

2 . CEILING TYPE :

☐ **ABU18RULX, ABU24RULX**

2-1. FEATURE

MODELS :

ABU18RULX / AOU18RLX

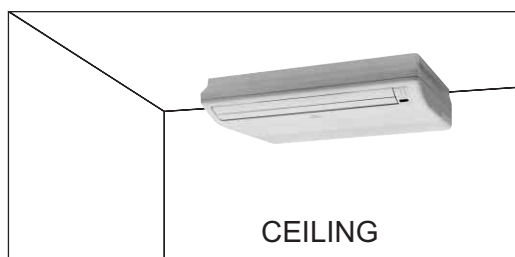
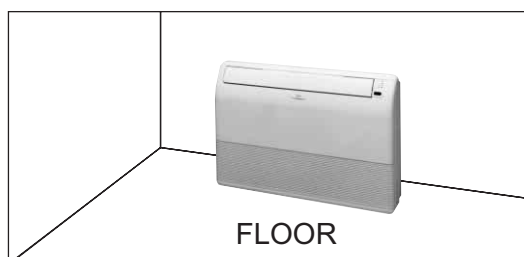
ABU24RULX / AOU24RLX

FEATURES

● Compact design

Symmetrical thin and compact design
Flat and round form

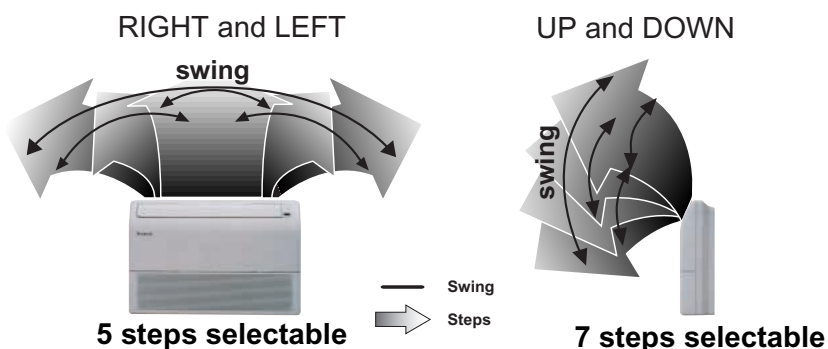
● Flexible installation



● Double auto swing

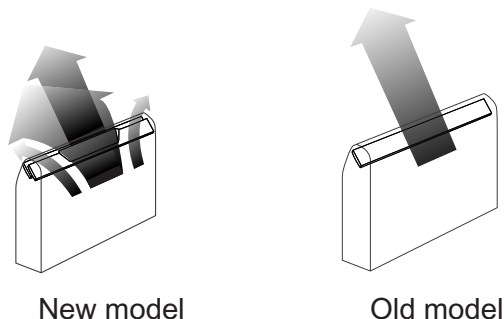
Combination of up/down and right/left air direction swing allows three-dimensional air direction control.

Since up/down air direction flaps operate automatically, according to the operating mode of the unit, it is possible to set the air direction based on the operating mode.



● Super vane

The double-flap "Super Vane" with newly developed special configuration boosts the air flow, sending cool air quickly to every corner of the room.



● Others

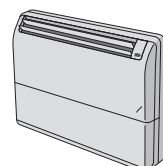
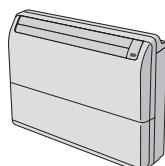
*Auto Restart

*Detachable and Washable Open Panel

*Auto Shut Flaps

Non-operation mode

Operation mode



2-2. REMOTE CONTROLLER

2-2-1. WIRELESS REMOTE CONTROLLER

Wireless remote controller is an accessory of all indoor units.

■ FEATURES



- * Four kinds of timer setup (ON / OFF / PROGRAM / SLEEP) are possible.
- * Four kinds of timers. Easy operation.
- * Can be used jointly with Wired remote controllers.
- * Easy to change transmission code (4 patterns) by button operation.

● Built-in timers

Select from four different timer programs (On/Off/Program/Sleep).

● Program timer

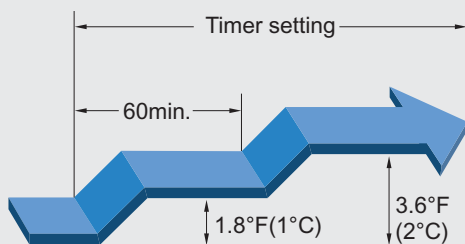
The program timer operates the ON and OFF timer once within a 24 hour period.

● Sleep timer

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

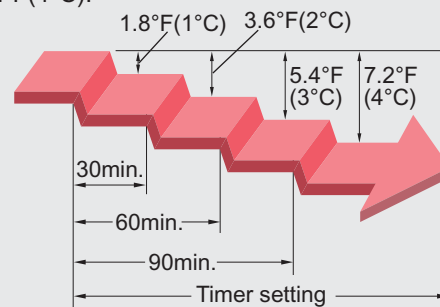
Cooling operation/dry operation

When the sleep timer is set, the set temperature automatically rises $1.8^{\circ}\text{F}(1^{\circ}\text{C})$ every hour. The set temperature can rise up to a maximum of $3.6^{\circ}\text{F}(2^{\circ}\text{C})$.

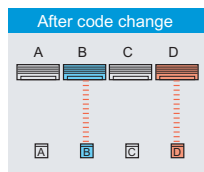
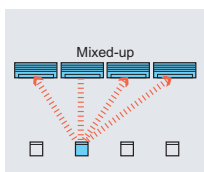


Heating operation

When the sleep timer is set, the set temperature automatically drops $1.8^{\circ}\text{F}(1^{\circ}\text{C})$ every 30 minutes. The set temperature can drop to a maximum of $7.2^{\circ}\text{F}(4^{\circ}\text{C})$.



● Simple operation



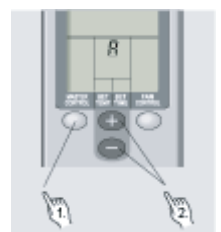
- Code selector switch eliminates unit being wrongly switched. (Up to 4 codes can be set.)



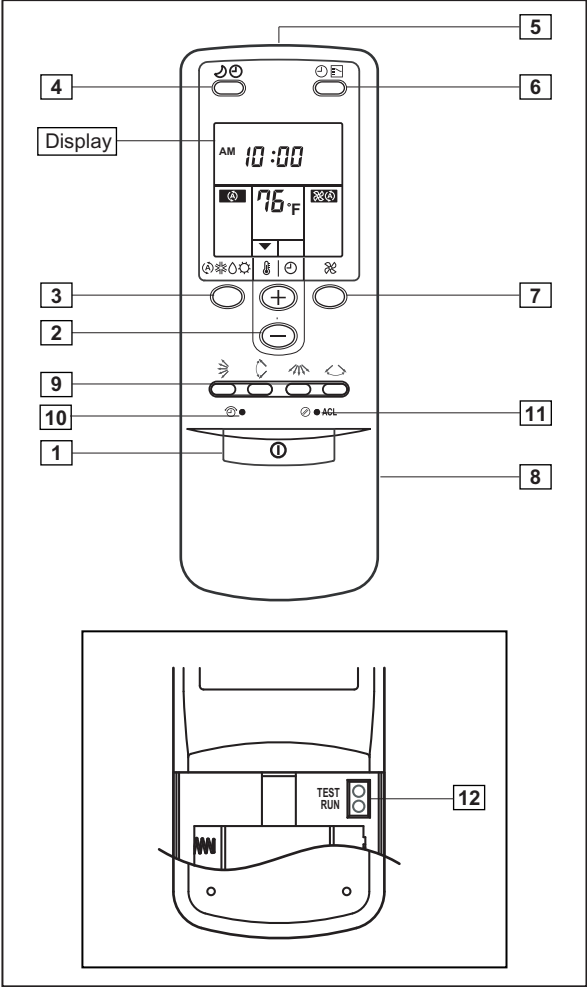
- Wide and precise transmitting range.

1. Press the MASTER CONTROL button for more than five seconds to start the code change.
2. Press the (+) or (-) button to select the desired code.

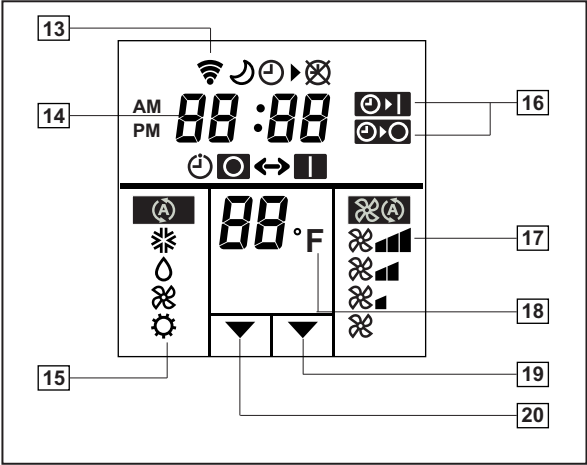
A → B → C → D
3. Press the MASTER CONTROL button again to end the code change.



FUNCTIONS



Display panel



- 1** START/STOP button
Pressed to start and stop operation
- 2** Set temp./Set time buttons/Set remote controller custom code buttons
Sets the indoor temp./Sets the current time and on-off time /Set R.C. custom code
- 3** Master control button/Code change
Selects the operating mode (AUTO, HEAT, FAN, COOL, DRY). Start/end R.C. custom code change. (Max. 4 types)
- 4** Sleep timer button
Pressed to select sleep timer.
- 5** Signal transmitter
- 6** Timer button
Pressed to select the timer mode. (OFF TIMER, ON TIMER, PROGRAM TIMER, TIMER RESET)
- 7** Fan control button
Selects the fan speed (AUTO, LOW, MED, HIGH).
- 8** Battery compartment lid
- 9** Air flow direction button
Used to set the desired air flow direction & swing function.
- 10** Time adjust button
Sets the current time.
- 11** ACL button
Used when replacing batteries or change the code.
- 12** Test run button
Used when testing the air conditioner after installation.
- 13** Transmit indicator
- 14** Clock display
- 15** Master control display
- 16** Timer mode display
- 17** Fan speed display
- 18** Set temperature display
- 19** Timer set indicator
- 20** Temperature set indicator

SPECIFICATION

SIZE [H x W x D in.(mm)]	6 - 7 / 32 x 2 - 13 / 64 x 25 / 32 (158 x 56 x 20)
WEIGHT oz.(g)	2 - 15 / 32 (70)

