

AIRSTAGE

AIR CONDITIONER

Wall-mounted type

FUJITSU

REFRIGERANT **R32**
INVERTER

DESIGN & TECHNICAL MANUAL

INDOOR



ASUH09KNAS
ASUH12KNAS



ASUH18KNAS



ASUH24KNAS

OUTDOOR



AOUH09KNAS1
AOUH12KNAS1



AOUH18KNAS1



AOUH24KNAS1

FUJITSU GENERAL LIMITED

DR_AS255ES_01
2025.09.05

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- Product specifications and design are subject to change without notice for future improvement.
- For further details, please check with our authorized dealer.

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Part 1. INDOOR UNIT

WALL-MOUNTED TYPE:

ASUH09KNAS

ASUH12KNAS

ASUH18KNAS

ASUH24KNAS

1. Specifications

Type				Wall mounted					
				Inverter, Heat pump					
Model name				ASUH09KNAS		ASUH12KNAS			
Power supply intake				Outdoor unit					
System power supply		Voltage		208/230					
		Frequency		60					
		Available voltage range		187—253					
Indoor unit power supply (from outdoor unit)				208/230					
Capacity	Cooling	Rated	kW	2.64	3.52				
			Btu/h	9,000	12,000				
		Min.—Max.	kW	0.90—3.08	0.90—3.67				
			Btu/h	3,100—10,500	3,100—12,500				
		Heating	47°F FDB (Outdoor temp.)	Rated	kW	2.64	3.52		
				Btu/h	9,000	12,000			
	Min.—Max.		kW	0.90—3.63	0.90—4.07				
			Btu/h	3,100—12,400	3,100—13,900				
	17°F FDB (Outdoor temp.)*1		Rated	kW	1.525	2.200			
			Btu/h	5,200	7,500				
		Max.	kW	2.505	2.960				
			Btu/h	8,550	10,100				
5°F FDB (Outdoor temp.)*2	Rated	kW	1.995	2.400					
	Btu/h	6,800	8,200						
	Max.	kW	2.05	2.58					
		Btu/h	7,000	8,800					
Input power	Cooling	Rated	kW	0.85		1.16			
				Min.—Max.		0.24—1.44			
		Heating	47°F FDB (Outdoor temp.)	Rated	0.74	1.05			
				Min.—Max.		0.20—1.38			
			17°F FDB (Outdoor temp.)*1	Rated	0.58	0.84			
				Max.	1.08	1.24			
	5°F FDB (Outdoor temp.)*2		Rated	0.94	1.10				
			Max.	0.96	1.12				
	Fan		HIGH	20.1	20.2				
			MED	11.3	11.5				
			LOW	5.7	6.3				
			QUIET	2.9					
	Current	Cooling	Rated	A	4.2	5.4			
		Heating			3.8	5.0			
EER2	Cooling		Btu/hW	10.60	10.35				
COP2	Heating		kW/kW	3.56	3.36				
SEER2	Cooling		Btu/hW	18					
HSPF2	Heating			9					
Power factor	Cooling		%	88.0	93.4				
	Heating			84.7	91.3				
Moisture removal			pints/h (L/h)	1.9 (0.88)	3.3 (1.57)				
Maximum operating current*3	Cooling		A	6.4	6.9				
	Heating			7.9					
Fan	Airflow rate	Cooling	HIGH	365 (620)					
			MED	288 (490)					
			LOW	212 (360)	218 (370)				
			QUIET	141 (240)					
		Heating	HIGH	365 (620)	377 (640)				
			MED	300 (510)	288 (490)				
			LOW	241 (410)	235 (400)				
			QUIET	153 (260)					
	Type × Qty			Crossflow fan × 1					
	Motor output			W	27				
Sound pressure level*4	Cooling		HIGH	41					
			MED	35					
			LOW	27	28				
			QUIET	20					
	Heating		HIGH	41					
			MED	35					
			LOW	30					
			QUIET	22					
			Dimensions (H × W × D)	in (mm)	Main 1: 3-5/16 × 23-1/4 × 1/2 (84 × 590 × 13.3)		Main 1: 6-5/8 × 23-1/4 × 1-1/16 (168 × 590 × 26.6)		
					Main 2: 3-5/16 × 23-1/4 × 1-1/16 (84 × 590 × 26.6)		Main 2: 3-5/16 × 23-1/4 × 1/2 (84 × 590 × 13.3)		
Main 3: 3-5/16 × 23-1/4 × 1/2 (84 × 590 × 13.3)									
Fin pitch	FPI	Main 1: 21 Main 2: 20 Main 3: 21		Main 1: 20 Main 2: 21					
		Main 1: 1 × 4 Main 2: 2 × 4 Main 3: 1 × 4		Main 1: 2 × 8 Main 2: 1 × 4					
Pipe type		Copper tube							
Fin type		Aluminum							
Enclosure	Material	Polystyrene							
	Color	White Approximate color of Munsell 9PB 9.1/0.2							
Dimensions (H × W × D)	Net	9-13/16 × 30-5/16 × 8-9/16 (250 × 770 × 218)							
	Gross	10-13/16 × 33-1/16 × 12-3/16 (274 × 840 × 310)							
Weight	Net	15 (7.0)		17 (7.5)					
	Gross	21 (9.5)		22 (10.0)					
Connection pipe	Size	Liquid	Ø1/4 (Ø6.35)						
		Gas	Ø3/8 (Ø9.52)						
	Method	Flare							

Type		Wall mounted	
		Inverter, Heat pump	
Model name		ASUH09KNAS	ASUH12KNAS
Drain hose	Material	Polypropylene + High-density polyethylene	
	Tip diameter	Ø17/32 (Ø13.8) (I.D.), Ø19/32 to Ø21/32 (Ø15.0 to Ø16.8) (O.D.)	
Operation range	Cooling	in (mm)	64 to 90 (18 to 32)
		°F (°C)	80 or less
	Heating	°F (°C)	60 to 86 (16 to 30)
Remote controller type		Wireless (Option: Mobile app*5 [AIRSTAGE Mobile])	
NOTES: <ul style="list-style-type: none"> • Specifications are based on the following conditions: <ul style="list-style-type: none"> – Cooling: Indoor temperature of 80°FDB/67°FWB (26.67°CDB/19.44°CWB), and outdoor temperature of 95°FDB/75°FWB (35°CDB/23.9°CWB). – Heating: Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 47°FDB/43°FWB (8.33°CDB/6.11°CWB). – *1: Heating (17°F): Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 17°FDB/15°FWB (-8.33°CDB/-9.44°CWB). – *2: Heating (5°F): Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 5°FDB/4°FWB (-15.0°CDB/-15.56°CWB). – Test conditions are based on AHRI 210/240 2023. – Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.) • Protective function might work when using it outside the operation range. • *3: Maximum current: <ul style="list-style-type: none"> – The maximum value when operated within the operation range. – The total current of indoor unit and outdoor unit. • *4: Sound pressure level: <ul style="list-style-type: none"> – Measured values in manufacturer's anechoic chamber. – Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here. • *5: Available on Google Play™ store or on App Store®. Optional WLAN Adapter is also required. For details, refer to the setting manual. 			

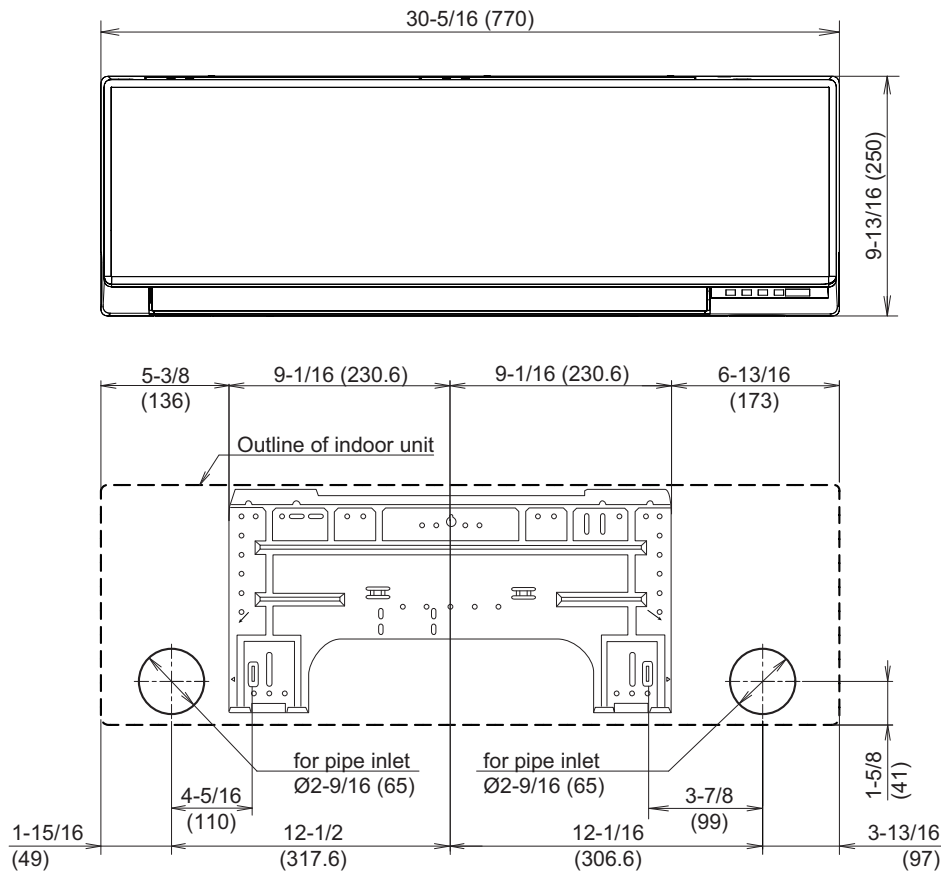
Type				Wall mounted			
				Inverter, Heat pump			
Model name				ASUH18KNAS	ASUH24KNAS		
Power supply intake				Outdoor unit			
System power supply		Voltage		208/230			
		Frequency		60			
		Available voltage range		187—253			
Indoor unit power supply (from outdoor unit)				208/230			
Capacity	Cooling	Rated	kW	5.28	6.45		
			Btu/h	18,000	22,000		
		Min.—Max.	kW	1.11—5.43	1.11—7.03		
			Btu/h	3,800—18,500	3,800—24,000		
		Heating	47°FDB (Outdoor temp.)	Rated	kW	5.28	7.03
				Btu/h	18,000	24,000	
	Min.—Max.		kW	1.06—6.60	1.15—7.62		
			Btu/h	3,600—22,500	3,900—26,000		
	17°FDB (Outdoor temp.)*1		Rated	kW	3.63	4.34	
			Btu/h	12,400	14,800		
		Max.	kW	4.83	5.30		
		Btu/h	16,500	18,200			
5°FDB (Outdoor temp.)*2	Rated	kW	4.25	4.69			
	Btu/h	14,500	16,000				
	Max.	kW	4.25	4.69			
	Btu/h	14,500	16,000				
Input power	Cooling	Rated	kW	1.64	2.10		
				Min.—Max.	0.14—1.78	0.13—2.75	
		47°FDB (Outdoor temp.)	Rated	kW	1.66	2.07	
			Min.—Max.	0.20—2.40	0.18—2.55		
	17°FDB (Outdoor temp.)*1		Rated	kW	1.32	1.50	
			Max.	2.15	2.30		
	5°FDB (Outdoor temp.)*2	Rated	kW	2.10	2.13		
		Max.	2.10	2.13			
	Fan	HIGH	MED	LOW	QUIET	41	55
						23	32
						15	21
						10	14
	Current		Cooling	Rated	A	7.3	9.3
			Heating			7.3	9.1
EER2		Cooling	Btu/hW		11.0	10.5	
COP2		Heating	kW/kW		3.18	3.40	
SEER2		Cooling			20		
HSPF2		Heating	Btu/hW		9		
Power factor		Cooling	%		97.7	98.2	
		Heating			98.9		
Moisture removal			pints/h (L/h)	5.5 (2.6)	7.4 (3.5)		
Maximum operating current*3		Cooling	A	9.9	14.4		
		Heating		11.9	13.9		
Fan	Airflow rate	Cooling	HIGH	477 (810)	612 (1,040)		
			MED	365 (620)	489 (830)		
			LOW	277 (470)	394 (670)		
			QUIET	212 (360)	306 (520)		
			HIGH	477 (810)	606 (1,030)		
		Heating	MED	377 (640)	489 (830)		
			LOW	294 (500)	394 (670)		
			QUIET	230 (390)	318 (540)		
			Type × Qty		Crossflow fan × 1		
			Motor output		W		61
Sound pressure level*4	Cooling	HIGH	MED	LOW	QUIET	48	49
						41	43
						35	38
						28	31
	Heating	HIGH	MED	LOW	QUIET	46	48
						40	42
						35	38
						30	32
Heat exchanger type	Dimensions (H × W × D)	in (mm)		Main 1: 8-1/4 × 26-5/16 × 1-1/16 (210 × 668 × 26.6)	Main 1: 8-1/4 × 31-5/16 × 1-1/16 (210 × 796 × 26.6)		
				Main 2: 4-1/8 × 26-5/16 × 1-1/16 (105 × 668 × 26.6)	Main 2: 5-5/16 × 31-5/16 × 13/16 (135 × 796 × 20.0)		
	Fin pitch	FPI		Sub 1: 3-5/16 × 26-5/16 × 1/2 (84 × 668 × 13.3)	Sub 1: 3-5/16 × 31-5/16 × 1/2 (84 × 796 × 13.3)		
				Sub 2: 3-5/16 × 26-5/16 × 1/2 (84 × 668 × 13.3)	Sub 2: 3-5/16 × 31-5/16 × 1/2 (84 × 796 × 13.3)		
	Rows × Stages			Main 1: 2 × 10 Main 2: 2 × 5 Sub 1: 1 × 4 Sub 2: 1 × 4	Main 1: 2 × 10 Main 2: 2 × 8 Sub 1: 1 × 4 Sub 2: 1 × 4		
Pipe type		Copper tube					
Fin type		Aluminum					
Enclosure		Material		Polystyrene			
		Color		White			
				Approximate color of Munsell 9PB 9.1/0.2			
Dimensions (H × W × D)	Net	in (mm)	10-5/8 × 32-13/16 × 9-7/16 (270 × 834 × 239)	11 × 38-9/16 × 9-7/16 (280 × 980 × 240)			
	Gross		11-13/16 × 36 × 13-5/16 (300 × 914 × 338)	12-11/16 × 42-7/16 × 13-5/8 (322 × 1,078 × 346)			
Weight	Net	lb (kg)	23 (10.5)	28 (12.5)			
	Gross		31 (14.0)	37 (17.0)			

Type				Wall mounted	
				Inverter, Heat pump	
Model name				ASUH18KNAS	ASUH24KNAS
Connection pipe	Size	Liquid	in (mm)	Ø1/4 (Ø6.35)	
		Gas		Ø1/2 (Ø12.70)	
	Method			Flare	
Drain hose	Material			Polypropylene + High-density polyethylene	
	Tip diameter		in (mm)	Ø17/32 (Ø13.8) (I.D.), Ø5/8 to Ø21/32 (Ø15.8 to Ø16.7) (O.D.)	
Operation range	Cooling		°F (°C)	64 to 90 (18 to 32)	
			%RH	80 or less	
	Heating		°F (°C)	60 to 86 (16 to 30)	
Remote controller type				Wireless (Option: Wired, Mobile app*5 [AIRSTAGE Mobile])	
NOTES:					
<ul style="list-style-type: none"> • Specifications are based on the following conditions: <ul style="list-style-type: none"> – Cooling: Indoor temperature of 80°FDB/67°F WB (26.67°CDB/19.44°CWB), and outdoor temperature of 95°FDB/75°F WB (35°CDB/23.9°CWB). – Heating: Indoor temperature of 70°FDB/60°F WB (21.11°CDB/15.56°CWB), and outdoor temperature of 47°FDB/43°F WB (8.33°CDB/6.11°CWB). – *1: Heating (17°F): Indoor temperature of 70°FDB/60°F WB (21.11°CDB/15.56°CWB), and outdoor temperature of 17°FDB/15°F WB (-8.33°CDB/-9.44°CWB). – *2: Heating (5°F): Indoor temperature of 70°FDB/60°F WB (21.11°CDB/15.56°CWB), and outdoor temperature of 5°FDB/4°F WB (-15.0°CDB/-15.56°CWB). – Test conditions are based on AHRI 210/240 2023. – Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.) • Protective function might work when using it outside the operation range. • *3: Maximum current: <ul style="list-style-type: none"> – The maximum value when operated within the operation range. – The total current of indoor unit and outdoor unit. • *4: Sound pressure level: <ul style="list-style-type: none"> – Measured values in manufacturer's anechoic chamber. – Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here. • *5: Available on Google Play™ store or on App Store®. Optional WLAN Adapter is also required. For details, refer to the setting manual. 					

2. Dimensions

2-1. Models: ASUH09KNAS and ASUH12KNAS

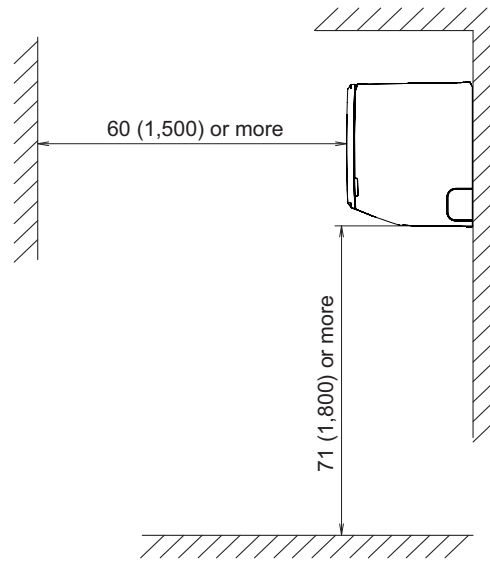
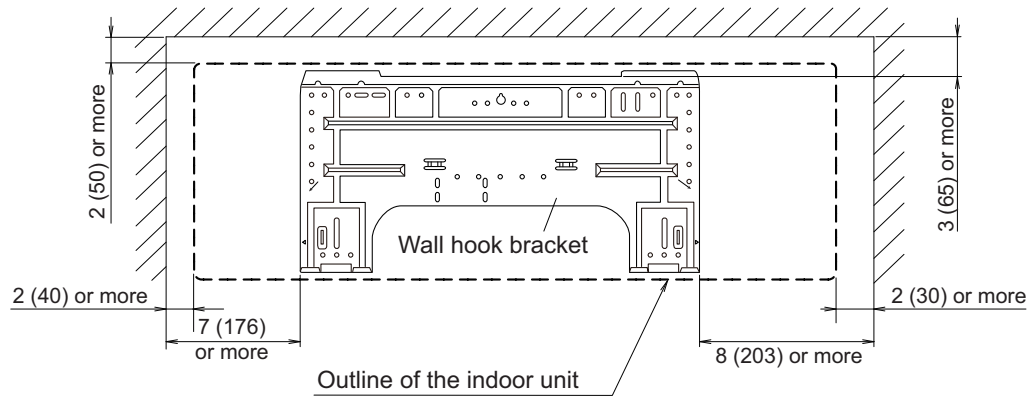
Unit: in (mm)



Installation space requirement

Provide sufficient installation space for product safety.

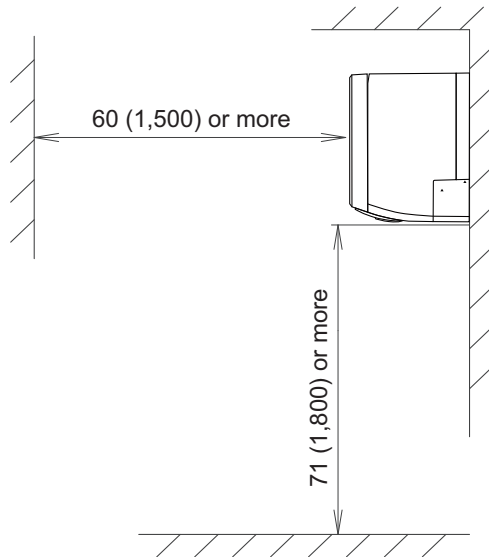
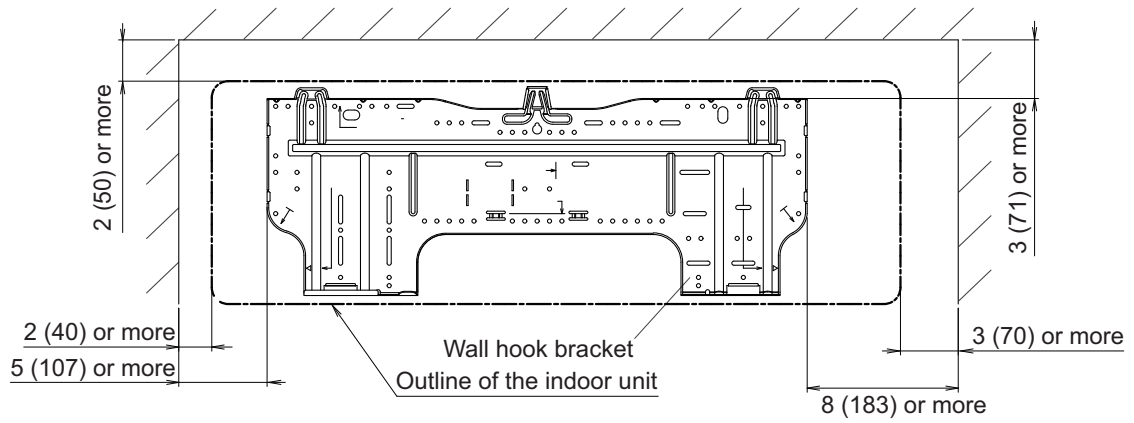
Unit: in (mm)



■ Installation space requirement

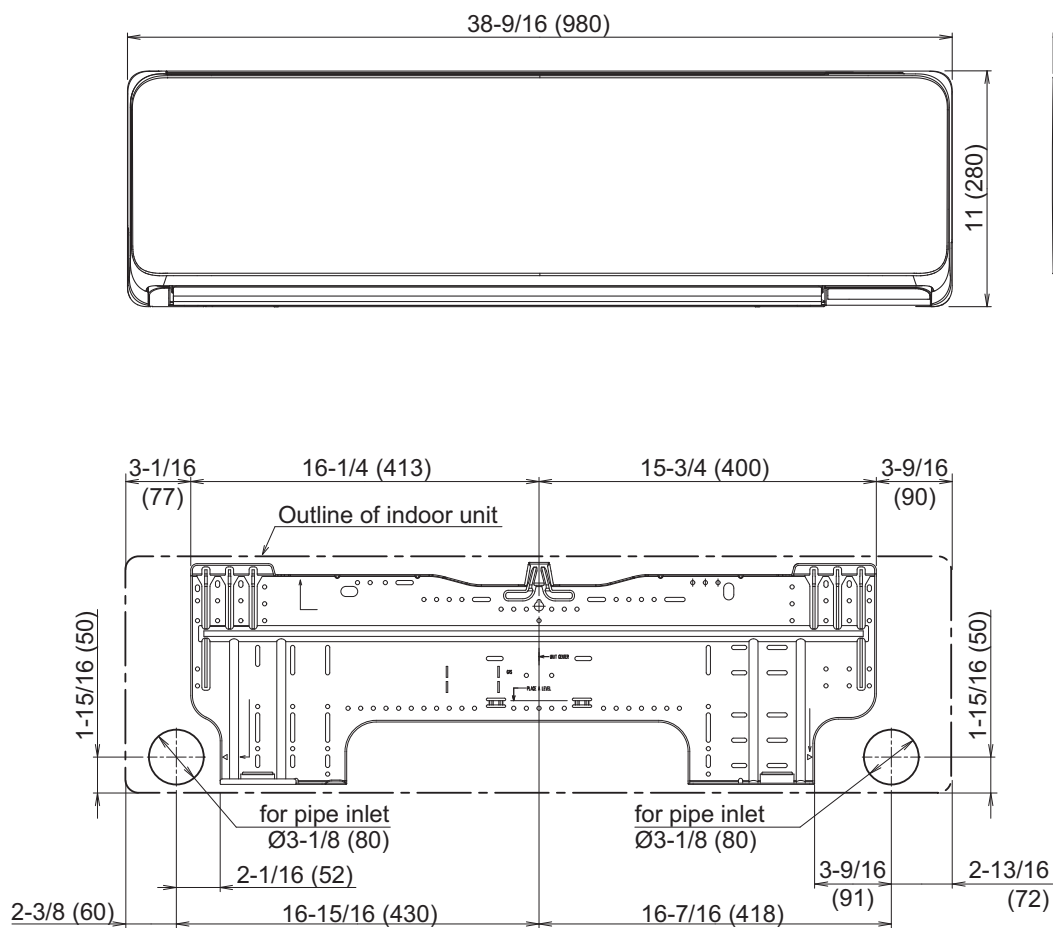
Provide sufficient installation space for product safety.

