

AIR CONDITIONER

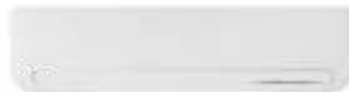
Wall mounted type

DESIGN & TECHNICAL MANUAL

INDOOR



WHP09WMA21S
WHP12WMA21S



WHP18WMA21S
WHP24WMA21S

OUTDOOR



WHP09SZA21S




WHP12SZA21S



WHP18SZA21S



WHP24SZA21S

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Part 1. INDOOR UNIT

WALL MOUNTED TYPE:

WHP09WMA21S

WHP12WMA21S

WHP18WMA21S

WHP24WMA21S

1. Specifications

Type				Wall mounted		
				Inverter, Heat pump		
Model name				WHP09WMA21S	WHP12WMA21S	
Power supply				208/230 V ~ 60 Hz		
Power supply intake				Outdoor unit		
Available voltage range				198—253 V		
Capacity	Cooling	Rated	kW	2.63	3.51	
			Btu/h	9,000	12,000	
	Min.—Max.		kW	1.06—2.93	1.17—3.96	
			Btu/h	3,600—10,000	4,000—13,500	
	Heating	Rated	kW	2.63	3.51	
			Btu/h	9,000	12,000	
	Min.—Max.		kW	1.06—3.08	1.17—4.10	
			Btu/h	3,600—10,500	4,000—14,000	
	Heating (17 °F) ¹	Rated		kW	1.47	2.20
				Btu/h	5,000	7,500
Max.			kW	2.86	2.86	
			Btu/h	9,758	9,745	
Heating (5 °F) ²	Max.		kW	1.98	2.70	
			Btu/h	6,749	9,233	
Input power	Cooling	Rated	kW	0.655	0.920	
	Heating	Rated		0.720	1.110	
	Heating (17 °F) ¹	Rated		1.465	2.198	
		Max.		2.860	2.856	
	Heating (5 °F) ²	Max.			1.978	2.706
Current	Cooling	Rated	A	2.9	4.3	
	Heating		A	2.9	5.0	
EER2	Cooling		W/W	4.03	3.82	
			Btu/hW	13.74	13.04	
COP2	Heating		W/W	3.60	3.28	
			Btu/hW	12.28	11.26	
SEER2	Cooling		Btu/hW	22	21	
HSPF2	Heating		Btu/hW	8.5	9.0	
Power factor	Cooling		%	98	96	
	Heating		%	98	97	
Moisture removal			pints/h (L/h)	1.9 (0.9)	2.5 (1.2)	
Maximum operating current ³	Cooling		A	6.5	7.0	
	Heating		A	6.5	7.0	
Fan	Airflow rate	Cooling	HIGHER	383 (650)	394 (670)	
			HIGH	341 (580)	365 (620)	
			MED	294 (500)	312 (530)	
			LOW	247 (420)	253 (430)	
			LOWER	224 (380)		
		Heating	HIGHER	383 (650)	394 (670)	
			HIGH	341 (580)	365 (620)	
			MED	294 (500)	312 (530)	
			LOW	247 (420)	253 (430)	
			LOWER	224 (380)		
Type × Qty				Crossflow fan × 1		
Motor output			W	25		
Sound pressure level ⁴	Cooling	HIGHER	dB (A)	42		
		HIGH		39		
		MED		32		
		LOW		29		
		LOWER		26		
	Heating	HIGHER		42		
		HIGH		39		
		MED		32		
		LOW		29		
		LOWER		26		
Heat exchanger type	Dimensions (H × W × D)		in (mm)	11-9/16 × 24-7/16 × 1-1/16 (294 × 620 × 27.2)		
	Fin pitch		FPI	18		
	Rows × Stages			2 × 14		
	Pipe type			Copper		
	Fin type			Aluminum		
Enclosure	Material			Polystyrene		
	Color			White		
Dimensions (H × W × D)	Net		in (mm)	10-5/8 × 33-7/16 × 8-7/16 (270 × 850 × 215)		
	Gross		in (mm)	13-3/16 × 37 × 10-7/16 (335 × 940 × 265)		
Weight	Net		lb (kg)	20 (9)		
	Gross		lb (kg)	24 (11)	26 (12)	
Connection pipe	Size	Liquid	in (mm)	Ø1/4 (Ø6.35)		
		Gas		Ø3/8 (Ø9.52)		
	Method			Flare		
Drain hose	Material			PE/PVC		
	Tip diameter		in (mm)	Ø5/8 (Ø15.4) (I.D.), Ø7/8 (Ø23) (O.D.)		
Operation range	Cooling		°F (°C)	61 to 86 (16 to 30)		
			%RH	80 or less		
Remote controller type	Heating		°F (°C)	61 to 86 (16 to 30)		
				Wireless (Wired [option])		

Type	Wall mounted	
	Inverter, Heat pump	
Model name	WHP09WMA21S	WHP12WMA21S
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 (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 (15.56°CWB), and outdoor temperature of 47°FDB (8.33°CDB) /43°FWB (6.11°CWB). *1: Heating (17°F): Indoor temperature of 70°FDB (21.11°CDB) /60°FWB (15.56°CWB), and outdoor temperature of 17°FDB (-8.33°CDB) /15°FWB (-9.44°CWB). *2: Heating (5°F): Indoor temperature of 70°FDB (21.11°CDB) /60°FWB (15.56°CWB), and outdoor temperature of 5°FDB (-15.0°CDB) /4°FWB (-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 is maximum value when operated within the operation range. *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. 		

M condition					
Model name	WHP09WMA21S			WHP12WMA21S	
Capacity	Cooling	Rated	kW	2.64	3.51
			Btu/h	9,000	12,000
		Min.—Max.	kW	1.06—2.93	1.17—3.96
			Btu/h	3,600—10,000	4,000—13,500
	Heating	Rated	kW	2.64	3.81
			Btu/h	9,000	13,000
		Min.—Max.	kW	1.05—3.07	1.17—4.10
			Btu/h	3,600—10,500	4,000—14,000
Input power	Cooling	kW	Rated	0.655	0.920
			Min.—Max.	0.230—1.495	0.276—1.610
	Heating		Rated	0.720	1.110
			Min.—Max.	0.230—1.495	0.276—1.610
Current	Cooling	A	Rated	2.9	4.3
	Heating		2.9	5.0	
EER	Cooling	W/W	4.03	3.82	
		Btu/hW	13.74	13.04	
COP	Heating	W/W	3.87	3.43	
		Btu/hW	13.19	11.71	
SEER	Cooling	Btu/hW	22.5	22.0	
HSPF	Heating	Btu/hW	10.7	10.5	
Power factor	Cooling	%	98	96	
	Heating		98	97	
NOTES: <p>Specifications are based on the following conditions:</p> <ul style="list-style-type: none"> 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 (15.56°CWB), and outdoor temperature of 47°FDB (8.33°CDB) /43°FWB (6.11°CWB). *: Heating (17°F): Indoor temperature of 70°FDB (21.11°CDB) /60°FWB (15.56°CWB), and outdoor temperature of 17°FDB (-8.33°CDB) /15°FWB (-9.44°CWB). Test conditions are based on AHRI 210/240 2017. Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.) 					

Type				Wall mounted		
				Inverter, Heat pump		
Model name				WHP18WMA21S	WHP24WMA21S	
Power supply				208/230 V ~ 60 Hz		
Power supply intake				Outdoor unit		
Available voltage range				198—253 V		
Capacity	Cooling	Rated	kW	5.28	6.74	
			Btu/h	18,000	23,000	
		Min.—Max.	kW	1.91—5.72	2.35—7.77	
			Btu/h	6,500—19,500	8,000—26,500	
	Heating	Rated	kW	4.98	6.74	
			Btu/h	17,000	23,000	
		Min.—Max.	kW	1.91—5.86	2.35—7.77	
			Btu/h	6,500—20,000	8,000—26,500	
	Heating (17 °F) ¹	Rated	kW	3.40	4.25	
			Btu/h	11,600	14,500	
		Max.	kW	5.14	5.28	
			Btu/h	17,531	18,026	
Heating (5 °F) ²	Max.	kW	3.54	4.79		
		Btu/h	12,068	16,326		
Input power	Cooling	Rated	kW	1.385	1.870	
				Heating	1.638	2.500
	Heating (17 °F) ¹	Rated		3.400	4.250	
		Max.		5.138	5.238	
	Heating (5 °F) ²	Max.		3.537	4.785	
Current	Cooling	Rated	A	6.3	8.3	
			Heating	7.2	11.1	
EER2	Cooling		W/W	3.81	3.67	
			Btu/hW	13.00	12.30	
COP2	Heating		W/W	3.15	2.78	
			Btu/hW	10.75	9.55	
SEER2	Cooling		Btu/hW	22.5	20.5	
HSPF2	Heating		Btu/hW	8.6		
Power factor	Cooling		%	96	98	
			Heating	99	98	
Moisture removal			pints/h (L/h)	3.2 (1.5)	5.1 (2.4)	
Maximum operating current*3	Cooling		A	12.0	13.0	
			Heating	12.0	13.0	
Fan	Airflow rate	Cooling	CFM (m ³ /h)	HIGHER	647 (1,100)	706 (1,200)
				HIGH	589 (1,000)	647 (1,100)
				MED	483 (820)	559 (950)
				LOW	459 (780)	441 (750)
				LOWER	383 (650)	368 (625)
		Heating		HIGHER	647 (1,100)	706 (1,200)
				HIGH	589 (1,000)	647 (1,100)
				MED	483 (820)	559 (950)
				LOW	459 (780)	441 (750)
				LOWER	383 (650)	368 (625)
	Type × Qty	Crossflow fan × 1				
	Motor output			W	35	
Sound pressure level*4	Cooling	dB (A)	HIGHER	48	50	
			HIGH	45	47	
			MED	41	42	
			LOW	37	36	
			LOWER	34	33	
	Heating		HIGHER	48	50	
			HIGH	45	47	
			MED	41	42	
			LOW	37	36	
			LOWER	34	33	
Heat exchanger type	Dimensions (H × W × D)		in (mm)	12-1/2 × 33-1/8 × 1-1/16 (318 × 842 × 27.2)		
	Fin pitch		FPI	18		
	Rows × Stages			2 × 18		
	Pipe type			Copper		
	Fin type			Aluminum		
Enclosure	Material		Polystyrene			
	Color		White			
Dimensions (H × W × D)	Net			12-3/8 × 44-1/2 × 9-5/16 (315 × 1,130 × 237)		
	Gross			15-3/8 × 47-5/8 × 12-7/16 (390 × 1,210 × 316)		
Weight	Net			32 (14.5)		
	Gross			37 (17)		
Connection pipe	Size	Liquid	in (mm)	Ø1/4 (Ø6.35)		
		Gas		Ø3/8 (Ø9.52)		
	Method			Ø1/2 (Ø12.70)		
Drain hose	Material		Flare			
	Tip diameter		PE/PVC			
Operation range	Cooling			Ø5/8 (Ø15.4) (I.D.), Ø7/8 (Ø23) (O.D.)		
				61 to 86 (16 to 30)		
	Heating			80 or less		
Remote controller type			61 to 86 (16 to 30)			
			Wireless (Wired [option])			

