Refrigerant R410A
INVERTER

AIR CONDITIONER

Cassette type

DESIGN & TECHNICAL MANUAL

INDOOR

AUU9RLF
AUU12RLF
AUU18RLF

OUTDOOR

AOU9RLFC
AOU12RLFC
AOU18RLFC

FUJITSU GENERAL LIMITED

1. INDOOR UNIT

CASSETTE TYPE :

AUU9RLF
AUU12RLF
AUU18RLF

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CASSETTE TYPE
AUU9-18RLF

CONTENTS

1. INDOOR UNIT

CASSETTE TYPE
AUU9-18RLF

1. FEATURES

■ MODEL

AUU9RLF / AOU9RLFC
AUU12RLF / AOU12RLFC
AUU18RLF / AOU18RLFC

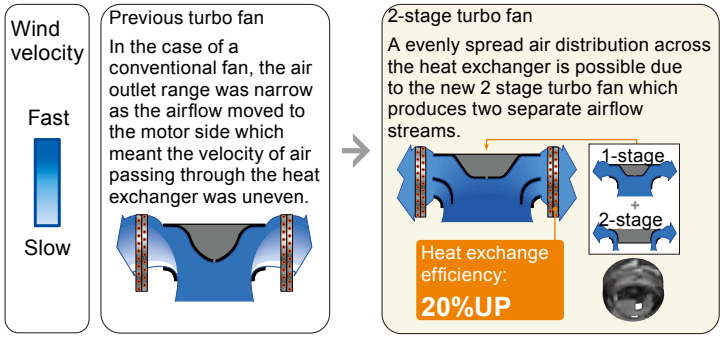
■ FEATURES

● Energy saving

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

● 2-stage turbo fan

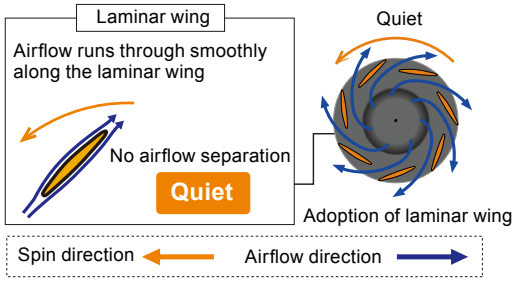
High efficiency design by 2 stage structure



● Quiet quality

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

Designed by CFD-analysis (fluid) simulations



● Easy maintenance

①Maintenance of fan motor and fan

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

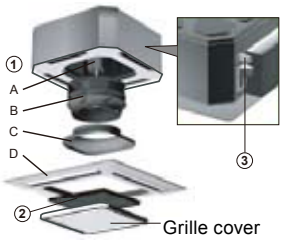
A : Fan motor　B : 2-stage turbo fan
C : Bell-mouth　D : Panel

②Long life filter

: standard equipment

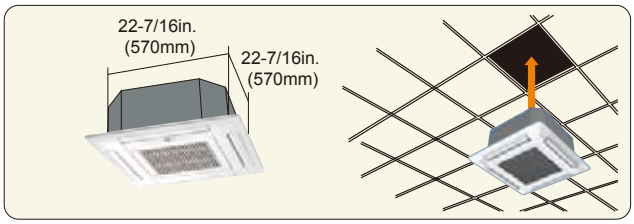
③Adaptation of transparent drainage parts

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

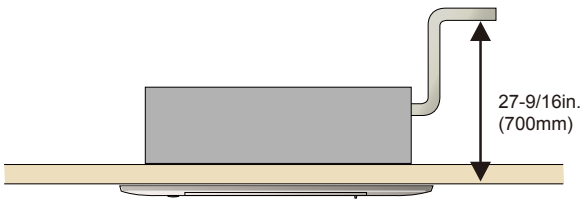


● Compact design

Easy installation by taking off ceiling panel of 23-5/8in. x 23-5/8in.(600mm x 600mm) size

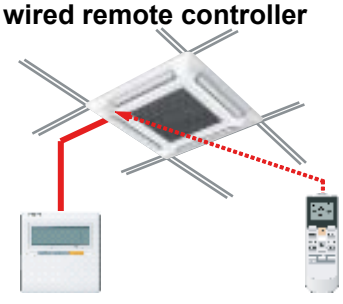


● High lift drain pump



● Easy installation

Easy setting by wireless or wired remote controller



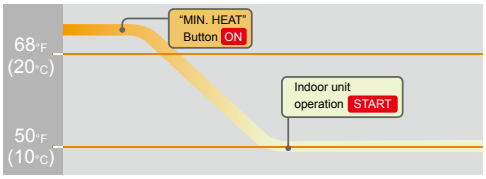
CASSETTE TYPE
AUU9-18RLF

● MIN. HEAT Operation

The room temperature can be set to go no lower than 50°F (10°C), thus ensuring that the room does not get too cold when not occupied.

Caution)

- When the room temperature is higher than 50°F (10°C), "**MIN. HEAT**" operation will not start. Operation starts and maintains the room temperature at 50°F (10°C) when the temperature drops below 50°F (10°C).
- When "**MIN. HEAT**" operation stops, the room set temperature quickly returns to the preset temperature.



● Economy operation

The power consumption can be reduced.

■ FUNCTION SETTING

● Outlet direction selection

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

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

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

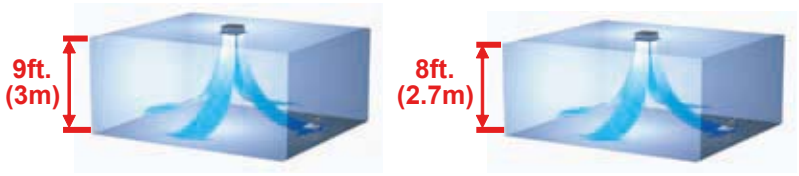
3-way direction mode: Set when there are 3 outlets.

● Ceiling switching function

Air reaches sufficiently up to 9ft. (3m) height, even it is compact cassette type.

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

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



Standard ...Operates at normal airflow.

Mode 1 ...Airflow becomes greater than normal.

● Cooling room temperature correction

● Heating room temperature correction

● Auto restart

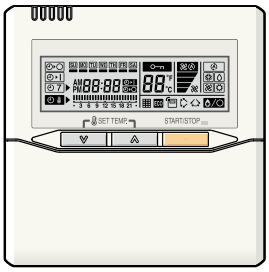
The unit will restart automatically when the current returns even when there is a power interruption during operation.

CASSETTE TYPE
AUU9-18RLF

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, start/stop 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.

● High performance and compact size

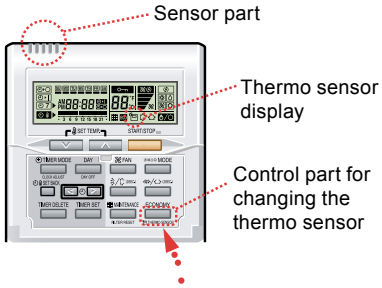
Individual control + Thermo sensor + Weekly timer + Setback timer = Wired remote controller

● Accurate and comfortable

Indoor temperature can be detected accurately by the inclusion of a thermo sensor in the body of the wired controller.

Our system can correspond to various scenes.

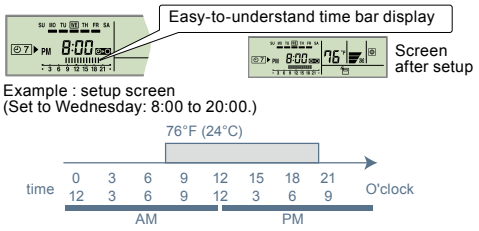
This wired remote controller and the optional remote sensor allows flexibility in sensor location, and suitable for all requirements.



● Built-in timers

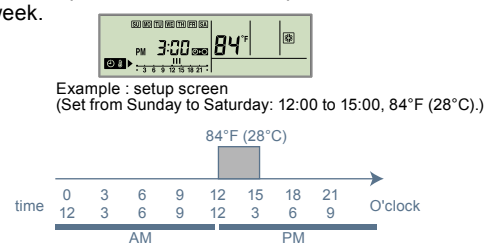
Weekly timer

Possible to set ON/OFF time to operate twice each day of the week.



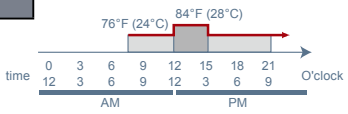
Setback timer

Possible to set temperature for two time spans and for each day of the week.

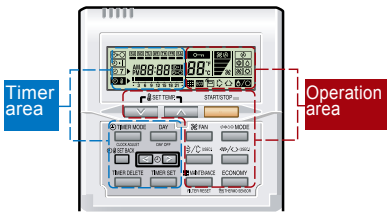


At "Weekly timer" + "Set back timer" setup

76°F →84°F →76°F
24°C →28°C→24°C



● Easy-to-understand operation

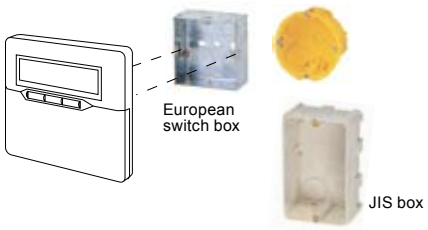


[Variable timer control]

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

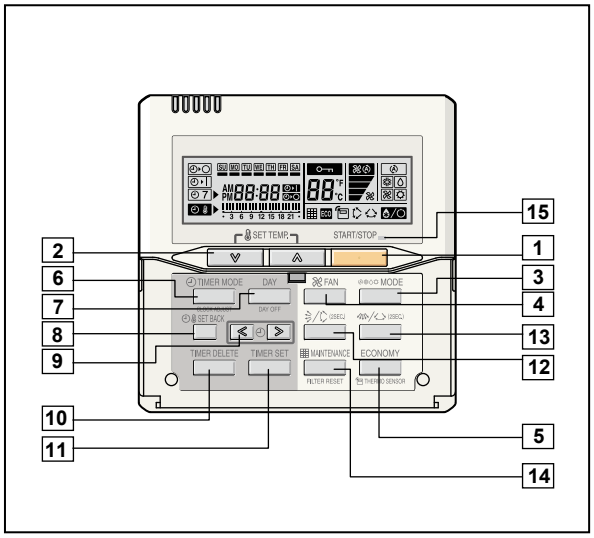
● Simple installation

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

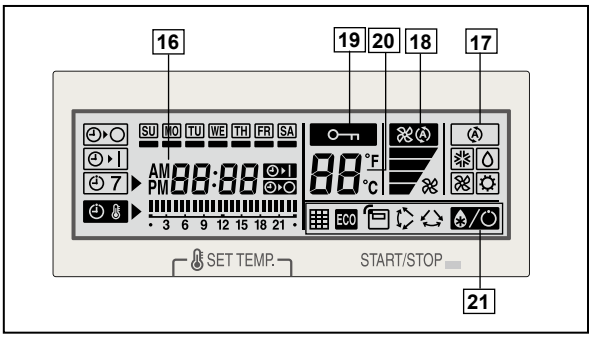


CASSETTE TYPE
AUU9-18RLF

■ FUNCTIONS



Display panel



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**

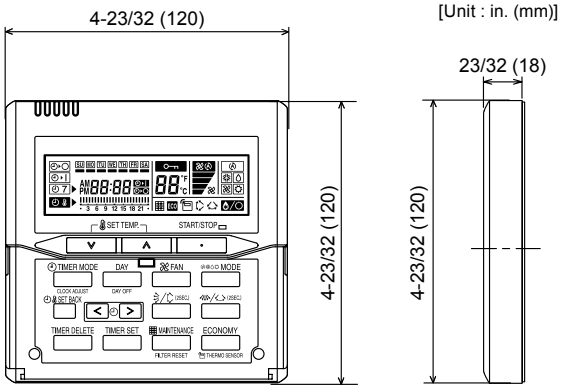
21 **Function display**

- Defrost display
- Thermo sensor display
- Economy display
- Vertical swing display
- Horizontal swing display
- Filter display

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

■ DIMENSION

[Unit : in. (mm)]



Front View　　Side View

■ SPECIFICATION

SIZE	[H x W x D]: in.(mm)	4-23/32 x 4-23/32 x 23/32 (120 x 120 x 18)
WEIGHT	oz. (g)	5.6 (160)
CABLE LENGTH	ft. (m)	33 (10)
POWER	(V)	12

■ WIRING SPECIFICATIONS

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

3. SPECIFICATIONS

Type					COMPACT CASSETTE MODEL INVERTER HEAT PUMP		
Model name					AUU9RLF	AUU12RLF	AUU18RLF
Power source					208 / 230V ~ 60Hz		
Available boltage range					187 - 253V ~ 60Hz		
Capacity	Cooling	Rated		kW	2.64	3.52	5.28
				Btu/h	9,000	12,000	18,000
		Min - Max		kW	0.90 - 3.60	0.90 - 4.00	0.90 - 5.90
				Btu/h	3,100 - 12,000	3,100 - 13,600	3,100 - 20,100
	Heating	Rated		kW	3.52	4.69	6.33
				Btu/h	12,000	16,000	21,600
		Min - Max		kW	0.90 - 5.28	0.90 - 5.70	0.90 - 7.50
				Btu/h	3,100 - 18,000	3,100 - 19,400	3,100 - 25,600
Input power	Cooling	Rated		kW	0.62	0.94	1.61
		Max			1.40	1.45	2.15
	Heating	Rated			0.89	1.44	1.76
		Max			1.80	2.00	2.60
Current	Cooling	Rated		A	3.0	4.4	7.1
	Heating				4.1	6.7	7.7
EER		Cooling		kW/kW	4.25	3.74	3.28
				Btu/hW	14.5	12.8	11.2
COP		Heating		kW/kW	3.95	3.25	3.59
				Btu/hW	13.5	11.1	12.3
SEER		Cooling		Btu/hW	24.0	21.9	20.1
HSPF		Heating		Btu/hW	13.0	12.2	11.5
Power factor		Cooling		%	90	94	98
		Heating			94	94	99
Moisture removal				pints/h (l/h)	1.3 (0.6)	2.5 (1.2)	4.6 (2.2)
Maximum operating current *		Cooling		A	9.3	9.4	10.0
		Heating			10.8	10.9	14.0
Fan	Airflow rate	Cooling	High	CFM (m^3/h)	318 (540)	359 (610)	400 (680)
			Med		288 (490)	312 (530)	341 (580)
			Low		259 (440)	277 (470)	288 (490)
			Quiet		230 (390)	241 (410)	241 (410)
		Heating	High		318 (540)	359 (610)	471 (800)
			Med		288 (490)	312 (530)	400 (680)
			Low		259 (440)	277 (470)	341 (580)
			Quiet		230 (390)	241 (410)	265 (450)
	Type × Q'ty				Turbo fan × 1		
	Motor Output			W	54	54	54
Sound pressure level		Cooling	High	dB (A)	33	37	40
			Med		32	33	36
			Low		29	31	32
			Quiet		28	28	28
		Heating	High		34	37	44
			Med		32	33	40
			Low		29	31	36
			Quiet		27	28	30
Heat exchanger type		Dimensions (H × W × D)		in. (mm)	8-9/32 × 51-9/16 × 17/32 + 8-9/32 × 49-7/32 × 17/32 (210×1310×13.3 + 210×1250×13.3)		
		Fin pitch		FPI	21		
		Rows × Stages			2 × 10		
		Pipe type			Copper tube		
		Fin type			Aluminum		
Dimensions (H × W × D)	Net			in. (mm)	9-21/32 × 22-7/16 × 22-7/16 (245×570×570)		
	Gross				10-7/16 × 28-3/4 × 24-19/32 (265×730×625)		
Weight	Net			lbs. (kg)	33 (15)		
	Gross				40 (18)		
Connection pipe	Size	Liquid		in. (mm)	Ø1/4 (Ø6.35)		
		Gas			Ø3/8 (Ø9.52)		Ø1/2 (Ø12.7)
	Method				Flare		
Operation range		Cooling		°F (°C)	64 to 90 (18 to 32)		
				%RH	80 or less		
		Heating		°F (°C)	60 to 88 (16 to 30)		
Remote controller type					Wired [Wireless(option)]		
Drain hose	Material				HARD PVC		
	Size			in. (mm)	Ø3/4 (Ø20.7) (I.D.) Ø1-1/16 (Ø26.6) (O.D.)		
Cassette grille	Model name				UTG-CCGF		
	Material				PS		
	Color				WHITE (Approximate color of MUNSELL N9.25 /)		
	Dimensions (H × W × D)	Net		in. (mm)	1-15/16 × 27-9/16 × 27-9/16 (49 × 700 × 700)		
		Gross			4-23/32 × 30-1/8 × 29-23/32 (120 × 765 × 755)		
	Weight	Net		lbs. (kg)	5.7 (2.6)		
		Gross			10 (4.5)		

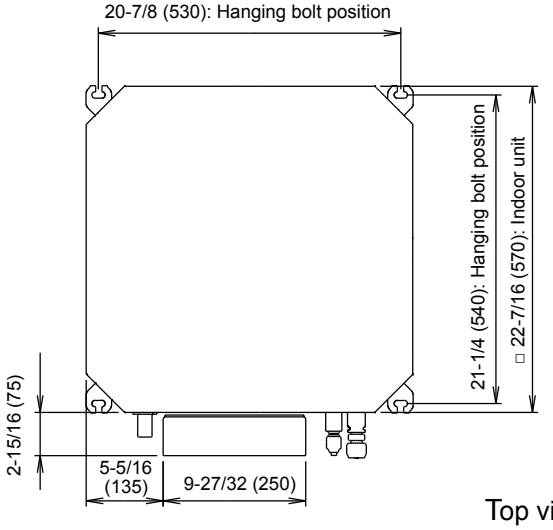
Note :
Specifications are based on the following conditions.
Cooling : Indoor temperature of 80°F (26.67°C) DB / 67°F (19.44°C) WB, and outdoor temperature of 95°F (35°C) DB / 75°F (23.9°C) WB.
Heating : Indoor temperature of 70°F (21.11°C) DB / 59°F (15°C) WB, and outdoor temperature of 47°F (8.33°C) DB / 43°F (6.11°C) WB.
Pipe length : 24ft.7in (7.5m), Height difference:0 m. (Outdoor unit-Indoor unit)
The protective function may work when using it outside the operation range.
*: The maximum current is the maximum value when operated within the operation range.