Unit: in (mm)



2-3. Model: ASUH24KNAS

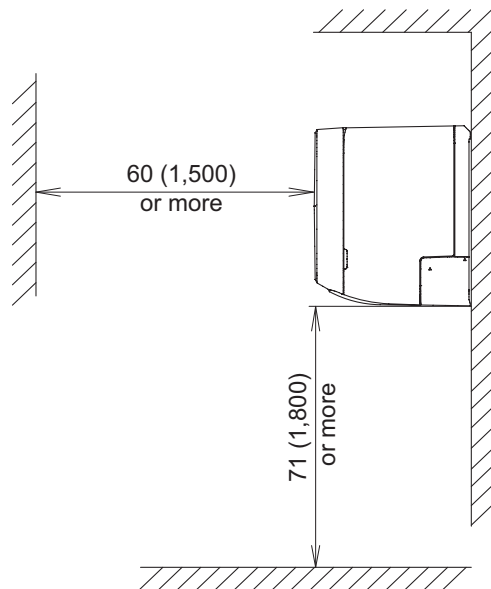
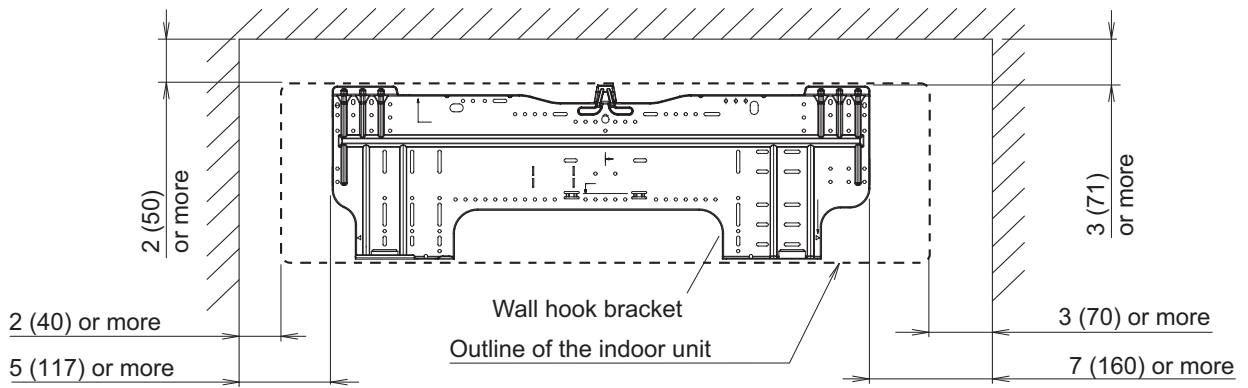
Unit: in (mm)



■ Installation space requirement

Provide sufficient installation space for product safety.

Unit: in (mm)

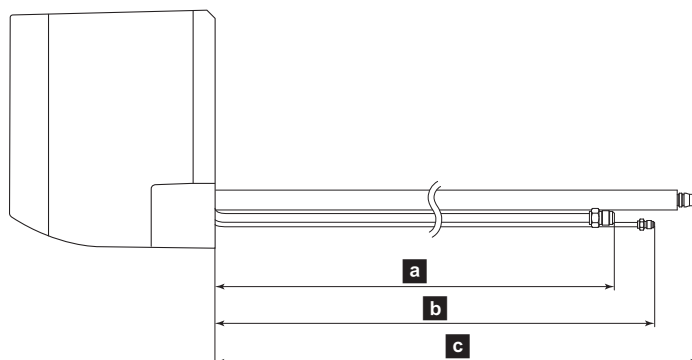


2-4. Pipe exit length from the rear

Design the system considering the length of the pipes or hose exiting from the rear of the indoor unit.

NOTE: Detailed shapes of the indoor unit and the tip of each pipe or hose may vary depending on the model.

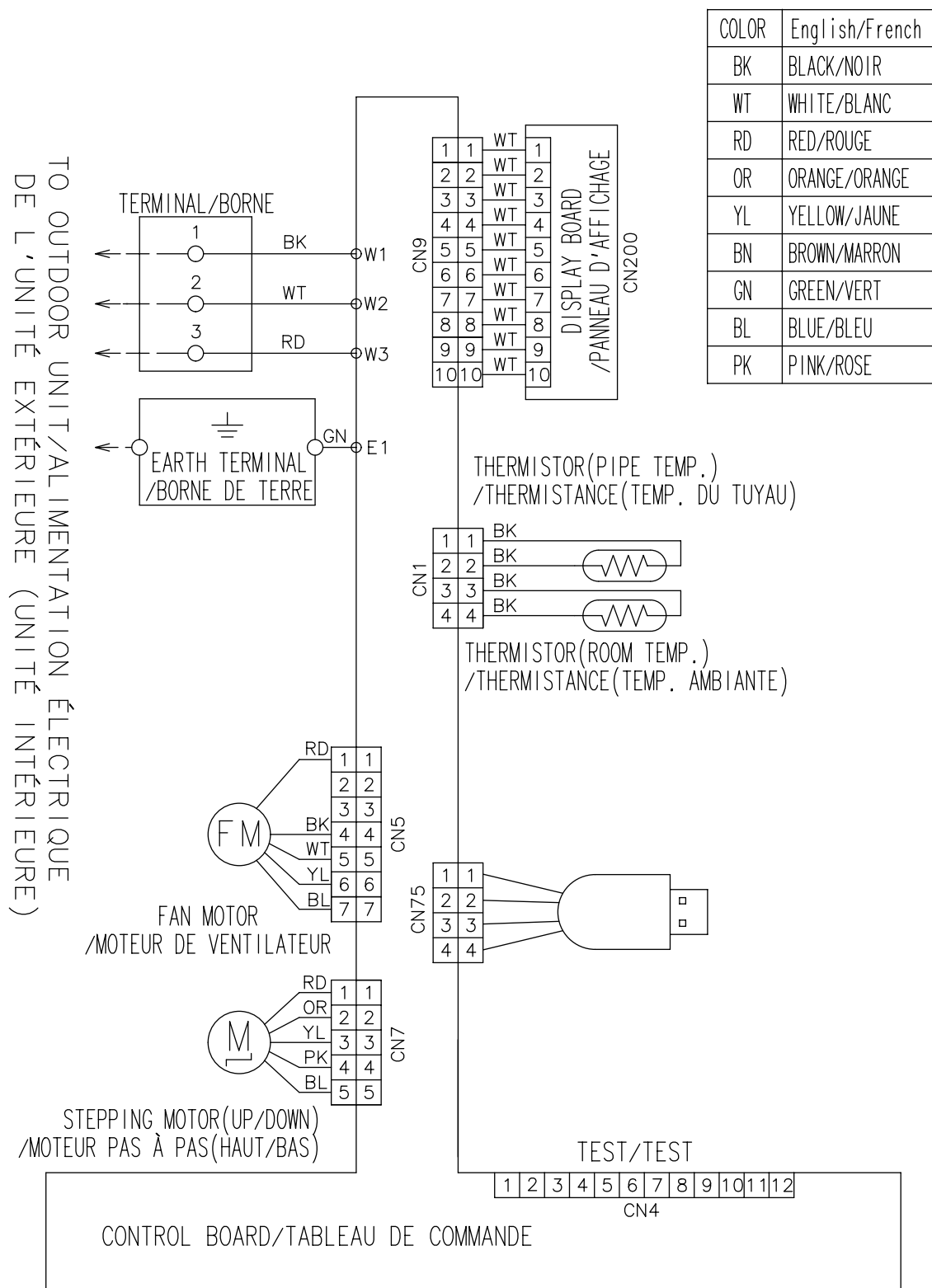
Unit: in (mm)



Model name	Approximate length		
	a Gas pipe	b Liquid pipe	c Drain hose
ASUH09-12KNAS	13 (330)	14-3/4 (375)	15-9/16 (395)
ASUH18KNAS	14-3/4 (375)	16-9/16 (420)	14-9/16 (370)
ASUH24KNAS	16-15/16 (430)	19-1/8 (485)	18-1/2 (470)

3. Wiring diagrams

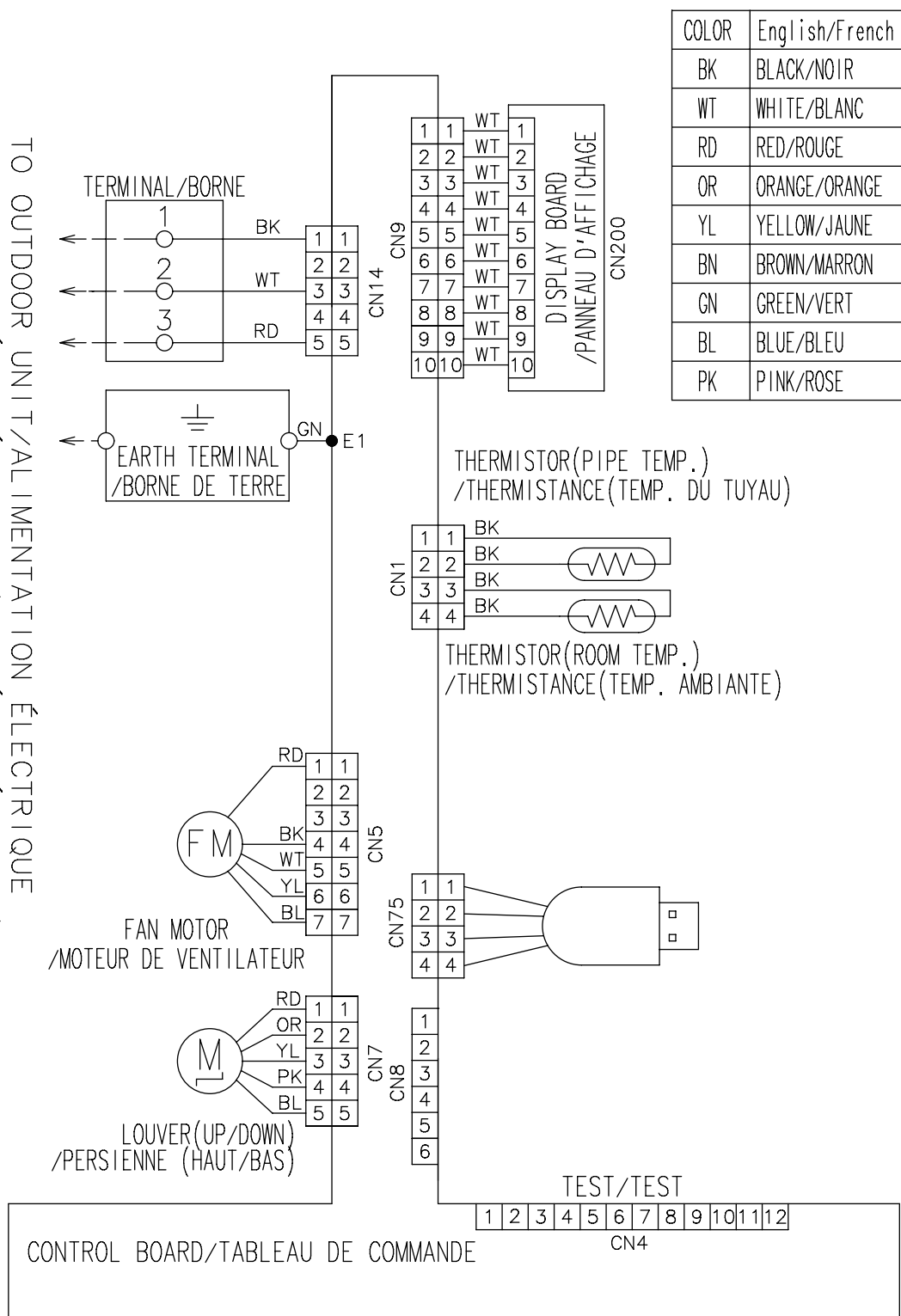
3-1. Models: ASUH09KNAS and ASUH12KNAS



COLOR	English/French
BK	BLACK/NOIR
WT	WHITE/BLANC
RD	RED/ROUGE
OR	ORANGE/ORANGE
YL	YELLOW/JAUNE
BN	BROWN/MARRON
GN	GREEN/VERT
BL	BLUE/BLEU
PK	PINK/ROSE

3-2. Model: ASUH18KNAS

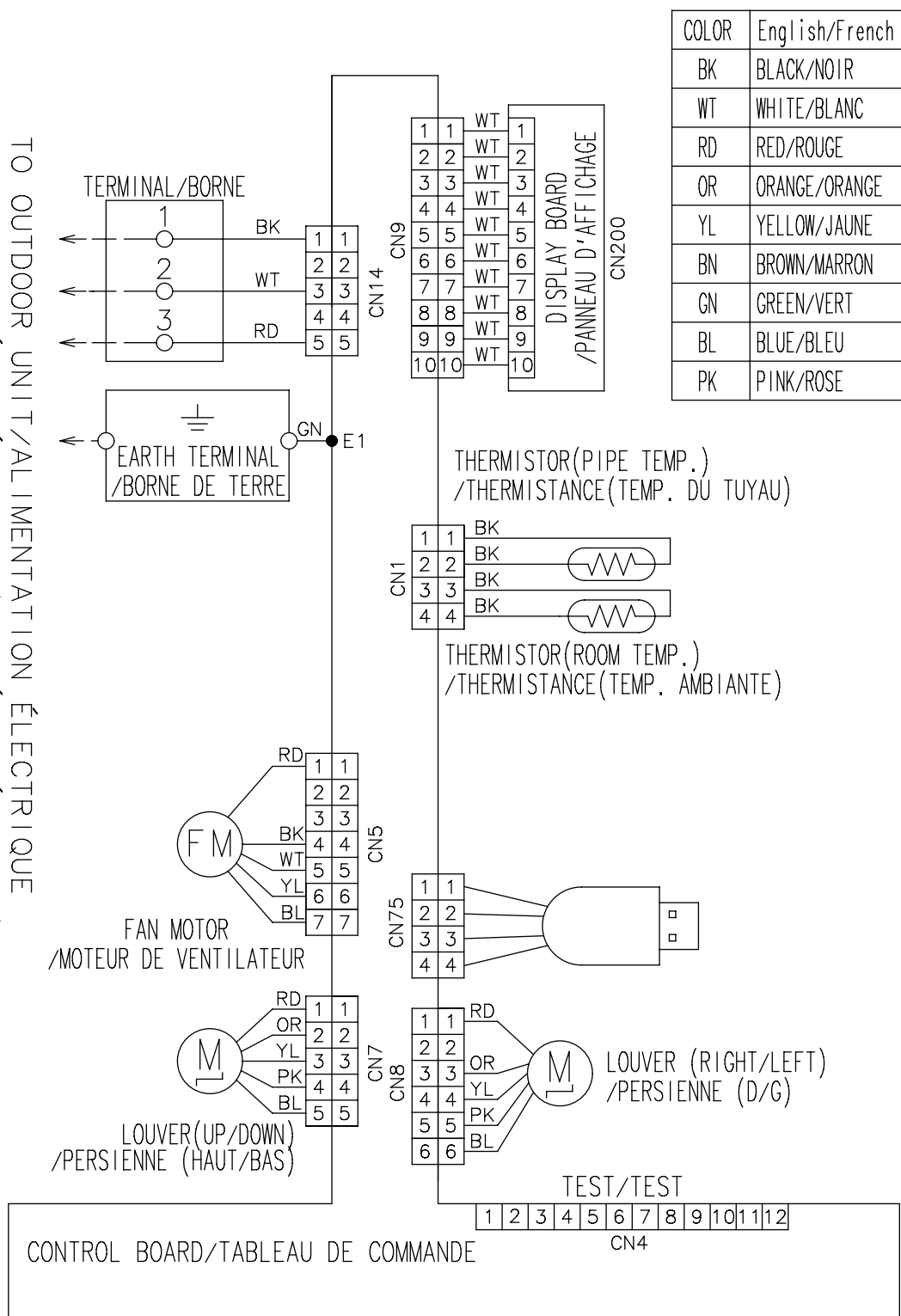
TO OUTDOOR UNIT/ALIMENTATION ÉLECTRIQUE DE L'UNITÉ EXTÉRIEURE (UNITÉ INTÉRIEURE)



COLOR	English/French
BK	BLACK/NOIR
WT	WHITE/BLANC
RD	RED/ROUGE
OR	ORANGE/ORANGE
YL	YELLOW/JAUNE
BN	BROWN/MARRON
GN	GREEN/VERT
BL	BLUE/BLEU
PK	PINK/ROSE

3-3. Model: ASUH24KNAS

TO OUTDOOR UNIT/ALIMENTATION ÉLECTRIQUE DE L'UNITÉ EXTÉRIEURE (UNITÉ INTÉRIEURE)



COLOR	English/French
BK	BLACK/NOIR
WT	WHITE/BLANC
RD	RED/ROUGE
OR	ORANGE/ORANGE
YL	YELLOW/JAUNE
BN	BROWN/MARRON
GN	GREEN/VERT
BL	BLUE/BLEU
PK	PINK/ROSE

4. Capacity table

Capacity tables show each of following values calculated based on the outdoor temperature and the indoor temperature, under given Airflow Rate (AFR):

For cooling capacity: Total Capacity (TC), Sensible Heat Capacity (SHC), and Input Power (IP)

For heating capacity: Total Capacity (TC) and Input Power (IP)

4-1. Cooling capacity

■ Model: ASUH09KNAS

AFR			CFM									365									
			Indoor temperature																		
			64			70			75			80			85			90			
			54			60			63			67			71			73			
Outdoor temperature	°FDB	°FWB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW			
50	4.83	4.83	0.11	7.23	6.22	0.26	7.61	6.65	0.26	7.95	6.64	0.27	8.73	6.93	0.28	9.18	7.68	0.28	9.18	7.68	0.28
59	4.73	4.73	0.13	6.96	6.09	0.30	7.33	6.51	0.31	7.66	6.51	0.32	8.40	6.78	0.32	8.84	7.52	0.33	8.84	7.52	0.33
67	5.34	5.34	0.18	8.57	6.88	0.44	9.03	7.35	0.44	9.44	7.35	0.45	10.35	7.66	0.46	10.89	8.49	0.47	10.89	8.49	0.47
77	5.18	5.18	0.21	8.18	6.66	0.49	8.62	7.13	0.50	9.00	7.12	0.51	9.88	7.42	0.52	10.39	8.23	0.53	10.39	8.23	0.53
87	5.07	5.07	0.25	8.15	6.53	0.61	8.58	6.98	0.62	8.97	6.97	0.64	9.84	7.27	0.65	10.35	8.06	0.66	10.35	8.06	0.66
95	5.06	5.06	0.34	8.18	6.51	0.82	8.62	6.97	0.83	9.00	6.96	0.85	9.88	7.26	0.87	10.39	8.05	0.88	10.39	8.05	0.88
104	4.87	4.87	0.36	7.67	6.26	0.87	8.08	6.70	0.88	8.45	6.69	0.90	9.27	6.98	0.92	9.75	7.73	0.93	9.75	7.73	0.93
115	4.42	4.42	0.28	6.16	5.68	0.68	6.48	6.08	0.69	6.77	6.07	0.71	7.43	6.33	0.72	7.82	7.02	0.73	7.82	7.02	0.73
122	3.95	3.95	0.22	5.08	5.08	0.52	5.44	5.44	0.53	5.43	5.43	0.54	5.69	5.66	0.55	6.28	6.28	0.56	6.28	6.28	0.56

AFR			m ³ /h									620									
			Indoor temperature																		
			17.8			21.1			23.9			26.7			29.4			32.2			
			12.2			15.6			17.2			19.4			21.7			22.8			
Outdoor temperature	°CDB	°CWB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	
			kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW				
10.0	1.42	1.42	0.11	2.12	1.82	0.26	2.23	1.95	0.26	2.33	1.95	0.27	2.56	2.03	0.28	2.69	2.25	0.28	2.69	2.25	0.28
15.0	1.39	1.39	0.13	2.04	1.78	0.30	2.15	1.91	0.31	2.24	1.91	0.32	2.46	1.99	0.32	2.59	2.20	0.33	2.59	2.20	0.33
19.4	1.57	1.57	0.18	2.51	2.02	0.44	2.65	2.16	0.44	2.77	2.15	0.45	3.03	2.24	0.46	3.19	2.49	0.47	3.19	2.49	0.47
25.0	1.52	1.52	0.21	2.40	1.95	0.49	2.53	2.09	0.50	2.64	2.09	0.51	2.90	2.18	0.52	3.05	2.41	0.53	3.05	2.41	0.53
30.6	1.49	1.49	0.25	2.39	1.91	0.61	2.51	2.05	0.62	2.63	2.04	0.64	2.88	2.13	0.65	3.03	2.36	0.66	3.03	2.36	0.66
35.0	1.48	1.48	0.34	2.40	1.91	0.82	2.53	2.04	0.83	2.64	2.04	0.85	2.90	2.13	0.87	3.05	2.36	0.88	3.05	2.36	0.88
40.0	1.43	1.43	0.36	2.25	1.84	0.87	2.37	1.96	0.88	2.48	1.96	0.90	2.72	2.04	0.92	2.86	2.27	0.93	2.86	2.27	0.93
46.1	1.29	1.29	0.28	1.80	1.67	0.68	1.90	1.78	0.69	1.99	1.78	0.71	2.18	1.86	0.72	2.29	2.06	0.73	2.29	2.06	0.73
50.0	1.16	1.16	0.22	1.49	1.49	0.52	1.59	1.59	0.53	1.59	1.59	0.54	1.67	1.66	0.55	1.84	1.84	0.56	1.84	1.84	0.56

Model: ASUH12KNAS

AFR		CFM												365					
		Indoor temperature																	
		64			70			75			80			85			90		
		54			60			63			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	°FWB	kWh			kW			kWh			kW			kWh			kW		
	50	5.74	5.55	0.18	8.96	6.65	0.35	9.40	7.19	0.35	9.99	7.36	0.36	10.74	7.46	0.37	11.19	8.20	0.37
	59	6.11	5.90	0.21	9.53	7.06	0.42	10.00	7.64	0.43	10.63	7.82	0.44	11.42	7.92	0.45	11.90	8.71	0.45
	67	7.15	6.46	0.33	11.15	7.74	0.66	11.71	8.37	0.67	12.43	8.57	0.68	13.36	8.68	0.69	13.93	9.55	0.70
	77	7.09	6.44	0.38	11.06	7.71	0.76	11.61	8.34	0.77	12.33	8.54	0.79	13.25	8.65	0.80	13.81	9.51	0.81
	87	7.03	6.40	0.47	10.97	7.66	0.94	11.51	8.29	0.95	12.23	8.48	0.97	13.14	8.59	0.99	13.70	9.45	1.00
	95	6.91	6.30	0.58	10.77	7.55	1.14	11.31	8.17	1.15	12.00	8.36	1.16	12.91	8.47	1.18	13.45	9.31	1.20
	104	6.68	6.24	0.62	10.42	7.47	1.24	10.94	8.09	1.25	11.62	8.28	1.28	12.49	8.38	1.30	13.01	9.22	1.32
	115	5.57	5.57	0.60	8.70	6.69	1.20	9.13	7.24	1.21	9.70	7.41	1.24	10.42	7.51	1.26	10.86	8.26	1.27
122	4.71	4.71	0.53	7.34	6.18	1.05	7.71	6.69	1.07	8.19	6.85	1.09	8.80	6.93	1.11	9.17	7.63	1.12	

AFR		m ³ /h												620					
		Indoor temperature																	
		17.8			21.1			23.9			26.7			29.4			32.2		
		12.2			15.6			17.2			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
	°CWB	kW			kW			kW			kW			kW			kW		
	10.0	1.68	1.63	0.18	2.63	1.95	0.35	2.76	2.11	0.35	2.93	2.16	0.36	3.15	2.19	0.37	3.28	2.40	0.37
	15.0	1.79	1.73	0.21	2.79	2.07	0.42	2.93	2.24	0.43	3.11	2.29	0.44	3.35	2.32	0.45	3.49	2.55	0.45
	19.4	2.10	1.89	0.33	3.27	2.27	0.66	3.43	2.45	0.67	3.64	2.51	0.68	3.92	2.54	0.69	4.08	2.80	0.70
	25.0	2.08	1.89	0.38	3.24	2.26	0.76	3.40	2.44	0.77	3.61	2.50	0.79	3.88	2.54	0.80	4.05	2.79	0.81
	30.6	2.06	1.87	0.47	3.21	2.24	0.94	3.37	2.43	0.95	3.58	2.49	0.97	3.85	2.52	0.99	4.01	2.77	1.00
	35.0	2.02	1.85	0.58	3.16	2.21	1.14	3.31	2.39	1.15	3.52	2.45	1.16	3.78	2.48	1.18	3.94	2.73	1.20
	40.0	1.96	1.83	0.62	3.05	2.19	1.24	3.20	2.37	1.25	3.40	2.43	1.28	3.66	2.46	1.30	3.81	2.70	1.32
	46.1	1.63	1.63	0.60	2.55	1.96	1.20	2.68	2.12	1.21	2.84	2.17	1.24	3.05	2.20	1.26	3.18	2.42	1.27
50.0	1.38	1.38	0.53	2.15	1.81	1.05	2.26	1.96	1.07	2.40	2.01	1.09	2.58	2.03	1.11	2.69	2.23	1.12	

Model: ASUH18KNAS

AFR		CFM												477					
		Indoor temperature																	
		64			70			75			80			85			90		
		54			60			63			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	°FWB	kWh			kW			kWh			kW			kWh			kW		
	50	14.10	9.80	0.58	15.50	10.70	0.60	15.90	11.00	0.60	17.50	12.10	0.61	18.60	12.90	0.61	19.90	13.70	0.62
	59	13.40	9.40	0.66	14.70	10.30	0.66	15.10	10.70	0.67	16.60	11.70	0.69	17.70	12.50	0.70	18.90	13.30	0.70
	67	16.70	10.80	1.05	18.30	11.80	1.06	18.80	12.20	1.08	20.60	13.40	1.10	22.00	14.20	1.11	23.50	15.20	1.11
	77	16.10	10.50	1.20	17.60	11.50	1.20	18.10	11.80	1.23	19.90	13.00	1.25	21.20	13.80	1.26	22.60	14.70	1.28
	87	15.40	10.20	1.34	16.80	11.20	1.37	17.30	11.50	1.37	19.00	12.70	1.41	20.20	13.50	1.42	21.60	14.40	1.43
	95	14.60	9.80	1.58	15.90	10.80	1.58	16.50	11.10	1.61	18.00	12.10	1.64	19.20	13.00	1.65	20.50	13.80	1.67
	104	12.40	9.00	1.30	13.60	9.90	1.32	14.00	10.20	1.34	15.30	11.20	1.36	16.40	11.90	1.37	17.40	12.70	1.39
	115	8.10	7.30	0.92	8.90	8.00	0.93	9.20	8.20	0.94	10.10	9.00	0.96	10.70	9.60	0.97	11.40	10.30	0.98
122	7.40	7.00	0.97	8.10	7.70	0.98	8.40	7.90	1.00	9.20	8.70	1.02	9.80	9.20	1.03	10.40	9.90	1.04	