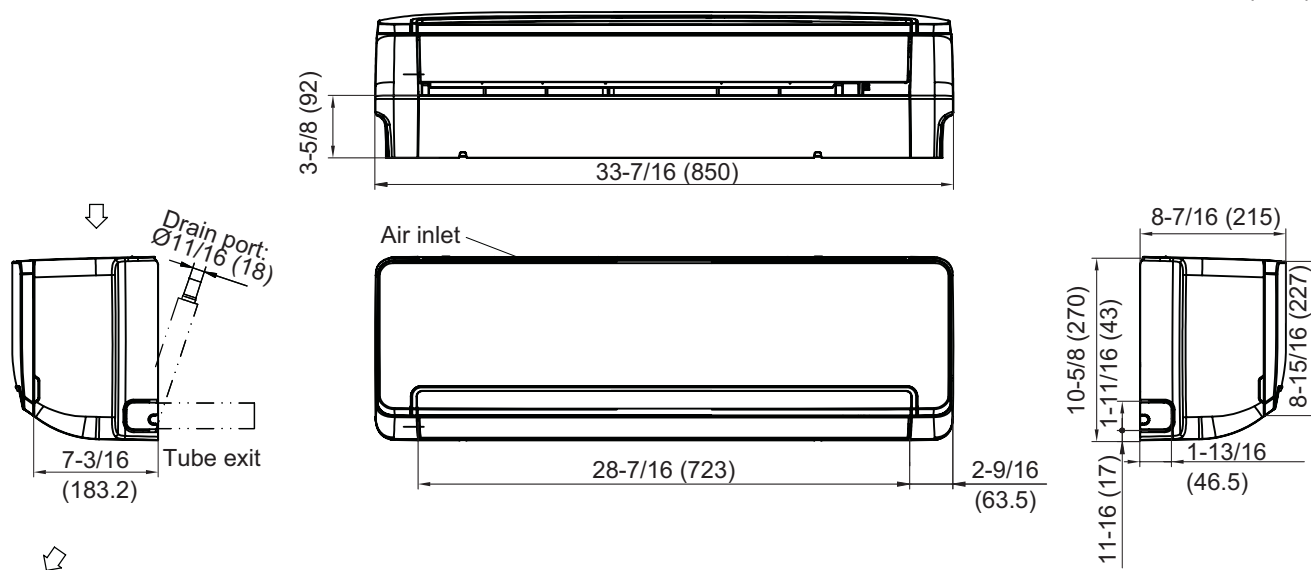
Type	Wall mounted	
	Inverter, Heat pump	
Model name	WHP18WMA21S	WHP24WMA21S
NOTES:		
<ul style="list-style-type: none"> • Specifications are based on the following conditions: <ul style="list-style-type: none"> – Cooling: Indoor temperature of 80°FDB (26.67°CDB) /67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB) / 75°FWB (23.9°CWB). – Heating: Indoor temperature of 70°FDB (21.11°CDB) /59°FWB (15.56°CWB), and outdoor temperature of 47°FDB (8.33°CDB) /43°FWB (6.11°CWB). – *1: Heating (17°F): Indoor temperature of 70°FDB (21.11°CDB) /60°FWB (15.56°CWB), and outdoor temperature of 17°FDB (-8.33°CDB) /15°FWB (-9.44°CWB). – *2: Heating (5°F): Indoor temperature of 70°FDB (21.11°CDB) /60°FWB (15.56°CWB), and outdoor temperature of 5°FDB (-15.0°CDB) /4°FWB (-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 is maximum value when operated within the operation range. • *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. 		

M condition					
Model name	WHP18WMA21S		WHP24WMA21S		
Capacity	Cooling	Rated	kW	5.28	6.86
			Btu/h	18,000	23,400
		Min.—Max.	kW	1.91—5.72	2.34—7.77
			Btu/h	6,500—19,500	8,000—26,500
	Heating	Rated	kW	5.57	7.62
			Btu/h	19,000	26,000
		Min.—Max.	kW	1.91—5.86	2.35—7.77
			Btu/h	6,500—20,000	8,000—26,500
Input power	Cooling	kW	Rated	1.385	1.870
			Min.—Max.	0.345—2.760	0.414—2.990
	Heating		Rated	1.638	2.500
			Min.—Max.	0.345—2.760	0.414—2.990
Current	Cooling	A	Rated	6.3	8.3
	Heating		7.2	11.1	
EER	Cooling	W/W	3.81	3.67	
		Btu/hW	13.00	12.30	
COP	Heating	W/W	3.40	3.05	
		Btu/hW	11.60	10.40	
SEER	Cooling	Btu/hW	23.3	21.0	
HSPF	Heating	Btu/hW	11.6	10.5	
Power factor	Cooling	%	96	98	
	Heating		99	98	
NOTES:					
Specifications are based on the following conditions:					
<ul style="list-style-type: none"> • 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 (15.56°CWB), and outdoor temperature of 47°FDB (8.33°CDB) /43°FWB (6.11°CWB). • *: Heating (17°F): Indoor temperature of 70°FDB (21.11°CDB) /60°FWB (15.56°CWB), and outdoor temperature of 17°FDB (-8.33°CDB) /15°FWB (-9.44°CWB). • Test conditions are based on AHRI 210/240 2017. • Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.) 					

2. Dimensions

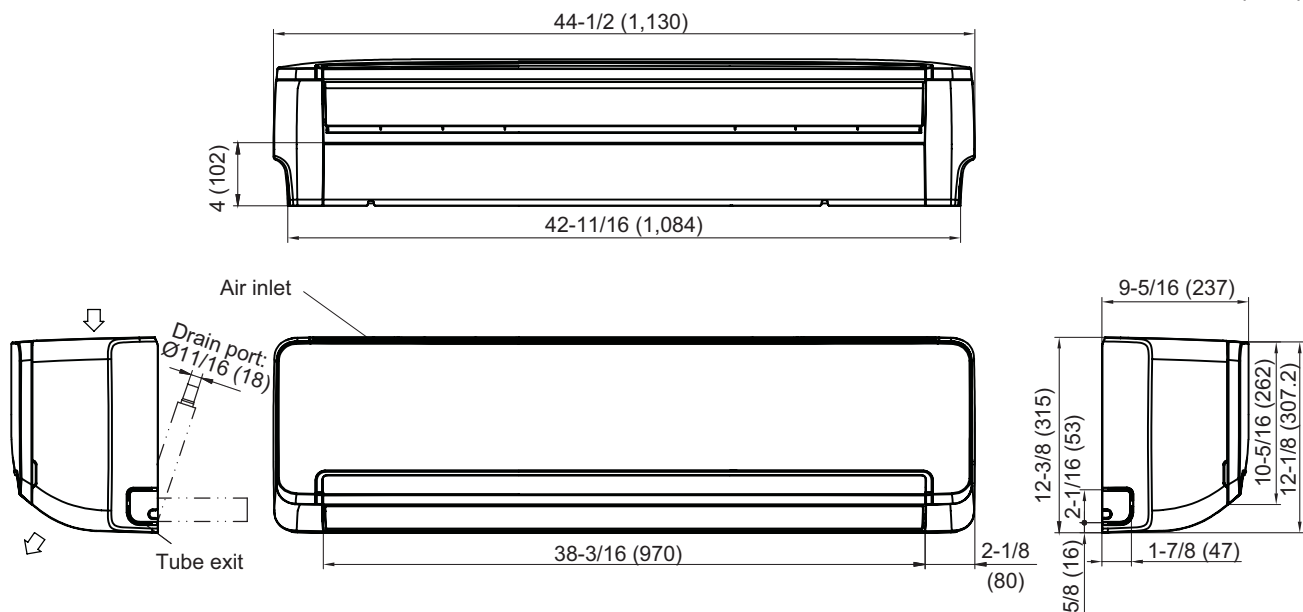
2-1. Models: WHP09WMA21S and WHP12WMA21S

