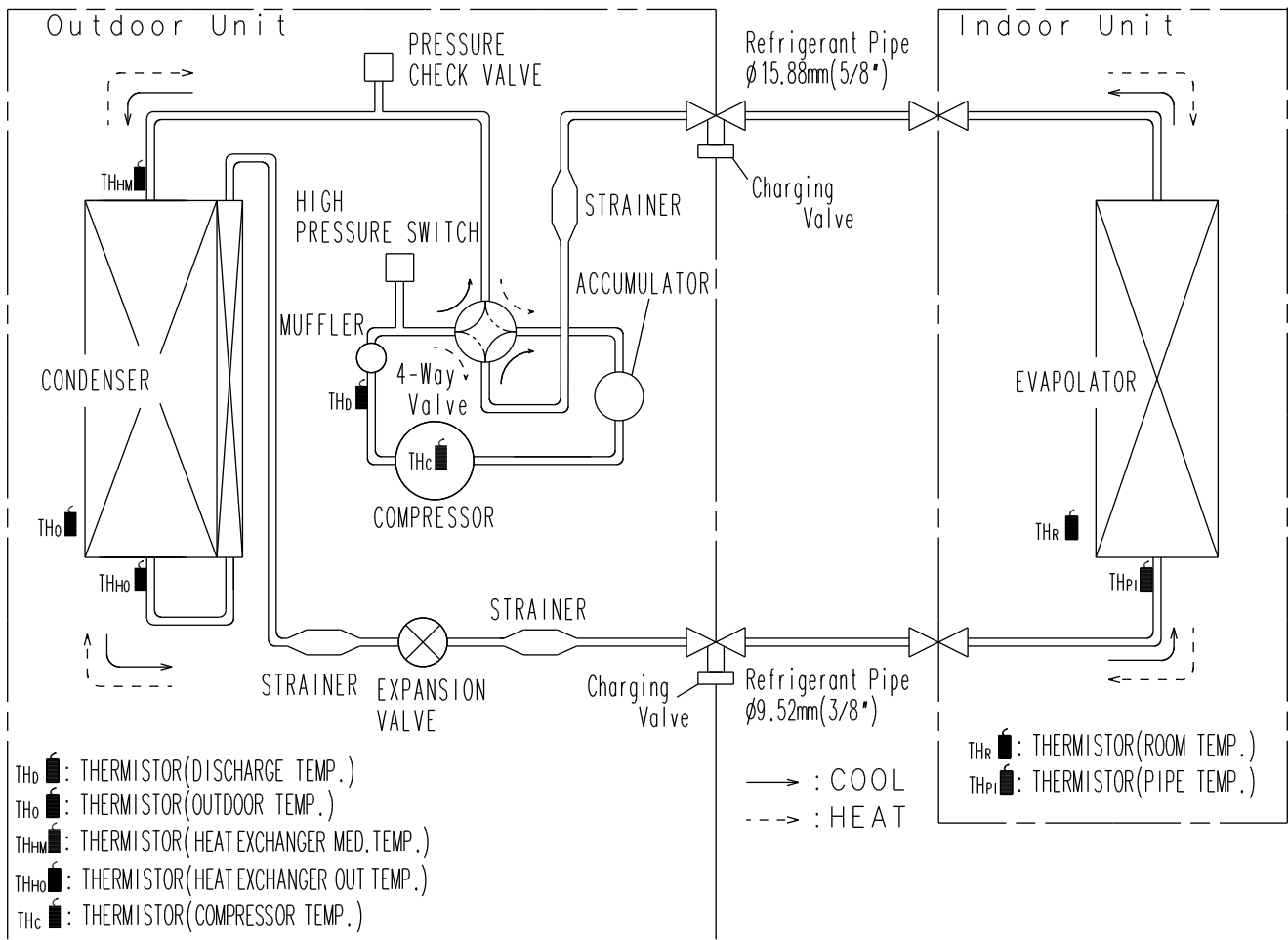
When there are obstacles at the back side with the installation of more than one unit.