AFR		m ³ /h												810					
		Indoor temperature																	
		17.8			21.1			23.9			26.7			29.4			32.2		
		12.2			15.6			17.2			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
	°CWB	kW			kW			kW			kW			kW			kW		
	10.0	4.14	2.86	0.58	4.54	3.13	0.60	4.67	3.23	0.60	5.12	3.54	0.61	5.46	3.78	0.61	5.82	4.03	0.62
	15.0	3.94	2.77	0.66	4.31	3.03	0.66	4.43	3.12	0.67	4.87	3.43	0.69	5.20	3.65	0.70	5.53	3.89	0.70
	19.4	4.90	3.18	1.05	5.36	3.47	1.06	5.52	3.57	1.08	6.05	3.92	1.10	6.44	4.17	1.11	6.88	4.45	1.11
	25.0	4.71	3.08	1.20	5.16	3.36	1.20	5.31	3.46	1.23	5.82	3.81	1.25	6.21	4.06	1.26	6.62	4.32	1.28
	30.6	4.50	3.00	1.34	4.93	3.28	1.37	5.07	3.38	1.37	5.57	3.71	1.41	5.93	3.96	1.42	6.32	4.22	1.43
	35.0	4.27	2.88	1.58	4.67	3.15	1.58	4.82	3.25	1.61	5.28	3.56	1.64	5.63	3.80	1.65	6.00	4.04	1.67
	40.0	3.63	2.65	1.30	3.98	2.91	1.32	4.10	3.00	1.34	4.49	3.28	1.36	4.79	3.50	1.37	5.10	3.73	1.39
	46.1	2.38	2.14	0.92	2.61	2.34	0.93	2.69	2.42	0.94	2.95	2.65	0.96	3.14	2.82	0.97	3.35	3.01	0.98
50.0	2.17	2.06	0.97	2.38	2.25	0.98	2.45	2.32	1.00	2.69	2.54	1.02	2.86	2.71	1.03	3.05	2.89	1.04	

Model: ASUH24KNAS

AFR		CFM									612								
		Indoor temperature																	
		64			70			75			80			85			90		
		54			60			63			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	°FWB	kBTu			kBTu			kBTu			kBTu			kBTu			kBTu		
		kW			kW			kW			kW			kW			kW		
	50	19.10	13.10	0.85	20.90	14.30	0.86	22.20	15.20	0.86	23.60	16.20	0.88	25.20	17.20	0.89	26.90	18.40	0.90
	59	18.70	12.90	0.96	20.40	14.10	0.97	21.70	15.00	0.99	23.10	15.90	1.01	24.60	17.00	1.02	26.20	18.10	1.02
	67	21.20	14.00	1.48	23.20	15.30	1.49	24.70	16.30	1.51	26.20	17.30	1.54	27.90	18.50	1.56	29.80	19.70	1.57
	77	20.10	13.30	1.65	22.00	14.60	1.67	23.30	15.50	1.70	24.80	16.50	1.72	26.40	17.60	1.74	28.20	18.70	1.76
	87	19.30	12.90	1.85	21.10	14.10	1.87	22.40	15.00	1.89	23.80	15.90	1.92	25.40	17.00	1.94	27.00	18.10	1.96
	95	17.80	12.20	2.01	19.50	13.30	2.03	20.70	14.20	2.07	22.00	15.00	2.10	23.50	16.00	2.12	25.00	17.10	2.14
	104	17.70	12.40	2.12	19.30	13.60	2.14	20.50	14.50	2.18	21.80	15.40	2.21	23.20	16.40	2.23	24.80	17.40	2.26
	115	13.20	10.70	1.53	14.40	11.70	1.55	15.40	12.40	1.57	16.30	13.20	1.60	17.40	14.10	1.62	18.50	15.00	1.63
	122	11.90	10.20	1.52	13.00	11.10	1.54	13.80	11.80	1.56	14.60	12.60	1.59	15.60	13.40	1.60	16.60	14.30	1.62

AFR		m ³ /h									1,040								
		Indoor temperature																	
		17.8			21.1			23.9			26.7			29.4			32.2		
		12.2			15.6			17.2			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
	°CWB	kW			kW			kW			kW			kW			kW		
	10.0	5.60	3.83	0.85	6.13	4.19	0.86	6.51	4.47	0.86	6.92	4.74	0.88	7.38	5.05	0.89	7.87	5.39	0.90
	15.0	5.47	3.78	0.96	5.99	4.13	0.97	6.36	4.39	0.99	6.76	4.67	1.01	7.21	4.97	1.02	7.68	5.30	1.02
	19.4	6.21	4.11	1.48	6.81	4.50	1.49	7.24	4.78	1.51	7.69	5.08	1.54	8.19	5.41	1.56	8.73	5.77	1.57
	25.0	5.88	3.91	1.65	6.44	4.28	1.67	6.84	4.55	1.70	7.26	4.84	1.72	7.74	5.16	1.74	8.25	5.49	1.76
	30.6	5.64	3.78	1.85	6.18	4.14	1.87	6.56	4.40	1.89	6.98	4.67	1.92	7.43	4.98	1.94	7.92	5.31	1.96
	35.0	5.21	3.57	2.01	5.71	3.91	2.03	6.07	4.15	2.07	6.45	4.41	2.10	6.88	4.70	2.12	7.33	5.01	2.14
	40.0	5.17	3.64	2.12	5.66	3.98	2.14	6.02	4.24	2.18	6.39	4.50	2.21	6.81	4.80	2.23	7.26	5.11	2.26
		46.1	3.87	3.13	1.53	4.23	3.43	1.55	4.51	3.64	1.57	4.79	3.87	1.60	5.10	4.12	1.62	5.43	4.40
	50.0	3.48	2.98	1.52	3.80	3.26	1.54	4.04	3.46	1.56	4.29	3.68	1.59	4.57	3.92	1.60	4.88	4.18	1.62

4-2. Heating capacity

NOTE: Values mentioned in the table are calculated based on the maximum capacity.

Model: ASUH09KNAS

AFR		CFM						365					
		Indoor temperature											
Outdoor temperature	°FDB	°FDB	60		65		70		72		75		
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP	
	°FWB	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
5	3	7.24	0.87	7.04	0.91	7.00	0.96	6.61	0.85	6.47	0.86		
14	12	8.32	0.96	8.09	1.00	8.04	1.06	7.60	0.94	7.44	0.95		
23	19	9.51	1.05	9.24	1.09	9.20	1.15	8.68	1.03	8.51	1.04		
32	28	10.78	1.14	10.47	1.19	10.42	1.25	9.84	1.12	9.64	1.13		
41	37	11.35	1.16	11.03	1.21	10.97	1.27	10.36	1.14	10.15	1.15		
47	43	12.81	1.26	12.45	1.31	12.40	1.38	11.70	1.24	11.46	1.25		
50	47	13.36	1.26	12.99	1.31	12.92	1.38	12.20	1.24	11.95	1.25		
59	50	13.45	1.21	13.07	1.26	13.01	1.33	12.28	1.19	12.03	1.20		
68	59	13.11	1.01	12.74	1.05	12.67	1.10	11.96	0.99	11.72	1.00		
75	64	12.94	0.89	12.58	0.92	12.51	0.97	11.81	0.87	11.57	0.88		

AFR		m ³ /h						620					
		Indoor temperature											
Outdoor temperature	°CDB	°CWB	15.6		18.3		21.1		22.2		23.9		
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP	
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW		
-15.0	-16.1	2.12	0.87	2.06	0.91	2.05	0.96	1.93	0.85	1.89	0.86		
-10.0	-11.1	2.44	0.96	2.37	1.00	2.36	1.06	2.23	0.94	2.18	0.95		
-5.0	-7.2	2.79	1.05	2.71	1.09	2.70	1.15	2.55	1.03	2.49	1.04		
0.0	-2.2	3.16	1.14	3.07	1.19	3.05	1.25	2.88	1.12	2.82	1.13		
5.0	2.8	3.33	1.16	3.23	1.21	3.22	1.27	3.04	1.14	2.97	1.15		
8.3	6.1	3.75	1.26	3.65	1.31	3.63	1.38	3.43	1.24	3.36	1.25		
10.0	8.3	3.92	1.26	3.81	1.31	3.79	1.38	3.58	1.24	3.50	1.25		
15.0	10.0	3.94	1.21	3.83	1.26	3.81	1.33	3.60	1.19	3.53	1.20		
20.0	15.0	3.84	1.01	3.73	1.05	3.71	1.10	3.51	0.99	3.43	1.00		
24.0	18.0	3.79	0.89	3.69	0.92	3.67	0.97	3.46	0.87	3.39	0.88		

Model: ASUH12KNAS

AFR		CFM						377					
		Indoor temperature											
Outdoor temperature	°FDB	°FWB	60		65		70		72		75		
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP	
	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	
5	3	9.06	1.02	8.97	1.07	8.80	1.12	8.73	1.13	7.58	0.90		
14	12	10.41	1.15	10.31	1.20	9.89	1.24	10.04	1.26	8.72	1.01		
23	19	11.33	1.24	11.22	1.29	10.99	1.35	10.92	1.36	9.47	1.09		
32	28	12.53	1.37	12.41	1.43	12.08	1.47	12.08	1.50	10.48	1.20		
41	37	13.59	1.45	13.46	1.52	13.17	1.58	13.09	1.60	11.36	1.27		
47	43	14.32	1.52	14.19	1.59	13.90	1.66	13.81	1.67	11.98	1.34		
50	47	14.19	1.39	14.06	1.45	13.76	1.51	13.68	1.53	11.87	1.22		
59	50	14.45	1.36	14.31	1.42	14.01	1.48	13.93	1.50	12.08	1.19		
68	59	14.56	1.25	14.42	1.31	14.11	1.36	14.03	1.38	12.17	1.10		
75	64	13.62	0.99	13.49	1.03	13.20	1.08	13.13	1.09	11.39	0.87		

AFR		m ³ /h						640					
		Indoor temperature											
Outdoor temperature	°CDB	°CWB	15.6		18.3		21.1		22.2		23.9		
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP	
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW		
-15.0	-16.1	2.66	1.02	2.63	1.07	2.58	1.12	2.56	1.13	2.22	0.90		
-10.0	-11.1	3.05	1.15	3.02	1.20	2.93	1.24	2.94	1.26	2.56	1.01		
-5.0	-7.2	3.32	1.24	3.29	1.29	3.22	1.35	3.20	1.36	2.78	1.09		
0.0	-2.2	3.67	1.37	3.64	1.43	3.56	1.48	3.54	1.50	3.07	1.20		
5.0	2.8	3.98	1.45	3.94	1.52	3.86	1.58	3.84	1.60	3.33	1.27		
8.3	6.1	4.20	1.52	4.16	1.59	4.07	1.66	4.05	1.67	3.51	1.34		
10.0	8.3	4.16	1.39	4.12	1.45	4.03	1.51	4.01	1.53	3.48	1.22		
15.0	10.0	4.23	1.36	4.19	1.42	4.11	1.48	4.08	1.50	3.54	1.19		
20.0	15.0	4.27	1.25	4.23	1.31	4.14	1.36	4.11	1.38	3.57	1.10		
24.0	18.0	3.99	0.99	3.95	1.03	3.87	1.08	3.85	1.09	3.34	0.87		

Model: ASUH18KNAS

AFR		CFM						477				
		Indoor temperature										
		°FDB	60		65		70		72		75	
Outdoor temperature	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
	5	3	15.30	2.01	14.90	2.06	14.50	2.10	14.10	2.14	13.70	2.19
	14	12	16.90	2.12	16.50	2.16	16.10	2.21	15.60	2.26	15.20	2.30
	23	19	18.60	1.80	18.10	1.83	17.60	1.88	17.10	1.91	16.60	1.94
	32	28	20.60	1.94	20.10	1.99	19.60	2.03	19.00	2.07	18.50	2.11
	41	37	22.30	2.03	21.80	2.06	21.20	2.11	20.60	2.15	20.00	2.19
	47	43	23.80	2.30	23.10	2.34	22.50	2.40	21.90	2.44	21.30	2.49
	50	47	24.80	2.01	24.10	2.05	23.50	2.10	22.80	2.13	22.20	2.17
	59	50	23.80	1.69	23.20	1.73	22.50	1.76	21.90	1.80	21.30	1.83
68	59	23.70	1.45	23.10	1.48	22.40	1.52	21.80	1.55	21.20	1.57	
75	64	24.30	1.45	23.70	1.48	23.00	1.51	22.40	1.54	21.80	1.56	

AFR		m ³ /h						810				
		Indoor temperature										
		°CDB	15.6		18.3		21.1		22.0		23.9	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
	-15.0	-16.1	4.48	2.01	4.37	2.06	4.25	2.10	4.13	2.14	4.02	2.19
	-10.0	-11.1	4.97	2.12	4.84	2.16	4.71	2.21	4.57	2.26	4.44	2.30
	-5.0	-7.2	5.45	1.80	5.31	1.83	5.16	1.88	5.02	1.91	4.88	1.94
	0.0	-2.2	6.05	1.94	5.89	1.99	5.74	2.03	5.57	2.07	5.41	2.11
	5.0	2.8	6.55	2.03	6.38	2.06	6.20	2.11	6.03	2.15	5.86	2.19
	8.3	6.1	6.97	2.30	6.78	2.34	6.60	2.40	6.42	2.44	6.23	2.49
	10.0	8.3	7.26	2.01	7.08	2.05	6.88	2.10	6.69	2.13	6.50	2.17
	15.0	10.0	6.96	1.69	6.79	1.73	6.60	1.76	6.42	1.80	6.24	1.83
20.0	15.0	6.94	1.45	6.76	1.48	6.58	1.52	6.40	1.55	6.22	1.57	
24.0	18.0	7.12	1.45	6.93	1.48	6.75	1.51	6.56	1.54	6.38	1.56	

Model: ASUH24KNAS

AFR		CFM						606				
		Indoor temperature										
		°FDB	60		65		70		72		75	
Outdoor temperature	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
	5	3	16.90	2.05	16.40	2.08	16.00	2.13	15.60	2.17	15.10	2.21
	14	12	18.40	2.10	17.90	2.15	17.40	2.20	16.90	2.23	16.40	2.27
	23	19	21.10	2.28	20.50	2.32	20.00	2.37	19.40	2.41	18.90	2.46
	32	28	23.90	2.47	23.30	2.52	22.70	2.57	22.00	2.62	21.40	2.66
	41	37	26.60	2.66	25.90	2.71	25.30	2.78	24.60	2.83	23.90	2.88
	47	43	27.40	2.45	26.70	2.49	26.00	2.55	25.30	2.60	24.60	2.64
	50	47	27.80	2.29	27.10	2.34	26.40	2.39	25.60	2.44	24.90	2.49
	59	50	26.80	1.98	26.10	2.02	25.40	2.06	24.70	2.09	24.00	2.14
68	59	25.40	1.55	24.70	1.58	24.10	1.61	23.40	1.65	22.70	1.68	
75	64	26.20	1.54	25.60	1.57	24.90	1.60	24.20	1.63	23.50	1.66	

AFR		m ³ /h						1,030				
		Indoor temperature										
		°CDB	15.6		18.3		21.1		22.0		23.9	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
	-15.0	-16.1	4.95	2.05	4.82	2.08	4.69	2.13	4.56	2.17	4.43	2.21
	-10.0	-11.1	5.38	2.10	5.24	2.15	5.10	2.20	4.96	2.23	4.82	2.27
	-5.0	-7.2	6.18	2.28	6.02	2.32	5.86	2.37	5.69	2.41	5.53	2.46
	0.0	-2.2	7.01	2.47	6.83	2.52	6.64	2.57	6.46	2.62	6.27	2.66
	5.0	2.8	7.81	2.66	7.60	2.71	7.40	2.78	7.20	2.83	7.00	2.88
	8.3	6.1	8.04	2.45	7.83	2.49	7.62	2.55	7.41	2.60	7.20	2.64
	10.0	8.3	8.16	2.29	7.94	2.34	7.73	2.39	7.51	2.44	7.30	2.49
	15.0	10.0	7.84	1.98	7.64	2.02	7.44	2.06	7.23	2.09	7.03	2.14
20.0	15.0	7.44	1.55	7.25	1.58	7.05	1.61	6.86	1.65	6.66	1.68	
24.0	18.0	7.69	1.54	7.49	1.57	7.29	1.60	7.09	1.63	6.89	1.66	

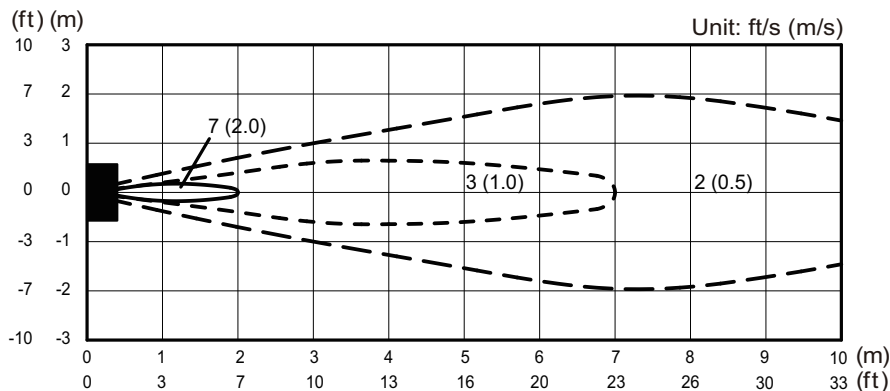
5. Fan performance

5-1. Air velocity distributions

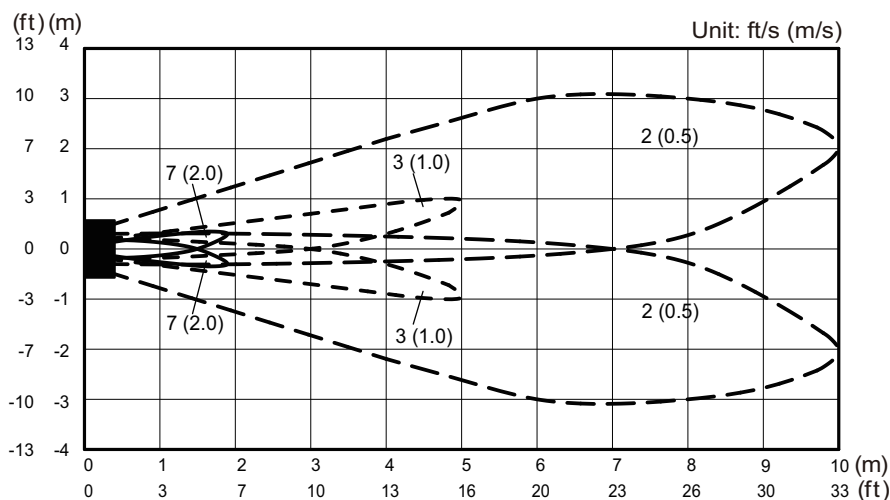
■ Model: ASUH09KNAS

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

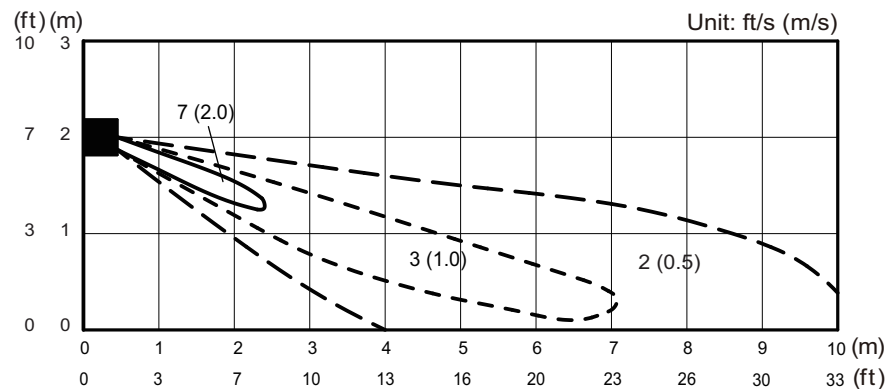
Top view
Horizontal louver: Up
Vertical louver: Center



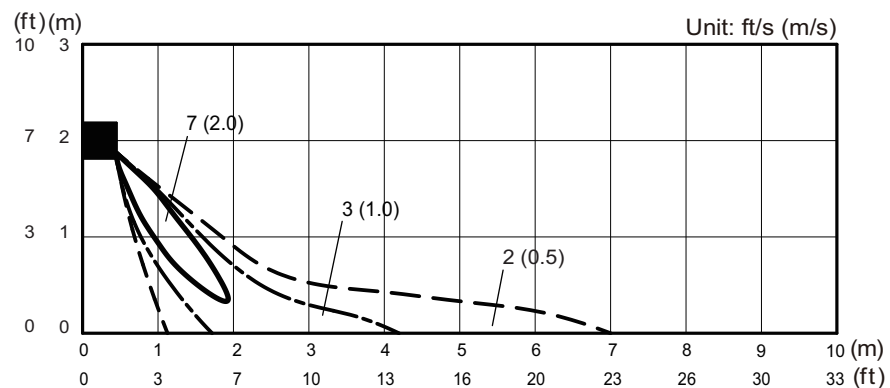
Top view
Horizontal louver: Up
Vertical louver: Left & Right



Side view
Horizontal louver: Up
Vertical louver: Center



Side view
Horizontal louver: Down
Vertical louver: Center



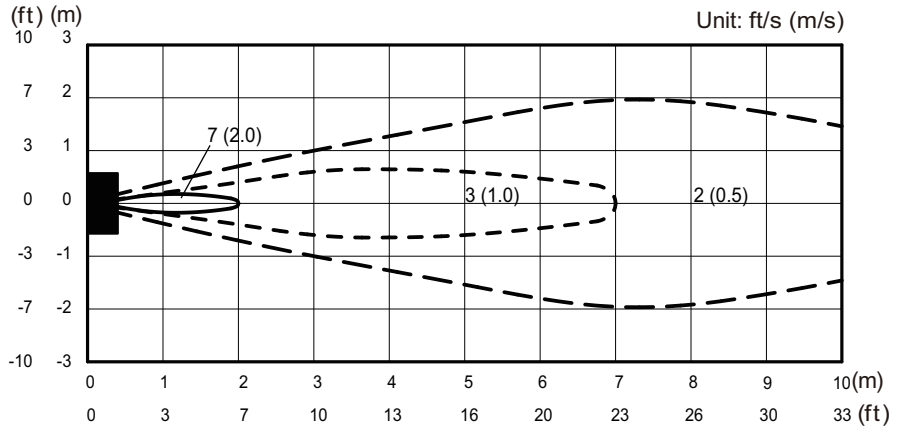
Model: ASUH12KNAS

WALL MOUNTED
ASUH09-24KNAS

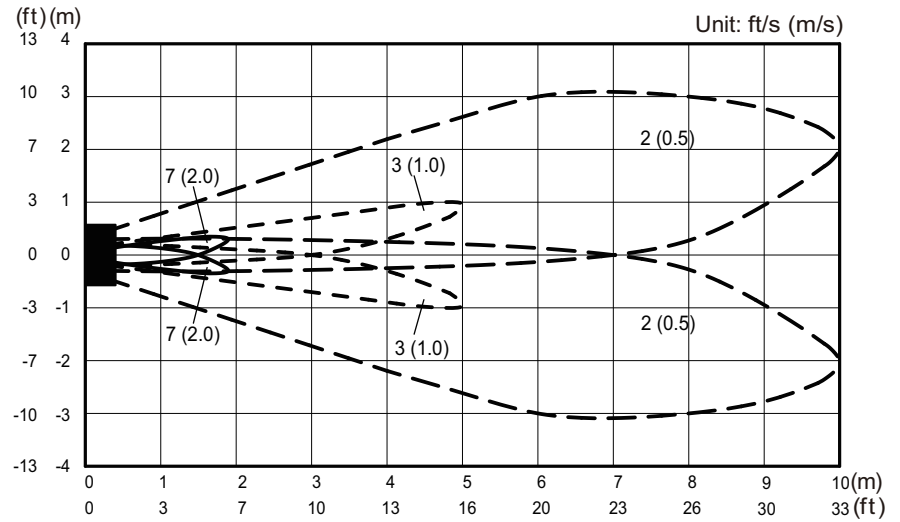
WALL MOUNTED
ASUH09-24KNAS

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

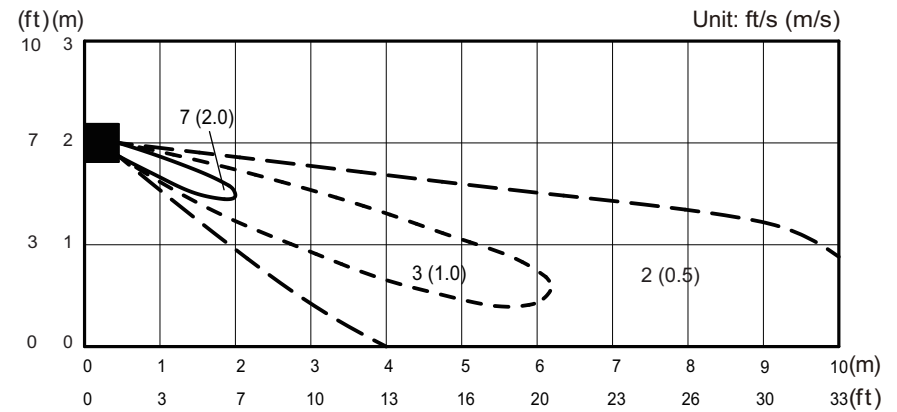
Top view
Horizontal louver: Up
Vertical louver: Center