Unit: in (mm)



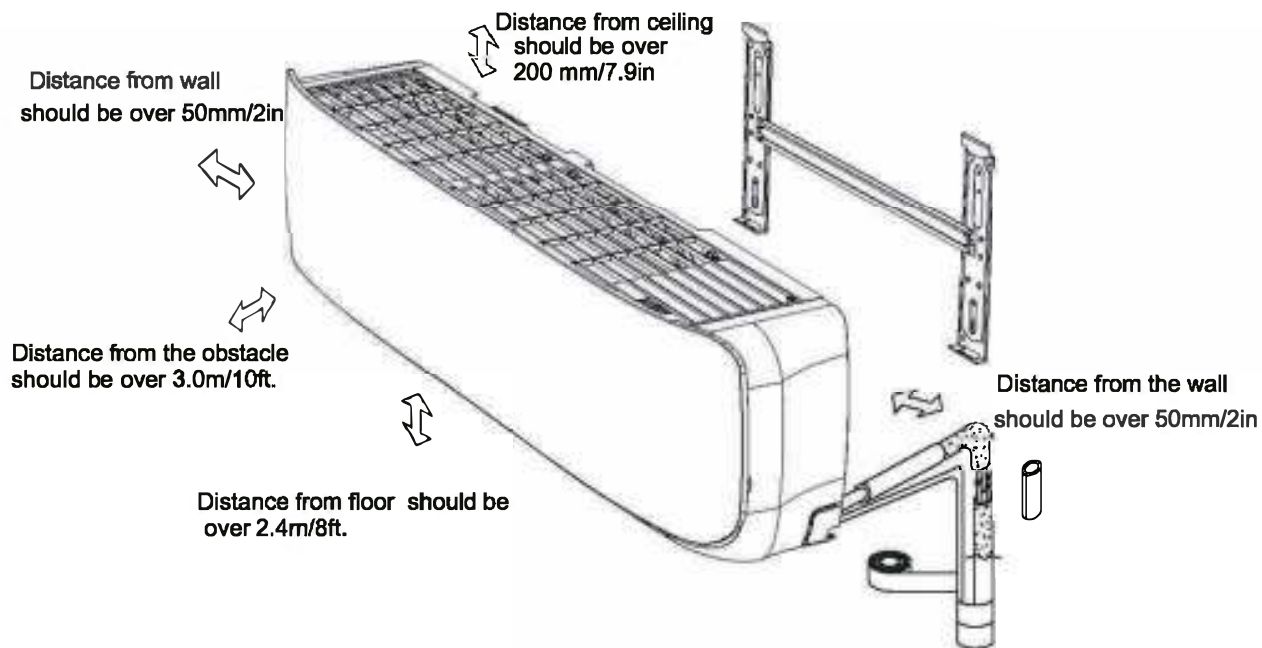
2-2. Models: WHP18WMA21S and WHP24WMA21S

Unit: in (mm)



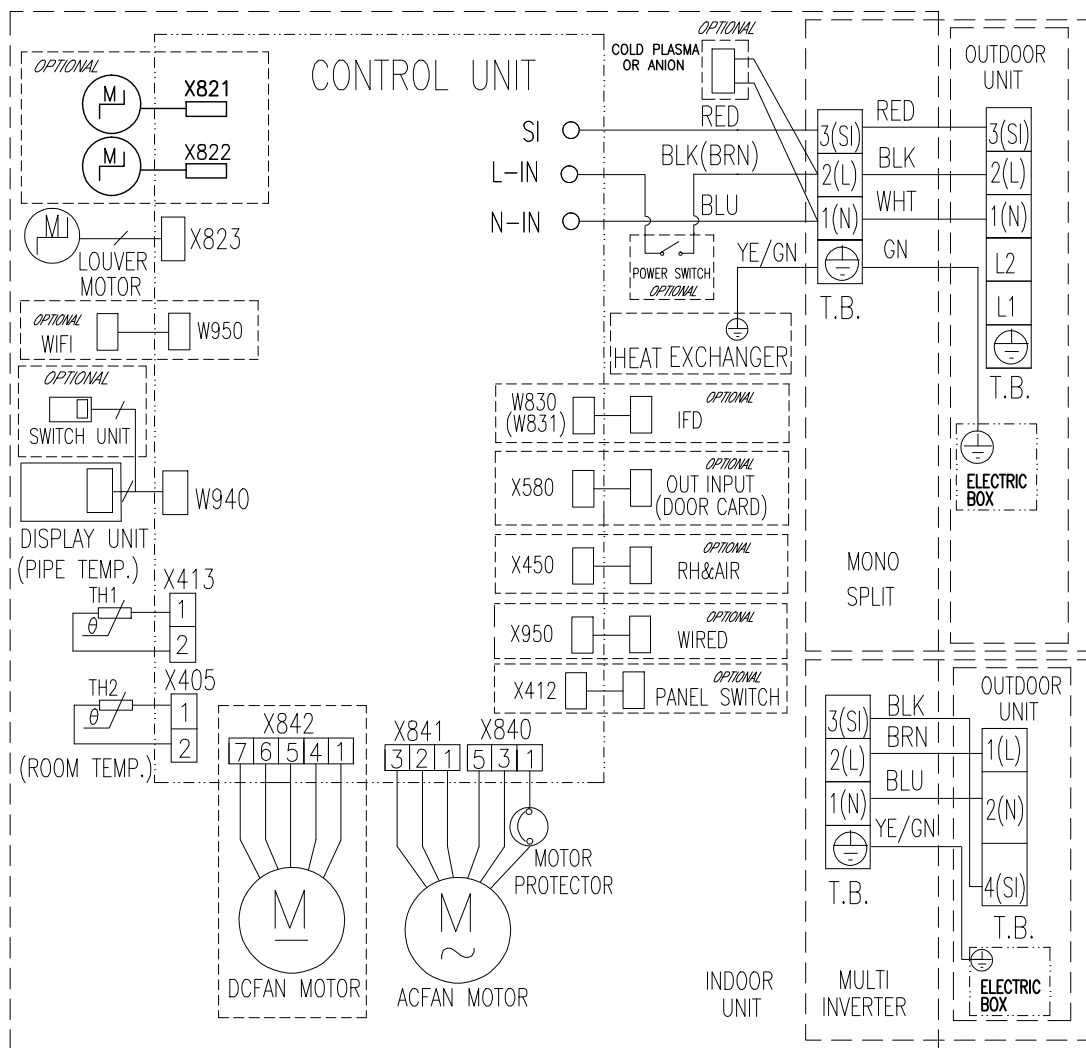
2-3. Installation space requirement

Provide sufficient installation space for product safety.



3. Wiring diagrams

3-1. Models: WHP09WMA21S, WHP12WMA21S, WHP18WMA21S, and WHP24WMA21S



Temperature	0°C 32°F	20°C 68°F	30°C 86°F
Thermistor (Pipe temp.)	15 k Ω 1.3 V	6.5 k Ω 2.2 V	4.5 k Ω 2.7 V
Thermistor (Room temp.)	15 k Ω 1.3 V	6.5 k Ω 2.2 V	4.5 k Ω 2.7 V

Fan motor

Pin No.	Terminal code	Function of terminal	Lead wire color
1	Vm	Motor power voltage input	Red
2	—	—	—
3	—	—	—
4	GND	GND	Black
5	Vcc	Control power voltage input	White
6	FG	Revolution pulse output	Blue
7	Vsp	Speed control voltage input	Yellow

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: WHP09WMA21S

AFR		CFM		383		
Outdoor temperature	°FDB	°FWB	Indoor temperature			
			80			
			67			
		TC	SHC	IP		
		Btu/h			W	
5	3	7,481	5,611	184		
14	12	6,672	5,004	203		
23	21	7,582	5,687	230		
32	28	8,537	5,974	257		
41	37	8,724	6,104	364		
50	47	9,154	6,408	470		
59	50	9,530	6,670	597		
67	53	9,888	6,920	693		
77	62	10,209	7,145	801		
87	69	10,277	7,192	909		
95	75	10,110	7,076	922		
104	78	9,850	6,892	894		
115	80	9,260	6,479	875		

■ Model: WHP12WMA21S

AFR		CFM		394		
Outdoor temperature	°FDB	°FWB	Indoor temperature			
			80			
			67			
		TC	SHC	IP		
		Btu/h			W	
5	3	9,807	7,355	244		
14	12	8,746	6,560	268		
23	21	9,939	7,454	305		
32	28	10,663	7,462	345		
41	37	11,386	7,967	541		
50	47	12,085	8,458	654		
59	50	12,734	8,912	759		
67	53	13,129	9,189	860		
77	62	13,624	9,537	954		
87	69	13,846	9,690	1,148		
95	75	13,252	9,274	1,220		
104	78	12,150	8,503	1,188		
115	80	9,813	6,868	1,098		