* If the space is larger than that is stated, the condition will be the same as that there are no obstacles.

2-3. REFRIGERANT CIRCUIT

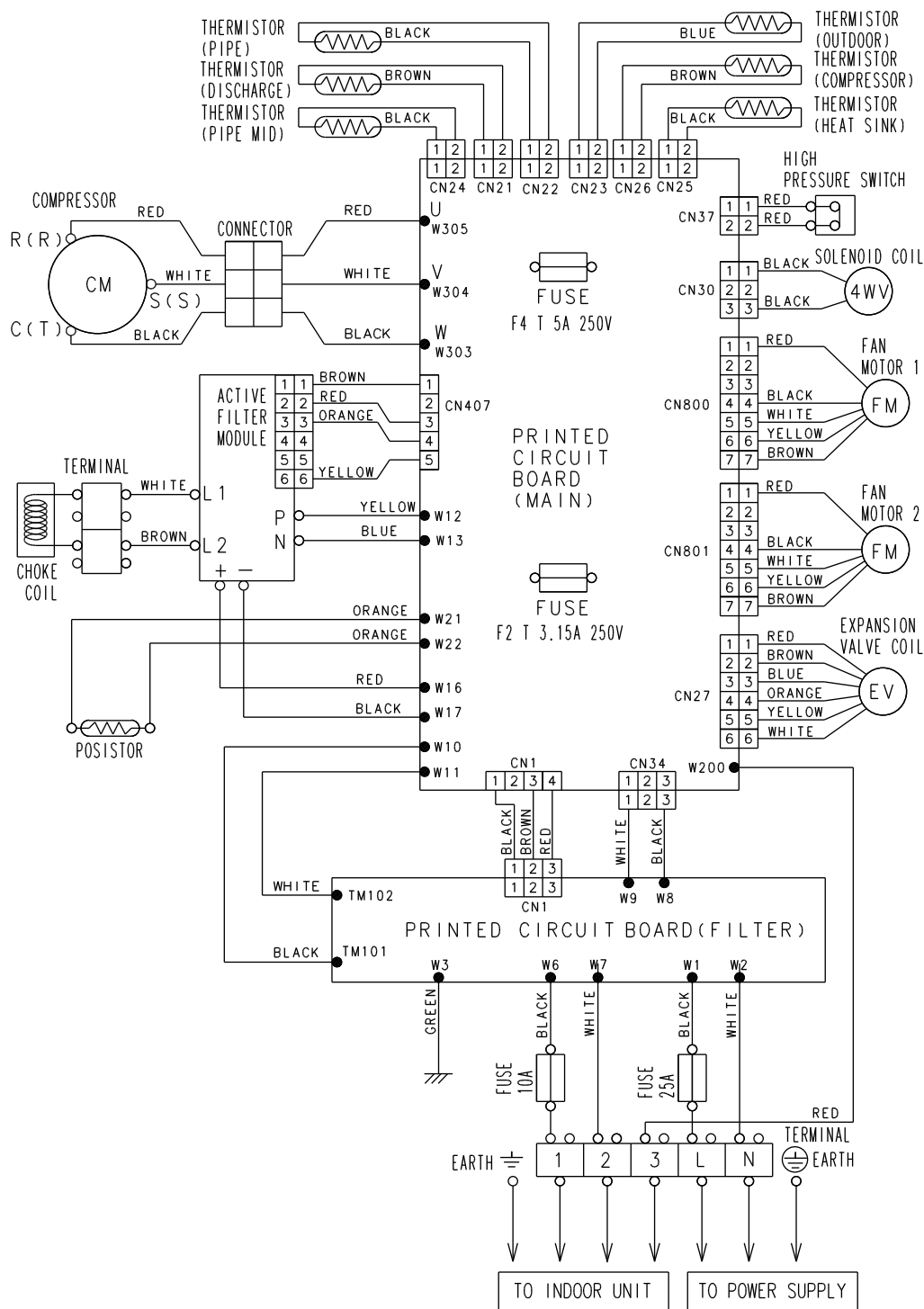
■ MODEL: AO*A45L



2-4. WIRING DIAGRAMS

■ MODEL: AO*A45L

OUTDOOR UNIT
AO*A45L



OUTDOOR UNIT
AO*A45L

2-5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

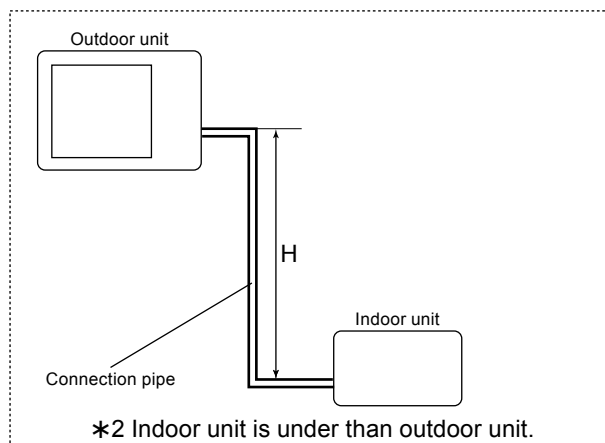
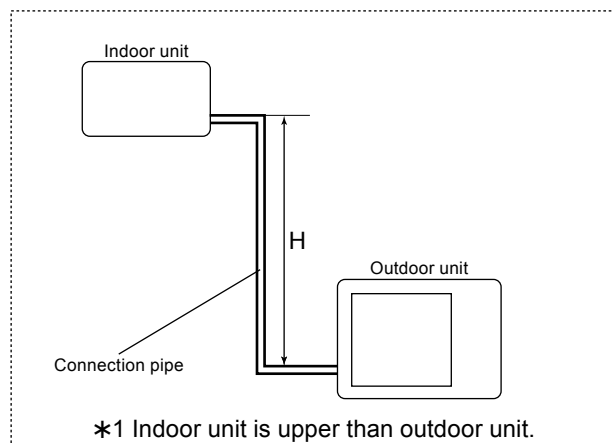
This table is created using the maximum capacity.

■ MODEL: AO*A45L

COOLING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	*1 Indoor unit is upper than outdoor unit.	30	—	—	—	—	0.893	0.890	0.870
		20	—	—	—	0.919	0.908	0.905	0.885
		10	—	—	0.979	0.934	0.923	0.920	0.899
		7.5	—	0.988	0.983	0.938	0.927	0.924	0.903
		5	1.001	0.992	0.987	0.942	0.931	0.927	0.907
		0	1.009	1.000	0.995	0.949	0.938	0.935	0.914