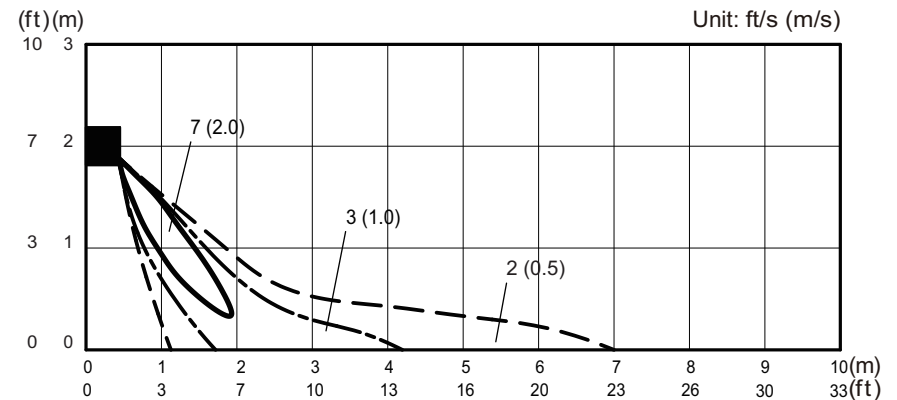
Top view
Horizontal louver: Up
Vertical louver: Left & Right



Side view
Horizontal louver: Up
Vertical louver: Center



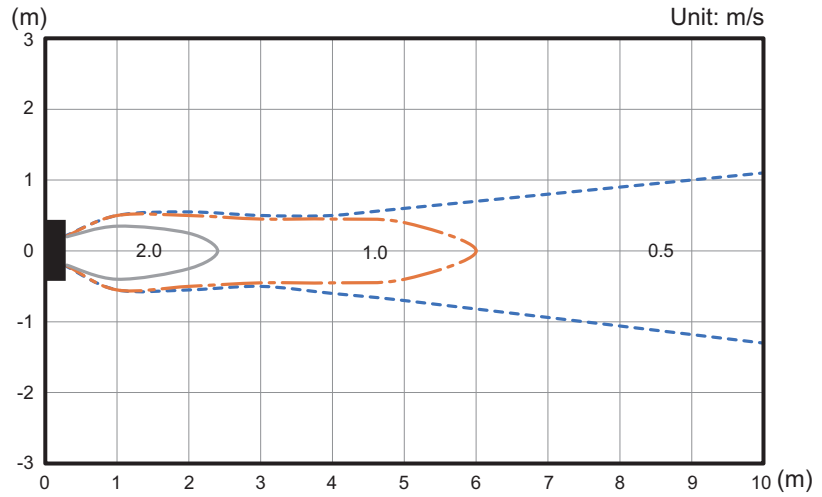
Side view
Horizontal louver: Down
Vertical louver: Center



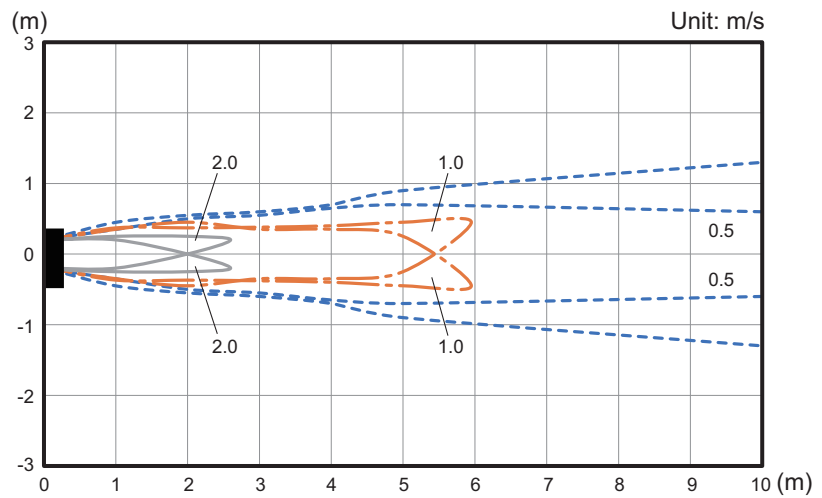
Model: ASUH18KNAS

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

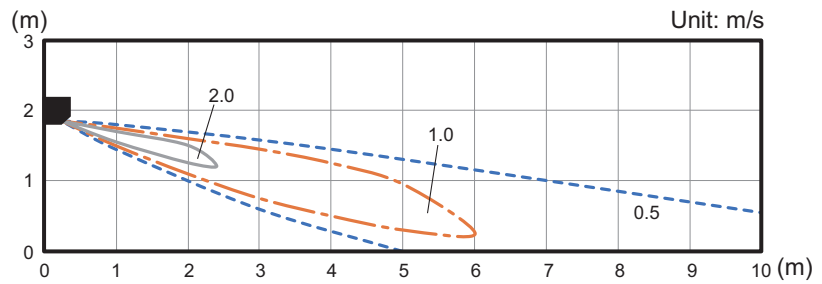
Top view
Horizontal louver: Up
Vertical louver: Center



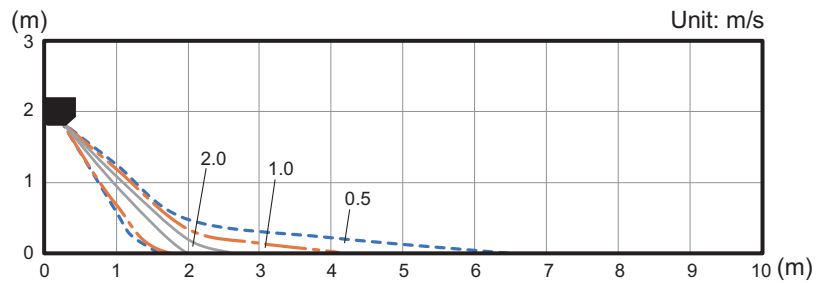
Top view
Horizontal louver: Up
Vertical louver: Left & Right



Side view
Horizontal louver: Up
Vertical louver: Center



Side view
Horizontal louver: Down
Vertical louver: Center



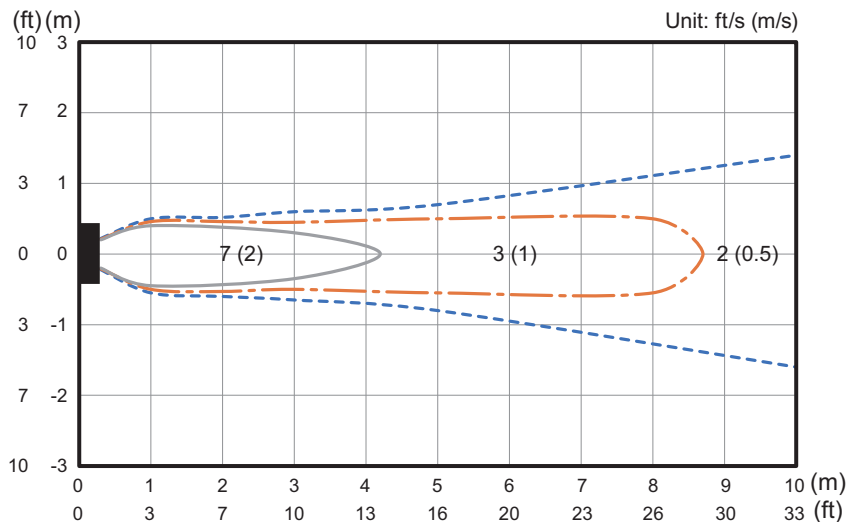
Model: ASUH24KNAS

WALL MOUNTED
ASUH09-24KNAS

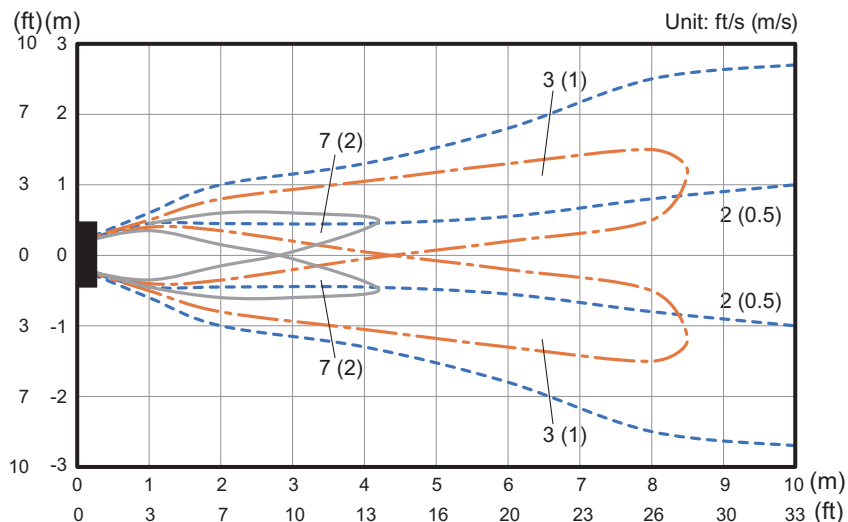
WALL MOUNTED
ASUH09-24KNAS

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

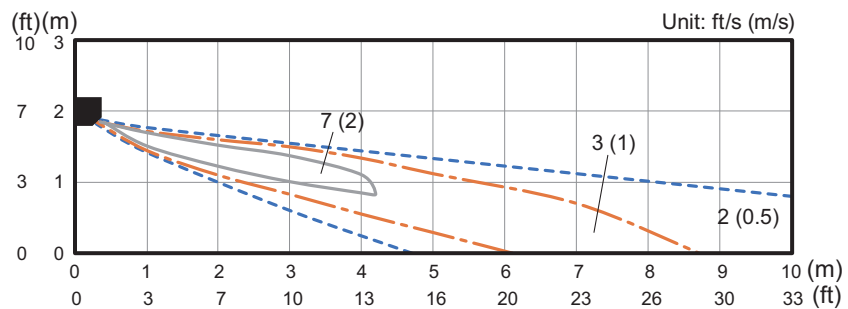
Top view
Horizontal louver: Up
Vertical louver: Center



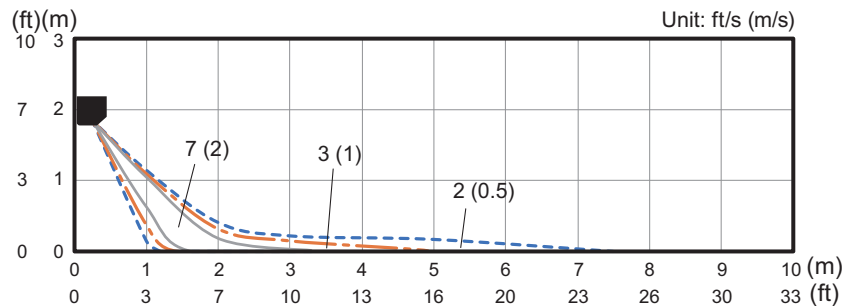
Top view
Horizontal louver: Up
Vertical louver: Left & Right



Side view
Horizontal louver: Up
Vertical louver: Center



Side view
Horizontal louver: Down
Vertical louver: Center



5-2. Airflow

■ Model: ASUH09KNAS

● Cooling

Fan speed	Airflow	
HIGH	m ³ /h	620
	l/s	172
	CFM	365
MED	m ³ /h	490
	l/s	136
	CFM	288
LOW	m ³ /h	360
	l/s	100
	CFM	212
QUIET	m ³ /h	240
	l/s	67
	CFM	141

● Heating

Fan speed	Airflow	
HIGH	m ³ /h	620
	l/s	172
	CFM	365
MED	m ³ /h	510
	l/s	142
	CFM	300
LOW	m ³ /h	410
	l/s	114
	CFM	241
QUIET	m ³ /h	260
	l/s	72
	CFM	153

■ Model: ASUH12KNAS

● Cooling

Fan speed	Airflow	
HIGH	m ³ /h	620
	l/s	172
	CFM	365
MED	m ³ /h	490
	l/s	136
	CFM	288
LOW	m ³ /h	370
	l/s	103
	CFM	218
QUIET	m ³ /h	240
	l/s	67
	CFM	141

● Heating

Fan speed	Airflow	
HIGH	m ³ /h	640
	l/s	178
	CFM	377
MED	m ³ /h	490
	l/s	136
	CFM	288
LOW	m ³ /h	400
	l/s	111
	CFM	235
QUIET	m ³ /h	260
	l/s	72
	CFM	153

■ Model: ASUH18KNAS

● Cooling

Fan speed	Airflow	
HIGH	m ³ /h	810
	l/s	225
	CFM	477
MED	m ³ /h	620
	l/s	172
	CFM	365
LOW	m ³ /h	470
	l/s	131
	CFM	277
QUIET	m ³ /h	360
	l/s	100
	CFM	212

● Heating

Fan speed	Airflow	
HIGH	m ³ /h	810
	l/s	225
	CFM	477
MED	m ³ /h	640
	l/s	178
	CFM	377
LOW	m ³ /h	500
	l/s	139
	CFM	294
QUIET	m ³ /h	390
	l/s	108
	CFM	230

■ Model: ASUH24KNAS

● Cooling

Fan speed	Airflow	
HIGH	m ³ /h	1,040
	l/s	289
	CFM	612
MED	m ³ /h	830
	l/s	231
	CFM	489
LOW	m ³ /h	670
	l/s	186
	CFM	394
QUIET	m ³ /h	520
	l/s	144
	CFM	306

● Heating

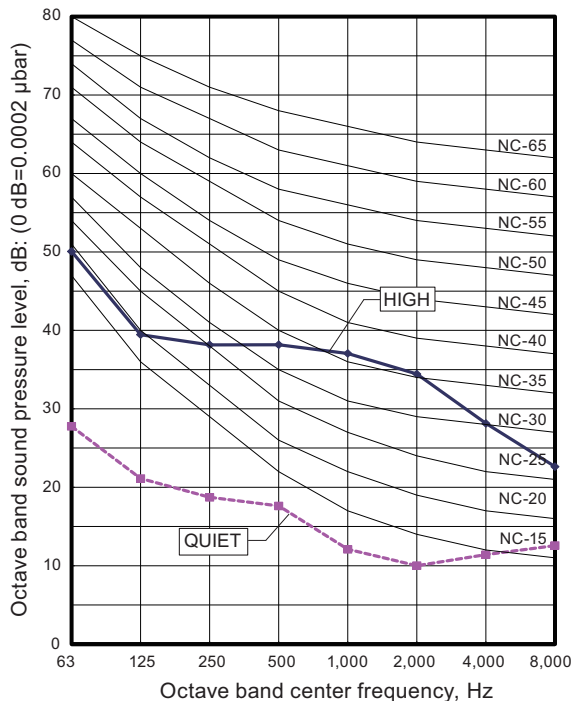
Fan speed	Airflow	
HIGH	m ³ /h	1,030
	l/s	286
	CFM	606
MED	m ³ /h	830
	l/s	231
	CFM	489
LOW	m ³ /h	670
	l/s	186
	CFM	394
QUIET	m ³ /h	540
	l/s	150
	CFM	318

6. Operation noise (sound pressure)

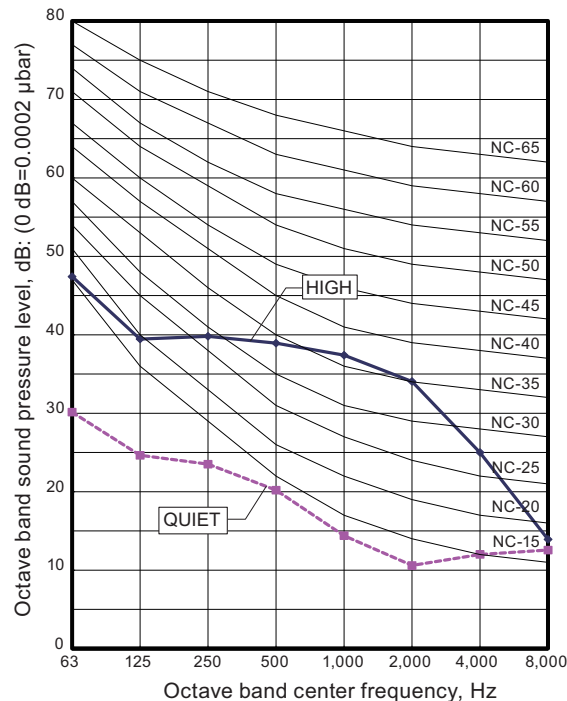
6-1. Noise level curve

Model: ASUH09KNAS

● Cooling

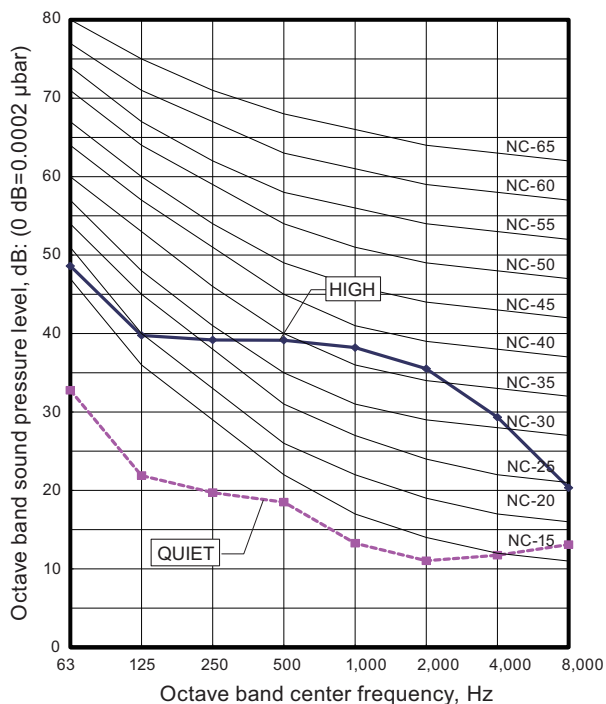


● Heating

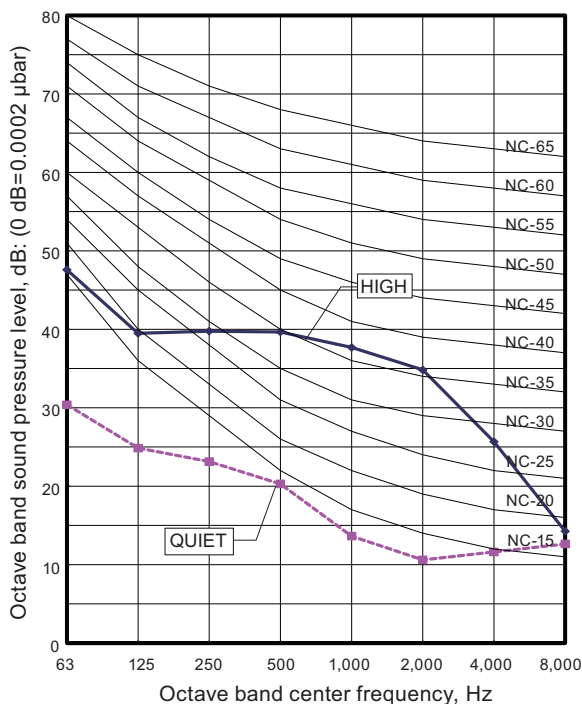


Model: ASUH12KNAS

● Cooling

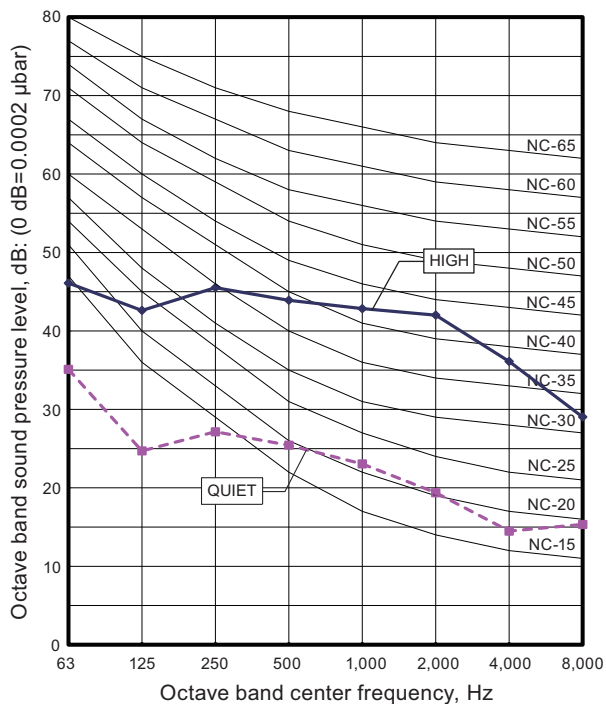


● Heating

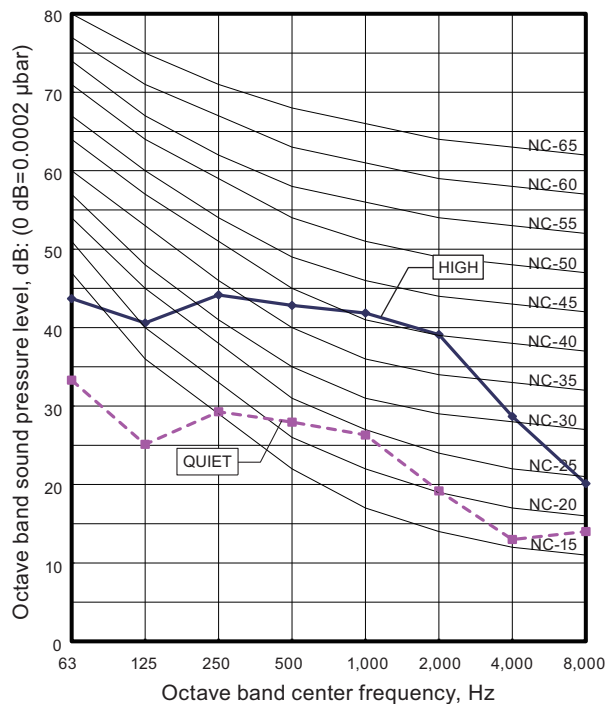


Model: ASUH18KNAS

Cooling

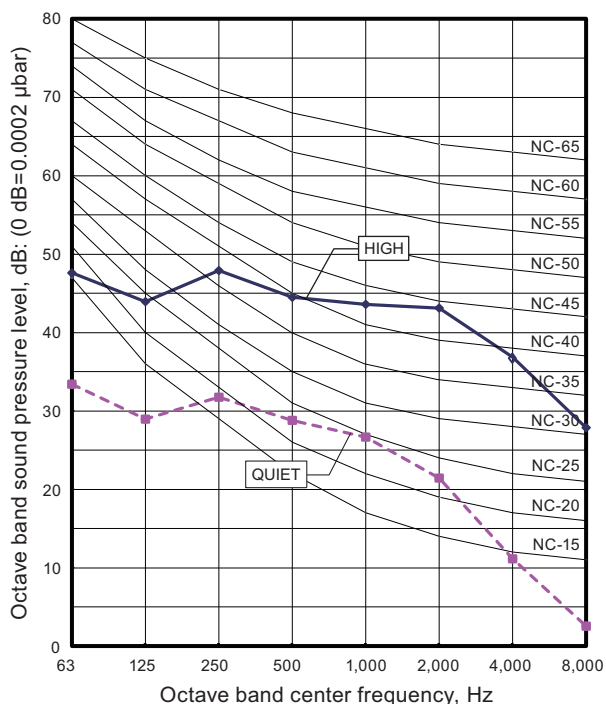


Heating

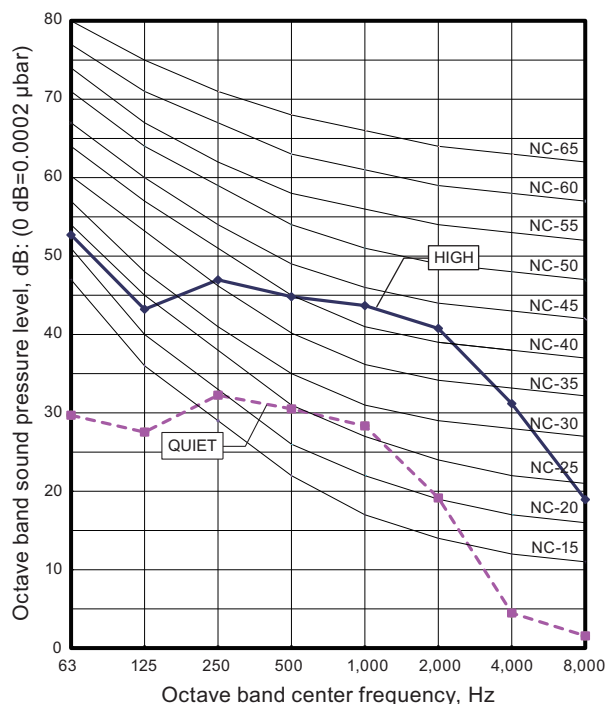


Model: ASUH24KNAS

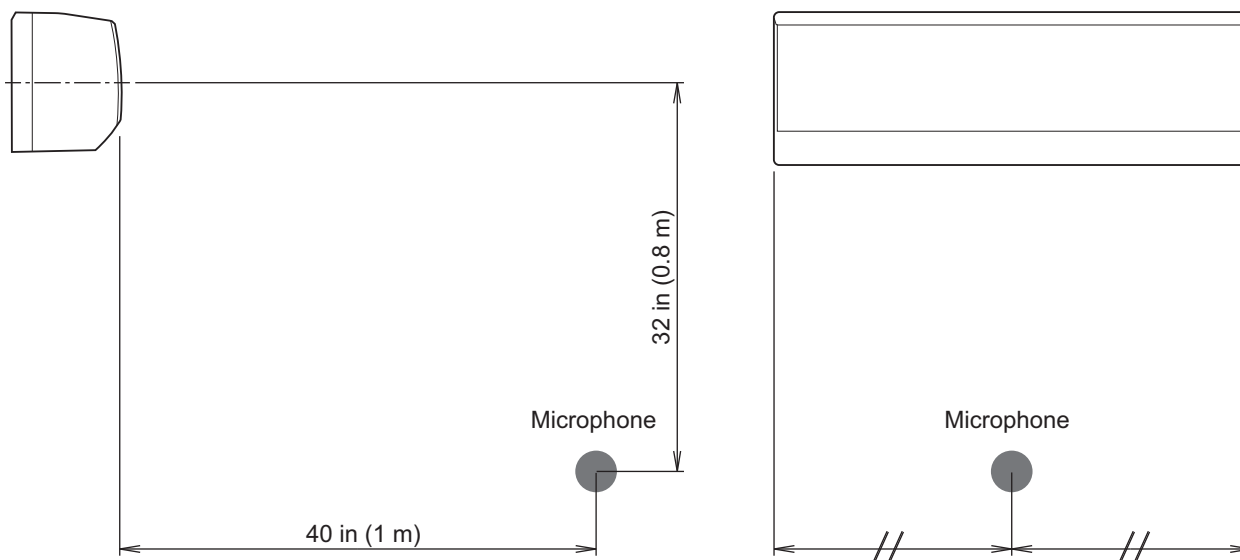
Cooling



Heating



6-2. Sound level check point



NOTE: Detailed shape of the actual indoor unit might be slightly different from the one illustrated above.