■ Model: WHP18WMA21S

AFR		CFM		647		
Outdoor temperature	°FDB	°FWB	Indoor temperature			
			80			
			67			
		TC	SHC	IP		
		Btu/h			W	
5	3	13,743	10,307	670		
14	12	12,257	9,193	765		
23	21	13,929	10,446	861		
32	28	16,784	11,748	971		
41	37	17,753	12,427	1,086		
50	47	18,398	12,877	1,218		
59	50	18,616	13,030	1,298		
67	53	19,025	13,317	1,349		
77	62	19,312	13,518	1,414		
87	69	19,261	13,481	1,907		
95	75	18,572	13,003	1,913		
104	78	17,272	12,089	2,109		
115	80	15,804	11,062	2,108		

Model: WHP24WMA21S

AFR	CFM	706
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		Indoor temperature				
		80				
		67				
Outdoor temperature	°FDB	°FWB	TC	SHC	IP	
				Btu/h		W
	5	3	19,588	14,691	1,056	
	14	12	17,470	13,103	1,207	
	23	21	19,853	14,890	1,358	
	32	28	22,140	15,498	1,086	
	41	37	25,054	17,538	1,465	
	50	47	26,494	18,546	1,715	
	59	50	27,279	19,095	1,925	
	67	53	27,514	19,260	2,127	
	77	62	27,719	19,403	2,351	
	87	69	27,354	19,148	2,715	
	95	75	26,470	18,529	3,017	
104	78	22,758	15,931	2,894		
115	80	18,343	12,840	2,603		

4-2. Heating capacity

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

■ Model: WHP09WMA21S

AFR		CFM		383	
		Indoor temperature			
		°FDB		70	
		°FWB		60	
Outdoor temperature	°FDB	°FWB	TC	IP	
			Btu/h	W	
	-5	-7	4,947	1,140	
	5	3	6,196	1,199	
	14	12	7,288	1,270	
	17	15	8,591	1,343	
	23	19	9,328	1,382	
	32	28	9,850	1,336	
	35	33	10,233	1,191	
	47	43	11,645	1,105	
	59	50	10,775	796	
	68	59	9,316	685	
75	65	7,569	553		

■ Model: WHP12WMA21S

AFR		CFM		394	
		Indoor temperature			
		°FDB		70	
		°FWB		60	
Outdoor temperature	°FDB	°FWB	TC	IP	
			Btu/h	W	
	-5	-7	8,673	1,288	
	5	3	10,181	1,335	
	14	12	11,403	1,441	
	17	15	12,096	1,479	
	23	19	12,723	1,540	
	32	28	13,457	1,564	
	35	33	13,945	1,512	
	47	43	14,191	1,312	
	59	50	14,013	1,102	
	68	59	11,352	813	
75	65	9,224	656		

■ Model: WHP18WMA21S

AFR		CFM		647	
		Indoor temperature			
		°FDB		70	
		°FWB		60	
Outdoor temperature	°FDB	°FWB	TC	IP	
			Btu/h	W	
	-5	-7	8,571	1,169	
	5	3	10,905	1,265	
	14	12	13,897	1,278	
	17	15	15,429	1,485	
	23	19	16,739	1,598	
	32	28	18,244	1,652	
	35	33	20,919	1,798	
	47	43	21,274	1,812	
	59	50	20,728	1,773	
	68	59	17,019	1,123	
75	65	13,828	906		

Model: WHP24WMA21S

AFR	CFM	706
-----	-----	-----

		Indoor temperature				
		°FDB	°FWB			
Outdoor temperature				70		
				60		
				TC	IP	
				Btu/h	W	
			-5	-7	11,567	2,345
			5	3	15,606	2,617
			14	12	17,077	2,613
			17	15	19,554	2,793
			23	19	19,312	2,760
			32	28	20,885	2,568
			35	33	21,642	2,541
			47	43	26,777	2,522
			59	50	26,678	2,504
			68	59	21,422	1,564
	75	65	17,405	1,261		

5. Remote controller

5-1. Wireless remote controller

1 MODE

Press this button to select the operation mode.

3 SLEEP

Used to set or cancel Sleep Mode operation.

6 SUPER

Used to start or stop the fast cooling/heating. (Fast cooling operates at high fan speed with 16°C (61°F) set temp automatically ; Fast heating operates at auto fan speed with 30°C (86°F) set temp automatically)

8 ON TIMER

Used to set or cancel the timer operation.

9 QUIET

Used to set or cancel Quiet Mode operation.

11 OFF TIMER

Used to set or cancel the timer operation.

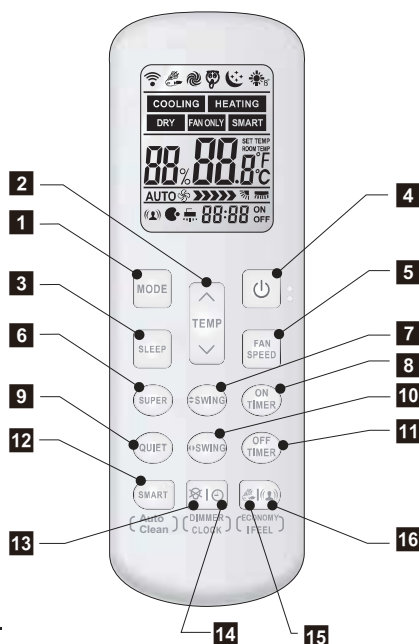
12 SMART (invalid for multi system)

Used to enter logic operation directly when the units are on.

Auto Clean (invalid for multi system) will be activated by pressing SMART button more than 5 seconds under Cooling or Dry mode and be canceled by pressing SMART, POWER or MODE button. (Icon " " will appear on LCD and disappear after around 30 minutes)

13 DIMMER

When you press this button, all the display of indoor unit will be closed. Press any button to resume display.



2 TEMP

Used to adjust the room temperature and the timer, also real time.

4 POWER

The appliance will be started when it is energized or will be stopped when it is in operation, if you press this button.

5 FAN SPEED

Used to select fan speed in sequence auto, higher, high, medium, low and lower.

7 SWING

Used to stop or start vertical adjustment louver swinging and set the desired up/downairflow direction.

10 SWING

Used to stop or start Horizontal adjustment louver swinging and set the desired left/right airflow direction.

16 IFEEL

Press to set IFEEL Mode operation. In IFEEL mode, the Air Conditioner operates basis temperature sensor fitted in remote instead of machine. Advice to use IFEEL mode and the remote put where the indoor unit receive signal easily. Press this button above 5 seconds, start or stop IFEEL mode.

14 CLOCK

Used to set the current time.

15 ECONOMY

Used to set or cancel Economy Mode operation.

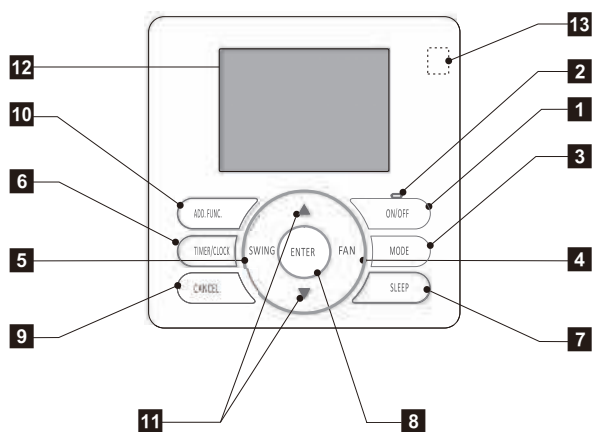
2 + 7 8°C HEAT (optional)

Used to start or stop 8°C HEAT mode.

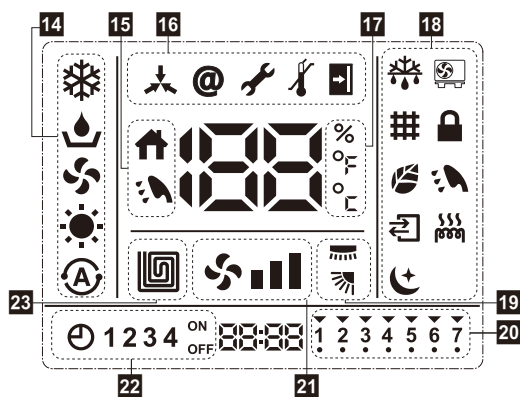
Indication symbols on LCD:

COOLING Cooling indicator	DRY Dry indicator	FAN ONLY Fan only indicator	HEATING Heating indicator	SMART Smart indicator
Auto Auto fan speed	Higher fan speed	High fan speed	Medium fan speed	Low fan speed
Lower fan speed	Quiet indicator	Economy indicator	Super indicator	Sleep indicator
IFEEL	Display temperature	Display set timer	Display current time	8°C Heat indicator

5-2. Wired remote controller



LCD screen



NOTE: Functions may differ by type of the indoor unit. For details, refer to the operation manual.