CASSETTE TYPE
AUU9-18RLF

4. DIMENSIONS

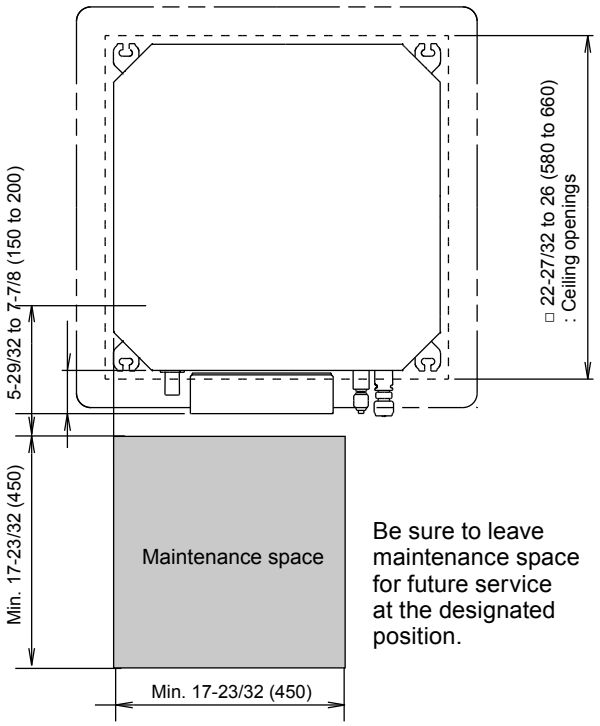
■ MODEL: AUU9RLF, AUU12RLF, AUU18RLF

Unit : in.(mm)

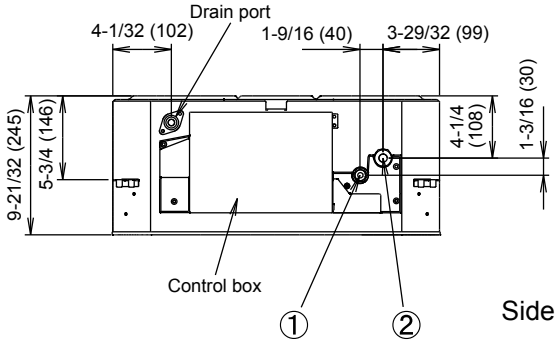


Top view

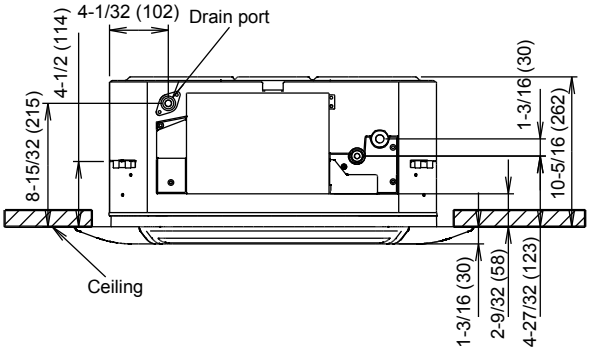
• Cassette grille mounting state

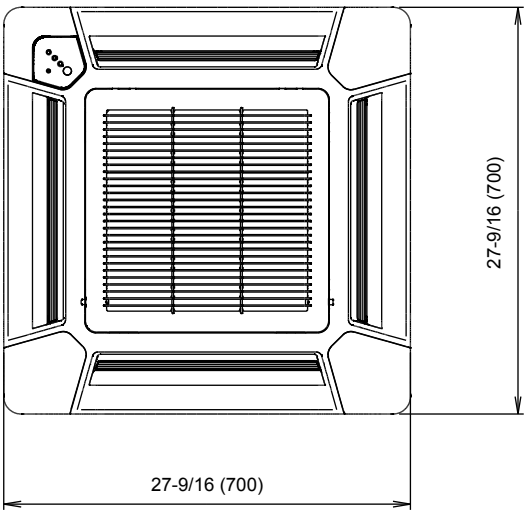


Be sure to leave maintenance space for future service at the designated position.

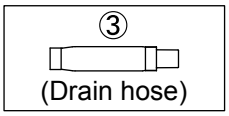


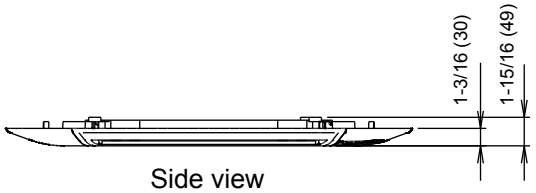
Side view





Bottom view





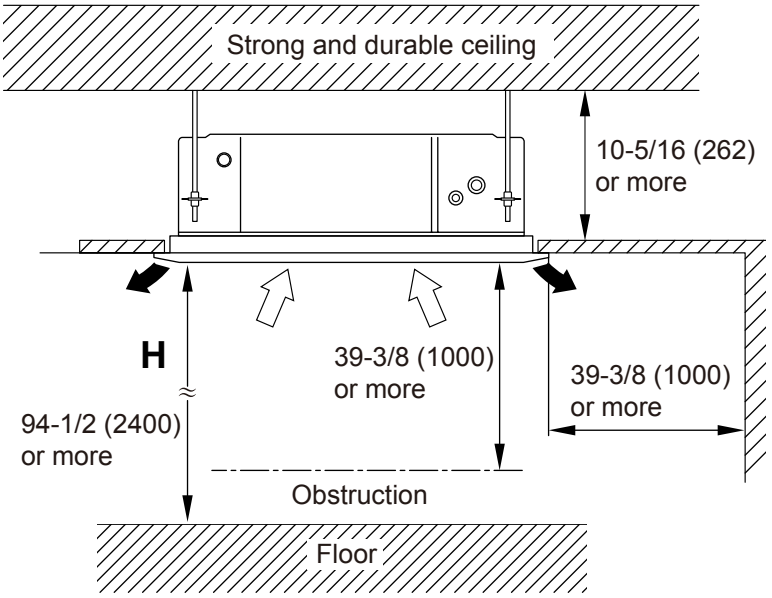
Side view

			AUU9RLF, AUU12RLF	AUU18RLF
①	Refrigerant pipe flare connection	Liquid	Ø1/4 in. (Ø6.35 mm)	Ø1/4 in. (Ø6.35 mm)
②		Gas	Ø3/8 in. (Ø9.52 mm)	Ø1/2 in. (Ø12.70 mm)
③	Drain hose connection	Drain hose	I.D. Ø3/4 in. , O.D. Ø1-1/16 in.	

CASSETTE TYPE
AUU9-18RLF

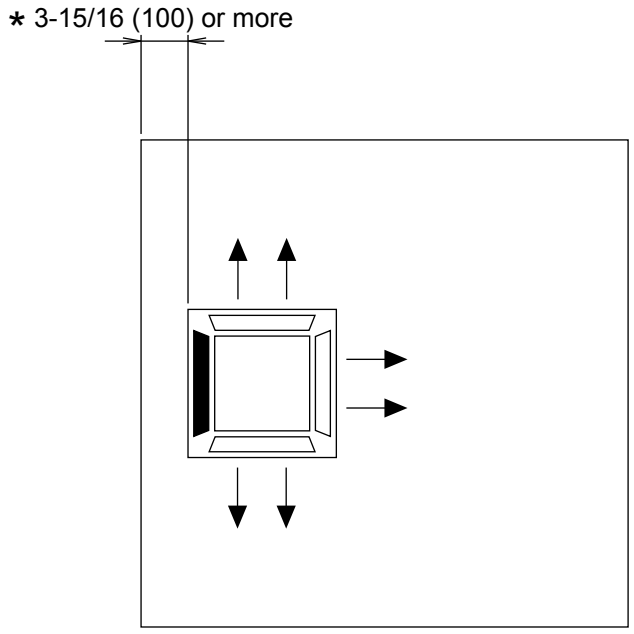
■ INSTALLATION PLACE

Unit : in. (mm)



	H (The maximum height from floor to ceiling) Unit: in. (mm)		
Model name	AUU9	AUU12	AUU18
Standard mode	106-5/16 (2700)	106-5/16 (2700)	106-5/16 (2700)
High Ceiling mode	-	118-1/8 (3000)	118-1/8 (3000)

● **3-way directions setting**



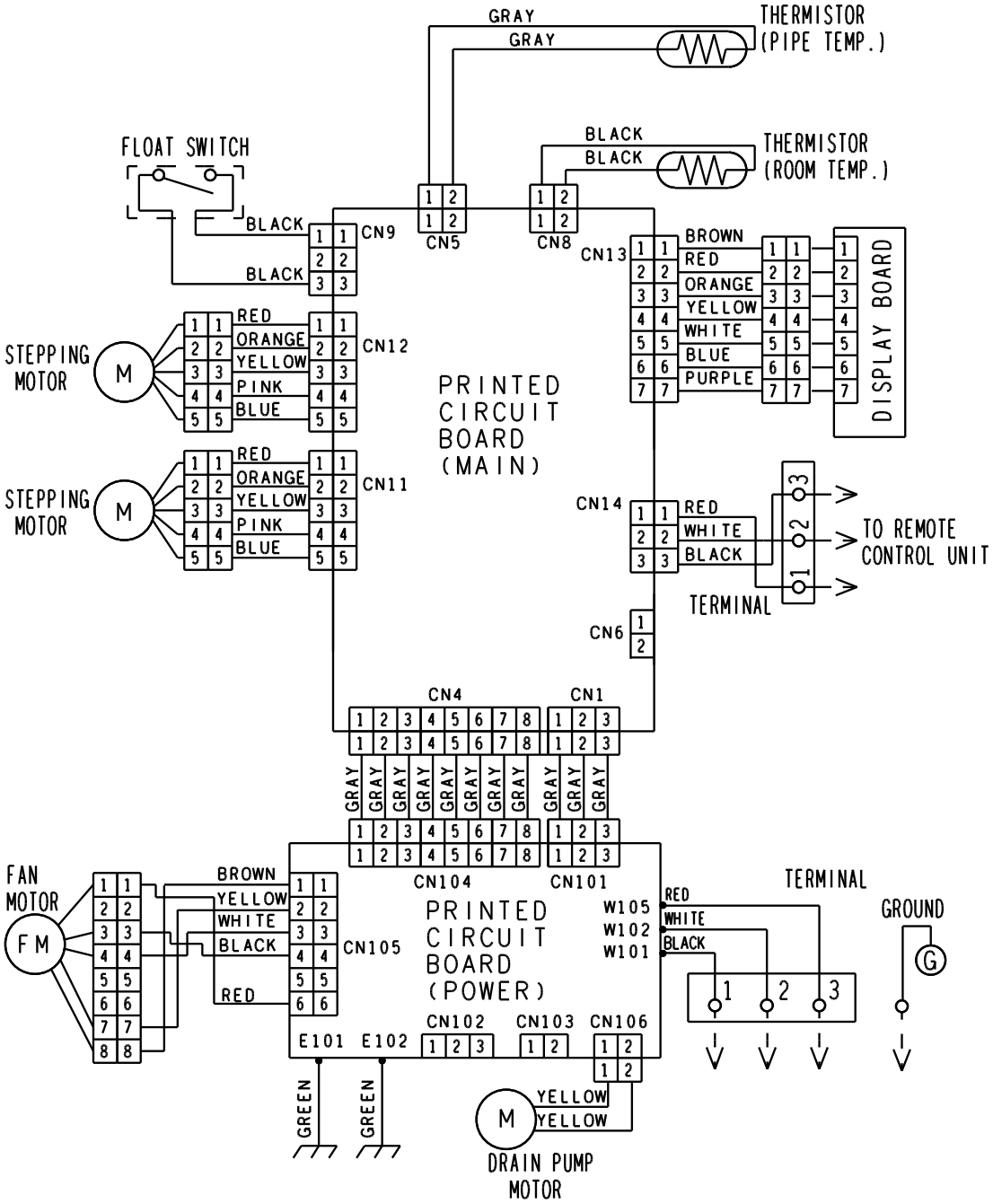
To set “3-way directions”, the air outlet shutter plate (UTR-YDZB) sold separately must be installed and “outlet-direction” switched to “3-way” by remote controller.

*When installing the indoor unit, be careful about the maintenance space.

CASSETTE TYPE
AUU9-18RLF

5. WIRING DIAGRAMS

■ MODEL: AUU9RLF, AUU12RLF, AUU18RLF



CASSETTE TYPE
AUU9-18RLF

6. CAPACITY TABLE

6-1. COOLING CAPACITY

■ MODEL: AUU9RLF

AFR	318

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			53			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	67	8.4	6.8	0.47	9.5	6.8	0.48	10.1	7.5	0.49	10.8	7.9	0.49	11.5	8.1	0.50	11.9	9.0	0.50
	77	8.0	6.7	0.53	9.1	6.7	0.54	9.6	7.4	0.55	10.2	7.8	0.55	10.9	7.9	0.56	11.3	8.8	0.56
	87	7.6	6.5	0.60	8.6	6.5	0.61	9.0	7.1	0.61	9.7	7.5	0.62	10.4	7.7	0.62	10.7	8.5	0.63
	95	7.1	6.2	0.60	8.0	6.2	0.61	8.4	6.9	0.61	9.0	7.2	0.62	9.6	7.4	0.63	9.9	8.2	0.63
	104	6.0	5.8	0.51	6.8	5.8	0.52	7.1	6.3	0.52	7.7	6.7	0.53	8.2	6.8	0.53	8.4	7.6	0.54
	115	5.5	5.4	0.51	6.2	5.4	0.52	6.6	5.9	0.52	7.0	6.2	0.53	7.5	6.4	0.54	7.8	7.1	0.54

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
SHC : Sensible Heat Capacity (kBtu/h)
IP : Input Power (kW)

AFR	9.0

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.7			19.4			21.7			22.8		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	19.4	2.47	2.00	0.47	2.80	2.00	0.48	2.95	2.20	0.49	3.16	2.31	0.49	3.37	2.37	0.50	3.48	2.63	0.50
	25.0	2.35	1.97	0.53	2.66	1.97	0.54	2.80	2.17	0.55	3.00	2.28	0.55	3.20	2.33	0.56	3.30	2.59	0.56
	30.6	2.23	1.90	0.60	2.51	1.90	0.61	2.65	2.09	0.61	2.84	2.20	0.62	3.03	2.25	0.62	3.13	2.50	0.63
	35.0	2.07	1.83	0.60	2.34	1.82	0.61	2.46	2.01	0.61	2.64	2.11	0.62	2.82	2.16	0.63	2.91	2.40	0.63
	40.0	1.76	1.69	0.51	1.99	1.69	0.52	2.09	1.86	0.52	2.24	1.95	0.53	2.40	2.00	0.53	2.47	2.22	0.54
	46.0	1.62	1.57	0.51	1.83	1.57	0.52	1.93	1.73	0.52	2.06	1.82	0.53	2.20	1.86	0.54	2.27	2.07	0.54

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

■ MODEL: AUU12RLF

AFR	359

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			53			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	67	11.3	8.3	0.72	12.7	8.3	0.73	13.4	9.1	0.74	14.4	9.6	0.75	15.3	9.8	0.75	15.8	10.9	0.76
	77	10.7	8.2	0.81	12.1	8.2	0.82	12.7	9.0	0.83	13.6	9.4	0.84	14.6	9.7	0.85	15.0	10.7	0.85
	87	10.1	7.9	0.90	11.4	7.9	0.92	12.1	8.7	0.93	12.9	9.1	0.94	13.8	9.3	0.95	14.2	10.4	0.95
	95	9.4	7.6	0.91	10.6	7.6	0.92	11.2	8.3	0.93	12.0	8.8	0.94	12.8	9.0	0.95	13.2	10.0	0.96
	104	8.0	7.0	0.77	9.0	7.0	0.79	9.5	7.7	0.79	10.2	8.1	0.80	10.9	8.3	0.81	11.2	9.2	0.81
	115	7.4	6.6	0.78	8.3	6.6	0.79	8.8	7.2	0.80	9.4	7.6	0.80	10.1	7.8	0.81	10.4	8.6	0.82

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
SHC : Sensible Heat Capacity (kBtu/h)
IP : Input Power (kW)

AFR	10.2

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.7			19.4			21.7			22.8		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	19.4	3.30	2.43	0.72	3.73	2.43	0.73	3.93	2.68	0.74	4.21	2.81	0.75	4.50	2.88	0.75	4.64	3.20	0.76
	25.0	3.13	2.39	0.81	3.54	2.39	0.82	3.73	2.64	0.83	4.00	2.77	0.84	4.27	2.83	0.85	4.40	3.15	0.85
	30.6	2.97	2.31	0.90	3.35	2.31	0.92	3.53	2.55	0.93	3.78	2.67	0.94	4.05	2.74	0.95	4.17	3.04	0.95
	35.0	2.76	2.22	0.91	3.12	2.22	0.92	3.28	2.45	0.93	3.52	2.57	0.94	3.76	2.63	0.95	3.88	2.92	0.96
	40.0	2.34	2.05	0.77	2.65	2.05	0.79	2.79	2.26	0.79	2.99	2.38	0.80	3.20	2.43	0.81	3.30	2.70	0.81
	46.0	2.16	1.92	0.78	2.44	1.92	0.79	2.58	2.12	0.80	2.76	2.22	0.80	2.95	2.27	0.81	3.04	2.53	0.82

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

CASSETTE TYPE
AUU9-18RLF

■ MODEL: AUU18RLF

AFR	400

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			53			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	67	15.8	10.5	1.07	17.8	10.5	1.09	18.8	11.6	1.10	20.1	12.1	1.11	21.5	12.4	1.12	22.2	13.8	1.13
	77	15.0	10.4	1.21	16.9	10.3	1.23	17.8	11.4	1.24	19.1	12.0	1.25	20.4	12.3	1.27	21.0	13.6	1.27
	87	14.1	10.2	1.35	16.0	10.2	1.37	16.9	11.2	1.38	18.0	11.8	1.40	19.3	12.1	1.41	19.9	13.4	1.42
	95	14.1	10.3	1.55	15.9	10.3	1.58	16.8	11.3	1.59	18.0	11.9	1.61	19.2	12.2	1.63	19.8	13.5	1.64
	104	10.9	9.0	1.12	12.3	9.0	1.14	12.9	9.9	1.15	13.9	10.4	1.17	14.8	10.6	1.18	15.3	11.8	1.19
	115	10.1	8.3	1.13	11.4	8.3	1.15	12.0	9.2	1.16	12.9	9.6	1.17	13.7	9.9	1.18	14.2	11.0	1.19

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
SHC : Sensible Heat Capacity (kBtu/h)
IP : Input Power (kW)

AFR	11.3

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.7			19.4			21.7			22.8		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	19.4	4.62	3.07	1.07	5.22	3.07	1.09	5.50	3.39	1.10	5.89	3.55	1.11	6.30	3.64	1.12	6.49	4.04	1.13
	25.0	4.39	3.04	1.21	4.96	3.03	1.23	5.23	3.34	1.24	5.60	3.51	1.25	5.98	3.59	1.27	6.17	3.99	1.27
	30.6	4.15	2.99	1.35	4.68	2.99	1.37	4.94	3.29	1.38	5.29	3.46	1.40	5.65	3.54	1.41	5.83	3.93	1.42
	35.0	4.14	3.01	1.55	4.67	3.01	1.58	4.93	3.32	1.59	5.28	3.48	1.61	5.64	3.56	1.63	5.81	3.96	1.64
	40.0	3.18	2.64	1.12	3.60	2.63	1.14	3.79	2.91	1.15	4.06	3.05	1.17	4.34	3.12	1.18	4.47	3.47	1.19
	46.0	2.95	2.44	1.13	3.34	2.44	1.15	3.52	2.69	1.16	3.77	2.83	1.17	4.03	2.89	1.18	4.15	3.21	1.19

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

CASSETTE TYPE
AUU9-18RLF

6-2. HEATING CAPACITY

■ MODEL: AUU9RLF

AFR	318

			Indoor temperature							
		°FDB	60		65		70		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	-5	-7	14.7	1.84	14.3	1.88	14.0	1.92	13.3	1.99
	5	3	16.1	1.79	15.7	1.83	15.4	1.87	14.6	1.94
	14	12	16.8	1.73	16.4	1.76	16.0	1.80	15.2	1.87
	23	19	17.3	1.67	16.9	1.70	16.5	1.74	15.7	1.81
	32	28	17.4	1.61	17.0	1.64	16.6	1.68	15.7	1.74
	41	37	17.4	1.67	17.0	1.71	16.6	1.74	15.8	1.81
	47	43	18.9	1.73	18.5	1.76	18.0	1.80	17.1	1.87
	50	47	20.9	1.75	20.4	1.79	19.9	1.83	18.9	1.90
	59	50	21.6	1.76	21.1	1.80	20.6	1.84	19.6	1.91

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
IP : Input Power (kW)