7. Safety devices

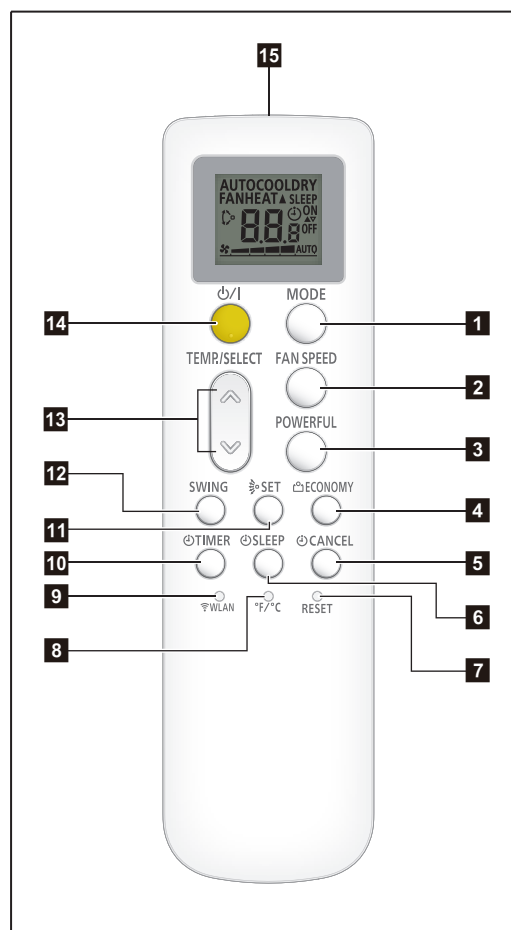
Type of protection	Protection form		Model	
			ASUH09KNAS ASUH12KNAS	ASUH18KNAS ASUH24KNAS
Circuit protection	Current fuse (PCB*)		250 V, 3.15 A	
Fan motor protection	Thermistor protection	Activate	More than 338°F (170°C) Fan motor stop	More than 257°F (125°C) Fan motor stop
		Reset	293°F (145°C) or less Fan motor restart	212°F (100°C) or less Fan motor restart

*PCB: Printed Circuit Board

8. Remote controller

8-1. Wireless remote controller (For ASUH09KNAS, ASUH12KNAS, and ASUH18KNAS)

Overview



1 MODE button

- Switches operation mode (AUTO, COOL, DRY, FAN, and HEAT).
- Starts/ends the remote controller custom code (max. 4 types) change.

2 FAN SPEED button

- Press the FAN SPEED button while the air conditioner is operating, to control fan speed.
- Press and hold the FAN SPEED button for more than 5 seconds while the air conditioner is stopped, switch the energy saving fan control.

3 POWERFUL button

4 ECONOMY button

5 CANCEL button

6 SLEEP TIMER button

7 RESET button

8 °F/°C button

- Switches the temperature unit on the remote controller display.
- Press and hold the °F/°C button for more than 5 seconds to enter Service check mode.
 - Do not use Service check mode in normal use.
 - If there seems to be a problem, check the error code by referring to the Operation manual.

9 WLAN button

- Starts the wireless LAN setting.
- Press and hold the WLAN button for more than 5 seconds while the air conditioner is operating, to enter test run mode.

10 TIMER button

11 SET button (Up/down airflow)

12 SWING button

13 TEMP./SELECT button

- Adjusts the setting temperature.
- Adjusts the value of the timer settings.
- Sets the remote controller code.

14 START/STOP button

15 Signal transmitter

16 Temperature and time indicator

- Displays set temperature.
- In timer setting, it displays the timer time. After finishing the timer setting, set temperature will reappear.

17 Signal transmit indicator

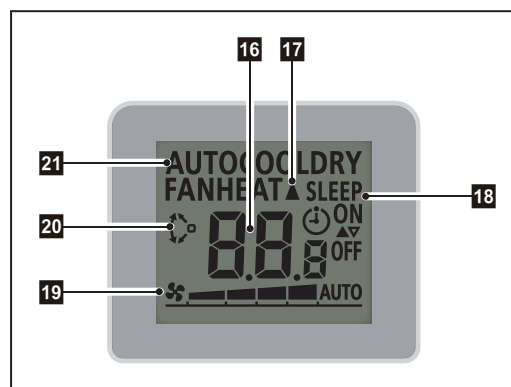
18 Timer mode indicator

19 Fan speed indicator

20 Swing indicator

21 Operating mode indicator

Display panel



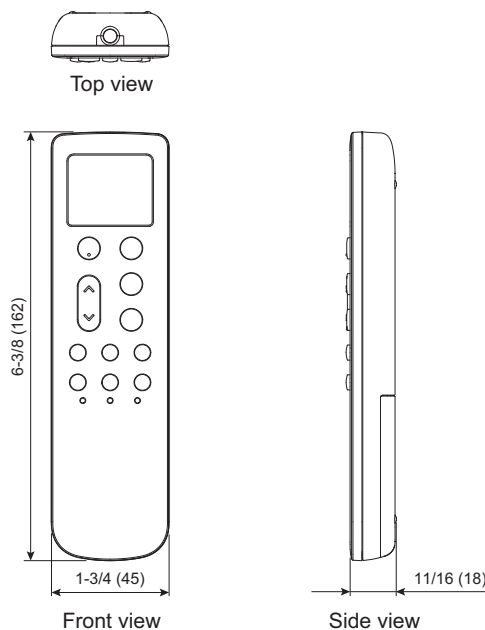
NOTES:

- Functions may differ by type of the indoor unit. For details, refer to the operation manual.
- To facilitate explanation, the accompanying illustration has been drawn to show all possible indicators; in actual operation, however, the display will only show those indicators appropriate to the current operation.

Specifications

● Controller

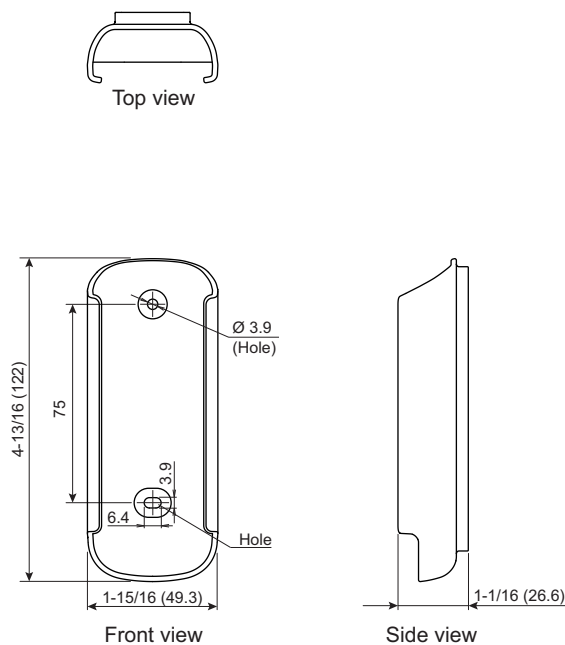
Unit: in (mm)



Size (H × W × D)	in (mm)	6-3/8 × 1-3/4 × 11/16 (162 × 45 × 17)
Weight	oz (g)	2.3 (65.5) (without batteries)

● Holder

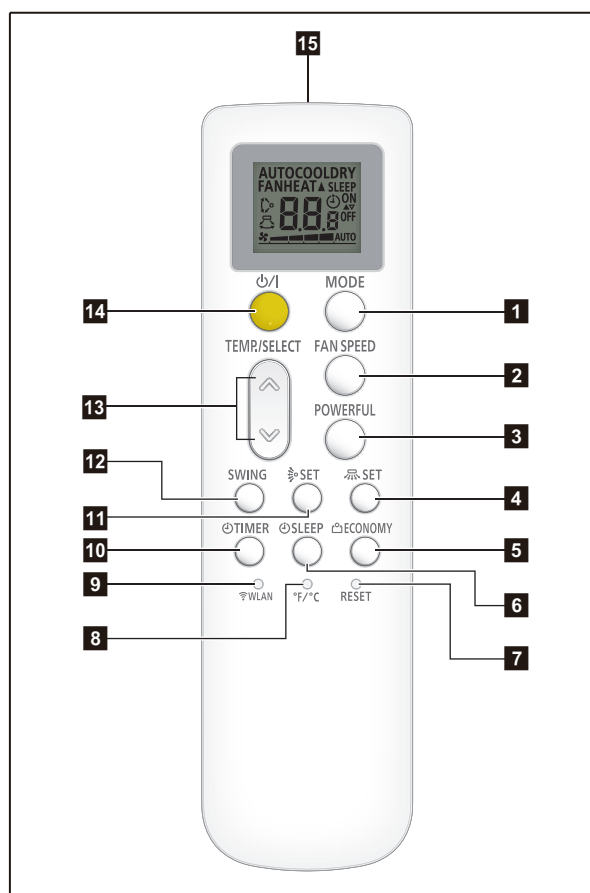
Unit: in (mm)



Size (H × W × D)	in (mm)	4-13/16 × 1-15/16 × 1-1/16 (122 × 49.3 × 26.6)
Weight	oz (g)	1 (23.5)

8-2. Wireless remote controller (For ASUH24KNAS)

Overview



1 MODE button

- Switches operation mode (AUTO, COOL, DRY, FAN, and HEAT).
- Starts/ends the remote controller custom code (max. 4 types) change.

2 FAN SPEED button

- Press the FAN SPEED button while the air conditioner is operating, to control fan speed.
- Press and hold the FAN SPEED button for more than 5 seconds while the air conditioner is stopped, switch the energy saving fan control.

3 POWERFUL button

4 SET button (Left/right airflow)

5 ECONOMY button

6 SLEEP TIMER button

7 RESET button

8 °F/°C button

- Switches the temperature unit on the remote controller display.
- Press and hold the °F/°C button for more than 5 seconds to enter Service check mode.
 - Do not use Service check mode in normal use.
 - If there seems to be a problem, check the error code by referring to the Operation manual.

9 WLAN button

- Starts the wireless LAN setting.
- Press and hold the WLAN button for more than 5 seconds while the air conditioner is operating, to enter test run mode.

10 TIMER button

11 SET button (Up/down airflow)

12 SWING button

13 TEMP./SELECT button

- Adjusts the setting temperature.
- Adjusts the value of the timer settings.
- Sets the remote controller code.

14 START/STOP button

15 Signal transmitter

16 Temperature and time indicator

- Displays set temperature.
- In timer setting, it displays the timer time. After finishing the timer setting, set temperature will reappear.

17 Signal transmit indicator

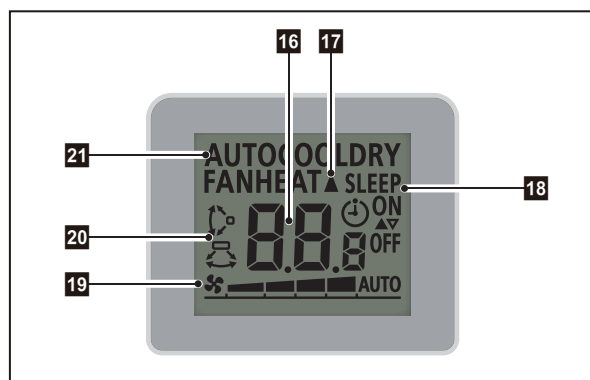
18 Timer mode indicator

19 Fan speed indicator

20 Swing indicator

21 Operating mode indicator

Display panel



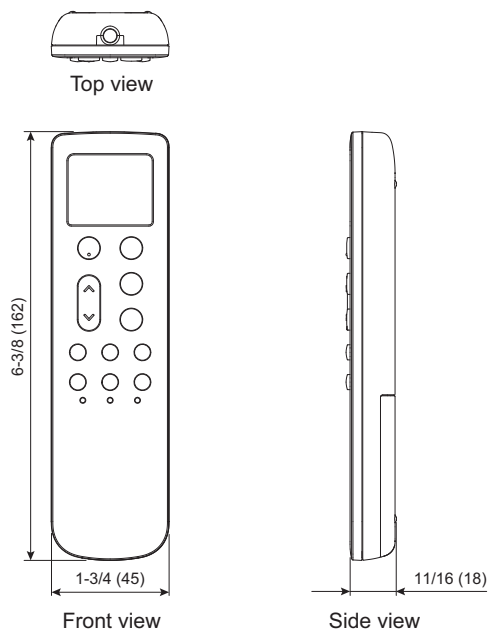
NOTES:

- Functions may differ by type of the indoor unit. For details, refer to the operation manual.
- This figure depicts all indicators that the remote controller can display on the screen for the functional explanation. In actual operation, the remote controller shows only the indicators that are appropriate for the current process.

■ Specifications

● Controller

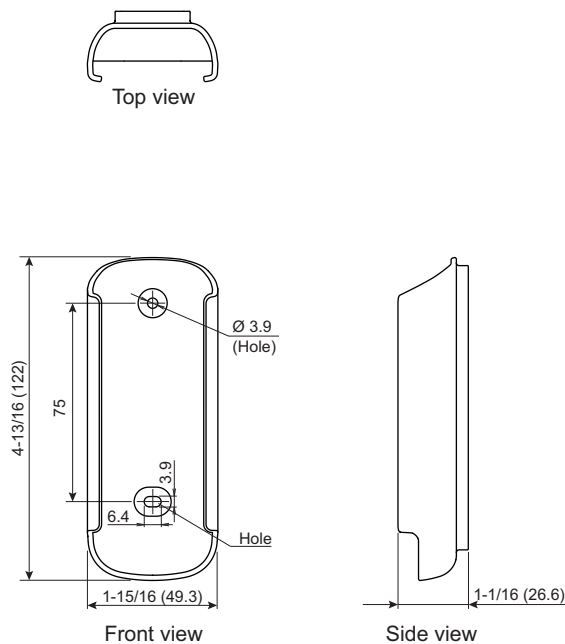
Unit: in (mm)



Size (H × W × D)	in (mm)	6-3/8 × 1-3/4 × 11/16 (162 × 45 × 18)
Weight	oz (g)	2.3 (65.5) (without batteries)

● Holder

Unit: in (mm)



Size (H × W × D)	in (mm)	4-13/16 × 1-15/16 × 1-1/16 (122 × 49.3 × 26.6)
Weight	oz (g)	1 (23.5)

9. Function settings

To adjust the functions of this product according to the installation environment, various types of function settings are available.

NOTE: Incorrect settings can cause a product malfunction.

9-1. Function settings by using remote controller

Some function settings can be changed on the remote controller. After confirming the setting procedure and the content of each function setting, select appropriate functions for your installation environment.

■ Setting procedure by using wireless remote controller

The function number and the associated setting value are displayed on the LCD of the remote controller. Follow the instructions written in the local setup procedure supplied with the remote controller, and select appropriate setting according to the installation environment.

Before connecting the power supply of the indoor unit, reconfirm following items:

- Piping air tight test and vacuuming have been performed firmly.
- There is no wiring mistake.

Then, connect the power supply of the indoor unit.

Entering function setting mode:

While pressing the FAN SPEED button and TEMP./SELECT (^) button simultaneously, press the RESET button to enter the function setting mode.

STEP 1: Setting the remote controller custom code

Use the following steps to select the custom code of the remote controller. (The signal is correctly sent and received only when the custom codes of the air conditioner and the remote controller match.)

The custom codes that are set through this process are applicable only to the signal in the function setting.

For details on how to set the custom codes through the normal process, refer to ["Custom code setting for wireless remote controller"](#) on page 41.

1. Press the TEMP./SELECT (^) (v) buttons to change the custom code between $\overline{A} \rightarrow \overline{b} \rightarrow \overline{c} \rightarrow \overline{d}$. Match the code on the display to the air conditioner custom code. (Initially set to \overline{A} .) If the custom code does not need to be selected, press the MODE button, and proceed to **STEP 2**.
2. Press the MODE button to accept the custom code, and proceed to **STEP 2**.



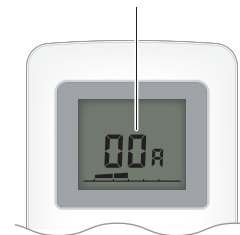
NOTES:

- The air conditioner custom code is set to \overline{A} prior to shipment.
- The remote controller resets to custom code \overline{A} when the batteries on the remote controller are replaced. If you use a custom code other than code \overline{A} , reset the custom code after replacing the batteries.
- If you do not know the air conditioner custom code setting, try each of the custom codes ($\overline{A} \rightarrow \overline{b} \rightarrow \overline{c} \rightarrow \overline{d}$) until you find the code that operates the air conditioner.

STEP 2: Selecting the function number and setting value

1. Press the TEMP./SELECT (^) (v) buttons to select the function number. To switch between the left and right digits, press the MODE button.
2. Press the FAN SPEED button to proceed the setting value. To return the function number selection, press the FAN SPEED button again.
3. Press the TEMP./SELECT (^) (v) buttons to select the setting value. To switch between the left and right digits, press the MODE button.
4. Press the TIMER button, and ϕ /I (START/STOP) button, in the order listed to confirm the settings.
5. Press the RESET button to cancel the function setting mode.
6. After completing the function setting, be sure to disconnect the power supply and then reconnect it.

Function number



Setting value

**⚠ CAUTION**

After disconnecting the power supply, wait 30 seconds or more before reconnecting it. The function setting will not become active unless the power supply is disconnected and then reconnected.

■ Contents of function setting

Each function setting listed in this section is adjustable in accordance with the installation environment.

NOTE: Setting will not be changed if invalid numbers or setting values are selected.

● Function setting list

	Function no.	Functions
1)	11	Filter sign
2)	30/31	Room temperature control for indoor unit sensor
3)	40	Auto restart
4)	44	Remote controller custom code
5)	49	Indoor unit fan control for energy saving for cooling
6)	94	Fixed operation mode switching
7)	95	Heat insulation condition (building insulation)

1) Filter sign

Select appropriate intervals for displaying the filter sign on the indoor unit according to the estimated amount of dust in the air of the room.

If the indication is not required, select "No indication" (03).

Function number	Setting value	Setting description	Factory setting
11	00	Standard (400 hours)	
	01	Long interval (1,000 hours)	
	02	Short interval (200 hours)	
	03	No indication	◆

2) Room temperature control for indoor unit sensor

Before performing this setting, refer to Function 95.

Depending on the installed environment, correction of the room temperature sensor may be required. Select the appropriate control setting according to the installed environment.

The temperature of the room temperature sensor is corrected as follows:

Corrected temp. = Temp. of the room temp. sensor - Correction temp. value

Example of correction:

When the temperature of the room temp. sensor is 78°F and the setting value is "03" (-2°F), the corrected temp. will be 80°F (78°F - [-2°F]).

The temperature correction values show the difference from the Standard setting "00" (manufacturer's recommended value).

*When Function 95-01 (High insulation) is set, the Standard setting "00" will be the same as "No correction 0.0°F (0.0°C)" (01).

Function number		Setting value	Setting description	Factory setting	
30 (For cooling)	31 (For heating)	00	Standard setting*	◆	
		01	No correction 0.0°F (0.0°C)		
		02	-1°F (-0.5°C)	More cooling Less heating	
		03	-2°F (-1.0°C)		
		04	-3°F (-1.5°C)		
		05	-4°F (-2.0°C)		
		06	-5°F (-2.5°C)		
		07	-6°F (-3.0°C)		
		08	-7°F (-3.5°C)		
		09	-8°F (-4.0°C)		
		10	+1°F (+0.5°C)	Less cooling More heating	
		11	+2°F (+1.0°C)		
		12	+3°F (+1.5°C)		
		13	+4°F (+2.0°C)		
		14	+5°F (+2.5°C)		
		15	+6°F (+3.0°C)		
		16	+7°F (+3.5°C)		
17	+8°F (+4.0°C)				

3) Auto restart

Enables or disables automatic restart after a power interruption.

Function number	Setting value	Setting description	Factory setting
40	00	Enable	◆
	01	Disable	

NOTE: Auto restart is an emergency function such as for power outage etc. Do not attempt to use this function in normal operation. Be sure to operate the unit by remote controller or external device.

4) Remote controller custom code

(Only for wireless remote controller)

The indoor unit custom code can be changed. Select the appropriate custom code.

Function number	Setting value	Setting description	Factory setting
44	00	A	◆
	01	B	
	02	C	
	03	D	

5) Indoor unit fan control for energy saving for cooling

Enables or disables the power-saving function by controlling the indoor unit fan rotation when the outdoor unit is stopped during cooling operation.

Function number	Setting value	Setting description	Factory setting
49	00	Disable	
	01	Enable	
	02	Remote controller	◆

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

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

02: Enable or disable this function by remote controller setting.

6) Fixed operation mode switching

Sets the operation mode to heat pump, heating only, or cooling only.

Function number	Setting value	Setting description	Factory setting
94	00	Heat pump	◆
	01	Heating only	
	02	Cooling only	

7) Heat insulation condition (building insulation)

Heat insulation conditions differ according to the installed environment.

“Standard insulation” (00) allows system to rapidly respond to the cooling or heating load changes.

“High insulation” (01) is when the heat insulation structure of the building is high and does not require system to rapidly respond to cooling or heating load changes.

When “High insulation” (01) is selected:

- Overheating (overcooling) is prevented at the start-up.

Function number	Setting value	Setting description	Factory setting
95	00	Standard insulation	◆
	01	High insulation	

9-2. Custom code setting for wireless remote controller

To interconnect the air conditioner and the wireless remote controller, assignment of the custom code for the wireless remote controller is required.

NOTE: Air conditioner cannot receive a signal if the air conditioner has not been set for the custom code.

When 2 or more air conditioners are installed in a room, and the remote controller is operating an air conditioner other than the one you wish to set, change the custom code of the remote controller to operate only the air conditioner you wish to set. (4 selections possible.)

Confirm the setting of the remote controller custom code and the function setting. If these do not match, the remote controller cannot be used to operate for the air conditioner.

1. Press the ϕ /I (START/STOP) button until the indicators on the remote controller turn off.
2. Press the MODE button for at least 5 seconds to display the current custom code. (Initially set to \overline{A} .)
3. Press the TEMP./SELECT (\wedge) (\vee) buttons to change the custom code between $\overline{A} \rightarrow \overline{B} \rightarrow \overline{C} \rightarrow \overline{D}$. Match the code on the display to the air conditioner custom code. (Initially set to \overline{A} .)
4. Press the MODE button again to return to the original display. The custom code will be changed.


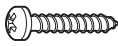


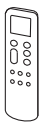
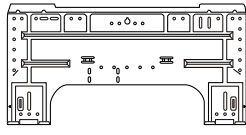

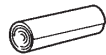



NOTES:


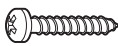


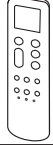
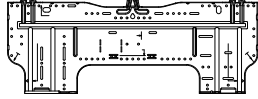
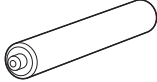

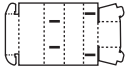
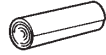
- If no button is pressed within 30 seconds after the custom code is displayed, the system returns to the original display. In this case, start again from step 1.
- The air conditioner custom code is set to \overline{A} prior to shipment. To change the custom code, contact your retailer.
- If you do not know the assigned code for the air conditioner, try each of the custom code ($\overline{A} \rightarrow \overline{B} \rightarrow \overline{C} \rightarrow \overline{D}$) until you find the code which operates the air conditioner.