2-3. SPECIFICATIONS

FLOOR / CEILING TYPE
ABU18-24R

FLOOR / CEILING TYPE
ABU18-24R

TYPE				UNIVERSAL MODELS			
				INVERTER HEAT PUMP TYPE			
MODEL NAME		INDOOR		ABU18RULX	ABU24RULX		
		OUTDOOR		AOU18RLX	AOU24RLX		
POWER SOURCE				208/230V ~ 60Hz			
AVAILABLE VOLTAGE RANGE				187-253V ~ 60Hz			
CAPACITY	COOLING	RATED/MAX	kW	5.2/6.3	6.5/8.0		
			BTU/h	17,800/21,500	22,200/27,300		
	HEATING	RATED/MAX	kW	6.30/7.50	7.03/8.50		
			BTU/h	21,500/25,600	24,000/29,000		
INPUT POWER	COOLING	RATED/MAX	kW	1.63/2.88	2.25/2.88		
	HEATING	RATED/MAX		2.25/2.88	2.35/2.88		
CURRENT	COOLING	RATED/MAX	A	7.1/12.5	9.8/12.5		
	HEATING	RATED/MAX		9.8/12.5	10.2/12.5		
STARTING CURRENT			A	9.1	9.6		
SEER		COOLING		16.0	15.0		
HSPF		HEATING		8.5	8.5		
MOISTURE REMOVAL			pints/h(l/h)	5.3(2.5)	7.4(3.5)		
AIR CIRCULATION COOL/HEAT	INDOOR	High	CFM(m³/h)	459(780) / 459(780)	518(880) / 518(880)		
		Med		383(650) / 383(650)	435(740) / 435(740)		
		Low		324(550) / 324(550)	371(630) / 371(630)		
		Quiet		-	-		
	OUTDOOR	High		1942(3300) / 1942(3300)	2119(3600) / 2119(3600)		
		Low		-	-		
FAN SPEED COOL/HEAT	INDOOR	High	r.p.m	1060/1060	1180/1180		
		Med		890/890	1000/1000		
		Low		770/770	900/900		
		Quiet		-	-		
	OUTDOOR	High		780/780	850/900		
		Low		-	-		
FAN TYPE x Q'ty		INDOOR		SIROCCO × 2			
		OUTDOOR		PROPELLER × 1			
FAN MOTOR OUTPUT		INDOOR	W	42			
		OUTDOOR		100			
NOISE LEVEL (SOUND PRESSURE)	INDOOR	High	dB(A)	43.0/43.0(Floor console) , 43.0/43.0(Under ceiling)	47.0/47.0(Floor console) , 47.0/47.0(Under ceiling)		
		Med		39.0/39.0(Floor console) , 39.0/39.0(Under ceiling)	43.0/43.0(Floor console) , 43.0/43.0(Under ceiling)		
		Low		35.0/35.0(Floor console) , 35.0/35.0(Under ceiling)	38.0/38.0(Floor console) , 38.0/38.0(Under ceiling)		
COOL/HEAT		OUTDOOR		51.0/51.0	53.0/53.0		
COMPRESSOR	TYPE		DC TWIN ROTARY (INVERTER)				
	OUTPUT		W	1300			
	STARTING METHOD		Inverter				
HEAT EXCHANGER TYPE	INDOOR	Coil		Copper tube			
		Fin		Aluminium			
		Rows x Stages		3 × 12			
		Fin Pitch	FPI	20			
	OUTDOOR	Coil Dimensions		in.(mm)		9 - 29/32 × 31 - 1/4 × 1 - 7/16 (252 × 800 × 36.38)	
		Coil		Copper tube			
		Fin		Aluminium			
		Rows x Stages		2 × 38			
	Fin Pitch	FPI	20				
	Coil Dimensions		in.(mm)		31 - 13/32 × 35 - 7/16 × 1 - 7/16 (798 × 900 × 36.38)		
CASING COLOR		INDOOR		White (5Y9/0.5NN)			
		OUTDOOR		Beige (10YR7.5/1.0NN)			
DIMENSIONS H × W × D	INDOOR	NET	in.(mm)	7 - 27/32 × 38 - 31/32 × 25 - 25/32 (199 × 990 × 655)			
	OUTDOOR			32 - 11/16 × 35 - 7/16 × 13 (830 × 900 × 330)			
	INDOOR			12 - 19/32 × 45 - 9/32 × 31 - 3/32 (320 × 1150 × 790)			
	OUTDOOR			38 - 3/16 × 41 - 11/32 × 17 - 17/32 (970 × 1050 × 445)			
WEIGHT	INDOOR	NET	lb.(kg)	62(28)	62(28)		
	OUTDOOR			141(64)	141(64)		
	INDOOR			82(37)	82(37)		
	OUTDOOR			154(70)	154(70)		
PIPE	CONNECTION METHOD			FLARE			
	SIZE	LIQUID	in.(mm)	Φ 1/4(6.35)	Φ 3/8(9.52)		
		GAS		Φ 1/2(12.70)	Φ 5/8(15.88)		
	MAX LENGTH		ft.(m)	164(50) [chargeless:49(15)]			
	MAX HEIGHT		ft.(m)	66(20)			
REFRIGERANT		TYPE		R410A			
		CHARGE	lb. oz.(g)	4lb. 3-1/32oz.(1900)			
REFRIGERANT OIL		TYPE		POE			
OPERATION(OUTDOOR)		COOLING		°F (°C)	0 to 115 (-18 to 46)		
		HEATING			14 to 75 (-10 to 24)		
REMOTE CONTROLLER TYPE				WIRELESS (Option WIRED)			
DRAIN PIPE	MATERIAL			ABS			
	SIZE		mm (Reference in.)	Outer diameter 29.0(1-5/32) Inner diameter 25.0(31/32)			

Note:
Specifications are based on the following conditions.
Power source of specifications : 230V
Cooling : Indoor temperature of 80.6°F(27°C)DB/66.2°F(19°C)WB,and outdoor temperature of 95.0°F(35°C)DB/75.2°F(24°C)WB.
Heating : Indoor temperature of 68.0°F(20°C)DB/59.0°F(15°C)WB,and outdoor temperature of 44.6°F(7°C)DB/42.8°F(6°C)WB.
Pipe length : 24ft. 7in.(7.5m),Height difference : 0 ft.(0m) [Outdoor unit - Indoor unit]

2-4. DIMENSIONS

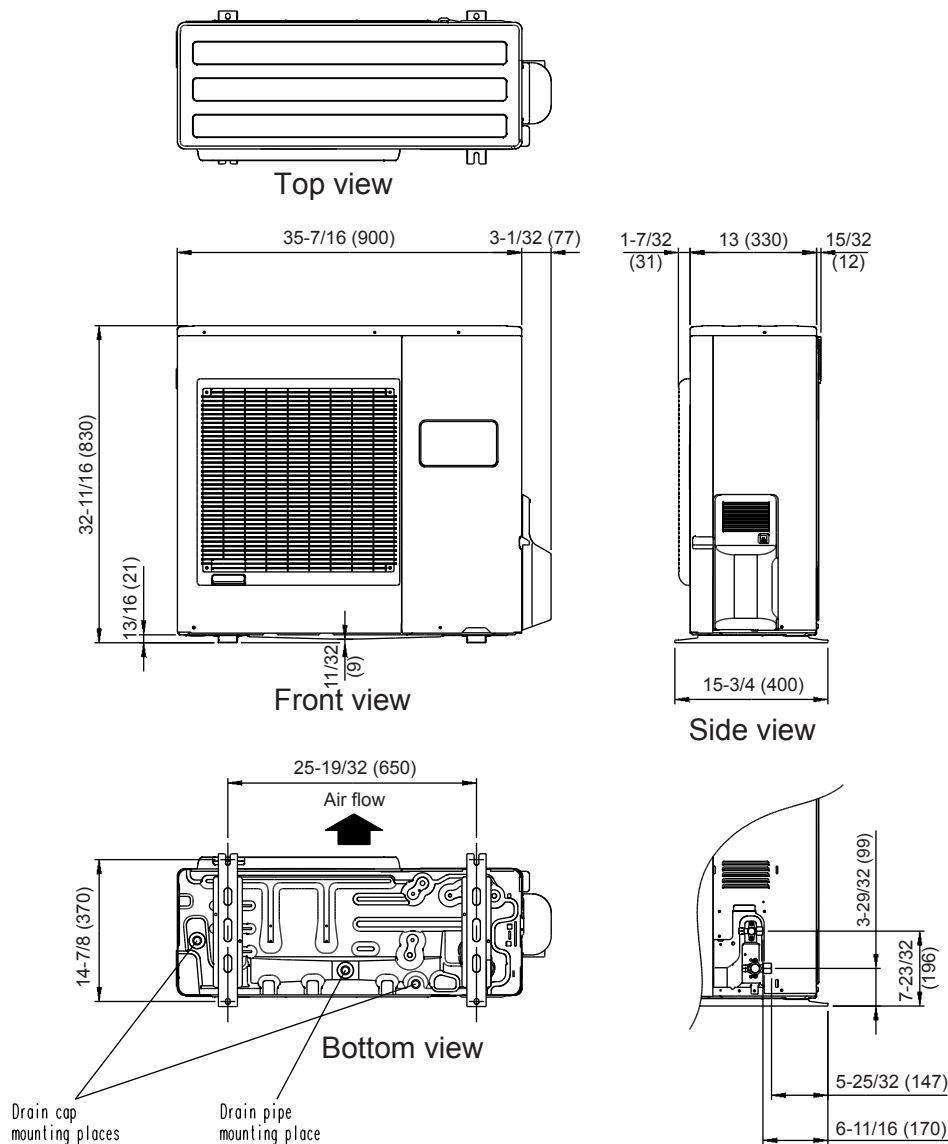
2-4-1. OUTDOOR UNIT

MODELS : AOU18R, AOU24R

Unit : in.(mm)

FLOOR / CEILING TYPE
ABU18-24R

FLOOR / CEILING TYPE
ABU18-24R

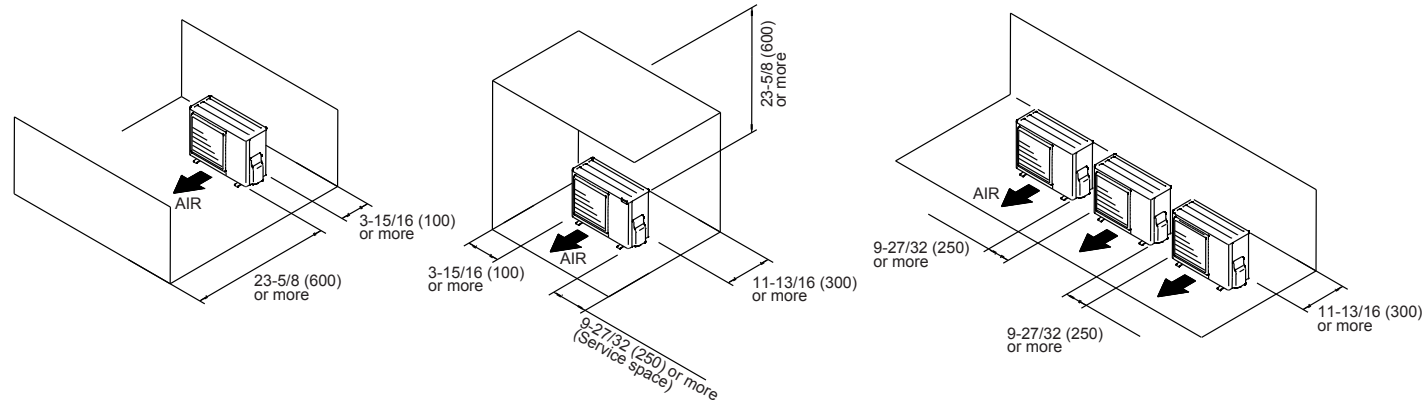


MOUNTING POSITION

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.



FLOOR / CEILING TYPE
ABU18-24R

FLOOR / CEILING TYPE
ABU18-24R

Technical drawing showing the rear and bottom views of a vehicle chassis with dimensions in inches and millimeters.