AFR	9.0

			Indoor temperature							
		°CDB	15.6		18.3		21.1		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	-20.6	-21.7	4.31	1.84	4.20	1.88	4.10	1.92	3.90	1.99
	-15.0	-16.1	4.73	1.79	4.61	1.83	4.50	1.87	4.28	1.94
	-10.0	-11.1	4.91	1.73	4.80	1.76	4.68	1.80	4.45	1.87
	-5.0	-7.2	5.08	1.67	4.96	1.70	4.84	1.74	4.59	1.81
	0.0	-2.2	5.10	1.61	4.98	1.64	4.86	1.68	4.61	1.74
	5.0	2.8	5.11	1.67	4.99	1.71	4.87	1.74	4.62	1.81
	8.3	6.1	5.54	1.73	5.41	1.76	5.28	1.80	5.01	1.87
	10.0	8.3	6.12	1.75	5.98	1.79	5.83	1.83	5.54	1.90
	15.0	10.0	6.34	1.76	6.19	1.80	6.04	1.84	5.74	1.91

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

■ MODEL: AUU12RLF

AFR	359

			Indoor temperature							
		°FDB	60		65		70		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	-5	-7	15.8	2.23	15.4	2.27	15.0	2.32	14.3	2.36
	5	3	17.6	2.16	17.2	2.21	16.8	2.25	15.9	2.34
	14	12	18.3	2.09	17.8	2.13	17.4	2.17	16.5	2.26
	23	19	19.2	2.01	18.7	2.05	18.2	2.10	17.3	2.18
	32	28	19.5	1.95	19.0	1.99	18.5	2.03	17.6	2.11
	41	37	19.7	1.86	19.2	1.90	18.8	1.94	17.8	2.02
	47	43	20.4	1.92	19.9	1.96	19.4	2.00	18.4	2.08
	50	47	22.5	1.94	22.0	1.98	21.4	2.02	20.4	2.10
	59	50	23.3	1.95	22.8	1.99	22.2	2.03	21.1	2.11

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
IP : Input Power (kW)

AFR	10.2

			Indoor temperature							
		°CDB	15.6		18.3		21.1		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	-20.6	-21.7	4.63	2.23	4.52	2.27	4.41	2.32	4.19	2.36
	-15.0	-16.1	5.16	2.16	5.03	2.21	4.91	2.25	4.66	2.34
	-10.0	-11.1	5.36	2.09	5.23	2.13	5.10	2.17	4.85	2.26
	-5.0	-7.2	5.61	2.01	5.48	2.05	5.35	2.10	5.08	2.18
	0.0	-2.2	5.70	1.95	5.57	1.99	5.43	2.03	5.16	2.11
	5.0	2.8	5.78	1.86	5.64	1.90	5.50	1.94	5.23	2.02
	8.3	6.1	5.99	1.92	5.84	1.96	5.70	2.00	5.42	2.08
	10.0	8.3	6.60	1.94	6.44	1.98	6.28	2.02	5.97	2.10
	15.0	10.0	6.84	1.95	6.67	1.99	6.51	2.03	6.19	2.11

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

CASSETTE TYPE
AUU9-18RLF

■ MODEL: AUU18RLF

AFR	471

			Indoor temperature							
		°FDB	60		65		70		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	-5	-7	19.3	2.42	18.9	2.47	18.4	2.52	17.5	2.63
	5	3	20.7	2.63	20.2	2.68	19.7	2.74	18.8	2.85
	14	12	22.2	2.68	21.6	2.73	21.1	2.79	20.1	2.90
	23	19	23.1	2.79	22.6	2.85	22.0	2.91	20.9	3.03
	32	28	23.3	3.02	22.8	3.08	22.2	3.14	21.1	3.19
	41	37	25.5	2.67	24.9	2.73	24.3	2.78	23.1	2.90
	47	43	26.9	2.50	26.2	2.55	25.6	2.60	24.3	2.70
	50	47	29.7	2.23	29.0	2.28	28.3	2.32	26.9	2.42
	59	50	30.8	2.24	30.1	2.29	29.3	2.34	27.9	2.43

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
IP : Input Power (kW)

AFR	13.3

			Indoor temperature							
		°CDB	15.6		18.3		21.1		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	-20.6	-21.7	5.67	2.42	5.53	2.47	5.40	2.52	5.13	2.63
	-15.0	-16.1	6.08	2.63	5.93	2.68	5.79	2.74	5.50	2.85
	-10.0	-11.1	6.50	2.68	6.34	2.73	6.19	2.79	5.88	2.90
	-5.0	-7.2	6.78	2.79	6.62	2.85	6.45	2.91	6.13	3.03
	0.0	-2.2	6.84	3.02	6.68	3.08	6.51	3.14	6.19	3.19
	5.0	2.8	7.47	2.67	7.29	2.73	7.12	2.78	6.76	2.90
	8.3	6.1	7.88	2.50	7.69	2.55	7.50	2.60	7.13	2.70
	10.0	8.3	8.71	2.23	8.50	2.28	8.29	2.32	7.88	2.42
	15.0	10.0	9.02	2.24	8.81	2.29	8.59	2.34	8.16	2.43

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

CASSETTE TYPE
AUU9-18RLF

7. FAN PERFORMANCE

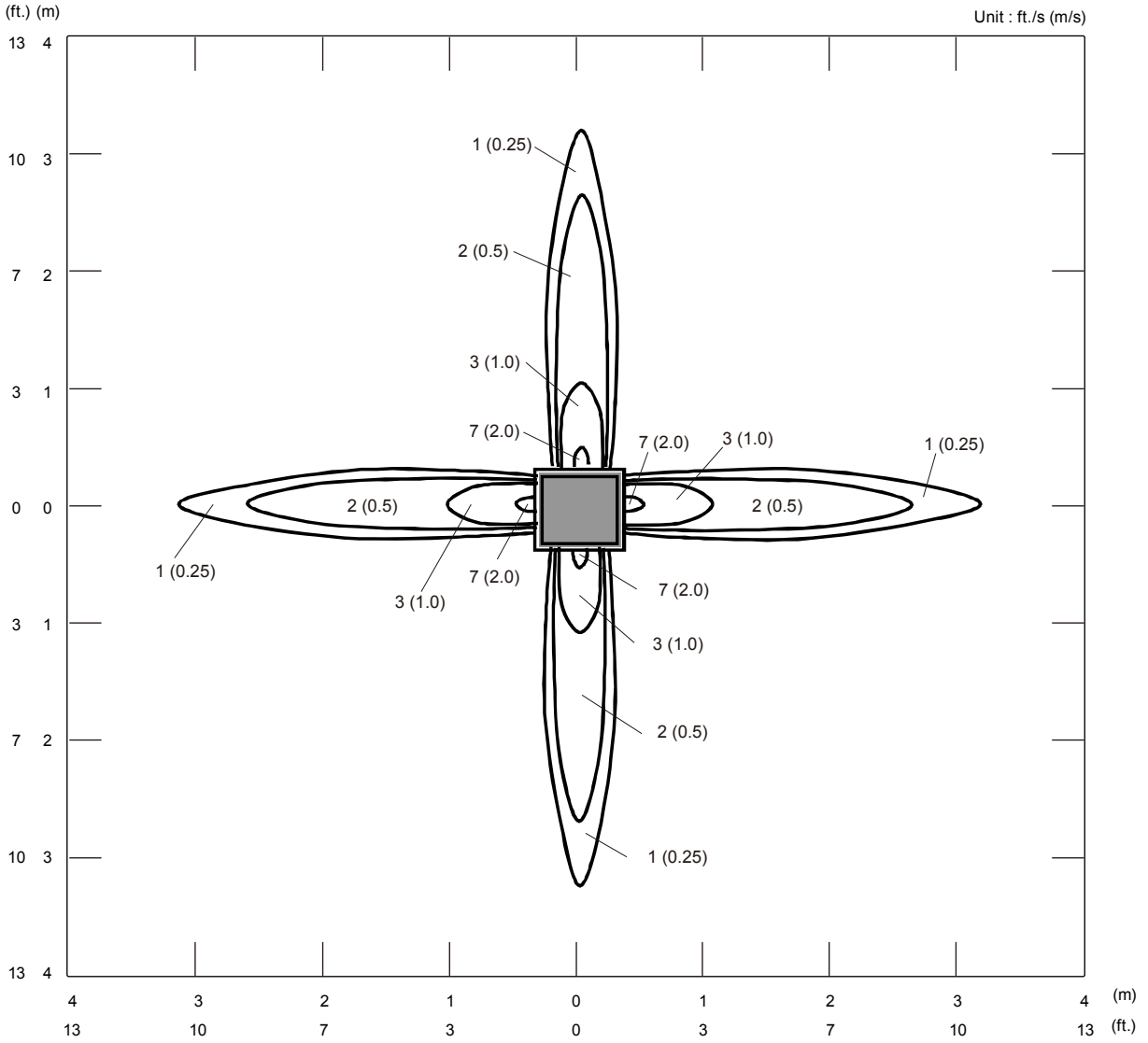
7-1. AIR VELOCITY DISTRIBUTION

Conditions
Fan speed : High
Operation mode : FAN

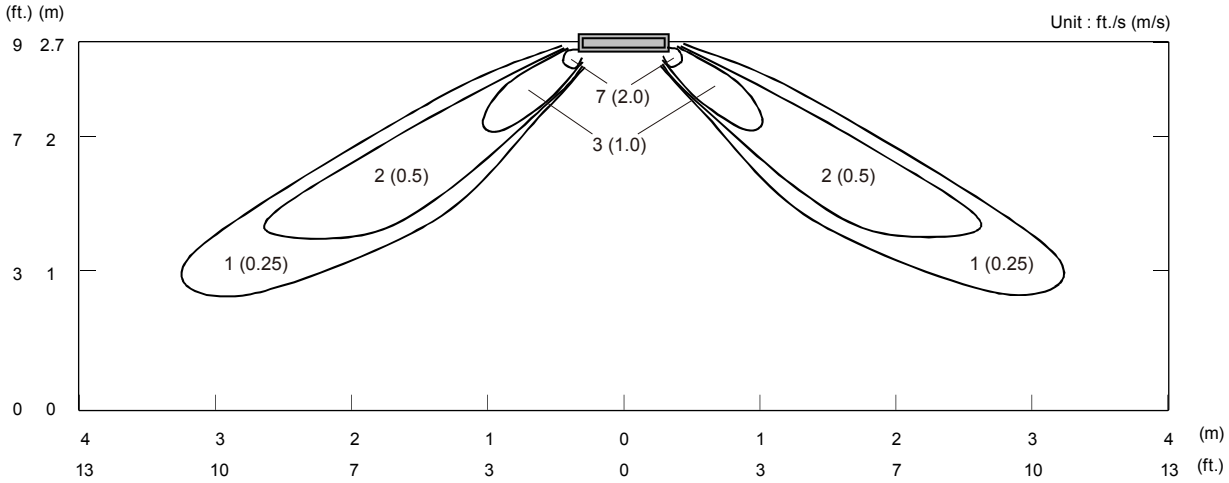
■ MODEL : AUU9RLF

● Air velocity distribution

Top view
Vertical flap : Up



Side view
Vertical flap : Up

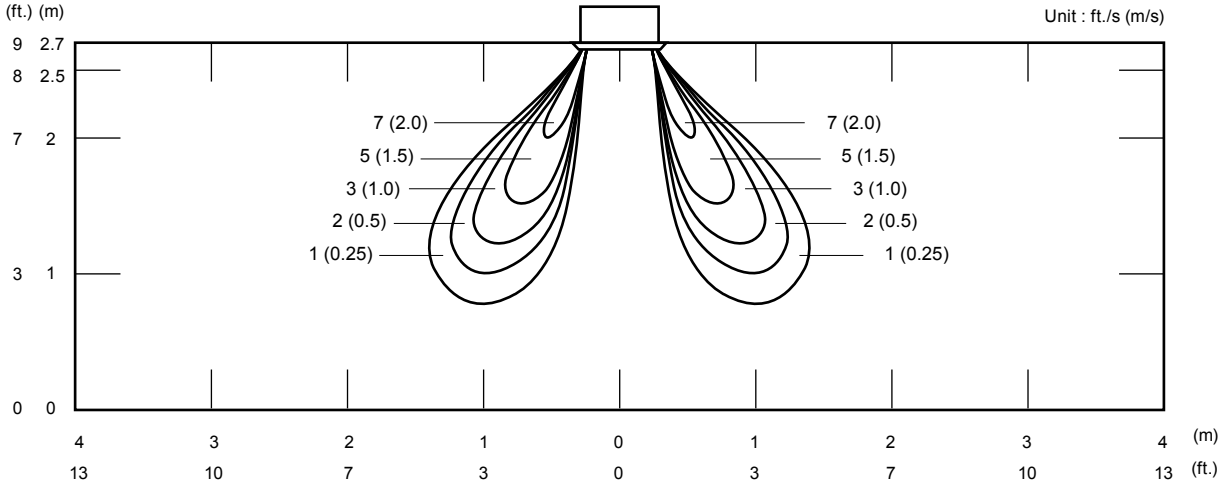


CASSETTE TYPE
AUU9-18RLF

Note: Reference data
Conditions
Fan speed : High
Operation mode : Heating
Vertical flap: Downward (4Way)