10. Accessories

10-1. Models: ASUH09KNAS and ASUH12KNAS


Part name	Exterior	Qty	Part name	Exterior	Qty
Operation manual		1	Self-tapping screw (Large)		5
Installation manual		1	Self-tapping screw (Small)		2
Remote controller		1	Wall hook bracket		1
Remote controller holder		1	Cloth tape		1
Battery		2			

10-2. Models: ASUH18KNAS and ASUH24KNAS

Part name	Exterior	Qty	Part name	Exterior	Qty
Operation manual		1	Self-tapping screw (Large)		5
Installation manual		1	Self-tapping screw (Small)		2
Remote controller		1	Wall hook bracket		1
Battery		2	Remote controller holder		1
Installation spacer		1	Cloth tape		1

11. Optional parts

11-1. Others

Exterior	Part name	Model name	Summary
 A small, rectangular, light-colored device with a vented top section, likely a WLAN adapter.	WLAN Adapter	UTY-TFSXH4	Remotely manage an air conditioning system using mobile devices such as smartphones and tablets. Appropriate application for each region is required to use this option. For details, contact FGL sales company. Connecting point: USB connector

Part 2. OUTDOOR UNIT

SINGLE TYPE:

AOUH09KNAS1

AOUH12KNAS1

AOUH18KNAS1

AOUH24KNAS1

1. Specifications

Type			Inverter, Heat pump	
Model name			AOUH09KNAS1	AOUH12KNAS1
Power supply			208/230 V~ 60 Hz	
Power supply intake			Outdoor unit	
Available voltage range			187—253 V	
Starting current			A	
Fan	Airflow rate	Cooling	4.2	5.4
		Heating	971 (1,650)	1,001 (1,700)
	Type × Qty		853 (1,450)	865 (1,470)
Motor output		W	Propeller fan × 1 23	
Sound pressure level*		Cooling	45	48
		Heating	46	48
Heat exchanger type		Dimensions (H × W × D)	19-13/16 × 25-9/16 × 11/16 (504 × 650 × 18.19)	Main 1: 19-13/16 × 24-13/16 × 11/16 (504 × 630 × 18.19) Main 2: 19-13/16 × 24-13/16 × 11/16 (504 × 630 × 18.19)
		Fin pitch	FPI	Main 1: 20 Main 2: 20
		Rows × Stages	1 × 24	Main 1: 1 × 24 Main 2: 1 × 24
		Pipe type	Copper tube	
		Fin type	Aluminum	
		Surface treatment	PC fin	
Compressor		Type	DC rotary	
		Motor output	W	550
Refrigerant		Type	R32	
		Charge	lb oz	1 lb 3 oz
			g	530
				1 lb 7 oz 650
Refrigerant oil		Type	RB74AF	
		Amount	in ³ (cm ³) 14.6 (240)	
Enclosure		Material	Steel sheet	
		Color	Beige Approximate color of Munsell 10YR 7.5/1.0	
Dimensions (H × W × D)		Net	21-5/16 × 26-1/8 × 11-7/16 (541 × 663 × 290)	
		Gross	23-11/16 × 31-5/8 × 14-3/4 (602 × 804 × 375)	
Weight		Net	lb (kg)	51 (23)
		Gross		60 (27)
Connection pipe		Liquid	in (mm)	Ø1/4 (Ø6.35)
		Gas		Ø3/8 (Ø9.52)
		Method	Flare	
		Pre-charge length	49 (15)	
		Min. length	10 (3)	
		Max. length	65 (20)	
		Max. height difference	49 (15)	
Operation range		Cooling	°F (°C)	
		Heating	50 to 122 (10 to 50)	
			5 to 75 (-15 to 24)	
Drain hose		Material	Polypropylene	
		Tip diameter	in (mm)	Ø1/2 (Ø13.0) (I.D.), Ø5/8 to Ø11/16 (Ø16.0 to Ø16.8) (O.D.)

NOTES:

- Specifications are based on the following conditions:
 - Cooling: Indoor temperature of 80°FDB (26.67°CDB)/67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB)/75°FWB (23.9°CWB).
 - Heating: Indoor temperature of 70°FDB (21.11°CDB)/59°FWB (15°CWB), and outdoor temperature of 47°FDB (8.33°CDB)/43°FWB (6.11°CWB).
 - Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *: Sound pressure level
 - Measured values in manufacturer's semi-anechoic chamber.
 - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

Type			Inverter, Heat pump	
Model name			AOUH18KNAS1	AOUH24KNAS1
Power supply			208/230 V~ 60 Hz	
Power supply intake			Outdoor unit	
Available voltage range			187—253 V	
Starting current			A	
Fan	Airflow rate	Cooling	7.3	9.3
		Heating	1,183 (2,010)	1,660 (2,820)
	Type × Qty	CFM (m ³ /h)	1,183 (2,010)	1,660 (2,820)
	Motor output	W	Propeller fan × 1	
Sound pressure level*	Cooling	dB (A)	23	45
	Heating		51	55
			53	55
Heat exchanger type	Dimensions (H × W × D)	in (mm)	Main 1: 19-13/16 × 34-11/16 × 11/16 (504 × 881 × 18.19) Main 2: 19-13/16 × 33-1/2 × 11/16 (504 × 851 × 18.19)	Main 1: 23-1/8 × 34-11/16 × 11/16 (588 × 881 × 18.19) Main 2: 23-1/8 × 33-1/2 × 11/16 (588 × 851 × 18.19)
	Fin pitch	FPI	Main 1: 20 Main 2: 20	
	Rows × Stages		Main 1: 1 × 24 Main 2: 1 × 24	Main 1: 1 × 28 Main 2: 1 × 28
	Pipe type		Copper tube	
	Fin type	Type (Material)	Aluminum	
		Surface treatment	PC fin	
Compressor	Type		DC rotary	
Refrigerant	Motor output	W	1,000	
	Type		R32	
	Charge	lb oz	1 lb 15 oz	2 lb 10 oz
Refrigerant oil		g	890	1,200
	Type		RmM68AF	
	Amount	in ³ (cm ³)	21.4 (350)	
Enclosure	Material		Steel sheet	
	Color		Beige Approximate color of Munsell 10YR 7.5/1.0	
Dimensions (H × W × D)	Net	in (mm)	21-5/16 × 31-7/16 × 11-7/16 (542 × 799 × 290)	24-7/8 × 31-7/16 × 11-7/16 (632 × 799 × 290)
	Gross		23-11/16 × 37 × 14-3/4 (602 × 940 × 375)	27-1/4 × 37 × 14-3/4 (692 × 940 × 375)
Weight	Net	lb (kg)	73 (33)	79 (36)
	Gross		82 (37)	88 (40)
Connection pipe	Size	Liquid	Ø1/4 (Ø6.35)	
		Gas	Ø1/2 (Ø12.70)	
	Method		Flare	
	Pre-charge length	ft (m)	49 (15)	
	Min. length		10 (3)	
	Max. length		82 (25)	
Max. height difference	66 (20)			
Operation range	Cooling	°F (°C)	50 to 122 (10 to 50)	
	Heating		5 to 75 (-15 to 24)	
Drain hose	Material		Polypropylene	
	Tip diameter	in (mm)	Ø1/2 (Ø13.0) (I.D.), Ø5/8 to Ø11/16 (Ø16.0 to Ø16.8) (O.D.)	

NOTES:

- Specifications are based on the following conditions:
 - Cooling: Indoor temperature of 80°FDB (26.67°CDB)/67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB)/75°FWB (23.9°CWB).
 - Heating: Indoor temperature of 70°FDB (21.11°CDB)/59°FWB (15°CWB), and outdoor temperature of 47°FDB (8.33°CDB)/43°FWB (6.11°CWB).
 - Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *: Sound pressure level
 - Measured values in manufacturer's semi-anechoic chamber.
 - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

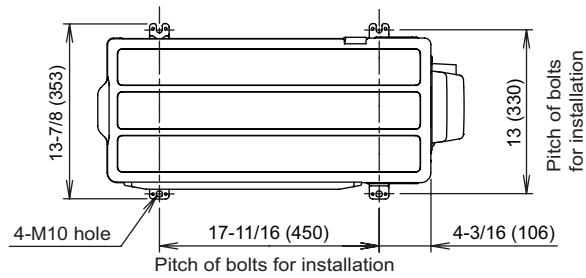
2. Dimensions

2-1. Models: AOUH09KNAS1 and AOUH12KNAS1

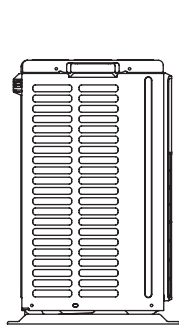
Unit: in (mm)

OUTDOOR UNIT
AOUH09-24KNAS1

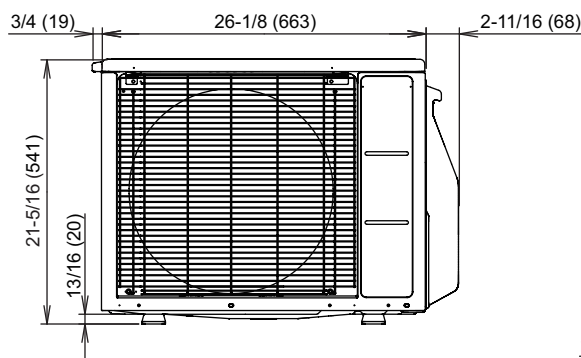
OUTDOOR UNIT
AOUH09-24KNAS1



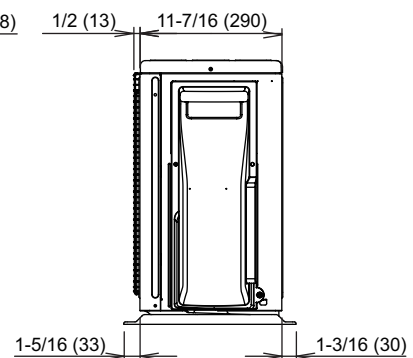
Top view



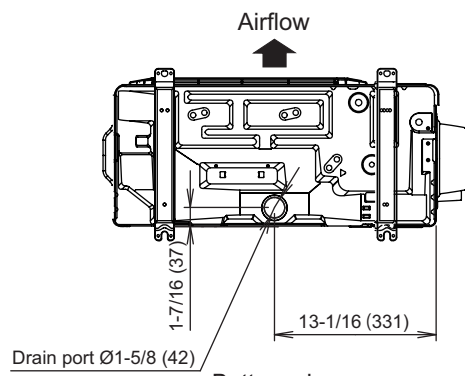
Side view



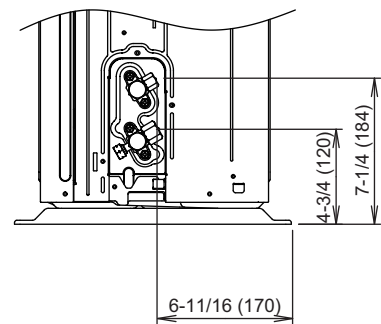
Front view



Side view



Bottom view



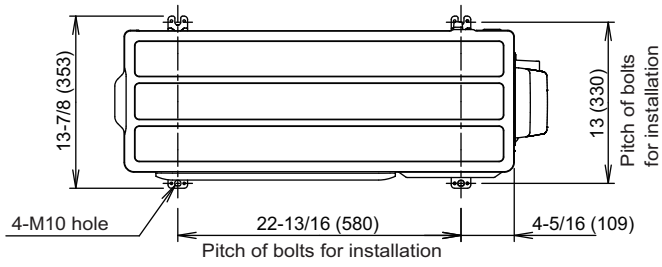
Side view (Valve part)

2-2. Model: AOUH18KNAS1

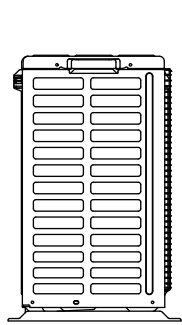
Unit: in (mm)

OUTDOOR UNIT
AOUH09-24KNAS1

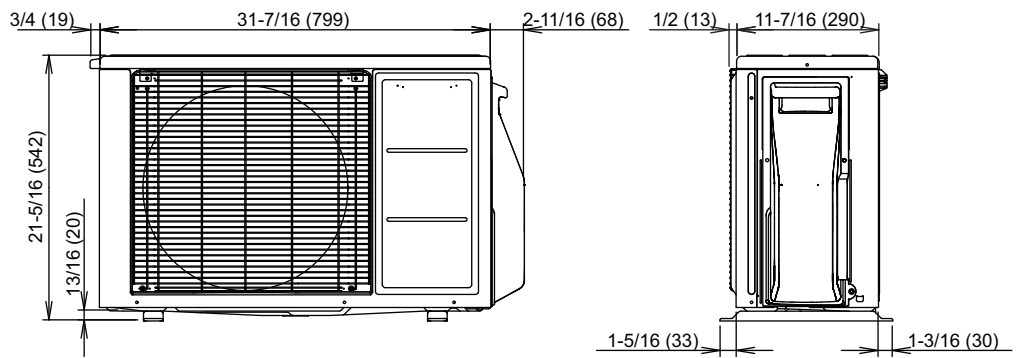
OUTDOOR UNIT
AOUH09-24KNAS1



Top view

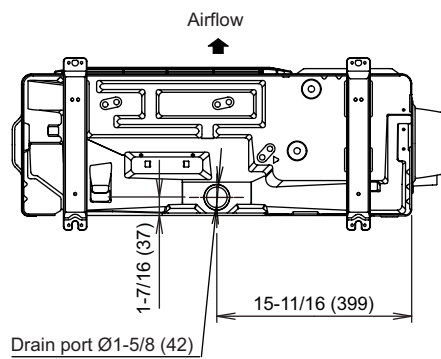


Side view

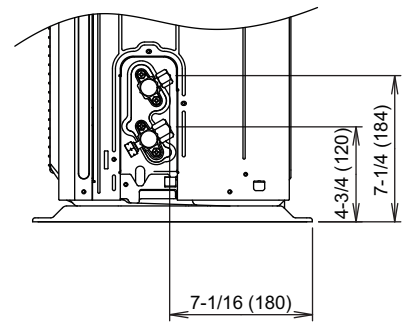


Front view

Side view



Bottom view



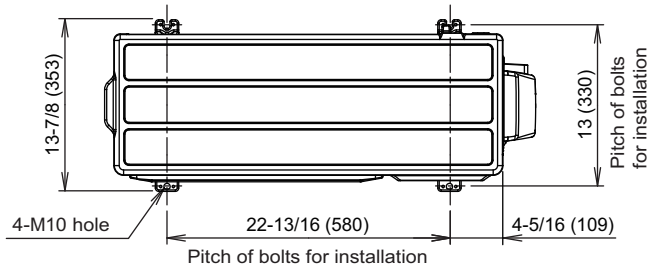
Side view (Valve part)

2-3. Model: AOUH24KNAS1

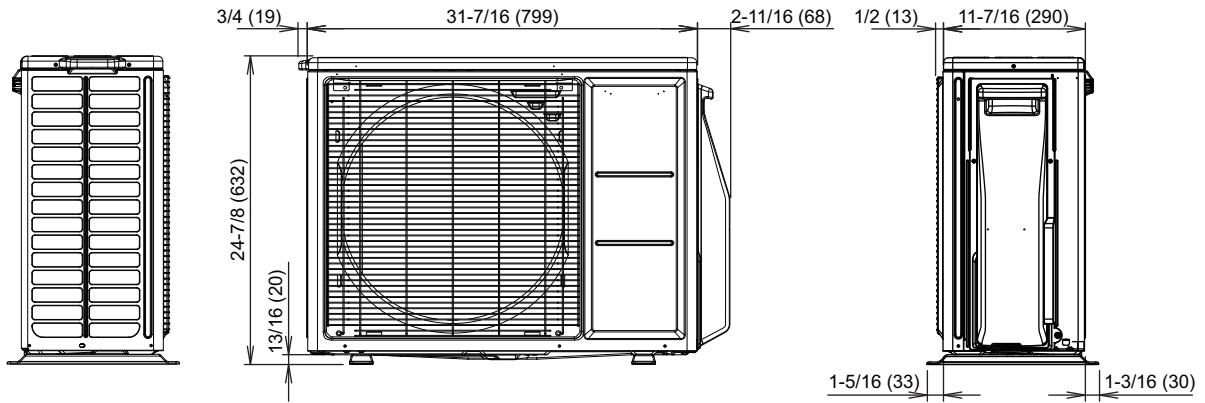
Unit: in (mm)

OUTDOOR UNIT
AOUH09-24KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1



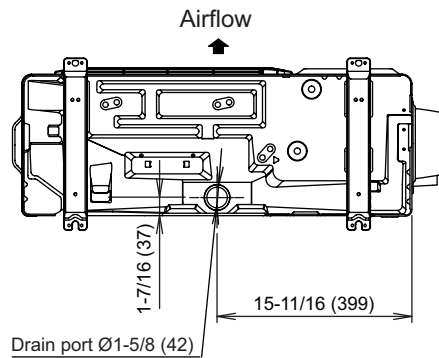
Top view



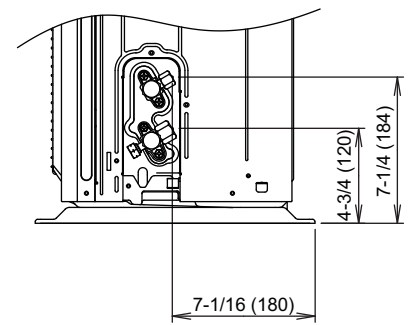
Side view

Front view

Side view



Bottom view



Side view (Valve part)

3. Installation space

3-1. Models: AOUH09KNAS1, AOUH12KNAS1, AOUH18KNAS1, and AOUH24KNAS1

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

Keep the space shown in the installation examples.

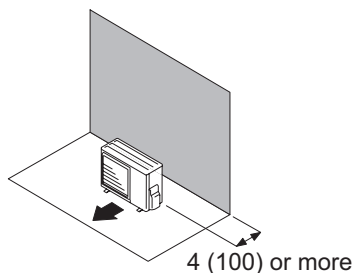
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

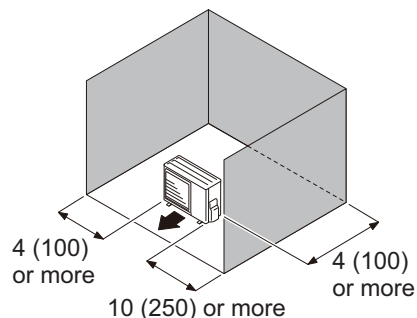
- When the upper space is open:

Unit: in (mm)

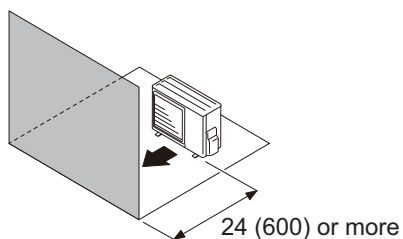
Obstacles at rear only



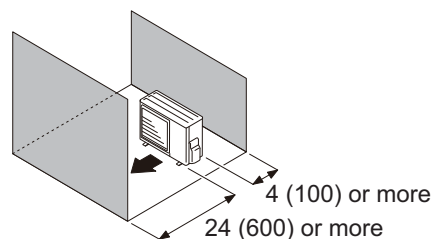
Obstacles at rear and sides



Obstacles at front



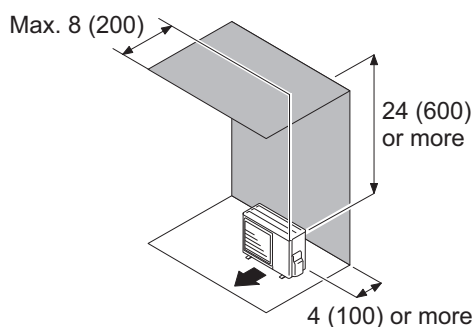
Obstacles at front and rear



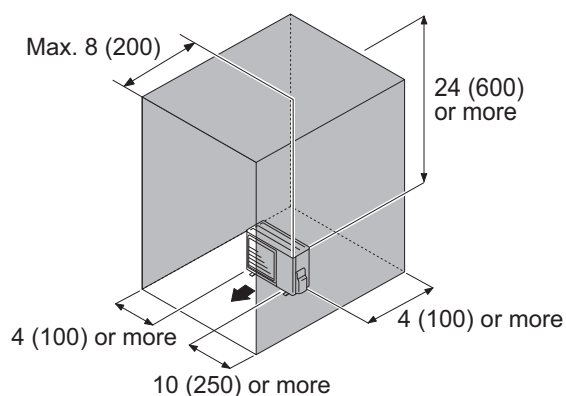
- When an obstruction in the upper space:

Unit: in (mm)

Obstacles at rear and above



Obstacles at rear, sides, and above

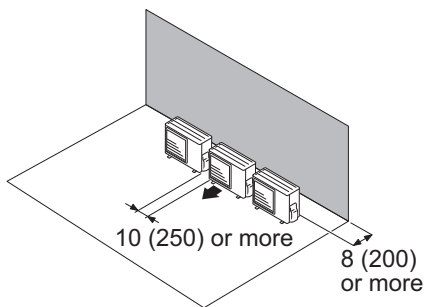


● Multiple outdoor unit installation

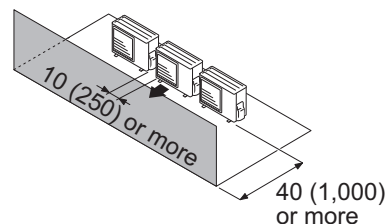
- Provide at least 10 in (250 mm) of space between the outdoor units if multiple units are installed.
- When routing the piping from the side of an outdoor unit, provide space for piping.
- No more than 3 units must be installed side by side.
When 4 units or more are arranged in a line, provide the space as shown in the following example **“When an obstruction in the upper space:”**.
- **When the upper space is open:**

Unit: in (mm)

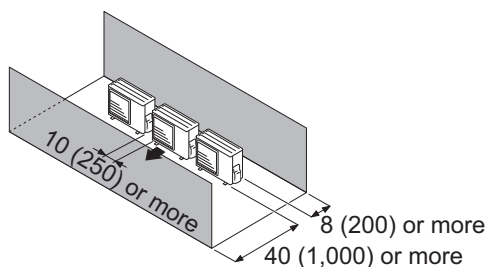
Obstacles at rear only



Obstacles at front only



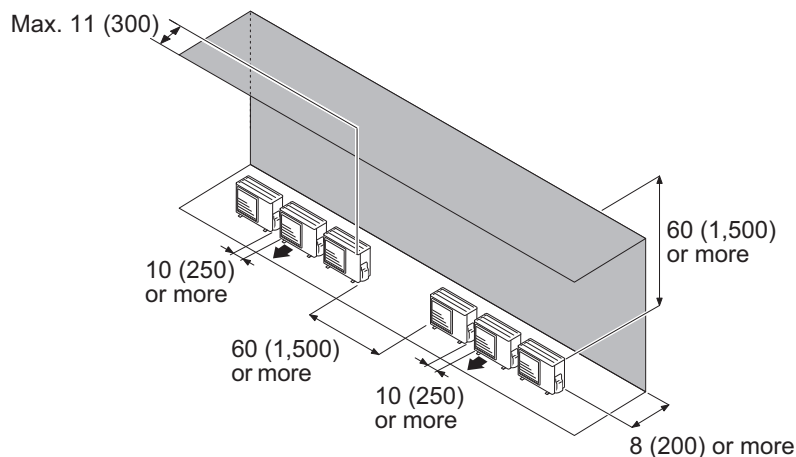
Obstacles at front and rear



- **When an obstruction in the upper space:**

Unit: in (mm)

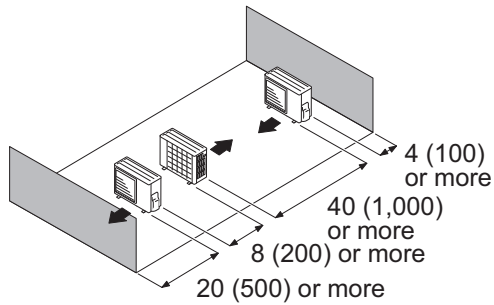
Obstacles at rear and above.



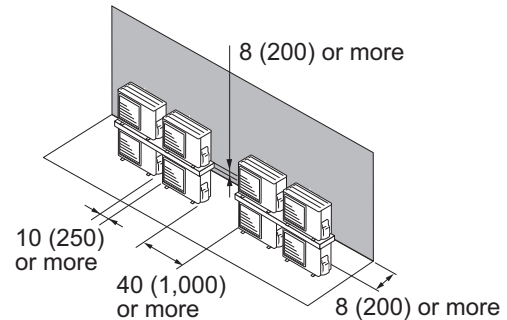
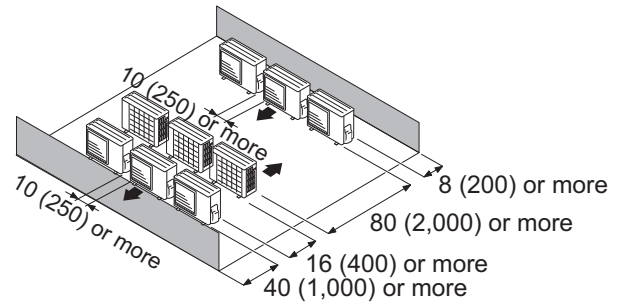
● Outdoor units installation in multi-row

Unit: in (mm)

Single parallel unit arrangement



Multiple parallel unit arrangement

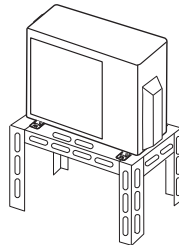


NOTES:

- If the space is larger than stated above, the condition will be the same as when there is no obstacle.
- When installing the outdoor unit, be sure to open the front and left side to obtain better operation efficiency.

⚠ CAUTION

- Do not install the outdoor unit in two-stage where the drain water could freeze. Otherwise the drainage from the upper unit may form ice and cause a malfunction of the lower unit.
- When the outdoor temperature is 32 °F (0 °C) or less, do not use the accessory drain pipe and drain cap. If the drain pipe and drain cap are used, the drain water in the pipe may freeze in extremely cold climate. (For reverse cycle model only.)
- In area with heavy snowfall, if the inlet and outlet of the outdoor unit is blocked with snow, it might become difficult to get warm, and it is likely to cause product malfunction. Construct a canopy and a pedestal, or place the unit on a high stand that is locally installed.