Side view (left):

- Overall height: 38-31/32 (990)
- Overall width: 35-7/16 (900)
- Overall length: 19-11/16 (500)
- Dimensions from top: 3-15/16 (100), 1-3/32 (20), 3-15/16 (100), 1-3/32 (28)
- Dimensions from bottom: 3-15/16 (100), 1-3/32 (28)

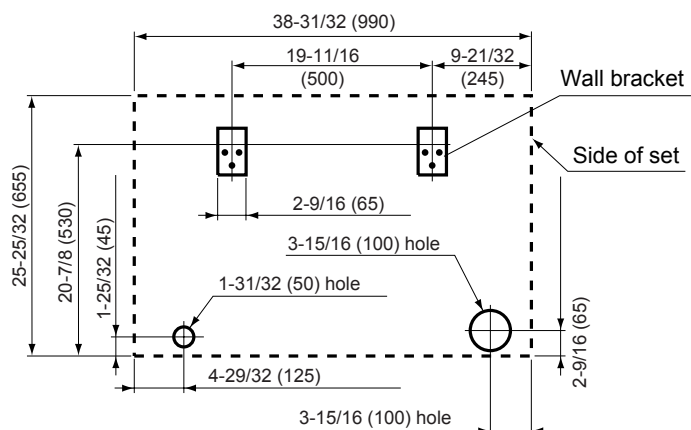
Rear view (top):

- Overall width: 38-31/32 (990)
- Overall height: 35-7/16 (900)
- Overall length: 19-11/16 (500)
- Dimensions from top: 3-15/16 (100), 1-3/32 (20), 3-15/16 (100), 1-3/32 (28)
- Dimensions from bottom: 3-15/16 (100), 1-3/32 (28)

Bottom view (bottom):

- Overall width: 38-31/32 (990)
- Overall height: 35-7/16 (900)
- Overall length: 19-11/16 (500)
- Dimensions from top: 3-15/16 (100), 1-3/32 (20), 3-15/16 (100), 1-3/32 (28)
- Dimensions from bottom: 3-15/16 (100), 1-3/32 (28)

- ① Refrigerant piping flare connection (Gas)
- ② Refrigerant piping flare connection (Liquid)
- ③ Drain piping connection [(Drain pipe : I.D. ϕ 25mm(31/32"), O.D. ϕ 29mm(1-5/32"), L700mm(7-9/16")]
- ④ Knock out hole for drain piping
- ⑤ Knock out hole for refrigerant piping
- ⑥ Hole for lifting bolt (Use M10 screw bolt)

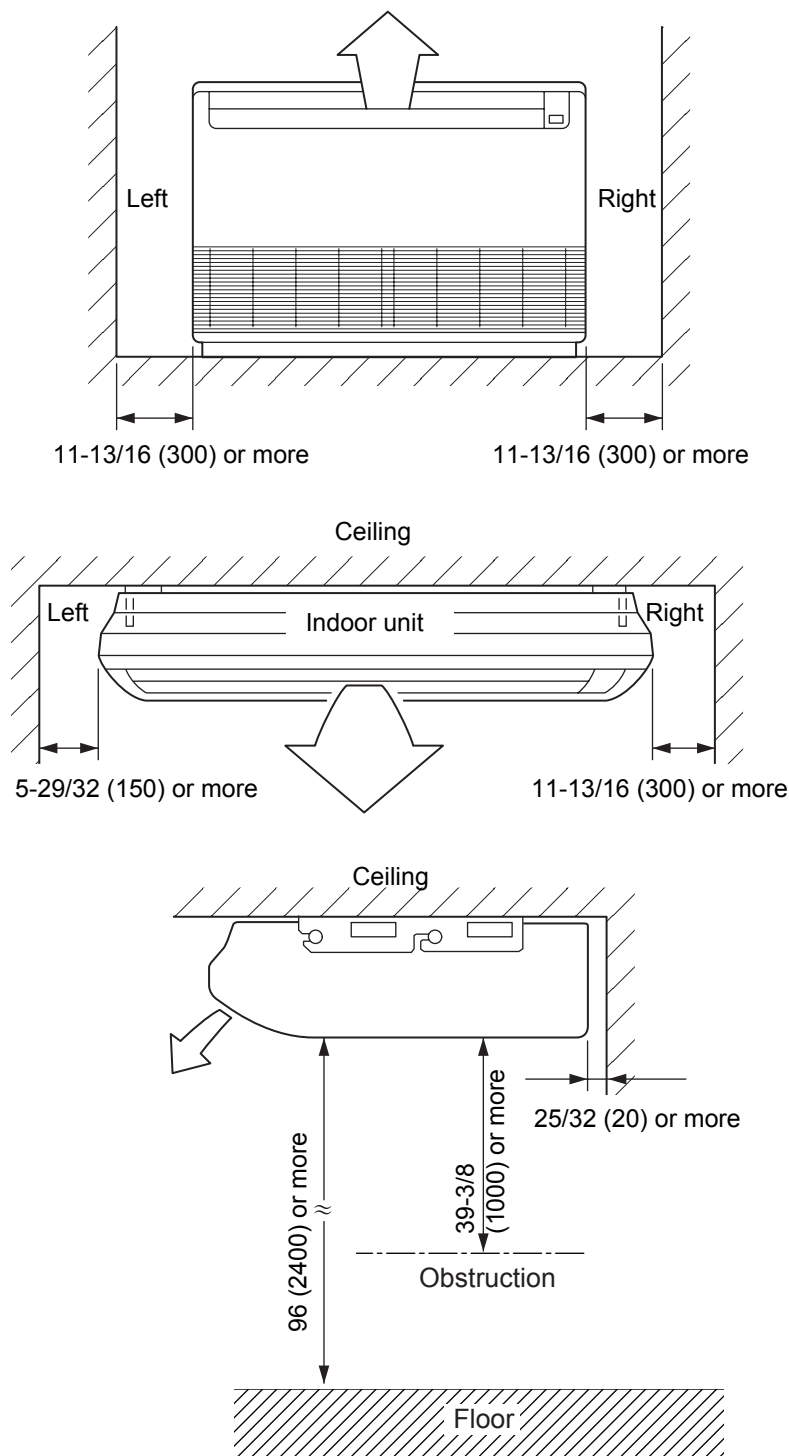


■ MOUNTING POSITION

FLOOR / CEILING TYPE
ABU18-24R

Unit : in.(mm)

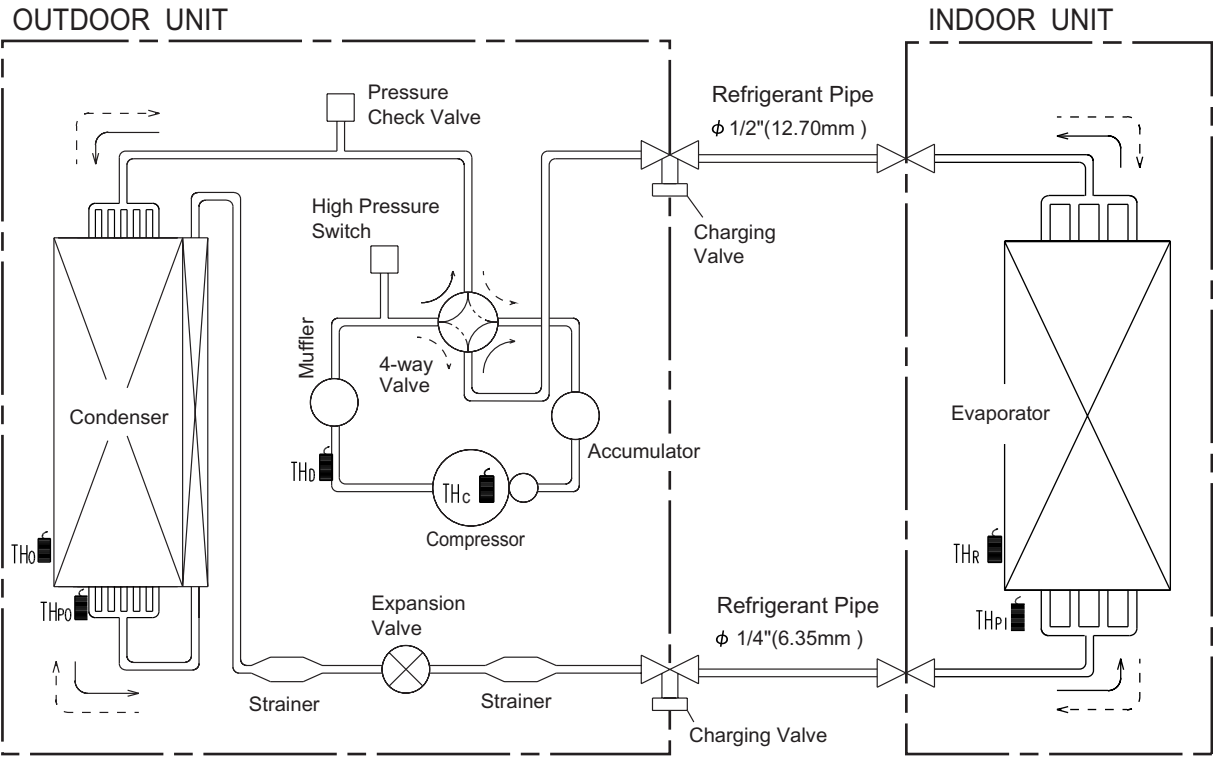
FLOOR / CEILING TYPE
ABU18-24R



2-5. REFRIGERANT CIRCUIT

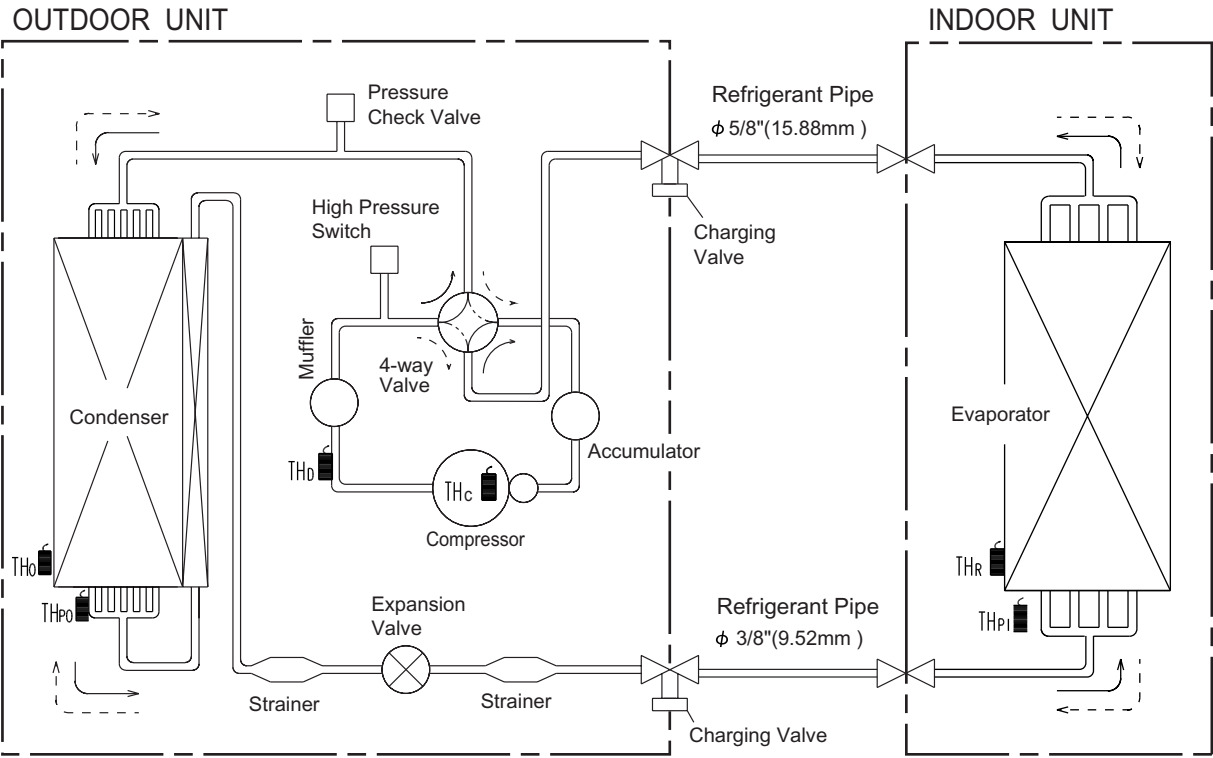
MODELS : ABU18R / AOU18R

FLOOR / CEILING TYPE
ABU18-24R



FLOOR / CEILING TYPE
ABU18-24R

MODELS : ABU24R / AOU24R



→ : COOL
- - - - - : HEAT

THo : THERMISTOR (DISCHARGE TEMP.)
THo : THERMISTOR (OUTDOOR TEMP.)
THp : THERMISTOR (PIPE TEMP.)
THc : THERMISTOR (COMPRESSOR TEMP.)