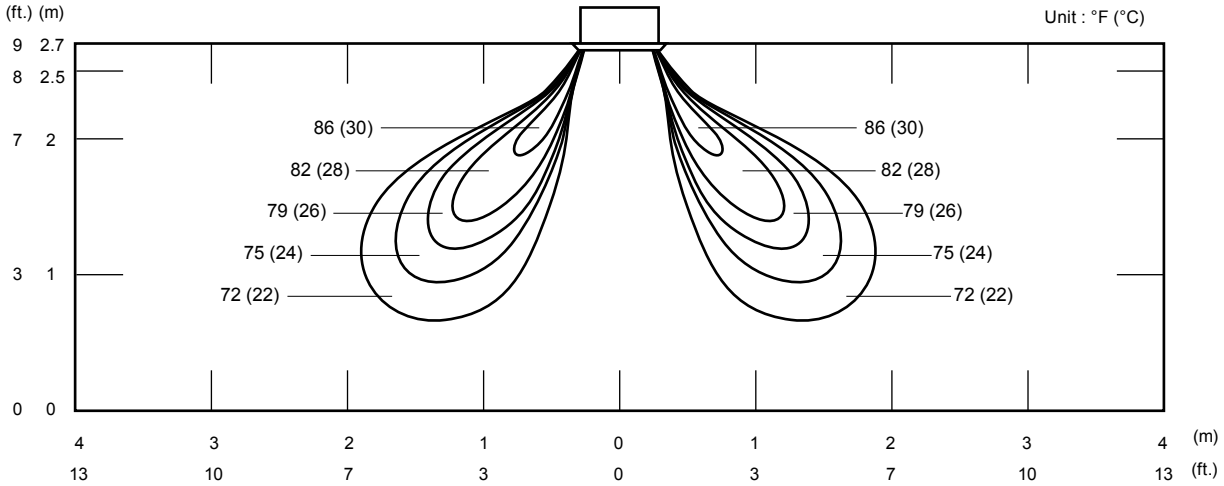
● Air velocity distribution

Side view
Vertical flap : Down



● Air temperature distribution

Side view
Vertical flap : Down



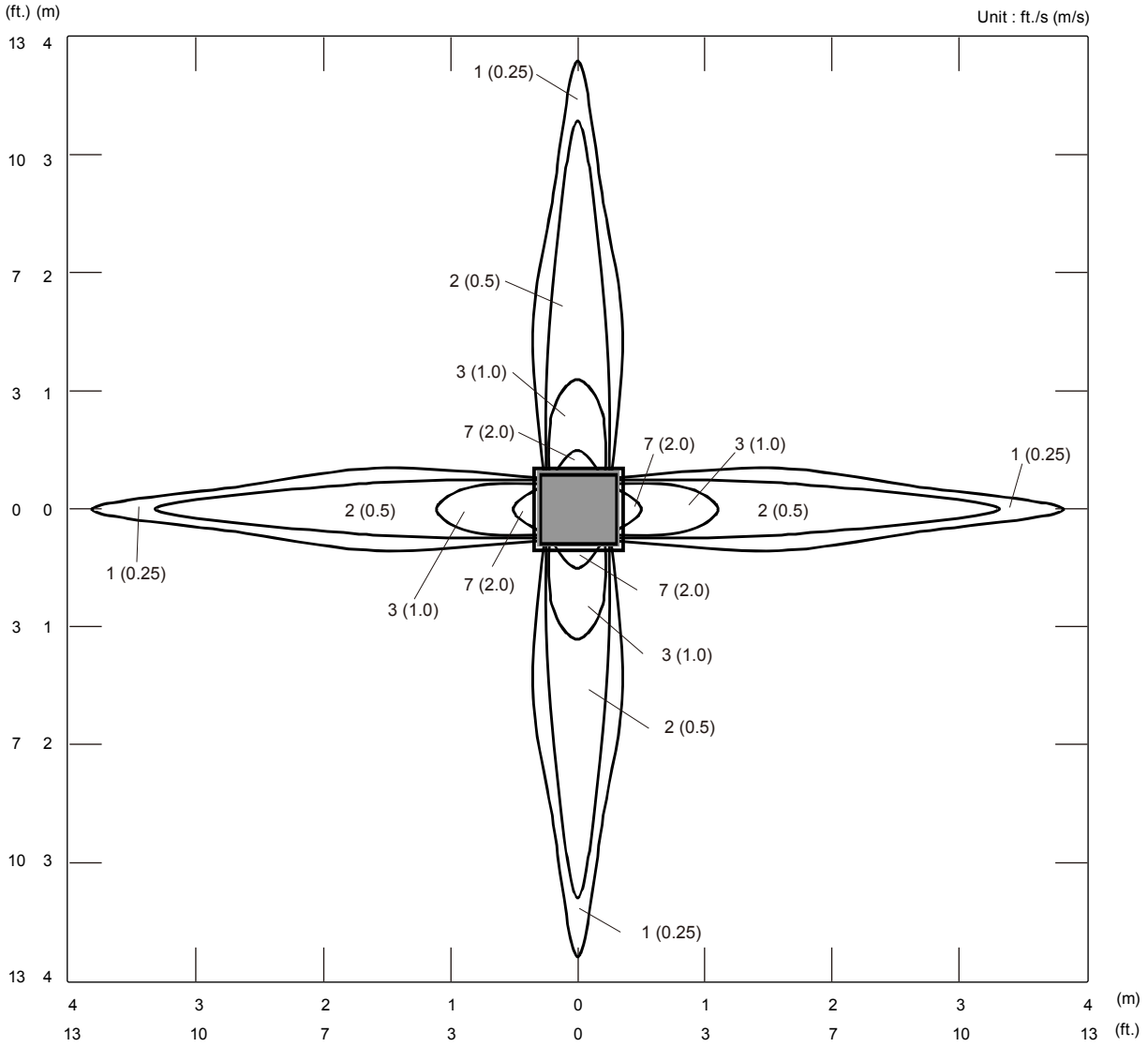
CASSETTE TYPE
AUU9-18RLF

Conditions
Fan speed : High
Operation mode : FAN

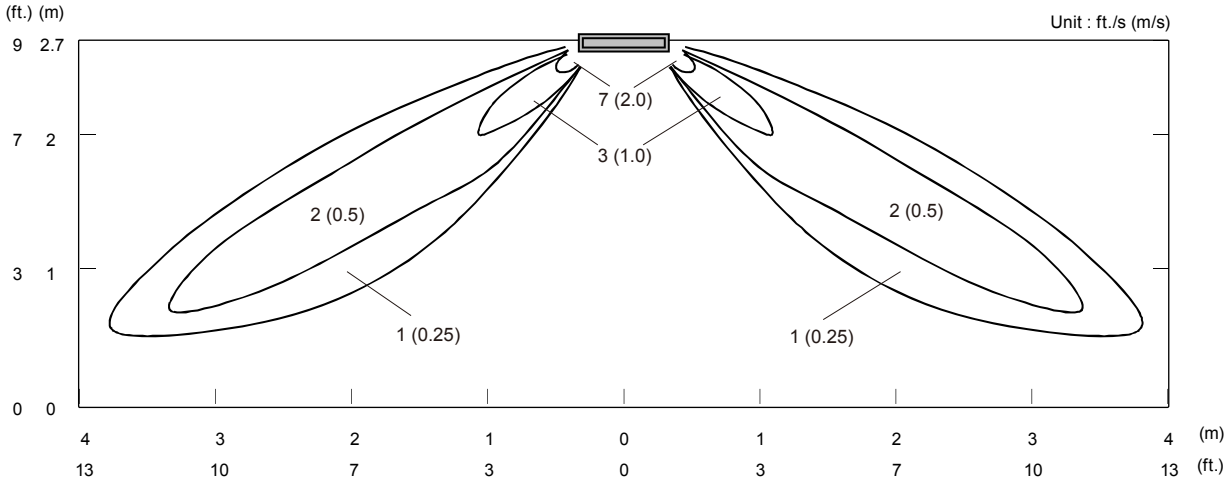
■ MODEL : AUU12RLF

● Air velocity distribution

Top view
Vertical flap : Up



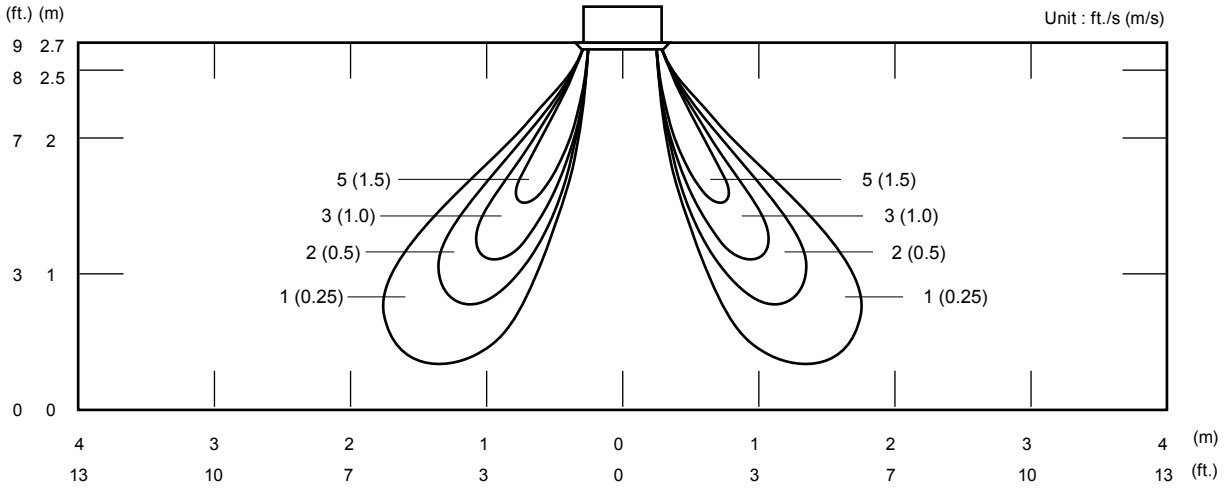
Side view
Vertical flap : Up



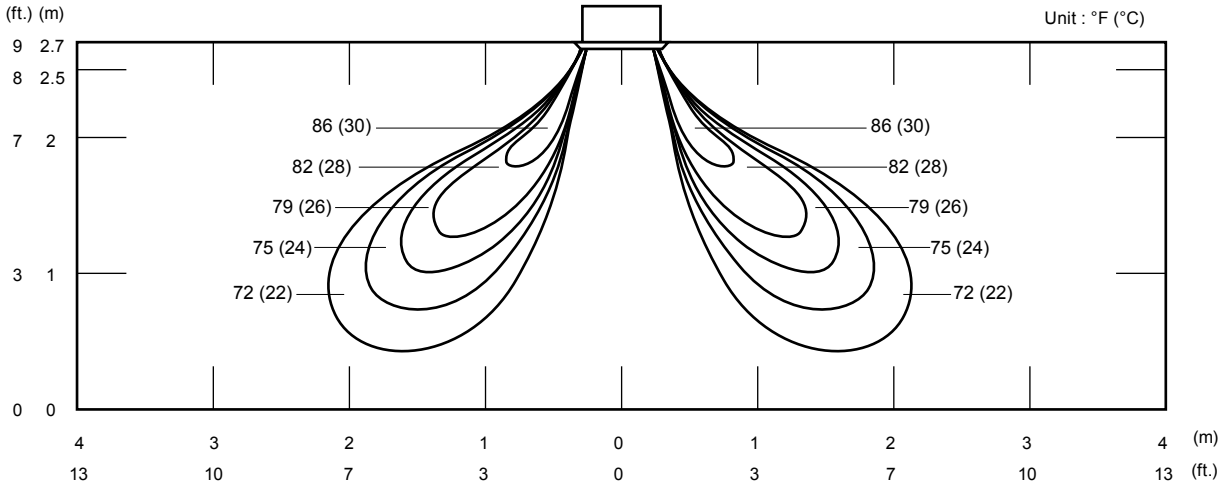
CASSETTE TYPE
AUU9-18RLF

Note: Reference data
Conditions
Fan speed : High
Operation mode : Heating
Vertical flap: Downward (4Way)

● Air velocity distribution



● Air temperature distribution



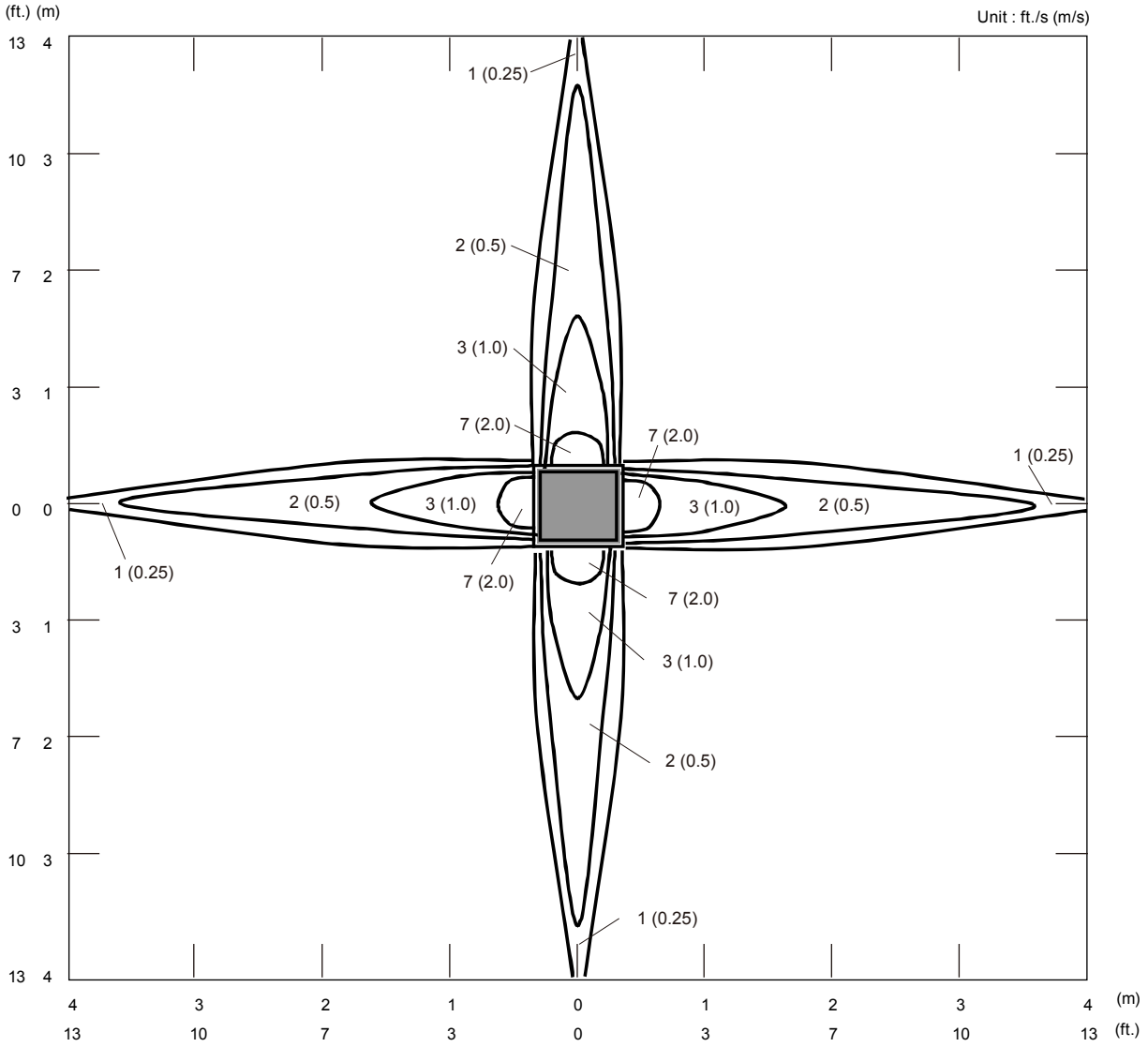
CASSETTE TYPE
AUU9-18RLF

Conditions
Fan speed : High
Operation mode : FAN

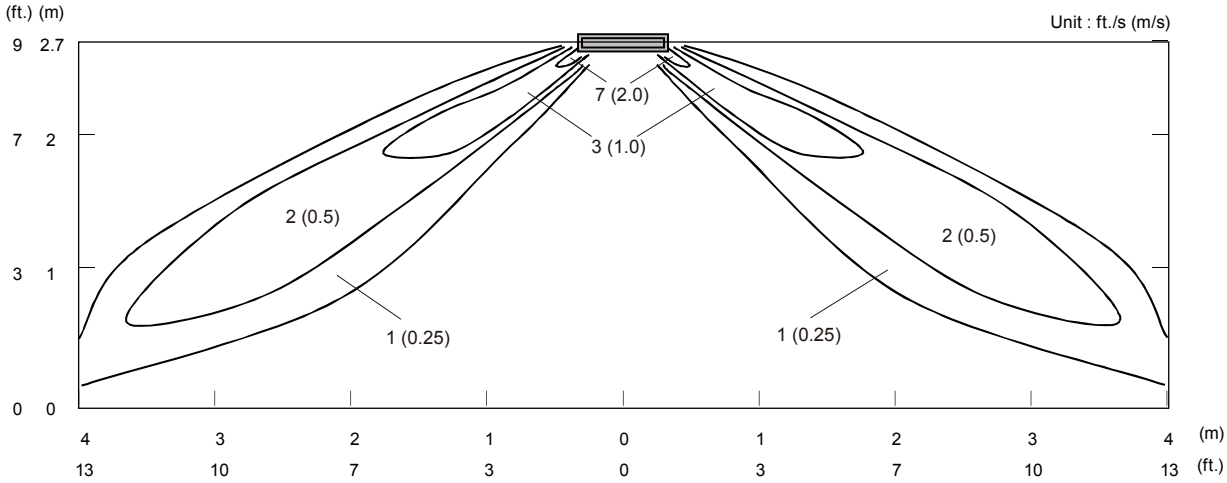
■ MODEL : AUU18RLF

● Air velocity distribution

Top view
Vertical flap : Up



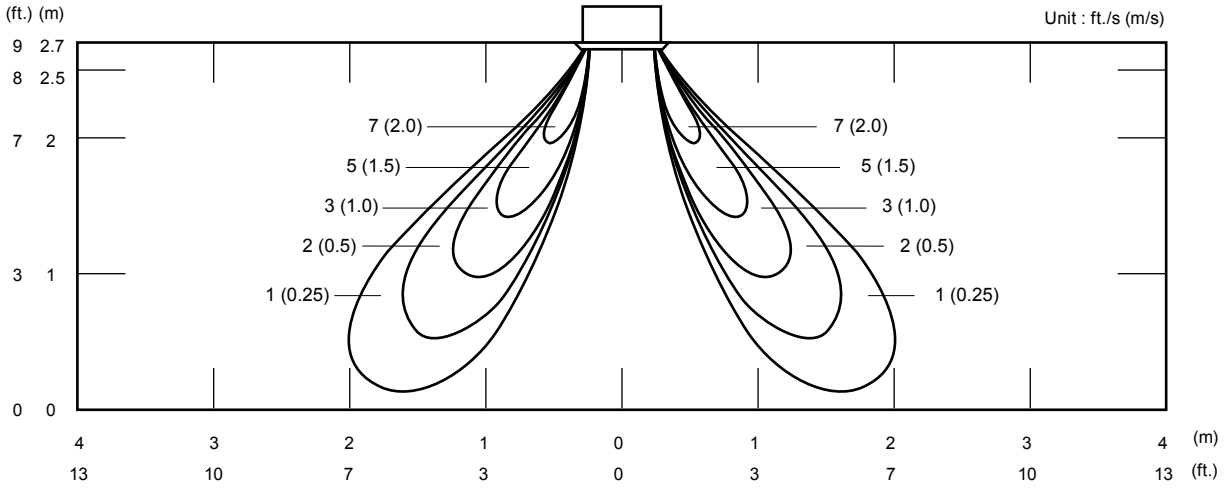
Side view
Vertical flap : Up



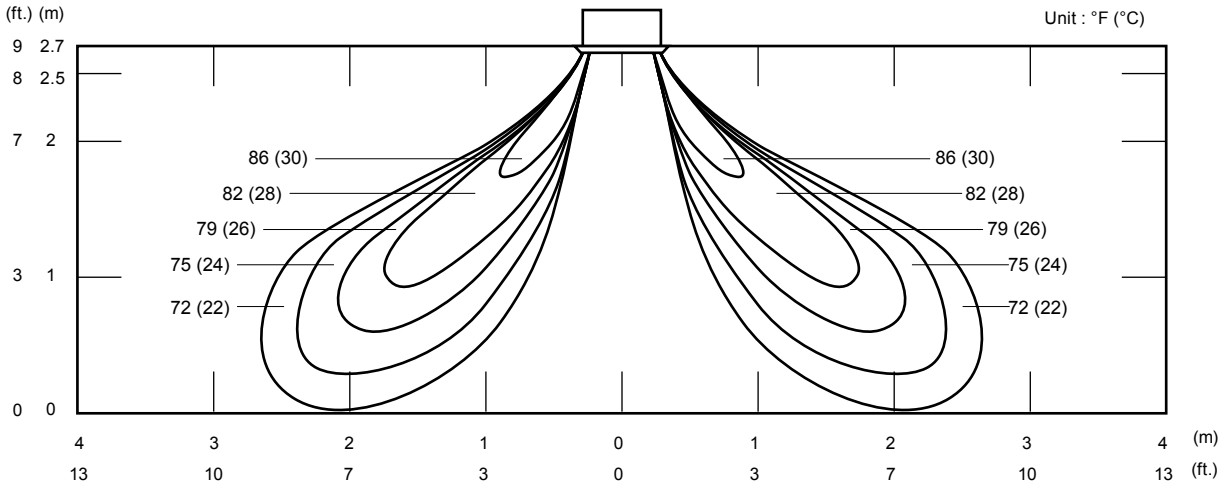
CASSETTE TYPE
AUU9-18RLF

Note: Reference data
Conditions
Fan speed : High
Operation mode : Heating
Vertical flap: Downward (4Way)

● Air velocity distribution



● Air temperature distribution



CASSETTE TYPE
AUU9-18RLF

7-2. AIRFLOW

7-2-1. STANDARD CEILING MODE

■ MODEL: AUU9RLF

● Cooling

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	590	m^3/h	540
		l/s	150
		CFM	318
MED	540	m^3/h	490
		l/s	136
		CFM	288
LOW	490	m^3/h	440
		l/s	122
		CFM	259
QUIET	440	m^3/h	390
		l/s	108
		CFM	230

● Heating

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	590	m^3/h	540
		l/s	150
		CFM	318
MED	540	m^3/h	490
		l/s	136
		CFM	288
LOW	490	m^3/h	440
		l/s	122
		CFM	259
QUIET	440	m^3/h	390
		l/s	108
		CFM	230

CASSETTE TYPE
AUU9-18RLF

■ MODEL: AUU12RLF

● Cooling

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	660	m^3/h	610
		l/s	169
		CFM	359
MED	580	m^3/h	530
		l/s	147
		CFM	312
LOW	520	m^3/h	470
		l/s	131
		CFM	277
QUIET	460	m^3/h	410
		l/s	114
		CFM	241

● Heating

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	650	m^3/h	610
		l/s	169
		CFM	359
MED	580	m^3/h	530
		l/s	147
		CFM	312
LOW	520	m^3/h	470
		l/s	131
		CFM	277
QUIET	460	m^3/h	410
		l/s	114
		CFM	241

CASSETTE TYPE
AUU9-18RLF

■ MODEL: AUU18RLF

● Cooling

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	730	m^3/h	680
		l/s	189
		CFM	400
MED	630	m^3/h	580
		l/s	161
		CFM	341
LOW	540	m^3/h	490
		l/s	138
		CFM	288
QUIET	480	m^3/h	410
		l/s	114
		CFM	241

● Heating

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

CASSETTE TYPE
AUU9-18RLF

7-2-2. HIGH CEILING MODE

■ MODEL: AUU9RLF

● Cooling

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	690	m^3/h	640
		l/s	178
		CFM	377
MED	640	m^3/h	590
		l/s	164
		CFM	347
LOW	590	m^3/h	540
		l/s	150
		CFM	318
QUIET	440	m^3/h	530
		l/s	108
		CFM	230

● Heating

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	690	m^3/h	640
		l/s	178
		CFM	377
MED	640	m^3/h	590
		l/s	164
		CFM	347
LOW	590	m^3/h	540
		l/s	150
		CFM	318
QUIET	440	m^3/h	530
		l/s	108
		CFM	230

CASSETTE TYPE
AUU9-18RLF

■ MODEL: AUU12RLF

● Cooling

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	760	m^3/h	710
		l/s	197
		CFM	418
MED	680	m^3/h	630
		l/s	175
		CFM	371
LOW	620	m^3/h	570
		l/s	158
		CFM	335
QUIET	460	m^3/h	410
		l/s	114
		CFM	241