	*2 Indoor unit is under than outdoor unit	-5	1.009	1.000	0.995	0.949	0.938	0.935	0.914
		-7.5	—	1.000	0.995	0.949	0.938	0.935	0.914
		-10	—	—	0.995	0.949	0.938	0.935	0.914
		-20	—	—	—	0.949	0.938	0.935	0.914
		-30	—	—	—	—	0.938	0.935	0.914

HEATING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	*1 Indoor unit is upper than outdoor unit.	30	—	—	—	—	0.971	0.950	0.927
		20	—	—	—	0.985	0.971	0.950	0.927
		10	—	—	1.016	0.985	0.971	0.950	0.927
		7.5	—	1.000	1.016	0.985	0.971	0.950	0.927
		5	0.978	1.000	1.016	0.985	0.971	0.950	0.927
		0	0.978	1.000	1.016	0.985	0.971	0.950	0.927
	*2 Indoor unit is under than outdoor unit	-5	0.973	0.995	1.011	0.980	0.966	0.945	0.923
		-7.5	—	0.993	1.009	0.978	0.963	0.943	0.920
		-10	—	—	1.006	0.975	0.961	0.940	0.918
		-20	—	—	—	0.966	0.951	0.931	0.909
		-30	—	—	—	—	0.942	0.921	0.899