THr : THERMISTOR (ROOM TEMP.)
THPi : THERMISTOR (PIPE TEMP.)

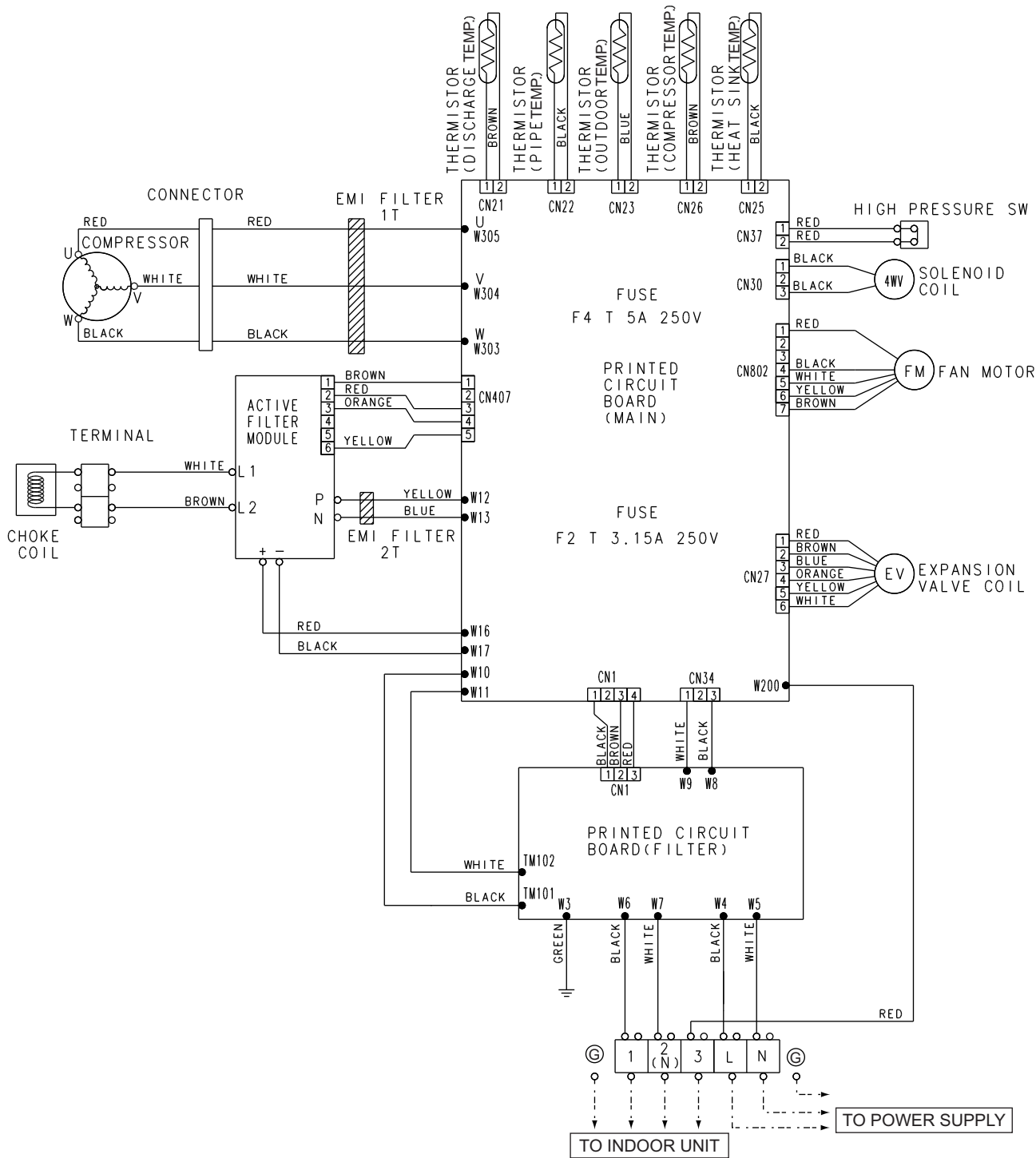
2-6. WIRING DIAGRAMS

2-6-1. OUTDOOR UNIT

MODELS : AOU18R, AOU24R

FLOOR / CEILING TYPE
ABU18-24R

FLOOR / CEILING TYPE
ABU18-24R

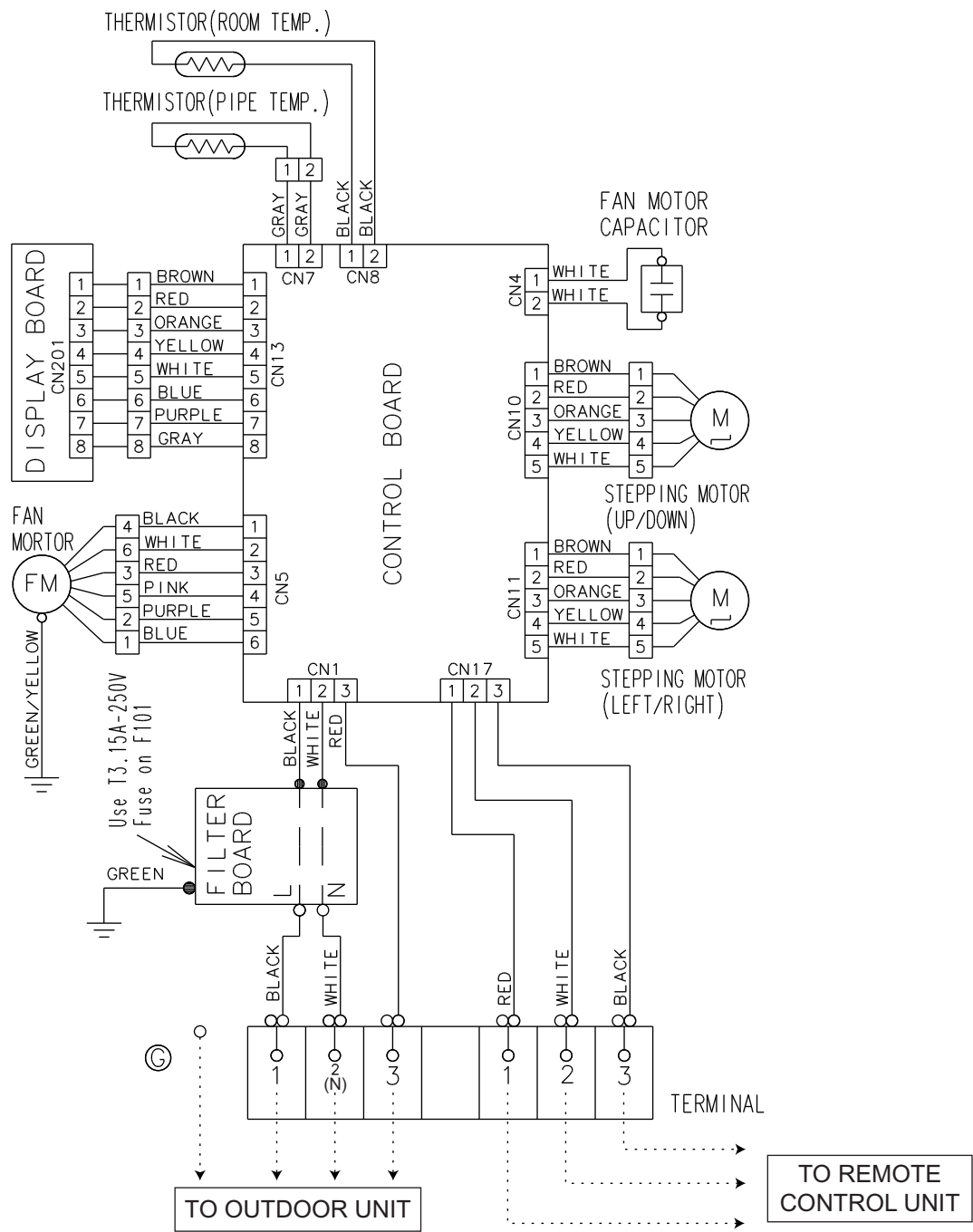


2-6-2. INDOOR UNIT

MODELS : ABU18R, ABU24R

FLOOR / CEILING TYPE
ABU18-24R

FLOOR / CEILING TYPE
ABU18-24R



2-7. CAPACITY TABLE

■ MODELS : ABU18R / AOU18R

● COOLING

AFR	459
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		Indoor temperature																	
		64°FDB			70°FDB			75°FDB			80°FDB			85°FDB			90°FDB		
		54°FWB			60°FWB			63°FWB			67°FWB			71°FWB			73°FWB		
Outdoor temperature	(°FDB)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	0	17.14	11.55	0.76	19.34	11.62	0.77	20.43	12.73	0.78	21.89	13.32	0.79	23.35	13.75	0.80	24.08	15.24	0.80
	14	16.48	11.40	1.00	18.58	11.47	1.02	19.63	12.56	1.03	21.03	13.14	1.04	22.44	13.58	1.05	23.14	15.05	1.06
	32	15.03	11.72	1.30	16.95	11.79	1.32	17.91	12.92	1.34	19.19	13.52	1.35	20.47	13.96	1.37	21.11	15.48	1.37
	41	13.99	11.96	1.41	15.78	12.03	1.43	16.67	13.18	1.44	17.86	13.79	1.46	19.05	14.25	1.48	19.65	15.79	1.48
	50	16.05	11.52	2.00	18.10	11.59	2.04	19.12	12.69	2.06	20.49	13.28	2.08	21.86	13.72	2.10	22.54	15.20	2.11
	59	17.87	11.22	1.85	20.15	11.29	1.88	21.29	12.37	1.90	22.81	12.94	1.92	24.33	13.36	1.94	25.09	14.81	1.95
	67	16.24	11.46	1.96	18.31	11.53	1.99	19.34	12.63	2.01	20.72	13.21	2.03	22.11	13.65	2.05	22.80	15.13	2.06
	77	18.83	11.10	2.39	21.24	11.17	2.43	22.44	12.24	2.45	24.04	12.80	2.48	25.64	13.22	2.51	26.44	14.66	2.52
	87	17.60	11.25	2.59	19.85	11.32	2.64	20.97	12.40	2.66	22.47	12.97	2.69	23.97	13.40	2.72	24.72	14.85	2.73
	95	16.85	11.37	2.78	19.00	11.44	2.82	20.07	12.53	2.85	21.50	13.11	2.88	22.94	13.54	2.91	23.66	15.01	2.93
	104	14.07	11.93	2.43	15.87	12.00	2.47	16.76	13.15	2.49	17.96	13.76	2.52	19.16	14.21	2.55	19.76	15.75	2.56
	115	12.22	9.74	1.96	13.79	9.80	1.99	14.56	10.74	2.01	15.60	11.23	2.03	16.65	11.60	2.05	17.17	12.86	2.06