● Heating

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

CASSETTE TYPE
AUU9-18RLF

■ MODEL: AUU18RLF

● Cooling

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

● Heating

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

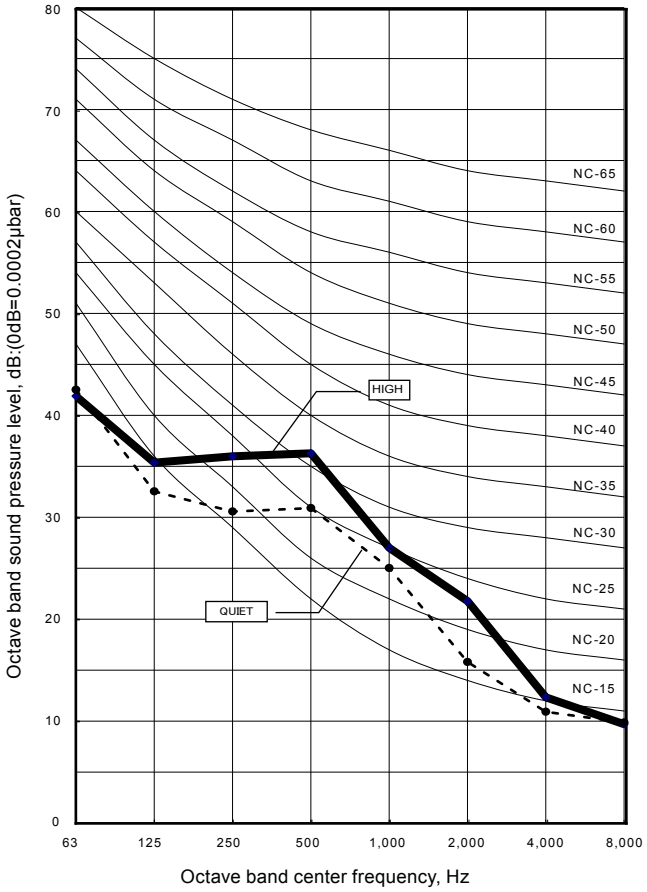
CASSETTE TYPE
AUU9-18RLF

8. OPERATION NOISE (SOUND PRESSURE)

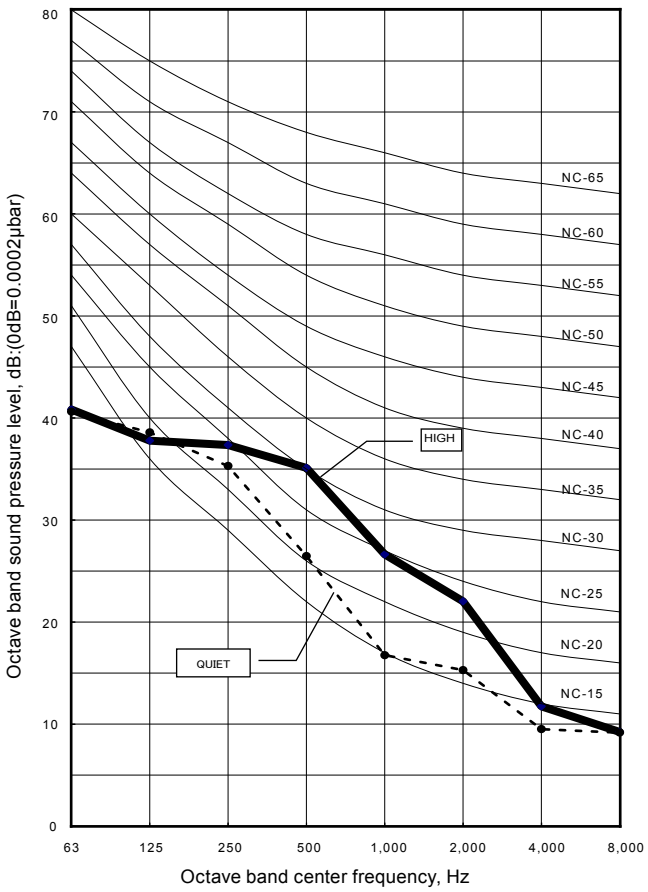
8-1. NOISE LEVEL CURVE

■ MODEL : AUU9RLF

● Cooling

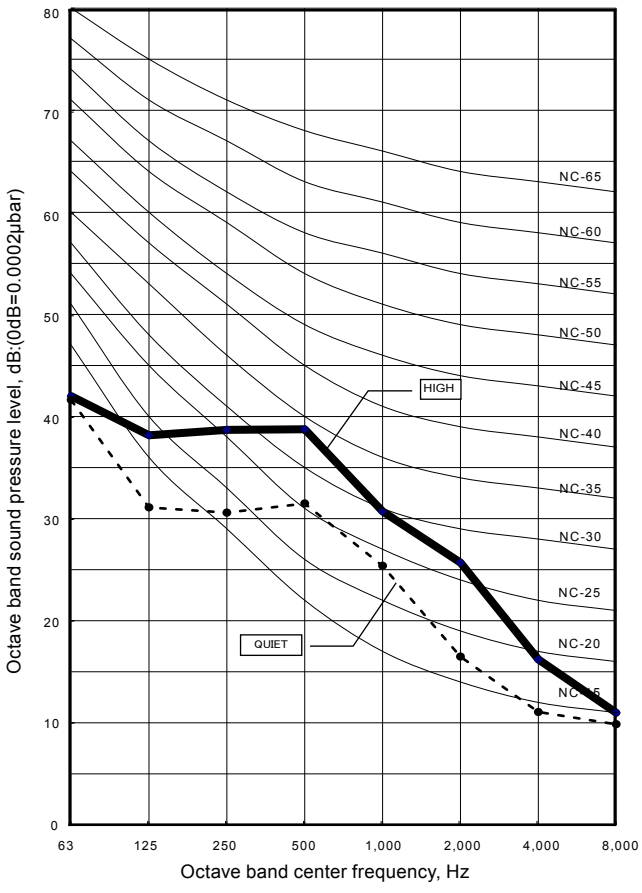


●Heating

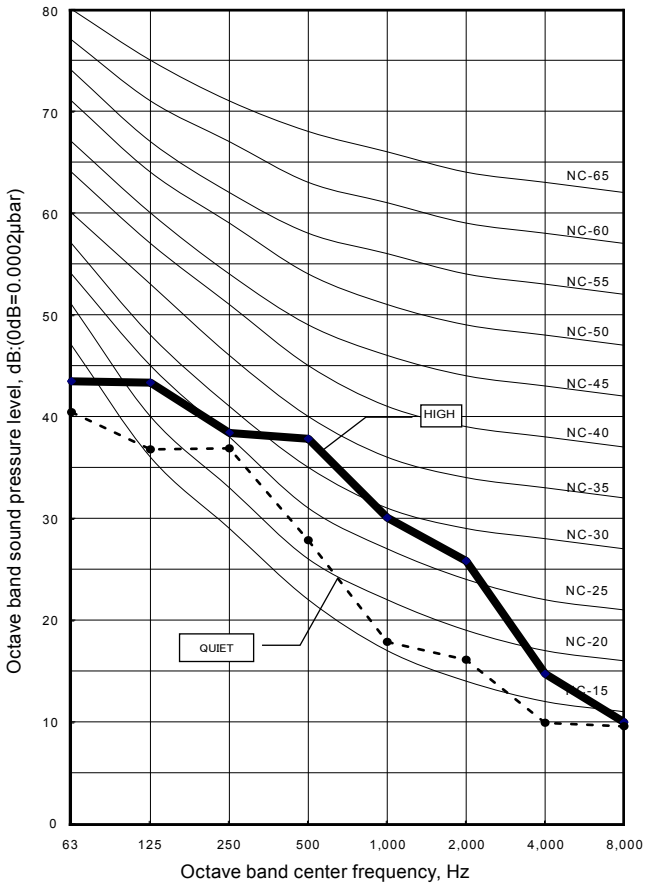


■ MODEL : AUU12RLF

● Cooling



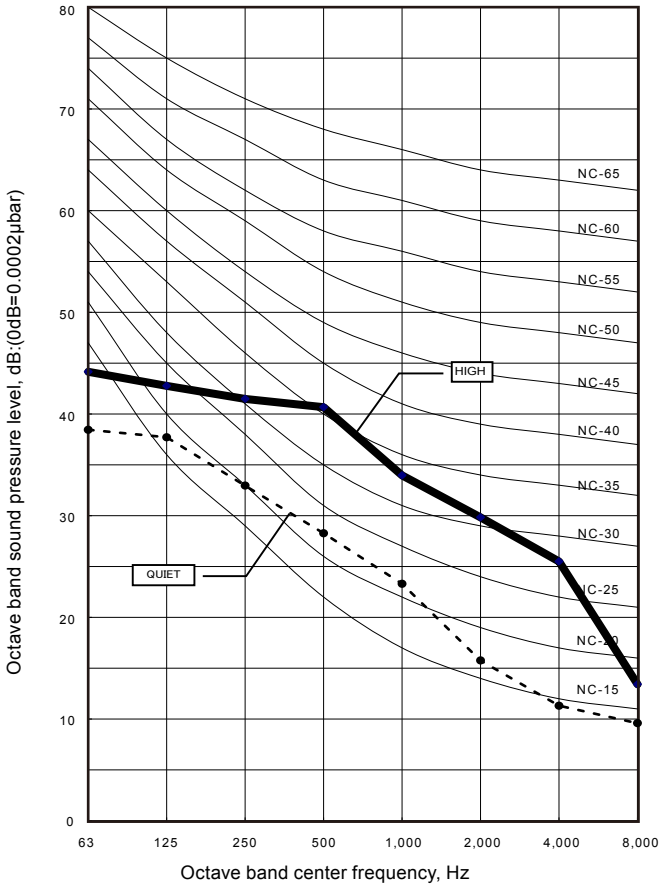
●Heating



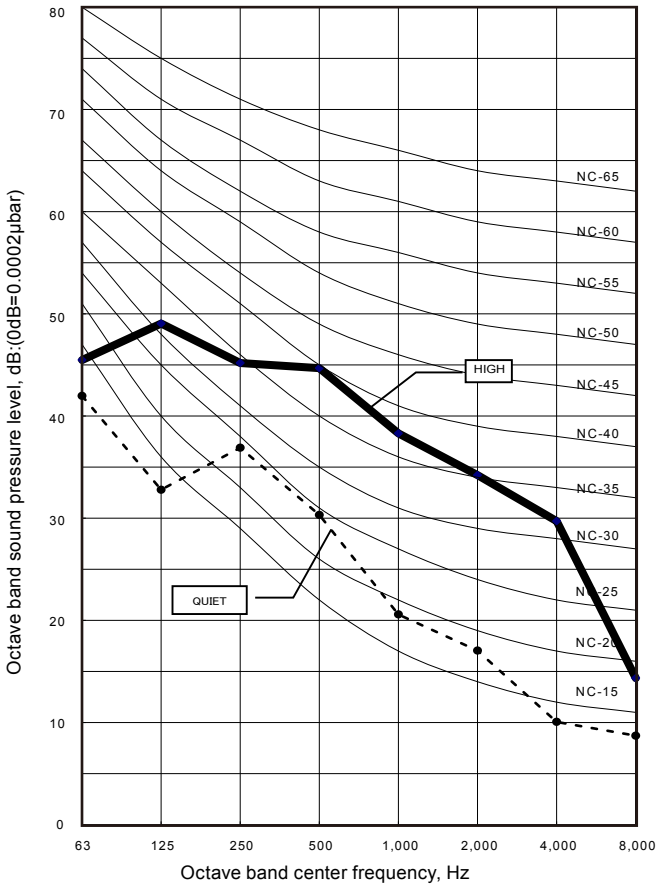
CASSETTE TYPE
AUU9-18RLF

■ MODEL : AUU18RLF

● Cooling

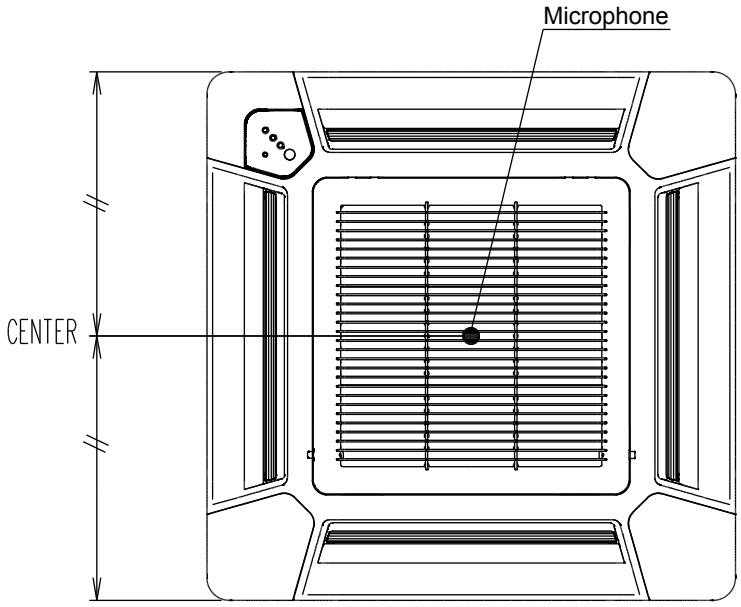


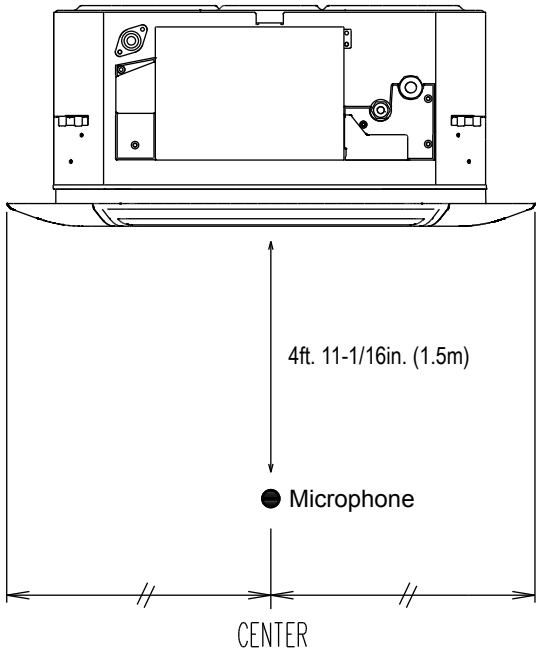
●Heating



CASSETTE TYPE
AUU9-18RLF

8-2. SOUND LEVEL CHECK POINT





CASSETTE TYPE
AUU9-18RLF

9. ELECTRIC CHARACTERISTICS

Model Name			AUU9RLF	AUU12RLF	AUU18RLF
Power Supply	Voltage	V	208/230 ~		
	Frequency	Hz	60		
Max Operating Current		A	0.15	0.19	0.32
*1) Wiring Spec.	Connection Cable	AWG	14		
	Limited wiring length	ft. (m)	85 (26)		

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

10. SAFETY DEVICES

	Protection form	Model		
		AUU9RLF	AUU12RLF	AUU18RLF
Circuit protection	Current fuse (PCB)	250V 3.15A		
Fan motor protection	Thermal protection program	OFF: 268 $^{+30}_{-34}$ °F (131 $^{+17}_{-19}$°C) OFF: 210 $^{+38}_{-34}$ °F (99 $^{+21}_{-19}$°C)		

CASSETTE TYPE
AUU9-18RLF

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)

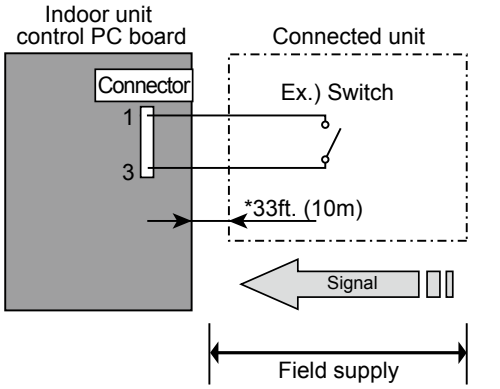
The air conditioner can be remotely operated by means of the following on-site work.

"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	76°F (24°C)	Temperature at previous operation
Air flow mode	AUTO	Mode at previous operation
Up-down air direction (swing)	Standard air direction (swing OFF)	Air direction at previous operation
Left-right air direction (swing)	Standard air direction (swing OFF)	Air direction at previous operation

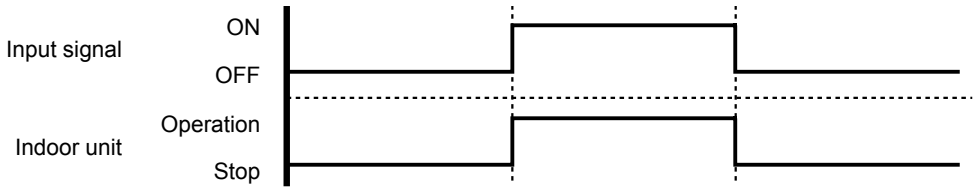
● Circuit diagram example



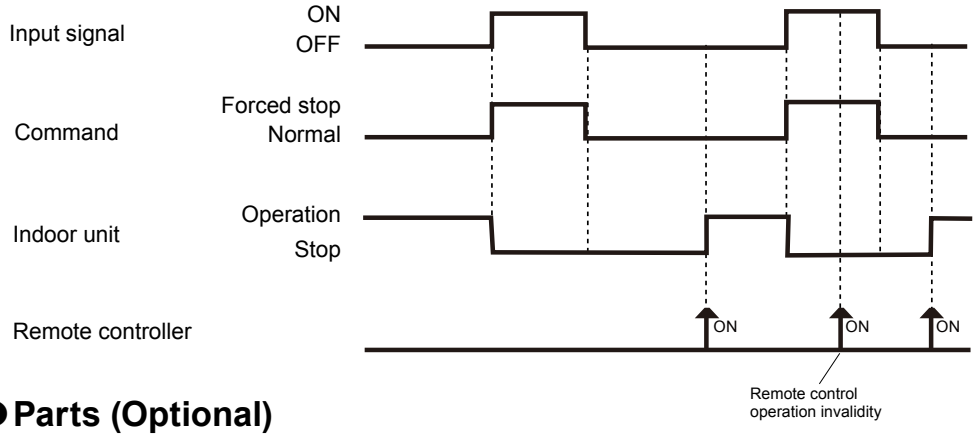
Contact capacity : 24VDC or more, 10mA or more.
Please use non-polar relays and switches.

* Make the distance from the PC board to the connected unit within 33ft. (10m).

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



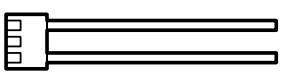
● When function setting is in "Forced stop" mode



● Parts (Optional)

Model name
UTY-XWZX

Wire (External input)



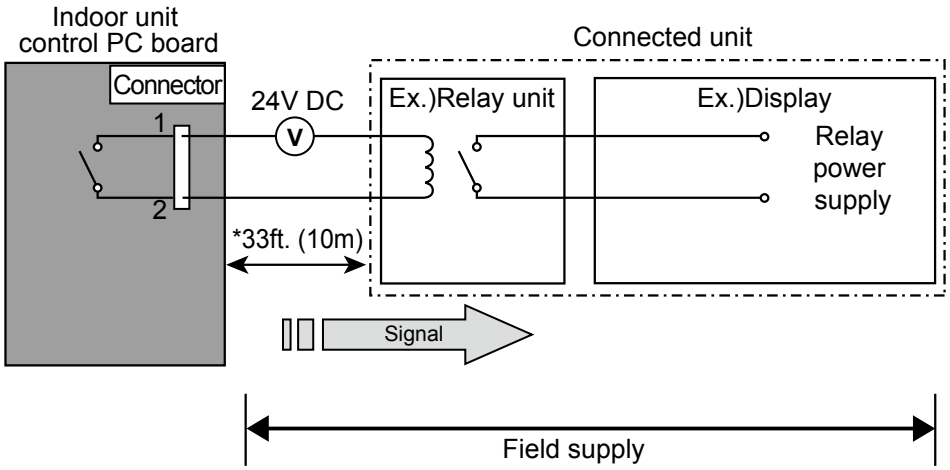
CASSETTE TYPE
AUU9-18RLF

11-2. EXTERNAL OUTPUT

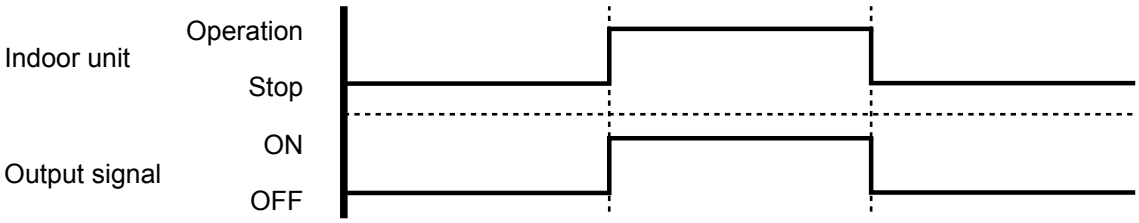
■ OPERATION STATUS OUTPUT

An air conditioner operation status signal can be output.

● Circuit diagram example



* Make the distance from the PC board to the connected unit within 33ft. (10m).
Relay spec. : Max.24VDC, 10mA to less than 500mA.