Height difference H



2-6. ADDITIONAL CHARGE CALCULATION

■ MODEL : AO*A45L

Refrigerant type		R410A
Refrigerant amount	g	3350

● Refrigerant charge

Pipe length	m	~ 20	30	40	50	50g/m
Additional charge	g	0 (Chargeless)	+500	+1000	+1500	

2-7. AIR FLOW

■ MODEL: AO*A45L

● Cooling

	Number of rotations (r.p.m)	Air flow	
Upper fan	850	m ³ /h	6600
		l/s	1833
Lower fan	750	CFM	3884

● Heating

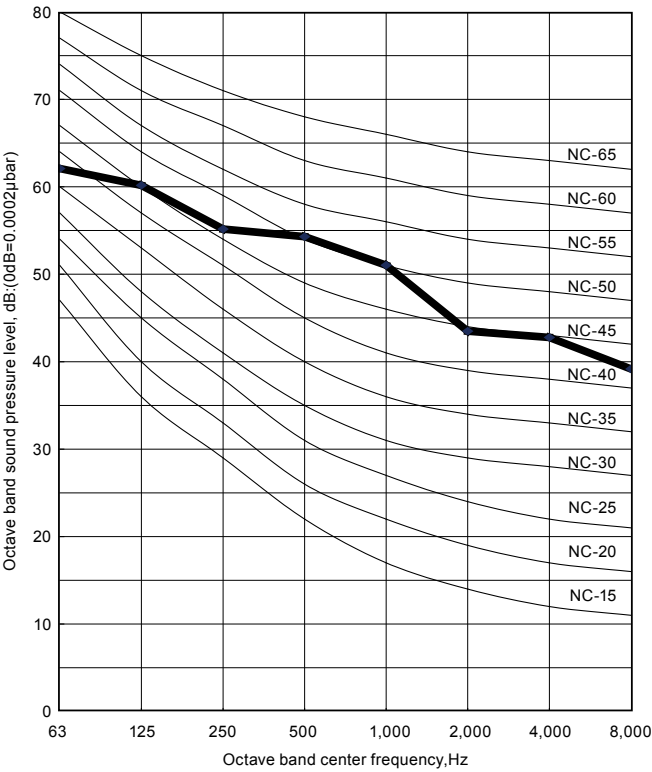
	Number of rotations (r.p.m)	Air flow	
Upper fan	850	m ³ /h	6600
		l/s	1833
Lower fan	750	CFM	3884