AFR : Air flow rate(CFM) TC : Total capacity (kBTU) SHC : Sensible Heat capacity (kBTU) PI : Power Input (kW)

AFR	13.0
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		Indoor temperature																	
		17.78°CDB			21.11°CDB			23.89°CDB			26.67°CDB			29.44°CDB			32.22°CDB		
		12.22°CWB			15.56°CWB			17.72°CWB			19.44°CWB			21.67°CWB			22.78°CWB		
Outdoor temperature	(°CDB)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	-17.78	5.02	3.38	0.76	5.66	3.40	0.77	5.98	3.73	0.78	6.41	3.90	0.79	6.84	4.03	0.80	7.05	4.46	0.80
	-10.00	4.83	3.34	1.00	5.44	3.36	1.02	5.75	3.68	1.03	6.16	3.85	1.04	6.57	3.98	1.05	6.78	4.41	1.06
	0.00	4.40	3.43	1.30	4.97	3.45	1.32	5.25	3.78	1.34	5.62	3.96	1.35	6.00	4.09	1.37	6.18	4.53	1.37
	5.00	4.10	3.50	1.41	4.62	3.52	1.43	4.88	3.86	1.44	5.23	4.04	1.46	5.58	4.17	1.48	5.75	4.62	1.48
	10.00	4.70	3.37	2.00	5.30	3.39	2.04	5.60	3.72	2.06	6.00	3.89	2.08	6.40	4.02	2.10	6.60	4.45	2.11
	15.00	5.23	3.29	1.85	5.90	3.31	1.88	6.24	3.62	1.90	6.68	3.79	1.92	7.13	3.91	1.94	7.35	4.34	1.95
	19.44	4.76	3.36	1.96	5.36	3.38	1.99	5.67	3.70	2.01	6.07	3.87	2.03	6.48	4.00	2.05	6.68	4.43	2.06
	25.00	5.52	3.25	2.39	6.22	3.27	2.43	6.57	3.58	2.45	7.04	3.75	2.48	7.51	3.87	2.51	7.75	4.29	2.52
	30.56	5.15	3.29	2.59	5.81	3.32	2.64	6.14	3.63	2.66	6.58	3.80	2.69	7.02	3.92	2.72	7.24	4.35	2.73
	35.00	4.93	3.33	2.78	5.56	3.35	2.82	5.88	3.67	2.85	6.30	3.84	2.88	6.72	3.97	2.91	6.93	4.40	2.93
	40.00	4.12	3.49	2.43	4.65	3.52	2.47	4.91	3.85	2.49	5.26	4.03	2.52	5.61	4.16	2.55	5.79	4.61	2.56
	46.11	3.58	2.85	1.96	4.04	2.87	1.99	4.27	3.14	2.01	4.57	3.29	2.03	4.88	3.40	2.05	5.03	3.77	2.06

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

● HEATING

AFR	459
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			Indoor temperature									
			60°FDB		65°FDB		70°FDB		75°FDB		78°FDB	
Outdoor temperature	(°FDB)	(°FWB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	14	12	17.93	2.72	17.35	2.80	16.76	2.88	16.18	2.96	15.83	3.01
	23	19	20.96	2.72	20.28	2.80	19.60	2.88	18.92	2.96	18.51	3.01
	32	28	23.84	2.72	23.07	2.80	22.29	2.88	21.52	2.96	21.05	3.01
	41	37	24.97	2.72	24.16	2.80	23.35	2.88	22.54	2.96	22.05	3.01
	47	43	27.38	2.72	26.49	2.80	25.60	2.88	24.71	2.96	24.18	3.01
	50	47	28.30	2.72	27.38	2.80	26.46	2.88	25.54	2.96	24.99	3.01
	59	50	29.87	2.72	28.90	2.80	27.93	2.88	26.96	2.96	26.37	3.01
	68	59	27.27	2.40	26.39	2.47	25.50	2.54	24.62	2.61	24.09	2.65
	75	65	28.08	2.38	27.17	2.45	26.26	2.52	25.34	2.59	24.79	2.63

AFR : Air flow rate(CFM) TC : Total capacity (kBTU) PI : Power Input (kW)

AFR	13.0
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			Indoor temperature									
			15.66°CDB		18.33°CDB		21.11°CDB		23.89°CDB		25.56°CDB	
Outdoor temperature	(°CDB)	(°CWB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-10.00	-11.11	5.25	2.72	5.08	2.80	4.91	2.88	4.74	2.96	4.64	3.01
	-5.00	-7.22	6.14	2.72	5.94	2.80	5.74	2.88	5.54	2.96	5.42	3.01
	0.00	-2.22	6.98	2.72	6.76	2.80	6.53	2.88	6.30	2.96	6.17	3.01
	5.00	2.78	7.31	2.72	7.08	2.80	6.84	2.88	6.60	2.96	6.46	3.01
	8.33	6.11	8.02	2.72	7.76	2.80	7.50	2.88	7.24	2.96	7.08	3.01
	10.00	8.33	8.29	2.72	8.02	2.80	7.75	2.88	7.48	2.96	7.32	3.01
	15.00	10.00	8.75	2.72	8.46	2.80	8.18	2.88	7.90	2.96	7.72	3.01
	20.00	15.00	7.99	2.40	7.73	2.47	7.47	2.54	7.21	2.61	7.05	2.65
	23.89	18.33	8.22	2.38	7.96	2.45	7.69	2.52	7.42	2.59	7.26	2.63

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

MODELS : ABU24R / AOU24R

COOLING

FLOOR / CEILING TYPE
ABU18-24R

FLOOR / CEILING TYPE
ABU18-24R

AFR	518
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		Indoor temperature																	
		64°FDB			70°FDB			75°FDB			80°FDB			85°FDB			90°FDB		
		54°FWB			60°FWB			63°FWB			67°FWB			71°FWB			73°FWB		
Outdoor temperature	(°FDB)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	0	20.51	14.98	0.67	23.14	15.07	0.68	24.44	16.51	0.68	26.19	17.28	0.69	27.94	17.84	0.70	28.81	19.78	0.70
	14	19.79	13.94	0.95	22.32	14.03	0.97	23.58	15.37	0.98	25.27	16.08	0.99	26.96	16.61	1.00	27.80	18.41	1.01
	32	18.29	13.06	1.28	20.63	13.14	1.30	21.80	14.39	1.32	23.35	15.06	1.33	24.92	15.55	1.34	25.69	17.24	1.35
	41	17.79	13.03	1.40	20.06	13.11	1.42	21.19	14.36	1.43	22.70	15.02	1.45	24.22	15.52	1.47	24.98	17.20	1.47
	50	19.50	13.65	2.00	21.99	13.73	2.04	23.23	15.04	2.06	24.89	15.74	2.08	26.55	16.26	2.10	27.38	18.02	2.11
	59	22.23	15.01	1.84	25.07	15.10	1.87	26.48	16.54	1.89	28.37	17.31	1.91	30.27	17.88	1.93	31.21	19.81	1.94
	67	20.92	14.54	1.97	23.59	14.62	2.00	24.92	16.02	2.02	26.70	16.76	2.04	28.49	17.31	2.06	29.37	19.19	2.07
	77	23.75	15.81	2.39	26.79	15.91	2.43	28.30	17.43	2.45	30.32	18.23	2.48	32.35	18.83	2.51	33.36	20.87	2.52
	87	22.28	15.04	2.58	25.13	15.13	2.63	26.55	16.58	2.65	28.44	17.34	2.68	30.34	17.91	2.71	31.29	19.85	2.72
	95	21.38	14.59	2.78	24.12	14.68	2.82	25.48	16.09	2.85	27.30	16.83	2.88	29.12	17.38	2.91	30.03	19.27	2.93
	104	17.68	12.76	2.44	19.94	12.84	2.48	21.06	14.06	2.50	22.57	14.72	2.53	24.08	15.20	2.56	24.83	16.84	2.57
	115	12.87	10.54	1.95	14.51	10.60	1.98	15.33	11.62	2.00	16.42	12.15	2.02	17.52	12.55	2.04	18.07	13.91	2.05

AFR : Air flow rate(CFM) TC : Total capacity (kBTU) SHC : Sensible Heat capacity (kBTU) PI : Power Input (kW)

AFR	14.7
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		Indoor temperature																	
		17.78°CDB			21.11°CDB			23.89°CDB			26.67°CDB			29.44°CDB			32.22°CDB		
		12.22°CWB			15.56°CWB			17.72°CWB			19.44°CWB			21.67°CWB			22.78°CWB		
Outdoor temperature	(°CDB)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	-17.78	6.01	4.39	0.67	6.78	4.41	0.68	7.16	4.84	0.68	7.67	5.06	0.69	8.18	5.23	0.70	8.44	5.79	0.70
	-10.00	5.80	4.08	0.95	6.54	4.11	0.97	6.91	4.50	0.98	7.40	4.71	0.99	7.90	4.86	1.00	8.14	5.39	1.01
	0.00	5.36	3.82	1.28	6.04	3.85	1.30	6.38	4.22	1.32	6.84	4.41	1.33	7.30	4.55	1.34	7.53	5.05	1.35
	5.00	5.21	3.82	1.40	5.88	3.84	1.42	6.21	4.21	1.43	6.65	4.40	1.45	7.09	4.54	1.47	7.32	5.04	1.47
	10.00	5.71	4.00	2.00	6.44	4.02	2.04	6.80	4.41	2.06	7.29	4.61	2.08	7.78	4.76	2.10	8.02	5.28	2.11
	15.00	6.51	4.40	1.84	7.34	4.42	1.87	7.76	4.85	1.89	8.31	5.07	1.91	8.87	5.24	1.93	9.14	5.80	1.94
	19.44	6.13	4.26	1.97	6.91	4.28	2.00	7.30	4.69	2.02	7.82	4.91	2.04	8.34	5.07	2.06	8.60	5.62	2.07
	25.00	6.96	4.63	2.39	7.85	4.66	2.43	8.29	5.10	2.45	8.88	5.34	2.48	9.47	5.52	2.51	9.77	6.11	2.52
	30.56	6.53	4.40	2.58	7.36	4.43	2.63	7.78	4.86	2.65	8.33	5.08	2.68	8.89	5.25	2.71	9.16	5.82	2.72
	35.00	6.26	4.27	2.78	7.06	4.30	2.82	7.46	4.71	2.85	8.00	4.93	2.88	8.53	5.09	2.91	8.80	5.64	2.93
	40.00	5.18	3.74	2.44	5.84	3.76	2.48	6.17	4.12	2.50	6.61	4.31	2.53	7.05	4.45	2.56	7.27	4.93	2.57
	46.11	3.77	3.09	1.95	4.25	3.11	1.98	4.49	3.40	2.00	4.81	3.56	2.02	5.13	3.68	2.04	5.29	4.08	2.05

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

● HEATING

AFR	518
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			Indoor temperature									
			60°FDB		65°FDB		70°FDB		75°FDB		78°FDB	
Outdoor temperature	(°FDB)	(°FWB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	14	12	23.15	2.72	22.40	2.80	21.65	2.88	20.89	2.96	20.44	3.01
	23	19	25.96	2.72	25.12	2.80	24.27	2.88	23.43	2.96	22.92	3.01
	32	28	28.33	2.72	27.41	2.80	26.49	2.88	25.57	2.96	25.02	3.01
	41	37	29.39	2.72	28.44	2.80	27.48	2.88	26.53	2.96	25.96	3.01
	47	43	31.02	2.72	30.01	2.80	29.00	2.88	28.00	2.96	27.39	3.01
	50	47	31.80	2.72	30.77	2.80	29.74	2.88	28.70	2.96	28.08	3.01
	59	50	32.82	2.72	31.76	2.80	30.69	2.88	29.63	2.96	28.99	3.01
	68	59	29.28	2.28	28.33	2.34	27.38	2.41	26.43	2.48	25.86	2.52
	75	65	30.23	2.30	29.25	2.36	28.27	2.43	27.29	2.50	26.70	2.54