● Parts (Optional)

Model name
UTY-XWZX

Wire (External output)

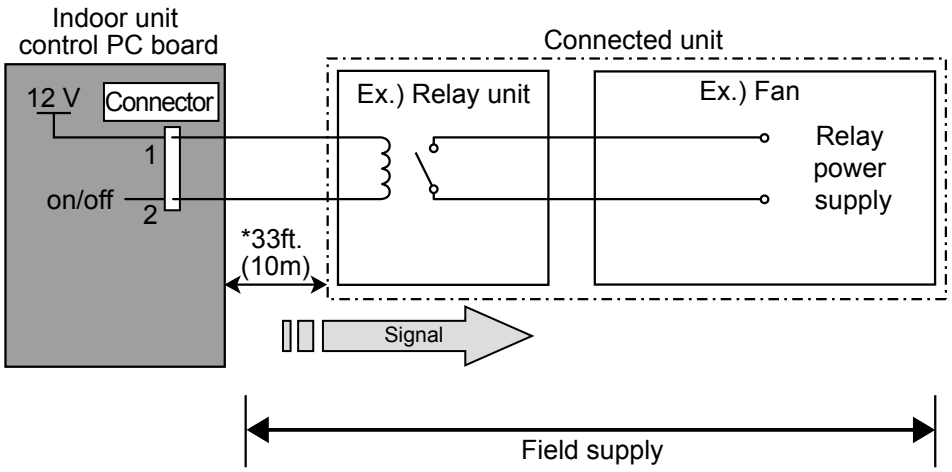
CASSETTE TYPE
AUU9-18RLF

■ FRESH AIR CONTROL OUTPUT

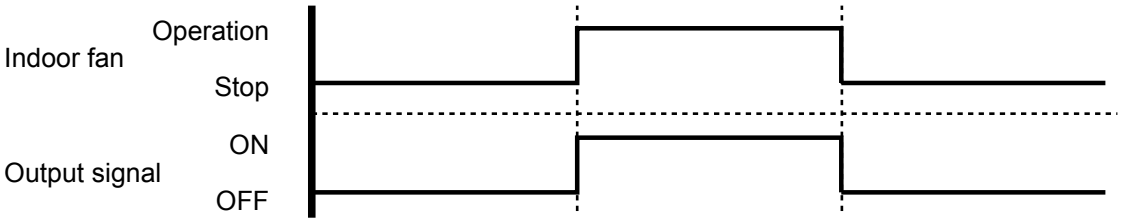
A signal linked to air conditioner indoor fan ON can be output.

* 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 33ft. (10m).
Relay spec. : Rated 12VDC, 50mA or less.



● Parts (Optional)

Model name
UTZ-VXAA

Wire (Fresh air output)

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

CASSETTE TYPE
AUU9-18RLF

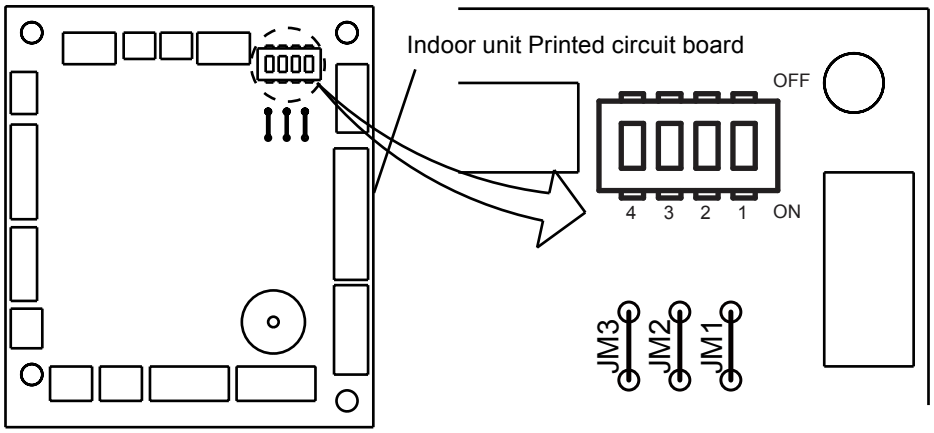
12. FUNCTION SETTINGS

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

CASSETTE TYPE
AUU9-18RLF

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

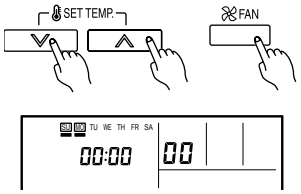
- Turn on the power.

  * Before turning on the power 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.

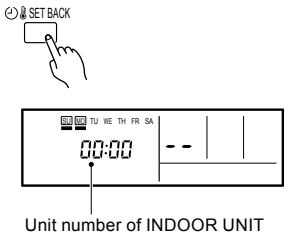
■ FUNCTION SETTING METHOD (for Wired remote controller)

● Setting method

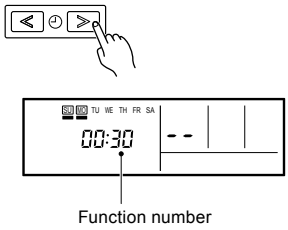
(1) Press the SET TEMP. buttons (▽) (△) and FAN button simultaneously for more than 5 seconds to enter the function setting mode.



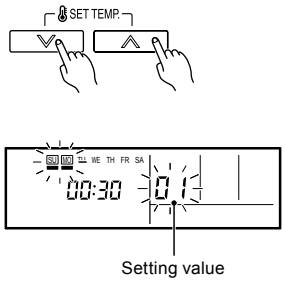
2) Press the SET BACK button to select the indoor unit number.



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.



CASSETTE TYPE
AUU9-18RLF

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

CASSETTE TYPE
AUU9-18RLF

■ CONTENTS OF FUNCTION SETTING

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

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

1) Filter sign

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

(◆. . .Factory setting)

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

2) Ceiling height

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

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
◆	Standard 8ft. (2.7m)	20	00
	High ceiling 9ft. (3.0m)		01

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

3) Outlet directions

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

(◆. . .Factory setting)

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

CASSETTE TYPE
AUU9-18RLF

4) Cooler room temperature correction

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

(◆. . .Factory setting)

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

5) Heater room temperature correction

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

(◆. . .Factory setting)

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

6) Auto restart

Enable or disable automatic system restart after a power outage.

(◆. . .Factory setting)

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

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

7) Indoor room temperature sensor switching function

(Only for Wired remote controller)

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

(◆. . .Factory setting)

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

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

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

8) Remote controller signal code

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

(◆. . .Factory setting)

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

9) External input control

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

(◆. . . Factory setting)

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

CASSETTE TYPE
AUU9-18RLF

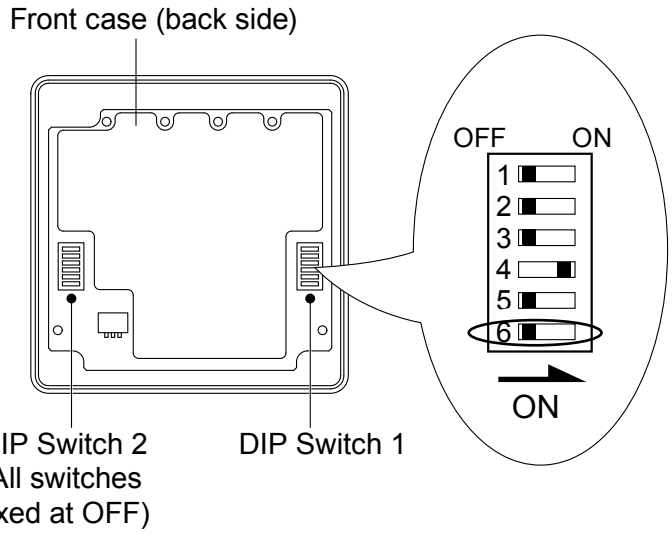
12-3. WIRED REMOTE CONTROLLER

DIP Switch 1	SW1	Forbidden
	SW2	Dual remote controller setting
	SW3	Forbidden
	SW4	°F / °C switch
	SW5	Forbidden
	SW6	Memory backup setting

* Do not use DIP Switch 2

■ SWITCH POSITION

● Wired remote controller



CASSETTE TYPE
AUU9-18RLF

■ DIP SWITCH 1 SETTING

● SW1 setting forbidden

(◆...Factory setting)

	SW1	
◆	OFF	Fixed at OFF
	ON	Setting forbidden

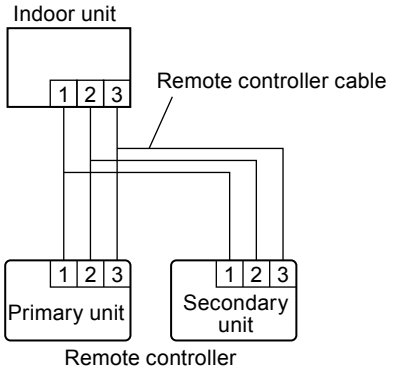
● SW2 setting

● 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



● SW3 setting forbidden

(◆...Factory setting)

	SW3	
◆	OFF	Fixed at OFF
	ON	Setting forbidden

● SW4 setting

● °F / °C switch

Temperature display is Fahrenheit(°F) / Celsius(°C)

(◆...Factory setting)

	SW4	
	OFF	°C
◆	ON	°F

CASSETTE TYPE
AUU9-18RLF

● SW5 setting forbidden

(◆...Factory setting)

	SW5	
◆	OFF	Fixed at OFF
	ON	Setting forbidden

● SW6 setting

●Memory backup setting (Wired remote controller only)

Set to ON to use batteries for the memory backup.

If batteries are not used, all of settings stored in memory will be deleted if there is a power failure.

(◆...Factory setting)

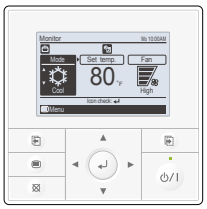
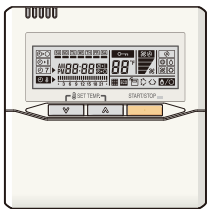
	SW6	Memory backup
◆	OFF	Invalidity
	ON	Validity

Never turn it ON in the case of simple remote controller.

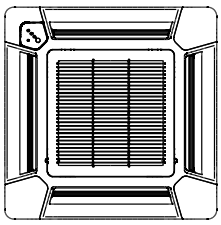
CASSETTE TYPE
AUU9-18RLF

13. OPTIONAL PARTS

13-1. CONTROLLERS

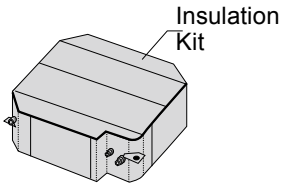
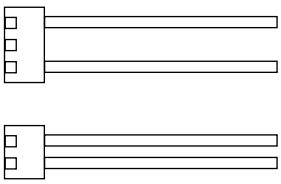
Exterior	Parts name	Model No.	Summary
	Wired remote controller	UTY-RVNUM	Large and full-dot liquid crystal screen, wide and large keys easy to press, user-intuitive arrow key.
	Wired remote controller	UTY-RNNUM	The room temperature can be controlled by detecting the temperature accurately with built-in thermo sensor.
	Simple remote controller	UTY-RSNUM	Compact remote controller concentrates on the basic functions such as Start/Stop, Fan Control, Temperature Setting and Operation mode.
	Wireless remote controller	UTY-LNHUM	Unit control is performed by wireless remote controller

13-2. CASSETTE GRILLE

Exterior	Parts name	Model No.	Summary
	Casette grille	UTG-CCGF	The form of the grille discharges wind away from the ceiling making it difficult to leave dirt marks.

CASSETTE TYPE
AUU9-18RLF

13-3. OTHERS

Exterior	Parts name	Model No.	Summary
	Air outlet shutter plate	UTR-YDZB	Air outlet shutter plate is installed at the air outlet when 3-way direction is performed.
	Insulation kit for high humidity	UTZ-KXGC	Install when the condition under the roof is expected to have humidity of over 80% and temperature of over 86°F(30°C).
	Fresh air intake kit	UTZ-VXAA	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.
	External connect set	UTY-XWZX	Use to connect with various peripheral devices and air conditioner PC board.

2. OUTDOOR UNIT

SINGLE TYPE :

AOU9RLFC
AOU12RLFC
AOU18RLFC

DTR_AO131E_01
2013.02.28

CONTENTS

2. OUTDOOR UNIT

OUTDOOR UNIT
AOU9-18RLFC

1. SPECIFICATIONS

Type				INVERTER HEAT PUMP		
Model name				AOU9RLFC	AOU12RLFC	AOU18RLFC
Power source				208 / 230V ~ 60Hz		
Available voltage range				187 - 253V ~ 60Hz		
Starting current			A	4.1	6.7	7.7
Fan	Airflow rate	Cooling	CFM (m^3/h)	794 (1350)	1206 (2050)	[ARU18RLF] 1206 (2050) [AUU18RLF] 1457 (2475)
		Heating		989 (1680)	1083 (1840)	1407 (2355)
	Type × Q'ty			Propeller fan × 1		
	Motor output		W	115		
Sound pressure level		Cooling	dB (A)	44	49	[ARU18RLF] 52 [AUU18RLF] 54
		Heating		49	50	55
Heat exchanger type		Dimensions (H × W × D)	in.	23-5/32 × 34-11/16 × 1-7/16		
			mm	588 × 881 × 36.4		
		Fin pitch	FPI	20		
		Rows × Stages		2 × 28		
		Pipe type		Copper		
		Fin Type		Aluminum		
Compressor	Type × Q'ty			Rotary × 1		
	Motor output		W	850		1000
Refrigerant		Type		R410A		
		Charge	lbs.oz.	2lbs.10oz.		2lbs.14oz.
			kg	1.20		1.30
Refrigerant oil		Type		FREOL α68SZ		
Enclosure		Material		Steel		
		Color		Beige Approximate color of MUNSELL 10YR7.5/1.0		
Dimensions (H × W × D)	Net		in.	24 - 1/2 × 31 - 3/32 × 11 - 11/32		
			mm	620 × 790 × 290		
	Gross		in.	28 - 1/16 × 37-7/32 × 15 - 9/16		
			mm	713 × 945 × 395		
Weight	Net		lbs.(kg)	84 (38)		86 (39)
	Gross			93 (42)		95 (43)
Connenction pipe	Size	Liquid	in. (mm)	Ø 1/4 (Ø 6.35)		
		Gas		Ø 3/8 (Ø 9.52)		Ø 1/2 (Ø 12.7)
	Method			Flare		
	Pre - charge length		ft. (m)	49 (15)		
	Max. length			66 (20)		
	Max. height difference			49 (15)		
Operation range		Cooling	°F (°C)	14 to 115 (-10 to 46)		
		Heating		-5 to 75 (-21 to 24)		

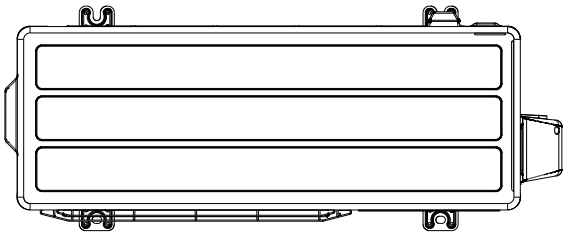
Note :
Specifications are based on the following conditions.
Cooling : Indoor temperature of 80°F (26.67°C) DB / 67°F (19.44°C) WB, and outdoor temperature of 95°F (35°C) DB / 75°F (23.9°C) WB.
Heating : Indoor temperature of 70°F (21.11°C) DB / 59°F (15°C) WB, and outdoor temperature of 47°F (8.33°C) DB / 43°F (6.11°C) WB.
Pipe length : 24ft.7in (7.5m), Height difference:0 m. (Outdoor unit - Indoor unit)
The protective function may work when using it outside the operation range.

OUTDOOR UNIT
AOU9-18RLFC

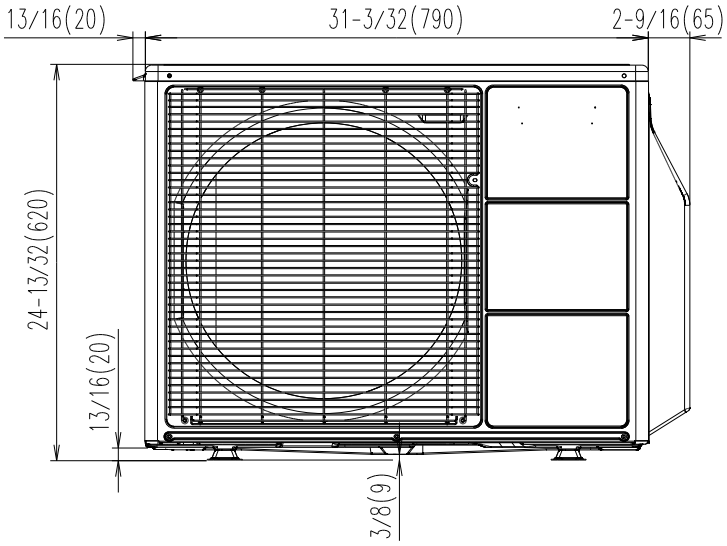
2. DIMENSIONS

■ MODEL: AOU9RLFC, AOU12RLFC, AOU18RLFC

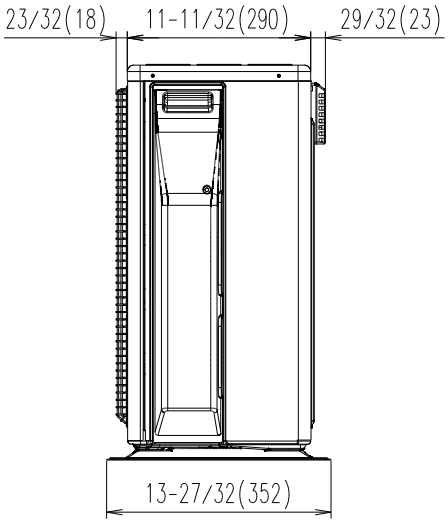
Unit : in. (mm)



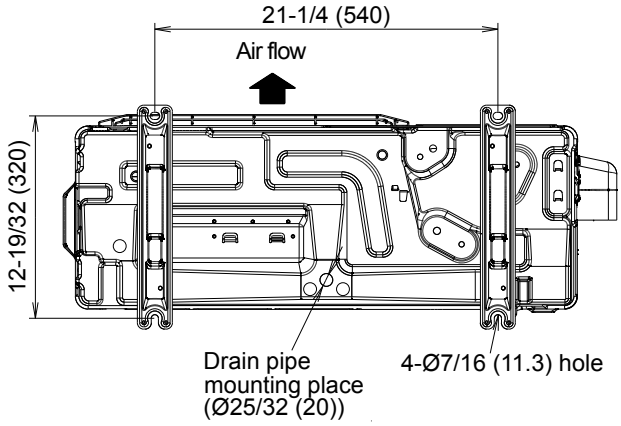
Top view



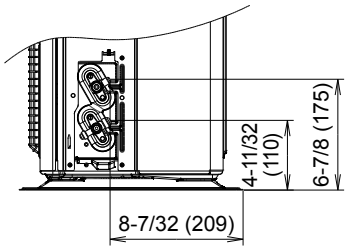
Front view



Side view

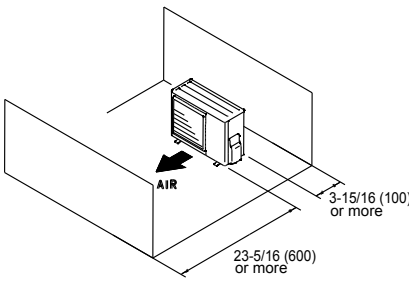


Bottom view

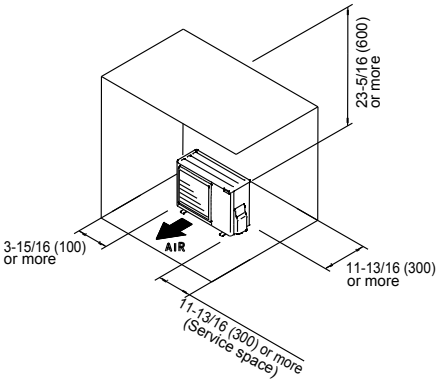


■ INSTALLATION PLACE

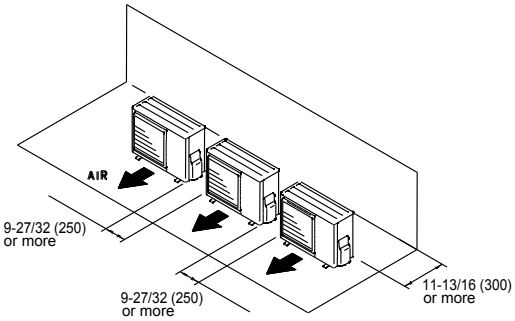
When there are obstacles at the back or front sides.