- 1 ON/OFF button**
Starts and stops operation.
- 2 Run indicator**
Indicates the appliance is on.
- 3 MODE button**
Switches operation mode (COOL, DRY, and HEAT).
- 4 FAN button**
Selects the fan speed in sequence HIGH, AUTO, LOW, MED, HIGH.
- 5 SWING button (invalid for some models)**
Stops/Starts adjustment louver swing and sets the airflow direction.
- 6 TIMER/CLOCK button**
Sets current time or set timer on/off.
- 7 SLEEP button**
Sets/cancels sleep mode operation.
- 8 ENTER button**
- 9 CANCEL button**
- 10 ADD.FUNC. button (invalid for some models)**
Sets filter clean, hot water, fresh air, electric heater, etc.
- 11 SET TEMP. (temperature) (▽ / △) button**
Sets desired temperature.
- 12 LCD screen**
- 13 Built-in infrared signal receiver**
- 14 Operation mode**
❄️: Cooling mode, 💧: Dry mode, 🌀: Fan only mode, ☀️: Heating mode, Ⓐ: Auto mode
- 15 Temperature mode**
🏠: Room temperature, 🌡️: Hot water temperature
- 16 Setting indicator**
🏠: Central control, @: Address setting, 🛠️: Address setting, ⚠️: Error indicator, 🌡️: Temperature range limit, 🏠: Home leave control
- 17 Temperature indicator**
%: Relative moisture, °F: Fahrenheit, °C: Celsius
- 18 Status indicator**
❄️: Defrost, 🔄: Compressor run, 🧼: Filter clean, 🔒: Lock, 🌀: Air purge, 🌡️: Hot water, 🏠: Ventilation, 🔥: Electric heater, 🌙: Sleep
- 19 Air direction indicator**
- 20 Day of week indicator**
- 21 Fan speed indicator**
- 22 Timer indicator**
- 23 Floor heater indicator**

6. Accessories

Part name	Q'ty	Part name	Q'ty
Remote controller instructions	1	Drain joint rubber seal	1
Use and installation instructions	1	Flare nuts	4
Remote controller	1	Bag of wall anchors and screws	1
Remote controller holder	1	Screw for installations	5
AAA battery	2	Screw cover	09/12 model: 1 18/24 model: 3
Foam insulation	09-18 model: 1 24 model: 2	Warranty Card	1
Drain joint	1		

Part 2. OUTDOOR UNIT

SINGLE TYPE:

WHP09SZA21S

WHP12SZA21S

WHP18SZA21S

WHP24SZA21S

1. Specifications

OUTDOOR UNIT
WHP09-24SZA

OUTDOOR UNIT
WHP09-24SZA

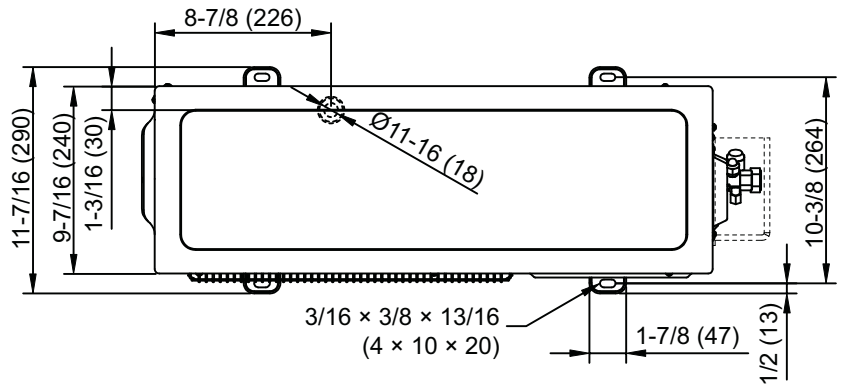
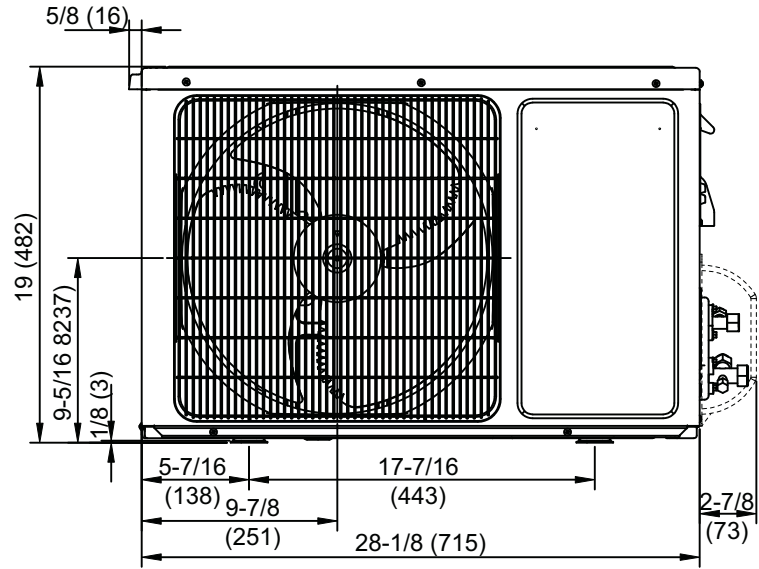
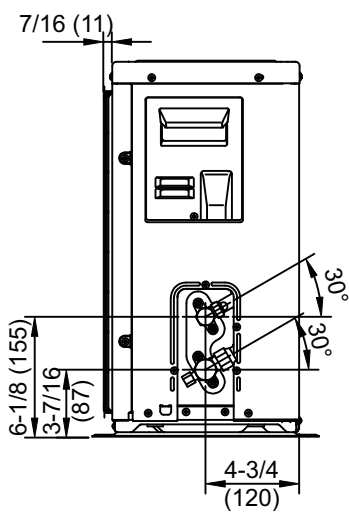
Type			Inverter heat pump	
Model name			WHP09SZA21S	WHP12SZA21S
Power supply			208/230 V ~ 60 Hz	
Available voltage range			198—253 V	
Fan	Airflow rate	CFM (m ³ /h)	971 (1,650)	1,177 (2,000)
	Type × Q'ty		Propeller fan × 1	
	Motor output	W	30	
Sound pressure level *1			dB (A)	
Heat exchanger type	Dimensions (H × W × D)	in (mm)	26-7/8 × 18-3/16 × 11/16 (683 × 462 × 18.2)	33-1/16 × 21-1/2 × 11/16 (840 × 546 × 18.19)
			25-3/4 × 18-3/16 × 11/16 (654 × 462 × 18.2)	33-1/16 × 21-1/2 × 11/16 (840 × 546 × 18.19)
	Fin pitch	FPI	18	
	Rows × Stages		2 × 22	2 × 26
	Pipe type		Copper	
	Fin type	Type (Material)	Aluminum	
			Blue fin	
Compressor	Type		Rotary	
			R410A	
Refrigerant	Type		R410A	
	Charge	lb oz	2 lb 2 oz	2 lb 9 oz
		g	950	1,160
Refrigerant oil	Type		68HES-H	VG74 (POE)
Enclosure	Material		Steel sheet	
	Color		White	
Dimensions (H × W × D)	Net	in (mm)	19 × 28-1/8 × 9-7/16 (482 × 715 × 240)	23-1/16 × 31-7/8 × 11 (585 × 810 × 280)
	Gross		20-7/8 × 33-11/16 × 13-3/8 (530 × 830 × 340)	25-3/16 × 37 × 15-3/16 (640 × 940 × 385)
Weight	Net	lb (kg)	60 (27)	73 (33)
	Gross		65 (29.5)	79 (36)
Connection pipe	Size	Liquid	Ø 1/4 (Ø 6.35)	
		Gas	Ø 3/8 (Ø 9.52)	
	Method		Flare	
	Pre-charge length	ft (m)	24 (7.5)	
	Max. length		65 (20)	
	Max. height difference		Indoor unit higher than outdoor unit: 32 (10) Outdoor unit higher than indoor unit: 16 (5)	
Operation range	Cooling	°F (°C)	5 to 115 (-15 to 46)	
	Heating		-4 to 75 (-20 to 24)	
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 (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: 24 ft 6 in (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. • *1: 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. 				

Type			Inverter heat pump	
Model name			WHP18SZA21S	WHP24SZA21S
Power supply			208/230 V ~ 60 Hz	
Available voltage range			198—253 V	
Fan	Airflow rate	CFM (m ³ /h)	1,648 (2,800)	2,354 (4,000)
	Type × Q'ty		Propeller fan × 1	
	Motor output	W	60	70
Sound pressure level *1			dB (A)	
Heat exchanger type	Dimensions (H × W × D)	in (mm)	35-1/4 × 24-13/16 × 11/16 (895 × 630 × 18.19)	35-1/4 × 24-13/16 × 11/16 (895 × 630 × 18.19)
			34-1/8 × 24-13/16 × 11/16 (867 × 630 × 18.19)	34-1/8 × 24-13/16 × 11/16 (867 × 630 × 18.19)
	Fin pitch	FPI	18	
	Rows × Stages		2 × 30	3 × 30
	Pipe type		Copper	
	Fin type	Type (Material)	Aluminum	
Surface treatment		Blue fin		
Compressor	Type	Rotary		
Refrigerant	Charge	lb oz	3 lb 7 oz	4 lb 12 oz
		g	1,550	2,150
Refrigerant oil	Type	VG74 (POE)		
Enclosure	Material	Steel sheet		
	Color	White		
Dimensions (H × W × D)	Net	in (mm)	25-9/16 × 33-7/8 × 12-3/16 (650 × 860 × 310)	31-5/16 × 34-13/16 × 14-7/16 (795 × 885 × 366)
	Gross		28-3/8 × 39-3/16 × 16-9/16 (720 × 995 × 420)	35-1/16 × 41-5/16 × 19-11/16 (890 × 1,050 × 500)
Weight	Net	lb (kg)	99 (45)	134 (61)
	Gross		108 (49)	144 (65.5)
Connection pipe	Size	Liquid	Ø 1/4 (Ø 6.35)	Ø 3/8 (Ø 9.52)
		Gas	Ø 1/2 (Ø 12.7)	Ø 5/8 (Ø 15.88)
	Method	Flare		
	Pre-charge length	ft (m)	24 (7.5)	
	Max. length		65 (20)	
	Max. height difference		Indoor unit higher than outdoor unit: 32 (10) Outdoor unit higher than indoor unit: 16 (5)	
Operation range	Cooling	°F (°C)	5 to 115 (-15 to 46)	
	Heating		-4 to 75 (-20 to 24)	
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 (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: 24 ft 6 in (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. • *1: 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. 				