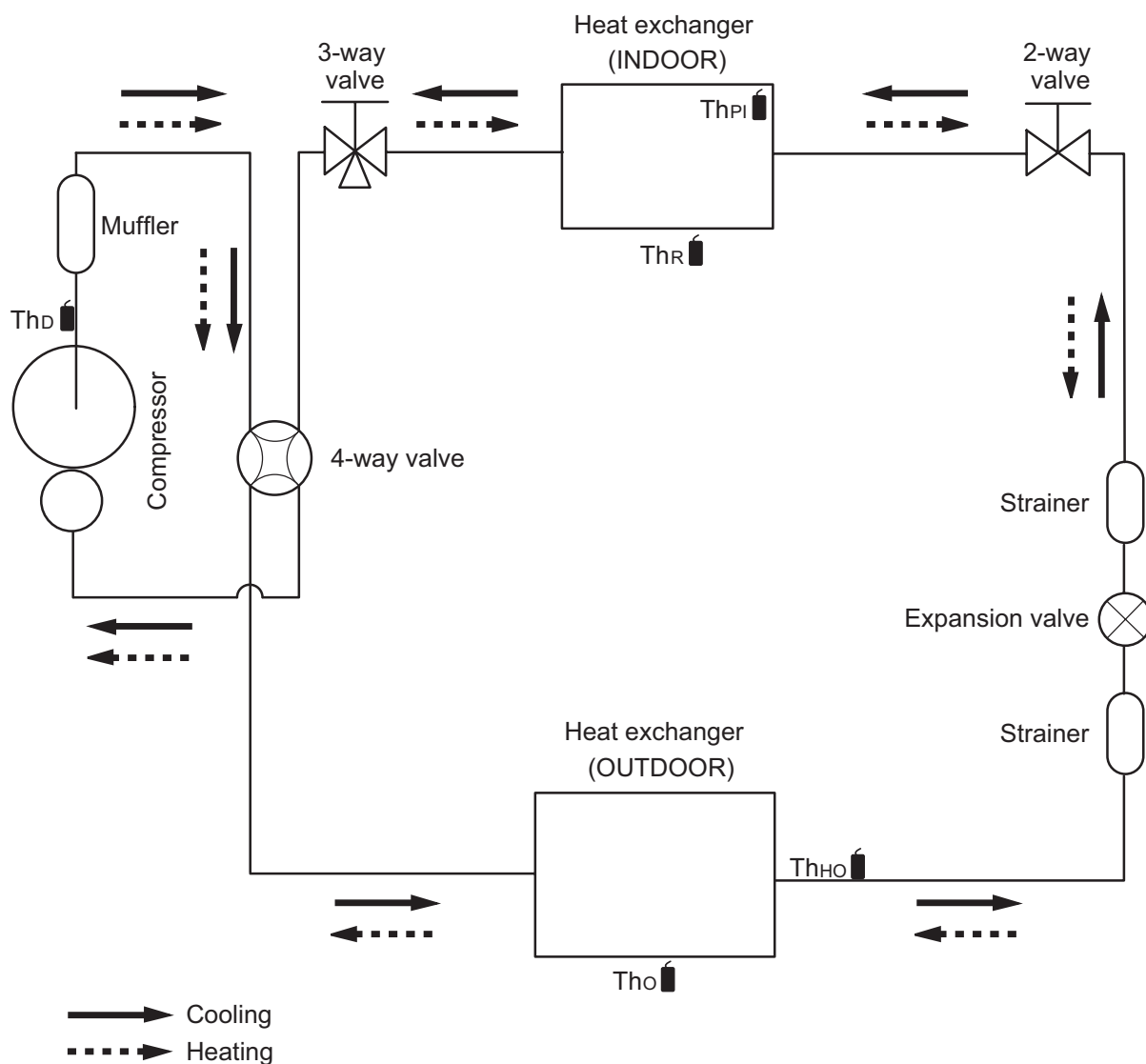


4. Refrigerant circuit

4-1. Models: AOUH09KNAS1 and AOUH12KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1

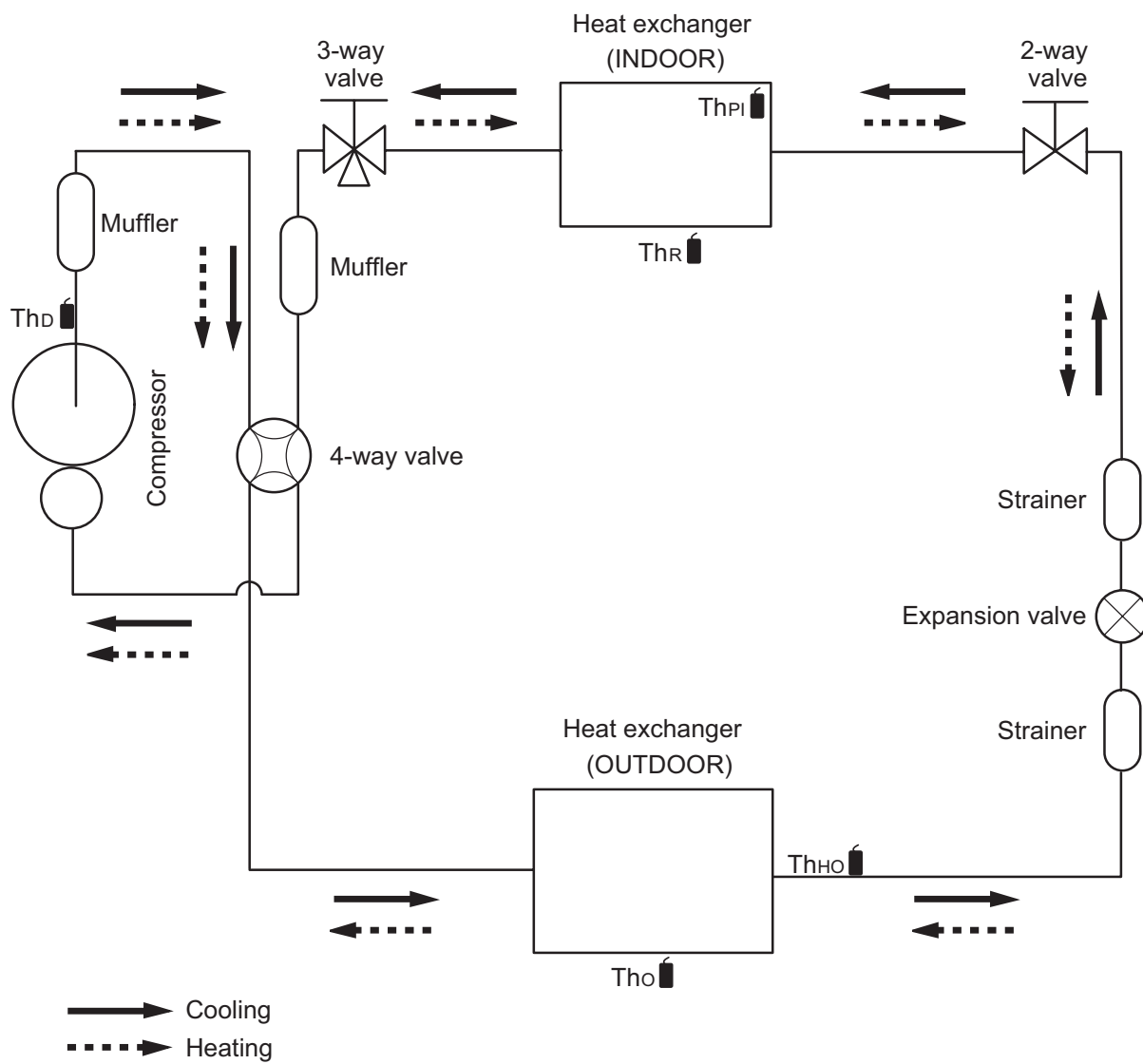


- Th_D : Thermistor (Discharge temperature)
- Th_O : Thermistor (Outdoor temperature)
- Th_{HO} : Thermistor (Heat exchanger out temperature)
- Th_{PI} : Thermistor (Pipe temperature)
- Th_R : Thermistor (Room temperature)

4-2. Model: AOUH18KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1

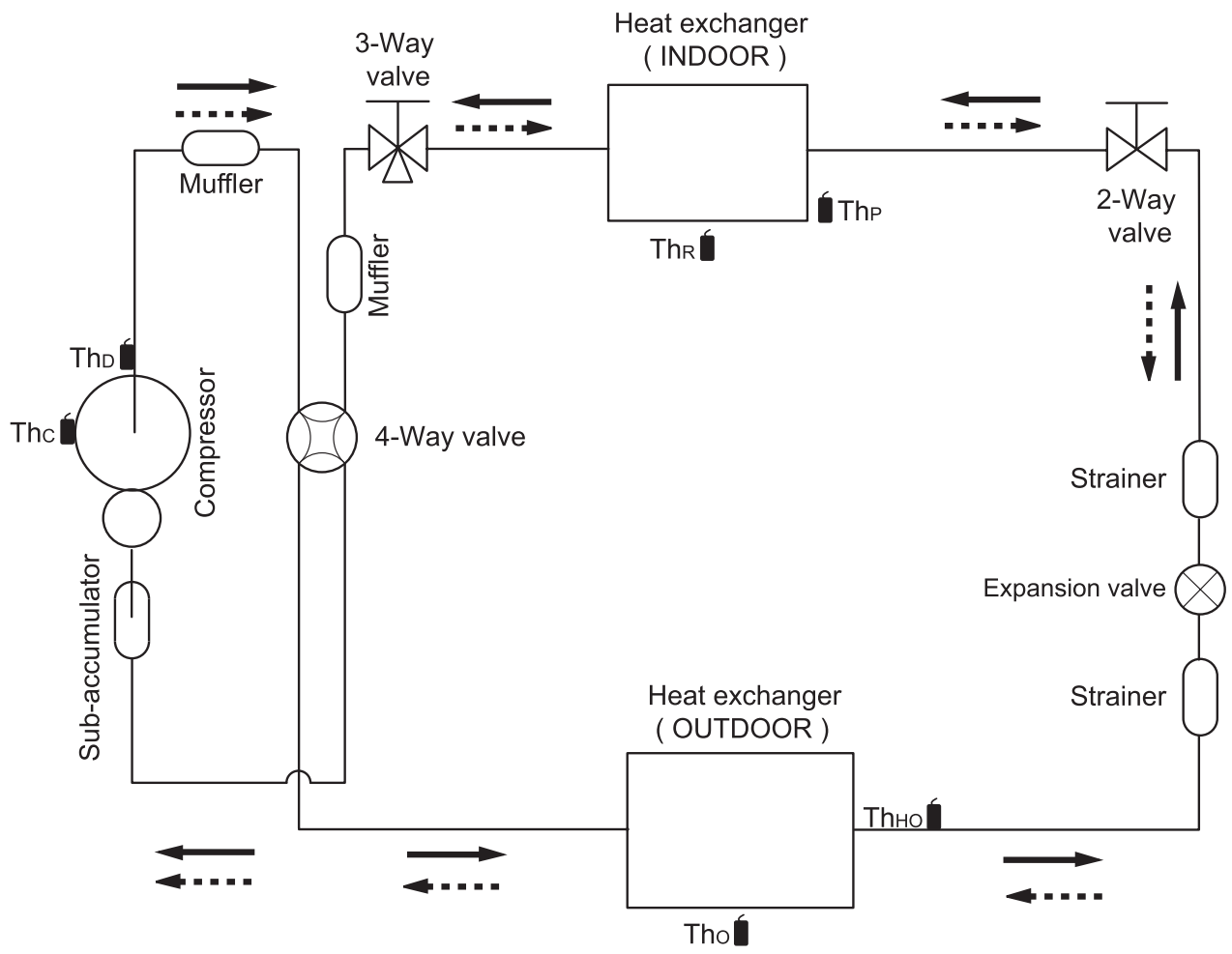


- Th_D : Thermistor (Discharge temperature)
- Th_O : Thermistor (Outdoor temperature)
- Th_{HO} : Thermistor (Heat exchanger out temperature)
- Th_{PI} : Thermistor (Pipe temperature)
- Th_R : Thermistor (Room temperature)

4-3. Model: AOUH24KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1



Cooling
 Heating

- Th_c : Thermistor (Compressor temperature)
- Th_D : Thermistor (Discharge temperature)
- Th_o : Thermistor (Outdoor temperature)
- Th_{HO} : Thermistor (Heat exchanger out temperature)
- Th_P : Thermistor (Pipe temperature)
- Th_R : Thermistor (Room temperature)

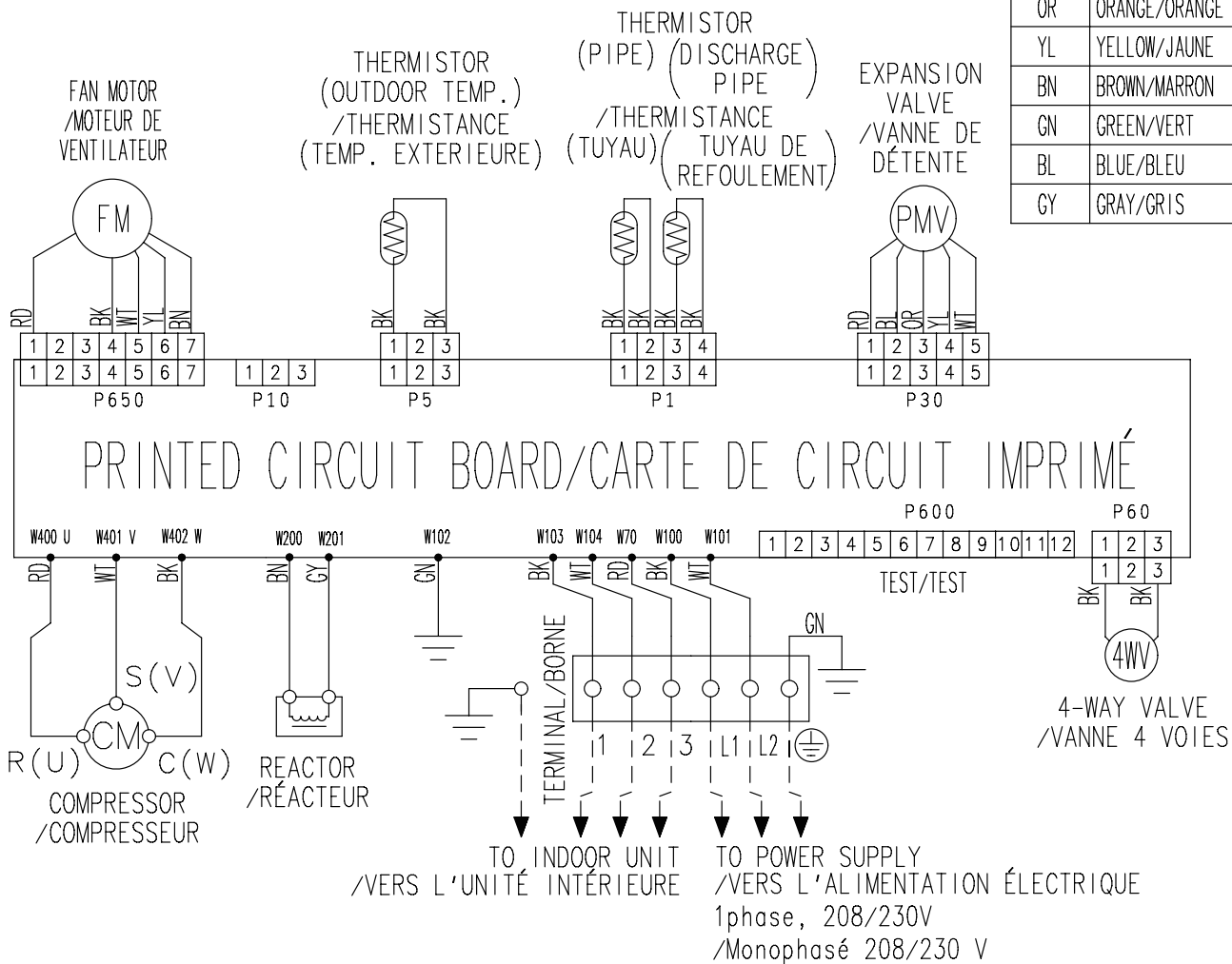
5. Wiring diagrams

5-1. Models: AOUH09KNAS1 and AOUH12KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1

COLOR	English/French
BK	BLACK/NOIR
WT	WHITE/BLANC
RD	RED/ROUGE
OR	ORANGE/ORANGE
YL	YELLOW/JAUNE
BN	BROWN/MARRON
GN	GREEN/VERT
BL	BLUE/BLEU
GY	GRAY/GRIS

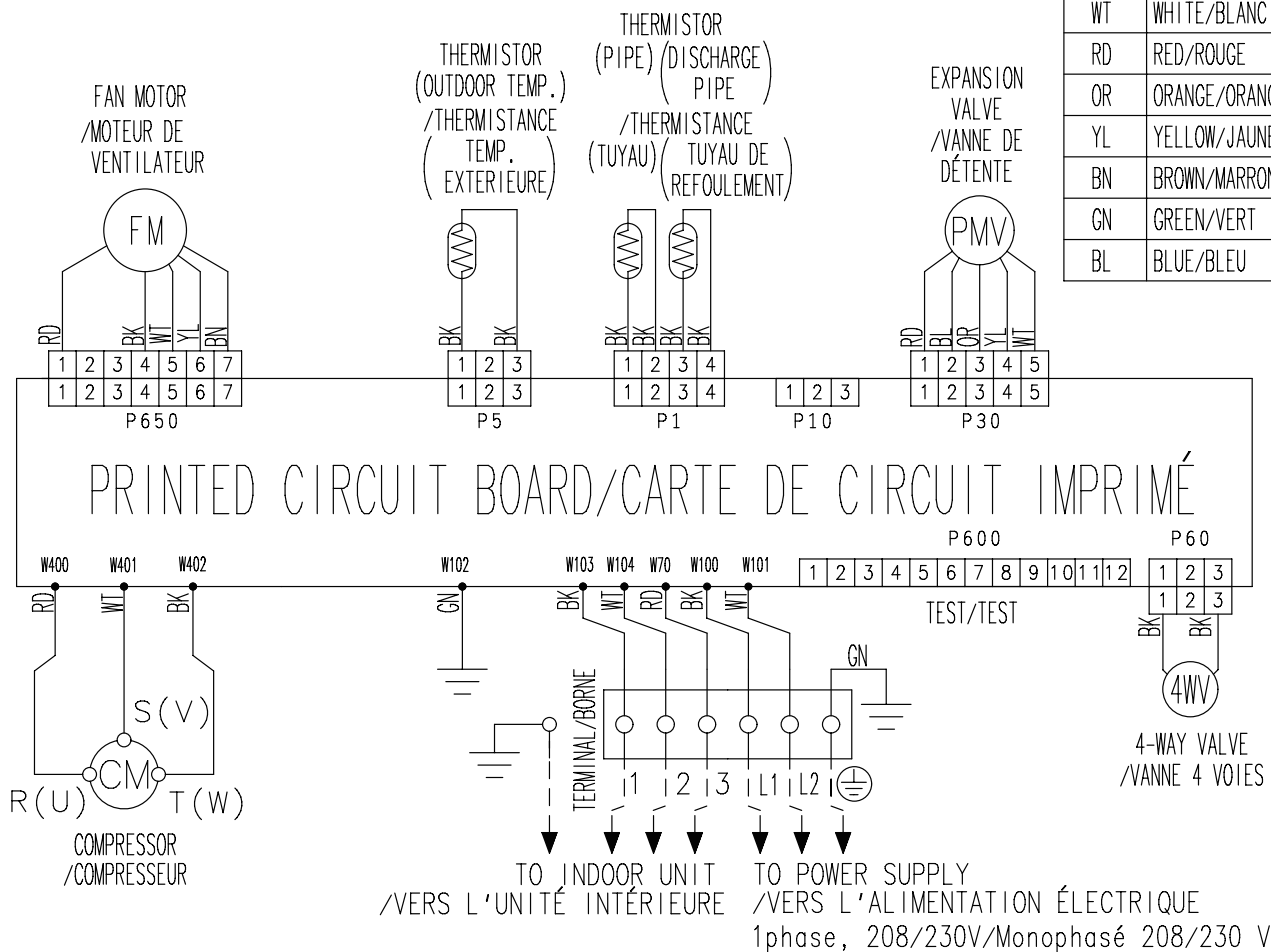


5-2. Model: AOUH18KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1

COLOR	English/French
BK	BLACK/NOIR
WT	WHITE/BLANC
RD	RED/ROUGE
OR	ORANGE/ORANGE
YL	YELLOW/JAUNE
BN	BROWN/MARRON
GN	GREEN/VERT
BL	BLUE/BLEU

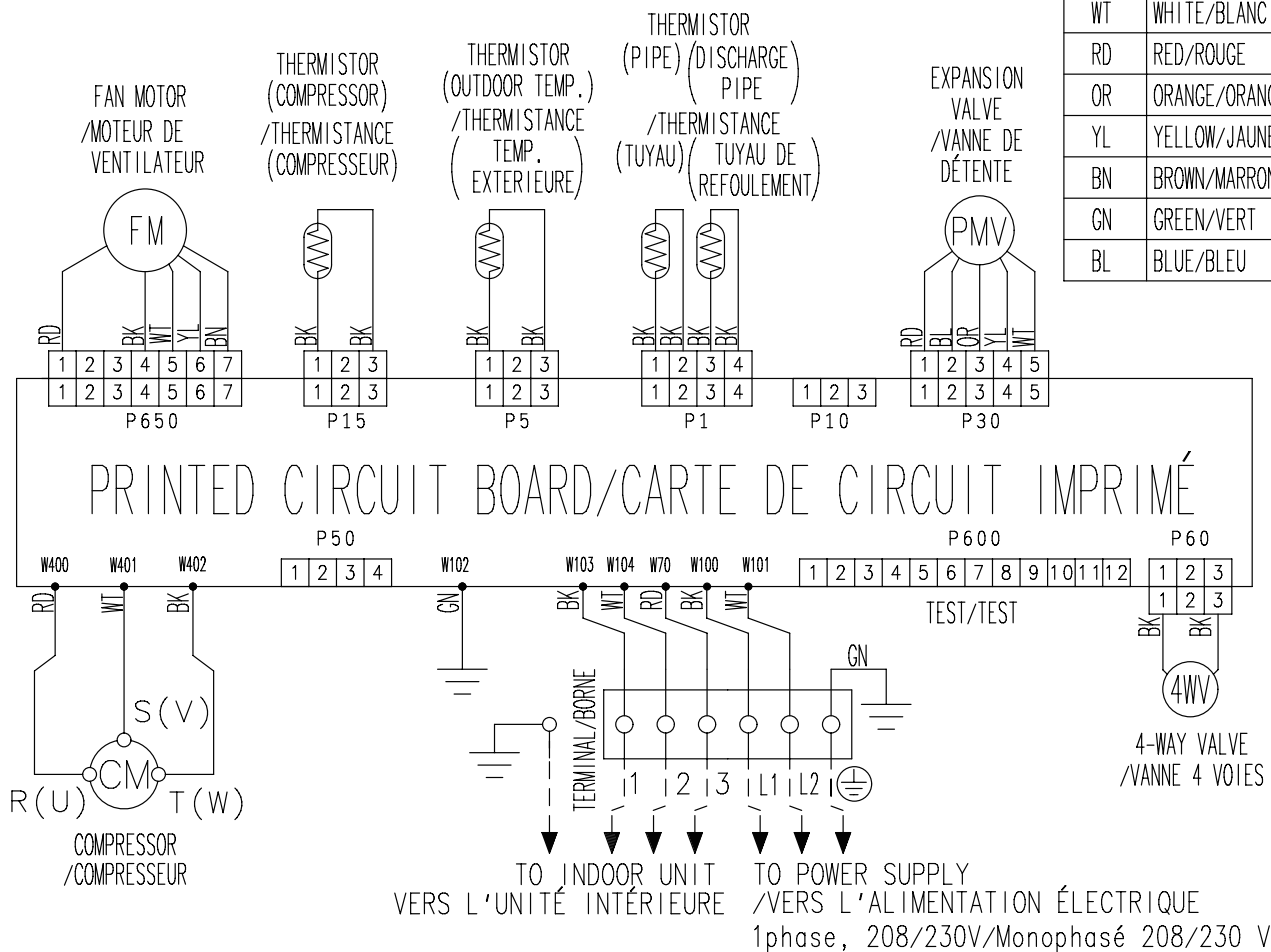


5-3. Model: AOUH24KNAS1

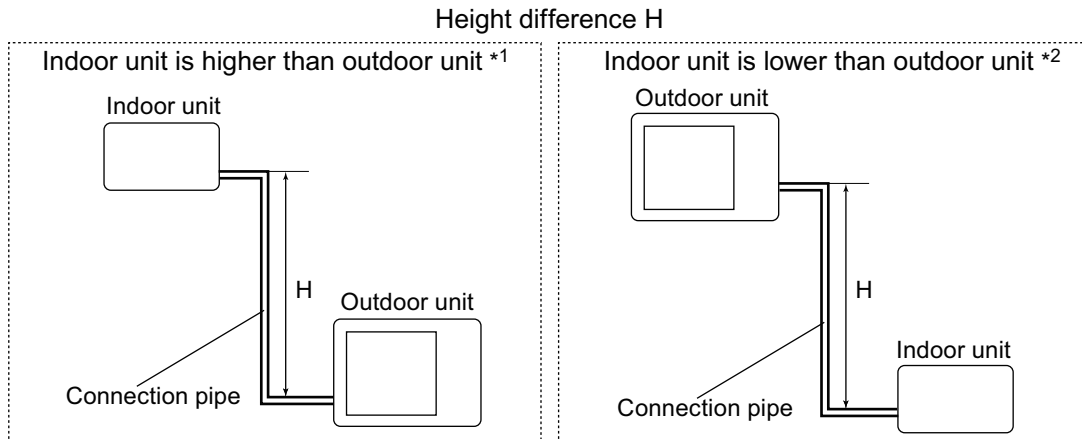
OUTDOOR UNIT
AOUH09-24KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1

COLOR	English/French
BK	BLACK/NOIR
WT	WHITE/BLANC
RD	RED/ROUGE
OR	ORANGE/ORANGE
YL	YELLOW/JAUNE
BN	BROWN/MARRON
GN	GREEN/VERT
BL	BLUE/BLEU



6. Capacity compensation rate for pipe length and height difference



6-1. Model: AOUH09KNAS1

NOTE: Values mentioned in the table are calculated based on the maximum capacity.