AFR : Air flow rate(CFM) TC : Total capacity (kBTU) PI : Power Input (kW)

AFR	14.7
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			Indoor temperature									
			15.56°CDB		18.33°CDB		21.11°CDB		23.89°CDB		25.56°CDB	
Outdoor temperature	(°CDB)	(°CWB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-10.00	-11.11	6.78	2.72	6.56	2.80	6.34	2.88	6.12	2.96	5.99	3.01
	-5.00	-7.22	7.60	2.72	7.36	2.80	7.11	2.88	6.86	2.96	6.71	3.01
	0.00	-2.22	8.30	2.72	8.03	2.80	7.76	2.88	7.49	2.96	7.33	3.01
	5.00	2.78	8.61	2.72	8.33	2.80	8.05	2.88	7.77	2.96	7.60	3.01
	8.33	6.11	9.08	2.72	8.79	2.80	8.50	2.88	8.20	2.96	8.02	3.01
	10.00	8.33	9.31	2.72	9.01	2.80	8.71	2.88	8.41	2.96	8.23	3.01
	15.00	10.00	9.61	2.72	9.30	2.80	8.99	2.88	8.68	2.96	8.49	3.01
	20.00	15.00	8.58	2.28	8.30	2.34	8.02	2.41	7.74	2.48	7.57	2.52
	23.89	18.33	8.85	2.30	8.57	2.36	8.28	2.43	7.99	2.50	7.82	2.54

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

2-8. CAPACITY COMPENSATION FOR PIPE LENGTH AND HEIGHT DIFFERENCE

■ MODELS : ABU18R / AOU18R

● COEFFICIENT OF COMPENSATION FOR HEIGHT DIFFERENCE

COOLING				PIPE LENGTH						
				5m	7.5m	15m	20m	30m	40m	50m
				16 ft.	25 ft.	49 ft.	66 ft.	98 ft.	131ft.	164 ft.
HEIGHT DIFFERENCE	Outdoor unit is bottom-side	20m	66ft.	-	-	-	0.921	0.892	0.860	0.840
		10m	33ft.	-	-	0.943	0.921	0.892	0.860	0.840
		7.5m	25ft.	-	1.000	0.943	0.921	0.892	0.860	0.840
		5m	16ft.	1.029	1.000	0.943	0.921	0.892	0.860	0.840
	Outdoor unit is up-side	0m	0ft.	1.029	1.000	0.943	0.921	0.892	0.860	0.840
		-5m	-16ft.	1.021	0.992	0.936	0.914	0.885	0.853	0.833
		-7.5m	-25ft.	-	0.988	0.932	0.910	0.881	0.850	0.830
		-10m	-33ft.	-	-	0.928	0.906	0.878	0.846	0.827
		-20m	-66ft.	-	-	-	0.892	0.863	0.832	0.813

HEATING				PIPE LENGTH						
				5m	7.5m	15m	20m	30m	40m	50m
				16 ft.	25 ft.	49 ft.	66 ft.	98 ft.	131ft.	164 ft.
HEIGHT DIFFERENCE	Outdoor unit is bottom-side	20m	66ft.	-	-	-	0.963	0.950	0.926	0.905
		10m	33ft.	-	-	0.982	0.973	0.959	0.935	0.914
		7.5m	25ft.	-	0.993	0.984	0.976	0.962	0.938	0.917
		5m	16ft.	0.995	0.995	0.987	0.978	0.964	0.940	0.919
	Outdoor unit is up-side	0m	0ft.	1.000	1.000	0.992	0.983	0.969	0.945	0.923
		-5m	-16ft.	1.000	1.000	0.992	0.983	0.969	0.945	0.923
		-7.5m	-25ft.	-	1.000	0.992	0.983	0.969	0.945	0.923
		-10m	-33ft.	-	-	0.992	0.983	0.969	0.945	0.923
		-20m	-66ft.	-	-	-	0.983	0.969	0.945	0.923

MODELS : ABU24R / AOU24R

● COEFFICIENT OF COMPENSATION FOR HEIGHT DIFFERENCE

COOLING				PIPE LENGTH						
				5m	7.5m	15m	20m	30m	40m	50m
				16 ft.	25 ft.	49 ft.	66 ft.	98 ft.	131ft.	164 ft.
HEIGHT DIFFERENCE	Outdoor unit is bottom-side	20m	66ft.	-	-	-	0.947	0.920	0.901	0.880
		10m	33ft.	-	-	0.967	0.947	0.920	0.901	0.880
		7.5m	25ft.	-	1.000	0.967	0.947	0.920	0.901	0.880
		5m	16ft.	1.022	1.000	0.967	0.947	0.920	0.901	0.880
	Outdoor unit is up-side	0m	0ft.	1.022	1.000	0.967	0.947	0.920	0.901	0.880
		-5m	-16ft.	1.014	0.992	0.959	0.939	0.913	0.894	0.873
		-7.5m	-25ft.	-	0.988	0.955	0.935	0.909	0.890	0.869
		-10m	-33ft.	-	-	0.952	0.932	0.905	0.887	0.866
		-20m	-66ft.	-	-	-	0.916	0.891	0.872	0.852

HEATING				PIPE LENGTH						
				5m	7.5m	15m	20m	30m	40m	50m
				16 ft.	25 ft.	49 ft.	66 ft.	98 ft.	131ft.	164 ft.
HEIGHT DIFFERENCE	Outdoor unit is bottom-side	20m	66ft.	-	-	-	0.963	0.950	0.926	0.905
		10m	33ft.	-	-	0.982	0.973	0.959	0.936	0.914
		7.5m	25ft.	-	0.993	0.985	0.976	0.962	0.938	0.916
		5m	16ft.	0.995	0.995	0.987	0.978	0.964	0.940	0.918
	Outdoor unit is up-side	0m	0ft.	1.000	1.000	0.992	0.983	0.969	0.945	0.923
		-5m	-16ft.	1.000	1.000	0.992	0.983	0.969	0.945	0.923
		-7.5m	-25ft.	-	1.000	0.992	0.983	0.969	0.945	0.923
		-10m	-33ft.	-	-	0.992	0.983	0.969	0.945	0.923
		-20m	-66ft.	-	-	-	0.983	0.969	0.945	0.923

2-9. ADDITIONAL CHARGE CALCULATION

MODELS : ABU18R / AOU18R

REFRIGERANT TYPE	R410A
REFRIGERANT AMOUNT	4 lb. 3-1/32 oz. (1900g)

REFRIGERANT CHARGE

PIPE LENGTH	ft.	~ 49	66	98	131	164(MAX)	23/32oz./ft. (20g/m)
	m	~ 15	20	30	40	50(MAX)	
ADDITIONAL CHARGE	lb. oz.	0(Charge less)	3-17/32 oz.	10-19/32 oz.	1 lb. 1-5/8 oz.	1 lb.8-11/16 oz.	
	g	0(Charge less)	100	300	500	700	

MODELS : ABU24R / AOU24R

REFRIGERANT TYPE	R410A
REFRIGERANT AMOUNT	4 lb. 3-1/32 oz. (1900g)

REFRIGERANT CHARGE

PIPE LENGTH	ft.	~ 49	66	98	131	164(MAX)	1-13/32oz./ft. (40g/m)
	m	~ 15	20	30	40	50(MAX)	
ADDITIONAL CHARGE	lb. oz.	0(Charge less)	7-1/16 oz.	1lb. 5-5/32 oz.	2 lb. 3-9/32 oz.	3 lb. 1-3/8 oz.	
	g	0(Charge less)	200	600	1000	1400	

FLOOR / CEILING TYPE
ABU18-24R

FLOOR / CEILING TYPE
ABU18-24R

2-10. OPERATION RANGE

Model		Mode	Operation Range		
Indoor unit	Outdoor unit		Indoor temperature	Indoor humidity	Outdoor temperature
ABU18R ABU24R	AOU18R AOU24R	Cooling Dry	64 to 88°F (18 to 31°C)	About 80% or less	0 to 115°F (-18 to 46°C)
		Heating	60 to 88°F (16 to 31°C)	-	14 to 75°F (-10 to 24°C)

FLOOR / CEILING TYPE
ABU18-24R

FLOOR / CEILING TYPE
ABU18-24R

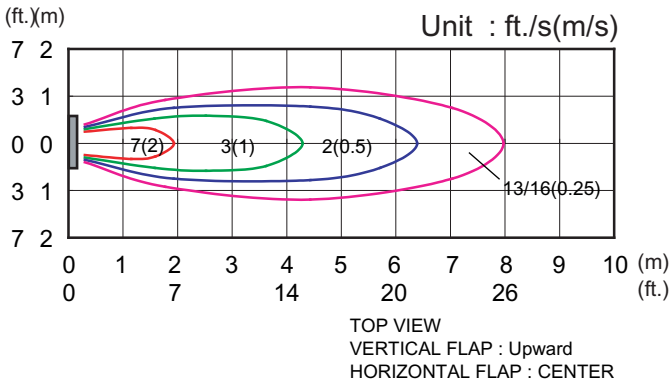
2-11. FAN PERFORMANCE AND AIR FLOW

2-11-1. AIR VELOCITY DISTRIBUTION

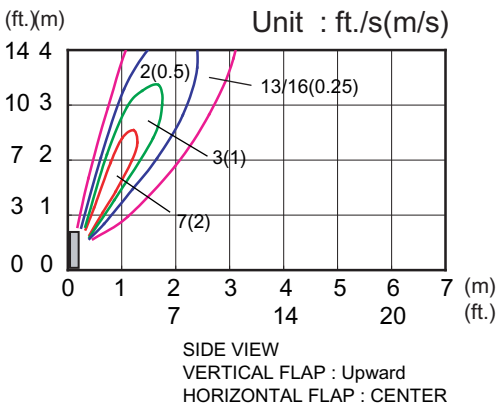
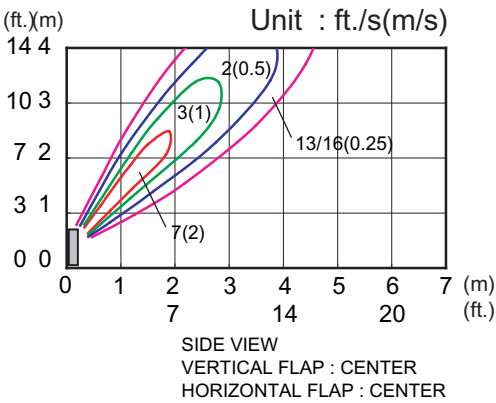
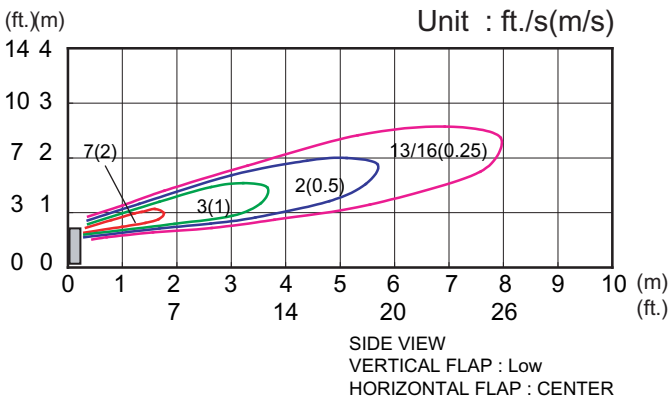
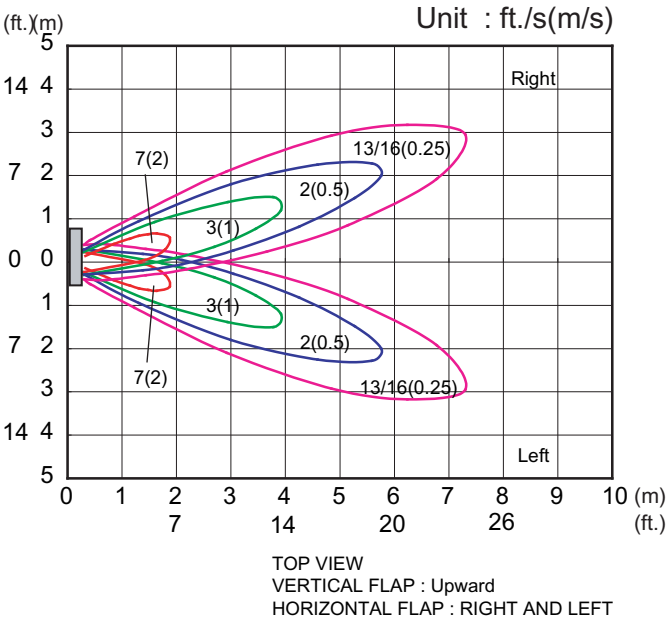
■ MODEL : ABU18R (FLOOR CONSOLE)