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



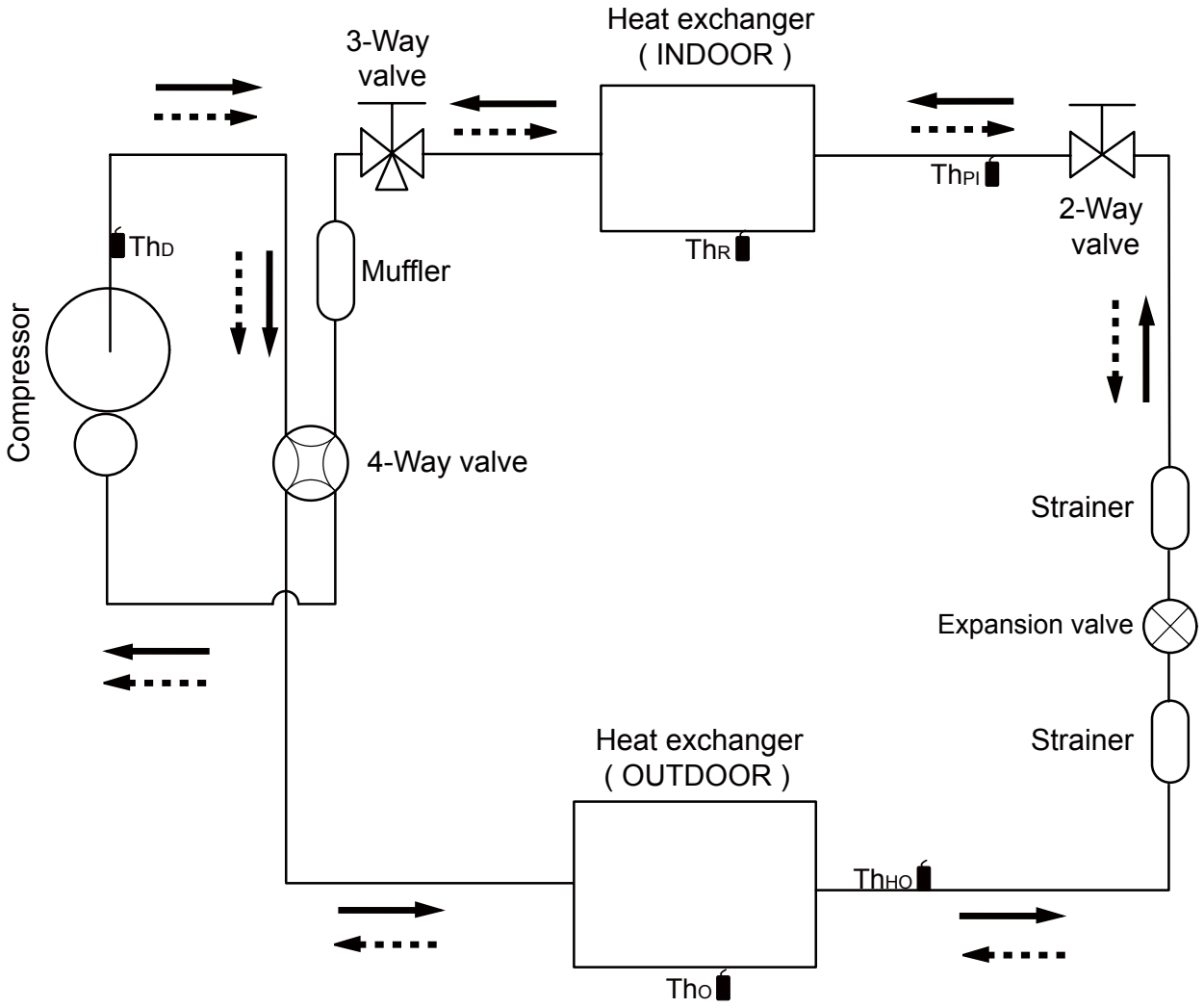
When there are obstacles at the back, side with the installation of more than one unit.



OUTDOOR UNIT
AOU9-18RLFC

3. REFRIGERANT CIRCUIT

■ MODEL: AOU9RLFC, AOU12RLFC, AOU18RLFC



ThD : Thermistor (Discharge Temp.)

ThO : Thermistor (Outdoor Temp.)

ThHO : Thermistor (Heat Exchanger Out Temp.)

ThR : Thermistor (Room Temp.)

ThPI : Thermistor (Pipe Temp.)

Refrigerant pipe diameter

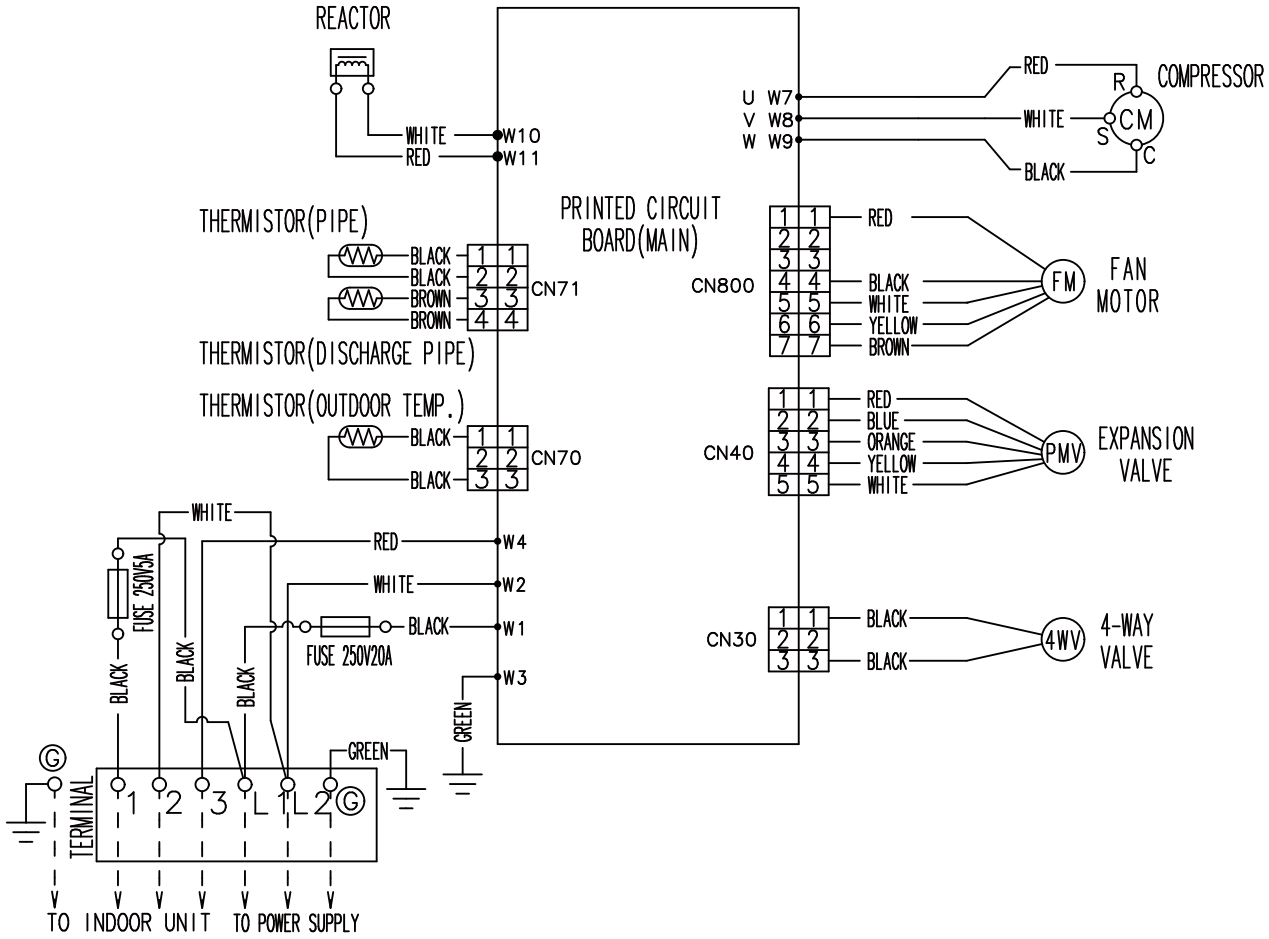
Liquid : 1/4" (6.35 mm)

Gas : 3/8" (9.52 mm) : 9/12RLFC

1/2" (12.70 mm) : 18RLFC

4. WIRING DIAGRAMS

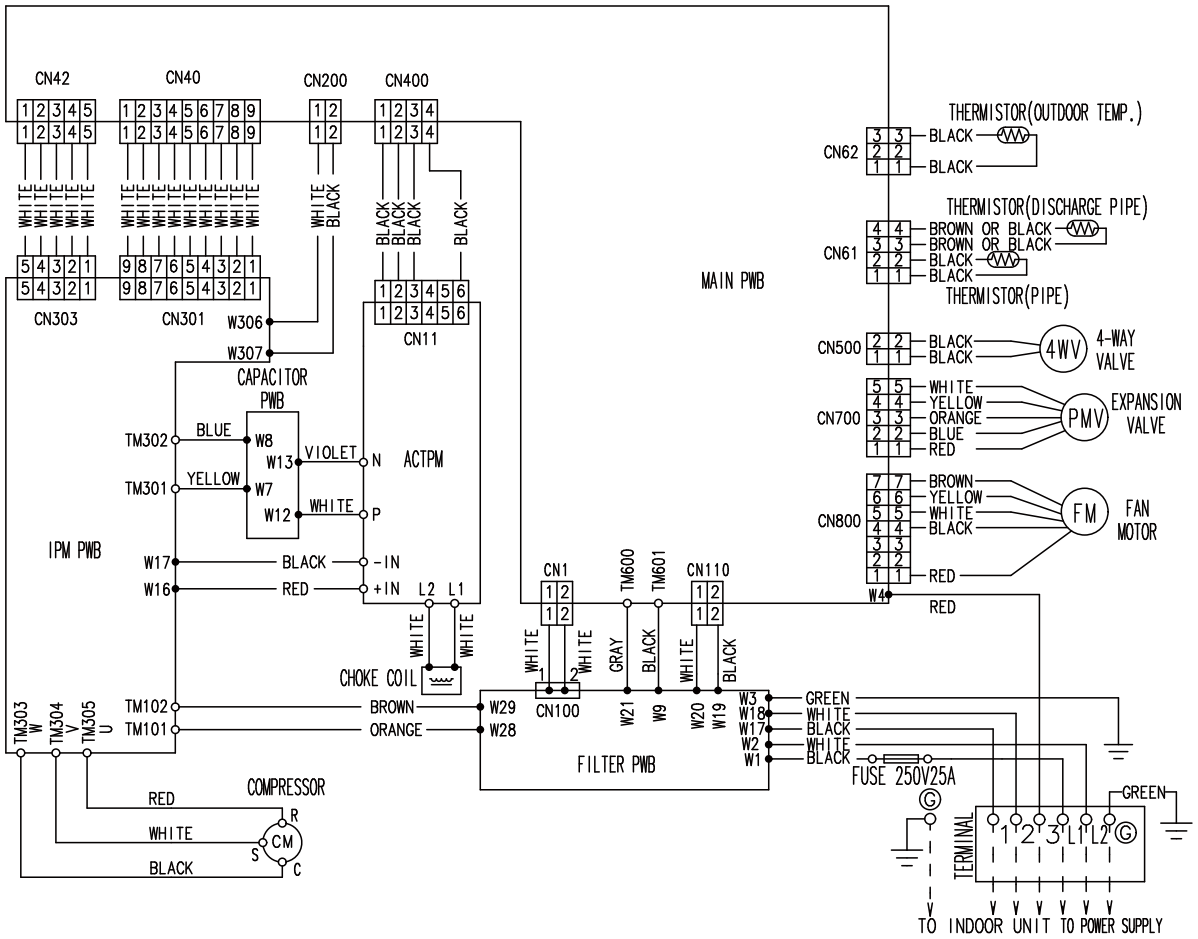
■ MODEL: AOU9RLFC, AOU12RLFC



OUTDOOR UNIT
AOU9-18RLFC

OUTDOOR UNIT
AOU9-18RLFC

■ MODEL: AOU18RLFC



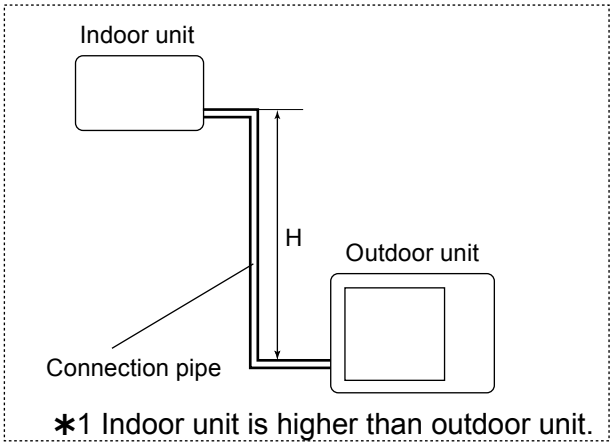
5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

■ MODEL: AOU9RLFC, AOU12RLFC

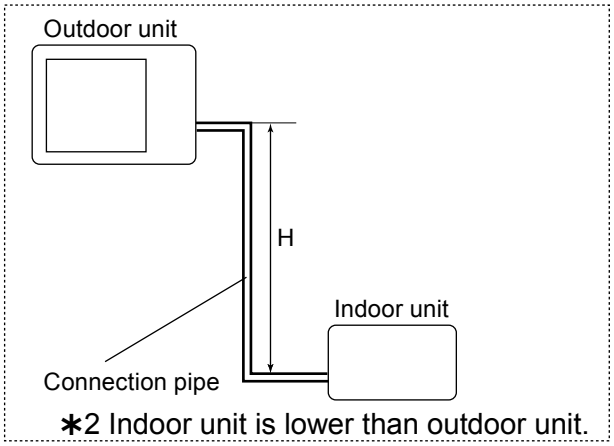
COOLING				Pipe length				
				5m	7.5m	10m	15m	20m
				17ft.	25ft.	33ft.	50ft.	67ft.
Height difference H	∗1 Indoor unit is higher than outdoor unit.	15m	50ft.	-	-	-	0.877	0.874
		10m	33ft.	-	-	0.956	0.891	0.888
		7.5m	25ft.	-	0.988	0.960	0.895	0.892
		5m	17ft.	1.017	0.992	0.964	0.899	0.895
		0m	0ft.	1.025	1.000	0.971	0.906	0.902
	∗2 Indoor unit is lower than outdoor unit	-5m	-17ft.	1.025	1.000	0.971	0.906	0.902
		-7.5m	-25ft.	-	1.000	0.971	0.906	0.902
		-10m	-33ft.	-	-	0.971	0.906	0.902
		-15m	-50ft.	-	-	-	0.906	0.902

HEATING				Pipe length				
				5m	7.5m	10m	15m	20m
				17ft.	25ft.	33ft.	50ft.	67ft.
Height difference H	∗1 Indoor unit is higher than outdoor unit.	15m	50ft.	-	-	-	0.933	0.925
		10m	33ft.	-	-	0.981	0.933	0.925
		7.5m	25ft.	-	1.000	0.981	0.933	0.925
		5m	17ft.	1.017	1.000	0.981	0.933	0.925
		0m	0ft.	1.017	1.000	0.981	0.933	0.925
	∗2 Indoor unit is lower than outdoor unit	-5m	-17ft.	1.012	0.995	0.976	0.928	0.920
		-7.5m	-25ft.	-	0.993	0.974	0.926	0.918
		-10m	-33ft.	-	-	0.971	0.923	0.916
		-15m	-50ft.	-	-	-	0.914	0.906

Height difference H



∗1 Indoor unit is higher than outdoor unit.



∗2 Indoor unit is lower than outdoor unit.

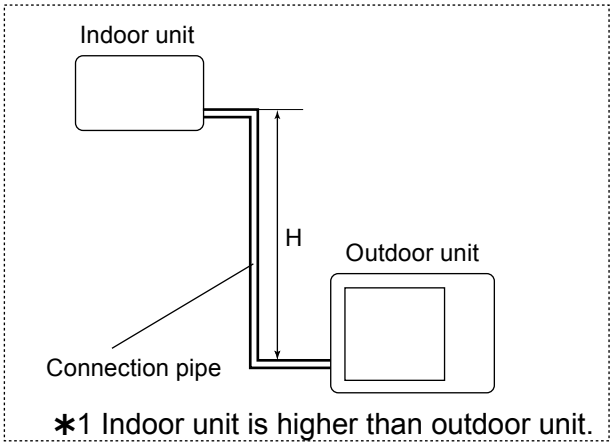
OUTDOOR UNIT
AOU9-18RLFC

■ MODEL: AOU18RLFC

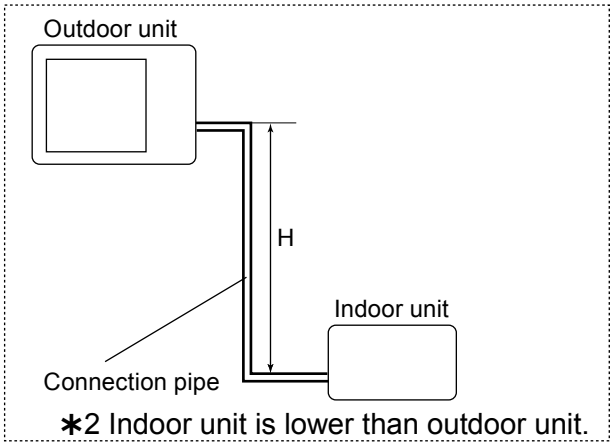
COOLING				Pipe length				
				5m	7.5m	10m	15m	20m
				17ft.	25ft.	33ft.	50ft.	67ft.
Height difference H	∗1 Indoor unit is higher than outdoor unit.	15m	50ft.	-	-	-	0.951	0.950
		10m	33ft.	-	-	0.979	0.967	0.966
		7.5m	25ft.	-	0.988	0.983	0.971	0.970
		5m	17ft.	0.994	0.992	0.987	0.975	0.974
		0m	0ft.	1.002	1.000	0.995	0.983	0.982
	∗2 Indoor unit is lower than outdoor unit	-5m	-17ft.	1.002	1.000	0.995	0.983	0.982
		-7.5m	-25ft.	-	1.000	0.995	0.983	0.982
		-10m	-33ft.	-	-	0.995	0.983	0.982
		-15m	-50ft.	-	-	-	0.983	0.982

HEATING				Pipe length				
				5m	7.5m	10m	15m	20m
				17ft.	25ft.	33ft.	50ft.	67ft.
Height difference H	∗1 Indoor unit is higher than outdoor unit.	15m	50ft.	-	-	-	0.994	0.979
		10m	33ft.	-	-	1.012	0.994	0.979
		7.5m	25ft.	-	1.000	1.012	0.994	0.979
		5m	17ft.	0.969	1.000	1.012	0.994	0.979
		0m	0ft.	0.969	1.000	1.012	0.994	0.979
	∗2 Indoor unit is lower than outdoor unit	-5m	-17ft.	0.964	0.995	1.007	0.989	0.974
		-7.5m	-25ft.	-	0.993	1.004	0.986	0.972
		-10m	-33ft.	-	-	1.002	0.984	0.969
		-15m	-50ft.	-	-	-	0.974	0.959

Height difference H



∗1 Indoor unit is higher than outdoor unit.