COOLING		Pipe length							
		m	3	5	7.5	10	15	20	
		ft	10	16	25	33	49	66	
Height difference H	Indoor unit is higher than outdoor unit *1	15	49	—	—	—	—	0.926	0.911
		10	33	—	—	—	0.970	0.940	0.926
		7.5	25	—	—	0.988	0.974	0.944	0.930
		5	16	—	1.007	0.992	0.978	0.947	0.934
		3	10	1.018	1.010	0.995	0.981	0.950	0.937
	Indoor unit is lower than outdoor unit *2	0	0	1.022	1.015	1.000	0.985	0.955	0.941
		-3	-10	1.022	1.015	1.000	0.985	0.955	0.941
		-5	-16	—	1.015	1.000	0.985	0.955	0.941
		-7.5	-25	—	—	1.000	0.985	0.955	0.941
		-10	-33	—	—	—	0.985	0.955	0.941
-15	-49	—	—	—	—	0.955	0.941		

HEATING		Pipe length							
		m	3	5	7.5	10	15	20	
		ft	10	16	25	33	49	66	
Height difference H	Indoor unit is higher than outdoor unit *1	15	49	—	—	—	—	0.899	0.893
		10	33	—	—	—	0.966	0.899	0.893
		7.5	25	—	—	1.000	0.966	0.899	0.893
		5	16	—	1.034	1.000	0.966	0.899	0.893
		3	10	1.042	1.034	1.000	0.966	0.899	0.893
	Indoor unit is lower than outdoor unit *2	0	0	1.042	1.034	1.000	0.966	0.899	0.893
		-3	-10	1.025	1.007	0.997	0.963	0.897	0.891
		-5	-16	—	0.989	0.995	0.961	0.895	0.889
		-7.5	-25	—	—	0.993	0.959	0.893	0.887
		-10	-33	—	—	—	0.957	0.891	0.885
-15	-49	—	—	—	—	0.882	0.876		

6-2. Model: AOUH12KNAS1

NOTE: Values mentioned in the table are calculated based on the maximum capacity.

COOLING		Pipe length							
		m		3	5	7.5	10	15	20
			ft	10	16	25	33	49	66
Height difference H	Indoor unit is higher than outdoor unit *1	15	49	—	—	—	—	0.883	0.893
		10	33	—	—	—	0.956	0.897	0.907
		7.5	25	—	—	0.988	0.960	0.901	0.910
		5	16	—	1.021	0.992	0.964	0.904	0.915
		3	10	1.027	1.024	0.995	0.967	0.908	0.918
		0	0	1.032	1.029	1.000	0.971	0.913	0.922
	Indoor unit is lower than outdoor unit *2	-3	-10	1.032	1.029	1.000	0.971	0.913	0.922
		-5	-16	—	1.029	1.000	0.971	0.913	0.922
		-7.5	-25	—	—	1.000	0.971	0.913	0.922
		-10	-33	—	—	—	0.971	0.913	0.922
-15		-49	—	—	—	—	0.913	0.922	

HEATING		Pipe length							
		m		3	5	7.5	10	15	20
			ft	10	16	25	33	49	66
Height difference H	Indoor unit is higher than outdoor unit *1	15	49	—	—	—	—	0.901	0.884
		10	33	—	—	—	0.974	0.901	0.884
		7.5	25	—	—	1.000	0.974	0.901	0.884
		5	16	—	1.006	1.000	0.974	0.901	0.884
		3	10	1.031	1.006	1.000	0.974	0.901	0.884
		0	0	1.031	1.006	1.000	0.974	0.901	0.884
	Indoor unit is lower than outdoor unit *2	-3	-10	1.028	1.003	0.997	0.971	0.898	0.882
		-5	-16	—	1.001	0.995	0.969	0.896	0.880
		-7.5	-25	—	—	0.993	0.967	0.894	0.878
		-10	-33	—	—	—	0.965	0.892	0.876
-15		-49	—	—	—	—	0.883	0.867	

6-3. Models: AOUH18KNAS1 and AOUH24KNAS1

NOTE: Values mentioned in the table are calculated based on the maximum capacity.

COOLING		Pipe length								
		m	3	5	7.5	10	15	20	25	
		ft	10	16	24	33	49	66	82	
Height difference H	Indoor unit is higher than outdoor unit *1	20	66	—	—	—	—	—	0.924	0.908
		15	49	—	—	—	—	0.949	0.932	0.915
		10	32	—	—	—	0.975	0.957	0.939	0.923
		7.5	24	—	—	0.988	0.979	0.960	0.943	0.927
		5	16	—	1.002	0.992	0.982	0.964	0.947	0.930
		3	10	1.004	0.996	0.986	0.977	0.959	0.942	0.925
		0	0	1.018	1.010	1.000	0.990	0.972	0.954	0.938
	Indoor unit is lower than outdoor unit *2	-3	-10	1.018	1.010	1.000	0.990	0.972	0.954	0.938
		-5	-16	—	1.010	1.000	0.990	0.972	0.954	0.938
		-7.5	-24	—	—	1.000	0.990	0.972	0.954	0.938
		-10	-32	—	—	—	0.990	0.972	0.954	0.938
		-15	-49	—	—	—	—	0.972	0.954	0.938
-20		-66	—	—	—	—	—	0.954	0.938	

HEATING		Pipe length								
		m	3	5	7.5	10	15	20	25	
		ft	10	16	24	33	49	66	82	
Height difference H	Indoor unit is higher than outdoor unit *1	20	66	—	—	—	—	—	0.896	0.873
		15	49	—	—	—	—	0.929	0.896	0.873
		10	32	—	—	—	0.973	0.929	0.896	0.873
		7.5	24	—	—	1.000	0.973	0.929	0.896	0.873
		5	16	—	1.027	1.000	0.973	0.929	0.896	0.873
		3	10	1.052	1.027	1.000	0.973	0.929	0.896	0.873
		0	0	1.052	1.027	1.000	0.973	0.929	0.896	0.873
	Indoor unit is lower than outdoor unit *2	-3	-10	1.049	1.024	0.997	0.970	0.927	0.894	0.871
		-5	-16	—	1.022	0.995	0.969	0.925	0.892	0.869
		-7.5	-24	—	—	0.993	0.966	0.923	0.890	0.867
		-10	-32	—	—	—	0.964	0.920	0.887	0.865
		-15	-49	—	—	—	—	0.916	0.883	0.861
-20		-66	—	—	—	—	—	0.879	0.856	

7. Additional charge calculation

7-1. Model: AOUH09KNAS1

Refrigerant type		R32
Factory charge amount	lb oz	1 lb 3 oz
	g	530

■ Refrigerant charge

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

7-2. Model: AOUH12KNAS1

Refrigerant type		R32
Factory charge amount	lb oz	1 lb 7 oz
	g	650

■ Refrigerant charge

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

7-3. Model: AOUH18KNAS1

Refrigerant type		R32
Factory charge amount	lb oz	1 lb 15 oz
	g	890

■ Refrigerant charge

Total pipe length	ft	49 or less	66	82 (Max.)	0.22 oz/ft (20 g/m)
	m	15 or less	20	25 (Max.)	
Additional charge amount	oz	0	3.5	7	
	g	0	100	200	

7-4. Model: AOUH24KNAS1

Refrigerant type		R32
Factory charge amount	lb oz	2 lb 10 oz
	g	1,200

■ Refrigerant charge

Total pipe length	ft	49 or less	66	82 (Max.)	0.22 oz/ft (20 g/m)
	m	15 or less	20	25 (Max.)	
Additional charge amount	oz	0	3.5	7	
	g	0	100	200	

8. Airflow

8-1. Model: AOUH09KNAS1

● Cooling

m ³ /h	1,650
l/s	458
CFM	971

● Heating

m ³ /h	1,450
l/s	403
CFM	853

8-2. Model: AOUH12KNAS1

● Cooling

m ³ /h	1,700
l/s	472
CFM	1,001

● Heating

m ³ /h	1,470
l/s	408
CFM	865

8-3. Model: AOUH18KNAS1

● Cooling

m ³ /h	2,010
l/s	558
CFM	1,183

● Heating

m ³ /h	2,010
l/s	558
CFM	1,183

8-4. Model: AOUH24KNAS1

● Cooling

m ³ /h	2,820
l/s	783
CFM	1,660

● Heating

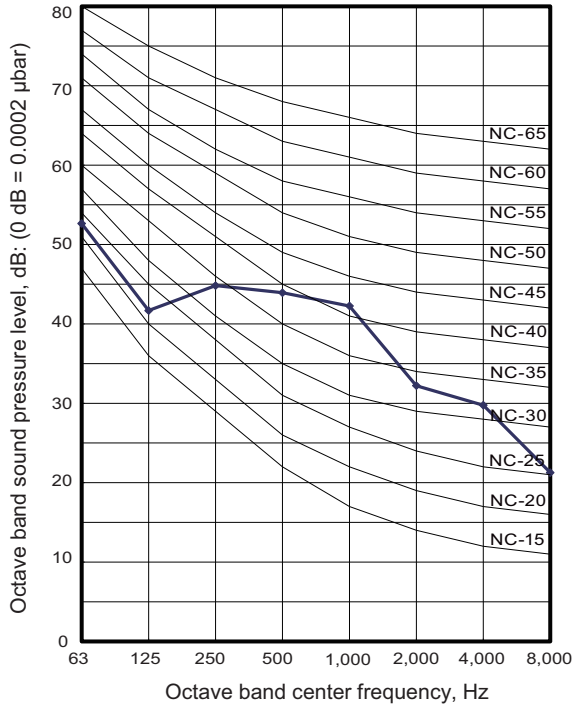
m ³ /h	2,820
l/s	783
CFM	1,660

9. Operation noise (sound pressure)

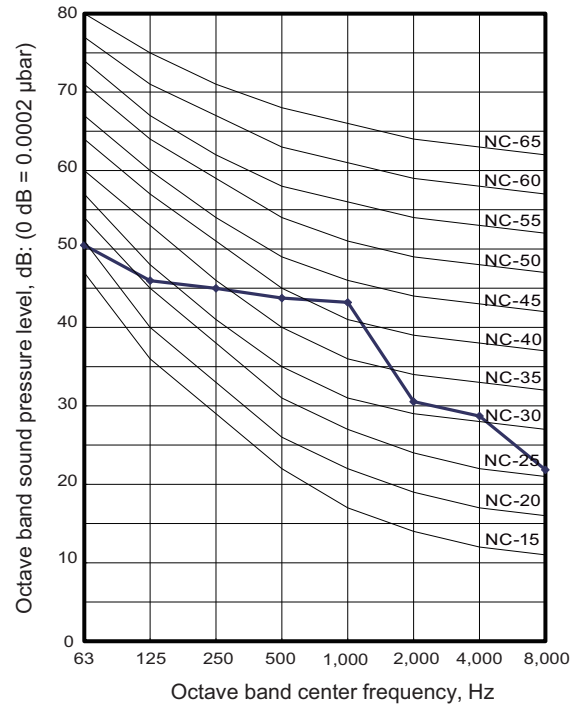
9-1. Noise level curve

Model: AOUH09KNAS1

Cooling

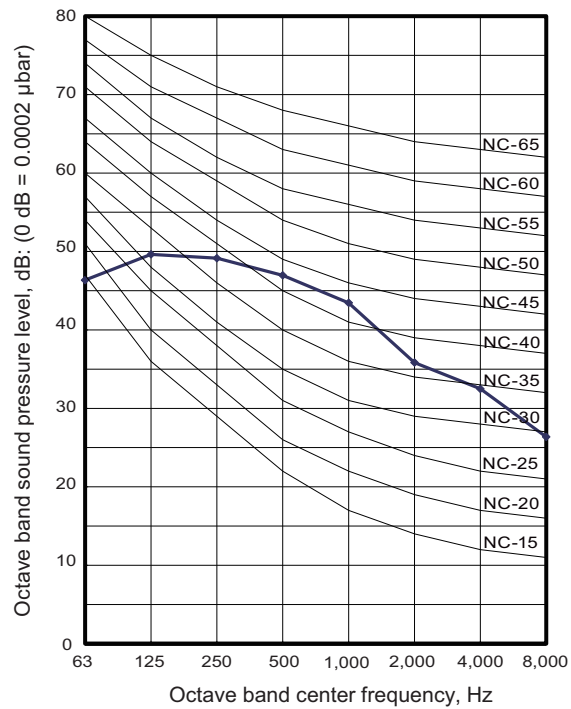


Heating

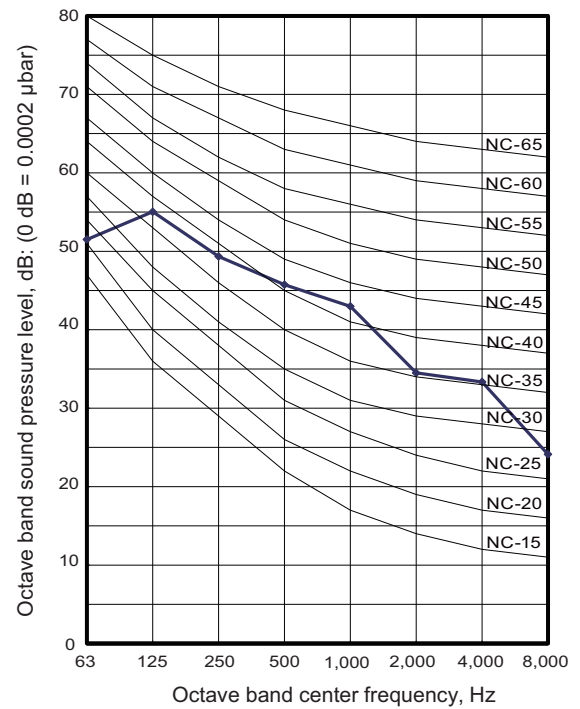


Model: AOUH12KNAS1

Cooling



Heating

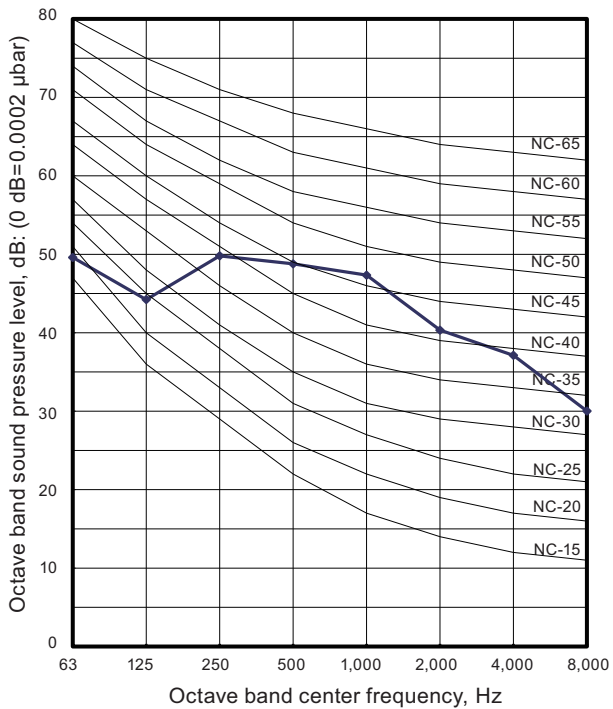


OUTDOOR UNIT
AOUH09-24KNAS1

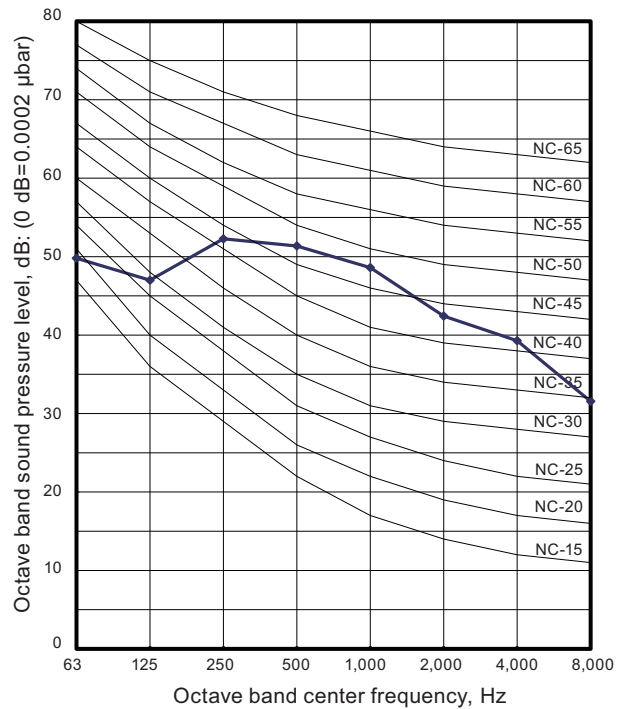
OUTDOOR UNIT
AOUH09-24KNAS1

Model: AOUH18KNAS1

Cooling

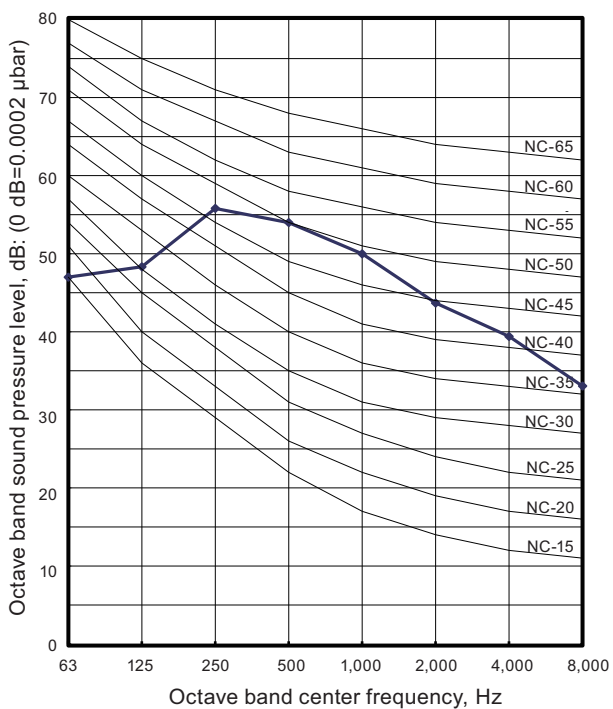


Heating

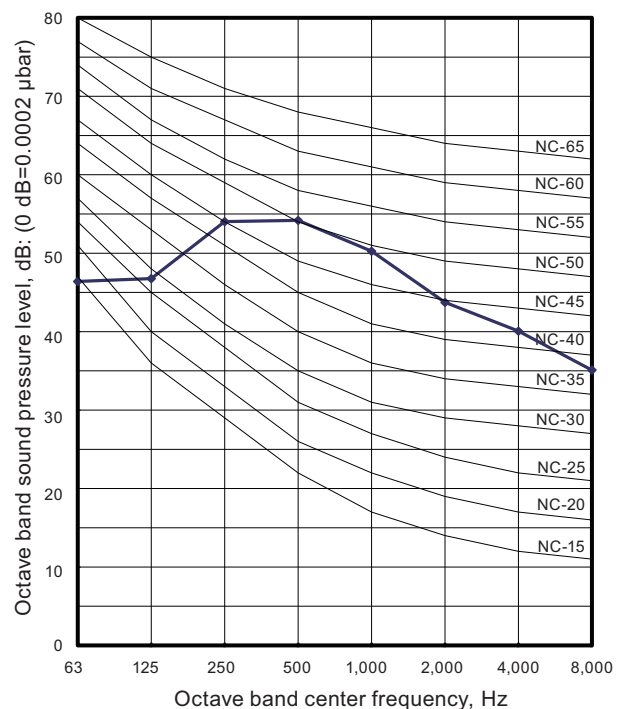


Model: AOUH24KNAS1

Cooling



Heating

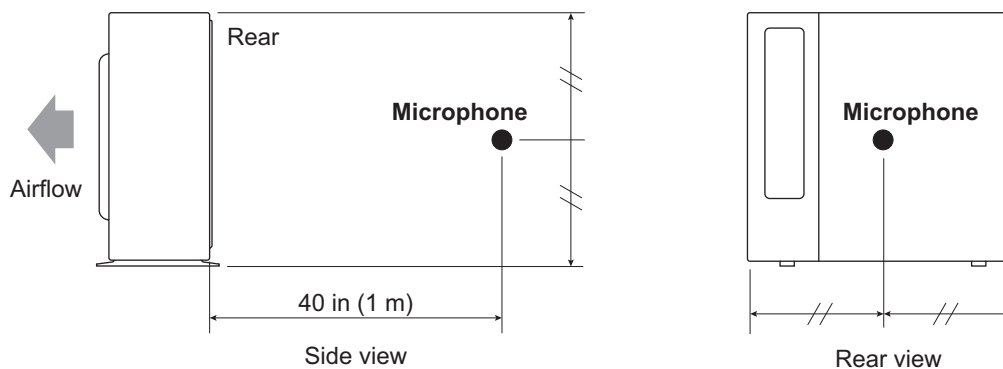


OUTDOOR UNIT
AOUH09-24KNAS1

OUTDOOR UNIT
AOUH09-24KNAS1

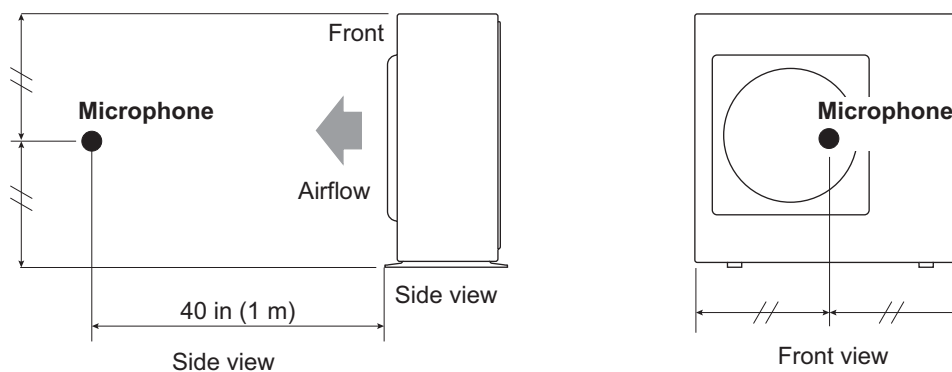
9-2. Sound level check point

■ Models: AOUH09KNAS1 and AOUH12KNAS1



NOTE: Detailed shape of the actual outdoor unit might be slightly different from the one illustrated above.

■ Models: AOUH18KNAS1 and AOUH24KNAS1



NOTE: Detailed shape of the actual outdoor unit might be slightly different from the one illustrated above.

10. Electrical characteristics

Model name			AOUH09KNAS1	AOUH12KNAS1
Power supply	Voltage	V	208/230	
	Frequency	Hz	60	
MCA* ¹		A	9.7	
Starting current		A	4.2	5.4
Wiring spec.* ²	MAX. CKT. BKR* ³		A	15
	Power cable		AWG	14
	Connection cable* ³	Size	AWG	14
		Limited wiring length	ft (m)	68 (21)

Model name			AOUH18KNAS1	AOUH24KNAS1
Power supply	Voltage	V	208/230	
	Frequency	Hz	60	
MCA* ¹		A	14.7	17.8
Starting current		A	7.3	9.3
Wiring spec.* ²	MAX. CKT. BKR* ³		A	15
	Power cable		AWG	14
	Connection cable* ⁴	Size	AWG	14
		Limited wiring length	ft (m)	85 (26)

NOTES:

- *1: Minimum Circuit Ampacity (Calculation based on UL60335-2-40)
- *2: Selected sample based on Japan Electrotechnical Standards and Codes Committee E0005. As the regulations of wire size and circuit breaker differ in each country or region, select appropriate devices complied to the regional standard.
- *3: Maximum Circuit Breaker
- *4: Limit voltage drop to less than 2%. If voltage drop is 2% or more, increase cable conductor size.

11. Safety devices

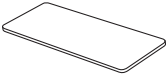


Type of protection	Protection form		Model	
			AOUH09KNAS1	AOUH12KNAS1
Circuit protection	Current fuse (PCB*)		250 V, 20 A	
			250 V, 5 A	
Fan motor protection	Thermal protection program	Activate	More than 176°F (80°C) Fan motor speed down	
		Reset	More than 176°F (80°C) Fan motor speed recover	
Compressor protection	Terminal protection program (Discharge temp.)	Activate	230°F (110°C) Compressor stop	
		Reset	After 7 minutes Compressor restart	
	Thermal protection program (Outdoor temp.) (Only in COOL and DRY mode)	Activate	5°F (-15°C) Compressor stop	
		Reset	14°F (-10°C) Compressor restart	

Type of protection	Protection form		Model	
			AOUH18KNAS1	AOUH24KNAS1
Circuit protection	Current fuse (PCB*)		250 V, 20 A	250 V, 25 A
			250 V, 5 A	
Fan motor protection	Thermal protection	Activate	More than 176°F (80°C) Fan motor speed down	248—266°F (120—130°C) Fan motor stop
		Reset	More than 176°F (80°C) Fan motor speed recover	230—248°F (110—120°C) Fan motor restart
Compressor protection	Thermal protection program (Compressor temp.)	Activate	—	226°F (108°C) Compressor stop
		Reset	—	After 3 minutes, and 176°F (80°C) or less Compressor restart
	Terminal protection program (Discharge temp.)	Activate	230°F (110°C) Compressor stop	
		Reset	After 7 minutes Compressor restart	
Thermal protection program (Outdoor temp.) (Only in COOL and DRY mode)	Activate	5°F (-15°C) Compressor stop		
	Reset	14°F (-10°C) Compressor restart		

*PCB: Printed Circuit Board

12. Accessories

12-1. Models: AOUH09KNAS1, AOUH12KNAS1, AOUH18KNAS1, and AOUH24KNAS1

Part name	Exterior	Qty	Part name	Exterior	Qty
Protection label		1	Cable tie		2
Drain pipe		1			