FLOOR / CEILING TYPE
ABU18-24R

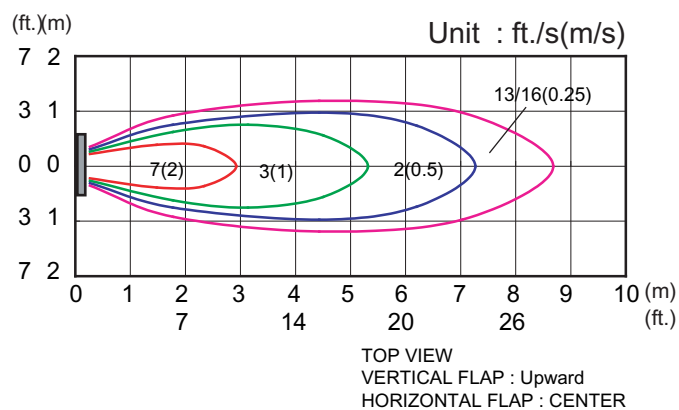
FLOOR / CEILING TYPE
ABU18-24R



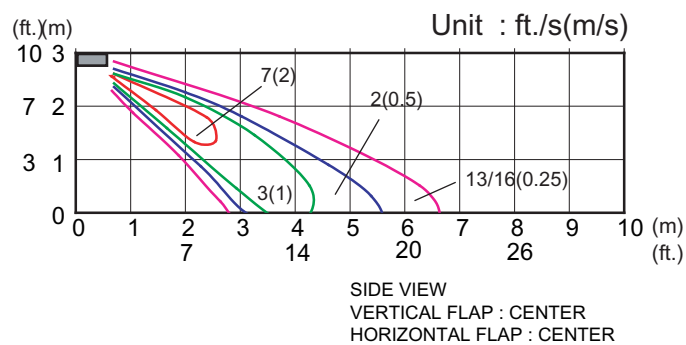
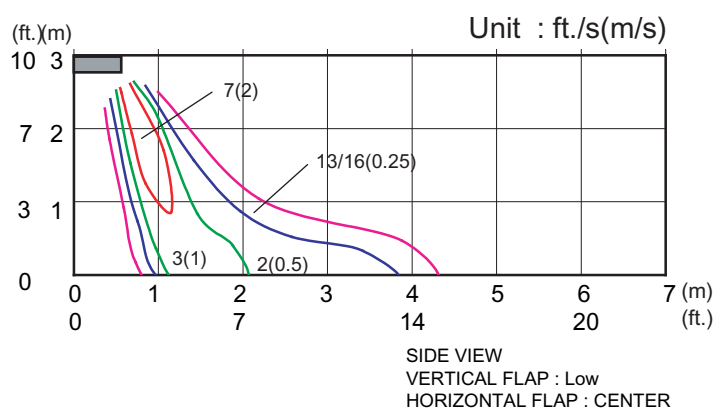
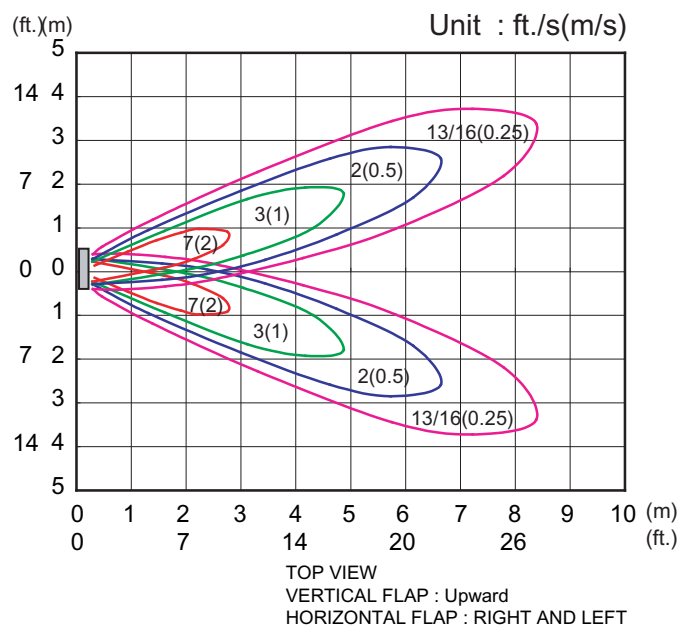
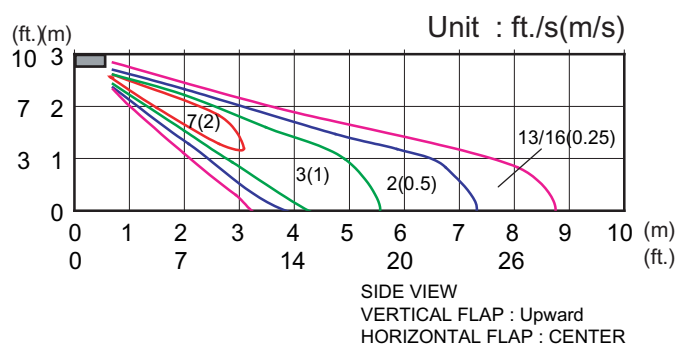
Note :
Condition
Fan speed : High
Operation mode :FAN



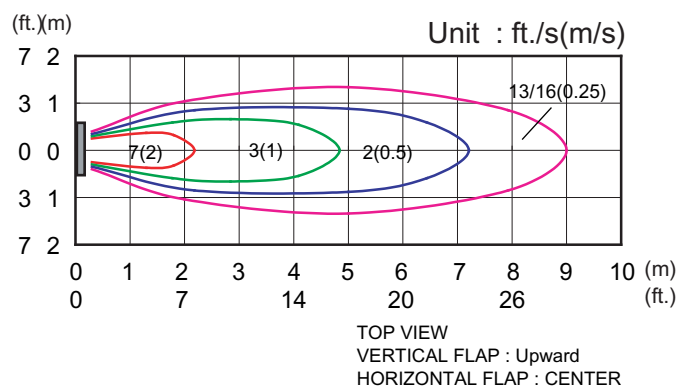
MODEL : ABU18R (UNDER CEILING)



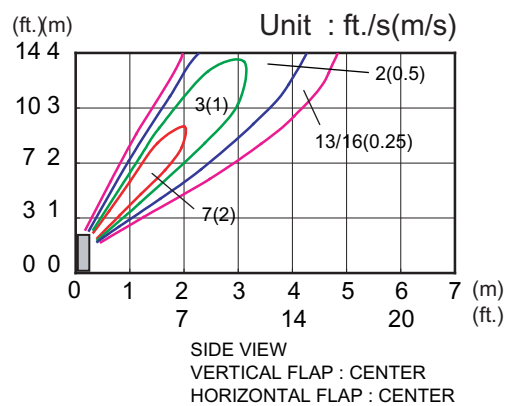
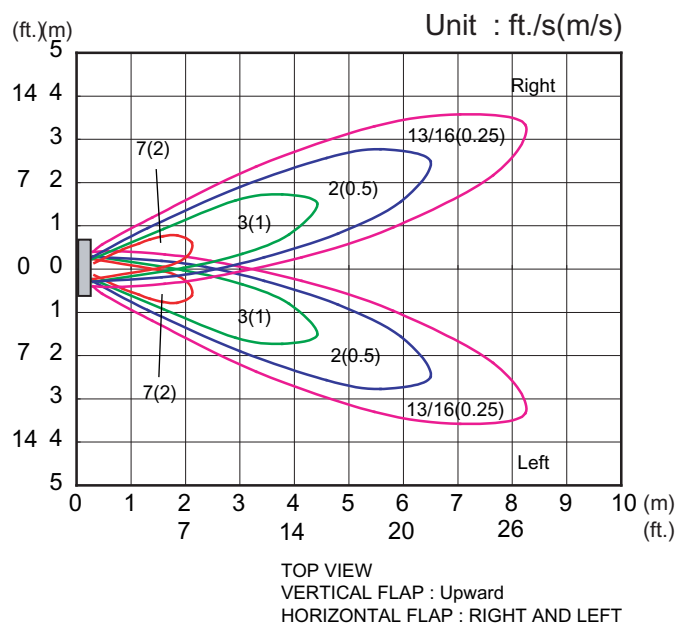
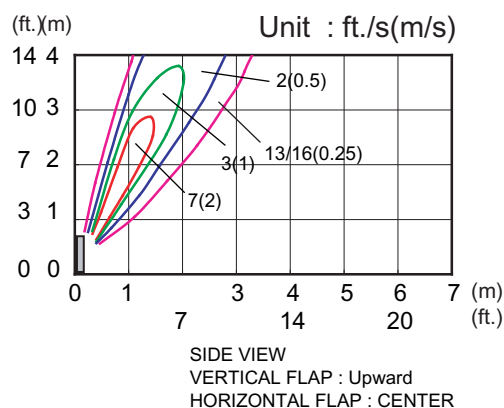
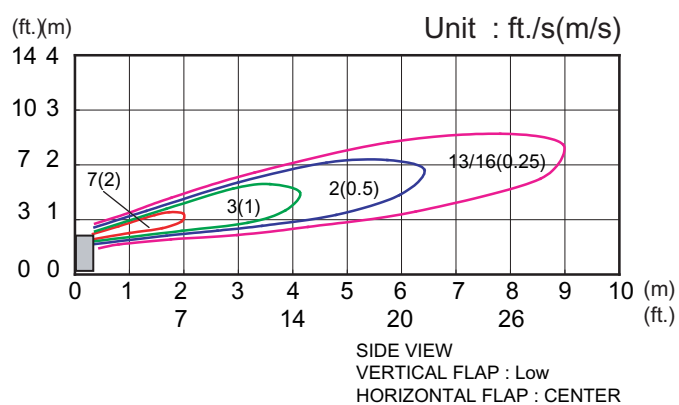
Note :
Condition
Fan speed : High
Operation mode :FAN