2. Dimensions

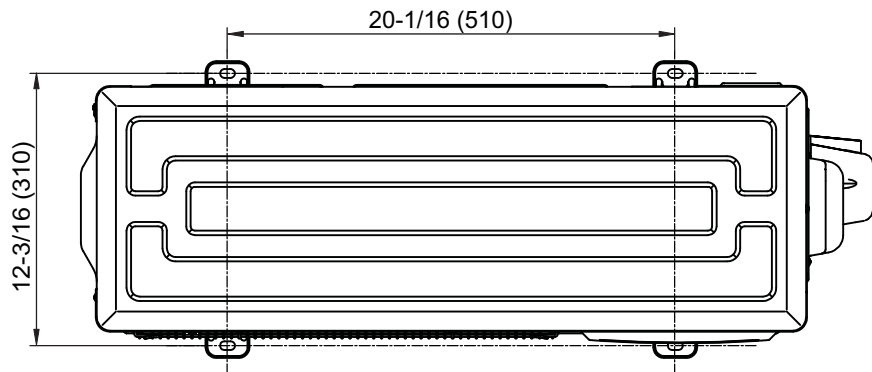
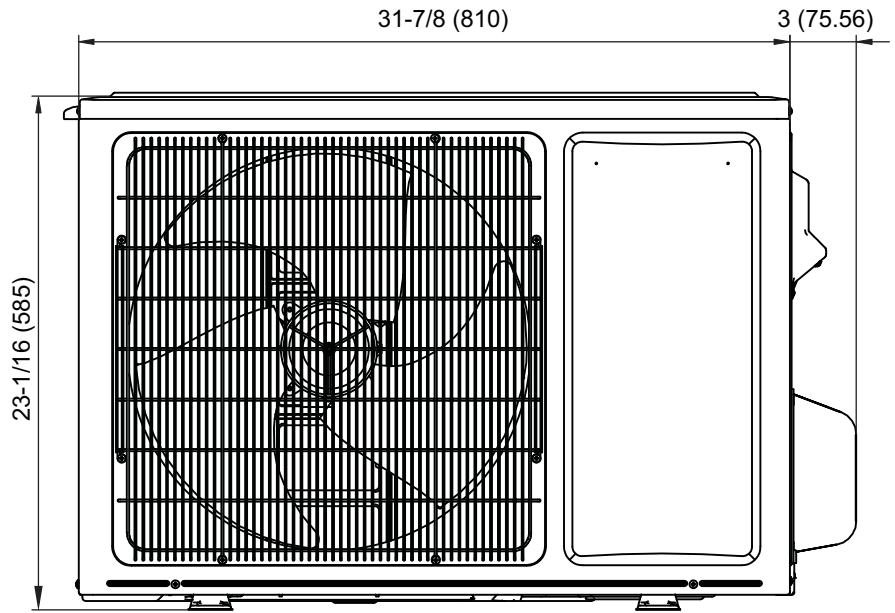
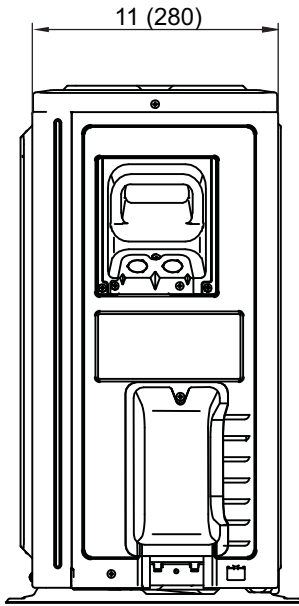
2-1. Model: WHP09SZA21S

Unit: in (mm)



2-2. Model: WHP12SZA21S

Unit: in (mm)

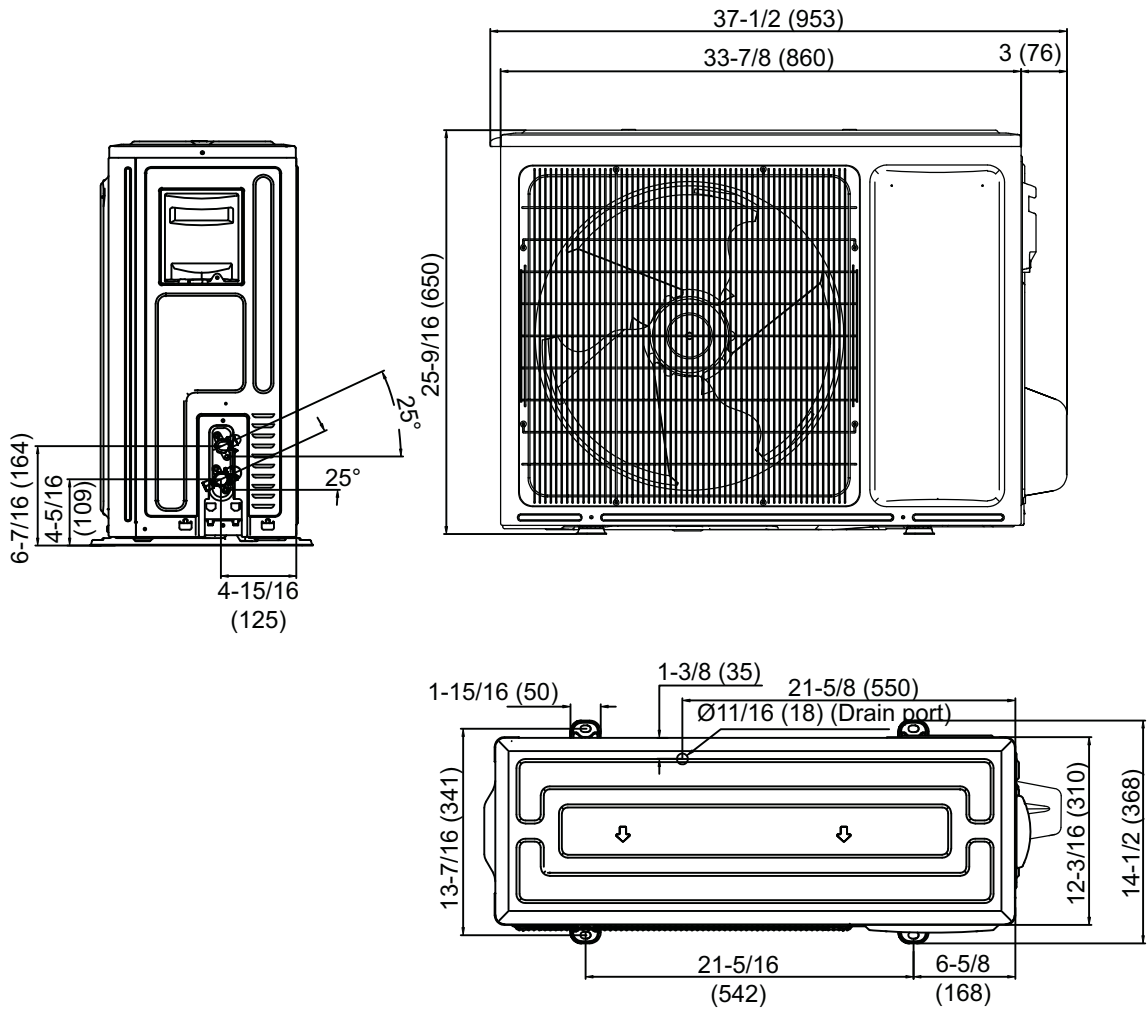


2-3. Model: WHP18SZA21S

Unit: in (mm)