2-8. OPERATION NOISE

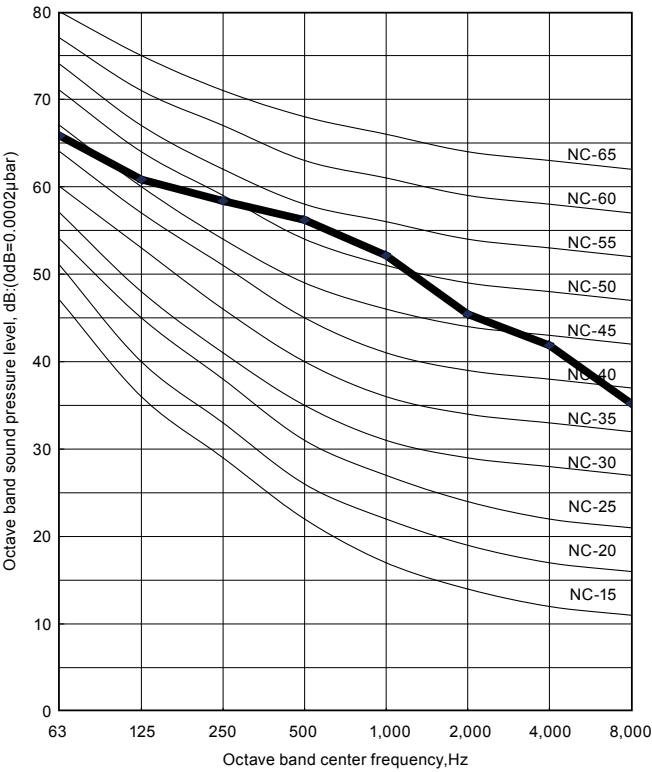
2-8-1. NOISE LEVEL CURVE

■ MODEL: AO*A45L

● Cooling



● Heating

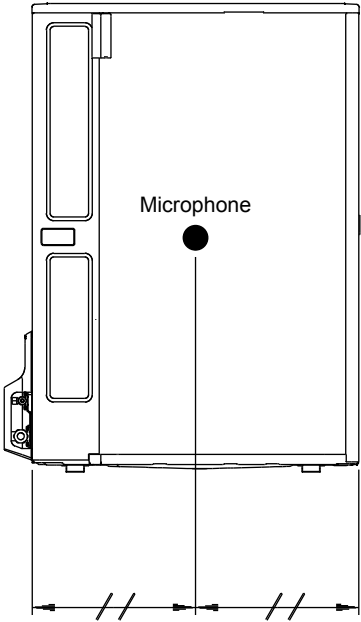
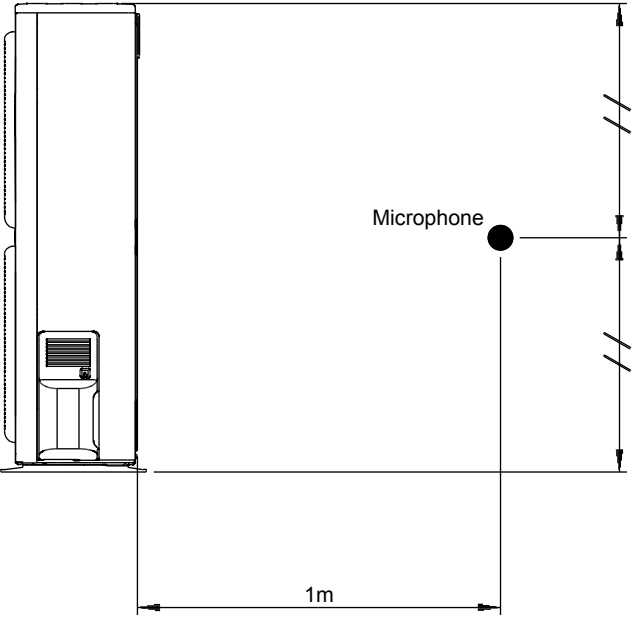


OUTDOOR UNIT
AO*A45L

OUTDOOR UNIT
AO*A45L

2-8-2. SOUND LEVEL CHECK POINT

OUTDOOR UNIT
AO#A45L



OUTDOOR UNIT
AO#A45L

2-9. ELECTRIC CHARACTERISTICS

Model Name			AO*A45L
Power Supply	Voltage	V	230 ~
	Frequency	Hz	50
Max. Operating Current		A	20.0
Starting Current		A	15.0
*1) Wiring Spec.	Main Fuse (Circuit breaker) Current	A	30
	Power Cable	mm ²	5.3 - 6.0
	*2)Limited wiring length	m	17

*1) Wiring Spec. :
 Selected Sample
 (Selected based on Japan Electrotechnical Standard 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.

2-10. SAFETY DEVICES

	Protection form	Model
		AO*A45L
Circuit protection	Current fuse (NEAR THE TERMINAL)	25A 250V
	Current fuse (NEAR THE TERMINAL)	10A 250V
	Current fuse (MAIN PRINTED CIRCUIT BOARD)	5A 250V
	Current fuse (MAIN PRINTED CIRCUIT BOARD)	3.15A 250V
Fan motor protection	Thermal protection program	OFF : 130±20°C ON : 100±20°C
High Pressure Protection	High Pressure Switch	OFF : 4.2±0.1MPa ON : 3.2±0.15MPa
Compressor protection	Thermal protection program (COMPRESSOR TEMP.)	OFF : 110°C ON : 80°C
	Thermal protection program (DISCHARGE TEMP.)	OFF : 115°C ON : After 7 minutes