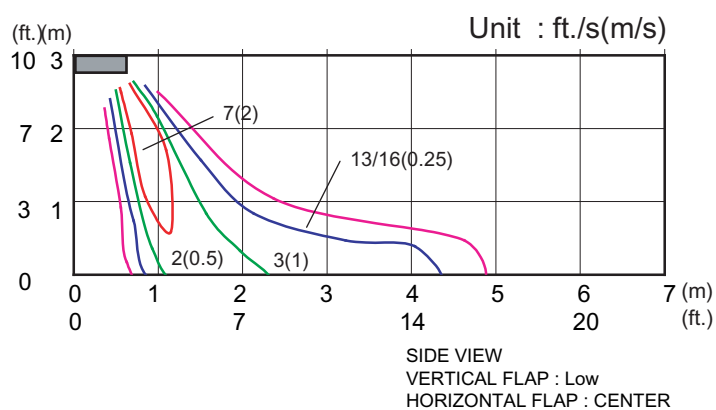
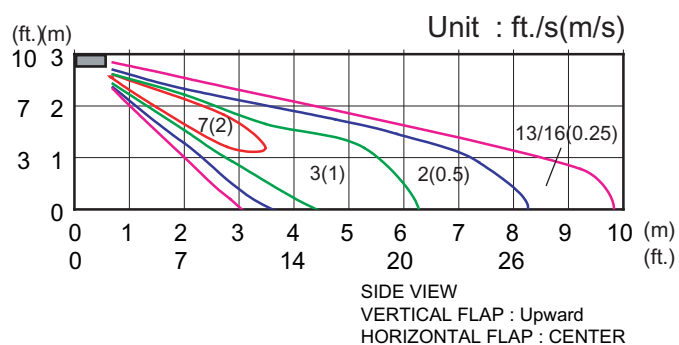
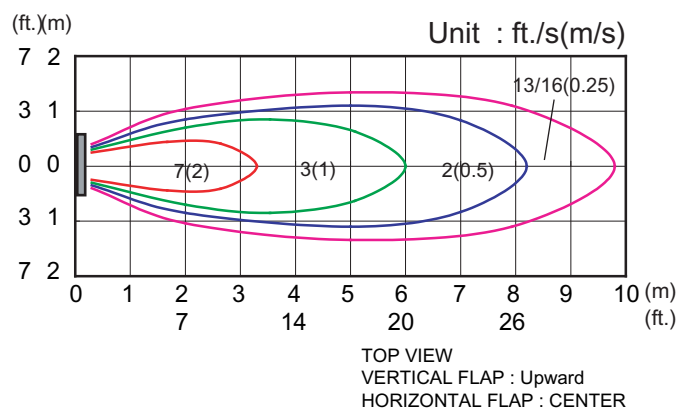
MODEL : ABU24R (FLOOR CONSOLE)



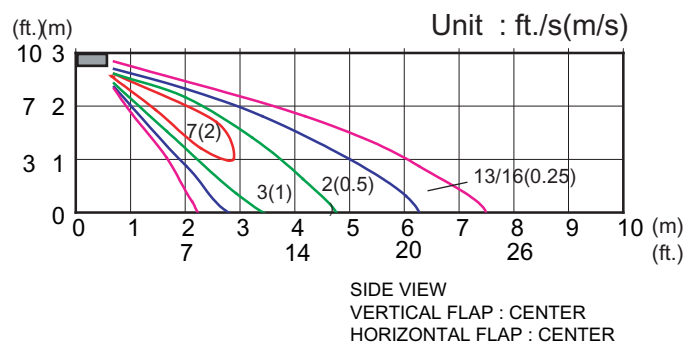
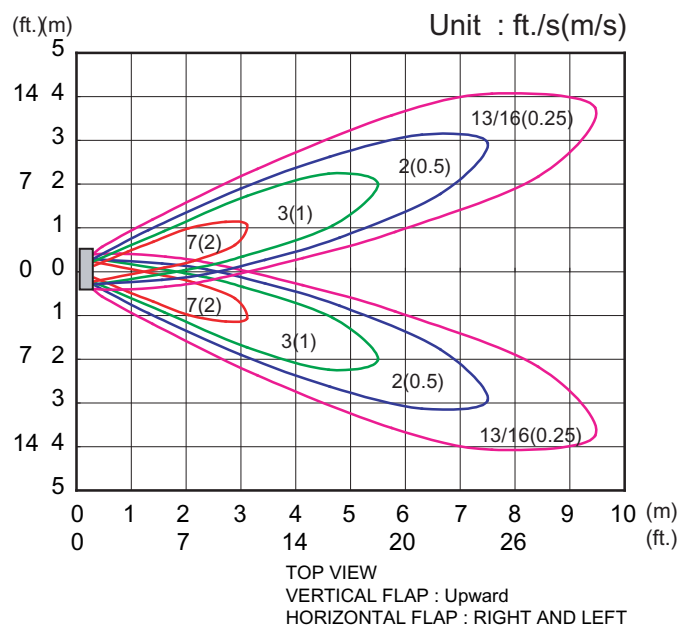
Note :
Condition
Fan speed : High
Operation mode :FAN



MODEL : ABU24R (UNDER CEILING)



Note :
Condition
Fan speed : High
Operation mode : FAN



2-11-2. AIR FLOW

■ MODELS : ABU18R / AOU18R

	FAN SPEED	NUMBER OF ROTATIONS (r.p.m)	AIR FLOW	
Indoor unit	HIGH	1060	m ³ /h	780
			l/s	217
			CFM	459
	MED	890	m ³ /h	650
			l/s	181
			CFM	383
	LOW	770	m ³ /h	550
			l/s	153
			CFM	324
Outdoor unit	HIGH	780	m ³ /h	3300
			l/s	917
			CFM	1942

■ MODELS : ABU24R / AOU24R

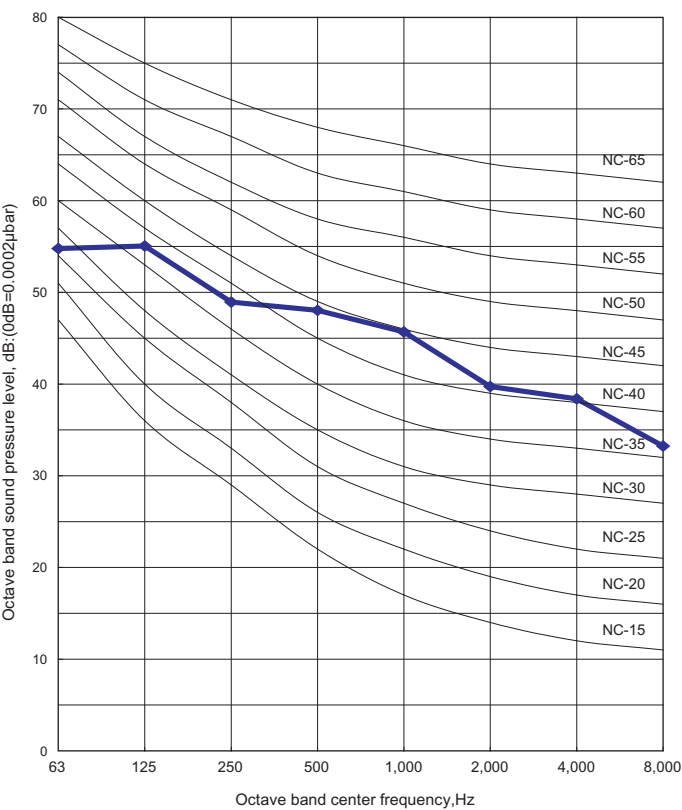
	FAN SPEED	NUMBER OF ROTATIONS (r.p.m)	AIR FLOW	
Indoor unit	HIGH	1180	m ³ /h	880
			l/s	244
			CFM	518
	MED	1000	m ³ /h	740
			l/s	206
			CFM	435
	LOW	900	m ³ /h	630
			l/s	175
			CFM	371
Outdoor unit	HIGH	850	m ³ /h	3600
			l/s	1000
			CFM	2119

2-12. NOISE LEVEL CURVE

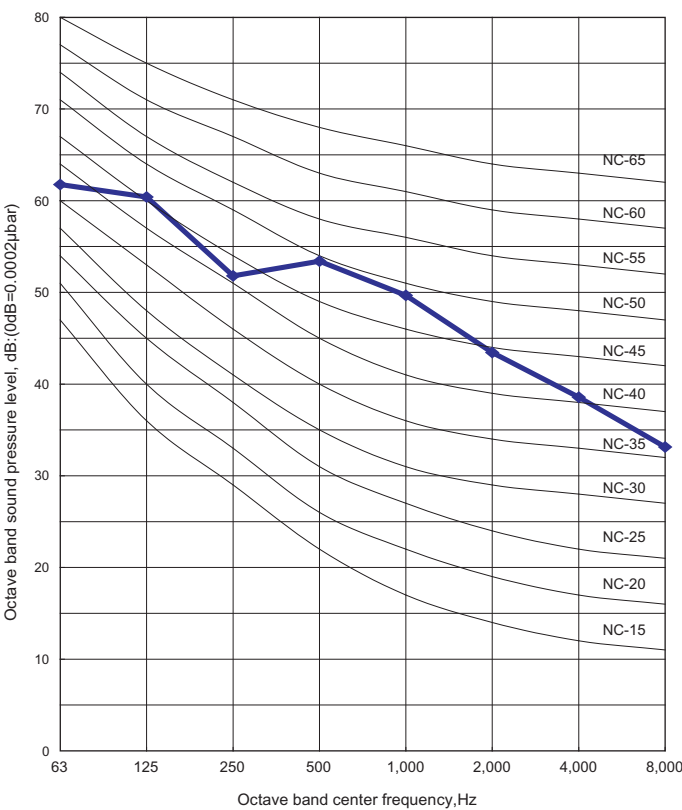
2-12-1. OUTDOOR UNIT

■ COOLING

● MODEL : AOU18R

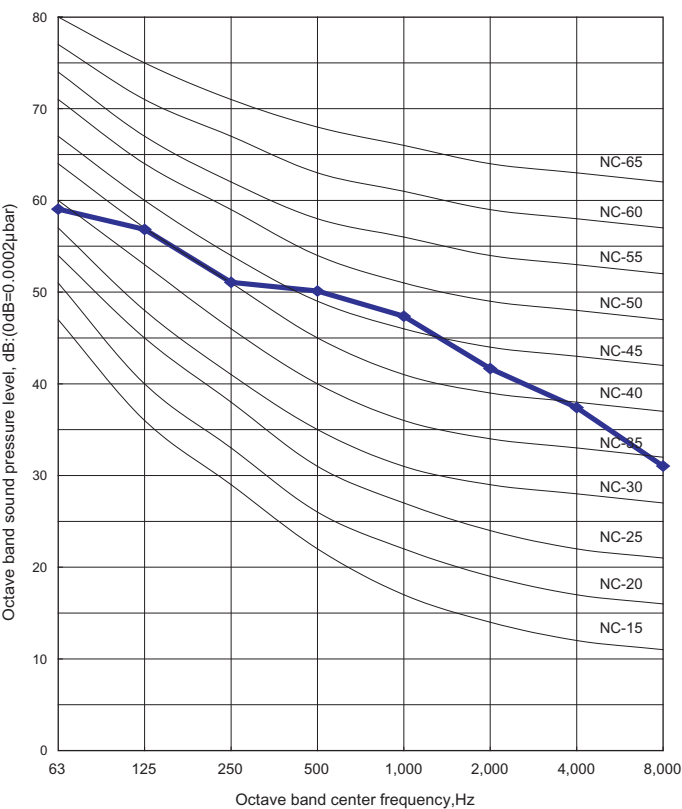


● MODEL : AOU24R



■ HEATING

● MODEL : AOU18R



● MODEL : AOU24R