OUTDOOR UNIT
WHP09-24SZA

OUTDOOR UNIT
WHP09-24SZA

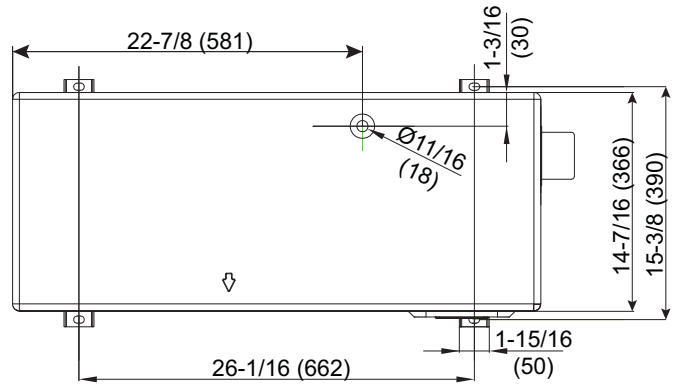
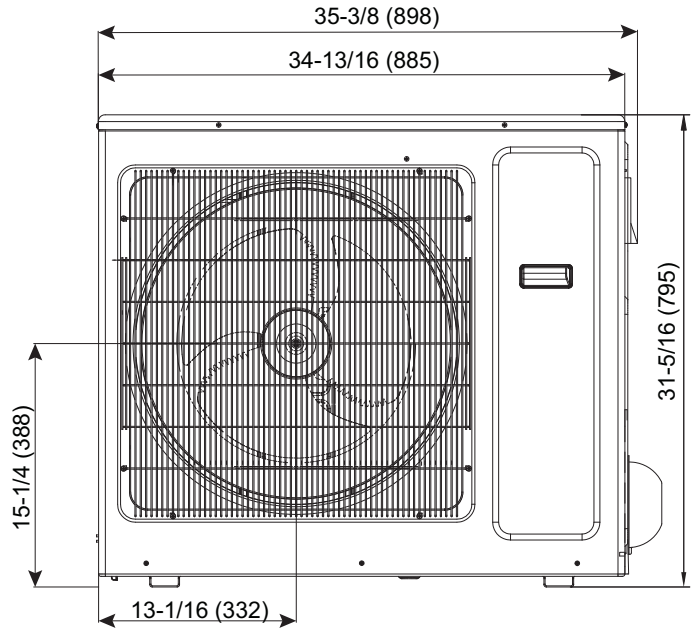
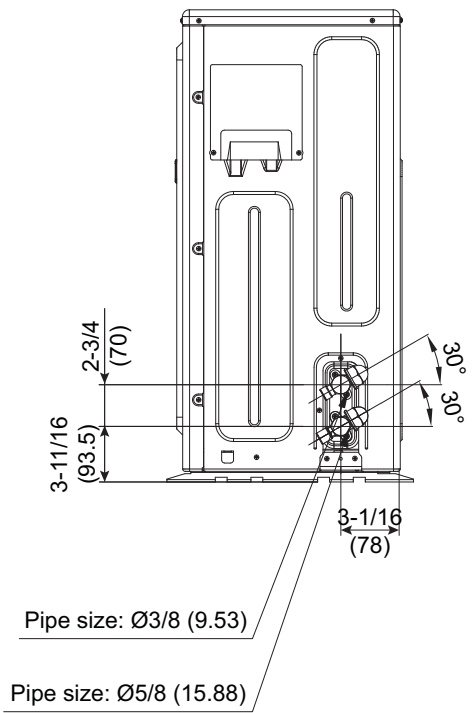


2-4. Model: WHP24SZA21S

Unit: in (mm)

OUTDOOR UNIT
WHP09-24SZA

OUTDOOR UNIT
WHP09-24SZA



3. Installation space

3-1. Models: WHP09SZA21S, WHP12SZA21S, WHP18SZA21S, and WHP24SZA21S

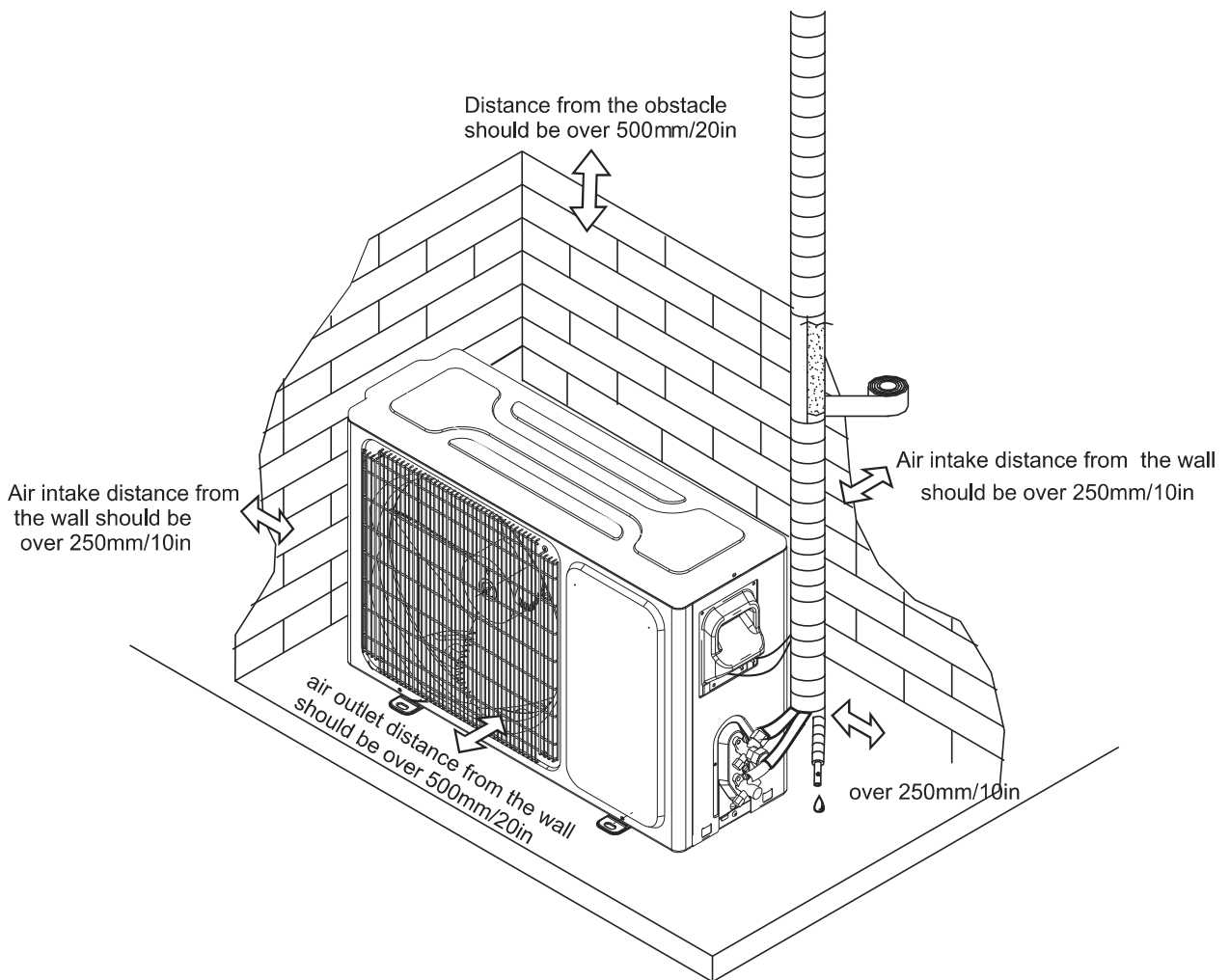
■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

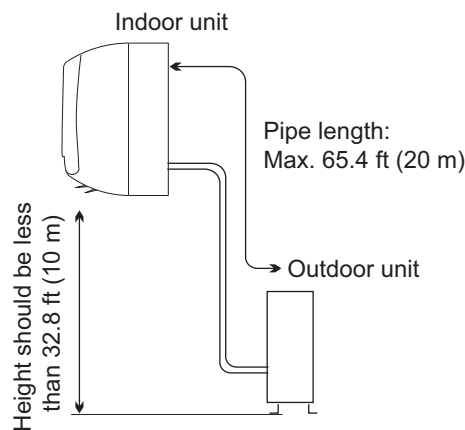
Keep the space shown in the installation examples.

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



Site for installing the indoor unit

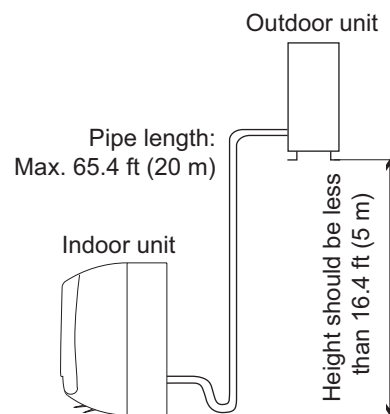
- Where there is no obstruction near the air outlet and air can be easily blown to every corner.
- Where piping and wall hole can be easily arranged.
- Keep the required space from the unit to the ceiling and wall according to the diagram on previous page.
- Where the air filter can be easily removed.
- Keep the unit and remote controller 3.28 ft (1 m) or more apart from television, radio etc.
- Keep as far as possible from fluorescent lamps.
- Do not put anything near the air inlet to obstruct it from air absorption.
- Install on a wall that is strong enough to bear the weight of the unit.
- Install in a place that will not increase operation noise and vibration.
- Keep away from direct sunlight and heating sources. Do not place flammable materials or combustion apparatuses on the top of the unit.



Indoor unit is higher than outdoor unit

Site for installing the outdoor unit

- Where it is convenient to install and well ventilated.
- Avoid installing it where flammable gas could leak.
- Keep the required distance apart from the wall.
- Keep the outdoor unit away from greasy dirt, vulcanization gas exit.
- Avoid installing it by the roadside where there is a risk of muddy water.
- A fixed base where it is not subject to increased operation noise.
- Where there is not any blockage of the air outlet.
- Avoid installing under direct sunlight, in an aisle or side-way, or near heat sources and ventilation fans. Keep away from flammable materials, thick oil fog, and wet or uneven places.
- In case the pipe length is more than 24.6 ft (7.5 m), the refrigerant should be charged additionally, according to the table below.