∗2 Indoor unit is lower than outdoor unit.

OUTDOOR UNIT
AOU9-18RLFC

6. ADDITIONAL CHARGE CALCULATION

■ MODEL: AOU9RLFC, AOU12RLFC

Refrigerant type		R410A
Refrigerant amount	lbs. oz.	2lbs.10oz.
	g	1200

● Refrigerant Charge

Total Pipe length	ft.	49 or less	66 (MAX)	0.22oz./ft. (20g/m)
	m	15 or less	20 (MAX)	
Additional charge	oz.	0	3.5	
	g	0	100	

■ MODEL: AOU18RLFC

Refrigerant type		R410A
Refrigerant amount	lbs. oz.	2lbs.14oz.
	g	1300

● Refrigerant Charge

Total Pipe length	ft.	49 or less	66 (MAX)	0.22oz./ft. (20g/m)
	m	15 or less	20 (MAX)	
Additional charge	oz.	0	3.5	
	g	0	100	

OUTDOOR UNIT
AOU9-18RLFC

7. AIRFLOW

■ MODEL: AOU9RLFC

● Cooling

Number of rotations (r.p.m.)	Airflow	
590	m^3/h	1350
	l/s	375
	CFM	794

● Heating

Number of rotations (r.p.m.)	Airflow	
720	m^3/h	1680
	l/s	467
	CFM	989

■ MODEL: AOU12RLFC

● Cooling

Number of rotations (r.p.m.)	Airflow	
870	m^3/h	2050
	l/s	569
	CFM	1206

● Heating

Number of rotations (r.p.m.)	Airflow	
780	m^3/h	1840
	l/s	511
	CFM	1083

OUTDOOR UNIT
AOU9-18RLFC

■ MODEL: AOU18RLFC/ARU18RLF

● Cooling

Number of rotations (r.p.m.)	Airflow	
870	m^3/h	2050
	l/s	569
	CFM	1206

● Heating

Number of rotations (r.p.m.)	Airflow	
1000	m^3/h	2355
	l/s	654
	CFM	1386

■ MODEL: AOU18RLFC/AUU18RLF

● Cooling

Number of rotations (r.p.m.)	Airflow	
1050	m^3/h	2475
	l/s	687
	CFM	1457

● Heating

Number of rotations (r.p.m.)	Airflow	
1000	m^3/h	2355
	l/s	654
	CFM	1386

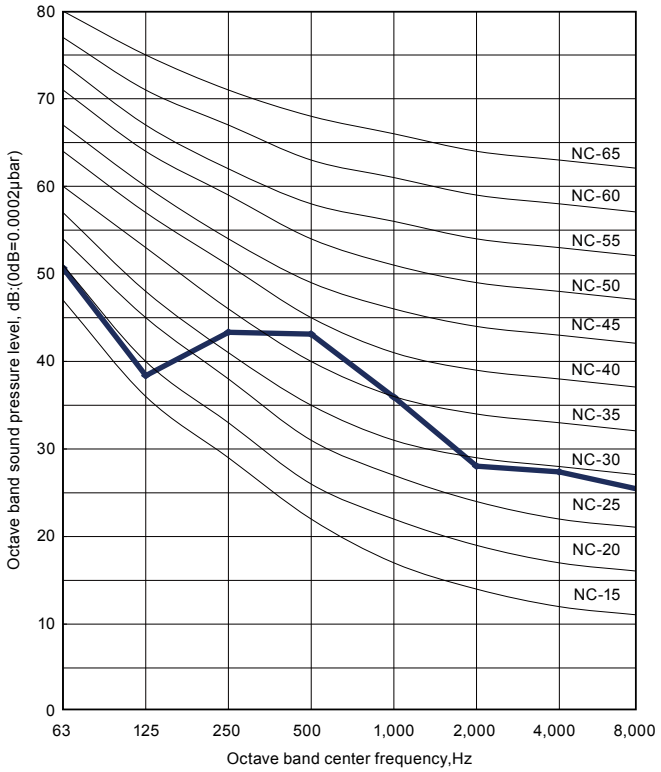
OUTDOOR UNIT
AOU9-18RLFC

8. OPERATION NOISE (SOUND PRESSURE)

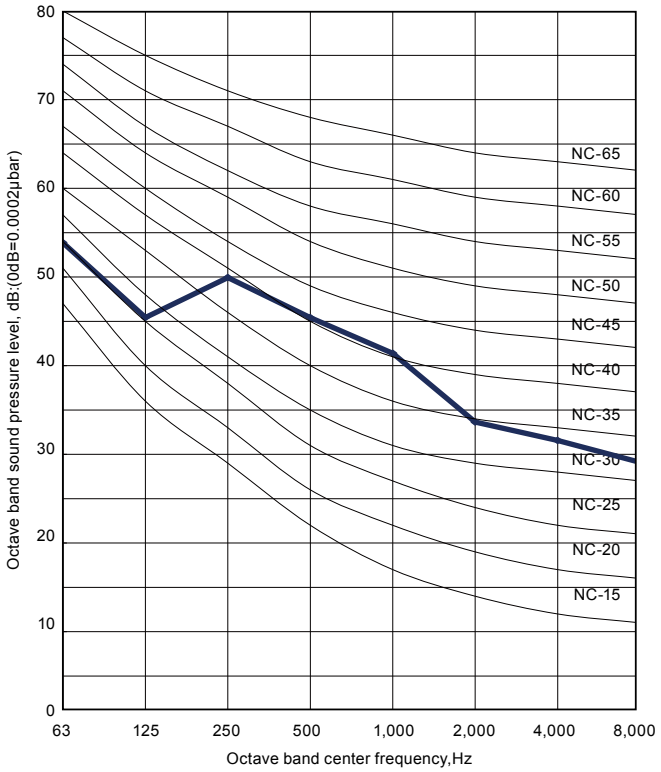
8-1. NOISE LEVEL CURVE

■ MODEL: AOU9RLFC

● Cooling

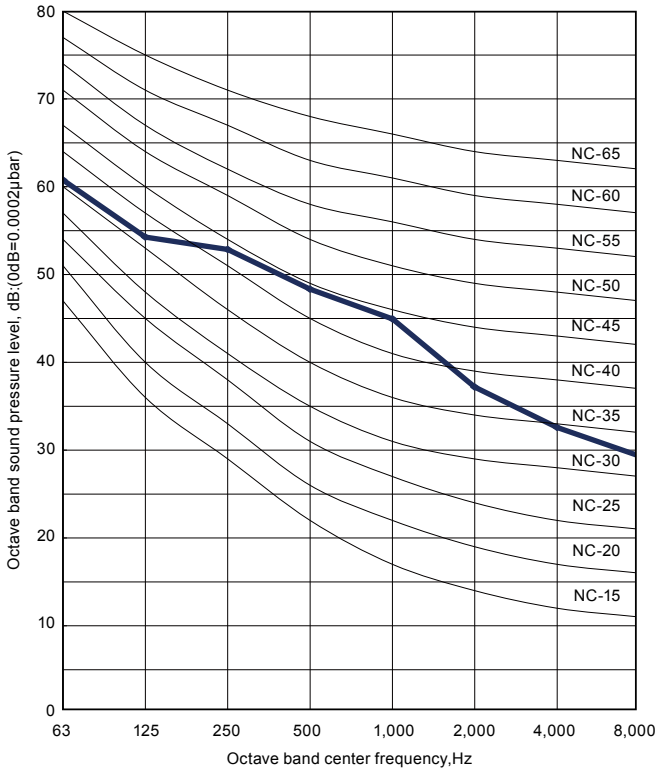


● Heating

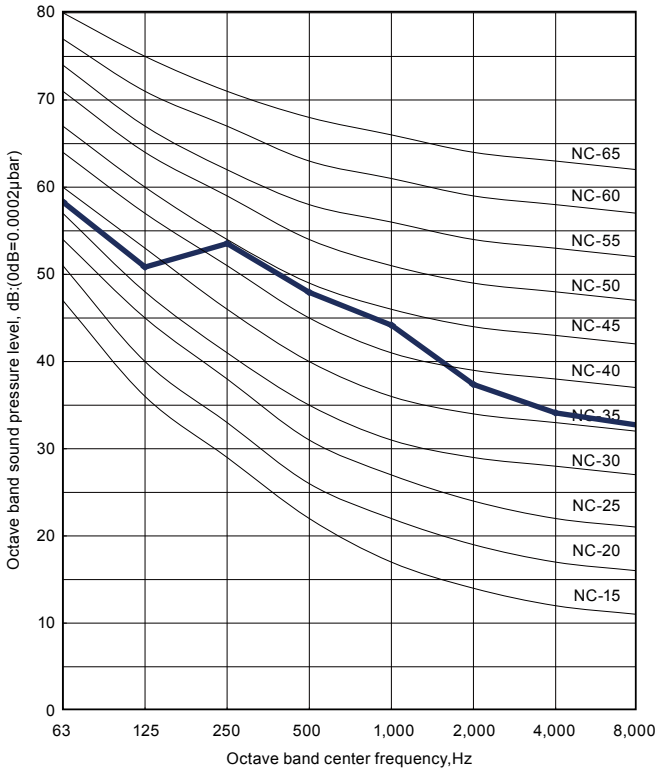


■ MODEL: AOU12RLFC

● Cooling



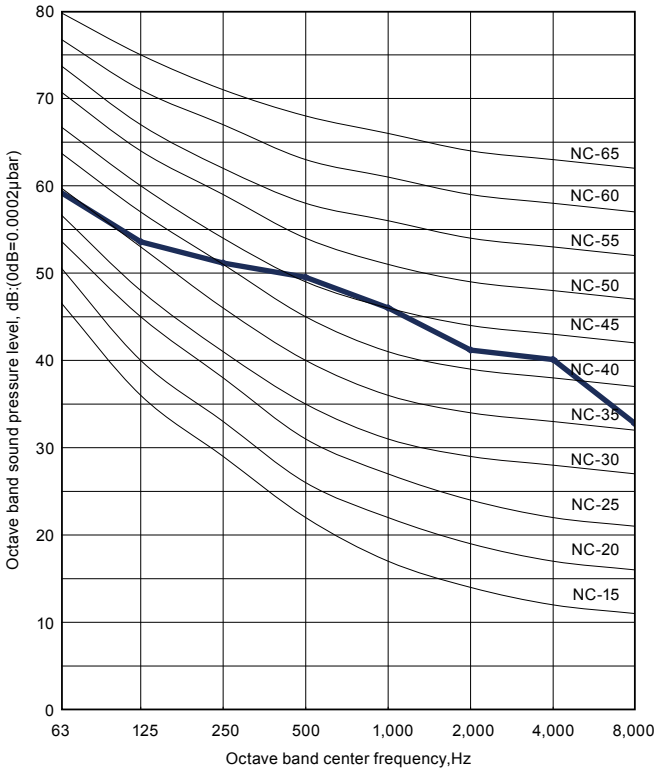
● Heating



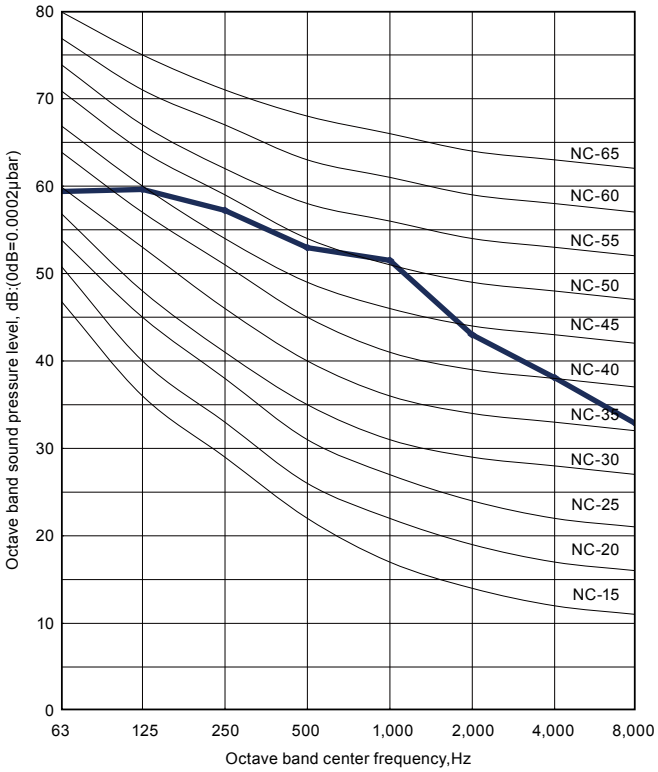
OUTDOOR UNIT
AOU9-18RLFC

■ MODEL: AOU18RLFC/ARU18RLF

● Cooling

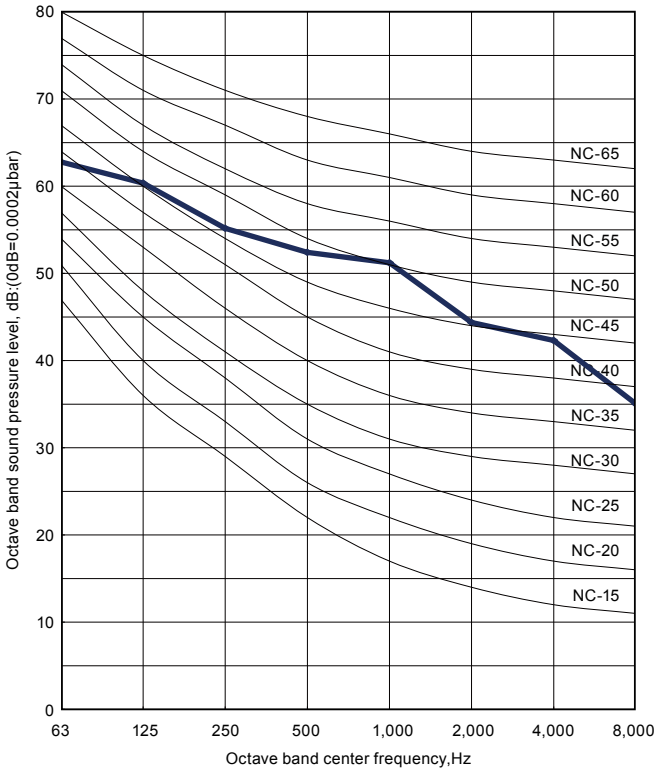


● Heating

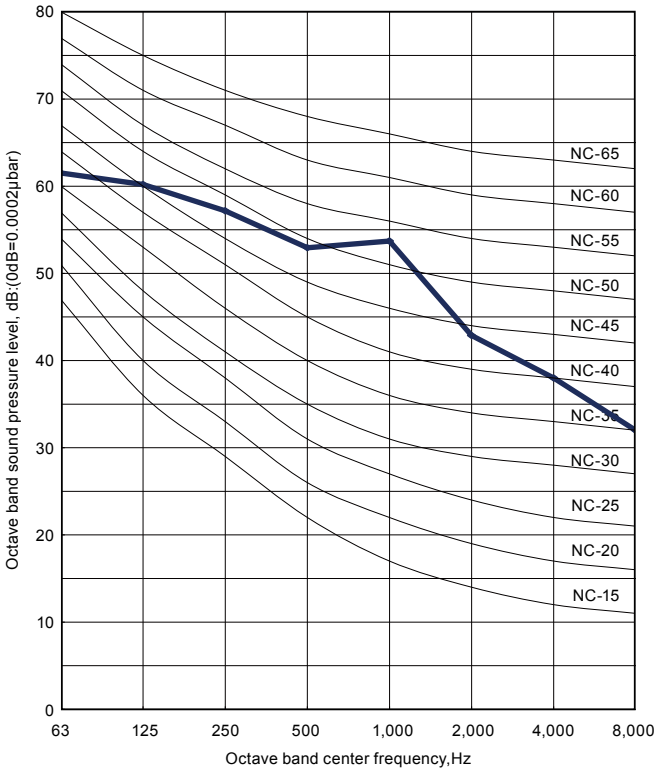


■ MODEL: AOU18RLFC/AUU18RLF

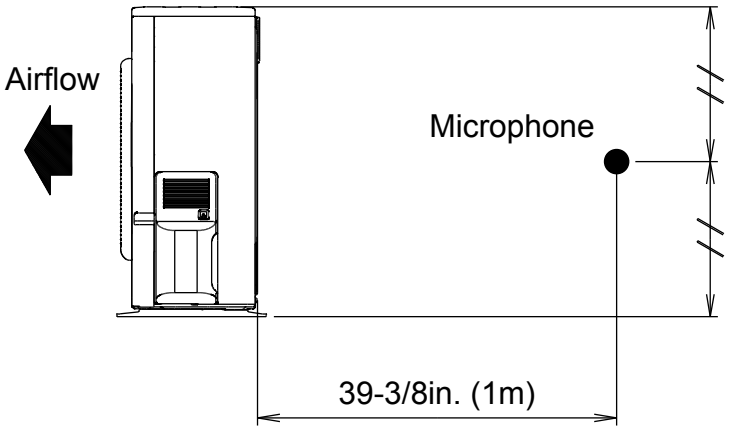
● Cooling

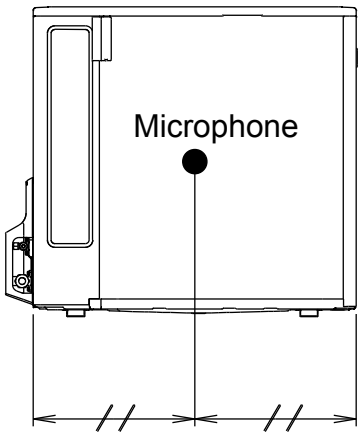


● Heating



8-2. SOUND LEVEL CHECK POINT





OUTDOOR UNIT
AOU9-18RLFC

9. ELECTRIC CHARACTERISTICS

Model name			AOU9RLFC	AOU12RLFC	AOU18RLFC
Power supply	Voltage	V	208 / 230 ~		
	Frequency	Hz	60		
MCA		A	13.4		17.3
Starting Current		A	4.1	6.7	7.7
*1) Wiring Spec.	MAX CKT BKR	A	15		20
	Power Cable	AWG	14		12
	*2) Limited wiring length	ft. (m)	60 (18)		75 (22)

*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.

MCA : Minimum Circuit Ampacity (Calculation based on UL1995)
MAX CKT BKR : Maximum Circuit Breaker

10. SAFETY DEVICES

<table>
<tr><td rowspan="2"></td><td rowspan="2">Protection form</td><td colspan="3">Model</td></tr>
<tr><td>AOU9RLFC</td><td>AOU12RLFC</td><td>AOU18RLFC</td></tr>
<tr><td rowspan="3">Circuit protection</td><td rowspan="2">Current fuse
(Near the terminal)</td><td colspan="2">250V 20A</td><td rowspan="2">250V 25A</td></tr>
<tr><td colspan="2">250V 5A</td></tr>
<tr><td rowspan="2">Current fuse
(Main printed circuit board)</td><td colspan="2">250V 15A</td><td>250V 10A</td></tr>
<tr><td colspan="3">250V 3.15A</td></tr>
<tr><td>Fan motor protection</td><td>Thermal protection
program</td><td colspan="3">OFF : 212±27 °F (100±15 °C)
ON : 203±18 °F (95±10 °C)</td></tr>
<tr><td>Compressor protection</td><td>Thermal protection
program
(Discharge temp.)</td><td colspan="3">OFF : 230 °F (110 °C)
ON : After 7 minutes</td></tr>
</table>

OUTDOOR UNIT
AOU9-18RLFC