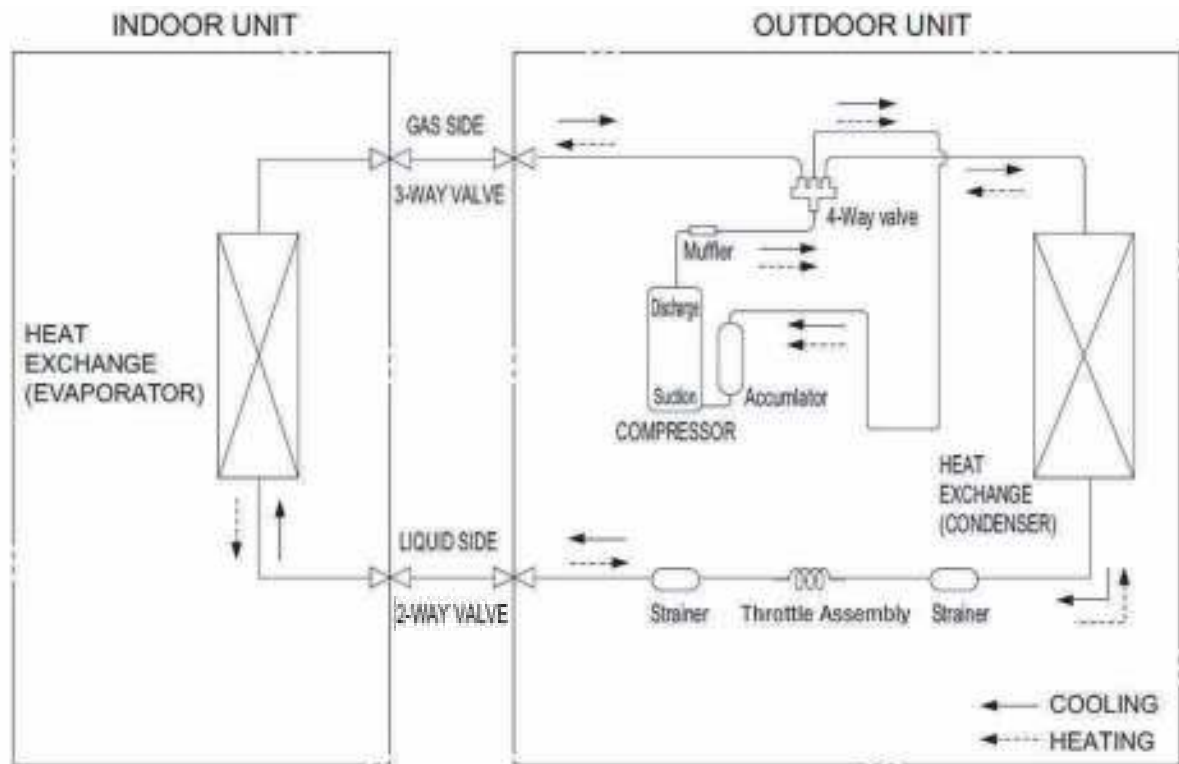


Outdoor unit is higher than indoor unit

Model	Required amount of additional refrigerant (oz/ft)
WHP09SZA21S	0.215
WHP12SZA21S	
WHP18SZA21S	
WHP24SZA21S	0.323

4. Refrigerant circuit

4-1. Models: WHP09SZA21S, WHP12SZA21S, WHP18SZA21S, and WHP24SZA21S

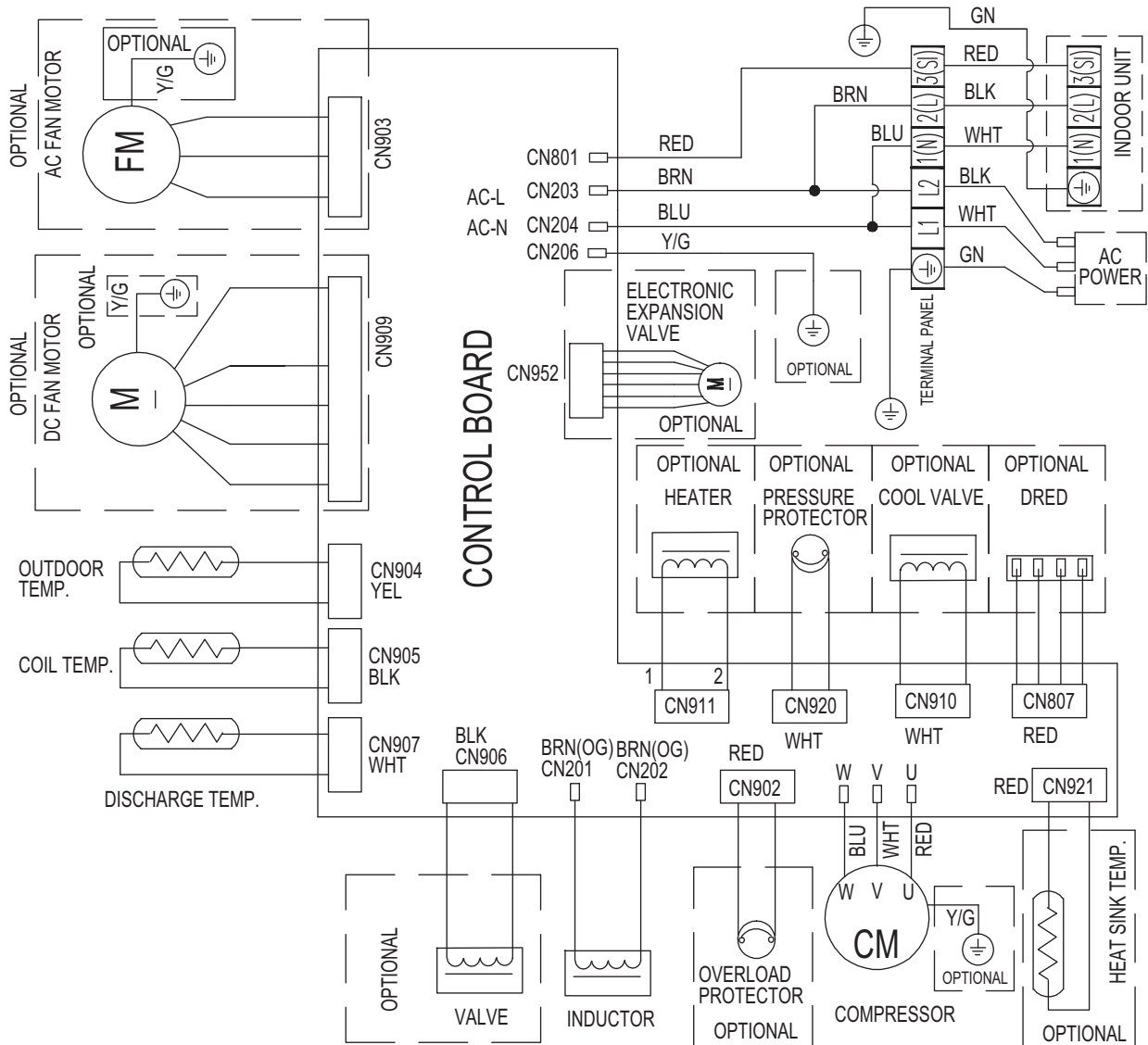


OUTDOOR UNIT
WHP09-24SZA

OUTDOOR UNIT
WHP09-24SZA

5. Wiring diagrams

5-1. Models: WHP09SZA21S, WHP12SZA21S, WHP18SZA21S, and WHP24SZA21S



Fan motor

Pin No.	Terminal code	Function of terminal	Lead wire color
1	FG	Revolution pulse output	Blue
2	Vsp	Speed control voltage input	Yellow
3	Vcc	Control power voltage input	White
4	GND	GND	Black
5	—	—	—
6	Vm	Motor power voltage input	Red

Compressor

09 model: 1.87 Ω
 12 model: 1.70 Ω
 18 model: 1.87 Ω
 24 model: 0.75 Ω
 (20°C 68°F)

Temperature	0°C 32°F	20°C 68°F	30°C 86°F
Thermistor (ODU temp.)	15 k Ω 1.3 V	6.5 k Ω 2.2 V	4.5 k Ω 2.7 V
Thermistor (Pipe temp.)	15 k Ω 1.3 V	6.5 k Ω 2.2 V	4.5 k Ω 2.7 V
Thermistor (Discharge temp.)	187 k Ω 0.18 V	72.1 k Ω 0.43 V	46.5 k Ω 0.64 V

6. Electrical characteristics

Model name			WHP09SZA21S	WHP12SZA21S
Power supply	Voltage	V	208/230 ~	
	Frequency	Hz	60	
MCA* ¹		A	10	
Wiring spec.* ²	MAX. CKT. BKR* ³		A	
	Power cable		AWG	
	Connection cable* ⁴	Size	AWG	
		Limited wiring length	ft (m)	

Model name			WHP18SZA21S	WHP24SZA21S
Power supply	Voltage	V	208/230 ~	
	Frequency	Hz	60	
MCA* ¹		A	15	20
Wiring spec.* ²	MAX. CKT. BKR* ³		A	
	Power cable		AWG	
	Connection cable* ⁴	Size	AWG	
		Limited wiring length	ft (m)	

*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.

7. Accessories

Part name	Q'ty	Part name	Q'ty
Use and installation instructions	1	Power wire	1
Bottom rubber for outdoor unit	4		